



**Resource Inventory of
Marine and Estuarine Fishes
of the West Coast and Alaska:
A Checklist of North Pacific
and Arctic Ocean Species
from Baja California to the
Alaska–Yukon Border**

**Milton S. Love
Catherine W. Mecklenburg
T. Anthony Mecklenburg
and
Lyman K. Thorsteinson**

2005



Resource Inventory of Marine and Estuarine Fishes of the West Coast and Alaska: A Checklist of North Pacific and Arctic Ocean Species from Baja California to the Alaska–Yukon Border

OCS Study MMS 2005-030 and USGS/NBII 2005-001

Milton S. Love
Marine Science Institute
University of California
Santa Barbara, CA 93106
love@lifesci.ucsb.edu
www.id.ucsb.edu/lovelab

Catherine W. Mecklenburg
T. Anthony Mecklenburg
Pt. Stephens Research
P. O. Box 210307
Auke Bay, AK 99821
ptstephens@alaska.com

Lyman K. Thorsteinson
Western Fisheries Research Center
U. S. Geological Survey
6505 NE 65th St.
Seattle, WA 98115
lyman_thorsteinson@usgs.gov

June 2005

Much of the research was performed under a cooperative agreement between the USGS's Western Fisheries Research Center and the University of California, Santa Barbara (CA 03WRAG007).

Front Cover: (from upper right): Rock Sole, *Lepidopsetta bilineata*, Janna Nichols; Crescent Gunnel, *Pholis laeta*, Janna Nichols; Bocaccio, *Sebastes paucispinis*, Milton Love; Whale Shark, *Rhincodon typus*, Phillip Cola; Grunt Sculpin, *Rhamphocottus richardsonii*, Ken Blauvelt; Pacific Spiny Lumpsucker, *Eumicrotremus orbis*, Ken Blauvelt; Guineafowl Puffer, *Arothron meleagris*, Phillip Cola; Ocean Sunfish, *Mola mola*, Phillip Cola

Back Cover: Sargo, *Anisotremus davidsonii*, Phillip Cola

Page iv: Ocean Sunfish, *Mola mola*, Phillip Cola

Page x: Bigeye Trevally, *Caranx sexfasciatus*, Phillip Cola

Project Cooperation

This research addressed an information need identified by the USGS Western Fisheries Research Center and the University of California, Santa Barbara to the Department of the Interior's Minerals Management Service, Pacific OCS Region, Camarillo, California. The resource inventory information was further supported by the USGS's National Biological Information Infrastructure as part of its ongoing aquatic GAP project in Puget Sound, Washington.

Report Availability

Available for viewing and in PDF at:
<http://wfrc.usgs.gov>
<http://far.nbii.gov>
<http://www.id.ucsb.edu/lovelab>

Printed copies available from:
Milton Love
Marine Science Institute
University of California, Santa Barbara
Santa Barbara, CA 93106
(805) 893-2935

Lyman Thorsteinson
Western Fisheries Research Center
U. S. Geological Survey
6505 NE 65th St.
Seattle, WA 98115
(206) 526-6569

Minerals Management Service
Pacific OCS Region
770 Paseo Camarillo
Camarillo, CA 99010
(805) 389-7800

Suggested Citation

Love, M. S., C. W. Mecklenburg, T. A. Mecklenburg, and L. K. Thorsteinson. 2005. Resource Inventory of Marine and Estuarine Fishes of the West Coast and Alaska: A Checklist of North Pacific and Arctic Ocean Species from Baja California to the Alaska–Yukon Border. U. S. Department of the Interior, U. S. Geological Survey, Biological Resources Division, Seattle, Washington, 98104, OCS Study MMS 2005-030 and USGS/NBII 2005-001.





TABLE OF CONTENTS

Acknowledgments	v
Introduction	vi
Species List	1
References Cited	182
Personal Communications	222
Index	224



ACKNOWLEDGMENTS

This West Coast inventory would not have been possible without the technical support and assistance of many, many individuals and organizations. We cannot express our appreciation enough to all involved for their efforts and contributions to this scientific endeavor. The inventory provides relevant benchmarks to our understanding of the biological diversity of fishes in some of the Nation's most important marine and estuarine ecosystems.

We were graciously provided with a substantial amount of unpublished fish data and helpful commentary, advice, and peer review by Alisa Abookire, Larry Allen, M. Eric Anderson, Yumi Arimitsu, Joe Bizarro, Morgan S. Busby, Greg Cailliet, Jay Carroll, Howard Chang, Sharon Charter, Natalia V. Chernova, Dave Clausen, Brian Coad, Matthew Craig, Allen Cramer, David J. Csepp, John Cusick, David A. Ebert, William N. Eschmeyer, V. V. Fedorov, Jared Figurski, John E. Fitch, Nora Foster, Robin Gartman, Graham E. Gillespie, Ami Groce, Dana Haggarty, Jeff Harding, Karsten Hartel, Tim Herrlinger, Eric Hessell, Jerry Hoff, Brenda A. Holladay, Lee B. Hulbert, Dan Jehl, Scott Johnson, Jackie King, Gene Kira, Paul Krause, David Kushner, Tom Laidig, Robert N. Lea, Charles Lean, Scott Matern, John E. McCosker, Laird McDonald, Ann C. Matarese, Melissa Meeker, H. Geoffrey Moser, Joseph S. Nelson, Mary Nishimoto, Steve Norton, Victoria M. O'Connell, James W. Orr, John O'Sullivan, Michelle Paddock, Wayne A. Palsson, Don Pearson, Alex E. Peden, William J. Poly, Dan Pondella, Rebecca Reuter, Dan Richards, Tyson Roberts, Ross Robertson, Jorge Rosales Casian, David Roseneau, Mike Schaadt, Donna Schroeder, Mark Schroeder, Mike Shane, Boris A. Sheiko, Jeff Siegel, David G. Smith, Wade Smith, David L. Stein, John Stephens, Duane E. Stevenson, Adam P. Summers, Tierney Thys, Vanessa Tuttle, Chuck Valle, William van Orden, Neville Venables, Eric Vetter, Kenneth D. Vogt, Diana Watters, Mark Wilkins, Nick Wilsman, Carrie Worton, Tina Wyllie Echeverria, and Mary Yoklavich. Some of our colleagues were consistently helpful throughout a number of years and we are extremely grateful for their patience and willingness to donate their time and expertise. We are also no less appreciative of those who provided occasional but valuable data and information about this important fauna.

We gratefully acknowledge the tireless museum personnel and specialists who worked with us in making specimens available and assisting in their examination. We thank Richard Feeney, Los Angeles County Museum of Natural History (LACM collection); Phil Hastings, Cynthia Klepadio, Richard Rosenblatt, and H. J. Walker, Scripps Institution of Oceanography (SIO); and Boris A. Sheiko, Russian Academy of Sciences, St. Petersburg (ZIN). Also we thank the museum personnel who graciously hosted us during our research visits and for their ready and on-the-spot assistance to us during the course of this project. In addition to those individuals identified above, we acknowledge the technical assistance and support of Bruce L. Wing, NOAA Fisheries, Auke Bay Biological Laboratory (AB); William N. Eschmeyer, Jon Fong, Tomio Iwamoto, and William J. Poly at the California Academy of Sciences (CAS); Gordon Haas at the University of Alaska Fairbanks Museum (UAM); Bruce B. Collette, Susan Jewett, David G. Smith, and Jeffrey T. Williams at the Smithsonian Institution, National Museum of Natural History, Division of Fishes (USNM); and Katherine Pearson Maslenikov and Theodore W. Pietsch at the University of Washington School of Fisheries and Aquatic Sciences (UW). Alex E. Peden and Kelly Sendall confirmed collection information and diagnostic characters on specimens held at the Royal British Columbia Museum, Victoria, B.C. (RBCM). Karsten Hartel provided specimen records from the Museum of Comparative Zoology, Harvard University (MCZ); and Brian Coad from the National Museums of Canada in Ottawa (NMC). Finally, we thank Tim Thomas, Maritime Museum of Monterey for giving us permission and access to the unpublished records of Julius Phillips.

Projects of the geographic size and taxonomic scale of this inventory require tremendous library support. Our work would not have been successful without the cheerful assistance of Interlibrary Loan personnel at the University of California, Santa Barbara and University of Alaska Southeast, Juneau. Many hard-to-find documents were made available to us through their efforts for which we are especially grateful. Similarly, we thank Joan Parker, Moss Landing Marine Laboratory, for her work in finding many obscure but relevant publications.

Sponsorship

The U.S. Geological Survey and the Minerals Management Service provided funding for the inventory. Much of the research was performed under a cooperative agreement between the USGS's Western Fisheries Research Center and the University of California at Santa Barbara (CA 03WRAG007). We thank William Walker (Biological Resources Division) and Fred Piltz (Minerals Management Service) for their interest and support. Additional USGS funding was provided to the Western Fisheries Research Center by the USGS National Biological Information Infrastructure

in support of the Estuarine GAP Analysis for Puget Sound. We thank Doug Beard, John Mosseso, and Gladys Cotter of the NBII for their scientific interest and support of regional checklists and work toward synthesis and improved understanding of animal habitat relationships.

Additional funding for fieldwork in Alaska was provided by the U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration. Catherine W. Mecklenburg extends her special thanks to Vernon Byrd and Don Drago, USF&WS, Homer, Alaska, for their assistance in allowing her to participate in resource surveys of the Alaska Maritime National Wildlife Refuge units in Norton Sound, the Aleutian Islands, and Semidi Islands. Also, our appreciation to John Calder and Kathy Crane of NOAA for their support of Catherine's participation in long-term research of Arctic climate change in the Chukchi Sea through the Russian-American (RUSALCA) expedition in 2004.

Design

We thank Roberta Bloom, University of California, Santa Barbara, for the design and layout.

INTRODUCTION

This is a comprehensive inventory of the fish species recorded in marine and estuarine waters between the Alaska–Yukon Territory border in the Beaufort Sea and Cabo San Lucas at the southern end of Baja California and out about 300 miles from shore. Our westernmost range includes the eastern Bering Sea and Aleutian Islands. In addition, we have also included our best impressions of the species that might reasonably be expected to be members of the West Coast ichthyofauna but have not yet been captured or reported within our study area. These species are marked with an asterisk (*) and have been reported (1) in the western Bering Sea; (2) off Canada's Yukon Territory and adjacent portions of the Northwest Territories; (3) along the southern-eastern tip (non-Pacific side) of Baja California; and (4) in waters somewhat beyond 300 miles from shore. Although the term West Coast usually refers to the coast of the continuous western states, our usage herein means the entire study area. The West Coast inventory within this range encompasses fish fauna from 44 orders, 232 families, and a minimum of 1,450 species.

Please note that introduced and invasive fish species are marked by double asterisks (**) and that their scientific names are highlighted in gray.

We have compiled this document because the most geographically inclusive previous inventories (Jordan and Evermann 1896a, Jordan et al. 1930) are largely of historical interest and are out of date. More recent lists and compilations have either focused on relatively narrow taxonomic groups (e. g., Kramer et al. 1995, Love et al. 2002), are regional in scope (e. g., Hart 1973, Hubbs et al. 1979, Mecklenburg et al. 2002), or focus on commonly observed species (e. g., Miller and Lea 1972, Eschmeyer and Herald 1983). With the explosion of coastal research and environmental assessments, beginning in the 1970s, and more recently, renewed scientific interest in biodiversity (e.g., effects of global climate change), our own studies on related subjects regarding fish populations, assemblages, and biological habitats, suggested this was the appropriate time to update and summarize our knowledge.

Data Sources

We used a wide range of data and information sources for this inventory. Generally, these sources can be described in six categories:

1) Peer-reviewed journals and monographs. We have generally accepted information in peer-reviewed literature to be accurate where the purpose of the article was to record new data on species. Exceptions include regional faunal lists with reports of species occurrences far outside their known ranges and without commentary on the unusual observations. An example might include an author presenting diagnostic characters observed, but only listing them without comment or recognition of their significance to the species description for that area. For species that are listed and commentary was provided, indicating the authors were aware of the unusual nature of their find, but no vouchers or photographs or notes on morphology were provided, we cite the range as previously known from well-documented records and add the new "record" preceded by the words "reported to."

2) **Regional guides.** In most instances, we have accepted the data found in older, but not ancient, guides such as Miller and Lea (1972), Hart (1973), and Eschmeyer and Herald (1983), because we know those were based on solid review of the literature and examination of permanent vouchers. Where we or other authors have uncovered errors in those works, and we feel the corrections may have been or are likely to be overlooked otherwise, we have made and annotated the corrections. However, numerous such mistakes have already been pointed out in recent works such as for species occurring in Alaska (Mecklenburg et al. 2002) and we generally do not repeat the information. In the interests of time, we did not attempt to track down or cite the original sources of all the data found in earlier compendia. For example, data sources are cited for each species in Mecklenburg et al. (2002), and the information can be tracked from that work when we do not repeat the original source citations here.

3) **Museum specimens.** To find potential new extensions of known size or geographic range as represented by voucher specimens in museums we reviewed the fish collections of the National Marine Fisheries Service, Auke Bay Biological Laboratory (fish catalog prefix AB); California Academy of Sciences (CAS); Los Angeles County Museum of Natural History (LACM); Scripps Institution of Oceanography (SIO); University of Alaska Fairbanks (UAM); National Museum of Natural History (USNM [collection abbreviation is from the older name, U.S. National Museum]); and University of Washington (UW). Before including any of these records in this inventory, the identity of that specimen was verified by examination. Specimens in U.S. museums were examined by Catherine W. Mecklenburg (Auke Bay Biological Laboratory, California Academy of Sciences, National Museum of Natural History, University of Alaska Fairbanks, and University of Washington); Milton Love and Richard Feeney (Los Angeles County Museum of Natural History); and H. J. Walker, Cynthia Klepadio, Phil Hastings, and Richard Rosenblatt (Scripps Institution of Oceanography). Boris A. Sheiko looked up records and examined specimens in the Russian Academy of Sciences ichthyological collection at St. Petersburg (ZIN). Museum records previously published and those supporting personal communications are included by reference to the publications and personal communications. Some apparent extensions of known range and size dissolved when errors, such as in catch localities, were discovered in the museum databases.

4) **Gray literature and survey databases.** In recent years, there have been a number of fishery resource assessments, primarily trawl surveys, along the Pacific Coast. Examples of these are the shelf and slope trawl surveys conducted by NOAA Fisheries and those conducted by the Southern California Coastal Water Research Program. The use of data from these surveys, usually available in annual and final reports, was challenging. As noted by Matarese et al. (2003), some of the data, especially from older surveys (pre-1995), are of uneven quality. In light of this information, we were cautious in accepting data about more unusual occurrences where voucher specimens or photographs were unavailable. From these early studies, we tended to accept reports of easily identifiable fish species and to reject clearly disjunct occurrences of coastal species and reports involving poorly understood fish groups. In some instances where we had access to the survey databases for these earlier studies, we sometimes accepted depth and range extensions when there was at least a second collection made near that new record. Unquestionably, the accuracy of species identifications has increased in more recent surveys with improved guides and keys to fishes, greater ichthyological expertise and interest in biodiversity relationships. Even so, in a number of instances we requested that the original datasheets be rechecked to assure that the species were properly coded in the database. In cases where the data cited represent a considerably greater extension of known range or depth, we include the current published record and add the new data preceded by “reported to” or other phrase to alert readers to the need for saving voucher specimens.

5) **Personal communications.** Over the years, fishers and biologists have reported many unusual sightings or records of fish captures to us. We have included those with the best documentation. We give only the most general information for the records from personal communications because in most cases the contributors themselves intend to publish papers giving the details. Most of the records, such as those from Alex E. Peden and Graham E. Gillespie of British Columbia fishes and Boris A. Sheiko of Russian fishes, are backed by voucher specimens in permanent museum collections. Many personal communication records are backed by photographs and discussion of diagnostic characters. A special case we need to mention for clarification is a work in progress on the Commander Islands ichthyofauna by V. V. Fedorov and B. A. Sheiko. This work was cited in Mecklenburg et al. (2002) as “Fedorov and Sheiko 2002” because it was represented as being in press. However, it has not yet been published and to avoid further confusion we cite the manuscript as it was provided to the Mecklenburgs

by Sheiko as “B. A. Sheiko, pers. comm. to C.W.M.” (We cite several more recent communications from Sheiko as well.) Some of the factoids previously cited have since been verified by Sheiko. For personal communications we indicate to which of us the communication was sent, to enable us to more readily access the records when readers request additional information.

6) Our own unpublished data from field excursions. These records are supported by voucher specimens, photographs, or videos. The Mecklenburgs have collected vouchers from resource surveys around Alaska from the Chukchi Sea to the Gulf of Alaska and from intertidal collecting and angling around their home and laboratory at Point Stephens, north of Juneau, Alaska; some of these are archived at the California Academy of Sciences and others will eventually be shipped there or to other permanent collections. Sometimes our records are documented with photographs and locality and morphology notes only. Many of Love’s unpublished data relate to observations of California and Baja California fishes from scuba diving and submersible surveys and most specimens were videotaped.

Order of Presentation

In this inventory, we follow the higher taxon sequence of Nelson’s (1994) *Fishes of the World* and the American Fisheries Society–American Society of Ichthyologists and Herpetologists’ (AFS–ASIH) list of continental shelf fishes of North America (Nelson et al. 2004), which are based on presumed phylogenetic relationships. Within each family, the genera and species are arranged alphabetically.

Common names of families are given as plural, even though there may be only one extant species in the family. Several of these families have fossil representatives and some have several nominal species, albeit currently classified as junior synonyms of one, extant species. Moreover, families are erected to include groups of similar animals, regardless of number of species known at the time of naming of the family. This usage (plural) follows Eschmeyer (1998) and Mecklenburg et al. (2002).

Species Accounts

For each species, we give the scientific name followed by the name of the describer(s) and publication date of the description; one or more common names; maximum size, in total length (TL) if available or in standard length (SL) or fork length (FL); geographic range; and depth range. For size, geographic, and depth ranges each datum is followed by its source. Synonym(s) are then mentioned if they have been in recent use in the literature or are apt to be found in databases such as the online museum catalogs. At the end of an account, comments on common names, taxonomy, or other considerations may be included.

Scientific name — This includes the currently accepted Latin binomial of genus and species as given in the most recent classifications adopted by the appropriate specialists; the original namer and describer of the species; and the date of publication of the name and description. We use the conventions of connecting dual authors with an ampersand (&) rather than the word “and,” and separating authors from the date of publication by a comma. These conventions help the reader discriminate between the formal names of species and literature citations in the text.

When a species’ author name is enclosed in parentheses it means the species was originally classified in a different genus.

Accuracy of the names and dates was checked in Eschmeyer’s (1998) catalog of fish species, the online editions of Eschmeyer’s database (<http://www.calacademy.org/research/ichthyology/catalog/fishcatsearch.html>), and nomenclatural checklists in the recently launched series, California Academy of Sciences Annotated Checklists of Fishes (<http://www.calacademy.org/research/ichthyology/annotated/index.html>). At this time (May 2005), the CAS checklists take precedence over Eschmeyer (1998) and the online database, as entry of data from the checklists into the database is incomplete.

Common names — If more than one common name is in use, the names are listed in alphabetical order with the recommended name in bold type. For fishes of the North American continental shelf the bolded name is usually the name given by Nelson et al. (2004); other sources, such as Hubbs et al. (1979) for California fishes and Mecklenburg et al. (2002) for Alaska, were used for names of deepsea fishes. A few names were coined and contributed by interested persons for this list.

Some readers may question the capitalization of common names herein. We recognize that there is debate over this issue (Kendall 2002, Nelson et al. 2002), and have capitalized them only to make them stand out and be more easily read. We take no stand on this debate.

Size and depth conversions — We give size and depth in both metric and standard units. For publications giving both metric and standard (e.g., Hart 1973, Eschmeyer and Herald 1983) we did not recalculate the conversions or round whole numbers or fractions but present them as given in the original publications.

To convert centimeters to inches, we divided centimeters by 2.54; meters to feet, by multiplying meters by 3.2808; and fathoms to meters, by multiplying fathoms by 1.829. Rather than round any of the resulting converted numbers, say to 3,500 m from 3,481 m, as some authors have done (e.g., Quéro et al. 1990, Fischer et al. 1995), we have chosen to give the numbers as calculated so that subsequent authors do not reconvert and inadvertently make the lengths or depths decrease or increase.

In a few instances, we found sharp divergences in maximum lengths or depths reported by recent authorities. In these cases, we have listed more than one maximum length or depth. Such differences can occur due to taxonomic revisions, and one of the lengths or depths may no longer relate to the species for which it is given. We spotted and corrected several of these cases, but resolution of a few remained elusive.

Geographic range — Geographic ranges are stated from broadest to finest scale. If the species is found outside the eastern North Pacific, we first give the broader range. For example, we may first note that a species is circumglobal, without giving specific locations throughout the world. By circumglobal we do not mean in all the seas of the world, but usually in the three major oceans or circumglobal in the Arctic. We then provide a more specific range in the Pacific Ocean, beginning with the westernmost record (e.g., “Japan”) and then the eastern Pacific range. Records from eastern Asia (Japan, Korea, eastern Russia) are usually given in less precise terms (e.g., “northern Japan”) than those within our geographic boundaries (e.g., “La Jolla, southern California”).

We have separated California and Baja California each into northern, central, and southern areas. Northern California runs from the Oregon border to about San Francisco, central from just south of San Francisco to Point Conception, and southern California to the Mexican border. Northern Baja California extends from the Mexican border to about Punta Baja, central Baja California extends to Punta Eugenia, and southern Baja California runs to Cabo San Lucas. While we generally give only the extremes of geographic range, in some instances, such as along the southern California and Baja California coast, we have often included both northern- or southernmost island and mainland occurrences. Geographic coordinates (latitude and longitude) are included in instances where fishes were captured well offshore or in areas where we felt there are no well-known landmarks.

Depth range — Depths given are minimum and maximum. Because the very young life stages of many fishes live at or near the surface or in shallow waters, we tried to exclude records of pelagic or newly settled juveniles. In some cases, where a depth of “0” meters or feet was given, it was not possible to differentiate between intertidal and surface water collections.

Synonyms — In the text at the end of each account we have included alternative names when we judge these are still in use or we wish to make it clear that the species in our area has recently gone by another name and our account includes records published under that name. We generally have not included the original scientific names when these have been changed, such as by moving from one genus to another, as these are readily found by searching for the species names in Eschmeyer (1998 and online editions). Where generic shifts have occurred, the fact is evident from the convention of enclosing the species’ author name in parentheses.

References Cited — Please note that we do not assign letters to differentiate between works of an author published in the same year unless it is not clear from the title which work is being cited.

Comments on the Inventory

We look forward to comments, corrections, and additions to this inventory. Please send these to Milton Love (love@lifesci.ucsb.edu) or Catherine Mecklenburg (ptstephens@alaska.com).



SPECIES LIST

Order Myxiniformes

Family Myxinidae — Hagfishes

- Eptatretus deani* (Evermann & Goldsborough, 1907). **Black Hagfish**. To 63.5 cm (25 in) TL (Hart 1973). Southeastern Alaska to Isla Guadalupe, central Baja California (Wisner and McMillan 1990). Bottom at 107–2,743 m (353–9,052 ft; Wisner and McMillan 1990).
- Eptatretus fritzi* Wisner & McMillan, 1990. **Guadalupe Hagfish**. To 58.5 cm (23.0 in) TL. Isla Guadalupe, central Baja California. Bottom at depths of 182–2,743 m (600–8,997 ft). All in Wisner and McMillan (1990).
- Eptatretus mcconnaugheyi* Wisner & McMillan, 1990. **Shorthead Hagfish**. To 48.2 cm (19 in) TL. Two populations: one from Santa Monica Bay, southern California to Islas Cedros and San Benito, central Baja California; and one in the lower portion of the Gulf of California. Bottom at 42–415 m (138–1,362 ft). All in Wisner and McMillan (1990).
- Eptatretus stoutii* (Lockington, 1878). **Pacific Hagfish**. To 63.5 cm (25 in) TL (Hart 1973). Nootka Bay, Vancouver Island, British Columbia (Wisner and McMillan 1990) to Punta San Pablo, central Baja California (Knaggs et al. 1975). Reported but not confirmed from southeastern Alaska (Mecklenburg et al. 2002). Bottom at 16–966 m (53–3,168 ft) (min.: Wisner and McMillan 1990; max.: Gotshall and Dyer 1987).
- Myxine circifrons* Garman, 1899. **Whiteface Hagfish**. To 47.0 cm (18.5 in) TL (Miller and Lea 1972). San Francisco, northern California to northcentral Chile (Wisner and McMillan 1990). The Islas Galápagos record listed in Miller and Lea (1972) appears to be in error (Grove and Lavenberg 1997). Bottom at about 700–1,860 m (2,297–6,102 ft; Wisner and McMillan 1995).
- Myxine hubbsi* Wisner & McMillan, 1995. To 51.5 cm (20.3 in) TL. Southern California to Chile. Bottom at about 1,100–2,440 m (3,609–8,005 ft). All in Wisner and McMillan (1995).

Order Petromyzontiformes

Family Petromyzontidae — Lampreys

- Lampetra ayresii* (Günther, 1870). **River Lamprey**. To 31.1 cm (12.2 in) TL (Scott and Crossman 1973). Tee Harbor, southeastern Alaska (Scott and Crossman 1973) to San Francisco Bay, northern California (Vladykov and Follett 1958). Anadromous, found in estuaries and coastal marine waters for a few months in summer.
- Lampetra camtschatica* (Tilesius, 1811). **Arctic Lamprey**. To 62.5 cm (24.6 in) TL (McPhail and Lindsey 1970). Almost circumpolar; Japan to Barents Sea, Arctic Ocean to Kenai Peninsula, Alaska (Mecklenburg et al. 2002). Anadromous, at sea to a depth of 50 m (164 ft; Mecklenburg et al. 2002).
- Lampetra tridentata* (Richardson, 1836). **Pacific Lamprey**. To 76 cm (30 in) TL (McPhail and Lindsey 1970). Hokkaido, Japan (Nakabo in Nakabo 2002); eastern Chukchi Sea (Mecklenburg et al. 2002); Bering Sea to Punta Canoas, northern Baja California (Miller and Lea 1972). At sea, near surface to 1,508 m (4,949 ft) (min.: Eschmeyer and Herald 1983; max.: Hoff and Britt 2003). Anadromous, may be found at sea, often far offshore, any time of the year. Classification in *Entosphenus* is preferred by some taxonomists. The author of the species description is sometimes given as Gairdner, or Gairdner in Richardson, but authorship evidently is correct as Richardson, or Richardson (ex Gairdner) (Eschmeyer 1998 and online edition 8 Nov. 2004); see discussion by Nelson et al. (2004:188).

Order Chimaeriformes

Family Chimaeridae — Ratfishes or Shortnose Chimaeras

Hydrolagus collieri (Lay & Bennett, 1839). **Spotted Ratfish** or Whitespotted Ratfish. To 100 cm (39.3 in) TL (Krupp and Bussing in Fischer et al. 1995). Western Gulf of Alaska (Mecklenburg et al. 2002) to near Punta Prieta (26°59'N, 114°02'W), southern Baja California (González-Acosta et al. 1999) and northern Gulf of California (Hart 1973). Two isolated populations in the Gulf of California: one at Isla Tiburon, the other in the Bahía de La Paz–Cabo San Lucas region (González-Acosta et al. 1999). Surface (Clemens and Wilby 1961) to 971 m (3,185 ft; Ebert 2003), usually near bottom (Mecklenburg et al. 2002); also intertidal (Cross 1981).

Hydrolagus sp. **Black Chimaera**. To at least 110 cm (43.3 in) TL. Known from a few specimens off southern California in 925–1,400 m (3,034–4,459 ft), and in deep water in the Gulf of California (Ebert 2003).

Hydrolagus sp. An undescribed species has been videotaped on the Davidson Seamount, central California, at a depth of over 2,000 m (6,560 ft; Ebert 2003).

Family Rhinochimaeridae — Longnose Chimaeras

Harriotta raleighana Goode & Bean, 1895. **Longnose Chimaera**, Pacific Longnose Chimaera, or Widenose Chimaera. To 120 cm (47.2 in) TL (Ebert 2003). Circumglobal; Japan (Nakabo in Nakabo 2002); southern California, Baja California, Gulf of California (Eschmeyer and Herald 1983), and Peru (3°47'S, 81°28'W; Chirichigno and Vélez 1998). At depths of 400–2,603 m (1,312–8,538 ft) (min.: Nakabo in Nakabo 2002; max.: Ebert 2003).

Order Hexanchiformes

Family Chlamydoselachidae — Frill Sharks

Chlamydoselachus anguineus Garman, 1884. **Frill Shark**. To at least 1.96 m (6.4 ft) TL (Ebert 2003). Circumglobal; Point Arguello, central California (Miller and Lea 1972) to Chile (Pequeño 1989). Surface to 1,500 m (4,920 ft; Ebert 2003).

Family Hexanchidae — Cow Sharks

Hexanchus griseus (Bonnaterre, 1788). **Bluntnose Sixgill Shark**, Mud Shark, or Sixgill Shark. To about 4.82 m (15.8 ft) TL (Castro 1983). Circumglobal in temperate and tropical waters; southern Japan (Nakaya and Shirai in Masuda et al. 1984); eastern North Pacific south of Aleutian Islands (Larkins 1964) to southern tip of Baja California (Compagno et al. in Fischer et al. 1995) to Chile (Chirichigno and Vélez 1998). Surface to at least 2,500 m (8,200 ft), adults usually below 91 m (298 ft) (min.: Compagno 1984; max.: Ebert 2003). The modifier bluntnose was added to the common name by Compagno (1999); there are two species of sixgill shark, although only one occurs in our area.

Notorynchus cepedianus (Péron, 1807). **Broadnose Sevengill Shark** or Sevengill Shark. To 2.96 m (9.7 ft) TL (Ebert 1989); there are no authenticated records larger than this (D. A. Ebert, pers. comm. to M. L.). Circumglobal in temperate waters; China and Japan, Australia and New Zealand, to northern British Columbia (Clemens and Wilby 1946) to southern Baja California, Gulf of California, and Peru to Chile (Compagno 1984). At less than 1 m to 570 m (1,870 ft) (min.: Compagno 1984; max.: Robertson and Allen 2002). The modifier broadnose was added to the common name by Compagno (1999).

Order Squaliformes

Family Echinorhinidae — Bramble Sharks

Echinorhinus cookei Pietschmann, 1928. **Prickly Shark**. To 4 m (13.1 ft) TL (Miller and Lea 1972). Moolach Beach, Oregon (Pearcy et al. 1985) to Michoacán, Mexico (Aguirre et al. 2002), and Gulf of California (Eschmeyer and Herald 1983) and Costa Rica (Robertson and Allen 2002) to Chile (Kong and Meléndez 1991). At depths of 4–1,100 m (13–3,608 ft) (min.: Ebert 2003; max.: Robertson and Allen 2002).

Family Squalidae — Dogfish Sharks

Squalus acanthias Linnaeus, 1758. **Piked Dogfish** or **Spiny Dogfish**. To about 200 cm (78.7 in) TL (Compagno in Carpenter 2003). Pacific and Atlantic, except not in tropical waters; in North Pacific from Yellow Sea off China to Bering Sea and southeastern Chukchi Sea, Alaska to Gulf of California (Mecklenburg et al. 2002). Coastal, inshore and offshore, intertidal zone to 1,244 m (4,105 ft) (min.: Compagno 1984; max.: Mecklenburg et al. 2002) and perhaps to 1,446 m (4,744 ft) (Compagno in Carpenter 2003).

Family Etmopteridae — Lantern Sharks

Centroscyllium nigrum Garman, 1899. **Combtooth Dogfish** or Pacific Black Dogfish. To about 51 cm (20 in) TL (Eschmeyer and Herald 1983). Southern California (Eschmeyer and Herald 1983) and northern Baja California (LACM 38584.001) to Chile (Eschmeyer and Herald 1983) (central Chile; Sielfeld and Vargas 1996), Cocos Island, Islas Galápagos, and Hawaii (Eschmeyer and Herald 1983). At depths of 269–1,170 m (883–3,838 ft) (min.: Long 1994; max.: Eschmeyer and Herald 1983).

Family Somniosidae — Sleeper Sharks

Somniosus pacificus Bigelow & Schroeder, 1944. **Mud Shark** or **Pacific Sleeper Shark**. Reported to reach 7.6 m (25 ft) TL (Clemens and Wilby 1946), but largest adequately documented individual is 4.4 m (14.5 ft; Ebert 2003). The length of 6 m (19.8 ft) reported by de Astarloa et al. (1999) is based on *Somniosus antarcticus* (D. A. Ebert, pers. comm. to M. L.). Japan to Bering Sea to Pacific Ocean off southern Baja California (Compagno 1984); also reported to Chukchi Sea and possibly to East Siberian and Beaufort seas by Compagno (1984). Following Compagno (1984), Mecklenburg et al. (2002) also reported range to the Arctic Ocean. Evidently, however, this part of the range has no solid documentation. Benz et al. (2004) described a dead sleeper shark that washed up on the beach at Point Hope, eastern Chukchi Sea, but it is possible the shark drifted there from the Bering Sea (C.W.M.). Reports of *S. pacificus* as far south as Pisco, Peru (Chirichigno and Vélez 1998) are questionable and may represent *Somniosus antarcticus* (D. A. Ebert, pers. comm. to M. L.). On or near bottom, occasionally at surface or in intertidal zone, to about 2,008 m (6,626 ft) (min.: Bright 1959; max.: Anderson et al. 1979); at the greatest depths in the southern part of the range.

Family Dalatiidae — Kitefin Sharks

Euprotomicrus bispinatus* (Quoy & Gaimard, 1824). **Pygmy Shark. To 30.5 cm (12 in) TL (Miller and Lea 1972). Circumglobal; a few caught 500 miles off southern California (Ebert 2003) to at least Easter Island (Pequeño 1989). Surface at night to perhaps 1,800 m (5,904 ft) or more (Ebert 2003).

Isistius brasiliensis (Quoy & Gaimard, 1824). **Cookiecutter Shark**. To 56 cm (22 in) TL (Ebert 2003). Circumglobal; North Pacific (Nakano and Tabuchi 1990); Isla Guadalupe, northern Baja California (Ebert 2003) to Peru (13°46'S; Chirichigno and Vélez 1998) and Islas Galápagos (Grove and Lavenberg 1997). Surface to 3,500 m (11,480 ft) (min.: Ebert 2003; max.: Compagno et al. in Fischer et al. 1995).

Order Squatiniformes

Family Squatinidae — Angel Sharks

Squatina californica Ayres, 1859. **Pacific Angel Shark**. To 152 cm (59.8 in) TL (Compagno 1984). Puget Sound, Washington (Mecklenburg et al. 2002) to Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994), and Gulf of California (Compagno 1984) to southern Chile (Eschmeyer and Herald 1983). One old, unverifiable record from southeastern Alaska (Evermann and Goldsborough 1907; see Mecklenburg et al. 2002:89). The South American fish may be a different species (Ebert 2003). Bottom at surf zone to 183 m (600 ft) (min.: Carlisle et al. 1960; max.: Eschmeyer and Herald 1983).

Order Heterodontiformes

Family Heterodontidae — Bullhead Sharks or Horn Sharks

Heterodontus francisci (Girard, 1855). **Horn Shark**. To at least 96 cm (37.8 in) TL (Ebert 2003), reported to 122 cm (48 in) TL (Miller and Lea 1972). San Francisco, northern California (Compagno 2001) to Gulf of California (Miller and Lea 1972); unconfirmed from Ecuador and Peru (Ebert 2003). Intertidal and to 200 m (656 ft; De La Cruz-Agüero et al. 1997).

Heterodontus mexicanus Taylor & Castro-Aguirre, 1972. **Mexican Horn Shark**. To at least 96 cm (37.8 in) TL, unconfirmed to 120 cm (47.2 in) TL (Ebert 2003). De La Cruz-Agüero et al. (1997) list the maximum length as much larger, 1.7 m TL (5.6 ft). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) into the Gulf of California (Compagno 1984) to northern Peru (Chirichigno and Vélez 1998). Inshore (Compagno 1984) to at least 38 m (125 ft; LACM 8825.003) and possibly to 50 m (Compagno 2001).

Order Orectolobiformes

Family Ginglymostomatidae — Nurse Sharks

Ginglymostoma cirratum (Bonnaterre, 1788). **Nurse Shark**. To 4.3 m (14.1 ft) TL (Compagno 1984). Pacific and Atlantic; southern Baja California into Gulf of California (Compagno 1984) to Máncora, Peru (Chirichigno and Vélez 1998). Intertidal and to 130 m (426 ft) (min.: Gasparini and Floeter 2001; max.: Compagno 2001).

Family Rhincodontidae — Whale Sharks

Rhincodon typus Smith, 1828. **Whale Shark**. To at least 18 m (59.0 ft) TL (Ebert 2003), possibly 21.4 m (70.6 ft) TL (Compagno in Carpenter and Niem 1998). Circumtropical; Santa Cruz, central California to northern Chile and Islas Galápagos (Ebert 2003). Pelagic, descends as deep as 700 m (2,296 ft) or more (Compagno 2001).

Order Lamniformes

Family Mitsukurinidae — Goblin Sharks

Mitsukurina owstoni Jordan, 1898. **Goblin Shark**. To 3.85 m (12.6 ft) TL (Ebert 2003). Circumglobal; San Clemente Island, southern California (Ugoretz and Seigel 1999). At 40–1,300 m (131–4,264 ft; Ugoretz and Seigel 1999).

Family Pseudocarcharinidae — Crocodile Sharks

Pseudocarcharias kamoharui (Matsubara, 1936). **Crocodile Shark**. To at least 110 cm (43.3 in) TL. Circumtropical; off Baja California. Surface to 590 m (1,935 ft) or more. All in Compagno (2001).

Family Odontaspidae — Sand Tigers

Odontaspis ferox (Risso, 1810). **Ragged-tooth Shark** or Smalltooth Sandtiger Shark. To at least 410 cm (161 in) TL (Compagno 2001). Circumglobal in temperate waters; Newport Beach and Santa Barbara Island, southern California (Seigel and Compagno 1986) to Gulf of California (Eschmeyer and Herald 1983). At 13–530 m (42–1,739 ft) (min.: Eschmeyer and Herald 1983; max.: Robertson and Allen 2002).

Family Megachasmidae — Megamouth Sharks

Megachasma pelagios Taylor, Compagno, & Struhsaker, 1983. **Megamouth Shark**. To at least 5.5 m (18.0 ft) TL (Ebert 2003). North and South Pacific; Japan, Australia, Hawaii, southern California (Compagno et al. in Fischer et al. 1995). Surface to 166 m (544 ft; Ebert 2003).

Family Alopiidae — Thresher Sharks

Alopias pelagicus Nakamura, 1935. **Pelagic Thresher**. To 3.83 m (12.6 ft) TL (Ebert 2003). Circumtropical; southern California (Hanan et al. 1993) to Panama, including southern tip of Baja California (Compagno et al. in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Oceanic, surface to 700 m (2,296 ft) or more (Weng and Block 2004).

Alopias superciliosus (Lowe, 1841). **Bigeye Thresher**. To 4.8 m (15.7 ft) TL (Thorpe 1997); unsubstantiated reports to 5.5 m (18.0 ft) TL (Compagno in Carpenter 2003). Circumglobal; San Clemente, southern California (Miller and Lea 1972) to Gulf of California (Eschmeyer and Herald 1983) and Islas Galápagos (Grove and Lavenberg 1997); possibly off Peru and northern Chile (Compagno 2001). Surface to 723 m (2,371 ft; Nakano et al. 2003).

Alopias vulpinus (Bonnaterre, 1788). Common Thresher Shark or **Thresher Shark**. To 6.36 m (20.9 ft) TL (Ebert 2003). Circumglobal in warm waters; southeastern Alaska (Mecklenburg et al. 2002) and Goose Bay, British Columbia (Clemens and Wilby 1961) to Chile (Eschmeyer and Herald 1983) and perhaps not including Gulf of California (Robertson and Allen 2002). Coastal and oceanic epipelagic; surface to 366 m (1,200 ft) or more (Compagno 1984).

Family Cetorhinidae — Basking Sharks

Cetorhinus maximus (Gunnerus, 1765). **Basking Shark**. Well documented to 9.8 m (32.1 ft) TL, reports to 15.2 m (50 ft) TL not verifiable but possibly not exaggerated (Bigelow and Schroeder 1953). Pauly (2002) estimated 10 m (32.8 ft) as the likely maximum length, but with average size of 7–9 m (22–29 ft; Castro 1983), sizes over 10 m (33 ft) seem probable. Circumglobal in cold waters; Yellow Sea, Japan Sea, Okhotsk Sea, and western North Pacific Ocean to eastern North Pacific south of Aleutian Islands and in Gulf of Alaska to Gulf of California (Mecklenburg et al. 2002); Chile (Eschmeyer and Herald 1983). Coastal pelagic; surface (Bigelow and Schroeder 1953) to 1,000 m (3,280 ft; Sims et al. 2003).

Family Lamnidae — Mackerel Sharks

Carcharodon carcharias (Linnaeus, 1758). **White Shark**. To about 6 m (19.5 ft) TL (Randall 1987), possibly to 6.4 m (21.1 ft) TL (Compagno 2001). Circumglobal, mostly amphitemperate; northern Gulf of Alaska to Gulf of California; Panama to Chile (Eschmeyer and Herald 1983) and Islas Galápagos (Grove and Lavenberg 1997). Pelagic, coastal and offshore over island and continental shelves; surf zone to 1,280 m (4,198 ft; Eschmeyer and Herald 1983).

Isurus oxyrinchus Rafinesque, 1810. **Shortfin Mako**. To 3.96 m (13 ft) TL (Compagno 2001). Circumglobal in warm waters; British Columbia (Gillespie 1993) to Chile (Miller and Lea 1972) and Islas Galápagos (Grove and Lavenberg 1997). Coastal and oceanic pelagic; surface to 500 m (1,640 ft) or more (min.: Eschmeyer and Herald 1983; max.: Ebert 2003).

Isurus paucus Guitart Manday, 1966. **Longfin Mako**. To 4.17 m (13.7 ft) TL (Ebert 2001). Circumglobal; two records from southern California (Ebert 2001). Pelagic, at depths of 30–760 m (98–2,493 ft) (min.: Ebert 2003; max.: Clark and Kristof 1990).

Lamna ditropis Hubbs & Follett, 1947. **Salmon Shark**. To 3.05 m (10 ft) TL (Compagno 1984). Korea and Japan to Okhotsk and Bering seas and Gulf of Alaska (Mecklenburg et al. 2002) to central Baja California (Eschmeyer and Herald 1983). Coastal and oceanic pelagic; surface to 792 m (2,598 ft; L. B. Hulbert, pers. comm. to M. L.).

Order Carcharhiniformes

Family Scyliorhinidae — Cat Sharks

Apristurus brunneus (Gilbert, 1892). **Brown Cat Shark**. To 69 cm (27.2 in) TL (Ebert 2003). Icy Point (58°N), southeastern Alaska (Wilson and Hughes 1978) to northern Baja California (Miller and Lea 1972), and Panama (Compagno 1984) to Chile (Kong and Meléndez 1991). On bottom to well off bottom at 33–1,306 m (108–4,285 ft) (min.: Compagno 1984; max.: Mecklenburg et al. 2002).

Apristurus kampae Taylor, 1972. **Longnose Cat Shark**. To 57 cm (22.4 in) TL (Ebert 2003). Cape Blanco, Oregon (Ebert 2003) to Gulf of California (Eschmeyer and Herald 1983), to central America and probably northern Peru (Chirichigno and Vélez 1998) and Islas Galápagos (Grove and Lavenberg 1997). The individuals captured from the Galápagos may be an undescribed species (Grove and Lavenberg 1997). At 180–1,888 m (590–6,193 ft) (min.: Ebert 2003; max.: Compagno 1984).

Apristurus sp. An undescribed species has been collected off central California (Ebert 2003).

Cephaloscyllium ventriosum (Garman, 1880). **Swell Shark**. To 110 cm (43.3 in) TL (Ebert 2003). Monterey Bay, central California to Acapulco, Mexico, including Gulf of California and Chile (Eschmeyer and Herald 1983). At 5–457 m (15–1,500 ft; Eschmeyer and Herald 1983).

Cephalurus cephalus (Gilbert, 1892). **Lollipop Cat Shark**. To 29.8 cm (11.7 in) TL (Balart et al. 2000). Southern Baja California, Gulf of California, and Panama (Compagno 1984) to Chile (Balart et al. 2000). At 155–927 m (508–3,041 ft; Compagno 1984). *Cephalurus* from Panama, Peru, and Chile differ from the type specimens of *C. cephalus* in a number of characters and may represent one or more new species (Compagno 1984).

Parmaturus xaniurus (Gilbert, 1892). **Filetail Cat Shark**. To 61 cm (24 in) TL (Eschmeyer and Herald 1983), also reported to 71 cm (28 in; RACE). Cape Foulweather, Oregon (44°07'N; RACE) to Baja California and Gulf of California (Eschmeyer and Herald 1983). At depths of 88–1,250 m (290–4,100 ft) (min.: Wilkins et al. 1998; max.: Eschmeyer and Herald 1983).

Family Triakidae — Hound Sharks

Galeorhinus galeus (Linnaeus, 1758). **Soupin Shark or Tope**. To about 2 m (6.5 ft) TL (Miller and Lea 1972, Hart 1973). Temperate waters, nearly worldwide; northern British Columbia (Miller and Lea 1972) to Gulf of California (Compagno et al. in Fischer et al. 1995); Ecuador (Béarez 1996) to Chile (Miller and Lea 1972). Coastal pelagic; surf zone to depth of 1,100 m (3,608 ft) (min.: Compagno 1984; max.: Robertson and Allen 2002). The common name Soupin Shark has consistently been used for this shark on the West Coast, but the official AFS–ASIH name (Nelson et al. 2004) is Tope. *Galeorhinus zyopterus* Jordan & Gilbert, 1883, is a junior synonym.

Mustelus californicus Gill, 1864. **Gray Smoothhound**. To 1.25 m (49.2 in) TL (Ebert 2003), reported to 1.63 m TL (64.25 in; Miller and Lea 1972). Cape Mendocino, northern California to Mazatlán, Mexico, including Gulf of California (Eschmeyer and Herald 1983). Surf zone to 95 m (312 ft) (min.: Carlisle et al. 1960; max.: Shaw et al. 2000).

Mustelus dorsalis* Gill, 1864. **Sharptooth Smoothhound. To 64 cm (25.2 in) TL (Compagno et al. in Fischer et al. 1995). Tip of Baja California and central Mexico to Peru (Robertson and Allen 2002). At depths of 20–200 m (60–656 ft; Robertson and Allen 2002).

Mustelus henlei (Gill, 1863). **Brown Smoothhound**. To 100 cm (39.4 in) TL (Ebert 2003). Northern Washington (collected by J. Bryant; J. Cusick, pers. comm. to M. L.) to Gulf of California and Ecuador and Peru (Eschmeyer and Herald 1983). Surf zone to 281 m (922 ft) (min.: Carlisle et al. 1960; max.: Shaw et al. 2000).

Mustelus lunulatus Jordan & Gilbert, 1882. **Sicklefin Smoothhound**. To 175 cm (68.9 in) TL (Amezcue Linares 1996). San Diego, southern California (Eschmeyer and Herald 1983) to Talara, Peru (Chirichigno and Vélez 1998), including Gulf of California (Galván-Magaña et al. 1996). Inshore (Eschmeyer and Herald 1983) to 94 m (308 ft; Amezcua Linares 1996).

Triakis semifasciata Girard, 1855. **Leopard Shark**. To 2.1 m (7 ft) TL (Eschmeyer and Herald 1983). Oregon to Mazatlán, Mexico (Miller and Lea 1972), including Gulf of California (Eschmeyer and Herald 1983). Surf zone to 156 m (515 ft) (min.: Carlisle et al. 1960; max.: M. Yoklavich, pers. comm. to M. L.).

Family Carcharhinidae — Requiem Sharks

Carcharhinus albimarginatus (Rüppell, 1837). **Silvertip Shark**. To 3 m (9.8 ft) TL (Compagno et al. in Fischer et al. 1995). Pacific and Indian oceans; Bahia Magdalena, southern Baja California (Galván-Magaña et al. 2000) to Ecuador (Béarez 1996), including Islas Galápagos (Grove and Lavenberg 1997). Surface to 800 m (2,624 ft) or more (Compagno et al. in Fischer et al. 1995).

Carcharhinus altimus (Springer, 1950). **Bignose Shark**. To 3 m (9.8 ft) TL (Compagno et al. in Fischer et al. 1995). Circumglobal; central Baja California (Compagno et al. in Fischer et al. 1995) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Compagno et al. in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 25–500 m (82–1,640 ft) (min.: Crow et al. 1996; max.: Robertson and Allen 2002).

Carcharhinus brachyurus (Günther, 1870). Copper Shark or **Narrowtooth Shark**. To about 3 m (9.8 ft) TL (Ebert 2003). Circumglobal; southern California (Eschmeyer and Herald 1983) to central Peru (Chirichigno and Vélez 1998), including Gulf of California and Islas Galápagos (Grove and Lavenberg 1997). Surf line to 360 m (1,181 ft; Compagno in Carpenter 2003).

Carcharhinus falciformis (Müller & Henle, 1839). **Silky Shark**. To 3.5 m (11.6 ft) TL (Compagno et al. in Fischer et al. 1995). Circumglobal; Lagunas Ojo de Liebre-Guerrero Negro, central Baja California (Galván-Magaña et al. 2000) to northern Chile (Grove and Lavenberg 1997), including Gulf of California (Compagno et al. in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At 18–500 m (59–1,640 ft) or more (Compagno 1984).

Carcharhinus galapagensis (Snodgrass & Heller, 1905). **Galapagos Shark**. To 3.7 m (12.1 ft) TL (Compagno et al. in Fischer et al. 1995). Circumglobal in tropical waters; central Baja California (Compagno et al. in Fischer et al. 1995) to Easter Island (Chirichigno and Vélez 1998), including Gulf of California (Compagno et al. in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At 2–180 m (7–590 ft) or more (Compagno 1984). Sharks tentatively identified as this species were seen as deep as 250 m (820 ft; Ralston et al. 1986).

-
- Carcharhinus leucas* (Müller & Henle, 1839). **Bull Shark**. To 3.5 m (11.5 ft) TL (Compagno et al. in Fischer et al. 1995). Circumglobal in warm waters; possibly southern California; southern Baja California (Eschmeyer and Herald 1983) to Paita, Peru (Chirichigno 1974), including Gulf of California (Compagno et al. in Fischer et al. 1995). Also found in fresh water. At less than 1 m to 152 m (499 ft; Compagno 1984).
- Carcharhinus limbatus* (Müller & Henle, 1839). **Blackfin Shark** or **Blacktip Shark**. To 2.5 m (8.2 ft) TL (Compagno et al. in Fischer et al. 1995). Circumglobal in tropical waters; Ensenada, northern Baja California (Ebert 2003) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Compagno et al. in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Unconfirmed records from California (Ebert 2003). Inshore (Compagno 1984), surface (Grove and Lavenberg 1997) to 64 m (210 ft) (Crow et al. 1996).
- Carcharhinus longimanus* (Poey, 1861). **Oceanic Whitetip Shark**. Maximum length variously listed as between 3.5 and 3.95 m (11.5 and 13 ft) TL (Compagno 1984). Circumtropical; unconfirmed reports from central California (Ebert 2003), perhaps Gaviota, southern California (T. Herrlinger and P. Krause, pers. comm. to M. L.) and Cortes Bank, southern California (Miller and Lea 1972), to Puerto Pizarro, Peru (Chirichigno 1974), including Gulf of California (Compagno et al. in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At or near surface to about 200 m (656 ft) (min.: Eschmeyer and Herald 1983; max.: Boggs 1992).
- Carcharhinus obscurus* (Lesueur, 1818). **Dusky Shark**. To at least 3.7 m (12.1 ft) TL, possibly to 4.2 m (13.8 ft) TL (Ebert 2003). Circumglobal; Redondo Beach, southern California to Gulf of California (Eschmeyer and Herald 1983) and to Ecuador (Béarez 1996). Surf zone to 400 m (1,312 ft; Compagno 1984).
- Carcharhinus porosus* (Ranzani, 1840). **Smalltail Shark**. To 3.4 m (11.4 ft) TL (Compagno in Carpenter 2003). Western Atlantic and eastern Pacific; southern Baja California (Compagno et al. in Fischer et al. 1995) to Callao, Peru (Compagno 1974), including Gulf of California (Compagno et al. in Fischer et al. 1995). At 16–32 m (50–105 ft; Compagno et al. in Fischer et al. 1995).
- Galeocerdo cuvier* (Péron & Lesueur, 1822). **Tiger Shark**. To 5.5 m (18 ft) TL, possibly to 7.4 m (24.4 ft) TL (Randall 1992). Circumglobal in tropical waters; sighting (unverifiable) at Prince William Sound, Gulf of Alaska (Karinen et al. 1985); southern California to Peru (Eschmeyer and Herald 1983), including Islas Galápagos (Grove and Lavenberg 1997) and Gulf of California (Galván-Magaña et al. 1996). Coastal pelagic; surface and intertidal area to at least 350 m (1,148 ft; Ebert 2003) and perhaps to 800 m (2,625 ft; Laboute and Grandperrin 2000); prefers waters turbid with freshwater runoff (Compagno 1984).
- Nasolamia velox* (Gilbert, 1898). **Whitenose Shark**. To 150 cm (59 in) TL (Compagno et al. in Fischer et al. 1995). Central Baja California and Gulf of California (Compagno et al. in Fischer et al. 1995) to Puerto Pizarro, Peru (Chirichigno and Vélez 1998), including Gulf of California (Compagno et al. in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At 15–192 m (49–630 ft; Compagno et al. in Fischer et al. 1995).
- Negaprion brevirostris* (Poey, 1868). **Lemon Shark**. To about 3.4 m (11.2 ft) TL (Compagno 1984). Pacific and Atlantic; Bahia Magdalena, southern Baja California (Galván-Magaña et al. 2000) and Gulf of California (Compagno 1984) to northern Peru (Chirichigno and Vélez 1998). Intertidal area and to 92 m (304 ft) or more (Compagno in Carpenter 2003).
- Prionace glauca* (Linnaeus, 1758). **Blue Shark**. To 383 cm (12.6 ft) TL, reported but not confirmed to 4.8–6.5 m (15.7–21.3 ft) TL (Compagno 1984). Circumglobal in temperate and tropical waters; in western Pacific as far north as southern Kuril Islands (Savinykh 1998); Kodiak Island, western Gulf of Alaska (Karinen et al. 1985) to Chile (Miller and Lea 1972), including Gulf of California (Compagno et al. in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Oceanic pelagic, typically over water depths greater than 183 m (600 ft) but often venturing near shore (Compagno 1984); surface to about 350 m (1,148 ft) (min.: Eschmeyer and Herald 1983; max.: Laboute and Grandperrin 2000).

Rhizoprionodon longurio (Jordan & Gilbert, 1882). **Pacific Sharpnose Shark**. To at least 1.1 m (43 in) TL, may reach 1.5 m (59 in; Eschmeyer and Herald 1983). Southern California (Eschmeyer and Herald 1983) to Paita, Peru (Chirichigno and Vélez 1998), including Gulf of California (Compagno et al. in Fischer et al. 1995). Intertidal area (Compagno et al. in Fischer et al. 1995) and to 100 m (328 ft; Amezcua Linares 1996).

Triaenodon obesus (Rüppell, 1837). **Whitetip Reef Shark**. To 1.7 m (66.9 in) TL (Compagno in Carpenter and Niem 1998), but reported to 2.16 m (85 in; Lieske and Myers 2002). At least as far north as Islas Revillagigedo, southern Baja California (D. Schroeder, pers. comm. to M. L.) to Ecuador (Béarez 1996), including Islas Galápagos (Compagno 1984). Surface to 122 m (400 ft; Myers 1999).

Family Sphyrnidae — Hammerhead Sharks

Sphyrna corona* Springer, 1940. **Scalloped Bonnethead. To 92 cm (36.2 in) TL (Compagno et al. in Fischer et al. 1995). Gulf of California (Compagno et al. in Fischer et al. 1995) to northern Peru (Chirichigno 1974), including the southern tip of Baja California (Compagno et al. in Fischer et al. 1995). Inshore (Allen and Robertson 1994).

Sphyrna lewini (Griffith & Smith, 1834). **Scalloped Hammerhead**. To about 4.2 m (13.8 ft) TL (Compagno in Carpenter 2003). Circumtropical; several southern California records as far north as Santa Barbara, southern California (Seigel 1985) and south to Puerto Pizarro, Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997). Surface to at least 275 m (902 ft; Compagno 1984), comes into shallow bays and estuaries (Grove and Lavenberg 1997).

Sphyrna media* Springer, 1940. **Scoophead or Scoophead Shark. To 150 cm (59.1 in) TL (Compagno et al. in Fischer et al. 1995). Gulf of California and tip of Baja California to Peru, also western Atlantic (Robertson and Allen 2002). Surface to perhaps 100 m (328 ft; Robertson and Allen 2002).

Sphyrna mokarran (Rüppell, 1837). **Great Hammerhead**. To 6.1 m (20 ft) TL or more (Compagno 1984). Circumtropical; Bahia Magdalena, southern Baja California (Galván-Magaña et al. 2000) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Compagno 1984) and Islas Galápagos (Grove and Lavenberg 1997). Surface (Yoshino and Aonuma in Nakabo 2002) to at least 300 m (984 ft; Myers 1999).

Sphyrna tiburo (Linnaeus, 1758). **Bonnethead** or Bonnethead Shark. To about 1.5 m (46 in) TL (Compagno in Carpenter 2003), possibly to 1.8 m (6 ft) TL (Eschmeyer and Herald 1983). San Diego, southern California (Eschmeyer and Herald 1983) to Paita, Peru (Chirichigno and Vélez 1998), including Gulf of California (Compagno 1984); also western Atlantic (Compagno 1984). Intertidal area and to 80 m (262 ft; Compagno 1984).

Sphyrna zygaena (Linnaeus, 1758). **Smooth Hammerhead**. To 5 m (16.4 ft) TL (Robertson and Allen 2002). Circumglobal; central California (Miller and Lea 1972) to Gulf of California (Eschmeyer and Herald 1983) and to Chile (Chirichigno 1974), including Islas Galápagos (Compagno 1984). Surface to 200 m (656 ft), possibly deeper (min.: Compagno 1984; max.: Ebert 2003).

Order Torpediniformes

Family Narcinidae — Electric Rays or Numbfishes

Diplobatis ommata (Jordan & Gilbert, 1890). **Bullseye Electric Ray** or Ocellated Electric Ray. To 25 cm (9.8 in) TL (McEachran in Fischer et al. 1995). Bahia San Juanico (26°13'N, 112°28'W; SIO 64-65), southern Baja California (De La Cruz-Agüero et al. 1994) to Ecuador (Béarez 1996), including Gulf of California (McEachran in Fischer et al. 1995). At least 3–94 m (10–308 ft) (min.: LACM 49744.002; max.: Amezcua Linares 1996).

Narcine entemedor Jordan & Starks, 1895. **Giant Electric Ray**. To 107 cm (42.1 in) TL (J. Bizarro, pers. comm. to M. L.). Lagunas Ojo de Liebre-Guerrero Negro, central Baja California (De La Cruz-Agüero et al. 1996) to Caleta La Cruz, Peru (Chirichigno and Vélez 1998), including Gulf of California (McEachran in Fischer et al. 1995). At depths of 1–100 m (3–328 ft) (min.: LACM 4997; max.: Amezcua Linares 1996). Considered by some authors to be a junior synonym of *Narcine brasiliensis* (Olfers, 1831).

Family Torpedinidae — Torpedo Electric Rays

Torpedo californica Ayres, 1855. **Pacific Electric Ray** or Pacific Torpedo Ray. To more than 137 cm (4.5 ft) TL (Eschmeyer and Herald 1983). Sanriku, Japan (Hatooka in Nakabo 2002); Wiah Point, Graham Island, northern British Columbia (Clemens and Wilby 1961) to Bahia de Sebastian Vizcaino, central Baja California (Miller and Lea 1972). Sandy bottom at surf zone to 906 m (2,972 ft) (min.: Carlisle et al. 1960; max.: Lauth 2000), usually shallower than 300 m.

Order Rajiformes

Family Rhinobatidae — Guitarfishes

Rhinobatos glaucostigma Jordan & Gilbert, 1883. **Speckled Guitarfish**. To 85 cm (33.5 in) TL (Amezcua Linares 1996). Bahia Magdalena, southern Baja California (Galván-Magaña et al. 2000) to Ecuador (Amezcua Linares 1996), including Gulf of California (McEachran in Fischer et al. 1995). Shallow water to 112 m (367 ft; Amezcua Linares 1996).

Rhinobatos leucorhynchus Günther, 1867. **Whitesnout Guitarfish**. To 70.2 cm (27.6 in) TL (Arellano-Martinez et al. 1997). Lagunas Ojo de Liebre-Guerrero Negro, central Baja California (Arellano-Martinez et al. 1997) to Ecuador (McEachran in Fischer et al. 1995), including Gulf of California (Castro-Aguirre and Espinosa Pérez 1996). At depths of 2–8 m (7–26 ft) (min.: LACM 33557.001; max.: Arellano-Martinez et al. 1997), perhaps to 50 m (164 ft; Robertson and Allen 2002).

Rhinobatos productus Ayres, 1854. **Shovelnose Guitarfish**. To 1.56 m (61.5 in) TL (Baxter 1966). The 1.7 m given in Eschmeyer and Herald (1983) is based on a misprint (D. A. Ebert, pers. comm. to M. L.). San Francisco, northern California (Miller and Lea 1972) to southern Mexico, including Gulf of California (McEachran in Fischer et al. 1995). At depths of 1–91 m (3–298 ft; Ebert 2003).

Zapteryx exasperata (Jordan & Gilbert, 1880). **Banded Guitarfish**. To 97 cm (38.2 in) TL (Ebert 2003). Jalama Beach, central California (M. L., unpubl. data) to Gulf of California; also reported as far south as Caleta La Cruz, Peru (Chirichigno and Vélez 1998). Ebert (2003) questions captures south of Mazatlán, Mexico, noting possible confusion with *Zapteryx xyster*, a more southerly species. Tidepools and to 200 m (656 ft) (min.: Eschmeyer and Herald 1983; max.: De La Cruz-Agüero et al. 1997).

Family Platyrhynidae — Thornbacks

Platyrhinoidis triseriata (Jordan & Gilbert, 1880). **Thornback**. To 76 cm (30 in) TL (Miller and Lea 1972). Tomales Bay, northern California (Plant 1989) to Gulf of California (McEachran in Fischer et al. 1995); also reported from Ecuador (Béarez 1996). Gulf of California population probably isolated (Castro-Aguirre and Espinosa Pérez 1996). Surf zone to 137 m (449 ft) (min.: Carlisle et al. 1960; max.: Ebert 2003).

Family Rajidae — Skates

Amblyraja badia (Garman, 1899). **Broad Skate** or Roughshoulder Skate. To 98.5 cm (38.8 in) TL (Zorzi and Anderson 1988). Southern Sea of Okhotsk and Pacific coast of northern Japan (Hatooka et al. in Nakabo 2002) to Navarin Canyon, northern Bering Sea (Ebert 2003, Stevenson 2004) and Aleutian Islands (UW 47007) to northern British Columbia (G. E. Gillespie, pers. comm. to C. W. M.), to central Panama,

including Gulf of California (Zorzi and Anderson 1988). Bottom at 846–2,322 m (2,775–7,616 ft) (min.: Ebert 2003; max.: Zorzi and Anderson 1988). Also recently as *Raja badia*.

Bathyraja abyssicola (Gilbert, 1896). **Deepsea Skate**. To 157 cm (63 in) TL (Sheiko and Tranbenkova 1998). Southern Japan (Nakaya in Amaoka et al. 1983); western Bering Sea (Mecklenburg et al. 2002), Aleutian Islands south of Tanaga Island (Zorzi and Anderson 1990) and north of Unalaska Island (UW 45833, UW 46058), eastern Gulf of Alaska (Mecklenburg et al. 2002), and northern British Columbia (Gilbert 1896) to Islas Coronados, northern Baja California (Zorzi and Anderson 1988). Bottom at 362–2,904 m (1,195–9,528 ft) (min.: Zorzi and Anderson 1988 [CAS 38013]; max.: Gilbert 1896 [USNM 48623; 1,588 fm]).

Bathyraja aleutica (Gilbert, 1896). **Aleutian Skate**. To about 161 cm (63.4 in) TL (Zenger 2004). Northern Japan to Bering Sea to southeastern Alaska (Mecklenburg et al. 2002) and northern British Columbia (G. E. Gillespie, pers. comm. to C. W. M.) to Cape Mendocino, northern California (Hoff 2002). Bottom at 15–1,602 m (49–5,256 ft; Sheiko and Fedorov 2000).

Bathyraja interrupta (Gill & Townsend, 1897). **Black Skate** or **Sandpaper Skate**. To 86 cm (34 in) TL (Ishihara and Ishiyama 1985). Bering Sea and Aleutian Islands to Cortes Bank, southern California (Eschmeyer and Herald 1983). Bottom at 37–1,372 m (121–4,500 ft) (min.: Stevenson 2004; max.: Miller and Lea 1972). Recently as *Rhinoraja interrupta*. The status of *Bathyraja kincaidii* (Garman, 1908), treated by some authors as a junior synonym of *B. interrupta* and by others as a species distinct from *B. interrupta*, needs further study. For *B. kincaidii* treated as a separate species: To 56 cm (22 in) TL (Ebert 2003), also reported to 63 cm (24.8 in; C. Perez, 2004 Western Groundfish Conference) and 66 cm (26 in; W. A. Palsson, pers. comm. to M. L.). Northern Baja California to British Columbia and possibly the Gulf of Alaska (Ebert 2003). At depths of about 200–500 m (656–1,640 ft; Ebert 2003), reported as shallow as 18 m (60 ft; W. A. Palsson, pers. comm. to M. L.).

Bathyraja lindbergi Ishiyama & Ishihara, 1977. **Commander Skate**. To 102 cm (40.2 in) TL (Zenger 2004). Okhotsk Sea off Hokkaido (Nakaya in Amaoka et al. 1983) to Bering Sea and Aleutian Islands, with unconfirmed report of range to western Gulf of Alaska (Mecklenburg et al. 2002). Bottom at 120–1,200 m (394–3,937 ft) (min.: Mecklenburg et al. 2002; max.: Hoff and Britt 2003) and possibly to 2,000 m (6,562 ft). Classified by some authors as a junior synonym of *Bathyraja matsubarai* Ishiyama, 1952; in this case, maximum recorded size would be 98 cm (38.6 in) TL, and maximum depth, 2,000 m (6,562 ft) (Mecklenburg et al. 2002).

Bathyraja maculata Ishiyama & Ishihara, 1977. **Whiteblotched Skate**. To 146 cm (57.5 in) TL (Zenger 2004). Sea of Okhotsk and northern Sea of Japan to Bering Sea and Aleutian Islands (Mecklenburg et al. 2002). Bottom at 73–1,193 m (241–3,914 ft) (min.: Sheiko and Fedorov 2000; max.: Stevenson 2004 [UW 47016]).

Bathyraja mariposa Stevenson, Orr, Hoff, & McEachran, 2004. **Butterfly Skate**. To 76.0 cm (29.9 in) TL. Aleutian Islands, Alaska from Petrel Bank to the Islands of Four Mountains. At depths of 90–448 m (1,470 ft). All in Stevenson et al. (2004).

Bathyraja microtrachys (Osburn & Nichols, 1916). **Fine-spined Skate**. To at least 70 cm (28 in) TL. Washington to about central Baja California (300 miles southeast of San Diego, southern California). At depths of 1,995–2,938 m (6,544–9,637 ft). All in Ebert (2003).

Bathyraja minispinosa Ishiyama & Ishihara, 1977. **Whitebrow Skate**. To 82.5 cm (32.5 in) TL (Nakaya in Amaoka et al. 1983). Sea of Okhotsk off Hokkaido (Nakaya in Amaoka et al. 1983) and Pacific Ocean off Kuril Islands (Dudnik and Dolganov 1992) to Commander Islands and Bering Sea to Aleutian Islands; northern British Columbia (Peden 2003) close to Alaska border (G. E. Gillespie, pers. comm. to C. W. M.). Bottom at 160–1,420 m (525–4,686 ft; Nakaya in Amaoka et al. 1983). Additional citations in Mecklenburg et al. (2002).

-
- Bathyraja parmifera* (Bean, 1881). **Alaska Skate**. To 130 cm (51.2 in) TL (Zenger 2004). Sea of Okhotsk, northern Sea of Japan, and Pacific Ocean off Hokkaido to Bering Sea to eastern Gulf of Alaska (Mecklenburg et al. 2002). Bottom at 20–1,425 m (66–4,703 ft; Sheiko and Fedorov 2000).
- Bathyraja spinosissima* (Beebe & Tee-Van, 1941). **Pacific White Skate** or White Skate. To 150 cm (58.5 in) TL (McEachran in Fischer et al. 1995). Waldport, Oregon (Ebert 2003) to Isla Cocos, Costa Rica, including Mexican mainland at Sinaloa (Castro-Aguirre and Espinosa Pérez 1996), and Islas Galápagos (Ebert 2003). Bottom at 800–2,938 m (2,640–9,695 ft) (min.: Ebert 2003; max.: Percy et al. 1982).
- Bathyraja taranetzi* (Dolganov, 1983). **Mud Skate**. To 77 cm (30.3 in) TL (Ebert 2005). Pacific coast of Kuril Islands and Kamchatka to Bering Sea and Aleutian Islands; unconfirmed report from western Gulf of Alaska (Mecklenburg et al. 2002). Bottom at 58–1,054 m (190–3,458 ft; Stevenson 2004). *Rhinoraja longi* Raschi & McEachran, 1991, is included as a junior synonym.
- Bathyraja trachura* (Gilbert, 1892). Black Skate or **Roughtail Skate**. To 89 cm (35 in) TL (Eschmeyer and Herald 1983). Sea of Okhotsk and northern Kuril Islands to Cape Navarin, western Bering Sea, Commander–Aleutian chain, and eastern Bering Sea and Gulf of Alaska (Mecklenburg et al. 2002) to north of Isla Guadalupe, central Baja California (Castro-Aguirre and Espinosa Pérez 1996). Bottom at 267–2,550 m (876–8,366 ft) (min.: UW 41746; max.: Ebert 2003), reported as shallow as 213 m (699 ft; Stevenson 2004).
- Bathyraja violacea* (Suvorov, 1935). **Okhotsk Skate**. To 73 cm (29.2 in) TL (Orlov 1998), reported but not documented to 100 cm (39 in) TL (Lindberg and Legeza 1959). Sea of Okhotsk and Sea of Japan and Pacific Ocean off Hokkaido to northwestern Bering Sea off Cape Navarin, Russia (Dolganov 1999) and northeastern Bering Sea, Alaska (Mecklenburg et al. 2002). Bottom at 20–1,110 m (66–3,642 ft) (min.: Mecklenburg et al. 2002; max.: Sheiko and Fedorov 2000).
- Raja binoculata* Girard, 1855. **Big Skate**. To 244 cm (96 in) TL (Eschmeyer and Herald 1983). Bering Sea and Aleutian Islands, at least as far west as Unalaska Island, to eastern Gulf of Alaska (Mecklenburg et al. 2002) to Cabo Falsa (22°54'N, 110°02'W), southern Baja California (Castro-Aguirre et al. 1993) and Gulf of California (Castro-Aguirre and Espinosa Pérez 1996). Bottom at 2 m or less to 800 m (7–2,624 ft) (min.: Miller et al. 1980; max.: Allen and Smith 1988).
- Raja equatorialis* Jordan & Bollman, 1890. **Equatorial Skate**. To 50 cm (19.7 in) TL (McEachran in Fischer et al. 1995). Laguna de San Ignacio, southern Baja California (De La Cruz-Agüero and Cota-Gómez 1998) to Peru (4°43'S, 81°23'W; Chirichigno and Vélez 1998). Bottom at depths of 20–200 m (66–660 ft; Robertson and Allen 2002).
- Raja inornata* Jordan & Gilbert, 1881. **California Skate**. To 75 cm (30 in) TL (Miller and Lea 1972). Strait of Juan de Fuca (Eschmeyer and Herald 1983) to southern Baja California and Gulf of California (McEachran in Fischer et al. 1995). Bottom at 13–1,600 m (43–5,248 ft) (min.: Allen et al. 2002; max.: Percy et al. 1982).
- Raja rhina* Jordan & Gilbert, 1880. **Longnose Skate**. To 180 cm (70.9 in) TL (Stevenson 2004). Southeastern Bering Sea (Mecklenburg et al. 2002) to just below Punta San Juanico (25°59'N, 113°17'W), southern Baja California (Snytko 1987), and Gulf of California (Eschmeyer and Herald 1983). Bottom at 9–1,069 m (30–3,506 ft) or more (min.: W. A. Palsson, pers. comm. to M. L.; max.: Lauth 1999).
- Raja stellulata* Jordan & Gilbert, 1880. **Starry Skate**. To 76.2 cm (30 in) TL (Miller and Lea 1972). Oregon (44°04'N, 124°49'W; J. W. Orr, pers. comm. to C. W. M.) to Isla Cedros and Bahia de Sebastian Vizcaino, central Baja California (Castro-Aguirre and Espinosa Pérez 1996). Bering Sea and Gulf of Alaska records of this species are incorrect (Mecklenburg et al. 2002) and perhaps reflect catches of *Bathyraja parmifera* (Ebert 2003). Bottom at 2 m or less to 732 m (7–2,400 ft) (min.: Miller et al. 1980; max.: Miller and Lea 1972).

Raja velezi Chirichigno, 1973. **Rasptail Skate**. To 83 cm (32.7 in) TL (Robertson and Allen 2002). Bahia Almejas, southern Baja California (J. Bizarro, pers. comm. to M. L.) to west and southwest Gulf of California to Peru, Islas Galápagos, and Malpelo (Robertson and Allen 2002). Minimum depth no deeper than 20 m (66 ft) and most probably 10 m (33 ft) or less (J. Bizarro, pers. comm. to M. L.) to 300 m (984 ft; Robertson and Allen 2002).

Order Myliobatiformes

Family Dasyatidae — Whiptail Stingrays

Dasyatis dipterura (Jordan & Gilbert, 1880). Bullseye Stingray, **Diamond Stingray**, Shorttail Stingray, or Whiptail Stingray. To 200 cm (78.7 in) TL (Grove and Lavenberg 1997) and at least 88 cm (34.6 in) disc width, possibly to 120 cm (47.2 in) disc width (Ebert 2003). Central California to northern Chile and Islas Galápagos (Grove and Lavenberg 1997), including Gulf of California (McEachran in Fischer et al. 1995). Surf zone to 70 m (230 ft) (min.: Carlisle et al. 1960; max.: De La Cruz-Agüero et al. 1997). *Dasyatis dipterura* was treated as a junior synonym of *Dasyatis brevis* (Garman, 1880) by Nishida and Nakaya (1990). However, *dipterurus* (published about 18 May 1880) has priority over *brevis* (Oct. 1880) and thus *D. dipterura* is the correct name (Eschmeyer 1998).

Dasyatis longa (Garman, 1880). **Longtail Stingray**. To 257 cm (101 in) TL, 180 cm (72 in) disc width (W. Smith, pers. comm. to M. L.). Bahia San Juanico, southern Baja California (Fitch 1953) to Ecuador and probably to northern Peru (Chirichigno and Vélez 1998) and Islas Galápagos (Grove and Lavenberg 1997), including lowermost Gulf of California (McEachran in Fischer et al. 1995). Shallow waters to 100 m (328 ft; Amezcua Linares 1996).

Pteroplatytrygon violacea (Bonaparte, 1832). **Pelagic Stingray**. To 163 cm (64.2 in) TL (Eschmeyer and Herald 1983), 80 cm (32 in) disc width (Collette and Klein-MacPhee 2002) and possibly to 96 cm (37.8 in) disc width (Ebert 2003). Circumglobal; in the western Pacific as far north as the southern Kuril Islands (Savinykh 1998); British Columbia (Peden and Jamieson 1988) to Baja California and to central Chile (Ebert 2003) and Islas Galápagos (Eschmeyer and Herald 1983). Surface to 238 m (780 ft) over deep water (min.: J. O'Sullivan, pers. comm. to M. L.; max.: Eschmeyer and Herald 1983). Until recently, in genus *Dasyatis*; moved to *Pteroplatytrygon* by McEachran and Fechhelm (1998).

Family Urolophidae — Round Stingrays

Urobatis concentricus Osburn & Nichols, 1916. Bullseye Stingray, **Reef Stingray**, Reticulated Round Ray, or Spot-on-Spot Round Ray. To 47.5 cm (18.7 in) TL (McEachran in Fischer et al. 1995), 28.3 cm (11.3 in) disc width (Robertson and Allen 2002). Isla Cedros (M. L., unpubl. data) and, off mainland, Rocas Chester (27°53'N, 115°04'W), central Baja California (M. L., unpubl. data) to Bahia Huatulco, Oaxaca, southern Mexico (Amezcua Linares 1996). At 1–109 m (4–358 ft) (min.: SIO 68-177; max.: SIO 84-78). Perhaps a synonym of *Urobatis halleri* (Thomson et al. 2000). Recently as *Urolophus concentricus*.

Urobatis halleri (Cooper, 1863). Round Ray or **Round Stingray**. To 56 cm (22 in) TL (Eschmeyer and Herald 1983), 31 cm (12.1 in) disc width (McEachran in Fischer et al. 1995). Humboldt Bay, northern California (Miller and Lea 1972) to Ecuador (Béarez 1996), including Gulf of California (McEachran in Fischer et al. 1995). Shallow, at depths of 0.9–21 m (3–70 ft; Eschmeyer and Herald 1983), but reported to at least 91 m (298 ft; Ebert 2003). Recently as *Urolophus halleri*.

Urobatis maculatus Garman, 1913. **Cortez Stingray** or Spotted Round Ray. To 42 cm (16.5 in) TL, 26 cm (10.2 in) disc width (McEachran in Fischer et al. 1995). Lagunas Ojo de Liebre-Guerrero Negro, central Baja California (De La Cruz-Agüero et al. 1996) and Gulf of California (McEachran in Fischer et al. 1995). At depths of 1–30 m (3–98 ft; Robertson and Allen 2002). Recently as *Urolophus maculatus*. Perhaps a synonym of *Urobatis halleri* (Thomson et al. 2000).

Urotrygon aspidura (Jordan & Gilbert, 1882). **Panamic Stingray** or Spinytail Round Ray. To 50 cm (19.7 in) TL (Amezcuca Linares 1986), 23 cm (9.2 in) disc width (Robertson and Allen 2002). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Paita, Peru (Chirichigno and Vélez 1998); not yet collected in Gulf of California (Robertson and Allen 2002). At depths of 5–100 m (16–328 ft) (min.: Allen and Robertson 1994; max.: Amezcua Linares 1996).

Urotrygon chilensis (Günther, 1872). **Blotched Stingray** or Chilean Round Ray. To 41.9 cm (16.5 in) TL (McEachran in Fischer et al. 1995), 26 cm (10.4 in) disc width (Robertson and Allen 2002). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Chile (Chirichigno and Vélez 1998), including Gulf of California (McEachran in Fischer et al. 1995). At depths of 1–60 m (3–197 ft) (min.: SIO 71-224; max.: Robertson and Allen 2002)).

Urotrygon munda Gill, 1863. Spiny Round Ray or **Spiny Stingray**. To 28.8 cm (11.3 in) TL (McEachran in Fischer et al. 1995). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) and Gulf of California (Miyake and McEachran 1986) to Callao, Peru (Chirichigno and Vélez 1998). At depths of 4–51 m (13–167 ft) (min.: LACM 50817; max.: Amezcua Linares 1996). Recently also as *Urotrygon asterias*.

Urotrygon rogersi (Jordan & Starks, 1895). **Thorny Stingray**. To 46.2 cm (18.2 in) TL (Robertson and Allen 2002), disc width 28 cm (11.2 in; Robertson and Allen 2002). Bahia San Juanico, southern Baja California (Fitch 1953) to Ecuador (De La Cruz-Agüero et al. 1997), including Gulf of California (McEachran in Fischer et al. 1995). At depths of 2–30 m (7–98 ft) (min.: Castro-Aguirre et al. 1999; max.: SIO 65-163).

Family Gymnuridae — Butterfly Rays

Gymnura marmorata (Cooper, 1864). **California Butterfly Ray**. To 122 cm (48.8 in) disc width (Ebert 2003), possibly to 150 cm (60 in) disc width (Eschmeyer and Herald 1983). Point Conception, California (Miller and Lea 1972) to Paita, Peru (Chirichigno and Vélez 1998), including Gulf of California (McEachran in Fischer et al. 1995). Surf zone to 94 m (308 ft) (min.: Carlisle et al. 1960; max.: Amezcua Linares 1996).

Family Myliobatidae — Eagle Rays

Aetobatus narinari (Euphrasen, 1790). **Spotted Eagle Ray**. To 3.6 m (11.8 ft) disc width (Amezcuca Linares 1996), reportedly to 4 m (13.2 ft; Compagno 1986). Circumglobal; Bahia Almejas, southern Baja California (D. A. Ebert, pers. comm. to M. L.) to Los Organos, Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997) and Gulf of California (Galván-Magaña et al. 1996). Shallow bays and estuaries (Amezcuca Linares 1996) to 80 m (262 ft) or more (Myers 1999). The northern California reference (Grove and Lavenberg 1997) appears to be an error.

Myliobatis californica Gill, 1865. **Bat Ray**. To 1.8 m (6 ft) disc width (Eschmeyer and Herald 1983). Yaquina Bay, Oregon (Ebert 2003) to Gulf of California (Eschmeyer and Herald 1983), including Islas Galápagos (Grove and Lavenberg 1997). Intertidal and to 108 m (354 ft) (min.: Eschmeyer and Herald 1983; max.: Morris et al. 1996).

Myliobatis longirostris Applegate & Fitch, 1964. **Longnose Eagle Ray** or Snouted Eagle Ray. To 95 cm (37.4 in) disc width (McEachran and Notarbartolo-di-Sciara in Fischer et al. 1995). Bahia de Sebastian Vizcaino, central Baja California (Castro-Aguirre and Espinosa Pérez 1996) to Gulf of California (McEachran and Notarbartolo-di-Sciara in Fischer et al. 1995) and to Sechura, Peru (Chirichigno and Vélez 1998). Inshore and to depth of 50 m (164 ft; Robertson and Allen 2002).

Pteromylaeus asperrimus (Gilbert, 1898). **Rough Eagle Ray** or Striped Eagle Ray. To at least 79 cm (31.1 in) disc width (Grove and Lavenberg 1997). Captured at widely separated sites including Bahia Almejas, southern Baja California (Fitch 1953), Gulf of Panama (Grove and Lavenberg 1997), and Islas Galápagos (Grove and Lavenberg 1997). Near shore to a maximum depth of 50 m (164 ft; Robertson and Allen 2002).

Family Rhinopteridae — Cownose Rays

Rhinoptera steindachneri Evermann & Jenkins, 1891. Gabilan, **Golden Cownose Ray**, Golden Ray, or Pacific Cownose Ray. To 104 cm (40.9 in) disc width (J. Bizarro, pers. comm. to M. L.). Bahia de Sebastian Vizcaino, central Baja California (Castro-Aguirre and Espinosa Pérez 1996), to Gulf of California (McEachran and Notarbartolo-di-Sciara in Fischer et al. 1995), Peru (Chirichigno 1974), and Islas Galápagos (Grove and Lavenberg 1997). Surface and near-surface waters (Grove and Lavenberg 1997) to about 30 m (99 ft; Robertson and Allen 2002). *A List and Index of the Publications of the United States National Museum* (1947) gives the date of publication as July 16, 1891; sometimes given as 1892.

Family Mobulidae — Devil Rays or Mantas

Manta birostris (Walbaum, 1792). Giant Manta or **Manta**. To at least 8 m (26.4 ft) disc width (Robertson and Allen 2002). Circumglobal in warm waters; Santa Barbara, southern California to Peru (Ebert 2003), including Gulf of California (McEachran and Notarbartolo-di-Sciara in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997); sighting (unverifiable) reported from Prince William Sound, Alaska (Karinen et al. 1985). Pelagic, to depth of about 30 m (98 ft; Robertson and Allen 2002).

Mobula japonica (Müller & Henle, 1841). **Spinetail Mobula**. To at least 3.1 m (10.2 ft) disc width (McEachran and Notarbartolo-di-Sciara in Fischer et al. 1995). Circumglobal; central California (Ebert 2003) to Peru (Ebert 2003), including Gulf of California (Galván-Magaña et al. 1996). Surface waters (Ebert 2003), perhaps to depth of 30 m (98 ft; Robertson and Allen 2002). (The *Mobula thurstoni* reported by MacGinitie [1947] from Laguna Beach, southern California is likely *M. japonica* [Notarbartolo-di-Sciara 1987]).

Mobula tarapacana (Philippi, 1893). Chilean Devil Ray or **Sicklefin Devil Ray**. To 3.7 m (12.1 ft) disc width (Compagno and Last in Carpenter and Niem 1999). Circumglobal in tropical waters; southern Baja California (McEachran and Notarbartolo-di-Sciara in Fischer et al. 1995) to Chile (Pequeño 1989), including Gulf of California (McEachran and Notarbartolo-di-Sciara in Fischer et al. 1995). Surface to perhaps 30 m (98 ft; Robertson and Allen 2002).

Mobula thurstoni (Lloyd, 1908). **Smoothtail Mobula**. To 1.8 m (5.9 ft) disc width (McEachran and Notarbartolo-di-Sciara in Fischer et al. 1995). Probably circumglobal; southern Baja California and Gulf of California (McEachran and Notarbartolo-di-Sciara in Fischer et al. 1995) to Ecuador (Béarez 1996). Surface to 100 m (328 ft) or more (Notarbartolo-di-Sciara 1988).

Order Acipenseriformes

Family Acipenseridae — Sturgeons

Acipenser medirostris Ayres, 1854. **Green Sturgeon**. To 270 cm (108 in) TL (Moyle 2002). Peter the Great Bay, Sea of Japan (Antonenko et al. 2003) and Tohoku, Japan (Hosoya in Nakabo 2002) to Pacific coast of Kamchatka, Bering Sea, and Gulf of Alaska (Mecklenburg et al. 2002) to Ensenada, northern Baja California (Miller and Lea 1972). Bering Sea records have been rare and not well documented (Mecklenburg et al. 2002). On 4 June 2005 a Green Sturgeon was caught in Kuskokwim Bay off Kwigillingok (59°51'N, 162°08'W; Scott Meyer and Doug Molyneaux, pers. comms. with photographs to C. W. M.). Anadromous; to 78 m (258 ft) at sea (Fisheries Research Board of Canada 1954).

Acipenser transmontanus Richardson, 1836. **White Sturgeon**. Perhaps to 6 m (20 ft) FL (Moyle 2002). Moyle notes that the largest length records for this species were made before 1900 and “were subject to inaccurate measurements and exaggerated reporting.” Moyle notes the largest recent record, from Oregon, was 3.2 m (10.5 ft) long. Northern Gulf of Alaska (Mecklenburg et al. 2002) to Ensenada, northern Baja California (Hubbs 1967, Fitch and Lavenberg 1971). Anadromous; to depth of 122 m (400 ft) at sea (Miller and Lea 1972).

Order Elopiformes

Family Elopidae —Tenpounders

Elops affinis Regan, 1909. **Machete** or Pacific Ladyfish. To 91.4 cm (3 ft) TL (Miller and Lea 1972). Mandalay Beach, southern California (Eschmeyer and Herald 1983) to Talara, Peru (Chirichigno and Vélez 1998), including Gulf of California (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995). Shallow marine waters, frequently enters fresh water (Allen and Robertson 1994) to 10 m (33 ft; Robertson and Allen 2002).

Order Albuliformes

Family Albulidae — Bonefishes

Albula sp. **Cortez Bonefish**. To about 36 cm (14.4 in) SL. San Francisco, northern California, along west coast of Baja California, and into the Gulf of California. Southern range limit is unknown. Nearshore waters. Previously referred to as *Albula vulpes*. Work by Pfeiler (1996) and Pfeiler et al. (2002) suggests there are a number of undescribed bonefish species in the eastern Pacific. A species referred to as “*Albula* sp. A” by Pfeiler and coworkers is found along the Pacific coast of North America and in the Gulf of California. See Nelson et al. (2004) for discussion of molecular studies and nomenclature.

Dixonina sp. **Shafted Bonefish**. A poorly described member of this genus appears to live along the southern west coast of Baja California and in the southern Gulf of California (Pfeiler 1996).

Family Halosauridae — Halosaurs

Unidentified *Aldrovandia*. Two halosaurs, as yet unidentified to species, were caught in 2004 off the west coast of the Queen Charlotte Islands, British Columbia, including one very near the Alaska border (G. E. Gillespie, pers. comm. to C.W.M.). Halosaurs pursue a benthopelagic lifestyle in deep waters, usually over continental slopes. Perhaps the most likely species is: *Aldrovandia affinis* (Günther, 1977). Gilbert’s Halosaur. To about 55 cm (21.7 in) TL (Sulak in Quéro et al. 1990). Circumglobal, including cold waters off New England in the western North Atlantic (Moore et al. 2003); in North Pacific, off the Korean Peninsula (Youn 2002) and Japan (Shinohara et al. 1996, 2001; Nakabo 2002). Benthopelagic, about 730–2,200 m (2,395–7,218 ft; Sulak in Quéro et al. 1990). Another possibility is *Aldrovandia phalacra* (Vaillant, 1888), also probably circumglobal including cold waters, such as off Greenland (Okamura and Takahashi in Okamura et al. 1995), and including the North Pacific Ocean off Hawaii (Sulak in Quéro et al. 1990).

Family Notacanthidae —Spiny Eels

Notacanthus chemnitzii Bloch, 1788. **Snubnosed Spiny Eel**. To more than 135 cm (54 in) TL (Mecklenburg et al. 2002). Probably circumglobal; Greenland (Okamura and Takahashi in Okamura et al. 1995); Japan (Yabe in Amaoka et al. 1983); Sea of Okhotsk (Orlov 1998); near Alaska off Dixon Entrance, northern British Columbia (G. E. Gillespie, pers. comm. to C W. M.); Oregon (Peden 1976); Point Sur and edge of Monterey Submarine Canyon, central California (Lea and Rosenblatt 1987) to Chile (Pequeño 1989). Benthopelagic, at depths of 128–3,285 m (413–10,775 ft) (min.: McDowell 1973; max.: Yabe in Amaoka et al. 1983); usually taken at the greater depths (Mecklenburg et al. 2002).

Polyacanthonotus challengerii (Vaillant, 1888). **Longnose Tapirfish**. To about 60 cm (23.6 in) TL (Gon in Gon and Heemstra 1990). Circumglobal, predominantly antitropical, on the continental rise; northern Japan Sea off Hokkaido (Yabe in Amaoka et al. 1983) and western North Pacific off southern Honshu (Crabtree et al. 1985) to southern Bering Sea (Mecklenburg et al. 2002) to Cape Falcon, Oregon (Stein and Butler 1971). Benthopelagic, at 830–3,753 m (2,723–12,313 ft) (min.: ZIN 45805; max.: Sulak et al. 1984).

Order Anguilliformes

Family Placement Uncertain

Thalassenchelys coheni Castle & Raju, 1975. **Leaflike Eel**. To 30.4 cm (12 in) TL (Castle and Raju 1975). Western North Pacific to southern British Columbia (west of northern Vancouver Island at 49°59'N, 130°32'W; Mecklenburg et al. 2002) and to Isla Guadalupe, central Baja California (Shimokawa et al. 1995). Epipelagic. Known only from the leptocephalus (larva). Some specimens contain developing eggs, so transformation to “adult” features may not occur or the adult stage is short-lived (Eschmeyer and Herald 1983). Molecular data indicate a close affinity of *T. coheni* with the Serrivomeridae, but more eels need to be analyzed before making a definite family placement (Obermiller and Pfeiler 2003).

Family Chlopsidae — False Morays

Chlopsis apterus* (Beebe & Tee-Van, 1938). **Stripesnout False Moray. To 25 cm (9.8 in) TL (Robertson and Allen 2002). Tip of Baja California (23°03'N, 109°28'W; Lavenberg 1988) and mouth of Gulf of California to Colombia (Robertson and Allen 2002). At depths of 80–130 m (262–426 ft; Robertson and Allen 2002).

Chlopsis kazunoko* Lavenberg, 1988. **Kazunoko’s False Moray. To 12 cm (4.7 in) TL. Tip of Baja California and Jalisco, Mexico to Costa Rica. At depths of 50–100 m (164–328 ft). All in Robertson and Allen (2002).

Family Muraenidae — Morays

Anarchias galapagensis* (Seale, 1940). **Hardtail Moray or Minute Moray. To 17 cm (6.7 in) TL (Robertson and Allen 2002). Lower Gulf of California (McCosker and Rosenblatt in Fischer et al. 1995) to Colombia (Robertson and Allen 2002), including tip of southern Baja California (Charter and Moser in Moser 1996) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 0–24 m (78 ft) (min.: Robertson and Allen 2002; max.: SIO 71-87).

Echidna nebulosa* (Ahl, 1789). Snowflake Moray or **Starry Moray. To 75 cm (29.5 in) TL (Myers 1999). Indo-Pacific; Kochi, Japan (Hatooka in Nakabo 2002); Cabo San Lucas, southern Baja California (McCosker and Rosenblatt in Fischer et al. 1995) to Colombia (Robertson and Allen 2002), including lower Gulf of California (McCosker and Rosenblatt in Fischer et al. 1995). Surface (SIO 71-84) and intertidal to 30 m (98 ft) (min.: SIO 78-9; max.: Laboute and Grandperrin 2000).

Echidna nocturna* (Cope, 1872). Freckled Moray or **Palenose Moray. To 75 cm (29.5 in) TL (Allen and Robertson 1994). Gulf of California (McCosker and Rosenblatt in Fischer et al. 1995) to Peru (Allen and Robertson 1994), including southern tip of Baja California (McCosker and Rosenblatt in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–30 m (3–98 ft) (min.: SIO 62-9; max.: McCosker and Rosenblatt in Fischer et al. 1995).

Enchelycore octaviana* (Myers & Wade, 1941). **Slenderjaw Moray. To 93 cm (36.6 in) TL (Grove and Lavenberg 1997). Gulf of California (McCosker and Rosenblatt in Fischer et al. 1995) to Peru (Robertson and Allen 2002), including southern tip of Baja California (McCosker and Rosenblatt in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 2–40 m (7–131 ft) (min.: SIO 65-300; max.: Robertson and Allen 2002).

Gymnomuraena zebra* (Shaw, 1797). **Zebra Moray. To 150 cm (59 in) TL (Allen and Robertson 1994). Pacific and Indian oceans; Gulf of California (McCosker and Rosenblatt in Fischer et al. 1995) to southern tip of Baja California (McCosker and Rosenblatt in Fischer et al. 1995) and central America to Peru (Grove and Lavenberg 1997), including Islas Galápagos (Grove and Lavenberg 1997). At depths of 2–40 m (8–131 ft) (min.: SIO 59-216; max.: Laboute and Grandperrin 2000). Also recently as *Echidna zebra*.

-
- Gymnothorax castaneus* (Jordan & Gilbert, 1883). Chestnut Moray or **Panama Green Moray**. To 150 cm (59 in) TL (McCosker and Rosenblatt in Fischer et al. 1995). Bahia Magdalena, southern Baja California (SIO 62-131) to Ecuador (Béarez 1996), including Gulf of California (McCosker and Rosenblatt in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–35 m (3–115 ft; Robertson and Allen 2002).
- **Gymnothorax equatorialis* (Hildebrand, 1946). Equatorial Moray or **Spottail Moray**. To about 73 cm (28.7 in) TL (Robertson and Allen 2002). Gulf of California (McCosker and Rosenblatt in Fischer et al. 1995) to Paita, Peru (Chirichigno and Vélez 1998), including southern tip of Baja California (McCosker and Rosenblatt in Fischer et al. 1995). Surface (SIO 60-94) and 5–125 m (16–410 ft) (min.: Robertson and Allen 2002; max.: McCosker and Rosenblatt in Fischer et al. 1995).
- Gymnothorax mordax* (Ayres, 1859). **California Moray**. To 152 cm (5 ft) TL (Miller and Lea 1972). Point Conception, California to Bahia Magdalena, southern Baja California (Miller and Lea 1972). Beltrán-León and Rios Herrera (2000) tentatively identified larvae captured off Colombia as this species. At depths of 2–40 m (7–131 ft) (min.: Limbaugh 1955; max.: Eschmeyer and Herald 1983).
- Gymnothorax panamensis* (Steindachner, 1876). **Masked Moray** or Panamic Moray. To 75 cm (29.5 in) TL (Robertson and Allen 2002). Isla Guadalupe (SIO 60-14) and Bahia Magdalena (SIO 62-96), southern Baja California to Chile (Pequeño 1989), including Gulf of California (McCosker and Rosenblatt in Fischer et al. 1995), Islas Galápagos (Grove and Lavenberg 1997), and other offshore islands (Robertson and Allen 2002). At depths of 1–107 m (3–351 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996).
- **Gymnothorax phalarus* Bussing, 1988. **Small-spotted Moray**. To 93 cm (36.6 in) TL. Tip of Baja California and southeastern Gulf of California to Peru. At depths of 25–295 m (82–968 ft). All in Robertson and Allen (2002).
- Gymnothorax verrilli* (Jordan & Gilbert, 1883). **White-edged Moray**. To 43 cm (16.9 in) TL (McCosker and Rosenblatt in Fischer et al. 1995). Bahia Magdalena, southern Baja California (Charter and Moser in Moser 1996) to Panama (McCosker and Rosenblatt in Fischer et al. 1995), including Gulf of California (Charter and Moser in Moser 1996). At depths to 10 m (33 ft; McCosker and Rosenblatt in Fischer et al. 1995).
- Muraena argus* (Steindachner, 1870). **Argus Moray** or White-spotted Moray. To 110 cm (43.3 in) TL (Robertson and Allen 2002). Santa Catalina Island, southern California (McCosker and Smith 2004) and Bahia Magdalena (SIO 62-131), southern Baja California to Islas Lobos de Afuera, Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997), Gulf of California, and other offshore islands (Robertson and Allen 2002). At 5–60 m (17–197 ft; Robertson and Allen 2002).
- **Muraena clepsydra* Gilbert, 1898. **Hourglass Moray**. To about 97 cm (38.2 in) TL (Robertson and Allen 2002). Cabo San Lucas, southern Baja California (McCosker and Rosenblatt in Fischer et al. 1995) to northern Peru (Chirichigno and Vélez 1998), including lower Gulf of California (McCosker and Rosenblatt in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Intertidal and to 25 m (83 ft) (min.: Thomson et al. 1979; max.: Robertson and Allen 2002).
- Muraena lentiginosa* Jenyns, 1842. **Jewel Moray**. To 61 cm (24 in) TL (Robertson and Allen 2002). Bahia Magdalena, southern Baja California (Charter and Moser in Moser 1996) to Islas Lobos de Afuera, Peru (Chirichigno and Vélez 1998), including Gulf of California (McCosker and Rosenblatt in Fischer et al. 1995), Islas Galápagos (Grove and Lavenberg 1997), and other offshore islands (Robertson and Allen 2002). At 3–25 m (10–83 ft) (min.: SIO 61-250; max.: McCosker and Rosenblatt in Fischer et al. 1995).
- **Scuticaria tigrina* (Lesson, 1828). Tiger Moray or **Tiger Reef Eel**. To 140 cm (55.1 in) TL (Robertson and Allen 2002). Gulf of California to Colombia (Robertson and Allen 2002), including southern tip of Baja California (McCosker and Rosenblatt in Fischer et al. 1995). At depths of 3–25 m (10–83 ft; Robertson and Allen 2002).

Uropterygius macrocephalus (Bleeker, 1865). **Largehead Moray**, Longhead Moray, or Needle-tooth Moray. To 47 cm (18.5 in) TL (McCosker and Rosenblatt in Fischer et al. 1995). Pacific and Indian oceans; southern Baja California (McCosker and Rosenblatt in Fischer et al. 1995) to Peru (Robertson and Allen 2002), including Gulf of California (McCosker and Rosenblatt in Fischer et al. 1995), Islas Galápagos (Grove and Lavenberg 1997), and other offshore islands (Robertson and Allen 2002). At 1 m (3 ft; Robertson and Allen 2002) to at least 14 m (46 ft; Myers 1999).

Uropterygius polystictus* Myers & Wade, 1941. Many-spotted Moray, **Peppered Moray, or Peppered Snake Moray. To 72 cm (28.3 in) TL (Robertson and Allen 2002). Gulf of California (McCosker and Rosenblatt in Fischer et al. 1995) to southern tip of Baja California (McCosker and Rosenblatt in Fischer et al. 1995) and to Colombia (Grove and Lavenberg 1997), including Islas Galápagos (Grove and Lavenberg 1997). Shallow water to 35 m (115 ft; McCosker and Rosenblatt in Fischer et al. 1995).

Uropterygius versutus* Bussing, 1991. Blackeye Snake Moray, **Crafty Moray, or Two-holes Moray. To 56 cm (22 in) TL (McCosker and Rosenblatt in Fischer et al. 1995). Southern tip of Baja California (McCosker and Rosenblatt in Fischer et al. 1995) to Colombia (Grove and Lavenberg 1997), including Islas Galápagos (Grove and Lavenberg 1997) and other offshore islands (Robertson and Allen 2002). Tidepools to 40 m (131 ft; Allen and Robertson 1994).

Family Synphobranchidae — Cutthroat Eels

Histiobranchus bathybius (Günther, 1877). **Deepwater Cutthroat Eel**. To 137 cm (54 in) TL (Saldanha and Bauchot in Whitehead et al. 1986). Circumglobal; Japan; unknown in eastern North Pacific except for one record from southeastern Bering Sea, Alaska (Mecklenburg et al. 2002) and one off Cabo San Lucas, southern Baja California (Sulak and Shcherbachev 1997). At depths of 644–4,855 m (2,113–15,928 ft) (min.: Gon in Gon and Heemstra 1990; max.: Saldanha and Bauchot in Whitehead et al. 1986). We classify this species in *Histiobranchus* following Sulak and Shcherbachev (1997). Originally named *Synphobranchus bathybius*.

Synphobranchus affinis Günther, 1877. **Slope Cutthroat Eel**. To 160 cm (63 in) TL (Sulak and Shcherbachev 1997). Circumglobal; North and South Pacific, including vicinity of Hawaii; unknown in eastern North Pacific except for one Bering Sea, Alaska record (Mecklenburg et al. 2002). At depths of 290–2,334 m (951–7,874 ft; Sulak and Shcherbachev 1997).

Family Ophichthidae — Snake Eels or Worm Eels

Bascanichthys bascanoides Osburn & Nichols, 1916. **Sooty Sand Eel**. To 77 cm (30.3 in) TL (Robertson and Allen 2002). Bahia Almejas, southern Baja California (SIO 60-374) and central Gulf of California to Panama and Isla Cocos, Costa Rica (Robertson and Allen 2002). Surface (SIO 60-374) to 20 m (66 ft). All in Robertson and Allen (2002).

Callechelys cliffi* Böhlke & Briggs, 1954. **Sandy Ridgefin Eel. To 46 cm (18.1 in) TL (Robertson and Allen 2002). Gulf of California to Panama (Allen and Robertson 1994), including southern tip of Baja California (McCosker and Rosenblatt in Fischer et al. 1995). Surface to 30 m (0–98 ft; McCosker and Rosenblatt in Fischer et al. 1995).

Callechelys eristigma* McCosker & Rosenblatt, 1972. **Spotted Ridgefin Eel. To 113 cm (44.5 in) TL (McCosker and Rosenblatt in Fischer et al. 1995). Gulf of California to Costa Rica (Robertson and Allen 2002), including southern tip of Baja California (McCosker and Rosenblatt in Fischer et al. 1995). At depths of 3–25 m (10–82 ft) (min.: SIO 61-279; max.: McCosker and Rosenblatt in Fischer et al. 1995).

Ethadophis merenda Rosenblatt & McCosker, 1970. **Snack Eel**. To 53 cm (20.9 in) TL. Bahia Thurloe (27°38'N, 114°50'W), southern Baja California. The depth range of this species is unknown. However, because the type specimen was taken from the stomach of a white seabass (*Atractoscion nobilis*) it is likely to inhabit relatively shallow waters. All in Rosenblatt and McCosker (1970).

-
- **Herpetoichthys fossatus* (Myers & Wade, 1941). **Mustachioed Snake Eel**. To 55 cm (21.6 in) TL (McCosker and Rosenblatt in Fischer et al. 1995). Gulf of California, including Cabo San Lucas, southern Baja California (McCosker and Rosenblatt in Fischer et al. 1995) to Peru, including Islas Galápagos (Grove and Lavenberg 1997). At depths of 5–40 m (17–131 ft) (min.: Robertson and Allen 2002; max.: McCosker and Rosenblatt in Fischer et al. 1995).
- **Ichthyapus selachops* (Jordan & Gilbert, 1882). **Smiling Sand Eel**. To 54 cm (21.3 in) TL (Robertson and Allen 2002). Gulf of California to southern tip of Baja California (McCosker and Rosenblatt in Fischer et al. 1995) and to Ecuador (Allen and Robertson 1994), including Islas Galápagos (Grove and Lavenberg 1997) and other offshore islands (Robertson and Allen 2002). Intertidal and to 30 m (98 ft) (min.: SIO 71-213; max.: McCosker and Rosenblatt in Fischer et al. 1995).
- **Letharchus rosenblatti* McCosker, 1974. **Black Sailfin Eel** or Sailfin Snake Eel. To 35 cm (13.8 in) TL (Allen and Robertson 1994). Gulf of California to Ecuador (Béarez 1996), including southern tip of Baja California (McCosker and Rosenblatt in Fischer et al. 1995). Intertidal and to 17 m (56 ft) (min.: SIO 71-213; max.: McCosker and Rosenblatt in Fischer et al. 1995).
- Myrichthys tiginus* Girard, 1859. Spotted Snake Eel or **Tiger Snake Eel**. To 73 cm (28.7 in) TL (McCosker and Rosenblatt in Fischer et al. 1995). Tropical Pacific; Bahia Magdalena, southern Baja California (Charter in Moser 1996) to Callao, Peru (Chirichigno and Vélez 1998), including Gulf of California (McCosker and Rosenblatt in Fischer et al. 1995), Islas Galápagos (Grove and Lavenberg 1997), and Isla Cocos (Robertson and Allen 2002). Surface (SIO 60-372) and barely subtidal (0.5 m at low tide) to 60 m (197 ft) (min.: SIO 61-184; max.: Robertson and Allen 2002).
- Myrophis vafer* Jordan & Gilbert, 1883. **Pacific Worm Eel**. To 47 cm (18.5 in) TL (Robertson and Allen 2002). San Pedro, southern California (Miller and Lea 1972) to Punta Aguja, Peru (Chirichigno and Vélez 1998), including Gulf of California (McCosker and Rosenblatt in Fischer et al. 1995). Intertidal and to 15 m (49 ft; Robertson and Allen 2002).
- Ophichthus triserialis* (Kaup, 1856). **Pacific Snake Eel**. To 121.5 cm (47.8 in) TL (SIO 48-16). Off Klamath River, northern California to Peru, including Gulf of California (Eschmeyer and Herald 1983) and Islas Galápagos (Grove and Lavenberg 1997). Surface (SIO 54-245) and intertidal to 155 m (0–508 ft) (min.: SIO 72-379; max.: McCosker and Rosenblatt 1998). The *O. triserialis* mentioned as living around the Islas Galápagos in Eschmeyer and Herald (1983) is another, island endemic, species (J. E. McCosker, pers. comm. to M. L.).
- Ophichthus zophochir* (Jordan & Gilbert, 1882). **Yellow Snake Eel**. To 98 cm (38.6 in) TL (Amezcuca Linares 1996). Humboldt Bay, northern California (Miller and Lea 1972) to Huacho, Peru (McCosker and Rosenblatt 1998), including Gulf of California (McCosker and Rosenblatt in Fischer et al. 1995). Intertidal and to 110 m (361 ft) (min.: Miller and Lea 1972; max.: McCosker and Rosenblatt 1998).
- **Paraletarchus pacificus* (Osburn & Nichols, 1916). **Pacific Sailfin Eel** or Sailfin Eel. To 81 cm (31.9 in) TL (McCosker and Rosenblatt in Fischer et al. 1995). Gulf of California (McCosker and Rosenblatt in Fischer et al. 1995) to Panama (Allen and Robertson 1994), including southern tip of Baja California (McCosker and Rosenblatt in Fischer et al. 1995) and Isla Cocos (Robertson and Allen 2002). Intertidal and to 35 m (115 ft) (min.: Robertson and Allen 2002; max.: McCosker and Rosenblatt in Fischer et al. 1995).
- **Phaenomonas pinnata* Myers & Wade, 1941. **Elastic Eel**. To 53.5 cm (21 in) TL (McCosker and Rosenblatt in Fischer et al. 1995). Gulf of California to Colombia, including southern tip of Baja California and Islas Galápagos (McCosker and Rosenblatt in Fischer et al. 1995). At depths of 1–50 m (3–164 ft) (min.: McCosker and Rosenblatt in Fischer et al. 1995; max.: Robertson and Allen 2002).
- **Quassiremus nothochir* (Gilbert, 1890). Elastic Snake Eel, Red-banded Snake Eel, **Redsaddled Snake Eel**, or Short-fin Snake Eel. To 70 cm (27.6 in) TL (McCosker and Rosenblatt in Fischer et al. 1995). Gulf of

California to Panama (Robertson and Allen 2002), including southern tip of Baja California (McCosker and Rosenblatt in Fischer et al. 1995). To depth of 20 m (66 ft; McCosker and Rosenblatt in Fischer et al. 1995).

Scytalichthys miurus (Jordan & Gilbert, 1882). **Shorttail Viper Eel**. To 97 cm (38.8 in) SL (SIO 64-940). Isla Guadalupe, central Baja California and southern tip of Baja California (McCosker and Rosenblatt in Fischer et al. 1995) to Panama (Robertson and Allen 2002), including Islas Galápagos (Grove and Lavenberg 1997) and Isla Cocos (Robertson and Allen 2002). At depths of 10–85 m (33–279 ft) (min.: Robertson and Allen 2002; max.: McCosker and Rosenblatt in Fischer et al. 1995).

Family Derichthyidae — Longneck Eels

Derichthys serpentinus Gill, 1884. **Neck Eel**. To 40 cm (15.7 in) TL (Castle in Smith and Heemstra 1986). Circumglobal; southern California to Chile (33°S; Fitch and Lavenberg 1968). At depths of 500–2,000 m (1,640–6,560 ft; Charter in Moser 1996).

Family Muraenesocidae — Pike Congers

Cynoponticus coniceps (Jordan & Gilbert, 1882). **Conehead Eel**, Conger-head Pike Conger, or Red Pike Conger. To 202 cm (79.5 in) TL (Robertson and Allen 2002). Lower Baja California to Ecuador (Robertson and Allen 2002), including Gulf of California (Ruiz-Campos et al. 1998). At 6–100 m (20–328 ft) (min.: SIO 71-259; max.: Smith in Fischer et al. 1995).

Family Nemichthyidae — Threadtail Snipe Eels

Avocettina bowersii Garman, 1899. **Smalleye Snipe Eel**. To 52 cm (20.5 in) SL (Nielsen and Smith 1978). Eastern and central Pacific; San Francisco, northern California (Charter in Moser 1996) to northern Chile (19°44'S; Kong and Melendez 1991). Pelagic, at 92–641 m (302–2,102 ft; Charter in Moser 1996).

Avocettina infans (Günther, 1878). Close-spine Snipe Eel or **Blackline Snipe Eel**. To 80 cm (31.5 in) TL (Smith and Nielsen 1989). Circumglobal, but almost exclusively in Northern Hemisphere; Japan (Hatooka in Nakabo 2002); Commander and Aleutian islands and Gulf of Alaska (Mecklenburg et al. 2002) to central Mexico, including Gulf of California (Charter in Moser 1996). Pelagic, far from shore, rarely over continental shelf, surface to 4,571 m (14,993 ft) (min.: Charter in Moser 1996; max.: Mecklenburg et al. 2002).

Nemichthys larseni Nielsen & Smith, 1978. **Pale Snipe Eel**. To about 97 cm (38.2 in) TL (Mecklenburg et al. 2002). Eastern North Pacific from Washington (Mecklenburg et al. 2002) to central Mexico, including Gulf of California, to Hawaii (Nielsen and Smith 1978). Mostly mesopelagic, far from shore, at depths of 170–1,280 m (558–4,199 ft; Nielsen and Smith 1978).

Nemichthys scolopaceus Richardson, 1848. **Slender Snipe Eel**. To 145 cm (57 in) TL (Fitch and Lavenberg 1968). Circumglobal in temperate and tropical waters; Japan (Hatooka in Nakabo 2002); Gulf of Alaska (Mecklenburg et al. 2002) to southern Chile (52°S; Sielfeld and Vargas 1996), including Gulf of California (Charter in Moser 1996). Primarily mesopelagic and bathypelagic, sometimes over continental shelf, surface (Mecklenburg et al. 2002) to 4,337 m (14,225 ft; Charter in Moser 1996).

Family Congridae — Conger Eels or Garden Eels

Ariosoma gilberti (Ogilby, 1898). Gilbert's Conger or **Sharpnose Conger**. To at least 27 cm (10.6 in) TL (Allen and Robertson 1994). Bahia Asuncion (27°06'N, 114°11'W), southern Baja California (SIO 51-96) to Peru (Grove and Lavenberg 1997), including Gulf of California (Smith in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–53 m (3–174 ft) (min.: Robertson and Allen 2002; max.: SIO 91-98).

-
- Chiloconger dentatus* (Garman, 1899). **Shortsnout Conger**. To 27 cm (10.6 in) TL (Smith and Karmovskaya 2003). Punta Tosca (24°11'N, 111°29'W), southern Baja California (Charter in Moser 1996), Sinaloa (25°18'N, 49°W), 2 miles south of entrance of Bahía Topolobampo (Smith and Karmovskaya 2003), to Colombia (Charter in Moser 1996). At depths of 27–247 m (89–810 ft; Smith and Karmovskaya 2003). Previously known as *Chiloconger obtusus*, among other names; the valid name was determined by Grove and Lavenberg (1997) to be *C. dentatus*.
- Chiloconger labiatus* Myers & Wade, 1946. **Thicklip Conger**. To 30 cm (11.8 in) TL (Smith in Fischer et al. 1995). Southeast of Punta Tosca (24°11'N, 111°27'W), southern Baja California (SIO 65-227) to at least 7°08'N, 80°41'W (SIO 70-362). At depths of 25–102 m (82–335 ft) (min.: Smith in Fischer et al. 1995; max.: SIO 65-227).
- Gnathophis cinctus* (Garman, 1899). Catalina Conger or **Hardtail Conger**. To 41.9 cm (16.5 in) TL (Fitch and Lavenberg 1968). Santa Rosa Island, southern California (Fitch and Lavenberg 1968) to Peru (Robertson and Allen 2002), including Gulf of California and Islas Galápagos (Grove and Lavenberg 1997). At depths of 9–366 m (30–1,200 ft) (min.: Fitch and Lavenberg 1968; max.: Miller and Lea 1972).
- Gorgasia punctata* Meek & Hildebrand, 1923. Dotted Garden Eel or **Peppered Garden Eel**. To at least 50 cm (19.7 in) TL (Allen and Robertson 1994). Bahía Magdalena, southern Baja California (Thomson et al. 1979) to Los Frailes, Cabo San Lucas (Thomson et al. 1979) to Panama (Smith in Fischer et al. 1995). At less than 0.3 to 9 m (less than 1 to 30 ft) (min.: SIO 71-213; max.: SIO 62-720), and perhaps to 30 m (99 ft; Robertson and Allen 2002).
- **Heteroconger canabus* (Cowan & Rosenblatt, 1974). **Cape Garden Eel** or White-ring Garden Eel. To about 80 cm (31.5 in) TL (Smith in Fischer et al. 1995). Southern tip of Baja California (Smith in Fischer et al. 1995) to Costa Rica, including Gulf of California (Galván-Magaña et al. 1996). At 3–20 m (10–66 ft) (min.: Robertson and Allen 2002; max.: Smith in Fischer et al. 1995).
- **Heteroconger digueti* (Pellegrin, 1923). **Cortez Garden Eel**, Pale Garden Eel, or Pale Green Garden Eel. To at least 63 cm (24.8 in) TL (Robertson and Allen 2002). Southern tip of Baja California (Smith in Fischer et al. 1995) to central Mexico (Robertson and Allen 2002). Depth range 2–25 m (7–82 ft; Robertson and Allen 2002); the 230–275 m (754–902 ft) depth range given by Smith (in Fischer et al. 1995) appears to be an error.
- **Heteroconger pellegrini* Castle, 1999. Mime Garden Eel or **Speckled Garden Eel**. To 63 cm (24.8 in) TL. Tip of Baja California to Costa Rica. At depths of 5–30 m (17–98 ft). All in Robertson and Allen (2002).
- **Paraconger californiensis* Kanazawa, 1961. California Conger or **Ringeye Conger**. To 60 cm (23.6 in) TL (Smith in Fischer et al. 1995). Cabo San Lucas, southern Baja California to Talara, Peru (Grove and Lavenberg 1997), including southern Gulf of California (Smith in Fischer et al. 1995), Islas Galápagos (Grove and Lavenberg 1997), and Isla Cocos (Robertson and Allen 2002). At 15–50 m (50–164 ft) (min.: Robertson and Allen 2002; max.: Charter in Moser 1996).
- **Paraconger similis* (Wade, 1946). **Shorttail Conger**. To 42.3 cm (16.7 in) TL (Smith and Karmovskaya 2003). Cabo San Lucas, southern Baja California, Sinaloa, Gulf of California, Islas Galápagos, and Islas Revillagigedos (Robertson and Allen 2002). Beltrán-León and Rios Herrera (2000) captured larvae off Colombia that they tentatively assigned to this species. At depths of 49–150 m (161–492 ft) (min.: Smith and Karmovskaya 2003; max.: Smith in Fischer et al. 1995). Recently as *Chiloconger similis*.
- Rhynchoconger nitens* (Jordan & Bollman, 1890). Bignose Conger or **Needletail Conger**. To 40 cm (15.7 in) TL (Smith in Fischer et al. 1995). Central Baja California (Smith in Fischer et al. 1995) to southern Peru (Béarez et al. 2002), including Gulf of California (Smith in Fischer et al. 1995). At depths of 20–104 m (66–341 ft) (min.: Robertson and Allen 2002; max.: SIO 73-283).

Xenomystax atrarius Gilbert, 1891. **Deepwater Conger** or Twinpored Eel. To 100 cm (39.3 in) TL (Smith in Fischer et al. 1995). Vancouver Island, British Columbia (Hart 1973); Newport, southern California (Seigel 1987) to central Chile (37°31'S; Kong and Melendez 1991), including Gulf of California (Eschmeyer and Herald 1983) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 152–1,050 m (499–3,444 ft) (min.: Smith in Fischer et al. 1995; max.: Sielfeld and Vargas 1996).

Family Nettastomatidae — Duckbill Eels

Facciolella equatorialis (Gilbert, 1891). **Dogface Witch Eel**. To 61 cm (34.4 in; Eschmeyer and Herald 1983). Point Conception, California to at least Panama (Fitch and Lavenberg 1968), including Islas Galápagos (McCosker et al. 1997). At 64–1,000 m (210–3,280 ft) (min.: SIO 65-277; max.: McCosker et al. 1997). *Facciolella gilberti* (Garman, 1899) is a junior synonym (Nelson et al. 2004).

Venefica tentaculata Garman, 1899. **Longnose Witch Eel**. To about 90 cm (35.4 in) TL (Asano in Masuda et al. 1984). Japan (Asano in Masuda et al. 1984) and off San Francisco (38°32'N, 124°20'W), northern California (SIO 66–55) to Chile (Charter in Moser 1996). At depths of 1,170–1,790 m (3,838–5,871 ft; Hatooka in Nakabo 2002).

Family Serrivomeridae — Sawtooth Eels

Serrivomer jespersenii Bauchot-Boutin, 1953. **Crossthroat Sawpalate**. To 67 cm (26.8 in) SL (Mecklenburg et al. 2002). Pacific and Indian oceans; close to Alaska off Dixon Entrance, northern British Columbia (G. E. Gillespie, pers. comm. to C. W. M.) to Chile (Pequeño 1989). At depths of 366–825 m (1,200–2,706 ft) (min.: Peden and Hughes 1986; max.: Taylor 1967).

Serrivomer samoensis Bauchot, 1959. **Samoa Sawtooth Eel**. To 63 cm (24.8 in) TL. Pacific Ocean; Samoa and southern California. At depths to 1,073 m (3,519 ft). All in J. E. Fitch (pers. comm. to M. L.).

Serrivomer sector Garman, 1899. **Sawtooth Eel**. Possibly to 76 cm (30 in) TL (Eschmeyer and Herald 1983). Pacific and Indian oceans; Japan (Hatooka in Nakabo 2002); northern California (40°51'N; Lauth 2001) to northern Chile (Fitch and Lavenberg 1968). At depths of 200–3,200 m (656–10,496 ft; Hatooka in Nakabo 2002).

Order Saccopharyngiformes

Family Cyematidae — Bobtail Eels

Cyema atrum Günther, 1878. **Black Bobtail Eel**. To 15 cm (5.9 in) TL (Smith 1989). Circumglobal in temperate to tropical waters (Mecklenburg et al. 2002); Japan (Aizawa in Nakabo 2002); Tillamook Head, Oregon (Grinols 1966) to Chile (Pequeño 1989). Midwater at depths of 330–5,100 m (1,082–16,728 ft) (min.: Bertin 1937; max.: Grey 1956).

Family Saccopharyngidae — Swallowers or Whiptail Gulpers

Saccopharynx lavenbergi Nielsen & Bertelsen, 1985. To 78 cm (30.7 in) SL (SIO 85-163) or more. Northern California (Charter in Moser 1996) to Chile (4°05'N, 78°36'W; SIO 55-244). Deep midwater, primarily 2,000–3,000 m (6,560–9,840 ft; Charter in Moser 1996).

Family Eurypharyngidae — Gulpers or Pelican Eels

Eurypharynx pelecanoides Vaillant, 1882. **Umbrellamouth Gulper**. To more than 100 cm (39.3 in) TL (Nielsen and Bertelsen in Whitehead et al. 1986). Circumglobal; northern California (Charter in Moser 1996) to Chile (23°36'S, 71°30'W; SIO 72-164). At depths of 425–3,049 m (1,394–10,000 ft) or more (min.: Clarke and Wagner 1976; max.: Fitch and Lavenberg 1968).

Family Monognathidae — Onejaws or Monognathids

Monognathus ahlstromi Raju, 1974. To 5 cm (2 in) TL. Central California. Mesopelagic. All in Raju (1974).

**Monognathus rosenblatti* Bertelsen & Nielsen, 1987. To 7 cm (2.7 in) TL. Central and North Pacific; well off southern California. At depths of 2,000–5,266 m (6,560–17,273 ft). All in Bertelsen and Nielsen (1987).

Monognathus sp. An undescribed *Monognathus* has been collected in the California Current region (Charter in Moser 1996).

Order Clupeiformes

Family Engraulidae — Anchovies

Anchoa argentivittata (Regan, 1904). **Silverstripe Anchovy**. To 12.5 cm (4.9 in) TL (Robertson and Allen 2002). Bahia Magdalena, southern Baja California (Galván-Magaña et al. 2000) and central-eastern Gulf of California to Ecuador, including Islas Galápagos (Robertson and Allen 2002). Surface to 10 m (33 ft; Robertson and Allen 2002).

Anchoa compressa (Girard, 1858). **Deepbody Anchovy**. To 16.5 cm (6.5 in) TL (Miller and Lea 1972). Morro Bay, central California (Miller and Lea 1972) to Bahia Magdalena, southern Baja California (Whitehead et al. 1988). Surf zone to depth of perhaps 18.5 m (61 ft) (min.: Carlisle et al. 1960; max.: Allen et al. 2002).

Anchoa curta (Jordan & Gilbert, 1882). **Short Anchovy**. To 8.9 cm (3.5 in) TL (Yañez-Arancibia 1978). Southern Baja California (25°24'N, 112°06'W; SIO 64-85) to Puerto Pizarro, Peru (Chirichigno and Vélez 1998), including lower half of Gulf of California (Robertson and Allen 2002). Pelagic, primarily nearshore and estuaries and occasionally entering fresh water (Whitehead et al. 1988). To depth of perhaps 10 m (33 ft; Robertson and Allen 2002).

Anchoa delicatissima (Girard, 1854). **Slough Anchovy**. To 12 cm (4.7 in) TL (Allen et al. 2002). Marina del Rey, southern California (Soule and Oguri 1987) to Bahia Magdalena, southern Baja California (Miller and Lea 1972). Nearshore and estuaries (Whitehead et al. 1988); intertidal (Allen 1999) and to depth of at least 15.5 m (51 ft; Allen et al. 2002).

Anchoa exigua (Jordan & Gilbert, 1882). **Slender Anchovy**. To 7.5 cm (3 in) TL (Robertson and Allen 2002). Bahia Playa Maria (28°56'N, 114°32'W), central Baja California (Knaggs et al. 1975) to southern Gulf of California (Whitehead et al. 1988) and to Puerto Pizarro, Peru (Chirichigno and Vélez 1998). Pelagic, nearshore (Whitehead et al. 1988) to perhaps 10 m (33 ft; Robertson and Allen 2002). The author names for this species belong within parentheses, not without as sometimes seen; the species was classified by Jordan and Gilbert in a different genus (*Stolephorus*).

Anchoa ischana (Jordan & Gilbert, 1882). Gulf of California Slender Anchovy, **Sharpnose Anchovy**, or Slender Anchovy. To 14 cm (5.5 in) TL (Robertson and Allen 2002). Boca de Soledad (25°18'N, 112°11'W; SIO 64-79), southern Baja California and throughout Gulf of California (Whitehead et al. 1988) to northern Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997). Nearshore and pelagic (Whitehead et al. 1988), in waters as shallow as 1 m (3 ft; González-Acosta et al. 1999) to perhaps 10 m (33 ft; Robertson and Allen 2002).

Anchoa lucida (Jordan & Gilbert, 1882). **Bright Anchovy**. To 16 cm (6.3 in) TL (Robertson and Allen 2002). Laguna San Ignacio, southern Baja California (Danemann and De La Cruz-Agüero 1993) to northern Gulf of California (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995) and to Puerto Pizarro, northern Peru (Whitehead et al. 1988). Pelagic, nearshore and estuarine (Whitehead et al. 1988), at 1–60 m (3–197 ft) (min.: González-Acosta et al. 1999; max.: Amezcua Linares 1996).

Anchoa mundeoloides (Breder, 1928). **Northern Gulf Anchovy**. To 15 cm (5.9 in) TL (Robertson and Allen 2002). Arroyo Soledad, north of Isla Santa Magdalena (25°11'N, 112°06'W), southern Baja California (SIO 64-80), and Gulf of California to southern Mexico (Robertson and Allen 2002). Surface to perhaps 10 m (33 ft; Robertson and Allen 2002).

Anchoa nasus (Kner & Steindachner, 1867). **Bignose Anchovy** or Longnose Anchovy. To 17 cm (6.7 in) TL (Robertson and Allen 2002). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) and throughout Gulf of California (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995) to Callao, Peru, and perhaps farther south (Whitehead et al. 1988). Pelagic and nearshore, tolerating some low salinity (Whitehead et al. 1994), to depth of 142 m (466 ft; Zeballos et al. 1998). The maximum depth capture was made by bottom trawl and it is possible this species was captured in midwater.

Anchoa walkeri* Baldwin & Chang, 1970. **Persistent Anchovy or Walker's Anchovy. To 14.5 cm (5.7 in) TL (Amezcuca Linares 1996). Gulf of California (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995) to Ecuador (Béarez 1996), including southern tip of Baja California (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995). Surface to 50 m (164 ft) (min.: Robertson and Allen 2002; max.: Amezcuca Linares 1996).

Anchovia macrolepidota (Kner, 1863). **Bigscale Anchovy**. To 25.0 cm (9.8 in) TL (Yañez-Arancibia 1978). Laguna San Ignacio, southern Baja California (Dannemann and De La Cruz-Agüero 1993) to northern Gulf of California (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995) and to Zorritos, Peru (Chirichigno and Vélez 1998). Near shore (Whitehead et al. 1988), surface to 10 m (33 ft; Robertson and Allen 2002). *Anchovia magdalanae* Hildebrand, 1943, is a junior synonym (Whitehead et al. 1988).

Cetengraulis mysticetus (Günther, 1867). **Anchoveta**. To about 22 cm (8.7 in) TL (Robertson and Allen 2002). Los Angeles, southern California (Miller and Lea 1972) to Callao, Peru (Beltrán-León and Rios Herrera 2000), including Gulf of California (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Surface to 32 m (105 ft) (min.: Robertson and Allen 2002; max.: Zeballos et al. 1998). The maximum depth capture was made by bottom trawl and it is possible this species was captured in midwater.

Engraulis japonicus Temminck & Schlegel, 1846. **Japanese Anchovy**. To about 16 cm (6.3 in) SL (Lindberg and Legeza 1965). Western Pacific from Philippines to southeastern Kamchatka; one record from Alaska, south of western Aleutian Islands (Mecklenburg et al. 2002 [after Birman 1958]). Near surface, epipelagic and coastal, but also occurring to over 1,000 km (620 miles) from shore and depth of 150 m (495 ft; Mecklenburg et al. 2002).

Engraulis mordax Girard, 1854. **Northern Anchovy**. To 24.8 cm (9.7 in) TL (Whitehead et al. 1988). One record off Yakutat, eastern Gulf of Alaska (Mecklenburg et al. 2002); Queen Charlotte Islands, British Columbia to Cabo San Lucas, southern Baja California (Miller and Lea 1972) and Gulf of California (Hammann and Cisneros-Mata 1989). Surface (M. L., unpubl. data) to 310 m (1,017 ft; Davies and Bradley 1972), including intertidal (Chotkowski 1994).

Family Pristigasteridae — Longfin Herrings

Neopisthopterus tropicus (Hildebrand, 1946). **Tropical Longfin Herring**. To 11 cm (4.3 in) TL (Allen and Robertson 1994). Southern Baja California (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995) to Puerto Pizarro, Peru (Chirichigno 1974), including Gulf of California (Allen and Robertson 1994). Inshore, bays, estuaries and river mouths (Allen and Robertson 1994).

Opisthopterus dovii (Günther, 1868). Dove's Longfin Herring or **Pacific Longfin Herring**. To 21 cm (8.3 in) TL (Allen and Robertson 1994). Punta Marquis, southern Baja California (SIO 62-705) to Punta Malpelo, Peru (Chirichigno and Vélez 1998), including Gulf of California (Allen and Robertson 1994). Inshore waters and estuaries (Allen and Robertson 1994).

Pliosteostoma lutipinnis (Jordan & Gilbert, 1882). **Yellowfin Herring**. To 18 cm (7.1 in) TL (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995). Southern Baja California (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995) to Colombia (Allen and Robertson 1994), including Gulf of California (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995). Coastal, including estuaries to a depth of 50 m (164 ft; Amezcua Linares 1996).

Family Clupeidae — Herrings

***Alosa sapidissima* (Wilson, 1811). **American Shad**. To 76 cm (30 in) TL (Miller and Lea 1972). Native to Atlantic; intentionally introduced to Pacific, spread to Kamchatka, Russia to southeastern Bering Sea and Gulf of Alaska (Mecklenburg et al. 2002) to Bahia de Todos Santos, northern Baja California (Miller and Lea 1972). Surface to 250 m (820 ft), possibly to 375 m (1,230 ft; Allen and Smith 1988). Anadromous.

Clupea pallasii Valenciennes, 1847. **Pacific Herring**. To 46 cm (18 in) TL (Miller and Lea 1972). Korea and Japan to Arctic Ocean off Alaska and to northern Baja California; Arctic Canada to White Sea (Whitehead 1985). Marine and brackish waters (Safranov and Nikiforov 2003). Surface to 250 m (820 ft), almost always captured above 150 m (492 ft; Whitehead 1985). The greater depths occasionally reported probably represent fish entering the net above the maximum tow depth (Mecklenburg et al. 2002).

***Dorosoma petenense* (Günther, 1867). **Threadfin Shad**. To 33 cm (13 in) TL (Moyle 2002). Native to the southeastern United States and south to Belize. Introduced to West Coast. Off Oregon (Eschmeyer and Herald 1983) to San Diego Bay, southern California (SIO 82-23) and Gulf of California (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995). Shallow fresh, brackish, and marine waters.

Etrumeus teres (DeKay, 1842). **Round Herring**. To 30.5 cm (12 in) TL (Miller and Lea 1972). Circumglobal; Japan (Aonuma in Nakabo 2002); Monterey Bay, central California to Chile (Miller and Lea 1972), including Gulf of California (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Pelagic (Allen and Robertson 1994); near shore (Grove and Lavenberg 1997), including surf zone (Suda et al. 2002), to depth of 125 m (410 ft; Zeballos et al. 1998). The maximum depth capture was made by bottom trawl and it is possible this species was captured in midwater.

Harengula thrissina (Jordan & Gilbert, 1882). **Flatiron Herring**. To 18.4 cm (7.25 in) TL (Miller and Lea 1972). La Jolla, southern California (Miller and Lea 1972) to Callao, Peru (Beltrán-León and Rios Herrera 2000), including Gulf of California (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995). Inshore, 1 m (3 ft; González-Acosta et al. 1999) to at least 7 m (23 ft; Godinez-Dominguez et al. 2000).

Lile nigrofasciata Castro-Aguirre, Ruiz-Campos, & Balart, 2002. **Blackstripe Herring**. To 10.4 cm SL (4.1 in). Bahia Magdalena, southern California and Gulf of California to northern Peru. Lagoons and other shallow littoral waters. All in Castro-Aguirre et al. (2002).

Lile stolifera (Jordan & Gilbert, 1882). Pacific Piquitinga or **Striped Herring**. To 15 cm (5.9 in) TL (Allen and Robertson 1994). Bahia Ballenas (26°40'N, 113°30'W), southern Baja California (Grove and Lavenberg 1994) to Puerto Pizarro, Peru (Chirichigno and Vélez 1974), including Gulf of California (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Castro-Aguirre et al. (2002) report this species has a disjunct distribution and is absent between northern Nayarit, Mexico and Costa Rica. Inshore, including brackish estuaries (Allen and Robertson 1994), as shallow as 1 m (3 ft; González-Acosta et al. 1999).

Opisthonema libertate (Günther, 1867). **Deepbody Thread Herring** or Pacific Thread Herring. To about 30 cm (11.8 in) TL (Amezcua Linares 1996). Port Hueneme, southern California (Lea and Rosenblatt 2000) to Chile (Pequeño 1989), including Gulf of California (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Nearshore (Allen and Robertson 1994), 1 m (3 ft; González-Acosta et al. 1999) to at least 70 m (230 ft; Velasco and Thiel 2002).

Opisthonema medirastre Berry & Barrett, 1963. **Middling Thread Herring**. To 27.5 cm (10.8 in) TL (Amezcuca Linares 1996). Redondo Beach, southern California (Miller and Lea 1972) to Huacho, Peru (Chirichigno and Vélez 1998), including Gulf of California (Whitehead and Rodriguez-Sanchez in Fischer et al. 1995). As shallow as 3.7 m (12 ft; M. Shane, pers. comm. to M. L.).

Sardinops sagax (Jenyns, 1842). **Pacific Sardine**. To 41 cm (16.1 in) TL (Clemens and Wilby 1961). North Pacific from south of Japan to southern Kamchatka and Commander Islands (Mecklenburg et al. 2002), and southeastern Alaska (Mecklenburg et al. 2002) to Guaymas, Mexico (Miller and Lea 1972), including Gulf of California (Galván-Magaña et al. 1996) and Islas Galápagos (Grove and Lavenberg 1997); other populations in western and eastern South Pacific, and off southern Africa (Whitehead 1985). Surface and surf zone to 150 m (495 ft) (min.: Carlisle et al. 1960; max.: Mecklenburg et al. 2002).

Order Gonorynchiformes

Family Chanidae — Milkfishes

Chanos chanos (Forsskal, 1775). **Milkfish**. To 1.8 m (70.9 in) TL (Whitehead in Fischer et al. 1995). Pacific and Indian oceans; San Pedro, southern California (Duffy and Bernard 1985) to Callao, Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997). Juveniles are estuarine, adults marine (Randall et al. 1990).

Order Cypriniformes

Family Cyprinidae — Carps and Minnows

Cyprinids are primarily freshwater fishes. They only occasionally stray into estuaries.

***Cyprinus carpio* Linnaeus, 1758. **Common Carp**. To 122 cm (48 in) TL (Page and Burr 1991). Circumglobal in fresh water; occasionally off British Columbia and in bays such as San Francisco (Eschmeyer and Herald 1983).

Mylocheilus caurinus (Richardson 1836). **Peamouth**. To 35.9 cm (14.1 in) TL (Wydoski and Whitney 1979). British Columbia marine waters (Wydoski and Whitney 1979) and Columbia River estuary (Bottom and Jones 1990).

Pogonichthys macrolepidotus (Ayres, 1854). **Splittail**. To 44 cm (17.5 in) TL (Page and Burr 1991). Primarily freshwater habitat, but tolerates brackish conditions. May be found in Suisan and San Pablo bays and Carquinez Straits, northern California. Also Central Valley Delta region and Sacramento River, California (Moyle 1976).

Order Siluriformes

Family Ariidae — Sea Catfishes

Ariopsis guatemalensis (Günther, 1864). **Widehead Sea Catfish**. To 45 cm (17.7 in) TL. Bahia Magdalena, southern Baja California (Galván-Magaña et al. 2000) and central Mexico to Costa Rica (Robertson and Allen 2002). At depths of 0–20 m (66 ft; Robertson and Allen 2002). Originally and still sometimes classified in *Arius*, also recently in *Hexanematichthys*.

Ariopsis planiceps (Steindachner, 1877). **Flathead Sea Catfish**. To 60 cm (23.6 in) TL (De La Cruz-Agüero et al. 1997). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Panama (Allen and Robertson 1994). Shallow water. Originally and still sometimes classified in *Arius*, also recently in *Notarius*.

Ariopsis platypogon (Günther, 1864). **Cominate Sea Catfish** or Slender-spined Catfish. To 50 cm (19.7 in) TL (De La Cruz-Agüero et al. 1997). Laguna San Ignacio, southern Baja California (De La Cruz-Agüero and Cota-Gómez 1998) to Ecuador (Béarez 1996), including southern Gulf of California (Kailola and Bussing in Fischer et al. 1995). At 6–107 m (20–351 ft) (min.: SIO 65-177; max.: Amezcua Linares 1996). Originally and still sometimes classified in *Arius*, also recently in *Notarius*.

Bagre panamensis (Gill, 1863). **Chihuil** or Chihuil Sea Catfish. To about 51 cm (20 in) TL (Miller and Lea 1972). Off Santa Ana River, southern California (Miller and Lea 1972) to Isla Lobos de Tierra, Peru (Chirichigno and Vélez 1998), including Gulf of California (Miller and Lea 1972). At depths of 3 m or less to 177 m (10–584 ft) (min.: SIO 63-619; max.: Zeballos et al. 1998).

Order Argentiniformes

Family Argentinidae — Argentines

Argentina sialis Gilbert, 1890. **Pacific Argentine**. To 22 cm (8.7 in) TL (Robertson and Allen 2002). Mouth of Columbia River, Oregon (Eschmeyer and Herald 1983) to Gulf of California (Schneider in Fischer et al. 1995); probably northern Peru (Chirichigno and Vélez 1998). At depths of 11–325 m (36–1,066 ft) (min.: Schneider in Fischer et al. 1995; max.: Wilkins et al. 1998).

Family Microstomatidae — Pencilsmelts

Kobyliansky (1990) and others have presented evidence for combining the Microstomatidae and the Bathylagidae in one family. Nelson et al. (2004:208), viewing separation of the two sister taxa into families as a subjective action, provisionally kept the families separate.

Microstoma sp. To 20 cm (7.9 in) SL. Subarctic–transitional eastern Pacific to central Baja California (Moser and Butler in Moser 1996). At depths of 89–490 m (292–1,608 ft; Clarke and Wagner 1976). Apparently an undescribed species. Listed as *Microstoma microstoma* in Eschmeyer and Herald (1983), but not that species according to Moser and Butler (1996).

**Nansenia ahlstromi* Kawaguchi & Butler, 1984. To at least 9.5 cm (3.7 in) SL. Eastern tropical Pacific; well off shore from Baja California. Depth range poorly understood; a midwater species that perhaps lives to depths of 754 m (2,474 ft) or more. All in Kawaguchi and Butler (1984).

Nansenia candida Cohen, 1958. **Bluethroat Argentine** or White Pencilsmelt. To 23.9 cm (9.4 in) SL (Mecklenburg et al. 2002). (Length is from the paratype of *Nansenia sanrikuensis* Kanayama & Amaoka, 1983, included by Mecklenburg et al. [2002] as a junior synonym of *N. candida*.) North Pacific off northern Honshu, Japan and southern Kuril Islands to southern Bering Sea and Gulf of Alaska (Mecklenburg et al. 2002) to northern Baja California (30°N; Kawaguchi and Butler 1984). Primarily epipelagic and mesopelagic, near surface to depth of about 1,500 m (4,921 ft; Mecklenburg et al. 2002). A specimen measuring 16.7 cm (6.6 in) TL was collected in July 2003 near Kasatochi Island, Aleutian Islands, Alaska in a midwater trawl towed to a depth of 83 m over a bottom depth of 1,800 m (5,906 ft) at 0603 hours (C. W. M. and B. A. Holladay, unpubl. data).

Nansenia crassa Lavenberg, 1965. **Stout Argentine**. To 26.6 cm (10.5 in) SL. Eastern North Pacific off central California to southern Baja California; eastern tropical Pacific. Mesopelagic. All in Kawaguchi and Butler (1984). Larvae taken as far south as just southwest of Cabo San Lucas, southern Baja California (Moser et al. 1993).

Family Bathylagidae — Deepsea Smelts

- **Bathylagoides nigrigenys* (Parr 1931). To 10.5 cm (4.1 in) SL (Kobyliansky 1985). Equatorial and tropical waters of Pacific and Indian oceans (Kobyliansky 1985); larvae found in the vicinity of Cabo San Lucas, southern Baja California (Ambrose et al. 2002), adults to Chile (Pequeño 1989). Adults usually at depths of 200–300 m (Kobyliansky 1985). Originally classified in *Bathylagus*, this species was classified in *Bathylagoides* by Kobyliansky (1986).
- Bathylagoides wesethi* (Bolin, 1938). **Snubnose Blacksmelt**. To about 13.5 cm (5.3 in) SL (Savinykh 1999). Oregon (Matarese et al. 1989) to southern Baja California (Moser and Ahlstrom in Moser 1996). Pelagic, at 25–1,130 m (82–3,706 ft) (min.: Childress and Nygaard 1973; max.: LACM 39275.005). Originally classified in *Bathylagus*, this species was classified in *Bathylagoides* by Kobyliansky (1986).
- Bathylagus pacificus* Gilbert, 1890. **Pacific Blacksmelt** or Slender Blacksmelt. To about 25 cm (10 in) TL (Fitch and Lavenberg 1968). Southern Japan and Sea of Okhotsk (Kanayama in Amaoka et al. 1983) to southern Bering Sea to Gulf of California (Mecklenburg et al. 2002). Adults generally in lower mesopelagic and bathypelagic and not ascending to epipelagic depths, range 150–7,700 m (492–25,410 ft; Mecklenburg et al. 2002).
- Leuroglossus schmidti* Rass, 1955. **Northern Smoothtongue**. To 20 cm (7.9 in) SL or more (Mason and Phillips 1985). Northern Honshu, Japan to Sea of Okhotsk to Bering Sea (Mecklenburg et al. 2002) to southern British Columbia (Peden 1981). Adults primarily epipelagic to upper mesopelagic, near surface to 1,800 m (5,905 ft; Mecklenburg et al. 2002). Classified in *Bathylagus* by some authors. Records from south of British Columbia (e.g., Lauth [1999] from Point Conception, central California) likely relate to *L. stilbius* (Peden 1981, Dunn 1983; nomenclatural history is summarized in Mecklenburg et al. [2002:149, 150]).
- Leuroglossus stilbius* Gilbert, 1890. **California Smoothtongue**. To 15.2 cm (6 in) TL (Miller and Lea 1972). Northern Oregon (45°52'N; Lauth 2001) to Colombia, including Gulf of California (Miller and Lea 1972). *Leuroglossus stilbius urotronus* reported from Chile (Pequeño 1989). Epipelagic to mesopelagic, near surface to about 850 m (2,788 ft) (min.: Eschmeyer and Herald 1983; max.: Lavenberg and Ebeling 1967).
- Lipolagus ochotensis* (Schmidt, 1938). **Popeye Blacksmelt**. To 19 cm (7.5 in) TL (Gorbatenko and Il'inskii 1992). Southern Honshu, Japan and Sea of Okhotsk to Bering Sea to south-central Baja California (about 25°N; Kobyliansky 1985). Near surface to 6,100 m (21,350 ft; Kanayama in Amaoka et al. 1983), adults generally within mesopelagic depths (Mecklenburg et al. 2002). Originally named *Bathylagus ochotensis*.
- Melanolagus bericoides* (Borodin, 1929). To at least 20 cm (7.9 in) TL (Castle in Smith and Heemstra 1986). Circumglobal in warm waters; Japan (Miya 1994) and Oregon to central California (Matarese et al. 1989), and at least off Chile (Pequeño 1989, 1997; Kong and Melendez 1991). Pelagic, at 100–1,700 m (328–5,576 ft; McEachran and Feckhelm 1998). Originally classified in *Scopelus*, this species was classified in a new genus *Melanolagus* by Kobyliansky (1986). Classified in *Bathylagus* by some authors.
- Pseudobathylagus milleri* (Jordan & Gilbert, 1898). **Stout Blacksmelt**. To 21.6 cm (8.5 in) TL (Miller and Lea 1972). Southern Honshu, Japan and southern Sea of Okhotsk to Bering Sea (Mecklenburg et al. 2002) to Cortes Bank, southern California (Miller and Lea 1972). Generally mesopelagic and bathypelagic and not ascending to epipelagic depths, range 60–6,600 m (197–21,653 ft) (min.: Miller and Lea 1972; max.: Kanayama in Amaoka et al. 1983). Originally named *Bathylagus milleri*. *Bathylagus alascanus* Chapman, 1939, is a junior synonym.

Family Opisthoproctidae — Barreleyes or Spookfishes

Bathylchnops exilis Cohen, 1958. **Javelin Spookfish**. To 58 cm (22.8 in) SL (Parin et al. 1995). Atlantic and Pacific; Japan (Fujii in Masuda et al. 1984) to Kuril Islands (Parin et al. 1995) to British Columbia (Gillespie 1993) to at least as far south as Isla Guadalupe, central Baja California (SIO 67-67); also reported from Chile (21°27'S; SIO 72-177). Bathypelagic, at about 400–800 m (1,312–2,625 ft) (min.: Nakabo 2002; max.: Lavenberg and Ebeling 1967).

Dolichopteryx longipes (Vaillant, 1888). **Brownsnout Spookfish**. To 18 cm (7.1 in) SL (Berry and Perkins 1966). Circumglobal in temperate and tropical waters; southern California (Berry and Perkins 1966) to Chile (Pequeño 1989). Pelagic, at 152–1,139 m (500–3,737 ft) (min.: Eschmeyer and Herald 1983; max.: Lauth 2001).

Dolichopteryx parini Kobylansky & Fedorov, 2001. **Winged Spookfish**. To 21.7 cm (8.5 in) SL. Possibly throughout the North Pacific; recorded from Pacific off Honshu, Japan and Sea of Okhotsk to southern Bering Sea to southern British Columbia. Mesopelagic, at depths of about 200–1,000 m (656–3,281 ft), possibly shallower. All in Mecklenburg et al. (2002); the authors listed and commented on records in addition to those given by Kobylansky and Fedorov (2001).

Macropinna microstoma Chapman, 1939. **Barreleye**. To 16 cm (6.3 in) TL (Mecklenburg et al. 2002). Western North Pacific off northern Japan and Kuril Islands to Bering Sea and Gulf of Alaska to eastern South Pacific west of Islas Juan Fernández, Chile (Mecklenburg et al. 2002). Primarily mesopelagic, range 16–1,015 m (53–3,330 ft; Mecklenburg et al. 2002), and perhaps to 1,267 m (4,157 ft; Lauth 2001).

Opisthoproctus soleatus Vaillant, 1888. **Shortnose Flatironfish**. To about 10.5 cm (4.1 in) TL (Quéro in Quéro et al. 1990). Circumtropical; off San Diego, southern California (32°N, 124°W; SIO 88-43) to Chile (Pequeño 1989). Pelagic, at about 300–800 m (984–2,625 ft; Quéro in Quéro et al. 1990).

Family Alepocephalidae — Slickheads

Alepocephalus tenebrosus Gilbert, 1892. **California Slickhead**. To 61 cm (24 in) TL (Fitch and Lavenberg 1968). West of Barkley Sound, British Columbia (Peden 1997) to at least Isla Guadalupe, central Baja California and also reported from Chile (Ambrose in Moser 1996). Reports from eastern Bering Sea not verifiable (Mecklenburg et al. 2002). Benthopelagic, at depths of 294–1,646 m (965–5,432 ft) (min.: Grinols and Heyamoto 1965; max.: Alton 1972). Mecklenburg et al. (2002) give that range, noting that although greater extremes of depth have been reported they are not verifiable, and that the depth range of 46–5,486 m (150–18,000 ft) given by Fitch and Lavenberg (1968) may apply to the family as a whole and not necessarily to *A. tenebrosus*.

Asquamiceps pacificus Parr, 1954. To 8.5 cm (3.4 in) SL (Parr 1954). Off Bahia San Cristobal, southern Baja California (27°07'N, 115°08'W; Markle 1980) to Gulf of Panama (Parr 1954). Deep water.

Asquamiceps velaris Zugmayer, 1911. To 17 cm (6.7 in) SL or more (Markle and Quéro in Whitehead et al. 1984). Circumtropical; off southern Baja California (Markle 1980). At depths of 1,300–3,660 m (4,290–12,004 ft; Markle and Quéro in Whitehead et al. 1984).

Bajacalifornia burragei Townsend & Nichols, 1925. **Sharpchin Slickhead**. To 19.8 cm (7.8 in) SL (Childress et al. 1980). Southern California (about 34°N; Ambrose in Moser 1996) to Chile (23°51'S, 71°01'W; Chirichigno and Vélez 1998), including Gulf of California (Ambrose in Moser 1996) and questionably off Peru (Markle and Krefft 1985). Mesopelagic (Ambrose in Moser 1996).

Bathylaco nigricans Goode & Bean, 1896. To 36 cm (14.2 in) SL (Krefft 1985). Circumglobal; Washington (46°48'N; Lauth 1999) to Colombia (Fitch and Lavenberg 1968). At depths of 450–4,540 (1,476–14,891 ft; Markle and Quéro in Whitehead et al. 1984).

Conocara salmoneum (Gill & Townsend, 1897). **Deepsea Slickhead**. To at least 73 cm (28.7 in) SL (Markle and Quéro in Whitehead et al. 1984). Atlantic and Pacific; two records from the Pacific (Mecklenburg et al. 2002): near Pribilof Islands, Bering Sea (Gill and Townsend 1897) and Santa Catalina Island, southern California (Gilbert 1915). Benthopelagic, at depths of about 2,400–4,200 m (7,874–13,779 ft; Markle and Quéro in Whitehead et al. 1984).

Mirorictus taningi Parr, 1947. **Striped Tubeshoulder**. To 12.4 cm (5 in) SL or more. Pacific and Indian oceans; central California to Peru, including Gulf of California. All in Matsui and Rosenblatt (1987).

Narcetes stomias (Gilbert, 1890). To 57.5 cm (22.6 in) SL (Markle and Sazonov in Quéro et al. 1990). Circumglobal; Washington (Matarese et al. 1989) to Gulf of Panama (Sazonov 1998). At depths of 1,200–2,334 m (3,936–7,656 ft) (min.: Sazonov and Markle in Gon and Heemstra 1990; max.: Sazonov 1998) and perhaps to 3,200 m (10,499 ft; Sazonov 1998).

Photostylus pycnopterus Beebe, 1933. **Beaded Slickhead**. To 13.0 cm (5.1 in) SL (Tsukamoto et al. 1992). (We assume that in the range of “39.9-13.0 mm SL” given by Tsukamoto et al. for total specimens examined, the 13.0 mm is a misprint for 130 mm = 13.0 cm.) Circumglobal; Japan (Tsukamoto et al. 1992); northern Baja California (32°36'N, 118°05'W; Wisner 1967). At depths of 701–2,868 m (2,299–9,407 ft; Nakamura and Okamura in Okamura et al. 1995).

Rouleina atrita* (Vaillant, 1888). **Softskin Slickhead. To 38 cm (15.0 in) SL (Markle and Quéro in Whitehead et al. 1984). Circumglobal in temperate to tropical waters; Sea of Okhotsk, North Pacific Ocean east of Taiwan and Honshu to well south of Near Islands, Aleutian Islands; one record from western Bering Sea over Shirshov Ridge (Mecklenburg et al. [2002], after Sazonov et al. [1993] and others). Benthopelagic at depths of 585–2,102 m (1,919–6,893 ft) (min.: Sazonov and Williams 2001; max.: Nakamura and Okamura in Okamura et al. 1995).

Talismania bifurcata (Parr, 1951). **Threadfin Slickhead**. To 27.7 cm (11.1 in) SL (Kong and Melendez 1991). British Columbia (Matarese et al. 1989) to Chile (29°S; Kong and Melendez 1991). At 473–1,491 m (1,552–4,892 ft) (min.: Lauth 2001; max.: SIO 53-235).

Family Leptoichthyidae — Leptoichthyids

Leptoichthys agassizi Garman, 1899. **Paperjaw**. To 30.8 cm (12.1 in) TL (Markle and Quéro in Whitehead et al. 1984). Circumglobal (Sazonov 1995); Oregon (Matarese et al. 1989) to Chile at 20°19'S, 71°15'W (SIO 72-180). Bathypelagic, at 2,000–3,100 m (6,560–10,168 ft; Markle and Quéro in Smith and Heemstra 1986). Sazonov (1995) places this species in the Alepocephalidae.

Family Platytroctidae — Tubeshoulders

Holtbyrnia innesi (Fowler, 1934). **Lanternjaw Tubeshoulder**. To 24 cm (9.4 in) SL (Quéro et al. in Quéro et al. 1990). Atlantic, Pacific, and Indian oceans; South China Sea and Celebes Sea to Okhotsk Sea, Pacific off Kuril Islands and southern Kamchatka, central North Pacific, Bering Sea (Mecklenburg et al. 2002), British Columbia (Gillespie 1993), and Peru (Matsui and Rosenblatt 1987). Mesopelagic and bathypelagic to benthopelagic, at depths of about 100–1,500 m (328–4,921 ft; Quéro et al. in Quéro et al. 1990); records from depths less than 200 m are rare. Additional citations in Mecklenburg et al. (2002).

Holtbyrnia latifrons Sazonov, 1976. **Streaklight Tubeshoulder** or **Teardrop Tubeshoulder**. To 25 cm (9.8 in) SL (Sazonov et al. 1993). Western Bering Sea; Gulf of Alaska (Mecklenburg et al. 2002) to Chile (Matsui and Rosenblatt 1987). Mesopelagic and bathypelagic, at depths of 225–1,400 m (743–4,620 ft) (min.: LACM 38887.014; max.: Sazonov et al. 1993). Also recorded from eastern Pacific as *H. macrops* (citations in Mecklenburg et al. 2002).

-
- **Maulisia acuticeps* Sazonov, 1976. **Dark Tubeshoulder**. To 25.5 cm (10.0 in) SL (Sazonov et al. 1993). Atlantic and Pacific oceans; off Japan and Australia; western Bering Sea east of Karaginskiy Island; Peru and possibly off Islas Galápagos. Mesopelagic and bathypelagic, at depths of about 200–1,500 m (656–4,921 ft), with possible records to 2,000–2,600 m (6,562–8,530 ft). All in Mecklenburg et al. (2002).
- Maulisia argipalla* Matsui & Rosenblatt, 1979. **Pitted Tubeshoulder**. To 19.5 cm (7.7 in) SL (Sazonov et al. 1993). Circumglobal; Sea of Okhotsk; western Bering Sea near Karaginskiy Trench, eastern Bering Sea north of Semisopochnoi Island, and southern British Columbia (Mecklenburg et al. 2002) to Chile, including Gulf of California (Matsui and Rosenblatt 1987). Mesopelagic and bathypelagic, at depths of 475–1,340 m (1,558–4,396 ft) (min.: Matsui and Rosenblatt 1987; max.: Sazonov et al. 1993).
- Mentodus eubranchnus* (Matsui & Rosenblatt, 1987). To 11.4 cm (4.5 in) SL (Matsui and Rosenblatt 1987). Oregon (Matarese et al. 1989) to Gulf of California and Pacific coast of Mexico, and central Pacific (Matsui and Rosenblatt 1987). Bathypelagic, below 1,000 m (3,280 ft; Matsui and Rosenblatt 1987).
- Sagamichthys abei* Parr, 1953. **Shining Tubeshoulder**. To 27.2 cm (10.7 in) SL (Matsui and Rosenblatt 1987). Southern Japan and Okhotsk Sea to Bering Sea (Mecklenburg et al. 2002) to southern Chile (Matsui and Rosenblatt 1987). Primarily mesopelagic, adults at depths of about 200–1,240 m (656–4,068 ft) (min.: Matsui and Rosenblatt 1987; max.: Sazonov et al. 1993). Reported from shallower depths but these records likely represent juveniles; e.g., a record from 37 m (121 ft; Berry and Perkins 1966) was considered a mistake by Matsui and Rosenblatt (1987), and one from 94 m (308 ft; LACM 34566.006) is a specimen only 1.6 cm (0.6 in) in length.

Order Salmoniformes

Family Osmeridae — Smelts

- Allosmerus elongatus* (Ayres, 1854). **Whitebait Smelt**. To 22.9 cm (9 in) TL (Miller and Lea 1972). Vancouver Island, British Columbia to San Francisco, northern California (Eschmeyer and Herald 1983). Eschmeyer and Herald also list a questionable record from San Pedro, southern California. Shallow water (Eschmeyer and Herald 1983), perhaps to 103 m (338 ft; Wilkins et al. 1998).
- ***Hypomesus nipponensis* McAllister, 1963. **Wakasagi**. To 19.5 cm (7.8 in) SL (Saruwatari et al. 1997). Widespread in Japan; introduced to California lakes in 1959 (Saruwatari et al. 1997), now in Sacramento–San Joaquin Estuary (Aasen et al. 1998). Primarily a brackish-water species; found also in fresh water, commonly from transplants (Saruwatari et al. 1997). Originally classified as a subspecies, *Hypomesus transpacificus nipponensis*, and still classified that way by some authors.
- Hypomesus olidus* (Pallas, 1814). **Pond Smelt**. To 20 cm (8 in) TL (Page and Burr 1991). North Korea and Japan to northern Siberia and drainages of Canada and Alaska from Coronation Gulf, Northwest Territories to Copper River on the northeastern Gulf of Alaska coast. Freshwater species, only occasionally entering brackish water. All in Mecklenburg et al. (2002).
- Hypomesus pretiosus* (Girard, 1854). **Surf Smelt**. To 30.5 cm (12 in) TL (Hart 1973). North side of Alaska Peninsula at Izembek Bay and Gulf of Alaska (Mecklenburg et al. 2002) to Long Beach, southern California (Miller and Lea 1972). Near coast, including surf zone, sometimes found in brackish water and rarely in fresh water (Mecklenburg et al. 2002, Safronov and Nikiforov 2003). Often seen as *H. pretiosus pretiosus*, this form was raised to full species status in a revision of the family by Saruwatari et al. (1997).
- Hypomesus transpacificus* McAllister, 1963. **Delta Smelt**. To 12 cm (4.75 in) TL (Page and Burr 1991). Brackish and freshwater habitats of the Sacramento and San Joaquin river systems, California (Miller and Lea 1972, Saruwatari et al. 1997).

-
- Mallotus villosus*** (Müller, 1776). Candlefish, **Capelin**, or Grunion. To 25.2 cm (10.1 in) TL (Hart 1973). Circumglobal, boreal to arctic; Korea, Japan, and Sea of Okhotsk to Beaufort Sea and across Canadian Arctic to western Atlantic as far south as Cape Cod (citations in Mecklenburg et al. 2002) and to Strait of Juan de Fuca (Clemens and Wilby 1946). Pelagic, in coastal areas and offshore banks, from surface to 200 m (660 ft) (min.: Clemens and Wilby 1946; max.: Andriashev 1954); although reported to 725 m (2,393 ft), the fish were probably caught much nearer the surface (Allen and Smith 1988). *Mallotus catervarius* (Pennant, 1784) is a junior synonym.
- Osmerus mordax*** (Mitchill, 1814). Arctic Smelt, **Rainbow Smelt**, or Toothed Smelt. To 35.6 cm (14.0 in) TL (Scott and Scott 1988). North Atlantic, Arctic, and Pacific; North Korea, Japan, and Sea of Okhotsk to Beaufort Sea and across Canadian Arctic to western Atlantic as far south as Pennsylvania and to Heceta Head, Oregon (Mecklenburg et al. 2002). Near coast, surface to 150 m (495 ft), occasionally deeper but deep records probably due to fish entering nets nearer the surface than at the maximum depth of the tow (Allen and Smith 1988). Anadromous.
- Spirinchus starksi*** (Fisk, 1913). **Night Smelt**. To 23 cm (9 in) TL (Eschmeyer and Herald 1983). Shelikof Bay, southeastern Gulf of Alaska (McAllister 1963, Mecklenburg et al. 2002) to Point Arguello, central California (Miller and Lea 1972). Surf zone and deeper, surface to 128 m (422 ft; Coad 1995).
- Spirinchus thaleichthys*** (Ayres, 1860). **Longfin Smelt**. To 20 cm (8 in) TL (Morrow 1980). Shelikof Strait, western Gulf of Alaska (Mecklenburg et al. 2002) to Monterey Bay, central California (Eschmeyer and Herald 1983). Along coast, including surf zone (Miller et al. 1980), from surface to about 137 m (452 ft; Mecklenburg et al. 2002). Anadromous.
- Thaleichthys pacificus*** (Richardson, 1836). Candlefish, **Eulachon**, or Hooligan. To 25.4 cm (10.0 in) TL (Miller and Lea 1972). Eastern Bering Sea from west of St. Matthew Island and off Kuskokwim Bay and Nushagak River, and Bowers Bank, central Aleutian Islands to Point Conception, central California (Mecklenburg et al. 2002). Near coast, surface to about 300 m (990 ft) and occasionally deeper (Allen and Smith 1988). Records of much greater depths, such as 625 m (2,050 ft; Allen and Smith 1988) and 533 m (1,748 ft; Hoff and Britt 2003), probably pertain to fish that entered nets near the surface, not near maximum fishing depths. Anadromous.

Family Salmonidae — Trouts and Salmon

- Various alternatives for salmonid classification are in use, such as classifying the Pacific trouts in genus *Parasalmo* as preferred by some Russian taxonomists. The various proposals were summarized and referenced by Mecklenburg et al. (2002:178–179, 192–193, and individual species accounts). Many of the West Coast trouts and salmon have been introduced elsewhere, including the East Coast and Europe. Only their native ranges are given here. At sea, trouts and salmon typically frequent epipelagic depths.
- Coregonus autumnalis*** (Pallas, 1776). **Arctic Cisco**. To 64 cm (25 in) TL (Berg 1948). Arctic coasts from Siberia west to White Sea; Point Barrow, Alaska to Murchison River, Northwest Territories, Canada. Close to shore in estuaries. Anadromous and landlocked populations. All in Mecklenburg et al. (2002).
- Coregonus laurettae*** Bean, 1881. **Bering Cisco**. To 48 cm (18.9 in) FL (Alt 1973). Chukchi Peninsula, eastern Siberia to Alaska; Oliktok Point, Beaufort Sea, Alaska to Kenai Peninsula, northern Gulf of Alaska. Primarily freshwater and coastal marine habitats, some populations anadromous. All in Mecklenburg et al. (2002).
- Coregonus nasus*** (Pallas, 1776). **Broad Whitefish**. To 71 cm (28 in) TL (Page and Burr 1991). Arctic coasts from Siberia to Perry River, Nunavut, eastern Canada; Beaufort, Chukchi, and Bering drainages of Alaska south to Kuskokwim Bay. Primarily in fresh water, not venturing far seaward in brackish water. All in Mecklenburg et al. (2002).

-
- Coregonus pidschian*** (Gmelin, 1789). **Humpback Whitefish**. To 46 cm (18.1 in) TL (Page and Burr 1991). Arctic coasts from Siberia west to Kara Sea; Beaufort, Chukchi, and Bering drainages of Alaska south to Bristol Bay. Coastal waters near shore, some populations possibly never going to sea. Anadromous. All in Mecklenburg et al. (2002).
- Coregonus sardinella*** Valenciennes, 1848. **Least Cisco**. To 47 cm (18.3 in) TL (Page and Burr 1991). Bering Strait and Siberia west to White Sea; Arctic coasts of Alaska east to Bathurst Inlet and Cambridge Bay, Canada and south to Bristol Bay, Bering Sea. Coastal waters near shore and fresh water. Anadromous and landlocked populations. All in Mecklenburg et al. (2002).
- Oncorhynchus clarkii*** (Richardson, 1836). **Cutthroat Trout**. To 99.1 cm (39.0 in) TL (Morrow 1980). Outer coast of Kenai Peninsula, northern Gulf of Alaska (Behnke 1992) to Eel River, northern California (Morrow 1980). At sea, stay close to home streams. Anadromous. All in Mecklenburg et al. (2002). Previously as *Salmo clarki*.
- Oncorhynchus gorbuscha*** (Walbaum, 1792). Humpback Salmon or **Pink Salmon**. To 76 cm (2.5 ft) TL (Hart 1973). Northern Siberia to western Canada; North Korea and Japan to Beaufort Sea coast of Alaska and Canada, and south to La Jolla, California; throughout North Pacific and Bering Sea north of about 40°N. Anadromous. All in Mecklenburg et al. (2002).
- Oncorhynchus keta*** (Walbaum, 1792). Calico Salmon, **Chum Salmon**, or Dog Salmon. To 109 cm (42.9 in) TL (Salo 1991). Arctic coasts of Siberia west to Laptev Sea and east across Alaskan and Canadian Arctic to Mackenzie and Anderson rivers; Korea and southern Japan to Beaufort Sea, Alaska and to Del Mar, southern California near U.S.–Mexican border. At sea, surface to 61 m (200 ft; Salo et al. 1991). Anadromous. All except maximum length in Mecklenburg et al. (2002).
- Oncorhynchus kisutch*** (Walbaum, 1792). **Coho Salmon** or Silver Salmon. To 108 cm (42.5 in) TL (Coad 1995). North Korea and Japan to Point Hope, Chukchi Sea, Alaska and to Monterey Bay, central California, with strays to Prudhoe Bay, Beaufort Sea, Alaska (Mecklenburg et al. 2002, Craig and Haldorson 1986) and to Bahia Camalu, northern Baja California (Messersmith 1965). Anadromous.
- Oncorhynchus mykiss*** (Walbaum, 1792). Rainbow Trout or **Steelhead**. To 122 cm (48.0 in) TL (Coad 1995). Pacific off Kuril Islands (Kovalenko et al. 2005), Sea of Okhotsk, and Kamchatka to Kuskokwim Bay and Port Moller, southeastern Bering Sea to northern Baja California near Ciudad Durango (Morrow 1980). Anadromous and freshwater populations. The anadromous form is typically called Steelhead, while freshwater populations are called Rainbow Trout. Previously as *Salmo gairdneri*. Additional citations in Mecklenburg et al. (2002).
- Oncorhynchus nerka*** (Walbaum, 1792). Blueback, Red Salmon, or **Sockeye Salmon**. To 84 cm (33.1 in) TL (Coad 1995). Northern Japan and Sea of Okhotsk to Point Hope, Chukchi Sea, Alaska and to Klamath River, northern California (Morrow 1980), with strays along Arctic Alaska and Canada coasts to Bathurst Inlet (Craig and Haldorson 1986); across Pacific Ocean north of about 40°N. Anadromous and freshwater populations. Additional citations in Mecklenburg et al. (2002). Range of the nonanadromous (freshwater) form, called Kokanee, not included here.
- Oncorhynchus tshawytscha*** (Walbaum, 1792). **Chinook Salmon** or King Salmon. To 160 cm (63.0 in) TL (Coad 1995). Northern Japan to Point Hope, Chukchi Sea, Alaska and to Ventura River, California, with strays across northern Alaska to Coppermine River in Canada (Morrow 1980), to central Baja California at Bahia de Sebastian Vizcaino (27°54'N, 114°17'W; De La Cruz-Agüero 1999). At sea, surface to 200 m (656 ft) or more (Mecklenburg et al. 2002). Anadromous.
- ** ***Salmo salar*** Linnaeus, 1758. **Atlantic Salmon**. To 150 cm TL (59.1 in) TL (Coad 1995). Native to both sides of North Atlantic Ocean; introduced via net-pen farming to Washington and British Columbia in the 1980s (Mecklenburg et al. 2002). Escapees recorded and widespread from Puget Sound (W. A. Palsson,

pers. comm. to M. L.) northwards to southeastern Alaska (Wing et al. 1984) to Bering Sea near Pribilof Islands (Brodeur and Busby 1998). Natural reproduction of *Salmo salar* in the Tsitika River, Vancouver Island, British Columbia, has been documented (Volpe et al. 2000). Anadromous.

Salvelinus alpinus* (Linnaeus, 1758). **Arctic Char. To 96 cm (37.8 in) TL (Page and Burr 1991). Circumpolar; in Alaska, in Arctic, Bering Sea, and western Gulf of Alaska drainages. Anadromous on Chukchi Peninsula, Siberia; but lacustrine, not known to be anadromous, in Alaska. All in Mecklenburg et al. (2002).

Salvelinus malma (Walbaum, 1792). **Dolly Varden**, Dolly Varden Char, or Pacific Brook Char. To 100 cm (39.4 in) TL or more (Mecklenburg et al. 2002). Korean Peninsula and Japan to Chukchi Peninsula, Arctic Alaska, and Mackenzie River, Canada and to northern Washington (Mecklenburg et al. 2002). Migrate between freshwaters of Alaska and Siberia (DeCicco 1992). Anadromous and landlocked, lacustrine populations in Alaska.

Order Stomiiformes

Family Gonostomatidae — Bristlemouths

Cyclothone acclinidens Garman, 1899. **Benttooth Bristlemouth**. To 7.1 cm (2.8 in) TL (Miller and Lea 1972). Circumglobal; Oregon (Matarese et al. 1989) to central Chile (Fitch and Lavenberg 1968). At 20–1,900 m (66–6,233 ft) (min.: LACM 6524.001; max.: Watson in Moser 1996).

Cyclothone alba Brauer, 1906. **White Bristlemouth**. To 4 cm (1.6 in) SL (Aizawa in Nakabo 2002). Circumglobal; Japan (Aizawa in Nakabo 2002) and Bering Sea (Mecklenburg et al. 2002) to Chile (Pequeño 1989). Near surface to about 4,000 m (13,100 ft), primarily mesopelagic (Mecklenburg et al. 2002).

Cyclothone atraria Gilbert, 1905. **Black Bristlemouth** or Yellow Bristlemouth. To 6.2 cm (2.4 in) SL (Mecklenburg et al. 2002). Sea of Okhotsk, Bering Sea, and North Pacific, mostly north of Tropic of Cancer (Mecklenburg et al. 2002). Near surface (Mecklenburg et al. 2002) to 3,400 m (11,155 ft; Sheiko and Fedorov 2000), primarily lower mesopelagic and bathypelagic (Mecklenburg et al. 2002). *Cyclothone pacifica* Mukhacheva, 1964, is a junior synonym.

Cyclothone pallida Brauer, 1902. **Tan Bristlemouth**. To 7.5 cm (3 in) SL (Mecklenburg et al. 2002). Circumglobal primarily in warm waters; Japan (Aizawa in Nakabo 2002), Kuril Islands, and southern Bering Sea (Mecklenburg et al. 2002) to Chile (Pequeño 1989). Near surface to 3,000 m (9,800 ft), primarily mesopelagic and upper bathypelagic (Mecklenburg et al. 2002).

Cyclothone pseudopallida Mukhacheva, 1964. **Phantom Bristlemouth** or Slender Bristlemouth. To 6 cm (2.4 in) SL (Aizawa in Nakabo 2002). Atlantic, Pacific, Indian, and Arctic oceans; Japan (Aizawa in Nakabo 2002) and Bering Sea (Mecklenburg et al. 2002) to Chile (Pequeño 1989). The first record from the Arctic Ocean, from the Laptev Sea at 77°41'N, is also the northernmost occurrence of gonostomatids in general (Balanov and Kasatkina 2003). Surface to 3,000 m (9,800 ft), primarily mesopelagic (Mecklenburg et al. 2002).

Cyclothone signata Garman, 1899. **Showy Bristlemouth**. To 4.4 cm (1.7 in) SL (Mecklenburg et al. 2002). North and South Pacific; Bering Sea and eastern North Pacific (Mecklenburg et al. 2002) to Chile (Pequeño 1989). Near surface (Mecklenburg et al. 2002) to 1,130 m (3,707 ft; LACM 39275.008), primarily upper mesopelagic (Mecklenburg et al. 2002).

Diplophos proximus Parr, 1931. To 11.4 cm (4.5 in) SL (SIO 63-959). Eastern tropical Pacific; southern California (Watson in Moser 1996) to Islas Galápagos (SIO 84-184). Epipelagic and mesopelagic (Watson in Moser 1996). Considered by some authors a synonym of *D. taenia*.

- Diplophos taenia* Günther, 1873. To 27.6 cm (10.9 in) SL (Quéro et al. in Quéro et al. 1990). Circumglobal; 40°N to 30°S, not in tropical Pacific (Watson in Moser 1996). Near surface to 800 m (2,624 ft; Schaefer et al. in Smith and Heemstra 1986).
- Gonostoma atlanticum* Norman, 1930. **Atlantic Fangjaw**. To 6.4 cm (2.6 in) SL (Grey 1964). Circumglobal; Japan (Aizawa in Nakabo 2002); Oregon to at least Baja California (Watson in Moser 1996). At depths of 50–2,500 m (164–8,290 ft) (min.: Quéro et al. in Quéro et al. 1990; max.: Grey 1964).
- Gonostoma elongatum* Günther, 1878. To 27.5 cm (10.8 in) TL (Quéro et al. in Quéro et al. 1990). Circumglobal; well off shore from California and Baja California (Watson in Moser 1996) to Chile (Pequeño 1989). At depths of 25–1,500 m (83–4,920 ft; Quéro et al. in Quéro et al. 1990). Recently as *Sigmops elongata*.
- Sigmops ebelingi* (Grey, 1960). To 19.7 cm (7.8 in) SL (SIO 73-140). Western and eastern Pacific; offshore California and Baja California (Watson in Moser 1996). At depths of 125–700 m (410–2,296 ft; Watson in Moser 1996). Recently as *Gonostoma ebelingi*.
- Sigmops gracilis* (Günther, 1878). **Slender Fangjaw**. To 13.3 cm (5.2 in) SL. Widespread in North Pacific mainly north of 15°N; Bering Sea and eastern North Pacific Ocean at least as far south as British Columbia. Primarily mesopelagic, recorded near surface to 4,389 m (14,399 ft). All in Mecklenburg et al. (2002).

Family Sternoptychidae — Marine Hatchetfishes

- Argyrolepecus affinis* Garman, 1899. **Slender Hatcherfish**. To 9.4 cm (3.7 in) SL (Jespersion 1934). Circumglobal; Japan (Aizawa in Nakabo 2002); Oregon (Matarese et al. 1989) to northern Chile (Sielfeld et al. 1995). Epipelagic and mesopelagic, at depths of 100–1,130 m (328–3,706 ft) (min.: Moser in Moser 1996; max.: LACM 39275.003).
- Argyrolepecus hemigymnus* Cocco, 1829. **Spurred Hatcherfish**. To 4.5 cm (1.8 in) SL (Jespersion 1934). Circumglobal; Japan (Aizawa in Nakabo 2002); Washington (Matarese et al. 1989) to Chile (Baird 1971). Epipelagic and mesopelagic, at depths of 100–800 m (328–2,624 ft) (min.: Matarese et al. 1989; max.: McEachran and Fechhelm 1998).
- Argyrolepecus lychnus* Garman, 1899. **Tropical Hatcherfish**. To more than 7.6 cm (3 in) TL (Miller and Lea 1972). Eastern Pacific and possibly Indian Ocean; Point Conception, California (Miller and Lea 1972) to Chile (Baird 1971), including Islas Galápagos (McCosker et al. 1997). Upper mesopelagic, at depths of 198–396 m (650–1,300 ft; Miller and Lea 1972). Specimens previously reported as *A. lychnus* from British Columbia are *A. sladeni* (Mecklenburg et al. 2002:220–221).
- Argyrolepecus sladeni* Regan, 1908. **Lowcrest Hatcherfish** or Silvery Hatcherfish. To 6.7 cm (2 in) SL (Fujii in Masuda et al. 1984). Circumglobal; Japan (Fujii in Masuda et al. 1984); western Bering Sea (Balanov 1992); British Columbia (Gillespie 1993) to Chile (Baird 1971). The distribution of this species is perhaps antitropical (Baird 1971). Primarily mesopelagic, at depths of 55–1,130 m (180–3,707 ft) (min.: Clemens and Wilby 1946; max.: LACM 39275.004).
- Danaphos oculatus* (Garman, 1899). **Bottlelight**. To 5.7 cm (2.25 in) TL (Miller and Lea 1972). Pacific and Indian oceans; off the Brooks Peninsula (50°07'N, 128°18'W), British Columbia (Peden and Hughes 1986) to Chile (Pequeño 1989). Epipelagic and mesopelagic, at depths of 52–914 m (172–2,998 ft) (min.: Eschmeyer and Herald 1983; max.: LACM 9077.011).
- Sternoptyx diaphana* Hermann, 1781. **Longspine Hatcherfish**. To 6 cm (2.4 in) SL (Jespersion 1934). Circumglobal; Japan (Fujii in Masuda et al. 1984) to Kuril Islands (Parin et al. 1995); Oregon (Matarese et al. 1989) to northern Chile (31°55'S; Kong and Melendez 1991). Mesopelagic, at depths of 300–1,000 m (984–3,280 ft) (min.: Jespersion 1934; max.: McEachran and Fechhelm 1998).

Sternoptyx obscura Garman, 1899. **Dusky Hatchetfish**. To 4.5 cm (1.8 in) SL (Baird in Smith and Heemstra 1986). Pacific and Indian oceans; Japan (Fujii in Masuda et al. 1984), central California to Peru–Chile border (Baird 1971). Primarily mesopelagic, at depths of 190–1,130 m (623–3,706 ft) (min.: LACM 38817.009; max.: LACM 39275.014).

Sternoptyx pseudobscura Baird, 1971. **Highlight Hatchetfish**. To 7 cm (2.8 in) SL (Aizawa in Nakabo 2002). Circumglobal; Japan (Fujii in Masuda et al. 1984); British Columbia (Peden 1975) to Chile (Baird 1971). Primarily mesopelagic, at depths of 156–1,500 m (492–4,920 ft) (min.: LACM 9071.016; Quéro et al. in Quéro et al. 1990).

Family Phosichthyidae — Lightfishes

The family name is also seen as Photichthyidae. The correct spelling of the type genus for the family is *Phosichthys* (Eschmeyer 1998) and most authors now use the spelling Phosichthyidae.

Ichthyococcus elongatus Imai, 1941. **Slim Lightfish**. To about 13 cm (5.1 in) SL (Fujii in Masuda et al. 1984). Japan (Fujii in Masuda et al. 1984) and southern Kuril Islands (Parin et al. 1995) to near Vancouver Island (Peden and Hughes 1986), British Columbia to southern Baja California (Berry and Perkins 1966). Mesopelagic (Fujii in Masuda et al. 1984).

Ichthyococcus irregularis Rehnitz & Böhlke, 1958. **Bulldog Lightfish**. To 6.3 cm (2.5 in) SL (SIO 93-300). Monterey, central California to Colombia, including Islas Galápagos (Rehnitz and Böhlke 1958). Mesopelagic and bathypelagic (Watson in Moser 1996).

Vinciguerria lucetia (Garman, 1899). **Panama Lightfish**. To 6 cm (2.4 in) SL (Savinykh 1999). Larvae found as far north as off San Francisco, northern California and metamorphosing individuals found as far north as central California (34°54'W; Ahlstrom and Counts 1958) to northern Chile (Sielfeld et al. 1995), including Gulf of California (De La Cruz-Agüero and Galván-Magaña 1992). Surface (Ahlstrom and Counts 1958) to at least 400 m (1,312 ft; Lavenberg and Ebeling 1967).

Vinciguerria nimbaria (Jordan & Williams, 1895). **Oceanic Lightfish**. To about 5.1 cm (2 in) TL (Eschmeyer and Herald 1983). Circumglobal; Japan (Aizawa in Nakabo 2002); well off northern California (Berry and Perkins 1966) and off La Jolla, southern California (Ahlstrom and Counts 1958) to Chile (Pequeño 1989). “Very close to surface” noted during daylight hours in equatorial Atlantic Ocean (Marchal and Lebourges 1996) to 549 m (1,801 ft; Grey 1964).

Vinciguerria poweriae (Cocco, 1838). **Highseas Lightfish**. To 4.3 cm (1.7 in) SL (McEachran and Feckhelm 1998). Circumglobal; Japan (Aizawa in Nakabo 2002); Vancouver Island, British Columbia (Ahlstrom and Counts 1958) to Chile (Pequeño 1989). At depths of 50–600 m (164–1,968 ft) or more (Watson in Moser 1996).

Woodsia nonsuchae (Beebe, 1932). To 12 cm (4.7 in) SL (Fujii in Masuda et al. 1984). Pacific and Atlantic; Japan (Fujii in Masuda et al. 1984); southern California (33°54'N, 120°38'W; SIO 97-55). At depths of 530–1,335 m (1,738–4,379 ft; Watson in Moser 1996).

Family Stomiidae — Barbeled Dragonfishes or Dragonfishes

This family includes various forms such as loosejaws, viperfishes, and snaggletooths, and some of those names are appropriate for the subfamilies.

Aristostomias scintillans (Gilbert, 1915). **Shining Loosejaw**. To 23 cm (9 in) TL (Fitch and Lavenberg 1968). Well off British Columbia (50°13'N, 138°26'W; Aron 1960) and Washington (48°13'N; Weinberg et al. 2002) to southern Baja California (23°17'N, 120°33'W; SIO 66-156); also near equator (7°N; SIO 88-170). Reported from Bering Sea, probably in error (Mecklenburg et al. 2002). Primarily mesopelagic, recorded from depths of 29–1,194 m (95–3,940 ft) (min.: Aron 1960; max.: Lauth 1999).

-
- Bathophilus brevis*** Regan & Trewavas, 1930. **Deepbody Dragonfish**. To 5.5 cm (2.1 in) SL (Gibbs and Barnett in Quéro et al. 1990). Atlantic and Pacific; southern California (Aizawa in Nakabo 2002) to Chile (Pequeño 1989). At depths of 75–1,650 m (246–5,412 ft; Morrow and Gibbs 1964).
- Bathophilus filifer*** (Garman, 1899). To 10.1 cm (4.0 in) SL (SIO 92-34). Eastern and central tropical Pacific; southern Baja California (24°35'N, 113°23'W; SIO 64-15) to Chile (Pequeño 1989). Mesopelagic (Moser in Moser 1996).
- Bathophilus flemingi*** Aron & McCrery, 1958. **Highfin Dragonfish**. To 16.5 cm (6.5 in) TL (Hart 1973). Gulf of Alaska (Mecklenburg et al. 2002) to central Baja California (Moser in Moser 1996). Primarily mesopelagic and bathypelagic, recorded from depths of less than 60 m to 1,372 m (197–4,501 ft) (min.: Peden et al. 1985; max.: Grinols 1965).
- Borostomias panamensis*** Regan & Trewavas, 1929. **Panama Snaggletooth**. To just over 30 cm (12 in) TL (Fitch and Lavenberg 1968). Eastern Pacific; Point Conception, California (Fitch and Lavenberg 1968) to Chile (Pequeño 1989). At depths of 455–1,139 m (1,500–3,736 ft) (min.: Fitch and Lavenberg 1968; max.: Lauth 2001).
- Chauliodus macouni*** Bean, 1890. **Pacific Viperfish**. To 28 cm (11.0 in) SL (Aizawa in Nakabo 2002). North Pacific from southern Japan (Fujii in Masuda et al. 1984) to Bering Sea (Parin and Novikova 1974), to central Baja California (Eschmeyer and Herald 1983) and Gulf of California (Allen and Smith 1988). Larvae have been taken as far south as Cabo San Lucas, southern Baja California (Moser et al. 1993). Primarily mesopelagic and bathypelagic (Mecklenburg et al. 2002), recorded from depths of 25–4,390 m (82–14,403 ft) (min.: Allen and Smith 1988; max.: Sheiko and Fedorov 2000).
- ****Eustomias perplexus*** Gibbs, Clarke, & Gomon, 1983. To 14.7 cm (5.8 in) SL. Pacific and eastern Indian oceans; perhaps one specimen captured well off southern Baja California (23°05'N, 119°08'W). Depth range poorly understood; a mesopelagic species with thus far a maximum known depth of about 300 m (984 ft). All in Gibbs et al. (1983).
- Flagellostomias boureei*** (Zugmayer, 1913). **Threadbeard Dragonfish**. To 32.2 cm (12.7 in) SL (Gibbs and Barnett in Quéro et al. 1990). Circumglobal; Japan (Fujii in Masuda et al. 1984); well off Point Conception (Berry and Perkins 1966) and southern California (32°18'N, 121°44'W; SIO 63-379) to southern Baja California (25°30'N, 116°W; Parin and Scherbachev 1998). At depths of 75–1,825 m (246–5,986 ft; Morrow and Gibbs 1964).
- Idiacanthus antrostomus*** Gilbert, 1890. **Pacific Blackdragon**. Males to 7.6 cm (3 in) TL (Fitch and Lavenberg 1968), females to 40 cm (16 in) SL (Fujii in Masuda et al. 1984). Japan (Eschmeyer and Herald 1983) and central Oregon (45°52'N; Lauth 2001) to Chile (Pequeño 1989). Near surface (Fitch and Lavenberg 1968) to at least 700 m (2,296 ft; Lavenberg and Ebeling 1967).
- Idiacanthus fasciola*** Peters, 1877. To 35.3 cm (13.9 in) SL (Krueger in Quéro et al. 1990). Circumglobal; Oregon (Matarese et al. 1989) to off Ecuador (4°13'S, 85°01'W; SIO 96-121). At surface to 2,000 m (6,560 ft; Morrow and Gibbs 1964).
- Malacosteus niger*** Ayres, 1848. **Shortnose Loosejaw**. To 24 cm (9.4 in) SL (Mecklenburg et al. 2002). Circumglobal; Japan (Fujii in Masuda et al. 1984); western Bering Sea northeast of Commander Islands (Balanov and Fedorov 1996); British Columbia (Gillespie 1993) to Chile (Pequeño 1989). Mesopelagic and bathypelagic at depths of 200–3,886 m (660–12,824 ft) (min.: Balanov and Fedorov 1996; max.: Machida in Okamura and Kitajima 1984). *Malacosteus danae* Regan & Trewavas, 1930, is a junior synonym.
- Melanostomias biseriatus*** Regan & Trewavas, 1930. To 25 cm (9.8 in) SL (McEachran and Fechhelm 1998). Atlantic and North Pacific. At depths of 40–1,800 m (131–5,904 ft; Morrow and Gibbs 1964).

Melanostomias valdiviae Brauer, 1902. To 23.2 cm (9.1 in) SL (Gibbs in Quéro et al. 1990). Circumglobal; Japan (Fujii in Masuda et al. 1984); San Juan Seamount, southern California and well off Point Conception, southern California (Berry and Perkins 1966). Mesopelagic, at depths of 100–300 m (328–984 ft; Aizawa in Nakabo 2002).

Neonesthes capensis (Gilchrist & von Bonde, 1924). **Shortnose Snaggletooth**. To 17 cm (6.7 in) SL (Gibbs in Quéro et al. 1990). Circumglobal; Japan (Aizawa in Nakabo 2002); central California (35°49'N; Lauth 1999) to San Clemente Island, southern California (33°02'N, 117°54'W; SIO 51–188). At depths of 70–1,650 m (230–5,412 ft; Morrow and Gibbs 1964).

Opostomias mitsuui Imai, 1941. **Pitgum Dragonfish**. To 40 cm (15.7 in) SL (Aizawa in Nakabo 2002). Japan to British Columbia (Gillespie and Saunders 1994) to off Point Conception, southern California (Berry and Perkins 1966). Surface to 1,200 m (198–3,936 ft) (min.: Gillespie and Saunders 1994; max.: Aizawa in Nakabo 2002).

Pachystomias microdon (Günther, 1878). **Large-eye Dragonfish**. To more than 22 cm (8.7 in) SL. Widespread in Pacific and Atlantic oceans; in our area known from southern Bering Sea, Alaska; also eastern Pacific in North Central Gyre at latitude of central Baja California (27°27'N, 155°27'W). Mesopelagic and bathypelagic to depth of 4,463 m (14,642 ft), possibly migrating toward surface at night. All in Mecklenburg et al. (2002).

Photonectes margarita (Goode & Bean, 1896). **Sooty Dragonfish**. To 39.6 cm (15.6 in) SL (Gibbs and Barnett in Quéro et al. 1990). Circumglobal; Japan (Fujii in Masuda et al. 1984); northern California to northern Baja California (Berry and Perkins 1966). Surface to depth of about 2,000 m (6,560 ft; Morrow and Gibbs 1964).

Stomias atriventer Garman, 1899. **Blackbelly Dragonfish**. To 25 cm (10 in) TL (Fitch and Lavenberg 1968). Central California to Gulf of California and equator to northern Chile (Moser in Moser 1996). At depths of 52–1,500 m (171–4,920 ft) (min.: LACM 6523.010; max.: Moser in Moser 1996).

Tactostoma macropus Bolin, 1939. **Longfin Dragonfish**. To 45.5 cm (17.9 in) SL (Aizawa in Nakabo 2002). Japan (Fujii in Masuda et al. 1984) and Sea of Okhotsk to Bering Sea (Mecklenburg et al. 2002) to Chile (Pequeño 1989). Primarily mesopelagic and bathypelagic, recorded from depths of 25 m or less to 2,000 m (82–6,562 ft) (min.: Mecklenburg et al. 2002; max.: Shinohara et al. 1994).

Order Aulopiformes

Aulopidae — Flagfins

Aulopus bajacali Parin & Kotlyar, 1984. **Eastern Pacific Flagfin**. To 24.6 cm (9.7 in) SL (Thompson 1998). Banco de Tio Sam (Uncle Sam Bank), southern Baja California to Ecuador, including Gulf of California and Islas Galápagos (Thompson 1998). At depths of 82–305 m (269–1,000 ft) or more (min.: Ambrose in Moser 1996; max.: Thompson 1998).

Family Scopelarchidae — Pearleyes

Benthalbella dentata (Chapman, 1939). **Northern Pearleye**. To 28 cm (11.0 in) TL or more (Mecklenburg et al. 2002). Juveniles and adults taken from Japan (Nakabo in Nakabo 2002), Sea of Okhotsk and western Bering Sea (Orlov 1998), southeastern Bering Sea (Mecklenburg et al. 2002) and Gulf of Alaska (Johnson 1974) to Isla Guadalupe, central Baja California (Watson and Sandknop in Moser 1996). At least one larva was taken south of Isla Guadalupe, off Punta Eugenia (Moser et al. 1994). Primarily mesopelagic, at depths of 90–1,340 m (295–4,396 ft; Mecklenburg et al. 2002). Reported depth of 3,400 m (11,155 ft; Fedorov 2000 [ZIN 42885]) is considered unlikely, as this is a mesopelagic species; the specimen probably entered the net above the maximum depth of the tow (B. A. Sheiko, pers. comm. to C. W. M.).

Benthabella linguoides (Mead & Böhlke, 1953). **Longfin Pearleye**. To about 36 cm (14.2 in) TL (Mecklenburg et al. 2002). Northern Japan (Johnson 1974) and southern Kuril Islands (Parin et al. 1995); southeastern Gulf of Alaska (Mecklenburg et al. 2002) and British Columbia (Peden 2003) to Gulf of California (Castro-Aguirre 1991). Mesopelagic and bathypelagic, recorded from depths of 13–3,660 m (43–12,008 ft) (min.: Johnson 1974; max.: Mecklenburg et al. 2002).

Rosenblattichthys volucris (Rofen, 1966). **Chubby Pearleye**. To 10.3 cm (4.1 in) SL (Johnson 1974). San Pedro Basin, southern California to southern Baja California, eastern equatorial Pacific (Johnson 1974), and off Chile (Johnson 1982). Larvae have been taken well to the north of the current northernmost record, off central California at 36°N (Moser et al. 1994). Mesopelagic, usually deeper than 300 m (984 ft; Johnson 1974).

Scopelarchoides nicholsi Parr, 1929. To 12.6 cm (5 in) SL (McEachran and Feckhelm 1998). Isla Cedros, central Baja California to 5°N to Chile (Pequeño 1989). At depths of 115–346 m (377–1,135 ft) or more (Johnson 1974).

Scopelarchus analis (Brauer, 1902). **Blackbelly Pearleye**. To 12.6 cm (5 in) SL (Johnson in Whitehead et al. 1984). Circumglobal in warm to tropical waters; Japan (Fujii in Masuda et al. 1984); southern California and Baja California (Johnson in Whitehead et al. 1984) to Chile (Pequeño 1989). Mesopelagic, to 500 m (1,640 ft) or more (Johnson 1974).

Scopelarchus guentheri Alcock, 1896. **Staring Pearleye**. To 12.6 cm (5 in) SL (Johnson 1974). Circumglobal; southern California to central Baja California and Peru to Chile (Johnson 1974). A minimum of 150 to 500 m (492–1,640 ft) or more (Johnson in Smith and Heemstra 1986).

Family Synodontidae — Lizardfishes

Bathysaurus mollis Günther, 1878. To 85 cm (33.4 in) TL (Sulak in Whitehead et al. 1984). Circumglobal; Japan (Nakabo in Nakabo 2002); Oregon (Pearcy et al. 1982) to at least Isla Guadalupe, central Baja California (SIO 60-48). At depths of 1,550 m (5,084 ft; Sulak in Whitehead et al. 1984) or 1,683 m (5,520 ft; Sulak et al. 1985) to 4,800 m (15,744 ft; Sulak in Whitehead et al. 1984).

Synodus evermanni Jordan & Bollman, 1890. **Spotted Lizardfish**. To 48 cm (18.9 in) TL (Amezcuca Linares 1996). Bahia de Sebastian Vizcaino, southern Baja California (SIO 52-123) to Bahia de Chilea, Peru (Chirichigno 1974), including Gulf of California (Robertson and Allen 2002). At depths of 10–300 m (33–984 ft) (min.: Allen and Robertson 1994; max.: Morales-Nin 1992).

Synodus lacertinus Gilbert, 1890. Banded Lizardfish, **Calico Lizardfish**, or Reef Lizardfish. To 20 cm (7.9 in) TL (Robertson and Allen 2002). From 6 km (4 mi) south of U.S.–Mexican border (Groce, Lagos, and Nestler 2001) to Chile (Pequeño 1989), including Gulf of California (Bussing and Lavenberg in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997) and other offshore islands (Robertson and Allen 2002). At depths of 1–156 m (3–512 ft) (min.: Robertson and Allen 2002; max.: Zeballos et al. 1998).

Synodus lucioceps (Ayres, 1855). **California Lizardfish**. To 63.9 cm (25.17 in) TL (Miller and Lea 1972). Cape Beal, British Columbia (Fulton and LeBrasseur 1985) to Guaymas, Gulf of California (Miller and Lea 1972). At depths of 1.5–229 m (5–751 ft) (min.: Miller and Lea 1972; max.: Eschmeyer and Herald 1983).

Synodus scituliceps Jordan & Gilbert, 1882. **Lance Lizardfish** or Shorthead Lizardfish. To 55 cm (21.6 in) TL (Amezcuca Linares 1996). Isla Guadalupe, central Baja California (SIO 60–27) and Laguna San Ignacio, southern Baja California (De La Cruz-Agüero and Cota-Gómez 1998) into Gulf of California (Bussing and Lavenberg in Fischer et al. 1995) to Chile (Pequeño 1989) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–172 m (3–564 ft) (min.: González-Acosta et al. 1999; max.: Zeballos et al. 1998).

Synodus sechurae Hildebrand, 1946. **Iguana Lizardfish**. To 30 cm (11.8 in) TL (Allen and Robertson 1994). Bahía Magdalena, southern Baja California (SIO 60-303) to Bahía de Sechura, Peru (Chirichigno and Veléz 1974), including Gulf of California. At depths of 12–60 m (40–197 ft) (min.: Godinez-Dominguez et al. 2000; max.: Bussing and Lavenberg in Fischer et al. 1995).

Family Paralepididae — Barracudinas

Arctozenus risso (Bonaparte, 1840). Ribbon Barracudina or **White Barracudina**. To 31 cm (12.2 in) SL (Fujii in Masuda et al. 1984). Circumglobal; Japan (Fujii in Masuda et al. 1984), Sea of Okhotsk, and western Bering Sea (Orlov 1998) to North Pacific Ocean south of Aleutian Islands (Mecklenburg et al. 2002) and British Columbia (55°N; Ambrose in Moser 1996) to southern Baja California (24°39'N, 121°12'W; SIO 54-96) and 0°54'N, 82°00'W (SIO 98-129). At depths of 50–2,200 m (164–7,218 ft), mainly mesopelagic (Mecklenburg et al. 2002); young near surface (Post in Gon and Heemstra 1990). *Notolepis coruscans* Jordan & Gilbert, 1881, is a junior synonym. Recently as *Notolepis risso*. The spelling *rissoi* for this species, although frequently seen, is incorrect.

**Lestidiops neles* (Harry, 1953). To 8.7 cm (3.4 in) SL (SIO 75–126). Vicinity of Cabo San Lucas, southern Baja California to Colombia (Beltrán-León and Rios Herrera 2000) and near Islas Galápagos (3°19'S, 98°05'W; SIO 96-48). Epipelagic and mesopelagic (Ambrose in Moser 1996).

Lestidiops pacificus (Parr, 1931). To at least 16.4 cm (6.4 in) SL (Harry 1953). Southward from about 38°N, also Gulf of Panama, Chile, north of New Zealand (Ambrose in Moser 1996), and Colombia (Beltrán-León and Rios Herrera 2000). Epipelagic to bathypelagic (Ambrose in Moser 1996). Recently as *Lestidium pacificum*. Considered a subspecies of *Lestidiops jayakari* by some authors.

Lestidiops ringens (Jordan & Gilbert, 1880). **Slender Barracudina**. To 24.0 cm (9.4 in) SL (Parin et al. 1995). Pacific off southern Kuril Islands (Parin et al. 1995) to southern Kamchatka; western Bering Sea near Alaska border (Mecklenburg et al. 2002); British Columbia (Hart 1973) to Isla Cedros, central Baja California (Fitch and Lavenberg 1968) and Gulf of California (Castro-Aguirre 1991). Larvae have been taken in a number of locations in southern Baja California, as far south as about 25°N (Moser et al. 1993). Primarily mesopelagic (Mecklenburg et al. 2002), recorded near surface to 3,920 m (12,861 ft) (min.: Eschmeyer and Herald 1983; max.: Hart 1973).

Lestidiops sphyraenopsis Hubbs, 1916. To 36 cm (14.1 in) SL (Fujii in Masuda et al. 1984). Japan (Fujii in Masuda et al. 1984), southern Kuril Islands (Parin et al. 1995), and Santa Catalina Island, southern California (Harry 1953). At depths of 50–1,440 m (164–4,723 ft) (min.: Post in Quéro et al. 1990; max.: Nakabo in Nakabo 2002).

Lestidium johnfitchi Rofen, 1960. **Black Barracudina**. To 29.9 cm (11.8 in) SL. San Clemente Island, southern California. Taken in a purse seine over 27 m (90 ft) of water. All in Rofen (1960).

Lestidium nudum Gilbert, 1905. To 9.3 cm (3.7 in) SL (SIO 95-111). Northern and eastern Pacific; southern California (34°N, 119°W; SIO 95-174) to off central America (8°22'N, 97°52'W; SIO 95-111). Depth range poorly known, taken as deep as 1,450 m (4,757 ft; SIO 73-159).

Magnisudis atlantica (Krøyer, 1868). **Duckbill Barracudina**. To about 50 cm (19.7 in) SL (Mecklenburg et al. 2002). Tropical to polar waters worldwide (Moore et al. 2003); Japan (Mecklenburg et al. 2002), Sea of Okhotsk, and western Bering Sea (Orlov 1998) and eastern Bering Sea (Mecklenburg et al. 2002) to Chile (Pequeño 1989). Epipelagic to bathypelagic, recorded near surface, less than 6 m (19.7 m; Mecklenburg et al. 2002), to 2,166 m (7,106 ft; Moore et al. 2003). Originally as *Paralepis atlantica*, also recently as *Magnisudis barysoma*.

Stemonosudis macrura (Ege, 1933). Probably to 25 cm (9.8 in) SL (Post in Smith and Heemstra 1986). Pacific and Indian oceans; Point Conception, central California to Chile (Pequeño 1989). Epipelagic and mesopelagic (Ambrose in Moser 1996).

Sudis atrox Rofen, 1963. To 7.5 cm (3 in) SL (Nakabo in Nakabo 2002). Atlantic and Pacific; from at least southern California (32°N) to Chile (Ambrose in Moser 1996). Primarily mesopelagic to bathypelagic, recorded from depths of 30–2,250 m (98–7,382 ft; Moore et al. 2003).

Family Anotopteridae — Daggertoos

Anotopterus nikparini Kukuev, 1998. Daggertooth or **North Pacific Daggertooth**. To 146 cm (57.5 in) TL (Miller and Lea 1972). North Pacific; south of Japan to southern Bering Sea and Gulf of Alaska to south of Baja California (Mecklenburg et al. 2002). An *Anotopterus* reported from the Gulf of California (Castro-Aguirre 1991) is likely this species. Primarily epipelagic and mesopelagic, recorded near surface (at night) to 2,750 m (9,022 ft; Mecklenburg et al. 2002). Includes North Pacific records of *Anotopterus pharao*.

Family Alepisauridae — Lancetfishes

Alepisaurus ferox Lowe, 1833. **Longnose Lancetfish**. To about 231 cm (90.9 in) TL (Mecklenburg et al. 2002). Atlantic and Pacific; Japan (Fujii in Masuda et al. 1984) and Sea of Okhotsk to southern Bering Sea and Aleutian Islands (Mecklenburg et al. 2002) to Chile (Pequeño 1989). Epipelagic to bathypelagic, recorded near surface to 1,830 m (6,004 ft); primarily oceanic but often found close to shore (Mecklenburg et al. 2002).

Family Evermannellidae — Sabertooth Fishes

Evermannella ahlstromi Johnson & Glodek, 1975. To 7 cm (2.8 in) SL. Northern Baja California to equatorial Pacific and off Peru. Mesopelagic. All in Johnson (1982).

Evermannella indica Brauer, 1906. To 12.7 cm (5 in) SL (Johnson in Quéro et al. 1990). Reported as circumglobal, but may not live in Atlantic Ocean, where it is replaced by *Evermannella melanoderma* (Swinney 1994). Well off southern and northern Baja California (Johnson 1982). At depths of 50–800 m (164–2,624 ft) (min.: McEachran and Fechhelm 1998; max.: Ambrose in Moser 1996).

Family Giganturidae — Telescopefishes

Gigantura indica Brauer, 1901. **Pacific Telescopefish**. To 20 cm (8 in) TL (Fitch and Lavenberg 1968). Southern California, northern Baja California, north of Hawaii, South Pacific (Fitch and Lavenberg 1968). At depths of 17–3,659 m (56–12,000 ft) (min.: Johnson and Bertelsen 1991; max.: Fitch and Lavenberg 1968). *Bathyleptus lisae* Walters, 1961, is a junior synonym.

Family Notosudidae — Paperbones or Waryfishes

Ahliesaurus brevis Bertelsen, Krefft, & Marshall, 1976. To 28 cm (11.0 in) SL (McEachran and Fechhelm 1998). Pacific and Indian oceans; Japan and southern Kuril Islands (Parin et al. 1995); central Baja California southward (Watson and Sandknop in Moser 1996). Deep mesopelagic to bathypelagic (Krefft in Whitehead et al. 1984) to at least 1,000 m (3,280 ft; Nakabo in Nakabo 2002).

Scopelosaurus harryi (Mead, 1953). Scaly Paperbone or **Scaly Waryfish**. To 32 cm (12.6 in) SL (Fujii in Masuda et al. 1984). Okhotsk Sea (Fujii in Masuda et al. 1984), Bering Sea (Bertelsen et al. 1976), and Pacific Ocean north of Japan and southern Baja California (20°N; Sazonov 1998). Primarily mesopelagic, recorded range 20–1,310 m (66–4,298 ft; Mecklenburg et al. 2002). *Notosudis adleri* Fedorov, 1967, is treated as a junior synonym of *S. harryi*.

Order Myctophiformes

Family Neoscopelidae — Blackchins

Neoscopelus macrolepidotus Johnson, 1863. **Glowingfish**. To 25 cm (9.8 in) SL (Nafpaktitis 1977). Circumglobal; Japan (Savinykh and Balanov 1999); British Columbia, probably off Queen Charlotte Islands (Peden and Hughes 1986). At depths of 300–800 m (984–2,625 ft; Nafpaktitis 1977).

Scopelengys tristis Alcock, 1890. Blackchin or **Pacific Blackchin**. To 19.4 cm (7.6 in) SL (Nafpaktitis 1977). Circumglobal; Japan (Nakabo in Nakabo 2002); southern Bering Sea (Mecklenburg et al. 2002) and British Columbia (A. E. Peden and G. E. Gillespie, pers. comms. to M. L. and C. W. M.) to northern Chile (30°S; Kong and Melendez 1991). Adults tend to occur deeper than 1,000 m (3,280 ft; Nafpaktitis 1977) to 3,350 m (10,990 ft) or more, and juveniles (less than 10 cm) at 500–800 m (1,640–2,625 ft; Mecklenburg et al. 2002).

Family Myctophidae — Lanternfishes

Most lanternfishes are epi- and mesopelagic vertical migrators, with lower bathymetric limits not well known. They move toward the surface at night. We give the overall bathymetric range, not separate daytime and nighttime depths as sometimes given by authors.

Benthoosema glaciale (Reinhardt, 1837). **Glacier Lanternfish**. To 10.3 cm (4.1 in) SL (Hulley in Okamura et al. 1995). (The maximum size of 10.3 cm has been reported as both TL and SL.) Northern North Atlantic and Mediterranean (Hulley in Whitehead et al. 1984); a few records from eastern Canadian Arctic and one record from Beaufort Sea, Alaska (Mecklenburg et al. 2002). Near surface to 1,250 m (4,100 ft; Coad 1995).

Benthoosema panamense (Tåning, 1932). To 5.5 cm (2.2 in) SL (Wisner 1976). Central Baja California (Wisner 1976) to Peru (9°07'S, 80°01'W; Chirichigno and Vélez 1998), including Gulf of California (Wisner 1976). Surface (Wisner 1976) to mesopelagic depths (SIO 63-612).

**Benthoosema pterotum* (Alcock, 1890). To 5.5 cm (2.2 in) SL. Western North Pacific, northern Indian Ocean, Red Sea (Nakabo in Nakabo 2002). While adults have not been collected within our range, larvae identified as this species have been taken as far north as Isla Cedros, central Baja California (Moser et al. 1994). Mesopelagic.

Benthoosema suborbitale (Gilbert, 1913). To 3.9 cm (1.5 in) SL (Hulley in Whitehead et al. 1984). Circumglobal; Japan (Nakabo in Nakabo 2002); well offshore of southern California (Berry and Perkins 1966) and off northern Baja California (SIO 60-288) to Chile (Pequeño 1989). Surface to 750 m (2,461 ft; Hulley in Whitehead et al. 1984).

Bolinichthys longipes (Brauer, 1906). **Popeye Lampfish**. To 5 cm (2 in) SL (Fujii in Masuda et al. 1984). Pacific and Indian oceans; southern California to South America (20°S; Wisner 1976). At depths of 50–725 m (164–2,379 ft; Wisner 1976). Originally as *Myctophum longipes*. Considered by some authors in part a synonym of *Lepidophanes indicus* Nafpaktitis & Nafpaktitis, 1969.

Bolinichthys pyrsobolus (Alcock, 1890). To 4.6 cm (1.8 in) SL (Berry and Perkins 1966). Pacific and Indian oceans; well offshore of northern California to northern Baja California (Berry and Perkins 1966).

Ceratoscopelus townsendi (Eigenmann & Eigenmann, 1889). **Dogtooth Lampfish**. To about 8.5 cm (3.3 in) SL (Savinykh 1999). Circumglobal; southern British Columbia (48°23'N, 131°27'W; Peden and Hughes 1986) to southern Baja California (27°01'N, 115°15'W; De La Cruz-Agüero and Galván-Magaña 1992) and Chile (Pequeño 1989). Larvae have been taken south of Cabo San Lucas, southern Baja California (Moser et al. 1993). Surface to 800 m (2,625 ft; Wisner 1976), reported but not confirmed to 923 m (3,028 ft; Lauth 1999). Considered by some a synonym of *Ceratoscopelus warmingii* Lütken, 1892.

-
- Diaphus anderseni* Tåning, 1932. **Lowlights Headlightfish**. To 3.5 cm (1.4 in) SL (Wisner 1976). Atlantic and Pacific; Japan (Nakabo in Nakabo 2002); well off central California (Wisner 1976) to central Baja California (Berry and Perkins 1966). Near surface to 560 m (1,837 ft) (min.: Wisner 1976; max.: Hulley in Smith and Heemstra 1986).
- Diaphus pacificus* Parr, 1931. To 3.5 cm (1.4 in) SL (Wisner 1976). Eastern tropical Pacific; southern Baja California (25°N) to 15°S (Moser and Ahlstrom in Moser 1996), including Gulf of California (Galván-Magaña et al. 1996). Epipelagic and mesopelagic (Moser and Ahlstrom in Moser 1996).
- Diaphus theta* Eigenmann & Eigenmann, 1890. **California Headlightfish**. To 11.7 cm (4.6 in) SL (Shelekhov 2004). Japan (Nakabo in Nakabo 2002) and southern Bering Sea (Mecklenburg et al. 2002) to Chile (Pequeño 1989). At surface (Childress and Nygaard 1973) to 1,690 m (5,532 ft [922 fathoms]); Hart 1973), typically above 800 m (Mecklenburg et al. 2002).
- Diaphus trachops* Wisner, 1974. **Rougeye Headlightfish**. To 6.4 cm (2.5 in) SL. Central Pacific and central California. To depths of 100 m (328 ft) or more. All in Wisner (1974).
- Diogenichthys atlanticus* (Tåning, 1928). **Longfin Lanternfish**. To 2.9 cm (1.1 in) SL (Nafpaktitis et al. 1977). Circumglobal; Japan (Nakabo in Nakabo 2002); northern California (Berry and Perkins 1966) to northern Chile (Sielfeld et al. 1995). At depths of 10–1,250 m (33–4,101 ft; Hulley in Whitehead et al. 1984).
- Diogenichthys laternatus* (Garman, 1899). **Diogenes Lanternfish**. To 2.5 cm (1 in) SL (Wisner 1976). Point Conception, southern California (Moser and Ahlstrom in Moser 1996) to Chile (Wisner 1976), including Gulf of California (Galván-Magaña et al. 1996). Surface to 650 m (2,132 ft; Wisner 1976).
- Electrona risso* (Cocco, 1829). **Chubby Flashlightfish** or Chubby Lanternfish. To 9 cm (3.5 in) SL (Wisner 1976). Circumglobal; Japan (Nakabo in Nakabo 2002), southern Kuril Islands (Parin et al. 1995); Oregon (Matarese et al. 1989) to Chile (Nafpaktitis et al. 1977). At depths of 90–750 m (295–2,460 ft; Hulley in Smith and Heemstra 1986).
- Gonichthys tenuiculus* (Garman, 1899). To 5 cm (2 in) SL (Wisner 1976). Northern Baja California (Wisner 1976) to Chile (Pequeño 1989). Larvae have been taken somewhat further north at about 32°N, 122°W (Moser et al. 1993). Surface to mesopelagic (Moser and Ahlstrom in Moser 1996).
- Hygophum atratum* (Garman, 1899). **Thickhead Flashlightfish**. To 6 cm (2.4 in) SL (Wisner 1976). Eastern Pacific; southern California to Gulf of California (Wisner 1976). However, larvae have been taken between southern Baja California and Peru (Ambrose et al. 2002). Surface to mesopelagic depths.
- Hygophum proximum* Becker, 1965. To 5 cm (2 in) SL (Wisner 1976). Pacific and Indian oceans; Japan (Nakabo in Nakabo 2002); off San Diego, southern California (32°N, 124°W; SIO 88-55) to Chile (Pequeño 1989). Epipelagic and mesopelagic (Moser and Ahlstrom in Moser 1996).
- Hygophum reinhardti* (Lütken, 1892). **Broadhead Lanternfish** or Slender Lanternfish. To 6.1 cm (2.4 in) SL (Hulley in Whitehead et al. 1984). Pacific and Atlantic, mostly between 40°N and 40°S; Japan (Nakabo in Nakabo 2002); in eastern Pacific from about 40°N (Bekker 1983) to Chile (Pequeño 1989). Reported from Gulf of Alaska (Wilimovsky 1954, 1958; Quast and Hall 1972) but documentation evidently lacking (Mecklenburg et al. 2002). Surface to 3,000 m (9,842 ft; Hulley in Whitehead et al. 1984).
- Lampadena urophaos* Paxton, 1963. **Sunbeam Lampfish** or Torchlight Lanternfish. To 23.7 cm (9.3 in) SL (Karnella 1987). Atlantic and Pacific; throughout most of Pacific; Japan and British Columbia (Peden and Hughes 1986) to Chile (Pequeño 1989) and westward to Hawaii (Wisner 1976). Near surface to 1,000 m (3,280 ft; Moore et al. 2003).
- Lampadena yaquinae* (Coleman & Nafpaktitis, 1972). To 17.6 cm (6.9 in) SL (Savinykh and Balanov 1999). North Pacific; Japan (Fujii in Masuda et al. 1984) and Oregon (Coleman and Nafpaktitis 1972). At depths of 130–900 m (426–2,953 ft; Fujii in Masuda et al. 1984).

-
- Lampanyctus acanthurus*** Wisner, 1974. **Spinytail Lampfish.** To 14.2 cm (5.6 in) SL (Parin et al. 1995). North Pacific; Japan (Fujii in Masuda et al. 1984), southern Kuril Islands (Parin et al. 1995), and northcentral Pacific (Wisner 1976), and from 560 km (348 mi) west of Point Conception, southern California (Wisner 1976) to about central Baja California (25°N; Butler et al. 1997). At depths of 500–800 m (1,640–2,625 ft) or more (Wisner 1976).
- Lampanyctus jordani*** Gilbert, 1913. **Brokenline Lampfish.** To 14 cm (5.5 in) SL (Wisner 1976). Japan and Sea of Okhotsk to Bering Sea and Gulf of Alaska (Mecklenburg et al. 2002) to southern California (Wisner 1976). Surface to 1,400 m (4,593 ft) (min.: Wisner 1976; max.: Mecklenburg et al. 2002).
- Lampanyctus nobilis*** Tåning, 1928. To 12.4 cm (4.9 in) SL (Hulley in Smith and Heemstra 1986). Circumglobal; Japan (Nakabo in Nakabo 2002) and east of Kuril Islands (Savinykh et al. 2004); as far north as central Baja California (Butler et al. 1997). At depths of 100–900 m (328–2,953 ft) or more (Hulley in Smith and Heemstra 1986).
- Lampanyctus parvicauda*** Parr, 1931. To about 11 cm (4.3 in) SL. Central Baja California to Chile. Surface to mesopelagic. All in Wisner (1976).
- Lampanyctus steinbecki*** Bolin, 1939. **Longfin Lampfish.** To 8 cm (3.1 in) SL (Wisner 1976). Pacific Ocean and possibly Indian Ocean; northwest Pacific (Nakabo in Nakabo 2002); northern California (Berry and Perkins 1966) to Chile (Wisner 1976). At depths of 70–300 m (230–984 ft) (min.: Clarke 1980; max.: Nakabo in Nakabo 2002). Butler et al. (1997) note that this species is closely related to and may be confused with *L. tenuiformis* and *L. festivus*, and that the taxonomy of this species is not fully resolved.
- Lampanyctus tenuiformis*** (Brauer, 1906). To 15.6 cm (6.1 in) SL (Parin in Fischer et al. 1995). Throughout Pacific; Japan (Nakabo in Nakabo 2002); well off southern California to South America (Wisner 1976). At depths of 40–750 m (131–2,460 ft; McEachran and Fechhelm 1998).
- Lobianchia gemellari*** (Cocco, 1838). To more than 10 cm (3.9 in) SL (Hulley in Whitehead et al. 1984). Circumglobal; Japan (Nakabo in Nakabo 2002); well off California (Savinykh 1999) and central Baja California (Wisner 1976) to Chile (Pequeño 1989). Near surface to 800 m (2,625 ft; Hulley in Smith and Heemstra 1986).
- Loweina rara*** (Lütken, 1892). **Dwarf Lanternfish.** To 5 cm (2 in) SL (Nafpaktitis et al. 1977). Circumglobal; northern California (Matarese et al. 1989) to tropical eastern Pacific (Wisner 1976). Larvae as far north as Oregon (Matarese et al. 1989) and as far south as well off Chile, about 20°S, 94°W (Moser and Ahlstrom 1970). Surface to 1,050 m (3,445 ft) (min.: Wisner 1976; max.: Nafpaktitis et al. 1977). We follow Paxton (1979) in treating *Loweina laurae* Wisner, 1971, as a junior synonym of *L. rara*.
- Myctophum aurolaternatum*** Garman, 1899. To 10.5 cm (4.1 in) SL (Hulley in Smith and Heemstra 1986). Circumglobal; Japan (Nakabo in Nakabo 2002); southern Baja California (25°N; Moser and Ahlstrom in Moser 1996) to Chile (Pequeño 1989). Surface to 300 m (984 ft; Hulley in Smith and Heemstra 1986).
- Myctophum nitidulum*** Garman, 1899. **Pearly Lanternfish.** To 9.9 cm (3.9 in) SL (Nafpaktitis et al. 1977). Circumglobal; Japan (Nakabo in Nakabo 2002) and east of Kuril Islands (Savinykh et al. 2004); northern California (Berry and Perkins 1966) to Chile (Pequeño 1989). Surface to 950 m (3,117 ft; Hulley in Whitehead et al. 1984).
- Nannobranchium bristori*** Zahuranec, 2000. To 14.2 cm (5.6 in) SL (Zahuranec 2000). Washington to southern Baja California and in tropical Pacific (Zahuranec 2000). At depths of 170–3,274 m (558–10,740 ft) (min.: SIO 54-100; max.: SIO 51-375).
- Nannobranchium fernae*** (Wisner, 1971). To 9.1 cm (3.6 in) SL (Zahuranec 2000). Oregon to northern California (Wisner 1976). To depths of 200 m (656 ft) or more (Wisner 1976). Recently as *Lampanyctus fernae*.

-
- Nannobranchium hawaiiensis* Zahuranec, 2000. Probably not greatly exceeding 8 cm (3.1 in) SL (Zahuranec 2000). Northern Pacific central water mass; southern California to central Baja California (Zahuranec 2000). At depths of 106–3,556 m (348–11,666 ft) (min.: SIO 66-435; max.: SIO 57-84).
- Nannobranchium idostigma* (Parr, 1931). To 9.6 cm (3.8 in) SL (Zahuranec 2000). Central Baja California (Berry and Perkins 1966) to Chile (Wisner 1976). Surface to mesopelagic (Wisner 1976). Recently as *Lampanyctus idostigma*.
- Nannobranchium nigrum* Günther, 1887. To 11.1 cm (4.4 in) SL (Zahuranec 2000). Pacific and Indian oceans; northern Baja California (Zahuranec 2000). At depths of 188–3,841 m (617–12,602 ft) (min.: SIO 54-96; max.: SIO 60-249).
- Nannobranchium regale* (Gilbert, 1892). **Pinpoint Lampfish**. To 19.9 cm (7.8 in) SL (Watanabe et al. 1999). Hokkaido, Japan (Wisner 1976) to Bering Sea (Mecklenburg et al. 2002) to off Bahia Magdalena, southern Baja California (Moser and Ahlstrom in Moser 1996). At depths of 50–1,500 m (164–4,921 ft; Mecklenburg et al. 2002). *Lampanyctus micropunctatus* Chapman, 1939, is a junior synonym. Originally as *Myctophum regale*, also seen as *Lampanyctus regalis*.
- Nannobranchium ritteri* (Gilbert, 1915). **Broadfin Lampfish**. To 13.9 cm (5.5 in) SL (Savinykh 1999). Eastern North Pacific Ocean south of Aleutian Islands and Gulf of Alaska (Mecklenburg et al. 2002) to southwest of Cabo San Lucas, southern Baja California (about 19°N, 115°W; Zahuranec 2000). At depths of 8–1,100 m (26–3,609 ft) (min.: LACM 34452.018; max.: Mecklenburg et al. 2002). Records from Central or South America have not been verified (Zahuranec 2000). Originally as *Lampanyctus ritteri*.
- Notolychnus valdiviae* (Brauer, 1904). **Topside Lampfish**. To 2.6 cm (1 in) SL (Berry and Perkins 1966). Circumglobal; Japan (Nakabo in Nakabo 2002); northern California (Berry and Perkins 1966) to Chile (Pequeño 1989). At depths of 25–850 m (82–2,789 ft; Nafpaktitis et al. 1977).
- **Notoscopelus japonicus* (Tanaka, 1908). **Fluorescent Lampfish** or Spiny Lanternfish. To 14.8 cm (5.8 in) SL (Watanabe et al. 1999). Widespread in western North Pacific south of 45°N; probable but not confirmed in eastern Pacific at latitudes west of southern British Columbia and California (Peden and Hughes 1986 [table 1: “probable”]; Mecklenburg et al. 2002:246). At depths of 60–400 m (197–1,312 ft) or more (Watanabe et al. 1999).
- Notoscopelus resplendens* (Richardson, 1845). **Patchwork Lampfish**. To about 9.5 cm (3.8 in) TL (Hulley in Quéro et al. 1990). Circumglobal in warm waters; Japan and southern Kuril Islands (Parin et al. 1995) to British Columbia (Peden 2003) and southern California to Chile (Wisner 1976). Larvae have been taken well to the north of southern California, at about 39°N (Moser et al. 1993). Surface to 2,000 m (6,562 ft; Hulley in Smith and Heemstra 1986). Although Clemens and Wilby (1961) and Hart (1973) give 13.5 cm (5.3 in) for the maximum length, this evidently comes from a British Columbia fish (Hart’s illustration [page 195] is of a 13-cm fish in the UBC collection) which is not this species but may be a misidentified *Lampanyctus* species (Peden et al. 1985, Peden and Hughes 1986).
- Parvilux ingens* Hubbs & Wisner, 1964. **Giant Lampfish**. To 20 cm (7.9 in) SL (Wisner 1976). Oregon (Matarese et al. 1989) to Isla Guadalupe, central Baja California (Hubbs and Wisner 1964). At depths of 2–900 m (7–2,953 ft) (min.: LACM 6523.002; max.: LACM 38763.004).
- Protomyctophum crockeri* (Bolin, 1939). **California Flashlightfish**. To about 4.6 cm (1.8 in) SL (Wisner 1976). Northern Japan (Nakabo in Nakabo 2002) to southern British Columbia to Baja California (Mecklenburg et al. 2002: 245) and Chile (Pequeño 1989). Surface to 950 m (3,117 ft) (min.: Matarese et al. 1989; max.: LACM 38735.009). Recently as *Hierops crockeri*.
- Protomyctophum thompsoni* (Chapman, 1944). Bigeye Lanternfish, **Northern Flashlightfish**, or Northern Lanternfish. To 7 cm (2.75 in) TL (Hart 1973). Northern Japan (Fujii in Masuda et al. 1984) to southern

Bering Sea (Mecklenburg et al. 2002) to central California (38°N; Moser and Ahlstrom in Moser 1996). Surface to 1,370 m (4,495 ft) (min.: Wisner 1976; max.: Sheiko and Fedorov 2000). Recently as *Hierops thompsoni*. Originally named *Myctophum oculateum*, then renamed *Electrona thompsoni* Chapman, 1944.

Stenobranchius leucopsarus (Eigenmann & Eigenmann, 1890). **Northern Lampfish**. To 12.5 cm (4.9 in) TL (Gorbatenko and Il'inskii 1992). Southern Japan off Honshu (Fujii in Masuda et al. 1984) to southern Bering Sea and Gulf of Alaska to northern Baja California (about 29°N, 115°W; Mecklenburg et al. 2002). At depths of 30 m or less to about 1,000 m (Mecklenburg et al. 2002), reported to 2,896 m (9,500 ft; Matarese et al. 1989). Originally in *Myctophum*, and at times in *Nannobranchium* and *Lamppanyctus*.

Stenobranchius nannochir (Gilbert, 1890). **Garnet Lampfish**. To 13.5 cm (5.3 in) TL (Gorbatenko and Il'inskii 1992). Japan (Wisner 1976, Shinohara et al. 1994) to southern Bering Sea to California (Mecklenburg et al. 2002). Primarily mesopelagic, to depth of about 1,000 m (3,280 ft), few found above 500 m (1,640 ft; Peden et al. 1985, Mecklenburg et al. 2002); possibly as shallow as 240 m (787 ft; Orlov 1998); usually taken deeper than *S. leucopsarus* (Mecklenburg et al. 2002). Originally in *Myctophum*, and for a time in *Nannobranchium*.

Symbolophorus californiensis (Eigenmann & Eigenmann, 1889). **Bigfin Lanternfish** or California Lanternfish. To about 12.7 cm (5 in) TL (Fitch and Lavenberg 1968). Japan (Fujii in Masuda et al. 1984) to west of British Columbia (Peden et al. 1985) to vicinity of Isla Cedros, central Baja California (Fitch and Lavenberg 1968). Not adequately documented for Alaska (Mecklenburg et al. 2002:245) but recently reported from northern British Columbia off the Queen Charlotte Islands, including one specimen very close to the Alaska border (G. E. Gillespie, pers. comm. to C.W.M.). Numerous larvae have been taken well south of Isla Cedros, some as far south as between 26° and 25°N (Moser et al. 1993). Surface to 762 m (2,500 ft; Matarese et al. 1989).

Symbolophorus reversus Gago & Ricord, 2005. **Reverse Gland Lanternfish**. To 8.9 cm (3.5 in) SL. Eastern and central Pacific from 28°38'N to 18°06'S. Almost all specimens have been taken at the surface. One specimen may have been collected from as deep as 1,134 m (3,720 ft). All in Gago and Ricord (2005).

Taaningichthys bathyphilus (Tåning, 1928). **Black Lampfish**. To 8 cm (3.1 in) SL (Nafpaktitis et al. 1977). Circumglobal; Japan (Fujii in Masuda et al. 1984) to Oregon (Matarese et al. 1989) to southern Baja California (Wisner 1976); South America (Wisner 1976). At depths of 400–1,550 m (1,312–5,085 ft) (min.: Hulley in Smith and Heemstra 1986; max.: Nafpaktitis et al. 1977).

Taaningichthys minimus (Tåning, 1928). To 6.5 cm (2.6 in) SL (Nafpaktitis et al. 1977). Circumglobal; near Japan (Ogasawara Islands; Fujii in Masuda et al. 1984); well offshore of Point Conception (30°N), southern California (Berry and Perkins 1966) to well off Peru (Wisner 1976). At depths of 51–900 m (167–2,953 ft) (min.: McEachran and Fechhelm 1998; max.: Fujii in Masuda et al. 1984).

Taaningichthys paurolychnus Davy, 1972. **Dimlight Lampfish**. To 9.5 cm (3.7 in) SL (Wisner 1976). Circumglobal; near Japan (Ogasawara Islands; Fujii in Masuda et al. 1984); southern California to southern Baja California (Wisner 1976). At depths of 900–1,896 m (2,953–6,220 ft) (min.: Nafpaktitis et al. 1977; max.: Fujii in Masuda et al. 1984).

Tarletonbeania crenularis (Jordan & Gilbert, 1880). **Blue Lanternfish** or Southern Blue Lanternfish. To 12.7 cm (5 in) TL (Miller and Lea 1972). South of Commander Islands (B. A. Sheiko, pers. comm. to C. W. M.) and Aleutian Islands to Gulf of Alaska (Mecklenburg et al. 2002) to Baja California (28°N; Moser and Ahlstrom in Moser 1996); probably also in Bering Sea but voucher specimens are lacking (Mecklenburg et al. 2002). Larvae have been taken as far south as about 27°N (Moser et al. 1993). Reported by Bekker (1983) for Japan, but evidently those records are now considered to belong to *T. taylori* (Nakabo in Nakabo 2002). Surface to 1,130 m (3,707 ft) (min.: Wisner 1976; max.: LACM 39275.016).

Tarletonbeania taylori Mead, 1953. Northern Blue Lanternfish or **Taillight Lanternfish**. To 8.2 cm (3.2 in) SL (Sassa et al. 2002). Northern Honshu, Japan (Wisner 1976, Fujii in Masuda et al. 1984) to southeastern Bering Sea and Pacific Ocean south of Alaska (Shinohara et al. 1994) and west of British Columbia (Peden et al. 1985). Surface to mesopelagic (min.: Wisner 1976; max.: Mecklenburg et al. 2002). Few records of depth have been reported; to at least 300–400 m (984–1,312 ft) according to Watanabe et al. (1999). Geographic range and depths are difficult to determine because *T. taylori* and *T. crenularis* were for some time considered to be synonymous.

Triphoturus mexicanus (Gilbert, 1890). **Mexican Lampfish**. To about 8 cm (3.1 in) SL (Savinykh 1999). British Columbia (Gillespie 1993) to off southern Mexico (Rodriguez-Graña et al. 2004), including Gulf of California (De La Cruz-Agüero and Galván-Magaña 1992). At depths of 20–1,130 m (66–3,707 ft) (min.: LACM 6524.000; max.: LACM 39275.017). *Triphoturus oculeus* has been considered to be synonymous with *Triphoturus mexicanus* Gilbert, 1890. However, on the basis of both DNA and larvae characters Rodriguez-Graña et al. (2004) separated the two species. *Triphoturus oculeus* is found from 13°N to 35°S.

Triphoturus nigrescens (Brauer, 1904). To 4 cm (1.6 in) SL (Wisner 1976). Pacific and Indian oceans; Japan (Nakabo in Nakabo 2002); northern California (Berry and Perkins 1966) to southern Baja California (23°19'N, 112°02'W; De La Cruz-Agüero and Galván-Magaña 1992). At depths of 24–1,000 m (79–3,280 ft) (min.: Wisner 1976; max.: Nakabo in Nakabo 2002).

Order Lampridiformes

Family Lamprididae — Opahs

Lampris guttatus (Brünnich, 1788). Moonfish, Opah, or **Spotted Opah**. To 183 cm (72 in) TL (Eschmeyer and Herald 1983). Circumglobal in temperate to tropical waters; Japan to Gulf of Alaska (Mecklenburg et al. 2002) to Chile (Pequeño 1989) and Gulf of California (Miller and Lea 1972). Pelagic, oceanic, near surface to 512 m (1,680 ft; Miller and Lea 1972). Nelson et al. (2004) retain Opah for the vernacular. However, there are two species of opah and it is appropriate to call the one in our area the Spotted Opah, as opposed to *Lampris immaculatus* Gilchrist, 1904, the Southern Opah. *Lampris regius* (Bonnatere, 1788) is a synonym of *L. guttatus*. Mecklenburg et al. (2002:258) give the history of the names.

Family Lophotidae — Crestfishes

Lophotus capellei Temminck & Schlegel, 1845. **North Pacific Crestfish**. To at least 125.2 cm (49.3 in) TL (M. Craig, pers. comm. to M. L.). Well offshore, to 610 km (380 mi) off Point Arena, northern California and near coast to Morro Bay, central California (Craig et al. 2004). Surface to at least 92 m (300 ft; Fitch and Lavenberg 1968) and probably to greater depths. Previously regarded as belonging to the nearly worldwide species *Lophotus lacepede*, the North Pacific form was recently shown (Craig et al. 2004) to be a different species.

Family Trachipteridae — Ribbonfishes

Desmodema lorum Rosenblatt & Butler, 1977. **Whiptail Ribbonfish**. To 114 cm (44.9 in) TL (Eschmeyer and Herald 1983). Temperate waters of North Pacific; Japan (Fujii in Masuda et al. 1984), southern Kuril Islands (Parin et al. 1995); central California to south of Cabo San Lucas, southern Baja California (Rosenblatt and Butler 1977). Epipelagic (Charter and Moser in Moser 1996) to mesopelagic (Rosenblatt and Butler 1977); collected in nets towed as deep as 500 m (1,640 ft) to 200 m (656 ft; Parin et al. 1995).

Trachipterus altivelis Kner, 1859. **King-of-the-Salmon**. To 186 cm (73.2 in) TL (Hart 1973:671). South-eastern Bering Sea and Gulf of Alaska (Mecklenburg et al. 2002) to Chile (Eschmeyer and Herald 1983). Near surface to 1,189 m (3,900 ft) (max.: UW 44183, identified by D. E. Stevenson); primarily mesopelagic as adults (Mecklenburg et al. 2002).

Trachipterus fukuzakii Fitch, 1964. **Tapertail Ribbonfish**. To 143 cm (56.3 in) TL (Eschmeyer and Herald 1983). Off Purisima Point, central California (M. Nishimoto, pers. comm. to M. L.) to Chile (Miller and Lea 1972), including Gulf of California (Galván-Magaña et al. 1996). Epipelagic and mesopelagic (Miller and Lea 1972), as shallow as 5 m (16 ft; LACM 55976.001).

Zu cristatus (Bonelli, 1819). **Scalloped Ribbonfish**. To 118 cm (46.5 in) TL (Heemstra and Kannemeyer in Smith and Heemstra 1986). Circumglobal in tropical to warm temperate waters (Moore et al. 2003); Japan (Hayashi in Nakabo 2002); off Newport Beach, southern California (Miller and Lea 1972) to Chile (Pequeño 1989) and Islas Galápagos (Miller and Lea 1972). Epi- to mesopelagic, near surface to 700 m (2,297 ft; Moore et al. 2003).

Family Regalecidae — Oarfishes

Regalecus glesne Ascanius, 1772. Banks Ribbonfish or **Oarfish**. To 10.7 m (35 ft) TL (Miller and Lea 1972). Circumglobal in tropical to warm temperate waters (Moore et al. 2003); in eastern Pacific from Topanga Beach (Santa Monica Bay at approximately 34°02'N, 118°35'W), southern California to Chile (Fitch and Lavenberg 1968). Primarily epipelagic and mesopelagic, captured in surf zone by hand and by gaff, driftnet, and gillnets at and near the surface (Fitch and Lavenberg 1968; and several museum records) and in nonclosing trawl nets fishing as deep as 1,640 m (5,380 ft) (MCZ 16403) over deeper waters.

Family Stylephoridae — Thread-tails or Tube-eyes

Stylephorus chordatus Shaw, 1791. Thread-tail or **Tube-eye**. To 31 cm (12.2 in) TL (Pietsch in Quéro et al. 1990). Circumglobal in temperate to tropical waters; in eastern Pacific from Yaquina Head, Oregon (44°45'N; RACE) to offshore San Diego (32°N, 124°W; SIO 88–79). At depths of 200–800 m (656–2,625 ft) (min.: Moore et al. 2003; max.: Pietsch 1990). Larvae of this species have been reported off Colombia (Beltrán-León and Rios Herrera 2000). A specimen collected from a net towed at 0–972 m (0–3,189 ft) in the Atlantic near a seamount (Moore et al. 2003) might not have entered the net near the maximum depth. Previously described as typically occurring in tropical to subtropical waters, but recent discoveries in cooler waters (e.g., Moore et al. [2003] and those reported herein) indicate broader distribution.

Order Ophidiiformes

Family Carapidae — Pearlfishes

Echiodon exsiliium Rosenblatt, 1961. **Nocturnal Pearlfish**. To 14.2 cm (5.6 in) SL (SIO 65-292). Tropical eastern Pacific (Markle in Nielsen et al. 1999); southern Baja California to Colombia (Beltrán-León and Rios Herrera 2000), including Islas Galápagos (Grove and Lavenberg 1997). Benthic, at depths of 5–90 m (17–295 ft; Robertson and Allen 2002).

Unidentified pearlfish. Jordan (1921) noted that a pearlfish identified as *Fierasfer dubius* Putnam, 1874, was collected “150 miles southwest of Point Loma,” southern California, placing the collection off northern Baja California. *Fierasfer dubius*, now *Encheliophus dubius*, is not known from the Pacific coast of Baja California. In addition, Jordan described the specimen as “encrusted in mother of pearl” (as occasionally happens to the commensal pearlfishes), which would have made identification to species problematic.

Family Ophidiidae — Cusk-eels

- Bassozetus zenkevitchi* Rass, 1955. Pacific coast of Honshu, Japan (Machida and Tachibana 1986) to southeastern Kamchatka (Sheiko and Fedorov 2000); one record from southeastern Bering Sea, Alaska at 56°N, 169°05'W (Orr et al. 2005). Mesopelagic to bathypelagic, collected at depths of 200–3,400 m (656–11,155 ft; Sheiko and Fedorov 2000); Alaska specimen caught in net fished to 997 m (3,271 ft) over about 1,500 m (4,921 ft) bottom depth (Orr et al. 2005).
- Brotula clarkae* Hubbs, 1944. Clark's Brotula, **Pacific Bearded Brotula**, Pinkbeard Cusk-eel, or Redbearded Cusk-eel. To 98 cm (38.6 in) TL (Robertson and Allen 2002). Cabo San Lazaro, southern Baja California (Ambrose in Moser 1996) to Paita, Peru (Chirichigno 1974), including Gulf of California (Robertson and Allen 2002). Adults benthopelagic, juveniles common on reefs (Nielsen and Cohen in Nielsen et al. 1999), at depths of 1–645 m (3–2,116 ft; Robertson and Allen 2002).
- Brotulataenia nielseni* Cohen, 1974. To 31.2 cm (12.3 in) SL (Machida et al. 1997). Pacific and Indian oceans; northern Baja California (about 31°50'N; Machida et al. 1997) to south of equator (14°46'S, 93°38'W; Cohen 1974). Pelagic and perhaps benthopelagic (Nielsen and Cohen in Nielsen et al. 1999), taken in nets fished between surface and 300 m (984 ft) to 1,200 m (3,936 ft; Cohen 1974).
- Cherublemma emmelas* (Gilbert, 1890). **Black Brotula**. To 28.6 cm (11.3 in) TL (Kong et al. 1988). Southern Baja California (26°08'N, 113°20'W; De La Cruz-Agüero and Galván-Magaña 1992) to northern Chile (20°S; Sielfeld and Vargas 1996), including Gulf of California (Lea in Fischer et al. 1995). Adults on bottom, juveniles pelagic, at depths of 70–750 m (230–2,460 ft) (min.: Sielfeld and Vargas 1996; max.: Robins in Nielsen et al. 1999).
- Chilara taylori* (Girard, 1858). **Spotted Cusk-eel**. To 39.6 cm (15.6 in) TL (Lea and Béarez 1999). Willapa Bay, Washington (Ambrose in Moser 1996) to Punta Rompiente (27°43'N, 114°58'W; LACM 32055.012), southern Baja California and Ecuador (Lea and Béarez 1999). Benthic, from shore (Robins in Nielsen et al. 1999); or intertidal and to depth of 731 m (2,398 ft) (min.: J. Carroll, pers. comm. to M. L.; max.: Ramsey et al. 2002).
- Dicrolene filamentosa* Garman, 1899. **Threadfin Cusk-eel**. To 44 cm (17.3 in; FishBase). Eastern Pacific Ocean off Oregon (UW 17499, UW 48730, and UW 48731), southern Mexico, Colombia, Ecuador, and northern Peru (FishBase) to Huacho, Peru (Chirichigno and Vélez 1998). Benthopelagic, at depths of 823–1,855 m (2,699–6,084 ft) (min.: UW 17499; max.: Nielsen and Cohen in Nielsen et al. 1999).
- Holcomycteronus profundissimus* (Roule, 1913). To 30 cm (11.8 in) TL (Nielsen in Quéro et al. 1990). Circumglobal (Nielsen and Cohen in Nielsen et al. 1999); Oregon (Matarese et al. 1989). Benthopelagic, at depths of 5,180–7,160 m (16,990–23,485 ft) (min.: Pearcy et al. 1982; max.: Nielsen and Cohen in Nielsen et al. 1999).
- Lamproprogrammus niger* Alcock, 1891. **Paperbone Cusk-eel**. To 61 cm (24 in) TL (Nielsen in Quéro et al. 1990). Circumglobal (Nielsen and Cohen in Nielsen et al. 1999); Washington (47°12'N) to Point Conception, central California (34°32'N; Lauth 2001). Adults usually taken near bottom, small specimens occasionally in midwater trawls at mesopelagic depths (Nielsen and Cohen in Nielsen et al. 1999); 497–2,615 m (1,630–8,577 ft) (min.: Lauth 2000; max.: Moore et al. 2003).
- Lepophidium microlepis* (Gilbert, 1890). **Finescale Cusk-eel** or Silver Cusk-eel. To 26 cm (10.2 in) SL (Velasco and Thiel 2002). Central Baja California (Lea in Fischer et al. 1995) to at least as far south as Paita, Peru (Chirichigno and Vélez 1998), including Gulf of California (Lea in Fischer et al. 1995). Benthic, at depths of 70–320 m (230–1,050 ft); shallower depths reported off Peru are likely in error (Robins in Nielsen et al. 1999).

-
- Lepophidium negropinna*** Hildebrand & Barton, 1949. Speckled Cusk-eel or **Specklefin Cusk-eel**. To 52 cm (20.5 in) TL (Robertson and Allen 2002). Isla Cedros, central Baja California to Gulf of California (Ambrose in Moser 1996) and to Islas Lobos de Afuera, Peru (Chirichigno 1974). Benthic, at depths of 22–390 m (72–1,280 ft) (min.: Ambrose in Moser 1996; max.: Robins in Nielsen et al. 1999).
- Lepophidium pardale*** (Gilbert, 1890). **Leopard Cusk-eel**. To 21 cm (8.3 in) TL (Robertson and Allen 2002). Southern Baja California (23°33'N, 110°23'W; SIO 64-867) and Gulf of California (Robertson and Allen 2002) to Isla Lobos de Tierra, Peru (Chirichigno and Veléz 1998). Benthic, at depths of 6–90 m (20–295 ft; Robins in Nielsen et al. 1999).
- Lepophidium prorates*** (Jordan & Bollman, 1890). **Prowspine Cusk-eel** or Spinesnout Brotula. To 32 cm (12.6 in) TL (Amezcuca Linares 1996). Punta Prieta (27°01'N, 114°03'W), southern Baja California (González-Acosta et al. 1999) to Paita, Peru (Chirichigno 1974), including Gulf of California (Allen and Robertson 1994). Benthic, at depths of 4–367 m (13–1,204 ft) (min.: Lea in Fischer et al. 1995; max.: Zeballos et al. 1998). Originally named *Leptophidium prorates*, but the spelling *Leptophidium* was preoccupied as a genus in *Ophidia* (snakes) and was replaced by *Lepophidium* for fishes (Eschmeyer 1998).
- Lepophidium stigmatistium*** (Gilbert, 1890). Blotchfin Cusk-eel or **Mexican Cusk-eel**. To 25 cm (9.8 in) TL (Robertson and Allen 2002). Isla Cedros, central Baja California (Ambrose in Moser 1996) and Gulf of California (Lea in Fischer et al. 1995). Benthic, at depths of 20–238 m (66–781 ft; Ambrose in Moser 1996).
- Ophidion galeoides*** (Gilbert, 1890). Shark Brotula, **Spotfin Cusk-eel**, or Striped Cusk-eel. To 21.5 cm (8.5 in) SL (Lea in Fischer et al. 1995). Bahía de Sebastian Vizcaino, central Baja California (Lea 1980) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Allen and Robertson 1994). Benthic, near shore (Robins in Nielsen et al. 1999) from less than 1 m (3 ft) to 75 m (246 ft) (min.: Lea 1980; max.: Robins in Nielsen et al. 1999).
- ****Ophidion imitator*** Lea, 1997. **Mimic Cusk-eel**. To 20 cm (7.9 in) TL (Robertson and Allen 2002). Off Cabo San Lucas, southern Baja California and Mazatlán to Gulf of Panama (Lea 1997). Benthic, at depths of 18–232 m (59–761 ft) (min.: Lea 1997; max.: Lea 1980). All adults have been taken in waters greater than 40 m (132 ft) deep (Lea 1980).
- ****Ophidion iris*** Breder, 1936. **Brighteye Cusk-eel** or Rainbow Cusk-eel. To 25 cm (9.8 in) SL (Lea in Fischer et al. 1995). Gulf of California to southern tip of Baja California (Lea in Fischer et al. 1995). Benthic, from shore to 86 m (17–279 ft; Robins in Nielsen et al. 1999).
- Ophidion scrippsae*** (Hubbs, 1916). **Basketweave Cusk-eel**. To nearly 28 cm (11 in) TL (Eschmeyer and Herald 1983). Central California (37°38'N; Lauth 2001) to southern Baja California (24°12'N, 111°21'W; Cabrera Mancilla et al. 1988). The Gulf of California record is in error (Robins in Nielsen et al. 1999). Benthic, from shore to 110 m (361 ft; Robins in Nielsen et al. 1999), reported to 260 m (853 ft; RACE).
- ****Otophidium indefatigabile*** Jordan & Bollman, 1890. Bighead Cusk-eel or **Panamic Cusk-eel**. To 11.7 cm (4.6 in) SL (Lea in Fischer et al. 1995). Gulf of California (Lea in Fischer et al. 1995) to Ecuador (Béarez 1996), including the southern tip of Baja California (Lea in Fischer et al. 1995) and Islas Galápagos (Lea in Fischer et al. 1995). Benthic, at depths of 5–91 m (17–298 ft) (min.: Robertson and Allen 2002; max.: Lea in Fischer et al. 1995).
- Spectrunculus grandis*** (Günther, 1877). **Giant Cusk-eel**. To 138 cm (54.3 in) TL (Abe and Hiramoto 1984). Circumglobal (Nielsen and Cohen in Nielsen et al. 1999); Japan (Machida et al. 1987); northern Gulf of Alaska to California (Mecklenburg et al. 2002) and northern Chile (23°29'S; Kong et al. 1988). Benthopelagic at bathyal and abyssal depths (Nielsen and Cohen in Nielsen et al. 1999), with voucher specimens from depths of about 800–4,300 m (2,625–14,107 ft) (min.: Nielsen and Hureau 1980; max.: Machida in Masuda et al. 1984), and photographs of individuals just above the bottom as deep as 6,273 m (20,580–ft; Machida et al. 1987).

Family Bythitidae — Livebearing Brotulas or Viviparous Brotulas

Brosmophysis marginata (Ayres, 1854). **Red Brotula**. To 46 cm (18 in) TL (Eschmeyer and Herald 1983), reported to 50.8 cm (20 in) TL (Miller and Lea 1976). Petersburg, southeastern Alaska (Schultz and Delacy 1936; documented by UW 2589 [Mecklenburg et al. 2002]) to Ensenada, northern Baja California (Miller and Lea 1972). However, larvae have been taken along much of the northern and central Baja California coast south to Punta Eugenia (Moser et al. 1993). Rocky areas at depths of 3–256 m (10–840 ft; Miller and Lea 1972).

Cataetyx rubrirostris Gilbert, 1890. **Rubynose Brotula**. To 15.7 cm (6.2 in) TL (Kong et al. 1988). If the South American form is not this species, the maximum length is 13 cm (5.2 in) TL (Eschmeyer and Herald 1983). Northern Oregon to south Islas Coronados, northern Baja California (Gibbs 1991). Punta Coles, Peru (Chirichigno and Vélez 1998) to central Chile (Sielfeld and Vargas 1996). Specimens from South America may be this or an undescribed species (Nielsen and Cohen in Nielsen et al. 1999). Juveniles mesopelagic, larger individuals benthic at 432 m (1,417 ft; Lauth 1999) to 900 m (2,952 ft; Gibbs 1991).

Grammonus diagrammus (Heller & Snodgrass, 1903). **Purple Brotula**. To 20.3 cm (8 in) TL (Miller and Lea 1972). San Clemente Island (Miller and Lea 1972) and Santa Catalina Island (Richards and Engle 2001) to Ecuador (Béarez 1996), including Gulf of California, Islas Galápagos (Miller and Lea 1972), and Islas Revillagigedo (Robertson and Allen 2002). At depths of 6–18 m (18–60 ft; Miller and Lea 1972). Recently as *Oligopus diagrammus*.

Ogilbia ventralis (Gill, 1863). **Gulf Brotula** or Gulf Cusk-eel. To 10 cm (3.9 in) TL (Grove and Lavenberg 1997). Bahia Magdalena, southern Baja California (Thomson et al. 1979) to Panama, including Gulf of California (Allen and Robertson 1994) and Islas Galápagos (Grove and Lavenberg 1997). Intertidal and shallow waters (min.: Grove and Lavenberg 1997; max.: Allen and Robertson 1994) to perhaps 30 m (98 ft; Robertson and Allen 2002). Originally classified in genus *Brosmophysis*. Although sometimes seen with parentheses omitted, the author and date of publication of the name *Ogilbia ventralis* belong in parentheses to indicate the species was moved to another genus.

Ogilbia spp. Numerous undescribed species of *Ogilbia* exist (Nielsen and Cohen in Nielsen et al. 1999:135), and at least one ranges as far north in eastern North Pacific as Bahia Todos Santos, northern Baja California (Thomson et al. 2000).

Thalassobathia pelagica* Cohen, 1963. **Pelagic Brotula. To 26 cm (10.2 in) SL. Temperate to tropical waters of Atlantic Ocean; one possible record from Commander Basin, western Bering Sea. Mesopelagic, at depths of about 500–1,000 m (1,640–3,281 ft). The Bering Sea specimen, which is the only one reported from the Pacific, was reported by Balanov and Fedorov (1996), who cautioned that the identification is disputable. If not *T. pelagica*, it may be an undescribed species. All in Mecklenburg et al. (2002).

Family Aphyonidae — Aphyonids

Barathronus pacificus Nielson & Eagle, 1974. To 12.8 cm (5 in) SL (Nielsen and Eagle 1974). Between Australia and New Zealand (Okuyama and Kato 1997); Oregon to northern California (Matarese et al. 1989). Benthopelagic (Nielsen and Cohen in Nielsen et al. 1999), at depths of 3,334–3,860 m (10,938–12,664 ft) (min.: Nielsen and Eagle 1974; max.: Pearcy et al. 1982).

Sciadonus pedicellaris Garman, 1899. To 10.2 cm (4 in) TL (McEachran and Fechhelm 1998). North Atlantic and eastern Pacific; Oregon (Matarese et al. 1989) to Chile (Pequeño 1989). Benthopelagic (Nielsen and Cohen in Nielsen et al. 1999), at depths of 1,847–4,880 m (6,060–16,010 ft) (min.: McEachran and Fechhelm 1998; max.: Nielsen and Cohen in Nielsen et al. 1999).

Order Gadiformes

Family Macrouridae — Grenadiers or Rattails

- Albatrossia pectoralis* (Gilbert, 1892). **Giant Grenadier** or Small-eyed Rattail. To 180 cm (70.9 in) TL (Pakhorukov 2005). Okhotsk Sea (Tuponogov 1997) and northern Honshu, Japan to Bering Sea (Mecklenburg et al. 2002) to northern Baja California (Iwamoto in Cohen et al. 1990). Benthopelagic, young fish bathypelagic (Iwamoto and Stein 1974), at depths of 140–2,189 m (459–7,182 ft) (min.: Iwamoto in Cohen et al. 1990; max.: Percy et al. 1982). Originally in *Macrurus*, recently in *Coryphaenoides*.
- Caelorinchus scaphopsis* (Gilbert, 1890). **Shoulderspot Grenadier**. To at least 34 cm (13.4 in) TL (Iwamoto in Cohen et al. 1990). Off northern California (41°14'N, 124°24'W; Hoff 2002) to the Gulf of California (Iwamoto and Schneider in Fischer et al. 1995). Benthopelagic at depths of 183–296 m (600–971 ft; Iwamoto in Cohen et al. 1990). Although the genus is often seen with spelling *Caelorhynchus*, the correct spelling is *Caelorinchus* (Eschmeyer 1998).
- Coryphaenoides acrolepis* (Bean, 1884). **Pacific Grenadier** or Roughscale Rattail. To more than 87 cm (34.2 in) TL (Rass 1963). Sea of Okhotsk and Pacific off Japan to southern Bering Sea and Aleutian Islands (Mecklenburg et al. 2002) to Isla Guadalupe, central Baja California (Miller and Lea 1972). Benthopelagic and bathypelagic, typically at depths of 600–2,500 m (1,968–8,202 ft; Iwamoto and Stein 1974), reported as shallow as 35 m and 155 m (115 ft and 508 ft; Evermann and Goldsborough 1907) and as deep as 2,825 m (9,268 ft; Percy et al. 1982). Originally in *Macrurus*.
- Coryphaenoides anguliceps* (Garman, 1899). To more than 50 cm (19.7 in) TL (Iwamoto in Cohen et al. 1990). Southernmost Baja California and Gulf of California (Iwamoto and Schneider in Fischer et al. 1995) to northern Chile (26°S; Sielfeld and Vargas 1996) and Islas Galápagos (Iwamoto in Cohen et al. 1990). Benthopelagic, at depths of 722–2,418 m (2,369–7,933 ft; Iwamoto in Cohen et al. 1990).
- Coryphaenoides armatus* (Hector, 1875). **Abyssal Grenadier** or Smooth Abyssal Grenadier. To 102 cm (40.2 in) TL (Iwamoto in Cohen et al. 1990). All oceans except Arctic; Japan Trench (Nakabo in Nakabo 2002); southeastern Bering Sea and Pacific south of Aleutian Islands (Mecklenburg et al. 2002) to Chile (Pequeño 1989). Benthopelagic, typically at depths of about 2,000–4,300 m (6,562–14,107 ft; Wilson and Waples 1983) or more (“about 5,000 m”; SIO 04-26) in the North Pacific (Wilson and Waples 1983), to 4,700 m (15,420 ft) in the Atlantic (Grey 1956, Moore et al. 2003); reported from shallower (282 m [931 ft; Grey 1956]) or greater (5,180 m [16,995 ft; Percy et al. 1982]) depths, but not verifiable. Originally in *Macrurus*.
- **Coryphaenoides capito* (Garman, 1899). **Bighead Grenadier**. To 32.4 cm (12.8 in) TL (Iwamoto and Schneider in Fischer et al. 1995). Gulf of California (Iwamoto and Schneider in Fischer et al. 1995) to northern Peru (Chirichigno and Vélez 1998), including southern tip of Baja California (Iwamoto and Schneider in Fischer et al. 1995). Benthopelagic, at depths of 305–1,000 m (1,001–3,281 ft; Iwamoto and Schneider in Fischer et al. 1995).
- Coryphaenoides cinereus* (Gilbert, 1896). Gray Rattail or **Popeye Grenadier**. To 56 cm (22 in) TL (Iwamoto and Stein 1974). Northern Japan and southern Sea of Okhotsk to Navarin Canyon, Bering Sea (Mecklenburg et al. 2002) to Monterey Bay, central California (Hoff 1999). Benthopelagic, at depths of 225–2,832 m (738–9,291 ft; Allen and Smith 1988). Reported from trawl nets towed as deep as 3,480 m (11,417 ft), but in nonclosing nets which would allow fish to enter at any depth during retrieval of the net (Makushok 1970). Originally in *Macrurus*.
- Coryphaenoides filifer* (Gilbert, 1896). Filamented Rattail or **Threadfin Grenadier**. To 66.2 cm (26.1 in) TL (Iwamoto and Stein 1974). Sea of Okhotsk off Hokkaido, Japan (Endo et al. 1994); southeastern Bering Sea and Aleutian Islands (Mecklenburg et al. 2002); northern British Columbia (G. E. Gillespie, pers.

comm. to C. W. M.) to southern California (38°02'N; Iwamoto and Stein 1974). Although Ambrose (in Moser 1996) gives 32°N, this evidently is a generalization from Matarese et al. (1989) and not based on a specific record. Benthopelagic, at depths of 1,285–3,045 m (4,216–9,990 ft) (min.: Endo et al. 1994; max.: Pearcy et al. 1982). Recently as *Chalinura filifera*.

Coryphaenoides leptolepis Günther, 1877. **Ghostly Grenadier**. To 62 cm (24.4 in) TL or more (Geistdoerfer in Quéro et al. 1990). North Atlantic and North Pacific; Japan (Iwamoto and Stein 1974); west of Prince of Wales Island in Gulf of Alaska (Bean 1890; locality corrected in Mecklenburg et al. 2002:274), and off Dixon Entrance, northern British Columbia (G. E. Gillespie, pers. comm. to C. W. M.) to southwest of Cabo San Lucas, southern Baja California (Iwamoto and Stein 1974). Benthopelagic, at depths of 640–4,100 m (2,100–13,451 ft; Mecklenburg et al. 2002). In subgenus *Chalinura*, which some authors treat as a genus. This account includes *Coryphaenoides (Chalinura) liocephalus* (Günther, 1887) in the synonymy of *C. leptolepis*. The two forms could be distinct (although currently this is not considered likely), in which case *C. liocephalus* would be the name for the Pacific species; see discussion and citations in Mecklenburg et al. (2002:270).

Coryphaenoides longifilis Günther, 1877. **Longfin Grenadier**. To 86 cm (33.9 in) TL (Okamura 1970). Pacific off southern Japan and Sea of Okhotsk off Kuril Islands to southern Bering Sea (Mecklenburg et al. 2002). Benthopelagic, at depths of 700–2,025 m (2,297–6,644 ft) (min.: Iwamoto in Cohen et al. 1990; max.: Dudnik and Dolganov 1992). Also named in *Macrurus*. Date of publication of *Coryphaenoides longifilis* is sometimes given as 1887, but the correct date is 1877. Includes *Bogoslovius clarki* Jordan & Gilbert, 1898, from north of Bogoslof Island, Aleutian Islands, Alaska.

Coryphaenoides yaquinae Iwamoto & Stein, 1974. **Rough Abyssal Grenadier**. To 87.2 cm (34.3 in) TL (SIO 82-76). Japan Trench (Endo and Okamura 1992) and far offshore of Oregon to equator (Mecklenburg et al. 2002). Benthopelagic, at depths of about 3,400–6,450 m (11,155–21,161 ft) (min.: Wilson and Waples 1983; max.: Endo and Okamura 1992).

Malacocephalus laevis (Lowe, 1843). **Softhead Grenadier** or Velvet Grenadier. To 60 cm (23.6 in) TL (Iwamoto in Smith and Heemstra 1986). Circumglobal; Point Sur, central California (Hoff 1999) to Baja California (Sazonov and Iwamoto 1992) and Chile (Pequeño 1989). Benthopelagic, at depths of 200–1,220 m (656–4,003 ft) (min.: Iwamoto in Cohen et al. 1990; max. Pakhorukov 2001).

Mesobius berryi Hubbs & Iwamoto, 1977. **Berry's Grenadier** or **Midwater Grenadier**. To 41 cm (16.1 in) TL (Iwamoto and Williams 1999). Pacific and Indian oceans (Iwamoto and Williams 1999); eastern North Pacific from southern California (Ambrose in Moser 1996) to southern Baja California (Iwamoto and Schneider in Fischer et al. 1995), to Hawaii and Christmas Island (Ambrose in Moser 1996). Mainly bathypelagic, surface to 2,700 m (8,858 ft) (min.: Iwamoto and Schneider in Fischer et al. 1995; max.: Ambrose in Moser 1996).

Nezumia kensmithi Wilson, 2001. **Blunt-nosed Grenadier**. To 39.8 cm (15.7 in) TL. Fieberling Guyot (32°28'N, 127°47'W). At 555 m (1,821 ft). Probably has also been taken at other seamounts in the same region. All in Wilson (2001).

Nezumia liolepis (Gilbert, 1890). **Smooth Grenadier**. To about 30 cm (11.8 in) TL (Iwamoto in Cohen et al. 1990). Southern Washington (45°57'N, 124°52'W; Hoff 1999) to southern Mexico (17°24'N) and Gulf of California (Iwamoto in Cohen et al. 1990). Benthopelagic, at depths of 681–1,655 m (2,234–5,430 ft) (min.: Lauth 1999; max.: Iwamoto in Cohen et al. 1990).

Nezumia stelgidolepis (Gilbert, 1890). **California Grenadier**. To about 45 cm (17.5 in) TL (Iwamoto and Schneider in Fischer et al. 1995). Vancouver Island, British Columbia to northern Chile (26°S; Kong and Melendez 1991). Benthopelagic, at depths of 277–909 m (909–2,982 ft) (Iwamoto in Cohen et al. 1990).

Family Moridae — Codlings, Deepsea Cods, or Moras

Antimora microlepis Bean, 1890. **Pacific Flatnose** or Small-scaled Blue Hake. To more than 66 cm (26 in) TL (Hart 1973). North Pacific (not circumglobal; Small 1981); tropical mid-North Pacific; Pacific off southern Japan (not in Japan Sea) to Sea of Okhotsk, to Bering Sea and Gulf of Alaska to Gulf of California (Allen and Smith 1988, Cohen in Cohen et al. 1990). Benthopelagic over continental slope at depths of about 175–3,048 m (574–10,000 ft; Allen and Smith 1988). Additional citations in Mecklenburg et al. (2002). For some time *A. microlepis* was classified as a junior synonym of *Antimora rostrata* (Günther, 1878), and reports of much larger *A. microlepis* or specimens reported from the South Pacific likely pertain to *A. rostrata*.

Halargyreus johnsonii Günther, 1862. Dainty Mora, Slender Cod, or **Slender Codling**. To 56 cm (22 in) TL (Cohen in Cohen et al. 1990). Atlantic and Pacific; Japan (Okamura in Masuda et al. 1984) and Sea of Okhotsk to northwestern Bering Sea (Mecklenburg et al. 2002), eastern Bering Sea, and Gulf of Alaska (Hoff 2002) to central California (35°13'N, 121°41'W; Logan et al. 1993) and Chile (Kong and Melendez 1991). Mesopelagic to bathypelagic and benthopelagic, at depths of 500–1,967 m (1,640–6,453 ft) (min.: M. L., unpubl. data; max.: Moore et al. 2003).

Laemonema longipes Schmidt, 1938. **Longfin Codling** or Threadfin Hakeling. To about 70 cm (27.6 in) TL (Savin 1993). North Pacific off southern Japan (not in Japan Sea) to Okhotsk Sea, Kuril Islands (Savin 1993), and southeastern Kamchatka (Orlov 1998) to northern Bering Sea and southeast along continental slope to Aleutian Islands (Mecklenburg et al. 2002). Possibly reaching the Gulf of Alaska on feeding migrations (Savin 1993), but records documenting presence there are lacking (Mecklenburg et al. 2002). Benthopelagic, at depths of 102–2,025 m (335–6,644 ft) (min.: ZIN 41725; max.: Dudnik and Dolganov 1992).

Laemonema verecundum* (Jordan & Cramer, 1897). **Bighead Mora. To 11 cm (4.3 in) TL (Paulin in Fischer et al. 1995). Cabo San Lucas, southern Baja California (Paulin in Fischer et al. 1995) to about 15°N and Isla Clarión, Islas Revillagigedo, Mexico (Ambrose in Moser 1996). Mesopelagic (Paulin in Fischer et al. 1995). Recently as *Microlepidium verecunda*.

Lepidion schmidti* Svetovidov, 1936. **Northern Gray Hakeling. To 101.2 cm (39.8 in) TL (Nakaya et al. 1980). Atlantic and Pacific; Emperor Seamounts, Pacific off southern Japan, and Okhotsk Sea (Nakaya et al. 1980) to western Bering Sea off Commander Islands (Sheiko and Tranbenkova 1998). Benthopelagic at depths of 315–1,520 m (1,033–4,987 ft) (min.: Dudnik and Dolganov 1992; max.: Sawada in Amaoka et al. 1983). Additional citations in Mecklenburg et al. (2002).

Physiculus nematopus Gilbert, 1890. **Charcoal Codling**. To 29 cm (11.4 in) TL (McCosker et al. 1997). Central Baja California (Paulin 1989) to Paita, Peru (Chirichigno and Vélez 1998), including southern Gulf of California (Robertson and Allen 2002) and Islas Galápagos (McCosker et al. 1997). Surface to 1,270 m (4,167 ft) (min.: Paulin 1989; max.: Robertson and Allen 2002).

Physiculus rastrelliger Gilbert, 1890. **Hundred-fathom Codling**. To 20.3 cm (8 in) TL (Miller and Lea 1972). Eureka, northern California (Miller and Lea 1972) to northern Peru (Chirichigno and Vélez 1998). At depths of 128–518 m (420–1,700 ft; Eschmeyer and Herald 1983).

Physiculus talarae Hildebrand & Barton, 1949. **Peruvian Codling**. To 25 cm (9.8 in) TL (Paulin in Fischer et al. 1995). Central Baja California to Peru, not in Gulf of California (Robertson and Allen 2002). Surface to 330 m (1,083 ft) (min.: Robertson and Allen 2002; max.: Zeballos et al. 1998).

Family Melanonidae — Pelagic Cods

Melanonus zugmayeri Norman, 1930. **Arrowtail**, Black Pelagic Cod, or Coalfish. To 29.4 cm (11.6 in) TL (Henriques et al. 2001). Circumglobal; Pacific off Honshu, Japan (Nakabo in Nakabo 2002); near Alaska off Dixon Entrance, northern British Columbia (G. E. Gillespie, pers. comm. to C. W. M.), southern

British Columbia (Peden 1975), and California (Eschmeyer and Herald 1983) to northern Chile (21°05'S, 71°07'W; Melendez and Sielfeld 1991). Oceanic, mainly mesopelagic and bathypelagic, at depths of 0–1,291 m (0–4,235 ft; Moore et al. 2003).

Family Bregmacerotidae — Codlets

Bregmaceros bathymaster Jordan & Bollman, 1890. **East Pacific Codlet**. To 10 cm (3.9 in) TL (De La Cruz-Agüero et al. 1997). Tropical Pacific; off Bahia Magdalena, southern Baja California to Chile (De La Cruz-Agüero et al. 1997), including Gulf of California (Galván-Magaña et al. 1996). Surface (SIO 63-632) to at least 1,246 m (4,088 ft; LACM 21995.000).

Family Merlucciidae — Merlucciid Hakes

The common name for this family is correctly spelled with two *is*; often seen with one *i*.

Merluccius angustimanus Garman, 1899. **Panama Hake**. To 40 cm (15.7 in) TL (Cohen in Cohen et al. 1990). Off Del Mar, southern California (Ginsburg 1954) to Colombia (Cohen in Cohen et al. 1990), including Gulf of California (Inada in Fischer et al. 1995). At depths of 80–500 m (262–1,640 ft; Cohen in Cohen et al. 1990).

Merluccius productus (Ayres, 1855). **Pacific Hake**. To 91.4 cm (36 in) TL (Miller and Lea 1972). Attu Island, Aleutian Islands (one record) and Gulf of Alaska (Mecklenburg et al. 2002) to Bahia Magdalena, southern Baja California and Gulf of California (Miller and Lea 1972) to Mexcaltitán, southern Mexico (21°50'N; Amezcua Linares 1996). Reported for continental slope of Bering Sea (Fedorov 1973), but vouchers are needed to confirm continued existence there (Mecklenburg et al. 2002). Oceanic and neritic pelagic (Inada in Cohen et al. 1990), at depths of 12–1,400 m (39–4,593 ft) (min.: M. L., unpubl. data; max.: Lauth 2000).

Family Gadidae — Cods

Arctogadus glacialis (Peters, 1872). Arctic Cod or **Polar Cod**. To 60 cm (23.6 in) TL (Coad 1995). Arctic Ocean from Siberia to Greenland and northern Baffin Island (Cohen in Cohen et al. 1990, Endo in Okamura et al. 1995); two records off Alaska in Beaufort Sea (Mecklenburg et al. 2002:291, 292). Pelagic and probably also benthic (Jordan et al. 2003), typically far offshore beyond continental shelf under drifting ice and in ice cracks (Cohen in Cohen et al. 1990), also in river mouths (Jordan et al. 2003), in depths of 5–930 m (16–3,051 ft; Jordan et al. 2003). Molecular studies showed no genetic difference between *A. glacialis* and *A. borisovi* Dryagin, 1932 (Møller et al. 2002), the so-called Toothed Cod. Jordan et al. (2003) examined morphology of both forms and revised the genus, classifying *A. borisovi* as a junior synonym of *A. glacialis*.

Boreogadus saida (Lepechin, 1774). **Arctic Cod** or Polar Cod. To 40 cm (15.7 in) TL, usually less than 25 cm (9.8 in; Cohen in Cohen et al. 1990). The largest we know of from our area is a specimen from the Chukchi Sea off Cape Lisburne measuring 28.8 cm (11.3 in) TL (specimen provided by Dave Roseneau to L. K. T., unpubl. data). Circumpolar in Arctic (Cohen in Cohen et al. 1990); Arctic Siberia to Cape Olyutorskiy, western Bering Sea; Beaufort Sea (Frost and Lowry 1981) to Bristol Bay, southeastern Bering Sea (Allen and Smith 1988). Brackish lagoons, river mouths (Morrow 1980), and ocean to depth of 731 m (2,398 ft; Allen and Smith 1988). Additional citations in Mecklenburg et al. (2002).

Eleginus gracilis (Tilesius, 1810). **Saffron Cod**. To at least 55 cm (21.6 in) TL (Cohen in Cohen et al. 1990). North Pacific and adjacent Arctic; Yellow Sea to East Siberian Sea and east to Dease Strait, western Canada; Beaufort, Chukchi, and Bering seas and Gulf of Alaska to Sitka, southeastern Alaska (rare in Gulf of Alaska; Mecklenburg et al. 2002). Brackish waters and river mouths to limit of tidal influence (Morrow 1980), to continental shelf edge at depth of 200 m (656 ft; Cohen in Cohen et al. 1990). Molecular evidence indicates *Eleginus* should be synonymized with *Microgadus* (Carr et al. 1999); additional studies are needed for confirmation.

Gadus macrocephalus Tilesius, 1810. Gray Cod, **Pacific Cod**, or True Cod. To 120 cm (47.2 in) TL (Morrow 1980). Yellow Sea off Manchuria, China to Bering Sea, Aleutian Islands, and Gulf of Alaska (Mecklenburg et al. 2002) to Santa Monica, southern California (Miller and Lea 1972). Well documented north almost to Bering Strait (Mecklenburg et al. 2002); reported to Chukchi Sea (Barber et al. 1997), but documentation lacking (Mecklenburg et al. 2002). Benthic, also pelagic over deep water, near surface to depth of 875 m (2,871 ft; Allen and Smith 1988); sometimes in surf zone (Miller et al. 1980).

Gadus ogac Richardson, 1836. Greenland Cod or **Ogac**. To 71.1 cm (28.0 in) TL (Coad 1995). Beaufort Sea off Alaska to west coast of Greenland and western Atlantic to Gulf of St. Lawrence and Cape Breton Island; disjunct population in White Sea (Cohen in Cohen et al. 1990). Near coast from surface to 200 m (656 ft; Cohen in Cohen et al. 1990), occasionally offshore to depth of 400 m (1,312 ft; Coad 1995). Reported from Chukchi Sea but this report seems to be a mistake, and even those from Beaufort Sea are not well documented (Mecklenburg et al. 2002). Molecular evidence indicates *G. ogac* is a synonym of *G. macrocephalus* (Carr et al. 1999); like Nelson et al. (2004), we await confirmation from other studies before making this change.

Microgadus proximus (Girard, 1854). **Pacific Tomcod** or Tomcod. To 37 cm (14.6 in) TL (Mecklenburg et al. 2002). Southeastern Bering Sea and eastern Aleutian Islands (Mecklenburg et al. 2002) to Point Sal, central California (Miller and Lea 1972). Demersal, sometimes enters brackish waters, near surface (young fish; Eschmeyer and Herald 1983) to 275 m (905 ft; Allen and Smith 1988); sometimes in surf zone (Miller et al. 1980).

Theragra chalcogramma (Pallas, 1814). Pacific Pollock or **Walleye Pollock**. To 91 cm (36 in) TL (Clemens and Wilby 1946). Seas of Okhotsk and Japan (Okamura in Masuda et al. 1984) to southern Chukchi Sea (Barber et al. 1997), Bering Sea, and Gulf of Alaska (Allen and Smith 1988) to Carmel, central California (Miller and Lea 1972). Generally demersal, also taken pelagically near surface and in midwater (Mecklenburg et al. 2002), to depth of 1,200 m (3,921 ft; Hoff and Britt 2003); sometimes in surf zone (Miller et al. 1980).

Order Batrachoidiformes

Family Batrachoididae — Toadfishes

Porichthys analis Hubbs & Schultz, 1939. **Darkedge Midshipman**. To 30 cm (11.8 in) TL (Amezcuca Linares 1996). Bahia Magdalena, southern Baja California (Watson in Moser 1996) to Bahia de Tenacatita, southern Mexico (Walker and Rosenblatt 1988), including Gulf of California (Walker and Rosenblatt 1988). Intertidal and to 224 m (735 ft; Walker and Rosenblatt 1988).

****Porichthys ephippiatus*** Walker & Rosenblatt, 1988. **Saddle Midshipman**. To 13.5 cm (5.3 in) TL (Robertson and Allen 2002). Southern tip of Baja California and Pacific coast of Mexico to Guatemala (Robertson and Allen 2002). At depths of 15–242 m (50–794 ft; Walker and Rosenblatt 1988).

Porichthys margaritatus (Richardson, 1844). Blotched Midshipman, Bronze Midshipman, Daisy Midshipman, or **Pearlspot Midshipman**. To 19 cm (7.5 in) TL (Robertson and Allen 2002). Bahia de Sebastian Vizcaino (about 27°52'N, 114°38'W; Cabrera Mancilla et al. 1988) to Bahia de Sechura, Peru (Chirichigno 1974), including Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Collette in Fischer et al. 1995). At depths of 5–137 m (15–449 ft; Walker and Rosenblatt 1988).

****Porichthys mimeticus*** Walker & Rosenblatt, 1988. **Mimetic Midshipman** or Mimic Midshipman. To 21.5 cm (8.6 in) SL (Robertson and Allen 2002). Gulf of California to southern tip of Baja California (outer Gorda Bank; Walker and Rosenblatt 1988). At depths of 82–185 m (269–607 ft; Walker and Rosenblatt 1988).

Porichthys myriaster Hubbs & Schultz, 1939. Speckled Midshipman or **Specklefin Midshipman**. To 51 cm (20 in) TL (Eschmeyer and Herald 1983). Near Point Arguello, California (Walker and Rosenblatt 1988) to at least Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994). Also reported in northern Peru (Chirichigno and Vélez 1998). Intertidal zone and to 126 m (414 ft) (min.: Walker and Rosenblatt 1988; max.: Miller and Lea 1972).

Porichthys notatus Girard, 1854. **Plainfin Midshipman**. To 38 cm (15 in) TL (Clemens and Wilby 1946). Smith Sound, southern British Columbia to southern Baja California (about 24°12'N, 111°21'W; Cabrera Mancilla et al. 1988). Intertidal depths and to 383 m (1,256 ft) (min.: Eschmeyer and Herald 1983; max.: Wilkins et al. 1998). Records south of Baja California and into the Gulf of California are misidentifications (Allen and Smith 1988); *P. notatus* is replaced by *P. mimeticus* in the Gulf of California (Walker and Rosenblatt 1988). Although reported from Sitka, southeastern Alaska, no one has ever been able to confirm an Alaskan record; see discussion by Mecklenburg et al. (2002:299).

Order Lophiiformes

Family Lophiidae — Goosefishes or Monkfishes

Lophiodes caularis (Garman, 1899). Pacific Anglerfish, Pacific Goosefish, **Spottedtail Goosefish**, or Whitespotted Goosefish. To 40 cm (15.7 in) TL (Robertson and Allen 2002). Morro Bay, central California (Lea et al. 1984) to Callao, Peru (Chirichigno and Vélez 1998), including Gulf of California (Caruso 1981) and various offshore islands (Robertson and Allen 2002). One record, possibly in error, from Islas Galápagos (Grove and Lavenberg 1997). At depths of 15–380 m (49–1,246 ft) (min.: Caruso 1981; max.: Robertson and Allen 2002).

Lophiodes spilurus (Garman, 1899). **Threadfin Goosefish**. To 35.4 cm (13.9 in) TL (Lea et al. 1984). Off Monterey Bay, central California (Lea et al. 1984) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Fitch and Lavenberg 1968). At depths of 80–475 m (262–1,558 ft) (min.: Robertson and Allen 2002; max.: Allen and Robertson 1994).

Lophiomus setigerus (Vahl, 1797). To 1 m (39.4 in) SL (Nakabo in Masuda et al. 1984). Pacific and Indian oceans; Japan (Nakabo in Masuda et al. 1984), Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994). At depths of 30–500 m (98–1,640 ft; Yamada in Nakabo 2002).

Family Antennariidae — Frogfishes

Antennarius avalonis Jordan & Starks, 1907. **Roughjaw Frogfish**. To 35.8 cm (14.1 in) TL (Amezcuca Linares 1996). Santa Catalina Island, southern California (Miller and Lea 1972) to Pisco, Peru (Chirichigno 1974), including Gulf of California (Watson in Moser 1996), Islas Galápagos (Grove and Lavenberg 1997), and Isla Cocos (Robertson and Allen 2002). Intertidal and to 300 m (984 ft) (min.: Eschmeyer and Herald 1983; max.: Schneider and Lavenberg 1995).

Antennarius sanguineus* Gill, 1863. Bloody Frogfish or **Sanguine Frogfish. To 10 cm (3.9 in) TL (Allen and Robertson 1994). Lower Gulf of California and southern tip of Baja California (Schneider and Lavenberg 1995) to Chile (Allen and Robertson 1994), including Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–40 m (3–131 ft) (min.: Allen and Robertson 1994; max.: Schneider and Lavenberg 1995).

Antennarius strigatus* (Gill, 1863). **Bandtail Frogfish. To 9.5 cm (3.7 in) TL (Robertson and Allen 2002). Lower Gulf of California and southern tip of Baja California (Schneider and Lavenberg 1995) to Ecuador (Béarez 1996), including Islas Galápagos (Grove and Lavenberg 1997) and other offshore islands (Robertson and Allen 2002). At depths of 1–40 m (3–131 ft; Allen and Robertson 1994).

Family Ogcocephalidae — Batfishes

Dibranchius spongiosa (Gilbert, 1890). To 13.3 cm (5.2 in) SL. Off Bahia Magdalena, southern Baja California to Gulf of Tehuantepec and Islas Revillagigedo, Mexico. At depths of 700–1,244 m (2,296–4,080 ft). All in Bradbury (1999).

Zalieutes elater (Jordan & Gilbert, 1882). **Rounded Batfish**. To 16.5 cm (6.5 in) TL (Amezcuca Linares 1996). Southern Oregon (M. L., unpubl. data) to Paita, Peru (Chirichigno 1974), including Gulf of California (Watson in Moser 1996), Isla Cocos, and Isla Malpelo (Robertson and Allen 2002). At depths of about 10 m (33 ft; Aguilar-Palomino 2001) to 130 m (426 ft; Amezcuca Linares 1996).

Family Caulophryinidae — Fanfins

Caulophryne jordani Goode & Bean, 1896. **Fanfin**. To slightly more than 20 cm (8 in) TL (Fitch and Lavenberg 1968). Circumglobal; in eastern Pacific, as far north as southern California (Fitch and Lavenberg 1968). Bathypelagic, at a minimum of 600 m (1,968 ft; Lavenberg and Ebeling 1967), likely down to at least 1,500 m (4,920 ft; Pietsch 1979) and possibly 1,902 m (6,239 ft; Stearn and Pietsch in Okamura et al. 1995).

Caulophryne pelagica (Brauer, 1902). To 9.2 cm (3.6 in) SL (Pietsch 1979). Pacific and Indian oceans; Japan (Nakabo in Nakabo 2002); as far north as Isla Guadalupe, central Baja California (Pietsch 1979). At depths of 500–1,500 m (1,640–4,920 ft; Nakabo in Nakabo 2002). The original name was *Melanocetus pelagicus*.

Caulophryne polynema Regan, 1930. To 14.2 cm (5.6 in) SL. Circumglobal; southern California as far north as 33°10'N. To at least 1,000 m (3,280 ft) and probably deeper. All in Pietsch (1979).

Family Centrophrynidae — Deepsea Anglerfishes

Centrophryne spinulosa Regan & Trewavas, 1932. To 23 cm (9.1 in) SL (Bertelsen in Quéro et al. 1990). Circumglobal; off Punta Abreojos, southern Baja California to Gulf of Panama (Pietsch 1972). At depths of about 590–2,325 m (1,935–7,626 ft; Pietsch 1972).

Family Melanocetidae — Blackdevils

Melanocetus johnsonii Günther, 1864. **Blackdevil**. To 64 cm (25.2 in) SL (Kong and Melendez 1991). We note that that record is much larger than the next largest fish, an 18 cm (7.2 in) SL individual listed by Pietsch (1986). Circumglobal (Pietsch in Smith and Heemstra 1986); Japan (Nakabo in Nakabo 2002); as far north as off Trinidad Head, northern California (40°58'N; RACE) and south to northern Chile (31°14'S; Kong and Melendez 1991). Mesopelagic and bathypelagic, at about 100–2,100 m (328–6,888 ft) or more (min.: Bertelsen in Whitehead et al. 1986; max.: Pietsch and Van Duzer 1980).

Family Linophryinidae — Netdevils

Borophryne apogon Regan, 1925. **Netdevil Anglerfish**. To 8.9 cm (3.5 in) SL (SIO 68-112). Southern Baja California (26°31'N, 114°34'W; De La Cruz-Agüero and Galván-Magaña 1992) to south of equator (4°25'S, 81°51'W; SIO 71-335). Primarily mesopelagic. Deep tows include 1,900 m (6,233 ft; De La Cruz-Agüero 1998) and 2,086 m (6,842 ft; SIO 60-112).

Linophryne coronata Parr, 1927. To 22.5 cm (8.9 in) SL (Bertelsen 1982). Atlantic and Pacific; three individuals within our range, from southern California (34°33'N, 121°06'W; SIO 86-31), northern Baja California (32°39'N, 117°33'W; SIO 00-164), and off central Baja California (27°10'N, 138°11'W; SIO 60-282). Mesopelagic to at least 1,180 m (3,870 ft; Stearn and Pietsch in Okamura et al. 1995).

Linophryne racemifera Regan & Trewavas, 1932. To 8.1 cm (3.2 in) SL. Atlantic and Pacific; southern California. All in Bertelsen (1982).

Family Oneirodidae — Dreamers

Bertella idiomorpha Pietsch, 1973. **Spikehead Dreamer**. To about 10.1 cm (4.0 in) SL (Balanov and Fedorov 1996). Southern Japan (Pietsch 1973) and southern Kuril Islands (Parin et al. 1995) to Bering Sea (Balanov and Fedorov 1996) and western Gulf of Alaska to Gulf of California (Pietsch 1973). Mesopelagic and bathypelagic to bathybenthic, collected at depths to 2,900 m (9,514 ft) over bottom depths of 805–5,920 m (2,641–19,422 ft; Mecklenburg et al. 2002).

Chaenophryne draco Beebe, 1932. **Smoothhead Dreamer**. To 9.7 cm (3.8 in) SL (Stewart and Pietsch 1998). Circumglobal; Japan and Hawaiian Islands (Pietsch 1975); Point Reyes, northern California (SIO 67-122) to northern Peru (4°10'S, 81°27'W; SIO 78-37), midocean west of Peru (4°20'S, 116°46'W; Pietsch 1975), and near Islas Galápagos (SIO 52-409). Mesopelagic and bathypelagic, at depths of about 350 m (1,148 ft) to an unknown lower limit, evidently concentrated at 700–1,500 m (2,297–4,921 ft) (Pietsch 1975). *Chaenophryne parviconus* Regan & Trewavas, 1932, is a junior synonym.

Chaenophryne longiceps Regan, 1925. To 19.0 cm (7.5 in) SL (Stearn and Pietsch in Okamura et al. 1995). Circumglobal; as far west in Pacific as Hawaiian Islands (Pietsch 1975); Oregon (about 45°N; Pietsch 1975) to Chile (23°29'S, 72°20'W; SIO 72-171 [about 23°S; Pietsch 1975]). Mesopelagic, at depths of 200–1,174 m (656–3,852 ft) (min.: Matarese et al. 1989; max.: Stearn and Pietsch in Okamura et al. 1995); most specimens caught in nets fished below 850 m (2,789 ft; Pietsch 1975).

Chaenophryne melanorhabdus Regan & Trewavas, 1932. **Blobby Dreamer** or **Smooth Dreamer**. To 9.7 cm (3.8 in) SL (Pietsch 1975). Southern British Columbia off Cape Flattery (Peden et al. 1985) to Peru (USNM 213733, verified by T. W. Pietsch, pers. comm. to C.W.M.). Mesopelagic, between about 200 m (656 ft) and an unknown lower limit, evidently concentrated at 300–1,000 m (984–3,281 ft), mostly collected by nets fished below 450 m (1,476 ft; Pietsch 1975).

Dolopichthys longicornis Parr, 1927. **Longhorn Dreamer**. To 16 cm (6.3 in) SL (Pietsch 1972). Circumglobal; in eastern Pacific from northern California (Pietsch 1972) to Chile (Pequeño 1989) and west to about 177°W. Mesopelagic and bathypelagic, collected by nets fished as deep as 6,420 m (21,063 ft) (Pietsch 1972).

Dolopichthys pullatus Regan & Trewavas, 1932. To 11.5 cm (4.5 in) SL. Circumglobal; in eastern Pacific from southern California to Chile, including Gulf of California, and west to about 180°W between about 34°N and 34°S. Mesopelagic and bathypelagic, collected by nets fished as deep as 2,080 m (6,824 ft). All in Pietsch (1972).

Microlophichthys microlophus (Regan, 1925). To 10.6 cm (4.2 in) SL (Bertelsen and Pietsch 1977). Circumglobal; well off southern California (32°00'N, 136°12'W; SIO 70-306). Mesopelagic and bathypelagic, taken as deep as 2,000 m (6,562 ft) or more (Grey 1956), perhaps to 4,000 m (13,123 ft; Moore et al. 2003). Originally in *Dolopichthys*.

Oneirodes acanthias (Gilbert, 1915). **Southern Spiny Dreamer**. To 16.7 cm (6.6 in) SL (Pietsch 1974), perhaps to 20 cm (8 in) TL (Fitch and Lavenberg 1968). Eastern North Pacific; northern California (38°04'N, 123°58'W; SIO 67-116) to southern Baja California (26°51'N; Pietsch 1974). Mesopelagic and bathypelagic, concentrated at 500–1,250 m (1,650–4,125 ft; Pietsch 1974). Originally in *Monoceratias*.

Oneirodes basili Pietsch, 1974. **Ladlepole Dreamer**. To 15.9 cm (6.3 in) SL. Southern California (33°06'N, 118°22'W) to Isla Guadalupe, central Baja California. Described from three individuals. Probably mesopelagic and bathypelagic, but not enough data to be certain; taken in nets fished to maximum depths of 700–1,400 m (2,296–4,593 ft). All in Pietsch (1974).

Oneirodes bulbosus Chapman, 1939. **Bulbous Dreamer**. To 23 cm (9.1 in) TL (Orlov and Tokranov 2005). North Pacific north of about 40°; Sea of Okhotsk off Hokkaido, Japan (Nakabo in Nakabo 2002) to northern Bering Sea, Aleutian Islands, and Gulf of Alaska (Pietsch 1974, Mecklenburg et al. 2002); one

record in midocean west of Oregon (Pietsch 1974). Mesopelagic (primarily) and bathypelagic, taken in nets fished to maximum depths of 470–1,500 m (692–4,921 ft) and more with most occurring at 600–1,000 m (1,968–3,280 ft; Mecklenburg et al. 2002).

Oneiroides eschrichtii Lütken, 1871. **Cosmopolitan Dreamer** or Twopole Dreamer. To 21.3 cm (8.4 in) SL (Pietsch 1974). Circumglobal; Kuril–Kamchatka Trench (49°29'N, 158°41'E; Pietsch 1974); southern California (33°N) to Chile (34°S; Pietsch 1974). Mesopelagic to bathypelagic, taken in nets fished to maximum depths of 150–6,200 m (492–20,341 ft; Mecklenburg et al. 2002).

Oneiroides thompsoni (Schultz, 1934). **Alaska Dreamer** or Spiny Dreamer. To 21 cm (7.1 in) TL (Orlov and Tokranov 2005). North Pacific Ocean; Honshu, Japan (Shinohara et al. 1996) and Sea of Okhotsk (Amaoka in Masuda et al. 1984) to Bering Sea and Gulf of Alaska (Pietsch 1974, Mecklenburg et al. 2002) to northern California (41°20'N, 144°10'W; Pietsch 1974). Mesopelagic and bathypelagic, at depths of about 500–1,500 m (1,640–4,921 ft) or more (Mecklenburg et al. 2002), with most collected at 600–1,250 m (1,968–4,101 ft; Pietsch 1974). Originally in *Dolopichthys*.

Phyllorhinichthys micractis Pietsch, 1969. To 12 cm (4.7 in) SL. Circumglobal; Japan (Pietsch 1972), Emperor Seamounts, and Line Islands (Pietsch 2004); in eastern Pacific off Isla Guadalupe, central Baja California (Pietsch 1969). Probably mesopelagic and bathypelagic, taken by open nets fishing to maximum depth of 3,600 m (11,811 ft). All in Pietsch (2004).

Family Himantolophidae — Footballfishes

Himantolophus nigricornis Bertelsen & Krefft, 1988. To 19.5 cm (7.7 in) SL (Bertelsen and Krefft 1988). Off Monterey Bay, central California (SIO 94-171); in San Clemente Basin, southern California; and in western tropical Pacific (Bertelsen and Krefft 1988). Scanty catch data imply this species may live from 219 m (720 ft; SIO 94-71) to 2,500 m (8,200 ft) or more (Bertelsen and Krefft 1988).

Himantolophus sagamius (Tanaka, 1918). **Pacific Footballfish**. To 38.0 cm (15 in) SL (Klepadlo et al. 2003). Japan and northern California (Bertelsen and Krefft 1988) to Chile (Pequeño 1997). At depths of 300–915 m (984–3,001 ft) (min.: M. Schaadt, pers. comm. to M. L.; max.: Bertelsen and Krefft 1988) and perhaps to 1,300 m (4,264 ft; Bertelsen and Krefft 1988). Reported as *Himantolophus* sp. in Lea (1988). Classified by some authors as a synonym of *Himantolophus groenlandicus* Reinhardt, 1837.

Family Ceratiidae — Seadevils

Ceratias holboelli Krøyer, 1845. Northern Giant Seadevil or **Northern Seadevil**. To 145 cm (57 in) SL (Pietsch in Smith and Heemstra 1986). Circumglobal; Japan; Hawaii; Bering Sea, Gulf of Alaska, and off British Columbia and central California (Mecklenburg et al. 2002). Mesopelagic to bathypelagic at depths of 120–3,400 m (394–11,154 ft; Mecklenburg et al. 2002).

Cryptosaras couesii Gill, 1883. **Triplewart Seadevil**. To about 44 cm (17.6 in) TL (Mecklenburg et al. 2002). Circumglobal, with overall latitudinal range of 63°N to 43°S (Pietsch 1986); Greenland; Japan to New Zealand; Hawaii (Pietsch 1986); Monterey Bay, central California (Fast 1957) to Peru (Pietsch 1986). Mesopelagic to bathypelagic, at depths of 75–4,000 m (246–13,123 ft) but mostly taken at 500–1,250 m (1,640–4,101 ft; Pietsch 1986).

Family Thaumichthyidae — Wolftrap Anglers

Thaumichthys axeli (Bruun, 1953). To 36.5 cm (14.4 in) SL. Two known specimens: one from Patton escarpment, well off southern California; the other from 9°23'N, 87°32'W. Both specimens from deep water; the southern California fish was taken in an otter trawl at 3,578–3,671 m (11,736–12,041 ft), the second fish in a herring otter trawl at 3,570 m (11,710 ft). All in Bertelsen and Struhsaker (1977).

Family Gigantactinidae — Whipnoses

- Gigantactis gargantua* Bertelsen, Pietsch, & Lavenberg, 1981. To 40.8 cm (16.1 in) SL (Bertelsen et al. 1981). North Pacific and Indian oceans; off northern Honshu, Japan (Amaoka in Amaoka et al. 1983); Hawaii and southern California (Bertelsen et al. 1981). One probable record off northern Oregon (Mecklenburg et al. 2002). Mesopelagic to bathypelagic, taken in open nets fished to maximum depths of 500–1,535 m (1,640–5,036 ft) (min.: Bertelsen et al. 1981; max.: Amaoka in Amaoka et al. 1983).
- Gigantactis macronema* Regan, 1925. **Longpole Whipnose**. To 35.4 cm (13.9 in) SL. Eastern North Pacific and North and South Atlantic oceans; Hawaii, southern California, and Baja California. Mesopelagic to bathypelagic, taken in open nets fished to maximum depths of 650–2,500 m (2,132–8,202 ft). All in Bertelsen et al. (1981).
- Gigantactis microdontis* Bertelsen, Pietsch, & Lavenberg, 1981. To 12.7 cm (5.0 in) SL. Eastern North and South Pacific oceans; Hawaii, southern California, and Peru. Mesopelagic to bathypelagic, taken in open nets fished above 700 m (2,297 ft) and above 1,200 m (3,937 ft). All in Bertelsen et al. (1981).
- Gigantactis savagei* Bertelsen, Pietsch, & Lavenberg, 1981. To 15.0 cm (5.9 in) SL. North Pacific Ocean; Hawaii and southern California. Mesopelagic to bathypelagic, taken in open nets fished above 700 m (2,297 ft) and at maximum depths of about 1,000–1,250 m (3,280–4,100 ft). All in Bertelsen et al. (1981).
- Gigantactis vanhoeffeni* Brauer, 1902. **Cosmopolitan Whipnose**. To 34.0 cm (13.4 in) SL (Bertelsen et al. 1981). Circumglobal, with overall latitudinal range of 63°N to 15°S; Japan (Bertelsen et al. 1981); Oregon (Mecklenburg et al. 2002) to Chile (Pequeño 1989). Kodiak Island, Gulf of Alaska report is unconfirmed (Mecklenburg et al. 2002). Mesopelagic to bathypelagic, taken in open nets fished at maximum depths of 300–5,300 m (984–17,388 ft; Bertelsen et al. 1981).

Order Mugiliformes

Family Mugilidae — Mulletts

- Agonostomus monticola* (Bancroft, 1834). **Mountain Mullet**. To 36 cm (14.2 in) TL (Harrison in Fischer et al. 1995). Southern Baja California (Harrison in Fischer et al. 1995) to northern Peru, including Gulf of California (Robertson and Allen 2002). A nearshore species, also found in streams (SIO 67-237); including intertidal waters (SIO 58-209) and at the surface (SIO 55-233).
- Chaenomugil proboscideus* (Günther, 1861). **Snouted Mullet** or Thick-lipped Mullet. To 22 cm (8.7 in) TL (Harrison in Fischer et al. 1995). Bahia Magdalena, southern Baja California (LACM 49264.001) to Panama, including lower Gulf of California (Harrison in Fischer et al. 1995). Intertidal and to 10 m (33 ft; Robertson and Allen 2002).
- Mugil cephalus* Linnaeus, 1758. Flathead Mullet, Grey Mullet, or **Striped Mullet**. To 135 cm (53.1 in) TL (Robertson and Allen 2002). Circumglobal; Japan (Senou in Nakabo 2002), Sea of Okhotsk, and southern Kuril Islands (Parin 2003); San Francisco Bay, northern California to Chile and Islas Galápagos (Eschmeyer and Herald 1983). Coastal, including estuaries and fresh water (Eschmeyer and Herald 1983); in sea at intertidal depths to 122 m (400 ft) (min.: Robertson and Allen 2002; max.: Eschmeyer and Herald 1983).
- Mugil curema* Valenciennes, 1836. **White Mullet**. To 91 cm (35.8 in) TL (McEachran and Fechhelm 1998). Atlantic and Pacific oceans; Newport Bay, southern California (Lea et al. 1988) to Chile (Harrison in Fischer et al. 1995), including Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Shallow marine and brackish waters (Harrison in Fischer et al. 1995); tidepools and to 25 m (82 ft) (min.: Thomson and Lehner 1976; max.: Amezcua Linares 1996).

Mugil hospes Jordan & Culver, 1895. **Hospe Mullet**. To 30 cm (11.8 in) TL (Robertson and Allen 2002). Atlantic and Pacific sides of Americas, mainly in tropics (Robertson and Allen 2002); Bahia Magdalena, southern Baja California (Galván-Magaña et al. 2000) and Gulf of California to Ecuador (Robertson and Allen 2002). At depths of 0 to perhaps 10 m (33 ft; Robertson and Allen 2002).

Mugilsetosus* Gilbert, 1892. **Liseta Mullet. To 30 cm (12 in) TL (Harrison in Fischer et al. 1995). Bahia Magdalena, southern Baja California (Galván-Magaña et al. 2000) and Jalisco, Mexico to Ecuador and Islas Revillagigedo (Robertson and Allen 2002). At depths of 0 to perhaps 10 m (33 ft) (Robertson and Allen 2002).

Order Atheriniformes

Family Atherinopsidae — New World Silversides

Formerly with Old World silversides in a family Atherinidae, the New World silversides were removed and placed in their own family, Atherinopsidae; Nelson et al. (2004:215) cite the relevant literature.

Atherinella eriarcha Jordan & Gilbert, 1882. **Longfin Silverside**. To at least 8 cm (3.2 in) TL (Robertson and Allen 2002). Bahia San Hippolito, southern Baja California (Watson in Moser 1996) to Colombia (Lavenberg and Chernoff in Fischer et al. 1995), including lower Gulf of California (Lavenberg and Chernoff in Fischer et al. 1995). Shallow waters (Lavenberg and Chernoff in Fischer et al. 1995); intertidal and to perhaps 10 m (33 ft; Robertson and Allen 2002).

Atherinella nepenthe (Myers & Wade, 1942). **Pitcher Silverside**. To 10 cm (3.9 in) TL (Lavenberg and Chernoff in Fischer et al. 1995). Punta Abreojos, southern Baja California (Watson in Moser 1996) to Peru (10°34'S, 77°56'W; Chirichigno and Vélez 1998), including mouth of Gulf of California (Robertson and Allen 2002). Surf zone and upper water column near shore along the open coast and in bays (Watson in Moser 1996) to perhaps a depth of 10 m (33 ft; Robertson and Allen 2002).

Atherinops affinis (Ayres, 1860). **Topsmelt**. To 37.6 cm (14.8 in) TL (M. Shane, pers. comm. to M. L.). Near Sooke Harbour, Vancouver Island, British Columbia to Gulf of California (Miller and Lea 1972); not in central or southern Gulf of California (Robertson and Allen 2002). Near shore; intertidal (Chotkowski 1994) and to 26 m (85 ft; Limbaugh 1955).

Atherinopsis californiensis Girard, 1854. **Jacksmelt**. To 48.6 cm (19.1 in) TL (M. Shane, pers. comm. to M. L.). Yaquina Bay, Oregon (Miller and Lea 1972) to at least Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994), and in western and northeastern Gulf of California (Robertson and Allen 2002). Near shore; surf zone and to at least 29 m (95 ft) (min.: Carlisle et al. 1960; max.: Limbaugh 1955); also found in hypersaline ponds (Ruiz-Campos et al. 2000).

Leuresthes tenuis (Ayres, 1860). **California Grunion**. To 19 cm (7.5 in) TL (Eschmeyer and Herald 1983). San Francisco, northern California to Bahia Magdalena, southern Baja California (Miller and Lea 1972). Surf zone and to 18 m (60 ft; Miller and Lea 1972).

Menidia beryllina* (Cope, 1867). **Inland Silverside. To 10 cm (3.9 in) SL. Native to east coast of United States south to coast of Gulf of Mexico at Veracruz, Mexico. Found in San Francisco Bay and in various freshwater systems in California. All in Moyle (2002).

Order Beloniformes

Family Belonidae — Needlefishes

Ablennes hians (Valenciennes, 1846). Barred Needlefish or **Flat Needlefish**. To 120 cm (47.2 in) TL (Randall 1995); maximum length also reported as at least 82.5 cm (32.5 in) SL (Collette in Carpenter 2003). Circumglobal in tropical and subtropical waters (Collette 2003); Japan (Aizawa in Nakabo 2002); central

Baja California (Collette in Fischer et al. 1995) to northern Peru (Chirichigno and Vélez 1998) and Islas Galápagos (Grove and Lavenberg 1997). Typically at surface, also near bottom, to depth of 12 m (39 ft; Godinez-Dominguez et al. 2000).

Platybelone argalus (Lesueur, 1821). **Keeltail Needlefish**. To 50 cm (19.7 in) SL (Collette and Parin in Whitehead et al. 1986). Circumglobal in tropical and subtropical waters (Collette 2003); Japan (Aizawa in Nakabo 2002); southern Baja California (Collette in Fischer et al. 1995) to Chile (Pequeño 1989), including lower Gulf of California (Collette in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Surface to depth of 5 m (17 ft; Robertson and Allen 2002).

Strongylura exilis (Girard, 1854). **California Needlefish** or Pike Needlefish. To 91.4 cm (3 ft) TL (Miller and Lea 1972). Eastern Pacific (Collette 2003); San Francisco, northern California (Eschmeyer and Herald 1983) to Peru (Collette 2003) or Chile (Pequeño 1989), including Islas Galápagos (Eschmeyer and Herald 1983) and Gulf of California (Collette in Fischer et al. 1995). Typically at or near surface (Eschmeyer and Herald 1983); intertidal area and to depth of 100 m (328 ft) (min.: Allen 1999; max.: Amezcua Linares 1996).

Tylosurus crocodilus (Péron & Lesueur, 1821). **Crocodile Needlefish**, **Houndfish**, **Hound Needlefish**, or **Mexican Needlefish**. To 146 cm (57.5 in) TL (Robertson and Allen 2002). Circumglobal in tropical and subtropical waters (Collette 2003); Japan (Aizawa in Nakabo 2002); about Isla Cedros, central Baja California (Grove and Lavenberg 1997) to Gulf of California (Collette in Fischer et al. 1995) and to northern Chile (Grove and Lavenberg 1997) and Islas Galápagos (Collette in Fischer et al. 1995).

Tylosurus pacificus (Steindachner, 1876). **Pacific Agujon**. To 130 cm (51.8 in) TL (Robertson and Allen 2002). Eastern Pacific (Collette 2003); Bahia Almejas, southern Baja California and Gulf of California to Cabo Blanco, Peru, including one record from Islas Galápagos (Collette and Banford 2001). Surface to depth of perhaps 10 m (33 ft; Robertson and Allen 2002). Previously known in the eastern North Pacific as *Tylosurus acus* or *T. acus imperialis*; Collette and Banford (2001) confirmed full species rank as *T. pacificus*.

Family Scomberesocidae — Sauries

Cololabis saira (Brevoort, 1856). **Pacific Saury**. To about 44 cm (17.3 in) TL (Mecklenburg et al. 2002). North Pacific (Collette 2004); Yellow Sea, Sea of Japan, Sea of Okhotsk, and Pacific Ocean off Japan and Kuril Islands (Hubbs and Wisner 1980, Yoshino in Masuda et al. 1984) to Olyutorskiy Bay in the western Bering Sea (Hubbs and Wisner 1980); southeastern Bering Sea (Brodeur 1988), Pacific Ocean south of Aleutian Islands, and offshore Gulf of Alaska (Mecklenburg et al. 2002) to Islas Revillagigedo, Mexico (Eschmeyer and Herald 1983). Oceanic and neritic epipelagic (Parin 1960), surface to 229 m (751 ft; Hart 1973), typically far offshore close to the surface at depths less than 2 m (7 ft; Collette 2004); also in surf zone (Suda et al. 2002), and schools sometimes wash ashore (Chapman 1943).

Family Exocoetidae — Flyingfishes

Cheilopogon heterurus (Rafinesque, 1810). **Blotchwing Flyingfish** or **Mediterranean Flyingfish**. To 34.8 cm (13.7 in) SL (Parin and Beljanina 2000). Circumglobal in tropical waters; Santa Catalina Island, southern California to central Baja California (Watson in Moser 1996) and Chile (Pequeño 1989). At surface, mainly oceanic (Eschmeyer and Herald 1983), also neritic (Watson in Moser 1996). *Cypselurus hubbsi* is a junior synonym.

****Cheilopogon papilio*** (Clark, 1936). **Butterfly Flyingfish**. To 21 cm (8.3 in) TL (Parin in Fischer et al. 1995). Gulf of California to central America, including southern tip of Baja California (Parin in Fischer et al. 1995). Surface to depth of perhaps 20 m (66 ft; Robertson and Allen 2002).

-
- Cheilopogon pinnatibarbatu*s (Bennett, 1831). California Flyingfish or **Smallhead Flyingfish**. To 48 cm (19 in) TL (Eschmeyer and Herald 1983). Including various subspecies, appears to be circumglobal; in western Pacific as far north as southern Kuril Islands (Savinykh 1998); Astoria, Oregon (Eschmeyer and Herald 1983) to southern Baja California (Parin in Fischer et al. 1995) and into Gulf of California (Robertson and Allen 2002). Oceanic (Eschmeyer and Herald 1983) and neritic (Watson in Moser 1996), surface to perhaps 10 m (33 ft; Robertson and Allen 2002). *Cypselurus californicus* (Cooper, 1863) is a junior synonym.
- **Cheilopogon xenopterus* (Gilbert, 1890). Sparrow Flyingfish or **Whitetip Flyingfish**. To 22 cm (8.7 in) TL (Parin in Fischer et al. 1995). Tropical waters; southern tip of Baja California (Parin in Fischer et al. 1995) to at least Peru (Chirichigno 1974), including Islas Galápagos (Grove and Lavenberg 1997). Surface to depth of perhaps 5 m (17 ft; Robertson and Allen 2002).
- **Cypselurus callopterus* (Günther, 1866). **Beautyfin Flyingfish**, Ornamental Flyingfish, or Spotted Flyingfish. To 28 cm (10.9 in) TL (Parin in Fischer et al. 1995). Southern tip of Baja California (Parin in Fischer et al. 1995) probably to northern Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997). Surface to depth of perhaps 5 m (17 ft; Robertson and Allen 2002).
- Exocoetus monocirrhus* Richardson, 1846. **Barbel Flyingfish**. To 23 cm (9.1 in) TL (Aizawa in Nakabo 2002). Pacific and Indian oceans; Japan (Aizawa in Nakabo 2002); southern Baja California (Parin in Fischer et al. 1995) to northern Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997). Surface to depth of perhaps 20 m (66 ft; Robertson and Allen 2002).
- **Exocoetus volitans* Linnaeus, 1758. **Tropical Two-wing Flyingfish**. To about 24 cm (9.4 in) TL (Parin 2003). Circumglobal; Japan (Aizawa in Nakabo 2002); south of Cabo San Lucas, southern Baja California (Parin and Shakhovskoy 2000) to Chile (Pequeño 1989), including Islas Galápagos (Grove and Lavenberg 1997). Primarily oceanic, also neritic (Watson in Moser 1996), surface to depth of perhaps 20 m (66 ft; Robertson and Allen 2002).
- Fodiator acutus* (Valenciennes, 1847). Pacific Flyingfish or **Sharpchin Flyingfish**. To 25 cm (9.8 in) TL (McEachran and Fechhelm 1998). Circumglobal in tropical waters; Goleta, southern California (Miller and Lea 1972) to Chile (Pequeño 1989), including Gulf of California (Parin in Fischer et al. 1995) and Islas Galápagos (Eschmeyer and Herald 1983). Neritic and oceanic at surface, usually in coastal waters (Watson in Moser 1996) and sometimes in surf zone (C. Valle, pers. comm. to M. L.). Also recently as *Fodiator rostratus*.
- Hirundichthys marginatus* (Nichols & Breder, 1928). Banded Flyingfish, **Bladewing Flyingfish**, or Whitewing Flyingfish. To 21 cm (8.3 in) TL (Parin in Fischer et al. 1995). Southern Baja California (Parin in Fischer et al. 1995) to at least Peru (Chirichigno 1974), including Islas Galápagos (Grove and Lavenberg 1997). Primarily neritic (Watson in Moser 1996), surface to depth of perhaps 5 m (17 ft; Robertson and Allen 2002).
- Hirundichthys rondeleti* (Valenciennes, 1847). **Blackwing Flyingfish**. To about 30 cm (11.8 in) TL (Parin in Carpenter 2003). Circumglobal; northern Baja California (“100–200 miles S of San Diego, found on deck in the morning”; SIO 57-175) to Chile (42°S, 74°W; Vera S. and Pequeño R. 2002), including Islas Galápagos (Grove and Lavenberg 1997). Parin’s range map suggests that this species is antitropical in the eastern Pacific. Oceanic and neritic, at surface (Watson in Moser 1996).
- **Hirundichthys speculiger* (Valenciennes, 1847). **Mirrorwing Flyingfish**. To about 31 cm (12.2 in) TL (Parin in Carpenter 2003). Circumglobal; found from just south of Cabo San Lucas, southern Baja California and westward well offshore (Parin in Fischer et al. 1995) to northern Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997). Primarily oceanic (Watson in Moser 1996), surface to depth of perhaps 20 m (66 ft; Robertson and Allen 2002).

Oxyporhamphus micropterus (Valenciennes, 1847). **Smallwing Halfbeak**. To 22 cm (8.7 in) TL (Robertson and Allen 2002). Circumglobal; Japan (Aizawa in Nakabo 2002); southern Baja California (Collette in Fischer et al. 1995) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Collette in Fischer et al. 1995) and Islas Galápagos (Allen and Robertson 1994). Epipelagic, at surface (Watson in Moser 1996) to depth of perhaps 5 m (17 ft; Robertson and Allen 2002).

Prognichthys tringa Breder, 1928. **Panamic Flyingfish** or Tringa Flyingfish. To 16 cm (6.3 in) TL (Parin in Fischer et al. 1995). Tropical and subtropical Pacific; southern Baja California (Parin in Fischer et al. 1995) to Ecuador (Béarez 1996), including Gulf of California (Parin in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Neritic, at surface (Watson in Moser 1996) to depth of perhaps 5 m (17 ft; Robertson and Allen 2002).

Family Hemiramphidae — Halfbeaks

Euleptorhamphus viridis (van Hasselt, 1823). **Ribbon Halfbeak**. To 53 cm (20.9 in) TL (Collette in Fischer et al. 1995). Widely distributed in tropical and subtropical waters of Pacific and Indian oceans (Collette 2004); Japan (Aizawa in Nakabo 2002); southern California (Miller and Lea 1972) to Easter Island (Pequeño 1989), including lower Gulf of California (Collette in Fischer et al. 1995) and Islas Galápagos (Eschmeyer and Herald 1983). Epipelagic, at and near surface. *Euleptorhamphus longirostris* (Cuvier, 1829) is a junior synonym.

Hemiramphus saltator Gilbert & Starks, 1904. **Longfin Halfbeak**. To 55 cm (21.7 in) TL (Robertson and Allen 2002). Tropical eastern Pacific (Collette 2004); southern Baja California (Galván-Magaña et al. 2000) to northern Peru (Collette 2004), including Gulf of California (Collette in Fischer et al. 1995) and Islas Galápagos (Eschmeyer and Herald 1983). Epipelagic, near surface.

Hyporhamphus gilli Meek & Hildebrand, 1923. **Choelo Halfbeak**. To 21 cm (8.3 in) TL (Robertson and Allen 2002). Tropical eastern Pacific (Collette 2004); Bahia Abreojos, southern Baja California (26°42'N, 113°35'W; SIO 63-727) to Talara, northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Epipelagic, near surface.

Hyporhamphus naos Banford & Collette, 2001. Naos Halfbeak, Pacific Silverside Halfbeak, or **Pacific Silverstripe Halfbeak**. To 31 cm (12.2 in) TL (Robertson and Allen 2002). Tropical eastern Pacific (Collette 2004); San Diego, southern California to Paita, Peru, including Islas Galápagos (Banford and Collette 2001) and Gulf of California (Robertson and Allen 2002). The Galápagos fish may be an undescribed species (Banford and Collette 2001). Epipelagic, near surface; inshore, coastal, and estuarine waters (Banford and Collette 2001) to perhaps 30 m (99 ft; Robertson and Allen 2002).

Hyporhamphus rosae (Jordan & Gilbert, 1880). **California Halfbeak**. To 20 cm (7.9 in) TL (Robertson and Allen 2002). Tropical eastern Pacific (Collette 2004); Santa Ana River, southern California (Miller and Lea 1972) to Gulf of California (Collette in Fischer et al. 1995) and Bahia Nonura, Peru (Chirichigno and Vélez 1998). Epipelagic, at and near surface near shore, including intertidal waters (Allen 1999); enters fresh water (Watson in Moser 1996).

Hyporhamphus snyderi Meek & Hildebrand, 1923. **Skipper Halfbeak**. To 19 cm (7.5 in) TL (Robertson and Allen 2002). Tropical eastern Pacific (Collette 2004); Bahia Magdalena, southern Baja California (Galván-Magaña et al. 2000) and El Salvador to northern Peru (Chirichigno and Vélez 1998), Isla Malpelo, and Islas Galápagos (Robertson and Allen 2002). Epipelagic, surface to perhaps 5 m (16 ft; Robertson and Allen 2002).

Order Cyprinodontiformes

Family Fundulidae — Topminnows

The species classified in the family Fundulidae were until recently in the family Cyprinodontidae; see Nelson et al. (2004:216 and 218) for nomenclatural history and literature.

Fundulus parvipinnis Girard, 1854. **California Killifish**. To 10.8 cm (4.25 in) TL (Miller and Lea 1972). Morro Bay, central California (Miller and Lea 1972) to Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994). Inshore in estuaries, coastal lagoons, and shallow bays.

***Lucania parva* (Baird & Girard, 1855). **Rainwater Killifish**. To 6.2 cm (2.3 in) TL (Moyle 2002). Native to Atlantic Ocean and Gulf of Mexico; brackish portions of Yaquina Bay, Oregon and San Francisco Bay, northern California (Dill and Cordone 1997). Primarily in brackish bays and estuaries (McEachran and Fechhelm 1998).

Family Poeciliidae — Livebearers

***Poecilia latipinna* (Lesueur, 1821). **Sailfin Molly**. To 15 cm (5.9 in) TL (Moyle 2002). Native to southern Atlantic United States and Gulf of Mexico, now introduced into much of warmer Pacific Rim. In California, known from Salton Sea, Ballona Marsh (Los Angeles County), intertidal wetlands of San Diego Bay, southern California (Williams et al. 1998), and other sloughs and estuaries in Ventura, Los Angeles, and San Diego counties (Moyle 2002). Shallow marine waters and freshwaters (McEachran and Fechhelm 1998).

Order Stephanoberyciformes

Family Melamphaidae — Bigscales

Melamphaes acanthomus Ebeling, 1962. **Shoulderspine Bigscale**. To 11 cm (4.3 in) SL (Ebeling 1962). Southern California (Ebeling 1962) to Chile (Pequeño 1989). Mesopelagic and bathypelagic, at depths of 320–3,500 m (1,050–11,480 ft); young fish shallower (min.: LACM 8598.000; max.: Ebeling 1962).

Melamphaes indicus Ebeling, 1962. To 6.2 cm (2.4 in) SL (Ebeling 1962). Well off southern California (Berry and Perkins 1966) to northern Chile (Sielfeld et al. 1995). Mesopelagic, at 125–500 m (410–1,640 ft) or more (min.: Clarke and Wagner 1976; max.: Ebeling 1962).

Melamphaes laeviceps Ebeling, 1962. To 13.4 cm (5.3 in) SL (Ebeling 1962). Mainly eastern tropical Pacific; far offshore central California and off northern Baja California (Berry and Perkins 1966) to Chile (Pequeño 1989). Adults probably below 400–500 m (1,312–1,640 ft; Ebeling 1962).

Melamphaes longivelis Parr, 1933. **Longfin Bigscale**. To 10.6 cm (4.1 in) SL (Ebeling 1962). Atlantic and Pacific oceans; Japan (Aizawa in Nakabo 2002); southern California (Berry and Perkins 1966) to Chile (Pequeño 1989). Adults at 500–1,500 m (1,640–4,920 ft) (min.: Ebeling 1962; max.: Fujii in Masuda et al. 1984); young fish as shallow as 150 m (492 ft; Ebeling 1962).

Melamphaes lugubris Gilbert, 1891. **Highsnout Bigscale** or Highsnout Ridgehead. To 8.9 cm (3.5 in) SL (Mecklenburg et al. 2002). Subarctic North Pacific from Japan (Fujii in Masuda et al. 1984) and Okhotsk Sea to Bering Sea (about 56°N) and Gulf of Alaska (Mecklenburg et al. 2002) to central Baja California (Ebeling 1962). Adults mesopelagic and bathypelagic, collected at depths of 150–1,500 m (492–4,921 ft; Mecklenburg et al. 2002); juveniles as shallow as 30 m (98 ft; ZIN 51511). Reported from nets towed as deep as 3,480 m (11,417 ft), but those were nonclosing nets which would allow fish to enter at any depth during retrieval of the net (Makushok 1970).

- Melamphaes macrocephalus* Parr, 1931. To 11.7 cm (4.6 in) SL (Ebeling 1962). Southern Baja California (27°N; Ebeling 1962) to Chile (Pequeño 1989). Upper depth range of adults and half-grown fish is about 400–500 m (1,312–1,640 ft; Ebeling 1962).
- Melamphaes parvus* Ebeling, 1962. **Little Bigscale**. To 4.6 cm (1.8 in) SL (Ebeling 1962). Northern California to Baja California (Ebeling 1962). Mostly below 200 m (656 ft; Sandknop and Watson in Moser 1996).
- Melamphaes simus* Ebeling, 1962. To 2.9 cm (1.1 in) SL (Ebeling 1962). Circumglobal; well off southern Baja California (Ebeling 1962) to Chile (Pequeño 1989). Adults mesopelagic, to 800 m (2,624 ft; Sandknop and Watson in Moser 1996); young fish as shallow as 35–40 m (115–131 ft).
- Melamphaes spinifer* Ebeling, 1962. To 7.2 cm (2.8 in) SL (Ebeling 1962). Southern Baja California (27°N; Ebeling 1962) to Chile (Pequeño 1989). Adults below 400–500 m (1,312–1,640 ft); young fish down to about 100–200 m (328–656 ft; Ebeling 1962).
- Melamphaes suborbitalis* (Gill, 1883). To 12 cm (4.7 in) SL (Fujii in Masuda et al. 1984). Circumglobal (Kotlyar 1999); Sea of Okhotsk (Parin and Kotlyar 1998); well off central California (Berry and Perkins 1966). Primarily mesopelagic, 100–3,200 m (328–10,496 ft; Kotlyar 1999).
- Poromitra crassiceps* (Günther, 1878). **Crested Bigscale** or Crested Ridgehead. To 18 cm (7.1 in) SL (Parin and Ebeling 1980). Nearly cosmopolitan, absent only from Arctic Ocean and Mediterranean Sea; Japan (Fujii in Masuda et al. 1984) to southern Bering Sea and Gulf of Alaska (Mecklenburg et al. 2002) to Chile (Pequeño 1989). Adults mesopelagic and bathypelagic, about 600–3,400 m (1,968–11,155 ft; Mecklenburg et al. 2002); juveniles shallower, one record from 150 m (492 ft; Clarke and Wagner 1976). *Melamphaes rugosus* Chapman, 1939, is a junior synonym.
- Poromitra megalops* (Lütken, 1877). To 6.2 cm (2.4 in) SL (Ebeling in Smith and Heemstra 1986). Circumglobal; Japan (Fujii in Masuda et al. 1984); southern California (32°N, 124°W; SIO 88–62) to Chile (Sielfeld et al. 1995). Mesopelagic and bathypelagic, primarily 150–1,800 (495–5,940 ft) (min.: Sandknop and Watson in Moser 1996; max.: Aizawa in Nakabo 2002).
- Poromitra oscitans* Ebeling, 1975. **Sluggish Bigscale**. To 8.2 cm (3.2 in) SL (Ebeling 1975). Pacific and Indian oceans; Japan (Fujii in Masuda et al. 1984); central California to Ecuador (Ebeling 1975). Mesopelagic and bathypelagic, 750–1,896 m (2,475–6,220 ft) (min.: Clarke and Wagner 1976; max.: Fujii in Masuda et al. 1984).
- Scopeloberyx robustus* (Günther, 1887). **Longjaw Bigscale**. To 10 cm (3.9 in) SL (Ebeling and Weed 1973). Nearly cosmopolitan, absent only from Arctic Ocean and Mediterranean Sea; Japan (Fujii in Masuda et al. 1984), Kuril Islands (Savinykh and Tuponogov 2004), and Sea of Okhotsk across subarctic North Pacific to northern British Columbia (G. E. Gillespie, pers. comm. to C. W. M.) and California (Mecklenburg et al. 2002) to Chile (Pequeño 1989). Mesopelagic and bathypelagic, 600–3,384 m (1,968–11,102 ft; Mecklenburg et al. 2002); juveniles shallower, down to 190 m (623 ft; LACM 38738.010).
- Scopelogadus mizolepis* (Günther, 1878). **Twospine Bigscale**. To 10.2 cm (4 in) SL (Ebeling and Weed 1963). Southwest of La Perouse Bank (48°08'N, 126°36'W), British Columbia (Peden and Jamieson 1988) to Chile (Ebeling and Weed 1963). Mesopelagic and bathypelagic, 104–2,000 m (343–6,600 ft) (min.: LACM 6700.010; max.: Sandknop and Watson in Moser 1996). *Scopelogadus bispinosus* (Gilbert, 1915) is a junior synonym.

Family Cetomimidae —Flabby Whalefishes or Whalefishes

- Cetichthys parini* Paxton, 1989. To 19.6 cm (7.7 in) SL (Paxton 1989). Pacific and Indian oceans; Kuril Islands (Aizawa in Nakabo 2002); central California (34°49'N, 123°07'W; SIO 89-138) and southern California (32°50'N, 124°07'W; SIO 87-9). At depths of 2,700–3,300 m (8,858–10,827 ft) in closing nets, also collected in open nets fishing to 4,500 m (14,764 ft) or more (Paxton 1989).

Cetostoma regani Zugmayer, 1914. **Pink Flabby Whalefish**. To 23 cm (9 in) TL (Eschmeyer and Herald 1983). Circumglobal; Japan (Aizawa in Nakabo 2002); Oregon (Matarese et al. 1989) to southern Baja California (25°48'N, 114°46'W; SIO 51-90). At depths of 400–2,250 m (1,312–7,382 ft) (min.: Paxton 1989; max.: Paxton in Whitehead et al. 1986) and perhaps shallower (Paxton 1989).

Ditropichthys storeri (Goode & Bean, 1895). To 12.9 cm (5.1 in) SL (Paxton 1989). Circumglobal; western North Pacific east of Japan, Kuril Islands (Paxton 1989), and Kamchatka (Sheiko and Fedorov 2000); northern California (Paxton 1989) to southern Baja California (Pequeño 1989). At depths of about 650–3,400 m (2,132–11,155 ft) (min.: Paxton 1989; max.: Sheiko and Fedorov 2000).

Gyrinomimus sp. To 39 cm (15.3 in) TL (Mecklenburg et al. 2002). Circumglobal at low latitudes; as far south in Pacific as 39°N, including Okhotsk Sea, southern Bering Sea off Aleutian Islands, offshore from British Columbia and Oregon, and midocean. Primarily bathypelagic, recorded from depths of 240–3,400 m (787–11,155 ft). This is Paxton's (1989) "*Gyrinomimus* sp. nov. B2," as yet undescribed and named. All in Mecklenburg et al. (2002).

Family Mirapinnidae — Hairyfish and Ribbonbearers or Tapetails

Eutaeniophorus festivus (Bertelsen & Marshall, 1956). **Festive Ribbontail**. To 5.4 cm (2.2 in) TL (McEachran and Fechhelm 1998). Circumglobal; Japan (Aizawa in Nakabo 2002); Oregon to Ecuador (Charter and Moser in Moser 1996). Probably mesopelagic (Charter and Moser in Moser 1996).

Family Barbourisiidae — Velvet Whalefishes

Barbourisia rufa Parr, 1945. **Red Whalefish**. To 41 cm (16.1 in) TL (Melendez C. et al. 1991). Circumglobal at low latitudes; recorded as far north as Greenland (Amaoka in Okamura et al. 1995); Japan (Amaoka in Masuda et al. 1984), Emperor Seamounts, Hawaii; southeastern Bering Sea north of Amlia Island and Pacific Ocean south of Amukta Pass, Aleutian Islands; off Washington (Mecklenburg et al. 2002) to northcentral California (Eschmeyer and Herald 1983) to southern Chile (44°53'S, 73°30'W; Melendez C. et al. 1991). Pelagic and bathypelagic, 120–2,000 m (394–6,562 ft; Mecklenburg et al. 2002).

Family Rondeletiidae — Redmouth Whalefishes

Rondeletia loricata Abe & Hotta, 1963. **Armored Redmouth Whalefish** or Redmouth Whalefish. To 15 cm (6 in) TL (Fitch and Lavenberg 1968). Circumglobal; Japan (Uyeno in Masuda et al. 1984); Washington (47°12'N; Lauth 2001) to Chile (27°04'S, 71°45'W; SIO 72-154) and Islas Galápagos (1°46'S, 89°56'W; SIO 52-404). At depths of 100–2,350 m (328–7,708 ft) (min.: Clarke and Wagner 1976; max.: Kotlyar 1996), juveniles in shallower part of depth range (Kotlyar 1996).

Order Beryciformes

Family Anoplogastridae — Fangtooths

Anoplogaster cornuta (Valenciennes, 1833). Fangfish, Fangtooth, or **Longhorn Fangtooth**. To 16 cm (6.3 in) SL (Mecklenburg et al. 2002). Nearly circumglobal; to 64°N in Atlantic Ocean; northern Japan (Shimizu 1978) and Sea of Okhotsk (Kotlyar 1986) almost to New Zealand; southern British Columbia (Mecklenburg et al. 2002) to northern Chile (18°26'S; Kong and Melendez 1991). Mesopelagic to bathypelagic, adults at 75–4,992 m (246–16,378 ft), juveniles as shallow as 2 m (7 ft; Mecklenburg et al. 2002).

Family Diretmidae — Spinyfins

Diretmoides pauciradiatus (Woods, 1973). To about 40 cm (15.75 in) TL (Eschmeyer and Herald 1983). Circumglobal; Kyashu–Palau Ridge, southern Japan (Hayashi in Nakabo 2002), and Washington (Eschmeyer and Herald 1983). About 198 m to at least 1,880 m (650–6,168 ft) (min.: Eschmeyer and

Herald 1983; max.: Hayashi in Nakabo 2002). Adults mainly below 500 m (1,640 ft; Post in Whitehead et al. 1986), juveniles as shallow as 50 m (165 ft; Post and Quéro 1981). Also seen as *Diretmus pauciradiatus*.

Diretmus argenteus Johnson, 1864. **Silver Discfish**. To 12.5 cm (5 in) SL (Post in Whitehead et al. 1986). Circumglobal primarily in tropical waters; may reach southern part of Baja California (Watson in Moser 1996) to Chile (Pequeño 1989). Adults primarily 300–1,000 m (984–3,280 ft; Post and Quéro 1981), young fish primarily 50–250 m (165–820 ft; Watson in Moser 1996).

Family Anomalopidae—Flashlightfishes

Phthanophaneron harveyi (Rosenblatt & Montgomery, 1976). **Panamic Flashlightfish**. To 26 cm (10.2 in) TL (Robertson and Allen 2002). Gulf of California (Rosenblatt and Montgomery 1976); Thetis Bank, southern Baja California (McCosker and Rosenblatt 1987). Surface to 36 m (118 ft) (min.: Robertson and Allen 2002; max.: Rosenblatt and Montgomery 1976).

Family Holocentridae — Squirrelfishes

Myripristis berndti* Jordan & Evermann, 1903. **Bigscale Soldierfish or Blotcheye Solderfish. To 31 cm (12.2 in) TL (Robertson and Allen 2002). Pacific and Indian oceans; tip of Baja California, Costa Rica to Ecuador, and offshore islands (Robertson and Allen 2002). At depths of 1–159 m (3–522 ft) (min.: Robertson and Allen 2002; max.: Myers 1999).

Myripristis leiognathus Valenciennes, 1846. **Panamic Soldierfish**. To 18 cm (7.1 in) TL (Allen and Robertson 1994). Isla Cedros, and on mainland, Rocas Chester, central Baja California (M. L., unpubl. data) to upper Gulf of California (Schneider and Krupp in Fischer et al. 1995) to Ecuador (Grove and Lavenberg 1997), including Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–33 m (3–108 ft) (min.: LACM 49768.012; max.: SIO 75-513).

Sargocentron suborbitalis* (Gill, 1863). **Tinsel Squirrelfish. To 25.4 cm (10 in) TL (Schneider and Krupp in Fischer et al. 1995). Central Gulf of California (Schneider and Krupp in Fischer et al. 1995) to Ecuador (Grove and Lavenberg 1997), including southern tip of Baja California (Schneider and Krupp in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–25 m (3–82 ft) (min.: LACM 49768.014; max.: Robertson and Allen 2002).

Order Zeiformes

Family Oreosomatidae — Oreos

Allocyttus folletti Myers, 1960. **Oxeye Oreo**. To 42 cm (16.5 in) TL. North Pacific; Honshu, Japan to Bering Sea and Gulf of Alaska to Point Sur, central California (Mecklenburg et al. 2002). Surface to 1,800 m (5,905 ft; Tokranov et al. 2003). Most adults caught near bottom at 360–860 m (1,181–2,821 ft); one record from 47–292 m (154–958 ft). Prejuveniles taken near surface offshore and midocean. Records of *Allocyttus verrucosus* from California are treated as identical with *A. folletti* (Mecklenburg et al. 2002).

Family Zeidae — Dories

Zenopsis nebulosa (Temminck & Schlegel, 1845). **Mirror Dory**. To 55 cm (21.7 in) TL (Pakhorukov 2005). Widespread in temperate waters of North and South Pacific; southern Japan (Nakabo in Nakabo 2002); central and southern California (Eschmeyer and Herald 1983) to Chile (Pequeño 1989). Off-bottom pelagic (Parin and Pakhorukov 2003). At depths of 30–800 m (100–2,624 ft) (min.: Fitch and Lavenberg 1968; max.: Nakabo in Nakabo 2002).

Order Gasterosteiformes

Family Aulorhynchidae — Tubesnouts

Aulorhynchus flavidus Gill, 1861. **Tubesnout**. To 18.8 cm (7.4 in) TL (Coad 1995). Pavlof Bay, southwest Alaska Peninsula and Kodiak Island, Gulf of Alaska to Punta Rocosa, central Baja California (Mecklenburg et al. 2002). Record from Captains Bay, Unalaska Island, is uncertain (Mecklenburg et al. 2002). Near surface to 30 m (100 ft; Eschmeyer and Herald 1983), from shoreline (e.g., beach seine in less than 1 m of water; Mecklenburg et al. 2002) to well offshore (Eschmeyer and Herald 1983).

Family Gasterosteidae — Sticklebacks

Gasterosteus aculeatus Linnaeus, 1758. **Threespine Stickleback**. To 10.2 cm (4.0 in) TL. North Atlantic, arctic Europe and Asia, and North Pacific; Korean Peninsula to Seas of Japan and Okhotsk to Bering, Chukchi, and Beaufort seas, and Gulf of Alaska to Monterey Bay, central California. In fresh water as far south as Rio Rosario, northern Baja California. Anadromous and resident freshwater forms; shallow vegetated areas, including marshes, to depth of about 27 m (90 ft), recorded near surface as far as 805 km (500 mi) offshore. All in Mecklenburg et al. (2002) after McPhail and Lindsey (1970), Morrow (1980), Eschmeyer and Herald (1983), Page and Burr (1991), Coad (1995), and others. See Moyle (2002) for a complete discussion of this species in California.

Pungitius pungitius (Linnaeus, 1758). **Ninespine Stickleback**. To 9 cm (3.5 in) TL. Circumboreal; Korea to Seas of Japan and Okhotsk to Bering, Chukchi, and Beaufort seas, and western and northern Gulf of Alaska coasts inland to northeastern British Columbia. Anadromous and resident freshwater forms; marine populations most common in marshes and estuaries, also recorded to depth of 110 m (361 ft). All in Mecklenburg et al. (2002) after Morrow (1980), Page and Burr (1991), Coad (1995), and others.

Family Syngnathidae — Pipefishes

Cosmocampus arctus (Jenkins & Evermann, 1889). **Snubnose Pipefish**. To 13 cm (5.1 in) TL (Allen and Robertson 1994). Tomales Bay, northern California (Miller and Lea 1972) to Peru (Robertson and Allen 2002) and throughout Gulf of California (Miller and Lea 1972). *Cosmocampus arctus coccineus* has been reported from Bahia Banderas, Mexico to Punta Aguja, Peru and Islas Galápagos (Grove and Lavenberg 1997). *Cosmocampus arctus heraldi* has been reported from Chile (Pequeño 1989). Intertidal and to 20 m (66 ft) or more (min.: Fritzsche 1980; max.: Allen and Robertson 1994).

Doryrhamphus excisus Kaup, 1856. **Bluestripe Pipefish or Fantail Pipefish**. To 7 cm (2.8 in) TL (Allen and Robertson 1994). Pacific and Indian oceans; Japan (Senou in Nakabo 2002); Bahia Magdalena, southern Baja California (Fritzsche 1980) into Gulf of California (Thomson et al. 1979) and south to Ecuador, including Islas Galápagos (Fritzsche 1980). At depths of 3–45 m (10–147 ft) (min.: Robertson and Allen 2002; max.: Allen and Robertson 1994). Also as *Doryrhamphus melanopleura*.

Hippocampus ingens Girard, 1858. **Pacific Seahorse**. To 30.5 cm (12 in) TL (Amezcuca Linares 1996). Point Conception, southern California (M. L., unpubl. data) to Chile (Pequeño 1989), including Gulf of California and Islas Galápagos (Miller and Lea 1972); old (doubtful) record from San Francisco Bay (Eschmeyer and Herald 1983). Usually offshore, surface (Fritzsche 1980) and 1–107 m (3–351 ft) (min.: Robertson and Allen 2002; max.: Amezcuca Linares 1996).

Syngnathus auliscus (Swain, 1882). **Barred Pipefish**. To 19 cm (7.5 in) TL (Allen and Robertson 1994). Santa Barbara Channel, southern California (Fritzsche 1980) to Puerto Pizarro, Peru (Chirichigno and Vélez 1998), including Gulf of California (Fritzsche 1980). Intertidal (Allen 1999) and shallow inshore waters (Eschmeyer and Herald 1983) to depth of 20 m (66 ft; Robertson and Allen 2002).

Syngnathus californiensis Storer, 1845. **Kelp Pipefish**. To 49.5 cm (19.5 in) TL (Miller and Lea 1972). Bodega Bay, northern California (Fritzsche 1980) to Bahia Santa Maria, southern Baja California (Miller and Lea 1972). Intertidal and to 15 m (48 ft) (min.: Allen 1999; max.: Eschmeyer and Herald 1983).

Syngnathus euchrous Fritzsche, 1980. **Chocolate Pipefish**. To 29.6 cm (11.7 in) SL. Redondo Beach, southern California to Bahia Ballenas, southern Baja California. Surface to 18 m (60 ft), including intertidal zone. All in Fritzsche (1980).

Syngnathus exilis (Osburn & Nichols, 1916). **Barcheek Pipefish**. To 25 cm (9.8 in) SL (A. Groce, pers. comm. to M. L.). Half Moon Bay, central California to Bahia Magdalena, southern Baja California including offshore islands (Fritzsche 1980). Surface (SIO 46-63, nightlight) to 5 m (17 ft) or more (SIO 93-188), including intertidal zone (Allen 1999).

Syngnathus insulae Fritzsche, 1980. **Guadalupe Pipefish**. To 20.4 cm (8 in) SL. Isla Guadalupe, central Baja California. Surface, 22–50 m (73–165 ft). All in Fritzsche (1980).

Syngnathus leptorhynchus Girard, 1854. **Bay Pipefish**. To 38.5 cm (15.2 in) TL (Bayer 1980). Prince William Sound (Orsi et al. 1991) to eastern Gulf of Alaska (Mecklenburg et al. 2002) to Bahia Santa Maria, southern Baja California (Fritzsche 1980). Intertidal area and to 3 m (10 ft) (min.: Chotkowski 1994; max.: Mecklenburg et al. 2002).

Family Aulostomidae — Trumpetfishes

Aulostomus chinensis* (Linnaeus, 1766). **Chinese Trumpetfish or Pacific Trumpetfish. To 80 cm (31.5 in) TL (Robertson and Allen 2002). Pacific and Indian oceans; tip of Baja California and Panama to Ecuador. At surface (SIO 60-44, nightlight), 3–120 m (10–394 ft; Robertson and Allen 2002).

Family Fistulariidae — Cornetfishes

Fistularia commersonii Rüppell, 1838. Bluespotted Cornetfish, Cornetfish, or **Reef Cornetfish**. To 1.6 m (63 in) TL (Fritzsche and Schneider in Fischer et al. 1995). Circumglobal; Japan (Senou in Nakabo 2002); Bahia Magdalena, southern Baja California (Thomson et al. 1979) to Peru (Pequeño 1989), including Gulf of California (Fritzsche and Schneider in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Surface to 128 m (420 ft; Lieske and Myers 2002).

Fistularia corneta Gilbert & Starks, 1904. **Deepwater Cornetfish** or Pacific Cornetfish. To 128 cm (50.4 in) TL (Myers 1999). Huntington Beach, southern California (Curtis and Herbinson 2001) to Callao, Peru (Chirichigno and Vélez 1998), including Gulf of California (Fritzsche and Schneider in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Surface to 50 m (164 ft; Robertson and Allen 2002).

Family Macrorhamphosidae — Snipefishes

Classified by some authors in Centriscidae.

Macroramphosus scolopax (Linnaeus, 1758). Longnosed Snipefish, **Longspine Snipefish**, or Slender Snipefish. To 22.8 cm (9 in) TL (Borges 2001). Circumglobal in warm waters; Japan (Senou in Nakabo 2002); between Santa Rosa and Santa Cruz islands, southern California (M. Nishimoto, pers. comm. to M. L.) to Chile (Pequeño 1989). Surface (D. Schroeder, pers. comm. to M. L.), also seen near bottom (Parin and Pakhorukov 2003), to 600 m (1,968 ft; Fritzsche and Thiesfeld in Carpenter and Niem 1999). Also recently as *Macroramphosus gracilis*.

Order Scorpaeniformes

Family Scorpaenidae — Rockfishes or Scorpionfishes

Some taxonomists (e.g., Ishida 1994, Eschmeyer 1998) include *Adelosebastes*, *Sebastes*, *Sebastolobus*, and a few genera not in our area in a separate family Sebastidae, while others may include only the live-bearing rockfishes, genus *Sebastes*, in Sebastidae (e.g., Smith and Wheeler 2004). Both of those alternatives are in need of further research.

Adelosebastes latens Eschmeyer, Abe, & Nakano, 1979. Aleutian Scorpionfish or **Emperor Rockfish**. To 41 cm (13.2 in) TL (Orr et al. 2000). North Pacific Ocean at Emperor Seamounts (Eschmeyer et al. 1979, Barsukov et al. 1983) and south of Delarof Islands, Aleutian Islands, Alaska (Orr and Baker 1996). At depths of 687–1,200 m (2,253–3,937 ft) (min.: Orr and Baker 1996; max.: Amaoka in Masuda et al. 1984).

Pontinus furcirhinus Garman, 1899. **Red Scorpionfish**. To 25 cm (9.8 in) TL (Robertson and Allen 2002). Southern Baja California (Poss in Fischer et al. 1995) to Paita, Peru (Chirichigno 1974), including Gulf of California, Islas Galápagos, and Isla Cocos (Robertson and Allen 2002). At depths of 46–390 m (151–1,287 ft) (min.: LACM 9717.001; max.: Robertson and Allen 2002).

Pontinus sierra (Gilbert, 1890). **Speckled Scorpionfish**. To 24.5 cm (9.9 in) TL (Amezcuea Linares 1996). Southern Baja California (Poss in Fischer et al. 1995) to Peru (4°55'S, 81°19'W; Chirichigno 1974), including Gulf of California (Poss in Fischer et al. 1995). About 20 m (66 ft; Aguilar-Palomino et al. 2001) to 273 m (895 ft; Robertson and Allen 2002).

Pontinus vaughani Barnhart & Hubbs, 1946. **Spotback Scorpionfish**. To 57 cm (22.4 in) TL (Robertson and Allen 2002). Isla Cedros, central Baja California (SIO 64-275) to Peru (Zeballos et al. 1998), including southwest part of Gulf of California and Islas Revillagigedo (Robertson and Allen 2002). At depths of 30–120 m (98–394 ft) (min.: SIO 71-32; max.: Zeballos et al. 1998).

Pontinus sp. A. To at least 20 cm (7.9 in) TL. Southern Baja California, mouth of Gulf of California, and central Mexico to Peru. At depths of 50–150 m (164–492 ft). All in Robertson and Allen (2002).

Scorpaena guttata Girard, 1854. **California Scorpionfish**. To 47 cm (18.5 in) SL (Gartman and Groce 1998). Santa Cruz, central California to Gulf of California (Miller and Lea 1972). Tidepools (Metz 1912) and surf zone to 183 m (600 ft) (min.: Carlisle et al. 1960; max.: Miller and Lea 1972).

Scorpaena histrio Jenyns, 1840. Bandfin Scorpionfish, Darkblotch Scorpionfish, or **Player Scorpionfish**. To 27 cm (10.6 in) TL (Grove and Lavenberg 1997). Isla Guadalupe (SIO 46-152), central Baja California (Robertson and Allen 2002) to Chile (Pequeño 1989), including Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 5–160 m (17–524 ft; Robertson and Allen 2002).

Scorpaena mystes Jordan & Starks, 1895. Pacific Spotted Scorpionfish or **Stone Scorpionfish**. To 45 cm (17.7 in) TL (Amezcuea Linares 1996). Redondo Beach, southern California (Swift 1986) to Chile (Pequeño 1989), including Gulf of California (Poss in Fischer et al. 1995), Islas Galápagos (Grove and Lavenberg 1997), and other offshore islands (Robertson and Allen 2002). Intertidal area and to 85 m (279 ft) (min.: SIO 52-117; max.: Amezcuea Linares 1996). Also recently as *Scorpaena plumieri mystes*.

Scorpaena russula Jordan & Bollman, 1890. **Reddish Scorpionfish** or Shortspine Red Scorpionfish. To at least 13 cm (5.1 in) TL (Robertson and Allen 2002). Bahia Abreojos (26°48'N, 113°25'W), southern Baja California (SIO 59-70) to Chimbote, Peru (Chirichigno and Vélez 1998), including Gulf of California (Allen and Robertson 1994). At depths of 7–160 m (23–525 ft) (min.: LACM 42703.023; max.: Robertson and Allen 2002).

-
- Scorpaena sonorae* Jenkins & Evermann, 1889. **Sonora Scorpionfish**. To 18 cm (7.1 in) TL (Allen and Robertson 1994). Bahia Santa Maria (24°43'N, 112°11'W), southern Baja California (SIO 64-830) and Gulf of California (Poss in Fischer et al. 1995) to Guerrero State, Mexico (Amezcuca Linares 1996). At depths of 1–91 m (4–298 ft) (min.: SIO 58-147; max.: SIO 70-253).
- Scorpaenodes xyris* (Jordan & Gilbert, 1882). **Rainbow Scorpionfish**. To 15 cm (6 in) TL (Eschmeyer and Herald 1983). Anacapa Island and Santa Barbara Island, southern California (Richards and Engle 2001) to Islas Chincha, Peru (Chirichigno 1974), including Gulf of California (Poss in Fischer et al. 1995) and Islas Galápagos (Eschmeyer and Herald 1983). Intertidal and to about 50 m (164 ft) (min.: SIO 46-155; max.: Grove and Lavenberg 1997).
- Sebastes aleutianus* (Jordan & Evermann, 1898). **Rougheye Rockfish**. To 96.5 cm (38 in) TL (Kramer and O'Connell 1995). North Pacific off northern Hokkaido, Japan and Kuril Islands to Bering Sea at Navarin Canyon, and Commander Islands and Aleutian Islands (Mecklenburg et al. 2002) to San Diego, southern California (Allen and Smith 1988). At depths of 25–900 m (82–2,953 ft; Mecklenburg et al. 2002). Molecular work has recently demonstrated that *Sebastes aleutianus* comprises two species (Gharrett et al. 2005). Description of the second species is in progress.
- Sebastes alutus* (Gilbert, 1890). **Pacific Ocean Perch**. To 55 cm (21.6 in) TL (Orlov 1996). Southern Japan and Sea of Okhotsk to Bering Sea at Navarin Canyon, and Commander Islands and Aleutian Islands (Mecklenburg et al. 2002) to Punta Blanca (29°08'N, 115°26'W), central Baja California (Snytko 1986). Near surface (Mecklenburg et al. 2002) to 825 m (2,707 ft; Allen and Smith 1988). Larvae and juveniles may drift into the Chukchi Sea (Mecklenburg et al. 2002). We note that the southernmost record is hundreds of miles below the previous one (La Jolla, southern California) and is the only record from Baja California. While this might cast doubt on the Punta Blanca record, we note that the Baja California coast has been very poorly surveyed and this species may be an occasional resident there.
- Sebastes atrovirens* (Jordan & Gilbert, 1880). **Kelp Rockfish**. To 42.5 cm (16.75 in) TL (Miller and Lea 1972). Albion, northern California (T. Laidig, pers. comm. to M. L.) to Bahia San Carlos (29°36'N, 115°12'W; Phillips 1957) and Islas San Benito (28°19'N, 115°35'W; SIO 62-279), central Baja California. Inshore to 58 m (190 ft) (min.: Eschmeyer and Herald 1983; max.: R. N. Lea, pers. comm. to M. L.). This species was reportedly taken in 190–300 m (623–984 ft) by Snytko (1986). However, this is much deeper than any other records and we are somewhat sceptical of its validity.
- Sebastes auriculatus* Girard, 1854. **Brown Rockfish**. To 56 cm (22 in) TL (Kramer and O'Connell 1995). Prince William Sound, northern Gulf of Alaska (Rosenthal 1980) to Bahia San Hipolito (26°50'N, 113°55'W), central Baja California (Miller and Lea 1972). Surf zone to 146 m (480 ft) (min.: UW 15176 [four juveniles]; max.: W. A. Palsson, pers. comm. to M. L.).
- Sebastes aurora* (Gilbert, 1890). **Aurora Rockfish**. To 41 cm (16 in) TL (Kramer and O'Connell 1995). West of Langara Island (about 54°15'N, 133°10'W), British Columbia (Gillespie 1991) to Isla Cedros, central Baja California (Kramer and O'Connell 1995). Larvae have been taken off Banco Thetis (24°40'N, 112°18'W), southern Baja California (Moser et al. 1985), strongly implying that this species lives considerably farther south than its southernmost adult record. While Nelson et al. (2004) note that records of this species from off Baja California may be based on errors in field identification, the presence of *Sebastes aurora* larvae many hundreds of miles below the U.S.–Mexican Border strongly suggests the presence of adult fish in Mexican waters. If the species is not found in Mexican waters, the southernmost range is San Diego, southern California (Phillips 1957). At depths of 81–893 m (266–2,930 ft) (min.: Wilkins et al. 1998; max.: Lauth 1999).
- Sebastes babcocki* (Thompson, 1915). **Redbanded Rockfish**. To 65.5 cm (25.8 in) TL (Mecklenburg et al. 2002 from R. N. Lea, pers. comm.). Bering Sea at Zhemchug Canyon (Allen and Smith 1988) and Amchitka Island, Aleutian Islands (Mecklenburg et al. 2002) to San Diego, southern California (Miller

-
- and Lea 1972). At depths of 49–1,145 m (161–3,756 ft) (min.: Allen and Smith 1988; max.: Ramsey et al. 2002). Between the time of its description and the early 1970s, researchers considered the Redbanded Rockfish to be synonymous with the Flag Rockfish, *S. rubrivinctus*. Work by Rosenblatt and Chen (1972) distinguished these species. However, this misidentification added confusion to various fishery studies and it is now assumed that most or all “Flag Rockfish” previously reported from Oregon to Alaska are Redbanded Rockfish.
- Sebastes baramenuke*** (Wakiya, 1917). **Brickred Rockfish.** To 51.7 cm (20.3 in) TL (Matsubara 1943). Sea of Japan off Korean Peninsula and Pacific Ocean off Honshu, Japan to Kiska Pass, western Aleutian Islands (51°57'N, 176°32'E), Alaska (Lindberg and Krasnyukova 1987). Antonenko et al. (2003) recently described the first records from the northwestern part of the Sea of Japan. At depths of 100–500 m (Sheiko and Fedorov 2000).
- Sebastes borealis*** Barsukov, 1970. **Shortraker Rockfish.** To 120 cm (47.2 in) TL (Novikov 1974). Okhotsk Sea, Pacific off northern Hokkaido, Japan to Kamchatka, and western Bering Sea (Tokranov and Davydov 1998) to Navarin Canyon and Aleutian Islands (Mecklenburg et al. 2002) to Point Conception, California (Allen and Smith 1988). At depths of 25–1,200 m (82–3,937 ft) (min.: Allen and Smith 1988; max.: Sheiko and Fedorov 2000).
- Sebastes brevispinis*** (Bean, 1884). **Silvergray Rockfish.** To 73 cm (28.7 in) TL (S. Johnson, pers. comm. to M. L.). Southeastern Bering Sea (Mecklenburg et al. 2002) to Bahia de Sebastian Vizcaino, central Baja California (Snytko and Fedorov 1974). Surface to 441 m (1,437 ft) (min.: Mecklenburg et al. 2002; max.: M. L., unpubl. data).
- Sebastes carnatus*** (Jordan & Gilbert, 1880). **Gopher Rockfish.** To 39.6 cm (15.6 in) TL (Miller and Lea 1972). Cape Blanco, Oregon (N. Wilsman, pers. comm. to M. L.) to Punta San Roque (27°12'N, 114°26'W), southern Baja California (Miller and Lea 1972). Intertidal area and to 86 m (282 ft) (min.: Chotkowski 1994; max.: Weinberg et al. 2002).
- Sebastes caurinus*** Richardson, 1844. **Copper Rockfish.** To 66 cm (26 in) TL (Mecklenburg et al. 2002 from W. A. Palsson, pers. comm.). Western Gulf of Alaska east of Kodiak Island (Mecklenburg et al. 2002) to Islas San Benito, central Baja California (Chen 1971). Intertidal zone at high tide and to 185 m (607 ft) (min.: Cross 1981; max.: Allen et al. 2002).
- Sebastes chlorostictus*** (Jordan & Gilbert, 1880). **Greenspotted Rockfish.** To 45.6 cm (18.2 in) FL (Moser 1966), equivalent to about 48.1 cm (19.2 in) TL based on conversion factors in Echeverria and Lenarz (1984). The 50 cm fish reported in Eschmeyer and Herald (1983) is probably an error and may have been a Greenblotched Rockfish, *S. rosenblatti*. Barkley Canyon, southern Vancouver Island (H. Chang and M. L., unpubl. data) to southern Baja California (25°32'N, 113°04'W; Snytko 1986). At depths of 30–379 m (98–1,243 ft) (min.: M. L., unpubl. data; max.: RACE).
- Sebastes chrysomelas*** (Jordan & Gilbert, 1881). **Black-and-Yellow Rockfish.** To 38.7 cm (15.25 in) TL (Miller and Lea 1972). Cape Blanco, Oregon (N. Wilsman, pers. comm. to M. L.) to Isla Natividad (27°51'N, 115°10'W), central Baja California (Miller and Lea 1972). Intertidal (Miller and Lea 1972) and to 37 m (120 ft; Phillips 1957).
- Sebastes ciliatus*** (Tilesius, 1813). **Dark Rockfish.** To 47.0 cm (18.5 in) FL. Western Aleutian Islands and eastern Bering Sea to Johnstone Strait, British Columbia. At depths of 5–160 m (17–528 ft). All in Orr and Blackburn (2004).
- Sebastes constellatus*** (Jordan & Gilbert, 1880). **Starry Rockfish.** To 46 cm (18 in) TL (Phillips 1957). Cordell Bank, northern California (Eldridge 1994) to Banco Thetis (24°57'N, 112°35'W), southern Baja California (Chen 1971). Tentatively identified from photographs taken at Rocas Alijos (about 25°N, 115°45'W; R. N. Lea, pers. comm. to M. L.). At depths of 15–274 m (50–900 ft) (min.: D. Jehl, pers. comm. to M. L.; max.: Miller and Lea 1972).

-
- Sebastes crameri* (Jordan, 1897). **Darkblotched Rockfish.** To 58 cm (22.8 in) TL (Kramer and O'Connell 1995). Eastern Bering Sea southeast of Zemchug Canyon and Aleutian Islands off Tanaga Island (Mecklenburg et al. 2002) to near Santa Catalina Island, southern California (Miller and Lea 1972) and Laguna Beach, southern California (LACM 35710.010). At depths of 29–915 m (95–2,985 ft) (min.: Mecklenburg et al. 2002; max.: M. L., unpubl. data).
- Sebastes dallii* (Eigenmann & Beeson, 1894). **Calico Rockfish.** To 25.4 cm (10 in) TL (J. Phillips, unpubl. data). San Francisco, northern California (Miller and Lea 1972) to Bahia de Sebastian Vizcaino, central Baja California (Chen 1971). Intertidal and to 305 m (1,000 ft) (min.: Chotkowski 1994; max.: LACS 2002).
- Sebastes diploproa* (Gilbert, 1890). **Splitnose Rockfish.** To 45.7 cm (18 in) TL (Phillips 1957). Sanak Islands, western Gulf of Alaska (Mecklenburg et al. 2002) to Isla Cedros, central Baja California (Kramer and O'Connell 1995). At depths of 80–894 m (262–2,932 ft) (min.: Mecklenburg et al. 2002; max.: Ramsey et al. 2002). Young fish often found near surface under drifting kelp (Eschmeyer and Herald 1983).
- Sebastes elongatus* Ayres, 1859. **Greenstriped Rockfish.** To 44.1 cm (17.4 in) FL (D. Pearson, pers. comm. to M. L.); about 45.6 cm TL (17.9 in) based on conversion factors in Echeverria and Lenarz (1984). Chirikof Island, western Gulf of Alaska (Allen and Smith 1988) to Isla Cedros, central Baja California (Phillips 1957). At depths of 12–1,145 m (39–3,756 ft) (min.: Shaw 1999; max.: Ramsey et al. 2002).
- Sebastes emphaeus* (Starks, 1911). **Puget Sound Rockfish.** To 18 cm (7 in) TL (Eschmeyer and Herald 1983), reported to 19 cm (7.5 in) TL (W. A. Palsson, pers. comm. to M. L.). Outer coast of Kenai Peninsula and Prince William Sound, northern Gulf of Alaska to Punta Gorda, northern California (Mecklenburg et al. 2002). Tentatively identified and photographed from off Monterey, central California (R. Starr, pers. comm. to M. L.). At depths of 3–366 m (10–1,200 ft) (min.: W. A. Palsson, pers. comm. to M. L.; max.: Eschmeyer and Herald 1983).
- Sebastes ensifer* Chen, 1971. **Swordspine Rockfish.** To 30.5 cm (12 in) TL (Miller and Lea 1972). San Francisco, northern California (Miller and Lea 1972) to Banco Ranger (28°25'N, 115°32'W), central Baja California (Chen 1971). At depths of 50–433 m (164–1,420 ft) (min.: M. L., unpubl. data; max.: Miller and Lea 1972).
- Sebastes entomelas* (Jordan & Gilbert, 1880). **Widow Rockfish.** To 59 cm (23.2 in) TL (Kramer and O'Connell 1995). Albatross Bank, western Gulf of Alaska (Allen and Smith 1988) to Bahia de Todos Santos, northern Baja California (Miller and Lea 1972). Near surface (juveniles) to 800 m (2,625 ft) (min.: M. L., unpubl. data; max.: Mecklenburg et al. 2002).
- Sebastes eos* (Eigenmann & Eigenmann, 1890). **Pink Rockfish.** To 56 cm (22 in) TL (Phillips 1957). Central Oregon (44°33'N; RACE) to southern Baja California (25°24'N, 113°01'W; Snytko 1986) and Isla Guadalupe, central Baja California (Love et al. 2002). At depths of 45–366 m (150–1,200 ft) (min.: Allen et al. 2002; max.: Miller and Lea 1972).
- Sebastes flavidus* (Ayres, 1862). **Yellowtail Rockfish.** To 66 cm (26 in) TL (Phillips 1957). Eastern Aleutian Islands south of Unalaska Island (Mecklenburg et al. 2002) to Isla San Martin, northern Baja California (J. A. Rosales-Casián, pers. comm. to M. L.). Surface (Miller and Lea 1972) and to 549 m (1,801 ft; Allen and Smith 1988), including intertidal zone (Chotkowski 1994).
- Sebastes gilli* (Eigenmann, 1891). **Bronzespotted Rockfish.** To 71.2 cm (28 in) TL (R. N. Lea, pers. comm. to M. L.). Monterey Bay, central California (Miller and Lea 1972) to off Punta Colnett (30°53'N, 116°30'W), northern Baja California (M. L., unpubl. data). At depths of 75–413 m (246–1,354 ft) (min.: Eschmeyer and Herald 1983; max.: M. L., unpubl. data). Spelled two ways in the original description, with a double *i* and with a single *i* at the end of the name. In accordance with the rules of zoological nomenclature, Nelson et al. (2004) selected the spelling with one *i* as the correct original spelling.

-
- Sebastes glaucus* Hilgendorf, 1880. **Gray Rockfish**. To 59 cm (23.2 in) TL (Mecklenburg et al. 2002). Northern Sea of Japan and Sea of Okhotsk (Lindberg and Krasnyukova 1987) to Commander Islands (B. A. Sheiko, pers. comm. to C. W. M.) and western Bering Sea north to Amayan Bay, Koryak coast (about 60°50'N; Taranetz 1933); south of Atka Island, Aleutian Islands (Orr and Baker 1996). At depths of 2–550 m (7–1,804 ft) (min.: Kondrat'ev 1996; max.: Orr et al. 1998).
- Sebastes goodei* (Eigenmann & Eigenmann, 1890). **Chilipepper**. To 59 cm (23.2 in) TL (Mecklenburg et al. 2002 after M. L., pers. comm.). Pratt and Durgin seamounts, eastern Gulf of Alaska (Mecklenburg et al. 2002) to off Bahia Magdalena, southern Baja California (Phillips 1957). Near surface to 491 m (1,611 ft) (min.: Allen and Smith 1988; max.: Wilkins et al. 1998).
- Sebastes helvomaculatus* Ayres, 1859. **Rosethorn Rockfish**. To 41 cm (16 in) TL (Kramer and O'Connell 1995). Western Gulf of Alaska east of Sitkinak Island (Mecklenburg et al. 2002) to Banco Ranger (28°33'N, 115°25'W), central Baja California (Snytko 1986). At depths of 59–1,145 m (194–3,756 ft) (min.: Johnson et al. 2003; max.: Ramsey et al. 2002).
- Sebastes hopkinsi* (Cramer, 1895). **Squarespot Rockfish**. To 29 cm (11.5 in) TL (Eschmeyer and Herald 1983). Southern Oregon (Erickson et al. 1991) to northern Baja California (30°19'N, 116°06'W; SIO 84-229) and Isla Guadalupe, central Baja California (Chen 1971). At depths of 18–305 m (60–1,000 ft) (min.: Miller and Lea 1972; max.: LACS 2002).
- Sebastes jordani* (Gilbert, 1896). **Shortbelly Rockfish**. To 35 cm (13.8 in) TL or more (Mecklenburg et al. 2002). La Perouse Bank (48°58'N, 126°43'W), southern British Columbia to southern Baja California (23°28'N, 110°43'W; Snytko 1986). Granite Island, northern Gulf of Alaska record is questionable (Allen and Smith 1988); not known from Alaska (Mecklenburg et al. 2002). Adults at depths of about 91–491 m (300–1,611 ft) (min.: Eschmeyer and Herald 1983; max.: Wilkins et al. 1998).
- Sebastes lentiginosus* Chen, 1971. **Freckled Rockfish**. To about 23 cm (9 in) TL (Miller and Lea 1972). Point Conception, central California (34°36'N; RACE) to Punta San Roque (27°08'N, 114°26'W), central Baja California (M. L., unpubl. data) and Isla Guadalupe (SIO 97-73). At depths of 22–290 m (73–951 ft) (min.: M. L., unpubl. data; max.: Snytko 1986).
- Sebastes levis* (Eigenmann & Eigenmann, 1889). **Cowcod**. Reported to 100 cm (39.4 in) TL (Butler et al. 2003). Off Newport, Oregon (Erickson and Pikitch 1987) to Banco Ranger, central Baja California (Miller and Lea 1972) and Isla Guadalupe, central Baja California (Miller and Lea 1972). Juveniles as shallow as 40 m (132 ft; Johnson 1997); adults 72–491 m (236–1,610 ft) (min.: M. L., unpubl. data; max.: Butler et al. 1999).
- Sebastes macdonaldi* (Eigenmann & Beeson, 1893). **Mexican Rockfish**. To 66 cm (26 in) TL (Miller and Lea 1972). Point Sur, central California (Miller and Lea 1972) to southern Baja California (23°24'N, 111°11'W; Chen 1971) and central Gulf of California (Poss in Fischer et al. 1995). To depths of 76–350 m (249–1,148 ft) (min.: M. L., unpubl. data; max.: Poss in Fischer et al. 1995).
- Sebastes maliger* (Jordan & Gilbert, 1880). **Quillback Rockfish**. To 61 cm (24 in) TL (Phillips 1957). Kodiak Island, Gulf of Alaska (Mecklenburg et al. 2002) to Anacapa Passage, southern California (Love and Lea 1997). At depths of 5–274 m (16–899 ft) (min.: Moulton 1977; max.: Phillips 1957).
- Sebastes melanops* Girard, 1856. **Black Rockfish**. To 69 cm (27.2 in) TL (C. Worton, pers. comm. to M. L.). Southern Bering Sea (Orr and Blackburn 2004) and Amchitka Island, Aleutian Islands (Wilimovsky 1964) to northern Baja California (Kramer and O'Connell 1995). Surface to 366 m (1,200 ft) (min.: Kramer and O'Connell 1995; max.: Eschmeyer and Herald 1983).
- Sebastes melanosema* Lea & Fitch, 1979. **Semaphore Rockfish**. To 39 cm (15.4 in) TL (Snytko 1986). Central Oregon (44°41'N, 124°48'W; Snytko 1986) to Punta San Pablo (27°13'N, 114°30'W), central Baja California (Lea and Fitch 1979). At depths of 97–490 m (318–1,607 ft) (min.: M. L., unpubl. data; max.: Snytko 1986).

-
- Sebastes melanostomus* (Eigenmann & Eigenmann, 1890). **Blackgill Rockfish**. To 61 cm (24 in) TL (Phillips 1957). Northern British Columbia off west coast of Queen Charlotte Islands (Workman et al. 1998) to Isla Cedros, central Baja California (Miller and Lea 1972). Pelagic juveniles have been taken as far south as Punta Abreojos (26°06'N, 114°05'W), southern Baja California (Moser and Ahlstrom 1978), strongly implying that adults live in southern Baja California. At depths of 88–768 m (289–2,520 ft) (min.: RACE; max.: Eschmeyer and Herald 1983).
- Sebastes miniatus* (Jordan & Gilbert, 1880). **Vermilion Rockfish**. To 76 cm (30 in) TL (Phillips 1957). Zaikof Bay, Montague Island, Prince William Sound, Alaska (O'Connell et al. 1992) to Islas San Benito, central Baja California (Chen 1971). Juveniles in shallow water (M. L., unpubl. data), adults 12–439 m (39–1,440 ft) (min.: O'Connell et al. 1992; max.: RACE).
- Sebastes moseri* Eitner, 1999. Whitespeckled Rockfish or **Whitespotted Rockfish**. To 20.6 cm (8.3 in) TL (M. Nishimoto, pers. comm. to M. L.). Point Arguello (M. L., unpubl. data) to off Punta Colnett (30°53'N, 116°30'W), northern Baja California (M. Nishimoto, pers. comm. to M. L.). At depths of 50–220 m (165–726 ft; M. L., unpubl. data).
- Sebastes mystinus* (Jordan & Gilbert, 1881). **Blue Rockfish**. To 53.3 cm (21 in) TL (Phillips 1957). Chatham Strait and Kruzof Island, southeastern Alaska (V. M. O'Connell, pers. comm. to M. L.) to Santo Tomas (31°30'N), northern Baja California (Phillips 1957). The northernmost range appears to be uncertain, at least partially due to this species' resemblance to the Dusky Rockfish (*S. ciliatus*). It is likely that all “Blue Rockfish” from the Bering Sea and the western Gulf of Alaska refer to the Dusky Rockfish (Mecklenburg et al. 2002). Surface to about 549 m (1,800 ft) (min.: Moring 1972; max.: Eschmeyer and Herald 1983), including intertidal zone (Moring 1972).
- Sebastes nebulosus* Ayres, 1854. **China Rockfish**. To 45 cm (17.7 in) TL (Ueber 1989). Kodiak Island, western Gulf of Alaska (Mecklenburg et al. 2002) to Redondo Beach (Fitch and Schultz 1978) and San Nicolas Island, southern California (Mecklenburg et al. 2002 from M. L., pers. comm.). At depths of 3–128 m (10–420 ft) (min.: Eschmeyer and Herald 1983; max.: Phillips 1957).
- Sebastes nigrocinctus* Ayres, 1859. **Tiger Rockfish**. To 61 cm (24 in) TL (Phillips 1957). Off Eider Point, Unalaska Island, Aleutian Islands (collected by D. Magone; K. L. Bush, pers. comm. with photograph to M. L.) to Tanner and Cortes banks, southern California (Lissner and Dorsey 1986). At depths of 17–298 m (56–978 ft) (min.: Johnson et al. 2003; max.: M. L., unpubl. data).
- Sebastes notius* Chen, 1971. **Guadalupe Rockfish** or Southern Rockfish. To 21.9 cm (8.6 in) SL (Chen 1971). This species has been collected at two sites: Isla Guadalupe (29°N; Chen 1971), central Baja California; and in the vicinity of Banco del Tio Sam (Uncle Sam Bank; 25°35'N), southern Baja California (Rocha-Olivares 1998). At depths of 165–250 m (541–820 ft; Chen 1971).
- Sebastes ovalis* (Ayres, 1862). **Speckled Rockfish**. To 56 cm (22 in) TL (Phillips 1957). Northern Washington (47°38'N; Nichol et al. 1989) to Arrecife Sacramento (29°40'N, 115°47'W), central Baja California (J. Phillips, unpubl. data). At depths of 30–366 m (100–1,200 ft) (min.: Miller and Lea 1972; max.: Phillips 1957).
- Sebastes paucispinis* Ayres, 1854. **Bocaccio**. To 91.4 cm (36 in) TL (Phillips 1957). Western Gulf of Alaska south of Shumagin Islands and Alaska Peninsula (Mecklenburg et al. 2002) to Punta Blanca (29°05'N, 118°13'W), central Baja California (Chen 1971). Juveniles near surface and in inshore waters, adults about 20–475 m (66–1,578 ft) (min.: Mecklenburg et al. 2002; max.: Allen and Smith 1988). One juvenile reported from tidepool (Moring 1972).
- Sebastes phillipsi* (Fitch, 1964). **Chameleon Rockfish**. To 52 cm (20.3 in) TL (M. L., unpubl. data). Point St. George, northern California (41°34'N; RACE) to Nine Mile Bank (32°39'N, 117°28'W) southern California (J. Hyde, pers. comm. to M. L.). At depths of 174–274 m (570–900 ft; Miller and Lea 1972).

-
- Sebastes pinniger* (Gill, 1864). **Canary Rockfish**. To 76 cm (30 in) TL (Phillips 1957). Western Gulf of Alaska south of Shelikof Strait (Mecklenburg et al. 2002) to Punta Colnett, northern Baja California (Phillips 1957). Young fish in shallow waters; adults about 18–838 m (59–2,749 ft) (min.: Mecklenburg et al. 2002; max.: M. Wilkins, pers. comm. to M. L.). The 838 m record is from two individuals taken in a National Marine Fisheries Service (NMFS) survey. The next deepest record was from 439 m (1,440 ft), also from a NMFS survey.
- Sebastes polyspinis* (Taranetz & Moiseev, 1933). **Northern Rockfish**. To 48 cm (18.9 in) TL (D. Clausen, pers. comm. to M. L.). North Pacific off Kuril Islands to Bering Sea at Pervenets Canyon and Commander–Aleutian chain to Graham Island, northern British Columbia (Mecklenburg et al. 2002, partly after Allen and Smith 1988). To depths of 10–740 m (33–2,428 ft) (min.: A. Abookire, pers. comm. to M. L.; max.: Sheiko and Fedorov 2000). The minimum depth of 10 m is from collection of four small fish (8.6–9.3 cm FL) in Kalsin Bay, Kodiak Island, Alaska.
- Sebastes proriger* (Jordan & Gilbert, 1880). **Redstripe Rockfish**. To 61 cm (24 in) TL (Kramer and O’Connell 1995). Pribilof Canyon, southeastern Bering Sea and Amchitka Island, Aleutian Islands (Mecklenburg et al. 2002) to southern Baja California (26°46’N, 114°07’W; Snytko and Fedorov 1975). At depths of 12–442 m (40–1,450 ft) (min.: Eschmeyer and Herald 1983; max.: Ramsey et al. 2002).
- Sebastes rastrelliger* (Jordan & Gilbert, 1880). **Grass Rockfish**. To 55.9 cm (22 in) TL (Miller and Lea 1972). Westport, Washington (UW 47283, 47°00’N, 124°00’W; W. A. Palsson, pers. comm.) to Bahia Playa Maria (28°50’N), central Baja California (Phillips 1957). Intertidal area and to 46 m (150 ft) (min.: Miller and Lea 1972; max.: Phillips 1957).
- Sebastes reedi* (Westrheim & Tsuyuki, 1967). **Yellowmouth Rockfish**. To about 58 cm (23 in) TL (Miller and Lea 1972). Sitka, southeastern Gulf of Alaska (Mecklenburg et al. 2002) to near San Francisco, northern California (Snytko 1986). Although occasionally reported from the western and northern Gulf of Alaska, and probably widespread in Gulf coastal waters, *S. reedi* has not been documented by voucher specimens beyond southeastern Alaska. At depths of 141–366 m (463–1,201 ft; Mecklenburg et al. 2002).
- Sebastes rosaceus* Girard, 1854. **Rosy Rockfish**. To 36 cm (14 in) TL (Eschmeyer and Herald 1983). Strait of Juan de Fuca, Washington (T. Wyllie Echeverria, pers. comm. to M. L.) to Bahia Tortugas (27°30’N, 114°50’W), southern Baja California (Phillips 1957). At depths of 7–263 m (24–864 ft) (min.: SCCWRP; max.: M. L., unpubl. data).
- Sebastes rosenblatti* Chen, 1971. **Greenblotched Rockfish**. To about 48 cm (19 in) TL (Miller and Lea 1972). Point Delgada, northern California (40°04’N; RACE) to Banco Ranger, central Baja California (Chen 1971). At depths of 55–491 m (180–1,610 ft) (min.: M. L., unpubl. data; max.: Wilkins et al. 1998).
- Sebastes ruberrimus* (Cramer, 1895). Red Snapper, Turkey-Red Rockfish, or **Yelloweye Rockfish**. To 91.4 cm (36 in) TL (Miller and Lea 1972). South of Umnak Island, Aleutian Islands (Mecklenburg et al. 2002) to Ensenada, northern Baja California (Phillips 1957). At depths of 15–549 m (49–1,800 ft) (min.: Kramer and O’Connell 1995; max.: Eschmeyer and Herald 1983).
- Sebastes rubrivinctus* (Jordan & Gilbert, 1880). **Flag Rockfish**. To 44 cm (17.2 in) TL (R. N. Lea, pers. comm. to M. L.). Heceta Bank, Oregon (M. Yoklavich, pers. comm. to M. L.) to off Arrecife Sacramento (29°40’N, 115°47’W), central Baja California (S. Charter, pers. comm. to M. L.). At depths of 30–418 m (100–1,371 ft) (min.: Eschmeyer and Herald 1983; max.: RACE). Until recently, most researchers considered the Redbanded Rockfish (*Sebastes babcocki*) to be synonymous with *S. rubrivinctus*. This led to errors in both geographic range and maximum length statements. It is now assumed that most records of *S. rubrivinctus* from Oregon to Alaska and fish identified as *S. rubrivinctus* larger than about 45 cm refer to *S. babcocki*.
- Sebastes rufinanus* Lea & Fitch, 1972. **Dwarf-red Rockfish**. To 17 cm (6.8 in) TL (Lea and Fitch 1972). Offshore banks and islands off southern California (M. L., unpubl. data) as far northwest as San Miguel Island (D. Schroeder, pers. comm. to M. L.). At depths of 58–167 m (363–660 ft; M. L., unpubl. data).

-
- Sebastes rufus* (Eigenmann & Eigenmann, 1890). **Bank Rockfish**. To 55.2 cm (21.5 in) TL (D. Watters, pers. comm. to M. L.). Queen Charlotte Sound, British Columbia (N. Venables, pers. comm. to M. L.) to central Baja California (29°02'N, 118°13'W; Chen 1971) and Isla Guadalupe (Miller and Lea 1972). At depths of 31–454 m (102–1,489 ft) (min.: Miller and Lea 1972; max.: Wilkins et al. 1998).
- Sebastes saxicola* (Gilbert, 1890). **Stripetail Rockfish**. To 41 cm (16.1 in) TL (Kramer and O'Connell 1995). Yakutat Bay, eastern Gulf of Alaska (Mecklenburg et al. 2002) to Punta Rompiente (27°41'N, 115°01'W), southern Baja California (LACM 32061.006). At depths of 25–547 m (82–1,795 ft; Mecklenburg et al. 2002).
- Sebastes semicinctus* (Gilbert, 1897). **Halfbanded Rockfish**. To 25 cm (10 in) TL (Phillips 1957). Northern Washington (47°33'N; RACE) to Bahia de Sebastian Vizcaino, central Baja California (Phillips 1957). At depths of 15–402 m (48–1,320 ft) (min.: SCCWRP; max.: Miller and Lea 1972).
- Sebastes serranoides* (Eigenmann & Eigenmann, 1890). **Olive Rockfish**. To 61 cm (24 in) TL (Miller and Lea 1972). Southern Oregon (M. L., unpubl. data) to Islas San Benito, central Baja California (Chen 1971). Surface and 2–172 m (7–564 ft) (min.: M. L., unpubl. data; max.: SCCWRP).
- Sebastes serriceps* (Jordan & Gilbert, 1880). **Treefish**. To 41 cm (16 in) TL (Phillips 1957). San Francisco, northern California to Isla Cedros, central Baja California (Phillips 1957). Shallow waters to 97 m (320 ft; M. Nishimoto, pers. comm. to M. L.).
- Sebastes simulator* Chen, 1971. **Pinkrose Rockfish**. To 42.1 cm (16.4 in) TL (León-Castro et al. 1993). Carmel Submarine Canyon, central California (R. N. Lea, pers. comm. to M. L.) to Cabo Colnett (30°53'N, 116°30'W), northern Baja California (M. L., unpubl. data) and Isla Guadalupe, central Baja California (León-Castro et al. 1993). At depths of 99–450 m (325–1,476 ft) (min.: Eschmeyer and Herald 1983; max.: Chen 1971).
- Sebastes umbrosus* (Jordan & Gilbert, 1882). **Honeycomb Rockfish**. To 28.5 cm (11.2 in) TL (M. L., unpubl. data). Point Pinos, central California (Miller and Lea 1972) to near Punta San Juanico (25°48'N), southern Baja California (Chen 1971). At depths of 18–270 m (60–891 ft) (min.: M. L., unpubl. data; max.: León-Castro 1993).
- Sebastes variabilis* Pallas, 1814. **Dusky Rockfish**. To 59 cm (23.2 in) FL. Hokkaido, Japan; eastern Kamchatka to about 60°N in the Bering Sea and along the Aleutian Islands to Johnstone Strait, British Columbia; one record from Oregon (44°24'N, 124°47'W; V. Tuttle, pers. comm. to M. L.). At depths of 6–675 m (20–2,228 ft). All in Orr and Blackburn (2004) except the Oregon coordinates.
- Sebastes variegatus* Quast, 1971. **Harlequin Rockfish**. To 38 cm (15 in) TL (Kramer and O'Connell 1995). Southeastern Bering Sea and Aleutian Islands at Bowers Bank (Mecklenburg et al. 2002) to 95 km (59 mi) southwest of Newport, Oregon (44°32'N, 124°39'W; Orr and Baker 1996). At depths of 6–558 m (20–1,831 ft). The 6 m record is from a juvenile; the shallowest adult is 49 m (161 ft) (min.: Gillespie et al. 1993; max.: Allen and Smith 1988).
- Sebastes wilsoni* (Gilbert, 1915). **Pygmy Rockfish**. To 23 cm (9 in) TL (Kramer and O'Connell 1995). Outer coast of Kenai Peninsula, northern Gulf of Alaska (Mecklenburg et al. 2002) to Cortes Bank, southern California (Miller and Lea 1972). At depths of 29–383 m (95–1,256 ft) (min.: Mecklenburg et al. 2002; max.: Wilkins et al. 1998).
- Sebastes zacentrus* (Gilbert, 1890). **Sharpchin Rockfish**. To 45 cm (18 in) TL (Shaw 1999). Attu Island, Aleutian Islands (Mecklenburg et al. 2002) to San Diego, southern California (Phillips 1957). At depths of 25 to 610–660 m (83 to 2,001–2,164 ft) (min.: Allen and Smith 1988; max.: Snytko 1986).
- Sebastolobus alascanus* Bean, 1890. **Shortspine Thornyhead**. To 80 cm (31.5 in) SL (Amaoka in Masuda et al. 1984). Seas of Okhotsk and Japan to Pacific Ocean and Bering Sea off Kamchatka (Tokranov and

Novikov 1997) to Navarin Canyon and Aleutian Islands (Mecklenburg et al. 2002) to Pacific off Boca de Santo Domingo (25°32'N, 113°04'W), southern Baja California (Snytko 1987). At depths of 17–1,524 m (56–5,000 ft) (min.: Sheiko and Fedorov 2000; max.: Eschmeyer and Herald 1983).

Sebastolobus altivelis Gilbert, 1896. **Longspine Thornyhead**. To 38 cm (15 in) TL (Phillips 1957). Shumagin Islands, western Gulf of Alaska to Cabo San Lucas, southern Baja California (Mecklenburg et al. 2002). Reports from Bering Sea and Aleutian Islands are undocumented and of doubtful validity (Mecklenburg et al. 2002). At depths of 201–1,756 m (660–5,760 ft; Kramer and O'Connell 1995).

Sebastolobus macrochir (Günther, 1877). Broadbanded Thornyhead or **Broadfin Thornyhead**. To 38 cm (15 in) TL (Orlov 1996). Seas of Japan and Okhotsk to Commander Islands, Pacific Ocean south of Aleutian Islands, and Bering Sea south of Cape Navarin to eastern Bering Sea (Mecklenburg et al. 2002). At depths of 100–1,504 m (328–4,934 ft) (min.: Orlov and Kochkin 1995; max.: Mecklenburg et al. 2002). Many of the earlier records for this species in the eastern Bering Sea pertain to *S. alascanus*. The vernacular “broadbanded thornyhead” may have originated as a typographical error for broadbanded (translation of *macrochir*), in reference to the pectoral fins (Mecklenburg et al. 2002); the fish does not have any bands of color. The AFS–ASIH list of North American fish names (Nelson et al. 2004) now gives the name Broadfin Thornyhead for this species.

Family Triglidae — Searobins

Bellator gymnostethus (Gilbert, 1892). **Nakedbelly Searobin** or Short-Spine Searobin. To 15 cm (5.9 in) TL (Robertson and Allen 2002). South of Punta Redonda (24°28'N, 112°02'W), southern Baja California (Black 1977) to Isla San Lorenzo, Callao, Peru (Chirichigno 1974), including Gulf of California (Galván-Magaña et al. 1996). At depths of 30–200 m (98–656 ft; Robertson and Allen 2002).

Bellator loxias (Jordan, 1897). Barred Searobin or **Chevron Searobin**. To 15 cm (5.9 in) TL (Bussing in Fischer et al. 1995). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Isla San Lorenzo, Callao, Peru (Chirichigno 1974), including Gulf of California (Bussing in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). About 20 m (66 ft; Aguilar-Palomino et al. 2001) to 191 m (626 ft; SIO 84-81).

Bellator xenisma (Jordan & Bollman, 1890). **Splitnose Searobin**. To 12.5 cm (4.9 in) TL (Amezcuca Linares 1996). Punta Gorda (23°05'N, 109°25'W; SIO 84-77), near tip of Baja California and Gulf of California (Bussing in Fischer et al. 1995) to northern Peru (Chirichigno and Vélez 1998). One reported off Santa Barbara, southern California (Eschmeyer and Herald 1983). At depths of 17–200 m (55–656 ft) (min.: SIO 60-106; max.: Amezcuca Linares 1996).

Prionotus albirostris Jordan & Bollman, 1890. **Whitesnout Searobin**. To 22 cm (8.7 in) TL (Amezcuca Linares 1996). Bahia San Hippólito (26°57'N, 113°53'W), southern Baja California (González-Acosta et al. 1999) and Gulf of California (Bussing in Fischer et al. 1995) to northern Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997). At depths of 19–100 m (63–328 ft) (min.: SIO 64-270; max.: Amezcuca Linares 1996).

Prionotus birostratus Richardson, 1844. **Twobeak Searobin**. To 18 cm (7.1 in) TL (Bussing in Fischer et al. 1995). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Playas, Ecuador (Bussing in Fischer et al. 1995), including Gulf of California (Bussing in Fischer et al. 1995). At depths of 18–60 m (60–197 ft) (min.: SIO 62-707; max.: Robertson and Allen 2002).

Prionotus horrens Richardson, 1844. **Bristly Searobin**. To 35 cm (13.8 in) TL (Bussing in Fischer et al. 1995). Bahia Magdalena, southern Baja California (LACM 38091.008) to Peru (Bussing in Fischer et al. 1995), including Gulf of California (Robertson and Allen 2002). At depths of 7–105 m (23–344 ft) (min.: LACM 42703.010; max.: Amezcuca Linares 1996).

Prionotus ruscarius Gilbert & Starks, 1904. Common Searobin or **Rough Searobin**. To 30 cm (11.8 in) TL (Bussing in Fischer et al. 1995). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) into northern Gulf of California to Chile (Pequeño 1989). At depths of 4–107 m (13–351 ft) (min.: LACM 47878.011; max.: Amezcua Linares 1996).

Prionotus stephanophrys Lockington, 1881. **Lumptail Searobin**. To 43 cm (16.9 in) TL (Robertson and Allen 2002). Columbia River, Washington (Eschmeyer and Herald 1983) to Chile (Pequeño 1989), including Gulf of California (Bussing in Fischer et al. 1995). At depths of 2–255 m (7–836 ft) (min.: M. Shane, pers. comm. to M. L.; max.: Robertson and Allen 2002). *Prionotus quiescens* Jordan & Bollman, 1890, is a junior synonym.

Family Anoplopomatidae — Sablefishes

Anoplopoma fimbria (Pallas, 1814). Blackcod or **Sablefish**. To 114 cm (45 in) TL (Mecklenburg et al. 2002). Pacific Ocean off central Honshu, Japan (Sasaki 1985) to Aleutian Islands and Bowers Bank to Bering Sea south of St. Lawrence Island, Alaska (Allen and Smith 1988) and to Islas San Benito and Isla Cedros, central Baja California (Knaggs et al. 1975). Adults near bottom to 2,740 m (8,989 ft; McFarlane and Beamish 1983), juveniles often near shore and shallower (Mecklenburg et al. 2002).

Erilepis zonifer (Lockington, 1880). Priestfish or **Skilfish**. To 183 cm (72 in) TL (Miller and Lea 1972). Sagami Bay, Pacific coast of central Honshu, Japan (Mecklenburg 2003) to south of Commander–Aleutian chain and southern Gulf of Alaska (Mecklenburg et al. 2002) to Monterey Bay, central California (Eschmeyer and Herald 1983). Adults close to bottom at depths of 200–1,030 m (656–3,379 ft), usually far from shore (min.: Mecklenburg et al. 2002; max.: Mitani et al. 1986); juveniles and young adults to about 110 cm TL (43 in) collected near surface, sometimes close to shore (Mecklenburg et al. 2002).

Family Hexagrammidae — Greenlings

Hexagrammos decagrammus (Pallas, 1810). **Kelp Greenling**. To 53 cm (21 in) TL (Eschmeyer and Herald 1983). Attu Island, Aleutian Islands to Gulf of Alaska coasts (Mecklenburg et al. 2002) to La Jolla, southern California (Miller and Lea 1972). Intertidal (Miller and Lea 1972; M. L., unpubl. data) and to 130 m (426 ft; M. L., unpubl. data); reported but not confirmed to 242 m (794 ft; Lauth 2000).

Hexagrammos lagocephalus (Pallas, 1810). **Rock Greenling**. To 61 cm (24 in) TL (Miller and Lea 1972). Yellow, Japan, and Okhotsk seas to Commander–Aleutian chain and northern Bering Sea (Mecklenburg et al. 2002) to Point Conception, central California (Miller and Lea 1972). A few larvae have been collected in southern California, as far south as Santa Monica Bay (Moser et al. 2002). Intertidal area (Miller and Lea 1972) and shallow waters (Eschmeyer and Herald 1983), recorded to depth of 80 m (262 ft) in eastern Pacific (Mecklenburg et al. 2002) and to 596 m (1,955 ft) in western Pacific (Orlov 1998). Following Mecklenburg et al. (2002), Mecklenburg and Eschmeyer (2003), and some earlier authors, treatment here includes *Hexagrammos superciliosus* (Pallas, 1810), which is classified by some authors as a distinct species. Molecular evidence presented by Crow et al. (2004) supports the existence of a single, widely distributed species.

Hexagrammos octogrammus (Pallas, 1814). **Masked Greenling**. To 28 cm (11 in) TL (Eschmeyer and Herald 1983). Okhotsk and Japan seas to Commander–Aleutian chain and St. Lawrence Island, northern Bering Sea (Mecklenburg et al. 2002) to Banks Island, northern British Columbia (Peden and Wilson 1976). At depths of 6–31 m (20–102 ft; Mecklenburg et al. 2002).

Hexagrammos stelleri Tilesius, 1810. **Whitespotted Greenling**. To about 48 cm (19 in) TL (Miller and Lea 1972). Japan Sea to Commander–Aleutian chain and Chukchi and Bering seas to Puget Sound, Washington; one unconfirmed report from Simpson Cove, Beaufort Sea (Mecklenburg et al. 2002). Intertidal waters and to depth of 175 m (574 ft; Allen and Smith 1988).

Ophiodon elongatus Girard, 1854. **Lingcod**. To 152 cm (60 in) TL (Wilby 1937). Shumagin Islands, southwestern Gulf of Alaska to Pacific Ocean off Punta San Carlos, northern Baja California (Mecklenburg et al. 2002). Intertidal waters and to depth of 475 m (1,558 ft; Allen and Smith 1988; min. confirmed by M. L., unpubl. data).

Oxylebius pictus Gill, 1862. **Painted Greenling**. To 25.4 cm (10 in) TL (Miller and Lea 1972). Kachemak Bay (Abookire 2002) and Prince William Sound (Orsi et al. 1991), northern Gulf of Alaska to Bahia San Carlos (29°36'N, 115°35'W; SIO 84-237), central Baja California. Existing statements of range to Bering Sea are based on older reports that have been discounted (Mecklenburg et al. 2002). Larvae have been taken into southern Baja California at about 27°N (Moser et al. 1994). Although the Kachemak Bay report lacks a voucher specimen, this species is distinctive and not likely to be misidentified. Intertidal and to depth of 225 m (738 ft) (min.: Eschmeyer and Herald 1983; max.: SIO 01-193), reported to 249 m (816 ft; D. Schroeder, pers. comm. to M. L.); typically shallower than 50 m (164 ft).

Pleurogrammus monoptyerygius (Pallas, 1810). **Atka Mackerel** or Northern Atka Mackerel. To 51 cm (20.1 in) TL (Mecklenburg et al. 2002:391 [see note on size therein]). Sea of Japan (Antonenko et al. 2003) and Sea of Okhotsk (Chereshnev and Nazarkin 2004) to Commander–Aleutian chain and northern Bering Sea (Mecklenburg et al. 2002) to Redondo Beach, southern California (Eschmeyer and Herald 1983); rare in eastern North Pacific south of Alaska (Mecklenburg et al. 2002). Lower intertidal and to 720 m (2,362 ft; Hoff and Britt 2003). Following Mecklenburg and Eschmeyer (2003) we treat *Pleurogrammus azonus* Jordan & Metz, 1913, a western Pacific form sometimes classified as a junior synonym of *P. monoptyerygius* (e.g., Nelson 1994, Mecklenburg et al. 2002), as a distinct species with common name Southern Atka Mackerel or Arabesque Greenling. Molecular evidence recently presented by Crow et al. (2004) supports the existence of two distinct species.

Zaniolepis frenata Eigenmann & Eigenmann, 1889. **Shortspine Combfish**. To 25 cm (10 in) TL (Eschmeyer and Herald 1983). Southern Oregon (Miller and Lea 1972) to Bahia San Cristobal (27°22'N, 114°37'W), southern Baja California (Knaggs et al. 1975) and in Gulf of California (Castro-Aguirre 1991). On bottom at depths of 55–244 m (180–800 ft; Eschmeyer and Herald 1983); reported but not confirmed at 7–450 m (23–1,476 ft) (min.: SCCWRP; max.: RACE). The species name is correctly spelled *frenata* to agree in gender (feminine) with the genus name, not *frenatus* as originally spelled (Mecklenburg and Eschmeyer 2003).

Zaniolepis latipinnis Girard, 1858. **Longspine Combfish**. To 30.5 cm (12 in) TL (Miller and Lea 1972). Vancouver Island, southern British Columbia (Miller and Lea 1972) to southern Baja California (25°45'N, 112°23'W; LACM 31762.017). On bottom at depths of 37–201 m (120–660 ft; Eschmeyer and Herald 1983); reported but not confirmed at 7–421 m (23–1,381 ft) (min.: SCCWRP; max.: RACE).

Note: Some authors classify *Zaniolepis* in a separate family Zaniolepididae, the combfishes. Other arrangements have been proposed (see Mecklenburg and Eschmeyer 2003, Crow et al. 2004).

Family Rhamphocottidae — Grunt Sculpins

Rhamphocottus richardsonii Günther, 1874. **Grunt Sculpin**. To 9.3 cm (3.7 in) TL (SIO 01-79; H. J. Walker, pers. comm. to C. W. M.). Japan (Yabe in Masuda et al. 1984); western Gulf of Alaska near Unimak Pass (UW 22721), Sanak Islands (UW 111429), and Semidi Islands (C. W. M., unpubl. data) to Santa Monica Bay, southern California (Eschmeyer and Herald 1983) and Tanner Bank (32°38'N, 119°09'W; SIO 79-60). Reported to Bering Sea by Clemens and Wilby (1946; “northwestern Alaska”), Wilimovsky (1954), and subsequent authors, but specific documentation has not been found (Mecklenburg et al. 2002:397). However, occurrence near Unimak Pass in the southwesternmost part of the Gulf of Alaska (UW 22721) is well documented, and indicates the species likely does occur in the southern area of the Bering Sea. Tidepools and shallow water (Clemens and Wilby 1946) and to depth of 258 m (846 ft; SIO 00-49), possibly deeper (SIO 79-60, collected by semipelagic trawl at 183–293 m).

Family Cottidae — Sculpins

- Archistes biseriatus* (Gilbert & Burke, 1912). **Scaled Sculpin**. To 16 cm (6.3 in) SL (Orlov et al. 2001). Central and northern Kuril Islands (Yabe and Soma 2000, Orlov et al. 2001) and southern Bering Sea north of Petrel Bank and Seguam Island (Orlov et al. 2001). Bottom or near bottom at depths of 75–145 m (246–476 ft) (min.: ZIN 49280; max.: Orlov et al. 2001). Recently called *Archaulus biseriatus*.
- **Archistes plumarius* Jordan & Gilbert, 1898. **Plumed Sculpin**. To 7.2 cm (2.8 in) TL. Two records known, each of a single fish: Ushishir Island, Kuril Islands and Medny Island, Commander Islands. On bottom at depth of 40 m (131 ft) was reported for the Medny Island specimen. All in Mecklenburg et al. (2002).
- Arteidiellichthys nigripinnis* (Schmidt, 1937). **Blackfin Hookear Sculpin**. To 15.9 cm (6.3 in) TL (Tokranov 2001). Okhotsk Sea and Pacific Ocean off Kuril Islands to Cape Navarin, western Bering Sea; southern Bering Sea north of Rat Islands, western Aleutian Islands; eastern Gulf of Alaska (Mecklenburg et al. 2002). Bottom at depths of 200–800 m (656–12,625 ft) (min.: Neyelov 1979; max.: Tokranov 2001); sometimes in water column, e.g., at about 200 m over bottom depth of 3,730 m (Neyelov 1979).
- **Arteidiellus camchaticus* Gilbert & Burke, 1912. **Clownfin Sculpin**. To 16 cm (6.3 in) TL (Tokranov 1988). Okhotsk Sea coast of Hokkaido to Pacific Ocean off Kuril Islands and southeastern Kamchatka, to Commander Islands and western Bering Sea north to Cape Navarin, Russia not far from Alaska border (International Dateline) (Mecklenburg et al. 2002). Bottom at depths of 35–520 m (115–1,706 ft; Sheiko and Fedorov 2000).
- Arteidiellus gomojunovi* Taranetz, 1933. **Spinyhook Sculpin**. To 7.6 cm (3.0 in) TL. Kuril Islands to northern Bering Sea. One record, unconfirmed, from Point Barrow, Alaska. Benthic, at depths of 37–380 m (121–1,246 ft). All in Mecklenburg et al. (2002).
- **Arteidiellus miacanthus* Gilbert & Burke, 1912. Northern Hookear Sculpin or **Smallhook Sculpin**. To 7.2 cm (2.8 in) TL. Paramushir Island, northern Kuril Islands to western Bering Sea off Cape Navarin, and unconfirmed or unverifiable records from Gulf of Anadyr, Russia and southeast of St. Lawrence Island, Alaska. Bottom at depths of 33–293 m (108–961 ft). All in Mecklenburg et al. (2002).
- Arteidiellus ochotensis* Gilbert & Burke, 1912. **Okhotsk Hookear Sculpin**. To 10.2 cm (4.0 in) TL. Japan Sea at Peter the Great Bay to Okhotsk Sea, Kuril Islands, and Commander Islands, to Gulf of Anadyr, western Bering Sea; northeastern Chukchi Sea. Bottom at depths of 4–100 m (12–328 ft). All in Mecklenburg et al. (2002).
- Arteidiellus pacificus* Gilbert, 1896. **Hookhorn Sculpin**, Pacific Hookear Sculpin, or Paddled Sculpin. To 8.7 cm (3.4 in) SL, about 10.5 cm (4.1 in) TL. Northern Japan Sea and Okhotsk Sea to northern Bering Sea to Limestone Inlet, southeastern Alaska; one record, unconfirmed, from eastern Chukchi Sea (Mecklenburg et al. 2002). Benthic, at depths of 15–250 m (50–820 ft) (min.: Eschmeyer and Herald 1983; max.: Mecklenburg et al. 2002).
- Arteidiellus scaber* Knipowitsch, 1907. **Hamecon**. To 8.9 cm (3.5 in) TL (Mecklenburg et al. 2002). Bering Sea south of St. Lawrence Island and Cape Navarin to Chukchi and Beaufort seas, east through Arctic Ocean to Somerset Island, Canada, and west to Barents and Kara seas; Cook Inlet, northern Gulf of Alaska (Mecklenburg et al. 2002). At depths of 10–100 m (33–328 ft) (min.: Mecklenburg et al. 2002; max.: Fedorov in Whitehead et al. 1986). Although there is one Cook Inlet record this is a disjunct record and could represent contamination of samples (A. E. Peden, pers. comm. to C. W. M.).
- Arteidius corallinus* (Hubbs, 1926). **Coralline Sculpin**. To 14 cm (5.5 in) TL (Miller and Lea 1972). Orcas Island, Washington to Isla San Martin, northern Baja California (Miller and Lea 1972). Lower intertidal area (Bolin 1944) and to 70 m (230 ft; D. Schroeder, pers. comm. to M. L.).

-
- Artedius fenestralis* Jordan & Gilbert, 1883. **Padded Sculpin**. To 14 cm (5.5 in) TL (Miller and Lea 1972). Unalaska Island, Aleutian Islands to north side of Alaska Peninsula at Herendeen Bay (UW 22140) and to Diablo Cove, central California (Miller and Lea 1972). Intertidal, including tidepools (Gilbert and Burke 1912), and to 55 m (180 ft; Eschmeyer and Herald 1983), reported to 122 m (402 ft; W. A. Palsson, pers. comm. to M. L.).
- Artedius harringtoni* (Starks, 1896). **Scalyhead Sculpin**. To 10.2 cm (4 in) TL (Miller and Lea 1972). Unalaska Island, Aleutian Islands; Kodiak Island, western Gulf of Alaska (Mecklenburg et al. 2002) to San Miguel Island, southern California (Miller and Lea 1972). Intertidal, including tidepools (Bolin 1944), and to 21 m (70 ft; Miller and Lea 1972).
- Artedius lateralis* (Girard, 1854). **Smoothhead Sculpin**. To 14 cm (5.5 in) TL (Peden and Wilson 1976). Sanak Island, western Gulf of Alaska (Mecklenburg et al. 2002) to Punta Baja (29°58'N, 115°49'W; SIO 51-401). Intertidal zone (Bolin 1944), including tidepools (Mecklenburg et al. 2002), and to 15 m (49 ft; Eschmeyer and Herald 1983), reported to 70 m (228 ft; W. A. Palsson, pers. comm. to M. L.).
- Artedius notospilotus* Girard, 1856. Bonehead Sculpin or **Bonyhead Sculpin**. To 25.4 cm (10 in) TL (Miller and Lea 1972). Puget Sound, Washington (Miller and Lea 1972) to Punta Rocosa (28°45'N, 114°24'W), central Baja California (SIO 52-164). Reports of occurrence in Alaska are incorrect (Mecklenburg et al. 2002; C. W. M., unpubl. data). Intertidal (Bolin 1944) and to depth of 52 m (170 ft; Eschmeyer and Herald 1983).
- Ascelichthys rhodorus* Jordan & Gilbert, 1880. **Rosylip Sculpin**. To 15.0 cm (5.9 in) TL (Miller and Lea 1972). Olsen Bay, Prince William Sound, northern Gulf of Alaska (Mecklenburg et al. 2002) to Pillar Point, central California (Eschmeyer and Herald 1983). Intertidal zone, typically in tidepools (Bolin 1944), and to depth of 15.2 m (50 ft; Mecklenburg et al. 2002 [UW 1492]).
- Bolinia euryptera* Yabe, 1991. **Broadfin Sculpin**. To 18.9 cm (7.4 in) SL (Yabe 1991). Off Aleutian Islands from Near Strait (52°11'N, 175°16'E; UW 46561) to Akutan Pass (54°14'N, 165°54'W; UW 49554). At depths of 61–410 m (232–1,345 ft) (min.: UW 48490; max.: Yabe 1991). Described by Yabe (1991) from depths of 201 m and more, *B. euryptera* has since been collected at shallower depths of 61 m (UW 49554), 110 m (UW 48490), and 148 m (UW 45600) on the shelf off the Aleutian Islands.
- Chitonotus pugetensis* (Steindachner, 1876). **Roughback Sculpin**. To 22.9 cm (9 in) TL (Miller and Lea 1972). Mears Pass (55°17'N, 133°11'W; AB 03-15) and Coco Harbor (55°03'N, 133°02'W; AB 03-16), southeastern Alaska (B. L. Wing, pers. comm. to C. W. M.) to Bahia Santa Maria, southern Baja California (Miller and Lea 1972). Intertidal area and to 144 m (474 ft) (min.: Miller and Lea 1972; max.: M. L., unpubl. data).
- Clinocottus acuticeps* (Gilbert, 1896). **Sharpnose Sculpin**. To 6.4 cm (2.5 in) TL (Miller and Lea 1972). Attu Island, Aleutian Islands (Gilbert and Burke 1912) to Big Sur River, central California (Miller and Lea 1972). Intertidal area and to 20 m (66 ft; Mecklenburg et al. 2002), including tidepools (Green 1971). Often in brackish water, occasionally in fresh water (Morrow 1980).
- Clinocottus analis* (Girard, 1858). **Woolly Sculpin**. To 17.8 cm (7 in) TL (Miller and Lea 1972). Cape Mendocino, northern California (Eschmeyer and Herald 1983) to Punta Ascuncion, central Baja California (Miller and Lea 1972) and Isla Cedros, central Baja California (LACM 32014.013). Intertidal area and to 18 m (60 ft; Miller and Lea 1972).
- Clinocottus embryum* (Jordan & Starks, 1895). **Calico Sculpin**. To 7.0 cm (2.75 in) TL (Miller and Lea 1972). Attu Island, Aleutian Islands (Gilbert and Burke 1912) to Punta Banda, northern Baja California (Miller and Lea 1972). Intertidal and shallow subtidal areas (Miller and Lea 1972), typically in tidepools (Bolin 1944).

-
- Clinocottus globiceps* (Girard, 1858). **Mosshead Sculpin**. To 19.0 cm (7.5 in) TL (Miller and Lea 1972). Chernabura and Kodiak islands, western Gulf of Alaska (Mecklenburg et al. 2002) to Gaviota, southern California (Miller and Lea 1972). Intertidal and shallow subtidal areas (Miller and Lea 1972), common in tidepools (Bolin 1944).
- Clinocottus recalvus* (Greeley, 1899). **Bald Sculpin**. To 13.0 cm (5.12 in) TL (Miller and Lea 1972). Mill Beach near Brookings, southern Oregon to Punta Rompiente, central Baja California (Miller and Lea 1972). Intertidal and shallow subtidal areas (Eschmeyer and Herald 1983).
- Cottus aleuticus* Gilbert, 1896. **Coastrange Sculpin**. To 17.2 cm (6.8 in) TL (Hubbs 1921). Kobuk River (drains to Kotzebue Sound, eastern Chukchi Sea) (Morrow 1980); Bristol Bay, Alaska Peninsula, and Aleutian Islands drainages (Mecklenburg et al. 2002) to Oso Flaco Creek, Santa Barbara County, central California (Swift et al. 1993). Fresh and brackish waters (Wydoski and Whitney 1979); migrate downstream to estuaries and lower reaches of rivers in spring to spawn (Morrow 1980).
- Cottus asper* Richardson, 1836. **Prickly Sculpin**. To 19.2 cm (7.7 in) SL (Coad 1995). Seward, Alaska (coast of northern Gulf of Alaska) to Ventura River, southern California (Morrow 1980). Usually in fresh water, occasionally in estuaries and nearshore marine waters (Mecklenburg et al. 2002).
- Enophrys bison* (Girard, 1854). **Buffalo Sculpin**. To 37.1 cm (14.6 in) TL (Miller and Lea 1972). Uyak Bay, Kodiak Island, western Gulf of Alaska (Mecklenburg et al. 2002) to Monterey Bay, central California (Miller and Lea 1972). Benthic; intertidal and to 26 m (85 ft) (min.: Sandercock and Wilimovsky 1968; max.: LACM 35699.003), reported to 137 m (450 ft; W. A. Palsson, pers. comm. to M. L.).
- Enophrys diceraus* (Pallas, 1788). **Antlered Sculpin**. To 28 cm (11.2 in) TL (Neyelov 1979). Japan and Okhotsk seas to Commander–Aleutian chain, Bering Sea, and Chukchi Sea to Point Barrow, to Fort Tongass, southeastern Alaska (Mecklenburg et al. 2002). Benthic, at depths of 11–120 m (36–394 ft) (min.: UW 1496; max.: UW 22364, UW 42655), reported to 395 m (1,296 ft) in the Sea of Okhotsk in winter when it moves down from the shelf (B. A. Sheiko, pers. comm. to C. W. M.).
- Enophrys lucasi* (Jordan & Gilbert, 1898). **Leister Sculpin**. To about 25 cm (9.8 in) TL (Mecklenburg et al. 2002). Bering Strait, Alaska and Commander–Aleutian chain (Sandercock and Wilimovsky 1968) to northern British Columbia near Port McNeill (Peden and Wilson 1976). Benthic, at shallow subtidal depths of 17 m (56 ft) and less to 198 m (650 ft) (min.: Peden and Wilson 1976; max.: UW 25673).
- Enophrys taurina* Gilbert, 1914. **Bull Sculpin**. To 17 cm (6.75 in) TL (Eschmeyer and Herald 1983). San Francisco, northern California (Miller and Lea 1972) to Santa Catalina and San Nicolas islands, southern California (Sandercock and Wilimovsky 1968). Benthic, at depths of 11–256 m (36–840 ft; Miller and Lea 1972).
- Gymnocanthus detrisus* Gilbert & Burke, 1912. **Purplegray Sculpin**. To 40 cm (15.7 in) TL (Tokranov 1981). Pacific and Okhotsk coasts of Hokkaido, Japan (Nakabo in Nakabo 2002) to eastern Bering Sea, Alaska (Mecklenburg et al. 2002). Benthic, at depths of 15–450 m (49–1,476 ft; Sheiko and Fedorov 2000).
- Gymnocanthus galeatus* Bean, 1881. **Armorhead Sculpin**. To about 36 cm (14 in) TL (Eschmeyer and Herald 1983). Northern Japan Sea off Hokkaido to Commander–Aleutian chain and Bering Sea (Mecklenburg et al. 2002) to Wales Island, British Columbia (Peden and Wilson 1976). Bottom in shallow water near shore (Mecklenburg et al. 2002) to 579 m (1,900 ft; Orlov 1998), possibly to 625 m (2,050 ft; Allen and Smith 1988), and most common at 50–165 m (164–541 ft; Mecklenburg et al. 2002). The author and publication date are sometimes given in parentheses, which would indicate the species is classified in a genus other than that in which it was originally described. However, *Gymnocanthus* was misspelled *Gymnacanthus* in the original species description and changing from the incorrect to the correct spelling is just a correction, not a move to another genus.

-
- Gymnocanthus pistilliger*** (Pallas, 1814). **Threaded Sculpin.** To 29.2 cm (11.5 in) TL (Wilson 1973). Southern Japan Sea off South Korea and Okhotsk Sea to Commander–Aleutian chain, Bering Sea to Port Clarence (Bering Strait), and to Oliver Inlet, Stephens Passage, southeastern Alaska (Mecklenburg et al. 2002). Bottom, often in shallow water (e.g., UW 25681 and UW 26359, taken by beach seine), reported to 325 m (1,073 ft) but rarely found deeper than 150 m (492 ft; Allen and Smith 1988).
- Gymnocanthus tricuspis*** (Reinhardt, 1830). **Arctic Staghorn Sculpin.** To 29.9 cm (11.8 in) TL (Mecklenburg et al. 2002). Circumpolar; Beaufort and Chukchi seas to northern Bering Sea (Mecklenburg et al. 2002). Bottom in shallow water close to shore (7.6 m or less; Mecklenburg et al. 2002) and to depth of 451 m (1,480 ft; Yabe in Okamura et al. 1995).
- ****Hemilepidotus gilberti*** Jordan & Starks, 1904. **Banded Irish Lord.** To about 43 cm (16.9 in) TL (Mecklenburg et al. 2002). Japan Sea off North Korea (Lindberg and Krasnyukova 1987) and Pacific Ocean off northern Honshu (Shinohara et al. 1996) to Okhotsk Sea, to western Bering Sea off Commander Islands (Peden 1978) to Cape Olyutorskiy (59°44'N, 170°20'E; ZIN 17740). Intertidal area, including tidepools, and to depth of 604 m (1,982 ft) (min.: UW 41395, a juvenile from an upper intertidal tidepool; max.: B. A. Sheiko, pers. comm. to C. W. M.), typically at less than 200 m (Mecklenburg et al. 2002).
- Hemilepidotus hemilepidotus*** (Tilesius, 1811). **Red Irish Lord.** To 50.8 cm (20 in) TL (Miller and Lea 1972). Commander–Aleutian chain and southeastern Bering Sea (Mecklenburg et al. 2002) to Mussel Point, Monterey Bay, central California (Bolin 1944, Peden 1978). Intertidal area, including tidepools, to 88 m (289 ft) (min.: Peden 1978; max.: UW 48809), reported to 168 m (552 ft; W. A. Palsson, pers. comm. to M. L.). A Diablo Cove, central California, observation (Burge and Schultz 1973) predates the revision of this group by Peden (1978) and cannot be confirmed. Contrary to previous reports, has not been documented from the Pacific Ocean off southeastern Kamchatka or the western Bering Sea except off the Commander Islands (Tokranov et al. 2003).
- Hemilepidotus jordani*** Bean, 1881. **Yellow Irish Lord.** To about 52 cm (20.5 in) TL (Zenger 2004); at least one other fish of similar size was recently caught near Kasatochi Island, Aleutian Islands, Alaska (C. W. M., unpubl. data). Okhotsk Sea off Hokkaido to Commander–Aleutian chain, Bering Sea, and southern Chukchi Sea to Port Conclusion, southeastern Alaska (Mecklenburg et al. 2002). Shallow water near shore (e.g., UW 1359, UW 3097, and UW 26663, taken in beach seines) and to depth of 917 m (3,008 ft; UW 49511), typically at less than 250 m (820 ft; Allen and Smith 1988); juveniles occasionally in rocky tidepools (Mecklenburg et al. 2002).
- Hemilepidotus papilio*** (Bean, 1880). **Butterfly Sculpin.** To about 37 cm (14.6 in) TL (Mecklenburg et al. 2002). Japan Sea off Hokkaido and Okhotsk Sea to Chukchi Sea, eastern Bering Sea, and Aleutian Islands (Mecklenburg et al. 2002) west to Buldir Island (Allen and Smith 1988). Intertidal, frequently in tidepools, and to 320 m (1,050 ft) (min.: Bean 1880; max.: Mecklenburg et al. 2002 [from B. A. Sheiko, pers. comm.]), typically at less than 150 m (Allen and Smith 1988). Originally named *Melletes papilio*. Most authors treat *Melletes* as a subgenus.
- Hemilepidotus spinosus*** Ayres, 1854. **Brown Irish Lord.** To 29 cm (11.25 in) TL (Eschmeyer and Herald 1983). Southern Bering Sea (Matarese et al. 2003) and northern Gulf of Alaska (Mecklenburg et al. 2002) to Santa Barbara Islands, southern California (Bolin 1944); on mainland to Ventura, southern California (Miller and Lea 1972). Tidepools and to depth of 102 m (335 ft) (min.: Mecklenburg et al. 2002 [e.g., UW 900, UW 2307]; max.: UW 47501); reported to 113 m (371 ft; Shaw et al. 2002). Since the species has not been moved from the genus in which it was placed when first described, the author name and date of publication should not be in parentheses (as recently seen in literature).
- Hemilepidotus zapus*** Gilbert & Burke, 1912. **Longfin Irish Lord.** To 28.7 cm (11.3 in) TL (Mecklenburg et al. 2002). Northern Kuril Islands and Commander Islands (Tokranov et al. 2003); Attu Island, Aleutian Islands to southwestern Gulf of Alaska off Chernabura Island (Mecklenburg et al. 2002) and northern

Gulf of Alaska at Prince William Sound (UW 49774). Larvae have been collected from southcentral and southeastern Bering Sea (Matarese et al. 2003; e.g., UW 65826, UW 65877). Benthic, adults at depths of 25–530 m (82–1,739 ft) (min.: UW 49774; max.: Tokranov et al. 2003).

Icelinus borealis Gilbert, 1896. **Northern Sculpin**. To 10.1 cm (4 in) TL. Bristol Bay, southeastern Bering Sea and Attu Island, Aleutian Islands to southern Puget Sound, Washington. Benthic, at depths of 4.6–247 m (2–815 ft). All in Mecklenburg et al. (2002).

Icelinus burchami Evermann & Goldsborough, 1907. **Dusky Sculpin**. To 12.9 cm (5.1 in) TL (Miller and Lea 1972). Behm Canal, southeastern Alaska (Evermann and Goldsborough 1907) to La Jolla, southern California (Miller and Lea 1972). Benthic, at depths of 61–567 m (200–1,860 ft; Eschmeyer and Herald 1983).

Icelinus cavifrons Gilbert, 1890. **Pit-head Sculpin**. To 8.9 cm (3.5 in) TL (Miller and Lea 1972). Monterey Bay, central California (Miller and Lea 1972) almost to southern tip of Baja California (22°54'N; Castro-Aguirre et al. 1993). Benthic, at depths of 11–110 m (36–361 ft) (min.: Miller and Lea 1972; max.: LACM 35701.007).

Icelinus filamentosus Gilbert, 1890. **Threadfin Sculpin**. To 27.0 cm (10.62 in) TL (Miller and Lea 1972). Near Chirikof Island, western Gulf of Alaska (Allen and Smith 1988) to Cortes Bank (Miller and Lea 1972) and Point Loma, southern California (Allen and Smith 1988). Benthic, at depths of 18–373 m (60–1,224 ft; Miller and Lea 1972), reported to 1,145 m (3,756 ft; Ramsey et al. 2002) and 1,201 m (3,940 ft; Lauth 1999).

Icelinus fimbriatus Gilbert, 1890. **Fringed Sculpin**. To 16.2 cm (6.4 in) SL. Pendrell Sound, southern British Columbia to San Diego, California. Benthic, at depths of 30–265 m (98–869 ft). All in Peden (1984).

Icelinus limbaughi Rosenblatt & Smith, 2004. To 8.2 cm (3.2 in) SL. Anacapa Island area to San Diego and at Cortes Bank, southern California. Benthic, at depths of 20–86 m (66–282 ft). All in Rosenblatt and Smith (2004).

Icelinus oculatus Gilbert, 1890. **Frogmouth Sculpin**. To 15.2 cm SL (6.0 in). Southern California, known from a few records between 32°44'N and 36°45'N. Bottom at depths of 110–274 m (360–900 ft). All in Peden (1984).

Icelinus quadriseriatus (Lockington, 1880). **Yellowchin Sculpin**. To 10 cm (4 in) TL (Groce and Gartman 2001). Sonoma County, northern California (Eschmeyer and Herald 1983) to Cabo San Lucas, southern Baja California (Miller and Lea 1972). Intertidal and to 201 m (660 ft) (min.: Feeney 1987; max.: Eschmeyer and Herald 1983).

Icelinus tenuis Gilbert, 1890. **Spotfin Sculpin**. To 15.9 cm (6.3 in) TL (Mecklenburg et al. 2002). Near Ketchikan (USNM 131264) and west of Noyes Island (NMC 65-412; 55°24'N, 134°48'W), southeastern Alaska (Mecklenburg et al. 2002) to Islas San Benito, central Baja California (Miller and Lea 1972). At 55°36'N, 133°49'W, lot UW 43261 may represent an extension of known range northward by a few kilometers, but the exact collection locality for USNM 131264 (“Behm Canal near Ketchikan”) is not known and could have been farther north. Benthic, at depths of 7–373 m (23–1,224 ft) (min.: Fay et al. 1978; max.: Miller and Lea 1972).

Icelus bicornis (Reinhardt, 1840). **Twohorn Sculpin**. To 11.6 cm (4.6 in) TL (Andriashev 1954). Nearly circumpolar in Arctic Ocean; Beaufort Sea off Alaska and Canada; not recorded from Chukchi Sea or East Siberian Sea. Benthic, at depths of 17–560 m (56–1,837 ft; D. W. Nelson 1984).

Icelus canaliculatus Gilbert, 1896. **Blacknose Sculpin**. To 23.2 cm (9.1 in) TL. Okhotsk Sea off Hokkaido to Bering Sea at Navarin Canyon, southeast along continental slope and in Bristol Bay to Akutan Island, Aleutian Islands and west to Commander Islands. Benthic, at depths of 20–1,005 m (66–3,297 ft). All in Mecklenburg et al. (2002).

-
- Icelus euryops* Bean, 1890. **Wide-eye Sculpin**. To 16.4 cm (6.5 in) TL (Mecklenburg et al. 2002). Bering Sea from Navarin Canyon along continental slope to Unimak Pass (Mecklenburg et al. 2002) and in western Gulf of Alaska near Trinity Islands (Bean 1890). Benthic, at depths of 200–740 m (656–2,428 ft; D. W. Nelson 1984).
- Icelus spatula* Gilbert & Burke, 1912. **Spatulate Sculpin**. To about 21 cm (7.1 in) TL (Tokranov and Orlov 2005). Okhotsk Sea (Schmidt 1950), Kuril Islands (Tokranov and Orlov 2005), and western North Pacific off Kamchatka (Gilbert and Burke 1912) to Arctic seas off Russia, Alaska (Chukchi and Beaufort seas), and Canada to western Greenland and Labrador (D. W. Nelson 1984); and to Bering Sea, Aleutian Islands west to Atka Island (UW 46902), and eastern Gulf of Alaska at Glacier Bay (Quast and Hall 1972). Benthic, at depths of 12–365 m (39–1,197 ft; Sheiko and Fedorov 2000). Reported to 859 m (2,818 ft) off Greenland (Yabe in Okamura et al. 1995), but this was the maximum depth of the tow and not necessarily the depth at which the fish entered the net. Ten years (1993–2002) of intensive sampling off the Kuril Islands found *I. spatula* at 100–300 m (328–984 ft; Tokranov and Orlov 2005).
- Icelus spiniger* Gilbert, 1896. **Thorny Sculpin**. To 28 cm (11 in) TL. Okhotsk Sea to Commander–Aleutian chain and Bering Sea to Cape Navarin, to La Perouse Bank, southern British Columbia. Benthic, at depths of 30–770 m (98–2,526 ft). All in Mecklenburg et al. (2002).
- Icelus uncinalis* Gilbert & Burke, 1912. **Uncinate Sculpin**. To 16.1 cm (6.3 in) TL (UW 45701). Commander Islands (Gilbert and Burke 1912); Aleutian Islands from Attu Island (Gilbert and Burke 1912) to Unalaska Island (54°14'N, 165°54'W; UW 49544), and southeastern Bering Sea east of Pribilof Islands (UW 45903). Benthic, at depths of 70–389 m (230–1,276 ft) (min.: Sheiko and Fedorov 2000; max.: UW 46629).
- Jordania zonope* Starks, 1895. **Longfin Sculpin**. To 15 cm (6 in) TL (Eschmeyer and Herald 1983). Danger Island, Prince William Sound (Mecklenburg et al. 2002) to Diablo Canyon, central California (Eschmeyer and Herald 1983). Intertidal area, including tidepools (e.g., UW 1250), and to 38 m (126 ft; Miller and Lea 1972); reported to 93 m (306 ft) (W. A. Palsson, pers. comm. to M. L.).
- Leiocottus hirundo* Girard, 1856. **Lavender Sculpin**. To 25.4 cm (10 in) TL (Miller and Lea 1972). Gaviota Pier, southern California to Punta Banda, northern Baja California (Miller and Lea 1972). Inshore to 2–37 m (8–120 ft) (min.: Limbaugh 1955; max.: Miller and Lea 1972).
- Leptocottus armatus* Girard, 1854. **Pacific Staghorn Sculpin**. To 48 cm (18.9 in) TL (Coad 1995). Port Moller, southeastern Bering Sea (Mecklenburg et al. 2002 [a voucher, believed to be lacking, has since been found: UW 22137]) to Bahia San Quintin, northcentral Baja California (Miller and Lea 1972). Intertidal area, including tidepools (Clemens and Wilby 1946), and to depth of 91 m (300 ft; Bolin 1944), reported to 188 m (618 ft) (W. A. Palsson, pers. comm. to M. L.). Present year-round in nearshore marine waters and seasonally in brackish water and fresh water, including lower portions of coastal rivers and streams (Jones 1962).
- Megalocottus platycephalus* (Pallas, 1814). **Belligerent Sculpin**. To 42 cm (16.5 in) TL (Tokranov 1994). Japan Sea at Peter the Great Bay to Okhotsk Sea and western Bering Sea, to Chukchi Sea off Chukchi Peninsula and Point Barrow, and south to Herendeen Bay, eastern Bering Sea (Mecklenburg et al. 2002). Coastal brackish waters to depth of 30 m (98 ft), often entering lower reaches of rivers (Mecklenburg et al. 2002).
- Microcottus sellaris* (Gilbert, 1896). **Brightbelly Sculpin**. To 12.5 cm (4.9 in) TL. Northern Japan Sea, southern Okhotsk Sea, Kuril Islands to Commander–Aleutian chain, to northern Chukchi Sea. Coastal and shallow waters of continental shelf to depth of 50 m (164 ft), often in brackish water. All in Mecklenburg et al. (2002).
- Myoxocephalus jaok* (Cuvier, 1829). **Plain Sculpin**. To 70 cm (27.6 in) TL (Tokranov 1992c). Japan Sea off North Korea and Okhotsk Sea to eastern Chukchi Sea at least as far north as Point Belcher, to eastern Gulf of Alaska at Limestone Inlet (Mecklenburg et al. 2002) and Glacier Bay (M. L. Arimitsu and C. W. M., unpubl. data). Intertidal zone and to 680 m (2,231 ft; Sheiko and Fedorov 2000).

-
- Myoxocephalus niger* (Bean, 1881). **Warthead Sculpin**. To 27 cm (10.6 in) TL. Coasts of Okhotsk Sea and northern Japan Sea to Commander–Aleutian chain and Pribilof Islands, southern Bering Sea to Sanak and Shumagin islands, western Gulf of Alaska. Intertidal, typically in rocky pools and crevices. All in Mecklenburg et al. (2002).
- Myoxocephalus polyacanthocephalus* (Pallas, 1814). **Great Sculpin**. To at least 76 cm (30 in) TL (Eschmeyer and Herald 1983). Okhotsk Sea and eastern Japan Sea to Commander–Aleutian chain to Bering Strait (Mecklenburg et al. 2002), to southern Puget Sound, Washington (Eschmeyer and Herald 1983). Benthic; intertidal and to 825 m (2,707 ft) (min.: Eschmeyer and Herald 1983; max.: Kim Sen Tok 2001).
- Myoxocephalus quadricornis* (Linnaeus, 1758). **Fourhorn Sculpin**. To 36.5 cm (14.4 in) TL. Circumpolar; Arctic coasts of Russia to Gulf of Anadyr; Alaska from Beaufort Sea to St. Lawrence Island and Norton Sound, northern Bering Sea. Intertidal and to 47 m (154 ft; UW 27739). Coastal marine and estuarine waters; ascends rivers as far as 100 km (62 mi). All in Mecklenburg et al. (2002) except the new maximum depth.
- Myoxocephalus scorpioides* (Fabricius, 1780). **Arctic Sculpin**. To 23.8 cm (9.4 in) TL (Mecklenburg et al. 2002). Coasts of East Siberian and Chukchi seas to Gulf of Anadyr and Norton Sound, Bering Sea, to Beaufort Sea and along Arctic Canada coasts to Greenland and Gulf of St. Lawrence in Atlantic (Mecklenburg et al. 2002). Bottom in shallow waters near shore; to depth of 25 m (82 ft) off Alaska (Mecklenburg et al. 2002), reported to 40 m (131 ft) elsewhere (Fedorov in Whitehead et al. 1986). Male *M. scorpius* in breeding coloration have often been incorrectly identified (e.g., in museum collections) as *M. scorpioides* (C. W. M., unpubl. data).
- Myoxocephalus scorpius* (Linnaeus, 1758). **Shorthorn Sculpin** or Warty Sculpin. To 60 cm (23.6 in) TL. Circumpolar; Laptev Sea to East Siberian, Chukchi, and Beaufort seas to Greenland and northern North Atlantic and Arctic seas of Europe; Chukchi Sea through Bering Sea and Commander–Aleutian chain to Kamchatka Bay, Russia and northern British Columbia. Benthic, in shallow waters to 550 m (1,804 ft). Includes records formerly attributed to *Myoxocephalus verrucosus* (Bean, 1881), which we regard as a junior synonym of *M. scorpius*. All in Mecklenburg et al. (2002).
- Myoxocephalus stelleri* Tilesius, 1811. **Frog Sculpin**. To 58 cm (22.8 in) TL. Japan Sea coast of South Korea to Okhotsk Sea, east coast of Kamchatka, and Commander Islands; Unalaska Island, Aleutian Islands, to Port Conclusion, southeastern Alaska. Intertidal area and to 55 m (180 ft), often in lower reaches of streams. All in Mecklenburg et al. (2002). Specimens recently archived confirm occurrence in tidepools (e.g., UW 43522) and shallow grassy tidal areas at depths of 1 m and less (e.g., UW 42674).
- Oligocottus maculosus* Girard, 1856. **Tidepool Sculpin**. To 8.9 cm (3.5 in) TL (Miller and Lea 1972). Pribilof Islands, southeastern Bering Sea; Shumagin Islands, western Gulf of Alaska (Mecklenburg et al. 2002) to Palos Verdes Peninsula, southern California (Miller and Lea 1972). Intertidal and shallow rocky areas (Miller and Lea 1972), including tidepools (Hart 1973).
- Oligocottus rimensis* (Greeley, 1899). **Saddleback Sculpin**. To 6.5 cm (2.56 in) TL (Miller and Lea 1972). Kakul Narrows, southeastern Alaska (Peden and Wilson 1976) to northern Baja California (Eschmeyer and Herald 1983). Tidepools and shallow rocky areas (Peden and Wilson 1976, Cross 1981) to 8 m (26 ft; LACM 32671.009).
- Oligocottus rubellio* (Greeley, 1899). **Rosy Sculpin**. To 10 cm (4 in) TL (Eschmeyer and Herald 1983). Fort Bragg, northern California to Isla San Martin, northern Baja California (Miller and Lea 1972). Pools in the lower intertidal zone (Bolin 1944) and shallow rocky reefs (online museum records) to depths of 3–3.7 m (10–12 ft; SIO 67-151).
- Oligocottus snyderi* Greeley, 1898. **Fluffy Sculpin**. To 7.6 cm SL (Bolin 1944); this would equate to about 9.2 cm (3.6 in) TL (C. W. M., unpubl. data), and Gotshall et al. (1974) reported collecting another of this size. Chernabura Island, western Gulf of Alaska (Mecklenburg et al. 2002); Samsing Cove, near

Sitka, southeastern Alaska (Quast 1968) to Punta Cono (29°06'N, 114°42'W), central Baja California (SIO 52-201). Tidepools (Bolin 1944, Cross 1961) and shallow rocky areas (Eschmeyer and Herald 1983), typically less than 2 m deep (online museum records) but also subtidal (Miller and Lea 1972), reported to 6 m (20 ft) or more (Burge and Schultz 1973).

Orthonopias triacis Starks & Mann, 1911. **Snubnose Sculpin.** To 9.6 cm (4 in) TL (Miller and Lea 1972). Farallon Islands, northern California (Long 1992) to Bahia Tortugas (27°38'N, 114°51'W), central Baja California (SIO 48-52). Intertidal and to 30 m (100 ft; Miller and Lea 1972).

Paricelinus hopliticus Eigenmann & Eigenmann, 1889. **Thornback Sculpin.** To 19.4 cm (7.65 in) TL (Miller and Lea 1972). Hecate Strait near Banks Island, northern British Columbia (Barraclough and Ketchen 1963) to northwest of Cortes Bank, southern California (Miller and Lea 1972). Near shore and to 183 m (600 ft) (min.: Eschmeyer and Herald 1983; max.: Miller and Lea 1972), typically deeper than 20 m (Mecklenburg et al. 2002).

Phallocottus obtusus Schultz, 1938. **Spineless Sculpin.** To 6.9 cm (2.7 in) TL (Mecklenburg et al. 2002). Central Kuril Islands (Fedorov 2000; ZIN 48872); Amchitka and Igitkin islands, Aleutian Islands, Alaska. Close to shore, collected in beach seine and off a wharf in Alaska (Mecklenburg et al. 2002); at depth of 50 m (164 ft) off Kuril Islands (Fedorov 2000; ZIN 48872).

Porocottus mednius (Bean, 1898). **Aleutian Fringed Sculpin.** To 8.2 cm (3.2 in) TL. Coasts of Kuril Islands and southeastern Kamchatka to Commander–Aleutian chain and western Bering Sea to Chukchi Peninsula at Bering Strait, Pribilof Islands, and Gulf of Alaska to Frederick Sound, southeastern Alaska. Intertidal, including tidepools. All in Mecklenburg et al. (2002). *Porocottus bradfordi* Rutter, 1898, is treated as a junior synonym.

****Porocottus quadrifilis*** Gill, 1859. **Gill's Fringed Sculpin.** To about 5.1 cm (2 in) TL. One record; catch locality uncertain, probably Bering Strait but could be either Russian or Alaskan coast. All in Mecklenburg et al. (2002; see pages 405, 484 for discussion of taxonomy and locality problems).

Radulinus asprellus Gilbert, 1890. **Slim Sculpin.** To 15.2 cm (6 in) TL (Clemens and Wilby 1961). Aleutian Islands off Amchitka Island; southwestern Gulf of Alaska at Semidi Islands (C. W. M., unpubl. data) to Islas Coronados, northern Baja California (Bolin 1944). Benthic, at depths of 9–283 m (30–930 ft) (min.: Levings 1973; max.: Clemens and Wilby 1961); reported to 346 m (1,135 ft; Lauth 1999).

Radulinus boleoides Gilbert, 1898. **Darter Sculpin.** To 12.7 cm (5 in) SL, about 14.9 cm TL (5.9 in; Mecklenburg et al. 2002). Western Gulf of Alaska east of Kodiak Island (Mecklenburg et al. 2002); Langara Island, northern British Columbia (Peden 1972) to Santa Catalina Island, southern California (Bolin 1944). Benthic, at depths of 15–146 m (50–479 ft) (min.: McPhail 1969; max.: Bolin 1944); reported to 182 m (597 ft; SCCWRP).

Radulinus taylori (Gilbert, 1912). **Spinynose Sculpin.** To 7.4 cm (3 in) TL (Peden and Wilson 1976). At junction of Sumner and Clarence straits off Strait Creek (56°12'N, 133°15'W; AB 05-19), Warm Chuck Inlet (55°46'N, 133°32'W; AB 05-16), and Sombrero Island (55°35'N, 133°12'W; AB 05-13), southeastern Alaska (B. L. Wing, pers. comm. to C. W. M.) to San Juan Islands, southern Strait of Georgia, Washington (Mecklenburg et al. 2002 [e.g., UW 20724, Shaw Island, 48°35'N, 122°55'W]). Reported occasionally from other sites in Gulf of Alaska, but these have turned out to be *R. asprellus* or not verifiable. Benthic, at depths of 5–18 m (16–60 ft; Peden and Wilson 1976), reported to 49 m (162 ft) (W. A. Palsson, pers. comm. to M. L.). Classified by some authors in *Asemichthys*, as it was originally named, and others in *Radulinus*.

Radulinus vinculus Bolin, 1950. **Smoothgum Sculpin.** To 6.4 cm (2.5 in) TL. Diablo Cove, central California to between Santa Cruz and Anacapa islands, southern California. At depths of 21–27 m (70–90 ft). All in Miller and Lea (1972).

-
- Rastrinus scutiger*** (Bean, 1890). **Roughskin Sculpin**. To 8.6 cm (3.4 in) SL, about 10 cm (3.9 in) TL (Mecklenburg et al. 2002). Commander Islands and Aleutian Islands, southern Bering Sea to Trinity Islands, western Gulf of Alaska (Mecklenburg et al. 2002). Benthic, at depths of 117–512 m (384–1,680 ft) (min.: Gilbert and Burke 1912; max.: D. W. Nelson 1984).
- Ruscarius creaseri*** (Hubbs, 1926). **Roughcheek Sculpin**. To 7.6 cm (3 in) TL (Miller and Lea 1972). Carmel Bay, central California (Eschmeyer and Herald 1983) to Punta San Pablo (Miller and Lea 1972), Islas San Benito (LACM 37006.011), and Isla Cedros (LACM 32041.009), central Baja California. Intertidal and to 27 m (90 ft; Miller and Lea 1972). Originally named and still sometimes seen as *Artedius creaseri*.
- Ruscarius meanyi*** Jordan & Starks, 1895. **Puget Sound Sculpin**. To 5.9 cm (2.3 in) TL (Eschmeyer and Herald 1983). Fillmore Island, southeastern Alaska (Peden and Wilson 1976) to Arena Cove, northern California (Eschmeyer and Herald 1983). Larvae have been collected from the eastern Aleutian Islands and western Gulf of Alaska, suggesting a wider distribution of adults (Matarese et al. 2003). Intertidal and subtidal, at depths of 1.5–82 m (5–269 ft) (min.: Eschmeyer and Herald 1983; max.: Peden 1972). Classified by some authors in *Artedius*.
- Scorpaenichthys marmoratus*** (Ayres, 1854). **Cabezon** or Giant Marbled Sculpin. To 99 cm (39 in) TL (Miller and Lea 1972). Southeastern Alaska near Sitka to Punta Abrejos, central Baja California (Miller and Lea 1972). Larvae have been collected from the western Gulf of Alaska along the shelf east of Kodiak Island (Matarese et al. 2003). Intertidal to 110 m (360 ft) (min.: Miller and Lea 1972; max.: M. L., unpubl. data).
- Sigmistes caulias*** Rutter, 1898. **Kelp Sculpin**. To 7.6 cm (3 in) TL. Southeastern Bering Sea at Pribilof Islands, Aleutian Islands from Attu Island to Tigalda Island, and Kodiak Island, western Gulf of Alaska. Intertidal area, including tidepools. All in Mecklenburg et al. (2002).
- Sigmistes smithi*** Schultz, 1938. **Arched Sculpin**. To about 5.5 cm (2.2 in) TL (Mecklenburg et al. 2002). Urup Island, southern Kuril Islands (Yabe et al. 2001); Attu Island to Chagulak Island, Aleutian Islands (Mecklenburg et al. 2002). Intertidal area, including tidepools (Mecklenburg et al. 2002).
- Stelgistrum beringianum*** Gilbert & Burke, 1912. **Smallplate Sculpin**. To about 9.4 cm (3.7 in) TL. Cape Olyutorskiy, western Bering Sea; Commander Islands; western Aleutian Islands at Attu Island and Petrel Bank, Alaska. Benthic, at depths of 32–95 m (105–312 ft). All in Mecklenburg et al. (2002).
- Stelgistrum concinnum*** Andriashev, 1935. **Largeplate Sculpin**. To about 6.2 cm (2.4 in) TL. Cape Olyutorskiy, western Bering Sea; Pribilof Islands, southeastern Bering Sea; and Near Islands and Unalaska Island, Aleutian Islands, Alaska. Benthic, near shore to depth of 32 m (105 ft). All in Mecklenburg et al. (2002).
- Stlegicottus xenogrammus*** Bolin, 1936. **Strangeline Sculpin**. Known from one specimen, 2.91 cm (1.15 in) SL. Bering Sea north of Rat Islands, Aleutian Islands, Alaska. Bottom at depth of 494 m (1,620 ft). All in Mecklenburg et al. (2002) after Bolin (1936).
- Synchirus gilli*** Bean, 1890. **Manacled Sculpin**. To 6.9 cm (2.7 in) TL (Mecklenburg et al. 2002). Unalaska Island, Aleutian Islands; Kodiak Island, western Gulf of Alaska (Mecklenburg et al. 2002) to San Miguel Island, southern California (Miller and Lea 1972). Intertidal area and shallow water (Miller and Lea 1972) to 14 m (46 ft) or more (Peden and Wilson 1976).
- Thyriscus anoplus*** Gilbert & Burke, 1912. **Sponge Sculpin**. To 14.5 cm (5.7 in) TL. Northern Kuril Islands to Commander Islands, Russia and Aleutian Islands, Alaska east to Islands of Four Mountains. Benthic, at depths of 104–800 m (341–2,625 ft). All in Mecklenburg et al. (2002).
- Trichocottus brashnikovi*** Soldatov & Pavlenko, 1915. **Hairhead Sculpin**. To 22.5 cm (8.9 in) TL. Sea of Okhotsk and Tatar Strait, Sea of Japan, to northern Bering Sea south of Bering Strait; one record (UAM 4525) from northeastern Chukchi Sea at 69°55'N, 168°00'W. Benthic, at depths of 7–87 m (23–285 ft). All in Mecklenburg et al. (2002) except the Chukchi Sea record (C. W. M., unpubl. data).

-
- Triglops forficatus* (Gilbert, 1896). **Scissortail Sculpin**. To 27.5 cm (10.8 in) SL, about 32.3 cm TL (12.7 in; Mecklenburg et al. 2002). Northern Kuril Islands to Commander Islands, Aleutian Islands, and Bering Sea off Cape Navarin to Cook Inlet, northwestern Gulf of Alaska; single record from False Point Retreat, eastern Gulf of Alaska (Mecklenburg et al. 2002). Benthic, at depths of 20–425 m (66–1,394 ft; Allen and Smith 1988).
- **Triglops jordani* (Jordan & Starks, 1904). **Sakhalin Sculpin**. To 16.8 cm (6.6 in) SL, about 19.8 cm TL (7.8 in). Japan Sea off South Korea to Okhotsk Sea to western Pacific at Avacha Bay, southeastern Kamchatka. Reports of occurrence in eastern Bering Sea are doubtful and not verifiable. Benthic, at depths of 22–348 m (72–1,142 ft). All in Mecklenburg et al. (2002).
- Triglops macellus* (Bean, 1884). **Roughspine Sculpin**. To about 30 cm (11.8 in) TL (Mecklenburg et al. 2002). Kiska and Amchitka islands, Aleutian Islands to eastern Bering Sea north of St. Matthew and Nunivak islands, Alaska to Washington (Mecklenburg et al. 2002); reported from central Oregon (44°23'N; Weinberg et al. 2002). Benthic, at depths of 18–275 m (59–902 ft; Mecklenburg et al. 2002).
- Triglops metopias* Gilbert & Burke, 1912. **Highbrow Sculpin**. To 19.4 cm (7.6 in) TL (UW 46544). Amchitka and Semisopchnoi islands, Aleutian Islands to Auke Bay, southeastern Alaska (Mecklenburg et al. 2002). Benthic, at depths of 13–136 m (43–446 ft) (min.: UW 20918; max.: UW 46635).
- **Triglops nybelini* Jensen, 1944. **Bigeye Sculpin**. To 17 cm (6.7 in) TL. Arctic Ocean, practically circumpolar; known to occur in the Beaufort Sea not far from Alaska north of the Mackenzie River Delta, western Canada. Benthic, at depths of 9–930 m (29–3,051 ft), usually deeper than 200 m (656 ft). All in Mecklenburg et al. (2002).
- Triglops pingelii* Reinhardt, 1837. **Ribbed Sculpin**. To 20.2 cm (8.1 in) SL, about 23.3 cm TL (9.3 in); reported but not verifiable to 24.2 cm TL (9.5 in; Mecklenburg et al. 2002). Circumpolar in Arctic Ocean; Beaufort and Chukchi seas to Bering Sea and Commander–Aleutian chain to Japan Sea off North Korea and to Puget Sound, Washington (Mecklenburg et al. 2002). Benthic, at depths of 4–482 m (13–1,581 ft; Allen and Smith 1988), unusual deeper than 150 m.
- Triglops scepticus* Gilbert, 1896. **Spectacled Sculpin**. To 30.8 cm (12.1 in) SL, about 35.4 cm TL (13.9 in; Mecklenburg et al. 2002). Japan Sea off North Korea and Pacific Ocean off Honshu, Japan to southern Sea of Okhotsk, to Commander–Aleutian chain and Bering Sea to Cape Navarin, and to Cape Ommaney, southeastern Alaska (Mecklenburg et al. 2002). Benthic, at depths of 25–925 m (82–3,034 ft; Allen and Smith 1988), rarely deeper than 400 m.
- Triglops xenostethus* Gilbert, 1896. **Scalybreasted Sculpin**. To 9.7 cm (3.8 in) SL, about 11.4 cm TL (4.5 in). Kuril Islands and Commander Islands; Aleutian Islands; reported but not confirmed from Pribilof Islands, southeastern Bering Sea. Benthic, at depths of 62–178 m (203–584 ft). All in Mecklenburg et al. (2002).
- Zesticelus profundorum* (Gilbert, 1896). **Flabby Sculpin**. To 6.4 cm (2.5 in) TL (Eschmeyer and Herald 1983). Okhotsk Sea, northern Kuril islands (Sheiko and Fedorov 2000), and Pacific Ocean off southeastern Kamchatka (Bolin 1944) to southeastern Bering Sea and Aleutian Islands (Mecklenburg et al. 2002) and off Vancouver Island, southern British Columbia (G. E. Gillespie, pers. comm. to M. L. and C. W. M.) to northern Baja California (Bolin 1944). At depths of 587–2,580 m (1,926–8,465 ft) (min.: UW 46031; max.: Eschmeyer and Herald 1983). A reported minimum depth of 88 m (289 ft; Eschmeyer and Herald 1983) is evidently a printer's error (Mecklenburg et al. 2002; W. N. Eschmeyer and R. N. Lea, pers. comms. to C. W. M.). Specimens recently archived (e.g., UW 46039; 58°31'N, 176°13'W, 884 m) help fill the records gap along the continental slope between Cape Navarin and southeastern Bering Sea reported by Mecklenburg et al. (2002).

Family Hemitripteridae — Sailfin Sculpins or Sea Ravens

Blepsias bilobus Cuvier, 1829. **Crested Sculpin**. To 27 cm (10.6 in) TL (Mecklenburg et al. 2002). Okhotsk and Japan seas to eastern Chukchi Sea, Bering Sea, and Commander–Aleutian chain (Mecklenburg et al. 2002) to southern British Columbia near Port Hardy (W. van Orden, pers. comm. with photograph to C. W. M.). Adults at depths of 4–225 m (12–738 ft) (min.: UW 25338; max.: UW 25342). Juveniles collected at the shallower depths and near surface (e.g., 60 cm [2 ft] depth by neuston net, UW 110284).

Blepsias cirrhosus (Pallas, 1814). **Silverspot Sculpin** or **Silverspotted Sculpin**. To 20.0 cm (7.9 in) SL (Coad 1995). Okhotsk and Japan seas to western Bering Sea near Cape Olyutorskiy (59°44'N, 170°20'E; ZIN 17737) and Commander–Aleutian chain and Pribilof Islands, Bering Sea, Alaska (Mecklenburg et al. 2002) to San Simeon, central California (Miller and Lea 1972). Intertidal area and to depth of 95 m (312 ft) (min.: Bolin 1944; max.: ZIN 44192). Reported to 150 m (492 ft; Sheiko and Fedorov 2000), but voucher or other documentation not found in 2004 (B. A. Sheiko, pers. comm. to C. W. M.).

Hemitripterus bolini (Myers, 1934). **Bigmouth Sculpin**. To 73.4 cm (28.9 in) TL (Mecklenburg et al. 2002). Eastern Sea of Okhotsk (Vinnikov et al. 2004) and northern Kuril Islands to Commander–Aleutian chain, Bering Sea to Cape Navarin, to north side of Alaska Peninsula (Mecklenburg et al. 2002) to Eureka, northern California (Allen and Smith 1988). At depths of 25–925 m (82–3,034 ft; Allen and Smith 1988); mean depth of capture given as 364 m by Hoff and Britt (2003). Classified by some authors in *Ulca*.

Hemitripterus villosus (Pallas, 1814). **Shaggy Sea Raven**. To 54 cm (21.3 in) TL (Tokranov 1992c). Japan Sea off South Korea to Okhotsk Sea, to Commander Islands, western Bering Sea to Cape Olyutorskiy; one record from Kodiak Island, western Gulf of Alaska (Mecklenburg et al. 2002). At depths of 0.7–525 m (2–1,722 ft) (min.: Markevich 2000; max.: Kim Sen Tok 2001), abundant to depth of 50 m (164 ft; Vinnikov et al. 2004).

Nautichthys oculofasciatus (Girard, 1858). **Sailfin Sculpin**. To 20.3 cm (8 in) TL (Mecklenburg et al. 2002). Kodiak archipelago, western Gulf of Alaska (Mecklenburg et al. 2002) to San Miguel Island, southern California (Miller and Lea 1972). Intertidal and to depth of 110 m (360 ft) (min.: Mecklenburg et al. 2002; max.: Miller and Lea 1972).

Nautichthys pribilovius (Jordan & Gilbert, 1898). **Eyeshade Sculpin**. To 10.9 cm (4.3 in) TL (Mecklenburg et al. 2002). Japan and Okhotsk seas to Commander–Aleutian chain, Bering Sea to northern Chukchi Sea off Wainwright, northwestern Alaska and to Steamer Bay, southeastern Alaska (Mecklenburg et al. 2002). At depths of 15 m (49 ft) or less to 422 m (1,385 ft) (min.: C. W. M., unpubl. data; max.: Mecklenburg et al. 2002). Mistakenly reported to be from Russia (Mecklenburg et al. 2002), the 422-m depth is from Unimak Pass, Alaska (ZIN 50213; B. A. Sheiko, pers. comm. to C. W. M.).

Nautichthys robustus Peden, 1970. **Shortmast Sculpin**. To 8.0 cm (3.2 in) TL. Aleutian Islands and Bristol Bay, southeastern Bering Sea, Alaska to northern Washington. Near shore to depth of 97 m (318 ft). All in Mecklenburg et al. (2002).

Family Psychrolutidae — Blob Sculpins or Fathead Sculpins

Cottunculus sadko Essipov, 1937. **Sadko Sculpin**. To 16.6 cm (6.5 in) TL. Rare, sporadic records from Arctic Ocean including Kara Sea and near Faroe Islands, and one record from Beaufort Sea off Alaska. At depths of 300–839 m (984–2,753 ft). All in Mecklenburg et al. (2002).

Dasycottus setiger Bean, 1890. **Spinyhead Sculpin**. To 45 cm (17.7 in) TL (Tokranov and Orlov 2001). Seas of Japan and Okhotsk, Pacific coast of northern Honshu, Japan to Commander–Aleutian chain and Bering Sea, Alaska to Navarin Canyon, to Washington (Mecklenburg et al. 2002). At depths of 15–850 m (49–2,789 ft; Sheiko and Fedorov 2000).

-
- Eurymen gyrinus* Gilbert & Burke, 1912. **Smoothcheek Sculpin**. To 38.8 cm (15.3 in) TL (Lindberg and Krasnyukova 1987). Seas of Japan and Okhotsk and Pacific coast of Honshu, Japan to Commander–Aleutian chain and Bering Sea, Alaska to northern Chukchi Sea, to Kodiak Island, western Gulf of Alaska (Mecklenburg et al. 2002). At depths of 2–400 m (7–1,312 ft; Chereshev et al. 2001).
- Malacocottus aleuticus* (Smith, 1904). **Whitetail Sculpin**. To 9.8 cm (3.9 in) TL. Okhotsk Sea to Pacific Ocean off southeastern Kamchatka; Bering Sea north of Rat Islands; Prince William Sound, Gulf of Alaska (Mecklenburg et al. 2002); and northwest of Queen Charlotte Islands, northern British Columbia (G. E. Gillespie, pers. comm. to C. W. M.). At depths of 200–600 m (656–1,968 ft) (min.: Mecklenburg et al. 2002; max.: Sheiko and Fedorov 2000). Collected from bottom and in midwater (Mecklenburg et al. 2002). Originally named *Thecopterus aleuticus*.
- Malacocottus kincaidi* Gilbert & Thompson, 1905. **Blackfin Sculpin**. To 10.6 cm (4.2 in) TL (Mecklenburg et al. 2002). British Columbia to Puget Sound, Washington (Mecklenburg et al. 2002). Reported from northern Oregon (45°53'N; Weinberg et al. 2002), but possibly confused with *M. zonurus* and not verifiable without voucher specimen. Shallow water, depth range not known because of historical confusion with *M. zonurus* (Mecklenburg et al. 2002). Specimens identified as *M. kincaidi* from Alaska that we have examined have the diagnostic characters of *M. zonurus* (Mecklenburg et al. 2002; C. W. M. and T. A. M., unpubl. data). *Malacocottus kincaidi* may be a subspecies or ecotypic variation of *M. zonurus* occurring in shallower waters.
- Malacocottus zonurus* Bean, 1890. **Darkfin Sculpin**. To 35 cm (13.8 in) TL (Tokranov and Orlov 2001). Japan Sea off Korean Peninsula, Pacific Ocean off Honshu, and Okhotsk Sea to Commander–Aleutian chain and Bering Sea, Alaska to Cape Navarin, to Washington (Mecklenburg et al. 2002); reported from northern Oregon (45°03'N; Weinberg et al. 2002). At depths of 27–1,980 m (89–6,496 ft) (min.: Sheiko and Fedorov 2000; max.: Allen and Smith 1988).
- Psychrolutes paradoxus* Günther, 1861. **Tadpole Sculpin**. To 6.5 cm (2.6 in) TL (Mecklenburg et al. 2002). Okhotsk and Japan seas to Norton Sound, Bering Sea and Commander–Aleutian chain to Puget Sound, Washington (Mecklenburg et al. 2002). At depths of 6–220 m (20–722 ft) (min.: A. P. Summers, pers. comm. to M. L.; max.: Hart 1973). Summers reported *P. paradoxus* to be common in beach seines in Puget Sound using seines fishing to maximum depth of 6 m (20 ft). A record from 1,100 m (3,609 ft; Fedorov 2000) was later determined to represent *P. phricetus* (B. A. Sheiko, pers. comm. to C. W. M.).
- Psychrolutes phricetus* Stein & Bond, 1978. **Blob Sculpin** or **Giant Blobsculpin**. To about 70 cm (27.5 in) TL (Eschmeyer and Herald 1983). Okhotsk Sea and Pacific side of Honshu, Japan to Commander Islands and western Bering Sea north to Cape Navarin, to eastern Bering Sea (Mecklenburg et al. 2002) to Pacific Ocean off San Diego, southern California (Eschmeyer and Herald 1983). At depths of 480–2,800 m (1,575–9,186 ft) (min.: Matarese and Stein 1980; max.: Stein and Bond 1978). Although washed up on a beach once at Adak Island in Alaska (Mecklenburg et al. 2002) and caught once in shallow water off Westport, Washington (Schoener and Fluharty 1985), these are rare records for this bottom-dwelling, deepwater species, and likely reflect abnormal circumstances.
- Psychrolutes sigalutes* (Jordan & Starks, 1895). **Soft Sculpin**. To 8.3 cm (3.25 in) TL (Clemens and Wilby 1946). Commander Islands, Russia; Aleutian Islands off Adak Island, Alaska to southern Puget Sound, Washington (Mecklenburg et al. 2002). Larvae of this species have been taken in the eastern Bering Sea (Matarese et al. 2003). Surface to depth of 225 m (738 ft; Hart 1973). Occasionally seen as *Gilbertidia sigalutes*.

Family Agonidae — Poachers

A few of the species names in this family differ from those given by Nelson et al. (2004), who followed a review of the family (Kanayama 1991) based primarily on study of the western Pacific forms. The classification used here follows Sheiko (1993) and Sheiko and Mecklenburg (2004).

-
- Agonomalus mozinoi* Willimovsky & Wilson, 1979. **Kelp Poacher**. To 8.9 cm (3.5 in) TL (Eschmeyer and Herald 1983). Dixon Entrance, British Columbia (Peden and Wilson 1976) to San Simeon, central California (Eschmeyer and Herald 1983); one unconfirmed report from Sitka, southeastern Alaska (Mecklenburg et al. 2002). Intertidal (Willimovsky and Wilson 1978) and to 11 m (35 ft; Eschmeyer and Herald 1983). Classified in *Hypsagonus* by some authors. The correct date of the original description is 1979 (Eschmeyer 1998). Although the volume in which it appeared is for 1978, the back cover reads “Released May 1, 1979.”
- Agonopsis sterletus* (Gilbert, 1898). **Southern Spearnose Poacher**. To 15 cm (5.75 in) TL (Eschmeyer and Herald 1983). San Simeon Point, central California (Miller and Lea 1972) to near southern tip of Baja California (22°54'N; Castro-Aguirre et al. 1993). At depths of 3–100 m (10–328 ft) (min.: SIO 75-608; max.: Allen et al. 2002).
- Agonopsis vulsa* (Jordan & Gilbert, 1880). **Northern Spearnose Poacher**. To 20.3 cm (8 in) TL (Miller and Lea 1972). Kachemak Bay, northern Gulf of Alaska (Mecklenburg et al. 2002) to Point Loma, southern California (Miller and Lea 1972). Intertidal (SIO 67-162) and to depth of 393 m (1,289 ft; UW 47277). *Agonopsis emmelane* (Jordan & Starks, 1895) is a junior synonym.
- Anoplagonus inermis* (Günther, 1860). **Smooth Alligatorfish**. To 15 cm (6 in) TL (Hart 1973). Aleutian Islands at Petrel Bank (Mecklenburg et al. 2002) to Point Arena, northern California (Eschmeyer and Herald 1983). At depths of 5–114 m (17–374 ft) (min.: Lamb and Edgell 1986; max.: UW 111415), reported to 139 m (456 ft; W. A. Palsson, pers. comm. to M. L.) and 458 m (1,511 ft; Wilkins et al. 1998).
- Aspidophoroides monopterygius* (Bloch, 1786). **Alligatorfish**. To 17.8 cm (7 in) TL (Mecklenburg et al. 2002). Atlantic and Pacific; Sea of Japan and Sea of Okhotsk to Gulf of Anadyr, eastern Chukchi Sea (Alaska), Bering Sea, and Aleutian Islands west to Amchitka Island, and to Prince William Sound, Gulf of Alaska (Mecklenburg et al. 2002). At depths of 8–350 m (26–1,155 ft) (min.: Mecklenburg et al. 2002; max.: Kanayama in Okamura et al. 1995). The Alaskan population may be a distinct species, *Aspidophoroides bartoni* Gilbert, 1896, to which the common name **Aleutian Alligatorfish** applies; additional study is needed (Sheiko and Mecklenburg 2004).
- Bathyagonus alascanus* (Gilbert, 1896). **Gray Starsnout**. To 14.1 cm (5.6 in) TL (Mecklenburg et al. 2002). Southeastern Bering Sea west of Pribilof Islands, Alaska to northern California (Mecklenburg et al. 2002). At depths of 18–297 m (60–974 ft) (min.: Eschmeyer and Herald 1983; max.: Hoff and Britt 2003).
- Bathyagonus infraspinatus* (Gilbert, 1904). **Spinycheek Starsnout**. To 14.3 cm (5.6 in) TL (Mecklenburg et al. 2002). Southeastern Bering Sea from vicinity of Pribilof Islands and Islands of Four Mountains, Aleutian Islands, Alaska to northern California near Eureka (Mecklenburg et al. 2002). At depths of 6–183 m (20–600 ft; Mecklenburg et al. 2002). Recently classified by some authors in *Asterotheca*, as *A. infraspinata* (e.g., Miller and Lea 1972); originally in *Xeneretmus*.
- Bathyagonus nigripinnis* Gilbert, 1890. **Blackfin Poacher**. To 29 cm (11.4 in) TL (Snytka 1987). Pacific coast of northern Japan (Imamura and Kitagawa 1999); northern Kuril Islands and southeastern Kamchatka (Tokranov 2000b) to Commander–Aleutian chain and northern Bering Sea near Cape Navarin (Mecklenburg et al. 2002) to Eureka, northern California (Miller and Lea 1972); reported to central California (36°46'N; Shaw et al. 2000) but not verifiable. At depths of 18–1,248 m (59–4,094 ft), typically at 50–800 m (164–2,625 ft; Allen and Smith 1988). The source for the maximum depth of 1,290 m reported by Sheiko and Fedorov (2000) is uncertain (B. A. Sheiko, pers. comm. to C. W. M.).
- Bathyagonus pentacanthus* (Gilbert, 1890). **Bigeye Poacher** or Bigeye Starsnout. To 26.2 cm (10.3 in) TL (Mecklenburg et al. 2002). Western Gulf of Alaska near Chirikof Island, Alaska (Mecklenburg et al. 2002) to Cortes Bank (Miller and Lea 1972) and off Point Loma, southern California (SIO 79-85). At depths of 100–1,145 m (328–3,756 ft) (min.: Mecklenburg et al. 2002, UW 110095; max.: Ramsey et

al. 2002); recently reported as shallow as 77 m (252 ft; W. A. Palsson, pers. comm. to M. L.). Recently classified by some authors in genus *Asterotheca*, as *A. pentacantha* (e.g., Miller and Lea 1972); originally in *Xenochirus*.

Bothragonus swanii (Steindachner, 1876). **Rockhead**. To 8.9 cm (3.5 in) TL (Hart 1973). Kodiak Island, Gulf of Alaska (Hubbard and Reeder 1965) to Lion Rock, San Luis Obispo County, central California (Miller and Lea 1972). Intertidal and to 18 m (60 ft; Miller and Lea 1972). The frequently seen spelling *swani* is incorrect (Sheiko and Mecklenburg 2004).

Chesnonia verrucosa (Lockington, 1880). **Warty Poacher**. To 20 cm (8 in) TL (Jordan and Evermann 1898). Bristol Bay, southeastern Bering Sea, Alaska; Shelikof Bay, eastern Gulf of Alaska; Vancouver Island, British Columbia (Mecklenburg et al. 2002) to Point Montara, central California (Miller and Lea 1972). At depths of 20–289 m (66–900 ft) (min.: Miller and Lea 1972; max.: RACE). Originally described as a species in *Occa*, but the name *Occa* was already used for a genus of bird. *Chesnonia* was chosen as a replacement name. Some authors classify the species in *Occella*. Further study is needed to determine its correct placement (Sheiko and Mecklenburg 2004).

Hypsagonus quadricornis (Valenciennes, 1829). **Fourhorn Poacher**. To 12.0 cm (4.7 in) TL (Tokranov and Orlov 2004). Sea of Okhotsk and northern Sea of Japan to Commander–Aleutian chain and Bering Sea to Bering Strait (Mecklenburg et al. 2002), to Puget Sound, Washington (Eschmeyer and Herald 1983). At depths of 15–452 m (49–1,483 ft; Mecklenburg et al. 2002). The species name is often attributed to Cuvier, but Valenciennes provided both the species name and the description; the full citation is Valenciennes in Cuvier & Valenciennes, 1829 (Sheiko 1993; see also Mecklenburg et al. 2002, Sheiko and Mecklenburg 2004).

Leptagonus decagonus (Bloch & Schneider, 1801). **Atlantic Poacher**. To 22.6 cm (8.9 in) TL (Scott and Scott 1988). Arctic Ocean from Laptev Sea east to western North Atlantic, south in Pacific to Chukchi and Bering seas, Alaska, and in Atlantic to Newfoundland; isolated population in Sea of Okhotsk (Sheiko and Mecklenburg 2004). Southernmost record in eastern Pacific is UW 15284 from Bristol Bay, Alaska (Mecklenburg et al. 2002). At depths of 24–930 m (79–3,069 ft; Mecklenburg et al. 2002).

Occella dodecaedron (Tilesius, 1813). **Bering Poacher**. To 23 cm (9.1 in) TL (Tokranov 1992b). Northern Sea of Japan and Sea of Okhotsk and Kuril Islands to Pacific Ocean off Kamchatka and western Bering Sea at Gulf of Anadyr; eastern Chukchi Sea at Kotzbue Sound and eastern Bering Sea at Norton Sound to western Gulf of Alaska (Mecklenburg et al. 2002). At depths of 5–92 m (17–302 ft) (min.: Mecklenburg et al. 2002; max.: Sheiko and Fedorov 2000); juveniles occasionally near shore in less than 1 m of water (e.g., UW 44795). One aberrant, questionable record from 375 m (1,230 ft; Allen and Smith 1988), likely from contamination of sample such as fish left in net from a previous, shallower tow, or fish entering the net way above maximum depth of tow.

Odontopyxis trispinosa Lockington, 1880. **Pygmy Poacher**. To 13 cm (5.1 in) TL (Groce and Gartman 2001). Prince William Sound, northern Gulf of Alaska (Mecklenburg et al. 2002) to Isla Cedros, central Baja California (Miller and Lea 1972). One possible record from southeastern Bering Sea, but voucher specimen has been lost (Mecklenburg et al. 2002). At depths of 5–373 m (16–1,224 ft) (min.: Mecklenburg et al. 2002 ; max.: Gilbert 1896).

Pallasina barbata (Steindachner, 1876). **Tube-nose Poacher**. To 20.8 cm (8.2 in) TL (Kanayama 1991). Japan Sea off Korea, Okhotsk Sea, and Pacific Ocean off Kuril Islands to eastern Chukchi and Bering seas and Aleutian Islands, Alaska (Mecklenburg et al. 2002), to Bodega Bay, central California (Miller and Lea 1972). Intertidal zone (Miller and Lea 1972), including tidepools (e.g., UW 1185), and to 128 m (420 ft; USNM 59417). The eastern Pacific form is sometimes treated as a separate species, *Pallasina aix* Starks, 1896, although taxonomists have given evidence for it being the same as *P. barbata*. Most

authors do not recognize the *aix* form even as a subspecies. Research is ongoing to examine the question; see discussions and literature cited by Kanayama (1991:115–117), Mecklenburg et al. (2002:533), and Sheiko and Mecklenburg (2004:18).

Percis japonica (Pallas, 1769). **Dragon Poacher.** To 44.0 cm (17.3 in; Tokranov 1993). Sea of Japan and Sea of Okhotsk to northern Bering Sea and to Gulf of Alaska; only one Gulf of Alaska record (Mecklenburg et al. 2002). At depths of 20–750 m (66–2,461 ft) in western North Pacific (Sheiko and Fedorov 2000), documented at 68–550 m (223–1,804 ft) in Alaska (min.: UW 28562; max.: UW 28568). Sometimes seen spelled *japonicus*, the specific name is correctly spelled *japonica* to agree in gender (feminine) with *Percis*.

Podothecus accipenserinus (Tilesius, 1813). **Sturgeon Poacher.** To 33 cm (13 in) TL (Tokranov 1992a). Northern Kuril Islands and Okhotsk Sea off southwestern Kamchatka to Commander–Aleutian chain and southern Bering Sea, Alaska (Mecklenburg et al. 2002) to Point Reyes, northern California (Allen and Smith 1988). At depths of 2–500 m (7–1,640 ft) (min.: Mecklenburg et al. 2002; max.: V. V. Fedorov, unpubl. data provided by B. A. Sheiko, pers. comm. to C. W. M.). Originally placed in genus *Agonus*. Usually seen spelled *accipenserinus* but the original, correct spelling is *accipenserinus* (Sheiko 1993, Sheiko and Mecklenburg 2004).

Podothecus veternus Jordan & Starks 1895. **Veteran Poacher.** To 28.5 cm (11.2 in) TL (Lindberg and Krasnyukova 1987). Okhotsk Sea and Japan Sea to eastern Bering Sea, Alaska at Norton Sound and near St. Matthew Island to eastern Chukchi Sea; one record from Beaufort Sea, Alaska, which probably was this species, but voucher specimen was lost (Mecklenburg et al. 2002). At depths of 9–240 m (27–787 ft) (min.: B. A. Sheiko, pers. comm. to C. W. M.; max.: Mecklenburg et al. 2002). Because of historical confusion of *P. veternus* with *P. accipenserinus*, geographic and bathymetric ranges for the species are not well known (Mecklenburg et al. 2002).

Sarritor frenatus (Gilbert, 1896). **Sawback Poacher.** To 29 cm (11.4 in) TL (Tokranov 1992b). Pacific coast of Hokkaido, Japan to Norton Sound, Bering Sea, Commander–Aleutian chain, and Stalemate and Bowers banks, to Observatory Inlet, northern British Columbia (Mecklenburg et al. 2002). At depths of 18–975 m (60–3,199 ft) (min.: Eschmeyer and Herald 1983; max.: Allen and Smith 1988). Recently classified by some authors in *Leptagonus*; originally in *Odontopyxis* (see Sheiko and Mecklenburg 2004).

Sarritor leptorhynchus (Gilbert, 1896). **Longnose Poacher.** To 20.0 cm (7.9 in) SL (Kanayama 1991), or about 22.6 cm (8.9 in) TL (C. W. M., unpubl. data). Seas of Japan and Okhotsk and Pacific coast of northern Japan to Commander–Aleutian chain, to 61°N in western Bering Sea off Russia and to Pribilof Islands and Bristol Bay in eastern Bering Sea off Alaska, to Prince William Sound, northern Gulf of Alaska (Mecklenburg et al. 2002). At depths of 14.6–460 m (48–1,509 ft) (min.: Mecklenburg et al. 2002; max.: Orlov 1998); reported but not confirmed to 974 m (3,195 ft; Mecklenburg et al. 2002). Recently classified by some authors in *Leptagonus*; originally in *Odontopyxis* (see Sheiko and Mecklenburg 2004).

Stellerina xyosterna (Jordan & Gilbert, 1880). **Pricklebreast Poacher.** To 16.5 cm (6.5 in) TL (Jordan and Evermann 1898). Icy Bay, northern Gulf of Alaska (Peden and Jamieson 1988, Mecklenburg et al. 2002); and northern British Columbia near Alaska border (Barraclough and Peden 1976) to Bahia Magdalena, southern Baja California (SIO 50-237). At depths of 2 m (7 ft; Mecklenburg et al. 2002) to at least 100 m (330 ft; Gotshall and Geibel 2005). *Ocella impi* Gruchy, 1970, originally described from a single juvenile specimen from British Columbia, was recently shown to be a junior synonym of *S. xyosterna* (Mecklenburg et al. 2002).

Ulcina olrikii (Lütken, 1877). **Arctic Alligatorfish.** To 8.6 cm (3.4 in) TL (Mecklenburg et al. 2002). Arctic Ocean from eastern Barents Sea and White Sea eastward to Greenland, south in western Atlantic to Newfoundland, and south in Pacific to northern Bering Sea south of St. Lawrence Island, Alaska

(Mecklenburg et al. 2002, Sheiko and Mecklenburg 2004). At depths of 7–520 m (23–1,706 ft; Sheiko and Fedorov 2000); less than 100 m off Alaska (Mecklenburg et al. 2002). Sometimes seen spelled *olriki*, but the original, correct spelling is *olrikii*. The correct date for the species description is 1877, although sometimes seen as 1876 (Sheiko and Mecklenburg 2004).

Xeneretmus latifrons (Gilbert, 1890). **Blacktip Poacher**. To 19.0 cm (7.5 in) TL (Miller and Lea 1972). Adults from Rennell Sound and Skidegate Channel, British Columbia (Mecklenburg et al. 2002) to Punta Colnett, northern Baja California (Fitch and Lavenberg 1968). The presence of larvae in the northern Gulf of Alaska indicates adults are also present there (Matarese et al. 2003). At depths of 2 m (7 ft) or less to 1,291 m (4,235 ft) (min.: Miller et al. 1980 and UW 2915 [beach seine]; max.: SIO 75-473).

Xeneretmus leiops Gilbert, 1915. **Smootheye Poacher**. To 27 cm (10.8 in) TL (Barraclough and Peden 1976). West of Forrester Island, southeastern Alaska (Peden and Jamieson 1988) to Santa Catalina Island, southern California (Miller and Lea 1972). At depths of 37–399 m (122–1,308 ft; Eschmeyer and Herald 1983).

Xeneretmus ritteri Gilbert, 1915. **Stripefin Poacher**. To 15.9 cm (6.25 in) TL (Miller and Lea 1972). Malibu, southern California to Isla Cedros, central Baja California; isolated population in northern Gulf of California (Miller and Lea 1972). At depths of 105–366 m (344–1,200 ft) (min.: Allen et al. 2002; max.: Miller and Lea 1972).

Xeneretmus triacanthus (Gilbert, 1890). **Bluespotted Poacher**. To 17.8 cm (7 in) TL (Jordan and Evermann 1898). Kwatna Inlet, British Columbia (Peden and Gruchy 1971) to Punta Baja, northern Baja California (Leipertz 1985). At depths of 15–429 m (49–1,407 ft) (min.: Fay et al. 1978; max.: Shaw et al. 2000).

Family Cyclopteridae — Lumpfishes or Lumpsuckers

Lumpsuckers are sometimes called lumpfishes after an Atlantic coast species called the Lumpfish (*Cyclopterus lumpus*).

Aptocyclus ventricosus (Pallas, 1769). **Smooth Lumpsucker**. To 42 cm (16.5 in) TL. Japan and Okhotsk seas to Providence Bay, Gulf of Anadyr; and northern Bering Sea, Alaska to North Pacific south of Aleutian Islands and Gulf of Alaska to Mathieson Channel, British Columbia. Pelagic; usually found in deep waters from near surface to depth of more than 500 m (1,650 ft; Mecklenburg et al. 2002); taken in a bottom trawl towed at 1,556 m (5,104 ft), but the fish may have entered the net above the bottom (Hoff and Britt 2003). Boris A. Sheiko (pers. comm. to C. W. M.) reports that in the Okhotsk Sea *A. ventricosus* are frequently caught by pelagic trawl nets towed in the open sea from 1,000 to 500 m, as well as from 500 to 200 m and 200 m to the surface. Kido and Shinohara (1996) showed that the form named *Pelagocyclus vitiazi* Lindberg & Legeza, 1955, is the juvenile stage of *A. ventricosus*.

****Cyclopteropsis lindbergi*** Soldatov, 1930. **Lindberg's Lumpsucker**. To 7.4 cm (2.9 in) TL. Sea of Japan off Korean Peninsula to Sea of Okhotsk and western Bering Sea (Mecklenburg et al. 2002); one probable record, still under study, from the Aleutian Islands south of the Islands of Four Mountains, Alaska (C. W. M., unpubl. data). At depths of 49–118 m (161–387 ft; Mecklenburg et al. 2002). May be a junior synonym of *Cyclopteropsis bergi* Popov, 1929, and may more appropriately be classified in *Eumicrotremus* (Mecklenburg and Sheiko 2003).

Eumicrotremus andriashevi Perminov, 1936. **Pimpled Lumpsucker**. To 9.7 cm TL (3.8 in) Mecklenburg et al. 2002). Karaginskiy Bay, western Bering Sea to northeastern Chukchi Sea and to eastern Bering Sea as far south as St. Matthew Island (Mecklenburg and Sheiko 2003). At depths of 20–83 m (66–274 ft; Mecklenburg et al. 2002). Specimens from the Okhotsk Sea and Kuril Islands previously attributed to *E. andriashevi* represent the western Pacific forms *Eumicrotremus schmidtii* Lindberg & Legeza, 1955, and *Eumicrotremus fedorovi* Mandrytsa, 1991, respectively. Conversely, many specimens from the northeastern Bering Sea, Alaska, recorded as *E. orbis* are *E. andriashevi* (Mecklenburg and Sheiko 2003).

-
- Eumicrotremus asperrimus*** (Tanaka, 1912). **Siberian Lump sucker.** To 13.5 cm (5.3 in) TL (Mecklenburg et al. 2002). Japan and Okhotsk seas and Pacific Ocean off Hokkaido to western Bering Sea at Natalia Bay, Koryak coast (61°10'N; Andriashev 1937, Lindberg and Legeza 1955) to Pacific Ocean south of Unimak Island, Aleutian Islands (Mecklenburg and Sheiko 2003). At depths of 30–900 m (99–2,970 ft); juveniles usually shallower than 100 m (330 ft; Mecklenburg et al. 2002). Until recently went by the name of *Eumicrotremus birulai* Popov, 1928, which is now recognized as a junior synonym (Mecklenburg and Sheiko 2003).
- Eumicrotremus barbatus*** (Lindberg & Legeza, 1955). **Papillose Lump sucker.** To 7.0 cm (2.8 in) TL (UW 49408). Sea of Okhotsk off Hokkaido, Japan (Kido 1984); Pacific Ocean off Paramushir Island, Kuril Islands (Lindberg and Legeza 1955); and Aleutian Islands from Near Islands (UW 49414) to south of Unimak Island (UW 42943; Mecklenburg and Sheiko 2003). “At the shore” (Ueno 1970) to depth of 210 m (693 ft; Kido 1984).
- Eumicrotremus derjugini*** Popov, 1926. **Leatherfin Lump sucker.** To 12.7 cm (5 in) TL (Mecklenburg et al. 2002). Isolated population in northern Sea of Okhotsk; most Arctic seas, including Beaufort Sea (Mecklenburg et al. 2002) and East Siberian Sea, but not Chukchi Sea (Mecklenburg and Sheiko 2003). Not confirmed from Labrador; the specimen (USNM 105009) reported from there by authors (e.g., Scott and Scott 1988) is *Eumicrotremus eggvinii* (not a West Coast species; Mecklenburg and Sheiko 2003). At depths of 50–930 m (165–3,069 ft) (min.: Andriashev 1954; max.: Jensen 1944).
- Eumicrotremus gyrinops*** (Garman, 1892). **Alaskan Lump sucker.** To 3.75 cm (1.5 in) SL. Southeastern Bering Sea off St. Paul Island, Pribilof Islands. Shallow water. All in Mecklenburg et al. (2002). Known with certainty only from the holotype; possibly the senior synonym of *E. phrynooides* (Mecklenburg and Sheiko 2003).
- Eumicrotremus orbis*** (Günther, 1861). **Pacific Spiny Lump sucker.** To 12.7 cm (5 in) TL (Mecklenburg et al. 2002). Pacific coast of Hokkaido, Japan to Bering Sea and to Puget Sound, Washington (Mecklenburg and Sheiko 2003). Shallow water, at 2 m (6.6 ft) or less (Miller et al. 1980), to 359 m (1,178 ft; UW 46668); reported as deep as 575 m (1,898 ft; Allen and Smith 1988). Many specimens previously recorded in the literature as *E. orbis* were misidentified, including those from Okhotsk Sea, Kuril Islands, Pacific Ocean off southeastern Kamchatka, Russia; and northeastern Bering Sea, Alaska (Mecklenburg and Sheiko 2003).
- Eumicrotremus phrynooides*** Gilbert & Burke, 1912. **Toad Lump sucker.** To 7.4 cm (2.9 in) TL (Mecklenburg et al. 2002). Near Strait (52°59'N, 172°19'E; UW 49601), Aleutian Islands and southeastern Bering Sea near Pribilof Islands (USNM 53807; Mecklenburg and Sheiko 2003) to northern Gulf of Alaska (59°54'N, 148°02'W; Mecklenburg et al. 2002). At depths of 69–235 m (228–771 ft) (min.: Mecklenburg et al. 2002; max.: UW 111314). Possibly a junior synonym of *E. gyrinops* (Mecklenburg and Sheiko 2003). *Cyclopteropsis inarmatus* Mednikov & Prokhorov, 1956, may be a junior synonym, and if this is the case the species is known also from western Bering Sea (Glubokaya Bight, Koryak coast, 60°50'N; B. A. Sheiko and C. W. M., unpubl. data).
- Eumicrotremus soldatovi*** Popov, 1930. **Soldatov’s Lump sucker.** To about 26 cm (10.2 in) TL (Mecklenburg et al. 2002). Northern Okhotsk Sea and North Pacific Ocean off southeastern Kamchatka (Mecklenburg and Sheiko 2003); one record from Bering Sea, Alaska near northwest end of Bowers Ridge (Ueno 1970). Pelagic; at depths of 80–350 m (262–1,148 ft; Orlov 1994).
- * ***Eumicrotremus spinosus*** (Fabricius, 1776). **Atlantic Spiny Lump sucker.** To 13.3 cm (5.25 in) TL. Length of 13.7 cm (5.4 in) previously reported from Jensen (1944), who cited Fabricius’s original description for dried specimens measuring “5 1/4 inches (= 137 mm).” However, 5.25 inches = 133 mm. Andriashev (1954) reported a maximum length of 13.2 cm (5.2 in). Any of those lengths could be less, due to

shrinkage in preservative, than in fresh or live specimens (C. W. M.). Near Alaska in eastern Beaufort Sea off Canada to Greenland and western Atlantic to Cape Cod; eastern North Atlantic, Kara and Barents seas, and Novaya Zemlya (Mecklenburg et al. 2002). At depths of 5–930 m (16–2,983 ft) (min.: Scott and Scott 1988; max.: Andriashev 1954), adults typically at 60–200 m (197–656 ft; Andriashev 1954).

Lethotremus muticus Gilbert, 1896. **Docked Snailfish**. To 6.2 cm (2.4 in) TL (Mecklenburg et al. 2002). Eastern Bering Sea and Aleutian Islands from Amchitka Island to Unimak Pass (Mecklenburg et al. 2002). At depths of 84–329 m (276–1,079 ft) (min.: UW 49415; max.: Mecklenburg et al. 2002). Although numerous specimens have been added to museum collections and identified as *L. muticus* since cyclopterid records were reviewed by Mecklenburg et al. (2002) and Mecklenburg and Sheiko (2003), most are misidentified *E. phrynooides* (C. W. M., unpubl. data).

Family Liparidae — Snailfishes

Acantholiparis caecus Grinols, 1969. **Caecal Spiny Snailfish** or **Fanged Snailfish**. To 7.4 cm (2.9 in) SL (SIO 76-174). British Columbia (Peden 2003); Oregon (Grinols 1969, Stein 1978); and Cortes Basin, southern California (SIO 76-174). At depths of 1,362–2,122 m (4,468–6,962 ft) (min.: SIO 76-174; max.: Grinols 1969). The new minimum depth is close to the depth of 1,372 m (4,501 ft) recorded by Stein (1978) for a specimen from Oregon; depth of 1,300 m (4,265 ft) given elsewhere in Stein (1978) and in Chernova et al. (2004) evidently is a generalization.

Acantholiparis opercularis Gilbert & Burke, 1912. **Spiny Snailfish**. To 8.3 cm (3.3 in) TL (Grinols 1966). Southeastern Kamchatka, North Pacific Ocean (Gilbert and Burke 1912); northeastern Kamchatka (Mecklenburg et al. 2002) and Commander Islands (Parin et al. 2002), Bering Sea; Oregon (Stein 1978). Benthic, at depths of 1,222–3,609 m (4,009–11,840 ft) (min.: Parin et al. 2002; max.: Gilbert and Burke 1912). For minimum depth Mecklenburg et al. (2002) gave 1,247 m (4,091 ft) from the Kamchatka type locality (Gilbert and Burke 1912), which was mistakenly reported by Stein (1978) to be 227 m (744 ft). The Parin et al. (2002) record from 1,222 m is not much shallower and, although evidently lacking a voucher specimen, is likely to be correct.

Careproctus abbreviatus Burke, 1930. **Short Snailfish**. To 10 cm (3.9 in) TL. Known from three specimens: two from northern Okhotsk Sea and one from eastern North Pacific south of Alaska Peninsula. Bottom at depths of 325 m (1,066 ft; Okhotsk Sea) and 1,143 m (3,750 ft; Alaska). All in Mecklenburg et al. (2002). Chernova et al. (2004) consider the Okhotsk Sea record questionable. If those two specimens are not *C. abbreviatus*, the species is known only from the holotype (53 mm TL, from Alaska).

Careproctus attenuatus Gilbert & Burke, 1912. **Attenuate Snailfish**. Known from one specimen, 3.7 cm (1.5 in) SL, collected just south of Agattu Island, Aleutian Islands, Alaska. Bottom at 882 m (2,894 ft). All in Mecklenburg et al. (2002).

Careproctus bowersianus Gilbert & Burke, 1912. **Bowers Bank Snailfish**. To 15.6 cm (6.1 in) SL. Southeastern and southcentral Bering Sea and Aleutian Islands. Bottom at depths of 629–800 m (2,064–2,625 ft). All in Mecklenburg et al. (2002).

Careproctus candidus Gilbert & Burke, 1912. **Bigeye Snailfish** or **Crested Snailfish**. To 10.6 cm (4.2 in) SL. Western North Pacific off northern Kuril Islands and southeastern Kamchatka; southeastern Bering Sea (56°17'N, 168°45'W; UW 25138) and Aleutian islands to northwestern Gulf of Alaska at Cook Inlet. Benthic, at depths of 64–400 m (210–1,312 ft). Additional citations in Mecklenburg et al. (2002).

Careproctus canus Kido, 1985. **Gray Snailfish**. To 15.9 cm (6.3 in) SL (Kido 1985). Western and central Aleutian Islands from Near Strait (between Medny and Attu islands) (Kido 1985) to Tanaga Pass, Delarof Islands (51°55'N, 178°25'W; UW 110293). Benthic, at depths of 48–434 m (157–1,424 ft) (min.: UW 110293; max.: Kido 1985).

-
- Careproctus colletti* Gilbert, 1896. **Alaska Snailfish**. To 39.7 cm (15.6 in) SL (Mecklenburg et al. 2002). Seas of Japan and Okhotsk to Bering Sea and Gulf of Alaska (Mecklenburg et al. 2002) to southern Oregon (42°08'N, 124°55'W; UW 48663); also reported to northern California (38°42'N; Lauth 2000). Benthic, at depths of 64–1,556 m (210–5,105 ft) (min.: Kido 1988; max.: Hoff and Britt 2003).
- Careproctus cypselurus* (Jordan & Gilbert, 1898). **Falcate Snailfish** or Forktail Snailfish. To 37.4 cm (14.7 in) SL (Mecklenburg et al. 2002). Pacific Ocean off Honshu, Japan to Kuril Islands and Sea of Okhotsk (Kido 1988) to Bering Sea; no records from Gulf of Alaska; southern British Columbia (Mecklenburg et al. 2002) to northern California (37°15'N, 123°08'W; UW 48655); reported to central California (34°44'N; Weinberg et al. 2002). Benthic, at depths of 214–1,993 m (702–6,539 ft; Mecklenburg et al. 2002).
- Careproctus ectenes* Gilbert, 1896. **Shovelhead Snailfish**. To 8.7 cm (3.4 in) TL. Bering Sea north of Rat Islands and Unalaska Island, Aleutian Islands. Bottom at depths of 494–640 m (1,621–2,100 ft). All in Mecklenburg et al. (2002).
- Careproctus filamentosus* Stein, 1978. To 18 cm (7.1 in) SL. Oregon. At depths of 2,265–2,940 m (7,431–9,646 ft). All in Stein (1978).
- Careproctus furcellus* Gilbert & Burke, 1912. **Emarginate Snailfish**. To 54 cm (21.3 in) SL (Tokranov 2000a). Pacific Ocean off Hokkaido and Okhotsk Sea to Bering Sea (Kido 1983, 1988) at least as far north as 60°49'N, 178°42'W (UW 28361) and Pacific Ocean off Aleutian Islands to northern Gulf of Alaska (Mecklenburg et al. 2002) and northern British Columbia (G. E. Gillespie, pers. comm. to C. W. M.). Bottom at depths of 98–1,270 m (322–4,167 ft) (min.: Kido 1988; max. Dudnik and Dolganov 1992).
- Careproctus gilberti* Burke, 1912. **Smalldisk Snailfish**. To 12.7 cm (5.0 in) TL (Mecklenburg et al. 2002). Western Aleutian Islands (Mecklenburg et al. 2002) and eastern Bering Sea (Hoff and Britt 2003) to central California north of Point Conception at about 35°10'N off Morro Bay (Townsend and Nichols 1925). Benthic, at depths of 172–1,181 m (564–3,875 ft) (min.: Mecklenburg et al. 2002; max.: Lauth 1999). The southern limit is the collection locality for the type specimen of *Liparis osborni* Townsend & Nichols, 1925, a junior synonym of *C. gilberti* (Mecklenburg et al. 2002).
- Careproctus longifilis* Garman, 1892. **Threadfin Snailfish**. To 16.2 cm (6.4 in) SL. Oregon to Panama. At depths of 1,900–3,334 m (6,233–10,938 ft). All in Stein (1978).
- Careproctus melanurus* Gilbert, 1892. **Blacktail Snailfish**. To 35 cm (13.8 in) SL (Kido and Shinohara 1997). Western North Pacific off Honshu, Japan (Kido and Shinohara 1997) and southeastern Kamchatka (Sheiko and Fedorov 2000) to western Bering Sea (Orlov 1998); southern Bering Sea and Pacific south of Aleutian Islands, Alaska to Baja California (Mecklenburg et al. 2002). Benthic, at depths of 61–2,286 m (200–7,500 ft) (min.: RACE; max. Stein 1978).
- Careproctus microstomus* Stein, 1978. **Smallmouth Snailfish**. To 19.7 cm (7.8 in) SL (Stein 1978). Oregon (Stein 1978) to central California (Ambrose in Moser 1996). At depths of 2,721–4,100 m (8,927–13,451 ft) (min.: Stein 1978; max.: SIO 92-81).
- Careproctus mollis* Gilbert & Burke, 1912. **Everyday Snailfish**. To 8.5 cm (3.3 in) TL. Northern Kuril Islands and Commander Islands; Aleutian Islands off Attu and Agattu islands, Bering Sea. Benthic, at depths of 247–882 m (810–2,894 ft). All in Mecklenburg et al. (2002).
- Careproctus opisthotremus* Gilbert & Burke, 1912. **Distal pore Snailfish**. To 7.7 cm (3.0 in) SL. Known from two specimens: from eastern North Pacific south of Agattu Island (the holotype) and from Bering Sea north of Umnak Island. Bottom at 1,913 m (6,276 ft; the holotype) and 2,562 m (8,405 ft). All in Mecklenburg et al. (2002).
- Careproctus oregonensis* Stein, 1978. **Oregon Snailfish**. To 15.3 cm (6.0 in) SL (Stein 1978). British Columbia (Gillespie 1993) to Oregon (Stein 1978). At depths of 1,900–2,926 m (6,233–9,600 ft) (min.: Stein 1978; max.: Pearcy et al. 1982).

-
- Careproctus ostentum* Gilbert, 1896. **Microdisk Snailfish**. To 13.4 cm (5.3 in) TL (Schmidt 1950). Okhotsk Sea; Bering Sea and Aleutian Islands to Gulf of Alaska east of Kodiak Island. Benthic, at depths of 165–1,030 m (541–3,379 ft). All in Mecklenburg et al. (2002).
- Careproctus ovigerus* (Gilbert, 1896). **Abyssal Snailfish**. To 43.1 cm (17.0 in) SL (Stein 1978). Queen Charlotte Islands, British Columbia (Gilbert 1896) to southern California (J. E. Fitch, pers. comm. to M. L.). Benthic, at depths of 1,000–2,904 m (3,280–9,527 ft) (min.: J. E. Fitch, pers. comm. to M. L.; max.: Gilbert 1896). The specific epithet is correctly spelled *ovigerus* to match the gender (masculine) of the genus name (Chernova et al. 2004).
- Careproctus phasma* Gilbert, 1896. **Monster Snailfish** or **Spectral Snailfish**. To 10 cm (3.9 in) TL (Mecklenburg et al. 2002). Okhotsk Sea (Schmidt 1950); western North Pacific off Kuril Islands and southeastern Kamchatka (Sheiko and Fedorov 2000); eastern Bering Sea and Aleutian Islands west to Amchitka Island (Mecklenburg et al. 2002). Benthic, at depths of 84–504 m (276–1,653 ft) (min.: Gilbert 1896; max.: Schmidt 1950).
- Careproctus pycnosoma* Gilbert & Burke, 1912. **Stout Snailfish**. To 7.9 cm (3.1 in) SL. Two records: Simushir Island, Kuril Islands; and Bering Sea northwest of Umnak Island, Aleutian Islands. One unconfirmed record from Seguam Pass, Aleutian Islands. Bottom at depths of 419–610 m (1,375–2,001 ft). May belong in genus *Allocareproctus*. All in Mecklenburg et al. (2002).
- Careproctus rastrinus* Gilbert & Burke, 1912. **Salmon Snailfish**. To 49 cm (19.3 in) SL (Tokranov 2000a). Japan Sea off southern Honshu, Pacific off central Honshu, and Okhotsk Sea (Kido 1988) to Bering Sea, Aleutian Islands, and eastern Gulf of Alaska (Mecklenburg et al. 2002). Benthic, at depths of 55–913 m (180–2,995 ft) (min.: Mecklenburg et al. 2002; max.: Dudnik and Dolganov 1992). Following Kido (1988), Mecklenburg et al. (2002) included the western Pacific forms *Careproctus acanthodes* Gilbert & Burke, 1912, and *Careproctus pellucidus* Gilbert & Burke, 1912, in the synonymy of *C. rastrinus*. Examination of the types in the USNM fish collection in October 2003 by C. W. M. and D. L. Stein indicates they may be distinct species; listed as distinct by Chernova et al. (2004).
- Careproctus scottae* Chapman & DeLacy, 1934. **Peachskin Snailfish**. To 22.7 cm (8.9 in) SL (Chapman and DeLacy 1934). Southeastern Alaska (Mecklenburg et al. 2002). Benthic, at depths of about 8–183 m (26–600 ft) (min.: Mecklenburg et al. 2002; max.: Chapman and DeLacy 1934).
- Careproctus simus* Gilbert, 1896. **Proboscis Snailfish**. To 25 cm (9.8 in) TL (Balanov 2003b). Sea of Okhotsk off Hokkaido (Tsutsui and Amaoka 1997) and southeastern Sakhalin, northern Kuril Islands, and western Bering Sea off Cape Navarin (Chernova et al. 2004); central and eastern Bering Sea and Aleutian Islands (Mecklenburg et al. 2002). At depths of 380–800 m (1,247–2,625 ft) (min.: Chernova et al. 2004; max.: Balanov 2003b).
- Careproctus spectrum* Bean, 1890. **Stippled Snailfish**. To about 10 cm (3.9 in) TL. Southeastern Bering Sea and eastern North Pacific Ocean south of Unimak Pass to inside waters of southeastern Alaska. Benthic, at depths of 93–201 m (305–659 ft). All in Mecklenburg et al. (2002).
- Careproctus zachirus* Kido, 1985. **Blacktip Snailfish**. To 25.2 cm (9.8 in) SL (Kido 1985). Northern Kuril Islands (Tokranov 2000a) and Pacific Ocean off southeastern Kamchatka (Orlov 1998); eastern Bering Sea (Hoff and Britt 2003); and Amchitka Pass, central Aleutian Islands (Kido 1985). Benthic, at depths of 214–850 m (706–2,805 ft) (min.: Tokranov 2000a; max.: Sheiko and Fedorov 2000).
- Crystallichthys cameliae* (Nalbant, 1965). **Elusive Snailfish**. Known from only one specimen, 8.46 cm (3.3 in) SL. Bering Sea north of Near Islands, Aleutian Islands. Bottom at depth of about 300 m (984 ft). All in Mecklenburg et al. (2002).
- Crystallichthys cyclospilus* Gilbert & Burke, 1912. **Blotched Snailfish**. To 28.7 cm (11.3 in) TL (Mecklenburg et al. 2002). Okhotsk Sea; Bering Sea and Aleutian Islands to Gulf of Alaska south of Shumagin Islands (Mecklenburg et al. 2002). Benthic, at depths of 54–577 m (178–1,904 ft) (min.: Mecklenburg et al. 2002; max.: Orlov 1998).

-
- **Crystallichthys mirabilis* Jordan & Gilbert, 1896. **Wonderful Snailfish**. To 36.0 cm (14.2 in) SL (Tokranov 2000a). Western North Pacific off northern Kuril Islands and southeastern Kamchatka; reported, but no firm records, from eastern Bering Sea, Alaska. Bottom at depths of 53–318 m (174–1,043 ft). All in Mecklenburg et al. (2002).
- Elassodiscus caudatus* (Gilbert, 1915). **Humpback Snailfish**. To 18.3 cm (7.2 in) SL, 19.9 cm (7.8 in) TL (Mecklenburg et al. 2002). Eastern Bering Sea, southeastern Alaska (Mecklenburg et al. 2002), and British Columbia (Peden 2003) to central California (34°54'N; Lauth 2001). Benthic, at depths of 241–1,556 m (791–5,105 ft) (min.: Anderson et al. 1979; max.: Hoff and Britt 2003). Classified by some authors in *Paraliparis*.
- Elassodiscus tremebundus* Gilbert & Burke, 1912. **Dimdisk Snailfish**. To 39.0 cm (15.4 in) SL (Tokranov 2000a). Okhotsk Sea, Pacific off Hokkaido, Japan and Kuril Islands to western Bering Sea off Cape Navarin; eastern Bering Sea over continental slope and off Aleutian Islands. Benthic, at depths of 130–1,286 m (426–4,219 ft). The exceptionally shallow depth of 130 m is from the western Bering Sea. All in Mecklenburg et al. (2002). Classified by some authors in *Paraliparis*.
- Gyrinichthys minytreumus* Gilbert, 1896. **Minigill Snailfish**. Known from one specimen, 7.2 cm (2.8 in) TL. Bering Sea north of Unalaska Island. Bottom at depth of 640 m (2,100 ft). All in Mecklenburg et al. (2002).
- Liparis adiastolus* Stein, Bond, & Misitano, 2003. **Rosybrown Snailfish**. To 16.7 cm (6.6 in) SL. Washington to northern California; probably British Columbia but not confirmed. Benthic, from intertidal to 10 m (33 ft). All in Stein et al. (2003) except the vernacular, coined later by Stein (pers. comm. to C. W. M.).
- Liparis bristolensis* (Burke, 1912). **Bristol Snailfish**. To 6.8 cm (2.7 in) TL. Chukchi Sea to Aleutian Islands and western Gulf of Alaska. Benthic, at depths of 31–77 m (102–253 ft). All in Mecklenburg et al. (2002).
- Liparis callyodon* (Pallas, 1814). **Spotted Snailfish**. To about 12.7 cm (5 in) TL (Hart 1973). Kuril Islands, southeastern Kamchatka, and Commander Islands (Sheiko and Fedorov 2000) to Gulf of Anadyr, Bering Sea (B. A. Sheiko, pers. comm. to C. W. M.); St. Lawrence Island and Norton Sound, eastern Bering Sea to Aleutian Islands (Mecklenburg et al. 2002) to Oregon (Eschmeyer and Herald 1983). Intertidal, including tidepools (Eschmeyer and Herald 1983), to 20 m (66 ft; Sheiko and Fedorov 2000).
- Liparis catharus* Vogt, 1973. **Purity Snailfish**. One specimen, 55.9 cm (22.0 in) TL. Bradfield Canal, southeastern Alaska. Bottom at depth of 137 m (450 ft). All in Vogt (1973). Known with certainty only from the holotype (Mecklenburg et al. 2002).
- Liparis cyclopus* Günther, 1861. **Ribbon Snailfish**. To 11.4 cm (4.5 in) TL (Jordan and Starks 1895). Petropavlovsk, southeastern Kamchatka to Commander Islands; southeastern Bering Sea and Aleutian Islands (Mecklenburg et al. 2002) to Oregon (Eschmeyer and Herald 1983). Intertidal and to 183 m (600 ft) (min.: Cross 1981; max.: Eschmeyer and Herald 1983).
- Liparis dennyi* Jordan & Starks, 1895. **Marbled Snailfish**. To 30.5 cm (12 in) TL (Hart 1973). Eastern Aleutian Islands (Mecklenburg et al. 2002) to Puget Sound, Washington (Hart 1973). Records from Bering Sea and western Aleutian Islands could be misidentified *L. gibbus*, and have not been confirmed (Mecklenburg et al. 2002). Benthic, from depth of 2 m (7 ft) or less to about 225 m (738 ft) (min.: Miller et al. 1980; max.: Hart 1973).
- Liparis fabricii* Krøyer, 1847. **Gelatinous Seasnail**. To 19.4 cm (7.6 in) TL. Circumpolar in Arctic; Beaufort and Chukchi seas, Alaska. Benthic and pelagic, at 20–1,880 m (66–6,204 ft); near shore to beneath pack ice over bottom depths of more than 2 km (6,562 ft). All in Mecklenburg et al. (2002).
- Liparis florum* (Jordan & Starks, 1895). **Tidepool Snailfish**. To 18.3 cm (7.2 in) TL (Miller and Lea 1972). Kodiak Island, western Gulf of Alaska (Mecklenburg et al. 2002) to King Harbor, southern California (Stephens et al. 1994). Bering Sea and Aleutian Islands records are uncertain (Mecklenburg et al. 2002).

Benthic; intertidal (Miller and Lea 1972), including tidepools (Hubbs and Schultz 1934), and to depth of 15 m (50 ft; LACM 7952.000).

Liparis fucensis Gilbert, 1896. **Slipskin Snailfish**. To 17.8 cm (7 in) TL (Miller and Lea 1972). Southeastern Bering Sea and Unimak Pass, eastern Aleutian Islands (Mecklenburg et al. 2002) to near San Simeon, central California (Miller and Lea 1972). Benthic, at depths of 4–388 m (13–1,272 ft) (min.: LACM 31937.020; max.: Miller and Lea 1972); juveniles often found in rocky tidepools (Mecklenburg et al. 2002).

Liparis gibbus Bean, 1881. Dusky Snailfish, Polka-dot Snailfish, or **Variegated Snailfish**. To 52.4 cm (20.6 in) TL (Able and McAllister 1980). Circumpolar in Arctic Ocean; Beaufort and Chukchi seas to northwestern Bering Sea, eastern Bering Sea, Aleutian Islands, and Gulf of Alaska to northern British Columbia (Mecklenburg et al. 2002). Reported from southeastern Kamchatka, northern Kuril Islands, and Commander Islands, but there are no confirmed records from there or from the western Bering Sea south of the northwestern portion (B. A. Sheiko, pers. comm. to C. W. M.). Benthic, at depths of 25–427 m (82–1,401 ft) (min.: Allen and Smith 1988; max.: Kido and Yabe in Okamura et al. 1995).

Liparis greeni (Jordan & Starks, 1895). **Lobefin Snailfish**. To 30.8 cm (12.1 in) TL (C. W. M., unpubl. data). Commander Islands; Pribilof Islands (southeastern Bering Sea) and Aleutian Islands to Washington. Benthic; intertidal area, including tidepools, to shallow water near shore; to depth of 21 m (69 ft; C. W. M., unpubl. data). All in Mecklenburg et al. (2002) except for the newer data. Classified in genus *Polypera* by some authors. *Polypera beringiana* Gilbert & Burke, 1912, recently called *Liparis beringianum*, is a junior synonym (Mecklenburg et al. 2002), although evidently not recognized as such by all authors (e.g., Nelson et al. 2004).

Liparis marmoratus Schmidt, 1950. **Festive Snailfish**. To 8.4 cm (3.3 in) TL (Schmidt 1950). Known from two specimens from Okhotsk Sea (Schmidt 1950, Chernova 1998), and one specimen from northern Bering Sea near St. Lawrence Island (Busby and Chernova 2001). Benthic, at depths of 100–165 m (328–541 ft) and shallower (Mecklenburg et al. 2002).

Liparis megacephalus (Burke, 1912). **Bighead Snailfish**. To about 28 cm (11.0 in) TL (Kim et al. 1993). Sea of Japan off South Korea; eastern Bering Sea and off Amchitka Island, Aleutian Islands. Benthic, at depths of 58–69 m (190–226 ft). All in Mecklenburg et al. (2002).

Liparis micraspidophorus (Gilbert & Burke, 1912). **Thumbtack Snailfish**. Less than 10 cm (3.9 in) TL. Commander Islands; Aleutian Islands to Cold Bay, Alaska Peninsula. Benthic, in tidepools and shallow intertidal. All in Mecklenburg et al. (2002). Authorship of the species name and original description is correctly attributed to both Gilbert and Burke, not only, as sometimes seen, to Burke.

Liparis mucosus Ayres, 1855. **Slimy Snailfish**. To about 12.7 cm (5.0 in) TL (Jordan and Starks 1895). Samsing Cove, southeastern Alaska (Mecklenburg et al. 2002) to Bahia San Carlos (29°36'N, 115°12'W; SIO 52-212), central Baja California. Kodiak Island reports are unconfirmed (Mecklenburg et al. 2002). Benthic, from intertidal area to 15 m (50 ft; Miller and Lea 1972), usually not in tidepools (Mecklenburg et al. 2002).

Liparis ochotensis Schmidt, 1904. **Okhotsk Snailfish**. To 74 cm (29.1 in) SL (Tokranov 2000a). Seas of Japan and Okhotsk, and Pacific Ocean off Hokkaido and Kuril Islands to southeastern Kamchatka; Bering Sea; specimens from Kodiak Island, western Gulf of Alaska (Quast and Hall 1972) may be *L. gibbus* (Mecklenburg et al. 2002). Benthic, 0–761 m (0–2,497 ft) (min.: Kido 1988; max.: Orlov 1998), usually 50–300 m (164–984 ft; Kido 1988).

Liparis pulchellus Ayres, 1855. **Showy Snailfish**. To 25.4 cm (10 in) TL (Miller and Lea 1972). Southeastern Bering Sea and Aleutian Islands (Mecklenburg et al. 2002) to Monterey Bay, central California (Miller and Lea 1972). Benthic, from intertidal area to depth of 183 m (600 ft; Miller and Lea 1972).

-
- Liparis rutteri*** (Gilbert & Snyder, 1898). **Ringtail Snailfish**. To 7.0 cm (2.8 in) SL (Stein et al. 2003). (A 7.0-cm-SL specimen would have a greater total length than the 7.4-cm-TL [2.9 in] maximum length given by Hart [1973, from UBC 63-330].) Attu Island, Aleutian Islands to Gulf of Alaska coasts nearly to the British Columbia border (Mecklenburg et al. 2002). Although also recorded from southeastern Kamchatka to the Commander Islands, this part of the range should be reevaluated on the basis of the new morphological information presented by Stein et al. (2003). Tidepools and shallow water in intertidal area; Alaskan records cited in Mecklenburg et al. (2002) are all from this habitat. Historically, the name *L. rutteri* has been applied to fish which actually represent two different species. The second species, *L. adiaxolus* (see account above), was recently named and described by Stein et al. (2003). Mecklenburg et al. (2002:594) give Alaskan records in addition to those mentioned by Stein et al. (2003).
- Liparis* sp.** Specimens similar to *Liparis adiaxolus* and *L. rutteri* but not identifiable as either species include UW 20727, UW 20728, and UW 20729 from Strait of Juan de Fuca, Washington; BCPM 974-471 and 978-170 from British Columbia; UAM 1989 from Kenai, northern Gulf of Alaska; and UAM 1125 from Chukchi Sea near Icy Cape, Alaska (D. L. Stein, pers. comm. to C. W. M.).
- Liparis tunicatus*** Reinhardt, 1837. **Greenland Seasnail or Kelp Snailfish**. To 16.7 cm (6.6 in) TL. Circumpolar; Beaufort and Chukchi seas to northern Bering Sea south of St. Lawrence Island, Alaska and Gulf of Anadyr, Russia. Intertidal, including tidepools, and to 150 m (492 ft), commonly found clinging to kelp fronds. All in Mecklenburg et al. (2002).
- Lipariscus nanus*** Gilbert, 1915. **Pygmy Snailfish**. To 7.1 cm (2.8 in) SL (Kido 1993). Southern Okhotsk Sea off Hokkaido, vicinity of Commander Islands, and western Bering Sea; eastern Bering Sea to Gulf of Alaska (Mecklenburg et al. 2002) to Monterey Bay, central California (Stein 1978). Pelagic, at depths of 58–910 m (190–2,985 ft) (min.: Gilbert 1915; max.: Kido 1988).
- Lopholiparis flerxi*** Orr, 2004. **Hardhead Snailfish**. Known from one specimen, 3.25 cm (1.3 in) SL. Off Ulak Island, Aleutian Islands, Alaska. Bottom at depth of 285 m (935 ft). All in Orr (2004).
- Nectoliparis pelagicus*** Gilbert & Burke, 1912. **Tadpole Snailfish**. To 6.5 cm (2.5 in) TL (Mecklenburg et al. 2002). Hokkaido, Japan (Nakabo in Nakabo 2002) and Sea of Okhotsk to Bering Sea (Mecklenburg et al. 2002) to San Diego (32°32'N, 117°24'W), southern California (SIO 63-870). Pelagic, usually taken in midwater depths (Mecklenburg et al. 2002). Reported from depths of 2 m (7 ft) or less in a beach seine (Miller et al. 1977) to 3,383 m (11,164 ft) in a trawl net (Stein 1978). However, the maximum reported depth of 3,383 m is actually the water depth from a sounding at *Albatross* dredging station 4785 (Bureau of Fisheries 1907), where one of the type specimens was caught. The net was not the usual beam trawl but an “intermediate 3” net which was fished at intermediate depths around 300 fathoms (549 m or 1,800 ft; Bureau of Fisheries 1907, Gilbert and Burke 1912). As with most fish species, there are few records for *N. pelagicus* from nonclosing nets.
- Odontoliparis ferox*** Stein, 1978. **Ferocious Snailfish**. Known from one specimen, 23.1 cm (9 in) SL. Oregon. At depth of 2,884 m (9,460 ft). All in Stein (1978) except the vernacular, coined recently by Stein (pers. comm. to C. W. M.).
- Osteodiscus cascadiae*** Stein, 1978. **Bonydisk Snailfish**. To 8.5 cm (2.6 in) SL (Stein 1978). British Columbia to Oregon (Stein 1978). At depths of 1,900–3,000 m (6,232–9,840 ft) (min.: Pearcy et al. 1982; max.: Stein 1978).
- Paraliparis albescens*** Gilbert, 1915. **Phantom Snailfish**. To 6.1 cm (2.4 in) SL. Monterey, central California to Point Conception, central California. At depths of about 192–500 m (630–1,640 ft). All in Anderson et al. (1979).
- Paraliparis cephalus*** Gilbert, 1892. **Swellhead Snailfish**. To 8.2 cm (3.2 in) SL (Stein 1978). Vicinity of Commander Islands (Sheiko and Fedorov 2000); northern Bering Sea, southern Bering Sea off Unalaska Island, and Shelikof Strait, western Gulf of Alaska (Mecklenburg et al. 2002) to northern Baja California (32°40'N, 117°35'W; SIO 54-126). Benthic, at depths of 294–1,799 m (965–5,902 ft; Sheiko and Fedorov 2000).

-
- Paraliparis dactylosus* Gilbert, 1896. **Polydactyl Snailfish**. To 12.1 cm (4.7 in) SL (Stein 1978). Commander Islands and eastern Bering Sea (Mecklenburg et al. 2002) to central California (Stein 1978). Benthic, at depths of 309–1,018 m (1,014–3,340 ft; Hoff and Britt 2003).
- Paraliparis deani* Burke, 1912. **Prickly Snailfish**. Less than 10 cm (3.9 in) TL (Mecklenburg et al. 2002). Shelikof Strait, western Gulf of Alaska (Mecklenburg et al. 2002) to northern California (Eschmeyer and Herald 1983). Benthic, at depths of 18–1,008 m (59–3,306 ft) (min.: Mecklenburg et al. 2002; max.: Stein 1978).
- Paraliparis holomelas* Gilbert, 1896. **Ebony Snailfish**. To 10 cm (3.9 in) TL (Gilbert 1896). Sea of Okhotsk (Schmidt 1950); Pacific Ocean off northern Kuril Islands and southeastern Kamchatka (B. A. Sheiko, pers. comm. to C. W. M.); southeastern Bering Sea to western and central Gulf of Alaska (Mecklenburg et al. 2002). Bottom at depths of 128–2,972 m (420–10,991 ft) (min.: Schmidt 1950; max.: Gilbert 1896). The specimen reported by Schmidt (1950) from the Sea of Okhotsk at 3,350 m is not this species (M. S. Busby, pers. comm. to C. W. M.).
- Paraliparis latifrons* Garman, 1899. **Bigpored Snailfish**. To 14.5 cm (5.7 in) TL (Stein 1978). British Columbia (Gillespie 1993) to Panama (Stein 1978). At depths of 2,030–3,279 m (6,658–10,755 ft; Stein 1978).
- Paraliparis megalopus* Stein, 1978. To 15.2 cm (6.0 in) SL (Stein 1978). Oregon (Stein 1978) to central California (34°43'N, 123°06'W; SIO 91-148). At depths of 2,825–4,100 m (9,266–13,448 ft) (min.: Stein 1980; max.: SIO 91-148).
- Paraliparis melanobranchus* Gilbert & Burke, 1912. **Phantom Snailfish**. To 8.3 cm (3.3 in) TL. Known from two records: one from Okhotsk Sea and one off British Columbia. Two unverified reports from Oregon. Possibly pelagic, at depths of 805–1,554 m (2,641–5,098 ft). All in Mecklenburg et al. (2002).
- Paraliparis mento* Gilbert, 1892. **Bulldog Snailfish**. To 11.4 cm (4.5 in) SL. Washington to Monterey Bay, central California. At depths of 800–1,000 m (2,625–3,281 ft). All in Stein (1978).
- Paraliparis nassarum* Stein & Fitch, 1984. **Fishtrap Snailfish**. To 31.8 cm (12.5 in) SL. Southern California to northern Baja California. At depths of 900–1,280 m (2,953–4,199 ft). All in Stein and Fitch (1984). Vernacular from D. L. Stein (pers. comm. to C. W. M.).
- Paraliparis paucidens* Stein, 1978. **Toothless Snailfish**. To 16.4 cm (6.5 in) SL (Stein 1978). Bering Sea, Alaska (59°21'N, 178°27'W; Orr et al. 2005) and northern British Columbia (Stein and Peden 1979) to Oregon (Stein 1978). Benthic, at depths of 1,054–2,275 m (3,458–7,464 ft) (min.: Orr et al. 2005; max.: Stein and Peden 1979).
- Paraliparis pectoralis* Stein, 1978. **Pectoral Snailfish**. To 21.8 cm (8.6 in) SL (Kido 1993). Southern Okhotsk Sea off Hokkaido (Kido 1993) to Bering Sea (Mecklenburg et al. 2002) to Monterey, central California (36°44'N, 122°18'W; SIO 92-92). Benthopelagic, at depths of 681–1,536 m (2,234–5,039 ft) (min.: Kido 1984; max.: Stein 1978).
- Paraliparis rosaceus* Gilbert, 1890. **Pink Snailfish** or **Rosy Snailfish**. To 40 cm (15.7 in) SL (Peden and Ostermann 1980). Okhotsk Sea off Hokkaido, Japan (Kido 1983); close to Alaska off Dixon Entrance, northern British Columbia (G. E. Gillespie, pers. comm. to C. W. M.) to Isla Guadalupe, central Baja California (SIO 66-28); Gulf of California (Stein 1978); and Costa Rica (9°48'N, 85°48'W; SIO 73-290; identification confirmed by D. L. Stein, pers. comm. to C. W. M.). At depths of 878–3,358 m (2,880–11,017 ft) (min.: LACM 42605.001; max.: Stein 1978).
- Paraliparis ulochir* Gilbert, 1896. **Broadfin Snailfish**. To 10.2 cm (4.0 in) SL (Stein 1978). Bering Sea to Gulf of California (Stein 1978). Benthic, at depths of 715–1,838 m (2,345–6,030 ft) (min.: Hoff and Britt 2003; max.: Stein 1978).
- Prognatholiparis ptychomandibularis* Orr & Busby, 2001. **Wrinklejaw Snailfish**. Described from one specimen, 8.8 cm (3.5 in) SL. Seguam Pass, central Aleutian Islands, Alaska. Bottom at depth of 455 m (1,493 ft). All in Mecklenburg et al. (2002) after Orr and Busby (2001). Additional specimens have more

recently been collected from the same area, but further information is not yet available (J. W. Orr and M. S. Busby, pers. comm. to C. W. M.).

Pseudnos anoderkes Chernova & Stein, 2002. **Stargazer Snailfish**. One specimen known, a subadult, 2.7 cm (1.1 in) SL. Northeast of Isla Guadalupe, central Baja California. Probably mesopelagic or bathypelagic, collected in midwater between 0 and 2,036 m (6,678 ft). All in Chernova and Stein (2002). Vernacular from D. L. Stein (pers. comm. to C. W. M.).

Pseudnos cathetostomus Chernova & Stein, 2002. **Doormouth Snailfish**. To 4.3 cm (1.7 in) SL. Three specimens known. Patton Escarpment, southern California and San Clemente Basin, northern Baja California. Probably mesopelagic or bathypelagic, collected in midwater; depth information not clear, characterized by authors from two specimens as 309–338 m (1,014–1,109 ft) over bottom depth of 3,961 m (12,995 ft). All in Chernova and Stein (2002).

Pseudnos griseus Chernova & Stein, 2002. One specimen known, 3.65 cm (1.4 in) SL. Northwest of Isla Guadalupe, central Baja California. Probably mesopelagic or bathypelagic, collected in midwater between 0 and 4,000 m (13,120 ft). All in Chernova and Stein (2002).

Pseudnos mexicanus Chernova & Stein, 2002. To 5.1 cm (2 in) SL, 5.9 cm (2.3 in) TL. Two specimens known, one adult and one juvenile. Near Isla Guadalupe, central Baja California. Probably mesopelagic or bathypelagic, holotype collected from midwater between 0 and 1,000 m (3,280 ft) over bottom depths of 3,292–3,384 m (10,798–11,100 ft), and the juvenile somewhere between the surface and bottom. All in Chernova and Stein (2002).

Pseudnos pallidus Chernova & Stein, 2002. **Pallid Snailfish**. One specimen known, 6.0 cm (2.4 in) SL, 7.1 cm (2.8 in) TL. West coast of central Baja California northeast of Isla Guadalupe. Probably mesopelagic or bathypelagic, collected in midwater between 0 and 2,000 m (6,560 ft) over bottom depth of 3,900 m (12,792 ft). All in Chernova and Stein (2002).

Rhinoliparis attenuatus Burke, 1912. **Slim Snailfish**. To 11 cm (4.3 in) SL (Stein 1978). Northern Kuril Islands and southeastern Kamchatka (Sheiko and Fedorov 2000); eastern Bering Sea (Mecklenburg et al. 2002); northern British Columbia (G. E. Gillespie, pers. comm. to C. W. M.) to Monterey Bay, central California (Stein 1978). Pelagic, at depths of 362–2,189 m (1,188–7,182 ft; Stein 1978). Classified by some authors in *Paraliparis*.

Rhinoliparis barbulifer Gilbert, 1896. **Longnose Snailfish**. To 11 cm (4.3 in) TL. Okhotsk Sea; Pacific off northern Honshu and Hokkaido; Commander Islands; Umnak Pass and vicinity of Unalaska Island; southern California. Benthopelagic, at depths of 252–1,500 (827–4,921 ft). All in Mecklenburg et al. (2002). Also reported from central California (36°46'N; Lauth 1999). Classified by some authors in *Paraliparis*.

Order Perciformes

Family Centropomidae — Snooks

Centropomus medius Günther, 1864. **Blackfin Snook**. To 55.8 cm (22 in) TL (Rivas 1986). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) and into Gulf of California (Bussing in Fischer et al. 1995) to northern Peru (Chirichigno and Vélez 1998). Bays and estuaries to depth of 25 m (82 ft; Robertson and Allen 2002) and ascends streams (Allen and Robertson 1994).

Centropomus nigrescens Günther, 1864. **Black Snook**. To 117 cm (46 in) TL (Bussing in Fischer et al. 1995). Bahia Magdalena, southern Baja California (SIO 62-721) to Paita, Peru (Chirichigno 1974), including lower Gulf of California (Bussing in Fischer et al. 1995). Bays and estuaries to depth of 25 m (82 ft; Robertson and Allen 2002) and ascends streams (Allen and Robertson 1994). *Centropomus nigrescens* Günther, 1864, is an invalid name, as it is preoccupied by *C. nigrescens* Risso, 1810, a species in the family Moronidae (Eschmeyer 1998).

Centropomus viridis Lockington, 1877. **White Snook**. Maximum size not clearly defined, perhaps 90–120 cm (35.4–47.2 in) TL, but perhaps to as much as 150 cm (60 in) TL (Grove and Lavenberg 1997). Southern Baja California (26°45'N, 114°15'W; SIO 98-1) to Tumbes, Peru (Chirichigno and Vélez 1998), including Gulf of California (Bussing in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Bays and estuaries to depth of 25 m (82 ft; Robertson and Allen 2002) and ascends streams (Allen and Robertson 1994).

Family Moronidae — Temperate Basses

***Morone saxatilis* (Walbaum, 1792). **Striped Bass**. To about 122 cm (4 ft) TL in eastern Pacific; 183 cm TL (6 ft) in Atlantic. Atlantic and Pacific; Barkley Sound, British Columbia to just south of U.S.–Mexican border. Along beaches and in bays. All in Miller and Lea (1972), as *Roccus saxatilis*. Anadromous (Moyle 2002).

Family Acropomatidae — Lanternbellies or Temperate Ocean-Basses

Some members of this family have a luminescent organ between the pelvic fins, for which they are called the lanternbellies. Partly because the Alaskan species does not have this organ, Mecklenburg et al. (2002) called them temperate ocean-basses from Eschmeyer and Herald (1983). The name chosen by the AFS–ASIH fish names committee (Nelson et al. 2004) is lanternbellies. The relationships of the genus *Howella* are unclear; sometimes placed in the family Howellidae.

Howella brodiei Ogilby, 1899. **Pelagic Basslet**. To 10 cm (4 in) TL (Fitch and Lavenberg 1968). Pacific and Atlantic oceans; north of San Francisco, northern California (Fitch and Lavenberg 1968) to Chile (Eschmeyer and Herald 1983). Mesopelagic, 30–1,829 m or more (100–6,000 ft; Fitch and Lavenberg 1968). The Atlantic form is regarded as a subspecies *Howella brodiei atlantica* (Post and Quéro 1991).

Howella shernborni (Norman, 1930). **Shortspine Basslet**. To 9.2 cm (3.6 in) SL (Post and Quéro 1991). Circumglobal (Hatooka in Nakabo 2002); North Pacific Ocean south of Krenitzin Islands, Aleutian Islands (Busby and Orr 1999) to at least northern California (Savinykh 1999). Pelagic, surface to about 2,700 m (8,858 ft; Mecklenburg et al. 2002).

Family Polyprionidae — Wreckfishes

Stereolepis gigas Ayres, 1859. **Giant Sea Bass**. To 226 cm (7.4 ft) TL (Eschmeyer and Herald 1983). Northern Japan and Sea of Japan (Mochizuki in Masuda et al. 1984); Humboldt Bay, northern California (Miller and Lea 1972) to Oaxaca, southern Mexico (Shane et al. in Moser 1996), including Gulf of California (Miller and Lea 1972). At depths of 5–46 m (18–150 ft) (min.: Miller and Lea 1972; max.: Eschmeyer and Herald 1983).

Family Serranidae — Sea Basses and Groupers

Alphestes immaculatus Breder, 1936. Pacific Hamlet or **Pacific Mutton Hamlet**. To 30 cm (11.8 in) TL (Allen and Robertson 1994). Islas San Benito, central Baja California (L. McDonald, pers. comm. to M. L.), mainland as far north as Laguna de San Ignacio, southern Baja California (De La Cruz-Agüero and Cota-Gómez 1998) and Gulf of California (Allen and Robertson 1994) to Pucusana, Peru (Chirichigno and Vélez 1998) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 3–30 m (10–98 ft) (min.: Pérez-España et al. 1996; max.: Robertson and Allen 2002). Also recently as *Alphestes galapagensis*.

Alphestes multiguttatus (Günther, 1867). Many-spotted Hamlet, Pacific Guaseta, or **Rivulated Mutton Hamlet**. To 25 cm (9.8 in) TL (Allen and Robertson 1994). Bahia Magdalena, southern Baja California (SIO 64-54) to Caleta La Cruz, Peru (Chirichigno and Vélez 1998), including Gulf of California (Allen and Robertson 1994). Intertidal and to 30 m (98 ft; Allen and Robertson 1994).

-
- **Cephalopholis panamensis* (Steindachner, 1877). Pacific Graysby or **Panama Graysby**. To 30.5 cm (11.9 in) TL (Grove and Lavenberg 1997). Gulf of California (Heemstra in Fischer et al. 1995) to Ecuador (Béarez 1996), including southern tip of Baja California (Heemstra in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–76 m (3–249 ft) (min.: Robertson and Allen 2002; max.: Grove and Lavenberg 1997).
- Dermatolepis dermatolepis* (Boulenger, 1895). **Leather Bass**. To 1 m (39.3 in) TL (Allen and Robertson 1994). El Segundo, southern California (Moore 1991) to northern Peru (Chirichigno and Vélez 1998) and such offshore islands as Islas Galápagos (Grove and Lavenberg 1997). At depths of 5–40 m (17–131 ft) (min.: Robertson and Allen 2002; max.: Heemstra in Fischer et al. 1995).
- Diplectrum eumelum* Rosenblatt & Johnson, 1974. Cheekspot Sand Perch, **Orange-spotted Sand Perch**, or Pointed Sand Perch. To 31 cm (12.2 in) TL (Heemstra in Fischer et al. 1995). Bahia Magdalena, southern Baja California (Watson in Moser 1996) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California and Islas Galápagos (Grove and Lavenberg 1997). About 10 m (33 ft; Aguilar-Palomino et al. 2001) to 100 m (328 ft; Heemstra in Fischer et al. 1995).
- Diplectrum euryplectrum* Jordan & Bollman, 1890. **Bighead Sand Perch**. To 20 cm (7.9 in) TL (Heemstra in Fischer et al. 1995). Bahia Magdalena, southern Baja California (Watson in Moser 1996) to northern Peru (Chirichigno 1974), including Gulf of California and Islas Galápagos (Grove and Lavenberg 1997). At depths of 15–150 m (50–492 ft; Grove and Lavenberg 1997).
- Diplectrum labarum* Rosenblatt & Johnson, 1974. **Highfin Sand Perch**. To 26 cm (10.2 in) TL (Heemstra in Fischer et al. 1995). Bahia de Sebastian Vizcaino, central Baja California (González-Acosta et al. 1999) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Heemstra in Fischer et al. 1995). At depths of 14–160 m (46–525 ft; Heemstra in Fischer et al. 1995).
- Diplectrum macropoma* (Günther, 1864). Barred Sandperch, Bigscale Sandfish, **Mexican Sand Perch**, or Pygmy Sand Perch. To 24 cm (9.4 in) TL (Amezcuca Linares 1996). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Isla Lobos de Tierra, Peru (Chirichigno 1974), including Gulf of California (Heemstra in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 9–134 m (30–440 ft) (min.: Allen and Robertson 1994; max.: Amezcuca Linares 1996).
- Diplectrum maximum* Hildebrand, 1946. **Greater Sand Perch** or Torpedo Sand Perch. To 37 cm (14.6 in) TL (Heemstra in Fischer et al. 1995). Newport Beach, southern California (Lea and Rosenblatt 2000) to northern Peru (Chirichigno and Vélez 1998). At depths of 1–130 m (3–426 ft; Robertson and Allen 2002).
- Diplectrum pacificum* Meek & Hildebrand, 1925. Inshore Sand Perch or **Pacific Sand Perch**. To 28 cm (11 in) TL (Heemstra in Fischer et al. 1995). Bahia San Juanico, southern Baja California (Watson in Moser 1996) to Punta Malpolo, Peru (Chirichigno and Vélez 1998), including Gulf of California (Heemstra in Fischer et al. 1995). At depths of 1–90 m (3–295 ft) (min.: Robertson and Allen 2002; max.: Allen and Robertson 1994).
- Diplectrum rostrum* Bortone, 1974. **Bridled Sand Perch**. To 21 cm (8.3 in) TL (Heemstra in Fischer et al. 1995). Laguna de San Ignacio, southern Baja California (De La Cruz-Agüero and Cota-Gómez 1998) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Heemstra in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 10–80 m (33–262 ft) (min.: Robertson and Allen 2002; max.: Heemstra in Fischer et al. 1995).
- Diplectrum sciurus* Gilbert, 1892. Gulf Sand Perch or **Squirrel Sand Perch**. To 17 cm (6.7 in) TL (Heemstra in Fischer et al. 1995). Bahia Magdalena, southern Baja California (Watson in Moser 1996) and Gulf of California (Heemstra in Fischer et al. 1995). Probably in northern Peru (Chirichigno and Vélez 1998). At depths of 25–100 m (83–328 ft; Heemstra in Fischer et al. 1995).

-
- Epinephelus acanthistius* (Gilbert, 1892). **Gulf Coney**, Rooster Hind, or Rose Coney. To 1.3 m (51 in) TL (Amezcuca Linares 1996). Off El Capitan (north of Santa Barbara), southern California (M. L., unpubl. data) to Isla Lobos de Tierra, Peru (Chirichigno 1974), including Gulf of California (Amezcuca Linares 1996). At depths of 12–111 m (40–364 ft) (min.: Godinez-Dominguez et al. 2000; max.: SIO 73-279).
- Epinephelus analogus* Gill, 1863. **Spotted Cabrilla** or Spotted Grouper. To 87 cm (34.25 in) TL (Eschmeyer and Herald 1983). San Pedro, southern California (Miller and Lea 1972) to Pucusana, Peru (Chirichigno 1974), including Gulf of California and Islas Galápagos (Miller and Lea 1972). Less than 1 m to 107 m (less than 3–353 ft) (min.: SIO 71-253; max.: Amezcuca Linares 1996).
- Epinephelus itajara* (Lichtenstein, 1822). **Goliath Grouper** or Jewfish. To 250 cm (98.4 in) TL (Robertson and Allen 2002). Atlantic and Pacific; Bahia Almejas (24°22'N, 111°42'W), southern Baja California (SIO 65-182) and Gulf of California (Heemstra in Fischer et al. 1995) to Máncora, Peru (Chirichigno and Vélez 1998). At depths of 1–100 m (3–328 ft) (min.: Robertson and Allen 2002; max.: Sadovy and Eklund 1999). Also found in fresh water (Greenfield and Thomerson 1997).
- Epinephelus labriformis* (Jenyns, 1840). **Flag Cabrilla** or Starry Grouper. To 50.8 cm (20.3 in) TL (Thomson et al. 1979). Isla Cedros, central Baja California (M. L., unpubl. data) to upper Gulf of California (Heemstra in Fischer et al. 1995) to Paita, Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997). From 1 m to at least 50 m (3–164 ft) (min.: Robertson and Allen 2002; max.: McCosker et al. 1997).
- Epinephelus niphobles* Gilbert & Starks, 1897. Snowy Grouper or **Star-studded Grouper**. To 109 cm (42.9 in) TL (Robertson and Allen 2002). Piedras Blancas, central California (Watson in Moser 1996) to Islas Lobos de Afuera, Peru (Chirichigno 1974), including Gulf of California (Heemstra in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–450 m (3–1,476 ft) (min.: González-Acosta et al. 1999; max.: Thomson et al. 2000). Heemstra (in Fischer et al. 1995) notes that some previous authors have referred to this species as *E. niveatus*.
- Hemanthias peruanus* (Steindachner, 1875). Rose Threadfin Bass or **Splittail Bass**. To 45 cm (17.7 in) TL (Heemstra in Fischer et al. 1995). Hippolito Bank (27°N), southern Baja California (Watson in Moser 1996) to Chile (Pequeño 1989), including Gulf of California (Heemstra in Fischer et al. 1995) and probably Islas Galápagos (Grove and Lavenberg 1997). At depths of 20–120 m (66–394 ft; Robertson and Allen 2002).
- Hemanthias signifer* (Garman, 1899). Damsel Bass, Damsel Threadfin Bass, or **Hookthroat Bass**. To 42 cm (16.5 in) TL (Heemstra in Fischer et al. 1995). Playa del Rey, southern California (Eschmeyer and Herald 1983) to Talara, Peru (Chirichigno and Vélez 1998), including Gulf of California (Heemstra in Fischer et al. 1995). At depths of 23–305 m (75–1,000 ft; Eschmeyer and Herald 1983).
- **Liopropoma fasciatum* Bussing, 1980. Rainbow Bass or **Rainbow Basslet**. To 26.5 cm (10.4 in) TL (Robertson and Allen 2002). Cabo San Lucas, southern Baja California (SIO 72-54) to Panama (Allen and Robertson 1994) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 25–250 m (82–820 ft) (min.: Robertson and Allen 2002; max.: Allen and Robertson 1994).
- Mycteroperca jordani* (Jenkins & Evermann, 1889). **Gulf Grouper**. To 98 cm (6.5 ft) TL (Eschmeyer and Herald 1983). La Jolla, southern California to Mazatlán, Mexico (Miller and Lea 1972), including Gulf of California (Heemstra in Fischer et al. 1995). At depths of 2–50 m (5–164 ft) (min.: SIO 65-296; max.: Robertson and Allen 2002).
- Mycteroperca rosacea* (Streets, 1877). **Leopard Grouper**. To 1 m (39.3 in) TL (Allen and Robertson 1994). Isla San Roque (27°00'N, 114°23'W), southern Baja California (M. L., unpubl. data) to Bahia Banderas, Jalisco, Mexico (Thomson et al. 1979), including Gulf of California (Heemstra in Fischer et al. 1995). At depths of 1–50 m (4–164 ft) (min.: SIO 65-286; max.: Heemstra in Fischer et al. 1995).

-
- Mycteroperca xenarcha* Jordan, 1888. **Broomtail Grouper**. To 150 cm (59 in) TL (Heemstra in Fischer et al. 1995). San Francisco, northern California (Miller and Lea 1972) to Callao, Peru (Chirichigno and Vélez 1998), including Gulf of California (Heemstra in Fischer et al. 1995) and Islas Galápagos (Miller and Lea 1972). Intertidal and to 70 m (230 ft) (min.: SIO 52-117; max.: Robertson and Allen 2002).
- Paralabrax auroguttatus* Walford, 1936. **Goldspotted Sand Bass**. To 71 cm (28 in) TL (Eschmeyer and Herald 1983). Just north of Punta Rosalia (28°40'N, 114°16'W) and Isla Cedros, central Baja California (M. L., unpubl. data) to Gulf of California (Eschmeyer and Herald 1983). The “southern California” site reported in Eschmeyer and Herald (1983) is unverified (D. Pondella, pers. comm. to M. L.). At depths of 2–183 m (5–600 ft) or more (min.: SIO 65-296; max.: M. L., unpubl. data).
- Paralabrax clathratus* (Girard, 1854). **Kelp Bass**. To 72.1 cm (28.4 in) TL (Miller and Lea 1972). Columbia River, Washington to Bahia Magdalena, southern Baja California (Miller and Lea 1972). Surface (Miller and Lea 1972) and surf zone to 61 m (200 ft) (min.: Carlisle et al. 1960; max.: E. Vetter, pers. comm. to M. L.); juveniles occasionally intertidal (Davis 2000).
- Paralabrax maculatofasciatus* (Steindachner, 1868). **Spotted Sand Bass**. To 38.1 cm (15 in) TL (Thomson et al. 2000). Larger records are unsubstantiated. Monterey, central California (Miller and Lea 1972) to central Mexico, including Gulf of California (Robertson and Allen 2002). Reported from San Francisco Bay in late 1800s (Miller and Lea 1972). Surface to 61 m (200 ft), including intertidal (min.: Allen 1999; max.: Miller and Lea 1972).
- Paralabrax nebulifer* (Girard, 1854). **Barred Sand Bass**. To 65.0 cm (25.6 in) TL (Miller and Lea 1972). Santa Cruz, central California to Bahia Magdalena, southern Baja California (Miller and Lea 1972) and perhaps in southern Mexico in the region around Acapulco (Heemstra in Fischer et al. 1995). Garcia-Rodriguez and Auriolles-Gamboa (1997) reported an otolith from this species from a sea lion scat collected in La Paz, Gulf of California. Surf zone to 183 m (3–600 ft) (min.: Carlisle et al. 1960; max.: Miller and Lea 1972).
- Paranthias colonus* (Valenciennes, 1846). **Pacific Creolefish**. To 35.6 cm (14.0 in) TL (Grove and Lavenberg 1997). San Diego, southern California (Robins et al. 1991) to Islas Lobos de Afuera, Peru (Chirichigno and Vélez 1998), including Gulf of California (Heemstra in Fischer et al. 1995) and such offshore islands as Islas Galápagos (Grove and Lavenberg 1997). Surface to 100 m (McCosker et al. 1997).
- Pronotogrammus multifasciatus* Gill, 1863. Speckled Bass or **Threadfin Bass**. To 26 cm (10.25 in) TL (Eschmeyer and Herald 1983). Off east end of Anacapa Island, southern California (M. Nishimoto, pers. comm. to M. L.) and south of Point Mugu (34°00'N, 119°00'W), southern California (D. Schroeder, pers. comm. to M. L.) to Talara, Peru (Chirichigno and Vélez 1998), including Gulf of California (Heemstra in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 40–300 m (131–984 ft) (min.: Eschmeyer and Herald 1983; max.: McCosker et al. 1997).
- **Pseudogramma thaumasium* (Gilbert, 1900). Blackspot Reef-bass or **Pacific Reef Bass**. To 10 cm (4 in) TL (Robertson and Allen 2002). Cabo San Lucas, southern Baja California (SIO 59-210) and Gulf of California to Colombia, Islas Galápagos, Isla Cocos, and Isla Malpelo (Robertson and Allen 2002). At depths of 3 m (10 ft) to perhaps 40 m (131 ft) (min.: SIO 61-276; max.: Robertson and Allen 2002).
- Rypticus bicolor* Valenciennes, 1846. Cortez Soapfish or **Mottled Soapfish**. To 30 cm (11.8 in) TL (Thomson et al. 2000). Bahia Magdalena, southern Baja California (Watson in Moser 1996) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Thomson et al. 2000) and Islas Galápagos (Grove and Lavenberg 1997). Surface to 70 m (230 ft) (min.: Robertson and Allen 2002; max.: Grove and Lavenberg 1997).
- Rypticus nigripinnis* Gill, 1861. Blackfin Soapfish or **Twice-spotted Soapfish**. To 35 cm (13.8 in) TL (Amezcuca Linares 1996). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) and throughout Gulf of California to Puerto Pizarro, Peru (Chirichigno and Vélez 1998) and Islas

Galápagos (Grove and Lavenberg 1997). Tidepools (Thomson and Lehner 1976) and to depth of 70 m (230 ft; Robertson and Allen 2002).

Serranus aequidens Gilbert, 1890. **Deepwater Serrano**. To 24.5 cm (9.6 in) TL (Robertson and Allen 2002). Whites Point, southern California (Pondella 1999) to western Gulf of California; central Mexico to central Colombia (Robertson and Allen 2002). At depths of 75–260 m (246–852 ft) (min.: Robertson and Allen 2002; max.: SIO 65-247).

Serranus psittacinus Valenciennes, 1846. **Barred Serrano**. To 18 cm (7 in) TL (Heemstra in Fischer et al. 1995). Isla Cedros, central Baja California (M. L., unpubl. data) to Islas Lobos de Afuera, Peru (Chirichigno and Vélez 1998), including Gulf of California (Heemstra in Fischer et al. 1995) and such offshore islands as Islas Galápagos (Grove and Lavenberg 1997). At depths of 2–61 m (6–200 ft) (min.: Allen and Robertson 1994; max.: Thomson et al. 2000).

Family Opistognathidae — Jawfishes

Opistognathus punctatus Peters, 1869. **Finespotted Jawfish**. To 40.6 cm (16.2 in) TL (Thomson et al. 1979). Bahia San Ignacio, southern Baja California (Danemann and De La Cruz-Agüero 1993) into northern Gulf of California to Panama (Robertson and Allen 2002). At depths of 2–24 m (5–79 ft) (min.: Thomson et al. 1979; max.: SIO 79-71).

Opistognathus rhomaleus Jordan & Gilbert, 1882. **Giant Jawfish**. To more than 50.8 cm (20.3 in) TL (Thomson et al. 1979). Bahia Ballenas, southern Baja California (Watson in Moser 1996) into northern Gulf of California and Islas Revillagigedo. At depths of 3–61 m (10–200 ft) (min.: Robertson and Allen 2002; max.: LACM 2630.000). The correct date for the species name is 1882 (Eschmeyer 1998), not 1881 as seen elsewhere.

Opistognathus rosenblatti Allen & Robertson, 1991. **Bluespotted Jawfish**. To about 10 cm (4 in) TL. Lower half of Baja California and parts of Gulf of California. At depths of 5–25 m (17–82 ft). All in Robertson and Allen (2002).

Unidentified opistognathid. Lissner and Dorsey (1986) observed from a manned submersible a jawfish they were unable to identify at Tanner–Cortes Bank, southern California.

Family Priacanthidae — Bigeyes

Cookeolus japonicus (Cuvier, 1829). **Bulleye** or Longfinned Bigeye. To 68 cm (26.8 in) TL (Randall 1995). Circumglobal; Japan (Hayashii in Nakabo 2002); southern Baja California (Starnes in Fischer et al. 1995) to Huacho, Peru (Chirichigno and Vélez 1998), including Gulf of California (Robertson and Allen 2002). At depths of 30–400 m (99–1,312 ft) (min.: Robertson and Allen 2002; max.: Allen and Robertson 1994).

Heteropriacanthus cruentatus (Lacepède, 1801). Glasseye or **Glasseye Snapper**. To 51 cm (20 in) TL (Robertson and Allen 2002). Circumglobal; Isla Guadalupe, central Baja California (Grove and Lavenberg 1997) to perhaps Chile (Starnes 1988), and at least around Isla Cerralvo, Gulf of California (Galván-Magaña et al. 1996) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 20–300 m (66–984 ft) (min.: Starnes 1988; max.: Hureau in Quérou et al. 1990). Recently as *Priacanthus cruentatus*.

Priacanthus alalaua Jordan & Evermann, 1903. Alalaua or **Hawaiian Bigeye**. To 32 cm (13 in) TL (Starnes in Carpenter and Niem 1999). Eastern Pacific; Rocas Alijos, southern Baja California and Islas Revillagigedo; Hawaii; perhaps in other eastern Pacific sites (Starnes 1988). At depths of 9–275 m (30–902 ft) (min.: Starnes in Fischer et al. 1995; max.: Allen and Robertson 1994).

Pristigenys serrula (Gilbert, 1891). **Popeye Catalufa**. To 33 cm (13 in) TL (Eschmeyer and Herald 1983). Newport, central Oregon (Watson in Moser 1996) to Chile (Pequeño 1989), including Gulf of California and Islas Galápagos (Miller and Lea 1972). Less than 3 to more than 200 m (10–656 ft) (min.: Allen and Robertson 1994; max.: Amezcua Linares 1996). Also seen classified in genus *Pseudopriacanthus*.

Family Apogonidae — Cardinalfishes

Apogon atricaudus Jordan & McGregor, 1898. **Plain Cardinalfish**. To 9 cm (3.5 in) TL (SIO 96-93). San Clemente Island, southern California (SIO 96-93) and Isla Guadalupe, central Baja California (SIO 50-40) to Gulf of California and islands of eastern Pacific (Eschmeyer and Herald 1983). At depths of 3–50 m (10–165 ft; Sandknop and Watson in Moser 1996).

Apogon guadalupensis (Osburn & Nichols, 1916). **Guadalupe Cardinalfish**. To about 13 cm (5 in) TL (Miller and Lea 1972). Anacapa Island and Santa Barbara Island, southern California (Richards and Engle 2001) to tip of Baja California (Robertson and Allen 2002) and Islas Revillagigedo (Sandknop and Watson in Moser 1996). At depths of 10–30 m (33–98 ft; Robertson and Allen 2002).

Apogon pacificus (Herre, 1935). **Pink Cardinalfish**. To 10 cm (3.9 in) TL (Allen and Robertson 1994). San Clemente Island, southern California (Richards and Engle 2001) and mainland off Arrecife Sacramento (29°40'N, 115°47'W; M. L., unpubl. data), central Baja California to Cabo San Lucas, southern Baja California (Grove and Lavenberg 1997) to Pucusana, Peru (Chirichigno and Vélez 1998), including Gulf of California (Robertson and Allen 2002), Islas San Benito (SIO 77-396), and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–96 m (3–315 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996). *Apogon parri* Breder, 1936, is a junior synonym.

Apogon retrosella (Gill, 1862). **Barspot Cardinalfish**. To 10.2 cm (4.1 in) TL (Thomson et al. 1979). Islas San Benito (D. Schroeder, pers. comm. to M. L.) and Isla Cedros, central Baja California and Rocas Chester (27°53'N, 115°04'W) on mainland, central Baja California (M. L., unpubl. data) to Colombia (Beltrán-León and Rios Herrera 2000), including Gulf of California (Sandknop and Watson in Moser 1996). Tidepools (Thomson and Lehner 1976) and to depth of 61 m (200 ft; Sandknop and Watson in Moser 1996).

Family Malacanthidae — Tilefishes

Caulolatilus affinis Gill, 1865. Bighead Tilefish or **Pacific Golden-eyed Tilefish**. To 50 cm (20 in) TL (Allen and Robertson 1994). Off Point Loma, southern California (Walker et al. 2002) to Isla Guadalupe (SIO 84-241) and southern tip of Baja California (Schneider and Krupp in Fischer et al. 1995) to Isla Lobos de Tierra, Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997) and Gulf of California (Schneider and Krupp in Fischer et al. 1995). At depths of 30–200 m (98–656 ft) (min.: Schneider and Krupp in Fischer et al. 1995; max.: De La Cruz-Agüero et al. 1997).

Caulolatilus hubbsi* Dooley, 1978. **Enigmatic Tilefish. To 39 cm (15.4 in) TL (Schneider and Krupp in Fischer et al. 1995). Gulf of California and near eastern Pacific islands (Eschmeyer and Herald 1983) to northern Peru (Chirichigno and Vélez 1998). Based only on “an old record from s. Calif.” (Eschmeyer and Herald 1983:203), occurrence of this species in our area is speculative. At depths of 18–41 m (59–135 ft; Eschmeyer and Herald 1983). Perhaps a synonym of *C. princeps* (Grove and Lavenberg 1997).

Caulolatilus princeps (Jenyns, 1840). **Ocean Whitefish**. To 102 cm (40 in) TL (Miller and Lea 1972). Vancouver Island, British Columbia (Miller and Lea 1972) to Chile (Pequeño 1989), including Gulf of California and Islas Galápagos (Miller and Lea 1972). At depths of 3–150 m (10–492 ft) (min.: Limbaugh 1955; max.: Robertson and Allen 2002).

Family Nematistiidae — Roosterfishes

Nematistius pectoralis Gill, 1862. **Roosterfish**. To at least 176 cm (69.3 in) TL (Robertson and Allen 2002). San Clemente, southern California (Miller and Lea 1972) to Isla San Lorenzo, Peru (Chirichigno 1974), including Gulf of California and Islas Galápagos (Miller and Lea 1972). Near shore, surface to 20 m (66 ft; Robertson and Allen 2002).

Family Echeneidae — Remoras

Echeneis naucrates Linnaeus, 1758. **Sharksucker**. To 110 cm (43.3 in) TL (Lieske and Myers 2002). Circumglobal; Sea of Japan, off northern Hokkaido, possibly as far north as southern Kuril Islands (Parin 2003); southern California (Miller and Lea 1972) to Chile (Pequeño 1989), including Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Pelagic, surface to 35 m (116 ft; Gasparini and Floeter 2001), perhaps to 50 m (164 ft; Robertson and Allen 2002).

Phtheichthys lineatus (Menziés, 1791). **Slender Suckerfish**. To 45 cm (17.6 in) TL, reported to 76 cm (30.4 in; Eschmeyer and Herald 1983). Circumglobal; southern California (Miller and Lea 1972) to Colombia (Franke and Acero 1990), including Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Oceanic, pelagic.

Remora australis (Bennett, 1840). **Whalesucker**. To 76.2 cm (30 in) TL (Miller and Lea 1972). Circumglobal; British Columbia (Gillespie 1993) to Chile (Miller and Lea 1972), including Islas Galápagos (Grove and Lavenberg 1997). Pelagic, surface to perhaps 200 m (656 ft; Robertson and Allen 2002). Recently as *Remilegia australis*.

Remora brachyptera (Lowe, 1839). **Spearfish Remora**. To 40 cm (15.7 in) TL (Robertson and Allen 2002). Circumglobal; in western Pacific as far north as southern Kuril Islands (Savinykh 1998); southern California to Chile (Miller and Lea 1972), including Gulf of California (Galván-Magaña et al. 1996) and Islas Galápagos (Grove and Lavenberg 1997). Pelagic, surface to perhaps 200 m (656 ft; Robertson and Allen 2002).

Remora osteochir (Cuvier, 1829). **Marlinsucker**. To 40 cm (15.7 in) TL (Robertson and Allen 2002). Circumglobal; Santa Catalina Island, southern California (Miller and Lea 1972) to northern Peru (Chirichigno and Vélez 1998), including central and southern Gulf of California (Robertson and Allen 2002). Surface to perhaps 200 m (656 ft; Robertson and Allen 2002). Recently as *Rhombochirus osteochir*.

Remora remora (Linnaeus, 1758). **Remora**. To 86.4 cm (34 in) TL (Miller and Lea 1972). Circumglobal; in western Pacific as far north as southern Kuril Islands (Parin 2003); in eastern Pacific from Washington (Hughes 1985) to Chile (Pequeño 1989), including central and southern Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Pelagic, surface to 100 m (330 ft; Fedorov 2000) and perhaps to 200 m (656 ft; Robertson and Allen 2002).

Remorina albescens (Temminck & Schlegel, 1850). **White Suckerfish**. To 35 cm (13.8 in) TL (Lachner and Post in Quéro et al. 1990). Circumglobal; San Francisco, northern California to Chile, including central and southern Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Pelagic.

Family Coryphaenidae — Dolphinfishes

Coryphaena equiselis Linnaeus, 1758. **Pompano Dolphinfish**. To 207 cm (83 in) TL in Eschmeyer and Herald (1983), but only to 75 cm (29.5 in) in Collette (in Carpenter 2003). Not always distinguished from *C. hippurus*, and the larger sizes reported likely are from that species. Circumglobal; in western Pacific as far north as Sea of Japan (Parin 2003); southern Baja California (24°35'N, 112°16'W; SIO 50-246) to at least Ecuador (Béarez 1996), including southwestern Gulf of California (Robertson and Allen 2002). Pelagic. Recently as *C. equisetis*.

Coryphaena hippurus Linnaeus, 1758. **Dolphinfish**. To 210 cm (82.7 in) TL (Robertson and Allen 2002). Circumglobal; Japan (Senou in Nakabo 2002) and as far north as southern Kuril Islands (Savinykh 1998); Grays Harbor, Washington to Chile, including Islas Galápagos and Gulf of California (Miller and Lea 1972). Surface to about 200 m (656 ft) (min.: Eschmeyer and Herald 1983; max.: Boggs 1992).

Family Carangidae — Jacks

Alectis ciliaris (Bloch, 1787). **African Pompano**. Possibly to 130–150 cm (50–60 in) FL (Smith-Vaniz in Fischer et al. 1995). Circumglobal; in western Pacific as far north as Japan (Senou in Nakabo 2002) and southern Kuril Islands (Savinykh 1998); eastern Pacific from Bahia Santa Maria (24°40'N, 112°11'W), southern Baja California (SIO 51–65) to Chile (Pequeño 1989), including lower Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Coastal waters, 1–100 m (3–328 ft; Laboute and Grandperrin 2000).

Carangoides orthogrammus* (Jordan & Gilbert, 1882). **Island Trevally or Yellow-spotted Trevally. To 71 cm (28.0 in) TL (Lieske and Myers 2002). Pacific and Indian oceans; in western Pacific as far north as Cheju Island, South Korea (Kim et al. 1999); eastern Pacific, Cabo San Lucas (SIO 59–213), Isla Socorro, Isla San Benedicto, and other oceanic sites (Smith-Vaniz in Fischer et al. 1995). Nearshore areas, 3–170 m (10–558 ft; Ralston et al. 1986). Sometimes seen as *Caranx orthogrammus* (e.g., Nelson et al. 2004), but most researchers classify the species in *Carangoides* (Eschmeyer 1998 and online editions).

Caranx caballus Günther, 1868. **Green Jack**. To at least 70 cm (27.6 in) TL (Allen and Robertson 1994). Monterey Bay, central California (Lea and Walker 1995) to Chile (Pequeño 1989), including Gulf of California (Robertson and Allen 2002), Islas Galápagos (Miller and Lea 1972), and Hawaii (Randall and Carlson 1999). Surf zone and to 100 m (328 ft) (min.: Carlisle et al. 1960; max.: De La Cruz-Agüero et al. 1997). Recently as *Carangoides caballus*.

Caranx caninus Günther, 1867. **Pacific Crevalle Jack**. To 100 cm (39.4 in) TL (Smith-Vaniz in Fischer et al. 1995). Warm waters of eastern Pacific; San Diego, southern California (Miller and Lea 1972) to Isla Lobos de Tierra (Chirichigno and Vélez 1998), including Gulf of California (Robertson and Allen 2002), Islas Galápagos (Grove and Lavenberg 1997), and other offshore islands (Robertson and Allen 2002). Surface to 350 m (1,148 ft; Smith-Vaniz in Fischer et al. 1995). *Caranx hippos* is considered a separate Atlantic and Caribbean species.

Caranx lugubris Poey, 1860. **Black Jack**. To 99 cm (39 in) TL (Grove and Lavenberg 1997). Circumglobal; southern Japan (Senou in Nakabo 2002); southern Baja California (Smith-Vaniz in Fischer et al. 1995) to Chile (Pequeño 1989), including lower Gulf of California (Smith-Vaniz in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 3–355 m (10–1,164 ft) (min.: Robertson and Allen 2002; max.: Ralston et al. 1986).

Caranx melampygus* Cuvier, 1833. Bluefin Jack, **Bluefin Trevally, or Blue Trevally. Reported to 100 cm (39.4 in) TL (Smith-Vaniz in Fischer et al. 1995). Pacific and Indian oceans; southern Japan (Senou in Nakabo 2002); Cabo San Lucas, southern Baja California (Smith-Vaniz in Fischer et al. 1995) to Isla Gorgona, Colombia (Franke and Acero 1993), including lower Gulf of California (Smith-Vaniz in Fischer et al. 1995) and such offshore islands as Islas Galápagos (Grove and Lavenberg 1997). Nearshore areas, 1–230 m (3–754 ft) (min.: Laboute and Grandperrin 2000; max.: Ralston et al. 1986); juveniles may inhabit estuaries (Smith and Parrish 2002).

Caranx otrynter Jordan & Gilbert, 1883. **Threadfin Jack** or Thread Pompano. To 60 cm (23.6 in) TL (Allen and Robertson 1994). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Ecuador (De La Cruz-Agüero et al. 1997), including lower and central Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Surface to 100 m (328 ft; De La Cruz-Agüero et al. 1997). Also recently called *Carangoides otrynter*.

Caranx sexfasciatus Quoy & Gaimard, 1825. Bigeye Crevalle, **Bigeye Trevally**, or Sixband Jack. To 94 cm (37.0 in; Lieske and Myers 2002) to 120 cm (47.2 in; Sadovy and Cornish 2000) TL. Pacific and Indian oceans; southern Japan (Senou in Nakabo 2002); San Diego Bay, southern California (Lea and Walker 1995) to Ecuador (Grove and Lavenberg 1997), including lower Gulf of California (Robertson and Allen

2002) and Islas Galápagos (Grove and Lavenberg 1997). Shallow, near reefs (Watson et al. in Moser 1996), 1–96 m (3–315 ft) (min.: González-Acosta et al. 1999; max.: Myers 1999).

Caranx vinctus Jordan & Gilbert, 1882. **Cocinero**, Concinero Jack, or Striped Jack. To 38 cm (15 in) TL (Amezcue Linares 1996). San Diego Bay, southern California (Lea and Rosenblatt 2000) to Tumbes, Peru (Chirichigno and Vélez 1998), including central and southern Gulf of California (Robertson and Allen 2002). Surface to 50 m (164 ft; De La Cruz-Agüero et al. 1997). Also recently as *Carangoides vinctus*.

Chloroscombrus orqueta Jordan & Gilbert, 1883. **Pacific Bumper**. To 31 cm (12.2 in) SL (Amezcue Linares 1996). San Pedro, southern California (Miller and Lea 1972) to Chilca, Peru (Beltrán-León and Rios Herrera 2000), including Gulf of California (Smith-Vaniz in Fischer et al. 1995) and Isla Malpelo (Robertson and Allen 2002). Shallow coastal waters and estuaries (Watson et al. in Moser 1996) to 53 m (174 ft; Zeballos 1998).

****Decapterus macarellus*** (Cuvier, 1833). **Mackerel Scad**. To 44 cm (17.3 in) TL (Robertson and Allen 2002). Circumtropical; tip of Baja California, mouth of Gulf of California, Costa Rica to Panama, and offshore islands (Robertson and Allen 2002). Surface to 200 m (656 ft; Smith-Vaniz in Fischer et al. 1995).

Decapterus macrosoma Bleeker, 1851. **Shortfin Scad**. To 35 cm (13.8 in) TL (Robertson and Allen 2002). Pacific and Indian oceans; in western Pacific as far north as southern Japan (Senou in Nakabo 2002) and Cheju Island, South Korea (Kim et al. 1999); Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Chile (Pequeño 1989), including Gulf of California (Smith-Vaniz in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At 12–170 m (99–558 ft) or more, reported to much deeper (min.: Godinez-Dominguez et al. 2000; max.: Smith-Vaniz in Carpenter and Niem 1999).

Decapterus muroadsi (Temminck & Schlegel, 1844). **Amberstripe Scad** or Mexican Scad. To about 55 cm (21.7 in) TL (Robertson and Allen 2002). Warm waters of Pacific; Japan to East China Sea (Gushiken in Masuda et al. 1984); Pacific Grove, central California (Miller and Lea 1972) to Peru (Watson et al. in Moser 1996), Easter Island (Pequeño 1989), and Islas Galápagos (Grove and Lavenberg 1997); apparently not in Gulf of California (Robertson and Allen 2002). Surface to 30 m (98 ft; Robertson and Allen 2002). Includes *Decapterus hypodus* Gill, 1862, and *Decapterus scombrinus* (Valenciennes, 1846) as junior synonyms.

****Elagatis bipinnulata*** (Quoy & Gaimard, 1825). **Rainbow Runner**. To 180 cm (70.9 in) TL (Robertson and Allen 2002). Circumtropical; in western Pacific as far north as Japan (Senou in Nakabo 2002) and southern Kuril Islands (Savinykh 1998); southern tip of Baja California (Smith-Vaniz in Fischer et al. 1995) to at least as far south as Isla Gorgona, Colombia (Franke and Acero 1993) and probably to northern Peru (Chirichigno and Vélez 1998), including mouth of Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Epipelagic (Watson et al. in Moser 1996), surface to at least 150 m (492 ft; Randall 1995).

Gnathanodon speciosus (Forsskål, 1775). **Golden Trevally** or Yellow Jack. To 120 cm (47.2 in) TL (Randall 1996). Atlantic via Panama Canal (Robertson and Allen 2002); Pacific and Indian oceans; in western Pacific as far north as Japan (Senou in Nakabo 2002) and southern Kuril Islands (Savinykh 1998); Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to central Gulf of California (Robertson and Allen 2002) to Colombia (Allen and Robertson 1994). Adults in deep lagoons and seaward reefs, juveniles among jellyfish tentacles (Watson et al. in Moser 1996); surface to 40 m (131 ft; Robertson and Allen 2002). Recently as *Caranx speciosus*.

Hemicaranx leucurus (Günther, 1864). **Yellowfin Jack**. To 30 cm (11.8 in) TL (Smith-Vaniz in Fischer et al. 1995). Bahia Almejas, southern Baja California (SIO 62–150) to Talara, Peru (Chirichigno and Vélez 1998), including lower Gulf of California (Robertson and Allen 2002). Inshore (Allen and Robertson 1994); at depths of 0 to perhaps 30 m (98 ft; Robertson and Allen 2002).

-
- Hemicaranx zelotes*** Gilbert, 1898. **Blackfin Jack** or Blackfin Scad. To 32.5 cm (12.8 in) TL (Amezcue Linares 1996). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Sechura, Peru (Chirichigno and Vélez 1998), including Gulf of California (De La Cruz-Agüero et al. 1997). Inshore (Allen and Robertson 1994) and to perhaps 30 m (98 ft; Robertson and Allen 2002).
- Naucrates ductor*** (Linnaeus, 1758). **Pilotfish**. To 70 cm (27.6 in) TL (Smith-Vaniz in Fischer et al. 1995). Circumglobal; in western Pacific as far north as Japan (Senou in Nakabo 2002) and southern Kuril Islands (Savinykh 1998); Vancouver Island, British Columbia (Eschmeyer and Herald 1983) to Chile (Pequeño 1989), including Gulf of California (Smith-Vaniz in Fischer et al. 1995) and such offshore islands as Islas Galápagos (Miller and Lea 1972). Surface to 150 m (495 ft; Robertson and Allen 2002).
- Oligoplites altus*** (Günther, 1868). **Longjaw Leatherjack** or Smallmouthed Leatherjack. To 47 cm (18.5 in) TL (Robertson and Allen 2002). Laguna San Ignacio, southern Baja California (Galván-Magaña et al. 2000) to Callao, Peru (Chirichigno and Vélez 1998), including Gulf of California (Smith-Vaniz in Fischer et al. 1995). Nearshore marine and estuaries (Allen and Robertson 1994), at 0 to perhaps 30 m (98 ft; Robertson and Allen 2002).
- Oligoplites refulgens*** Gilbert & Starks, 1904. **Shortjaw Leatherjack**. To at least 30 cm (11.8 in) TL (Robertson and Allen 2002). Southern Baja California (Smith-Vaniz in Fischer et al. 1995) to Isla San Lorenzo, Peru (Chirichigno and Vélez 1998), including Gulf of California (Smith-Vaniz in Fischer et al. 1995). Nearshore marine and estuaries (Allen and Robertson 1994), at 0 to perhaps 30 m (98 ft; Robertson and Allen 2002).
- Oligoplites saurus*** (Bloch & Schneider, 1801). **Leatherjack**, Yellowjack, or Yellowtail Leatherjack. To 45 cm (17.7 in) TL (Grove and Lavenberg 1997). Atlantic and Pacific; Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Puerto Pizarro, Peru (Chirichigno and Vélez 1998), including Gulf of California (Smith-Vaniz in Fischer et al. 1995), Islas Galápagos (Grove and Lavenberg 1997) and Isla Malpelo (Robertson and Allen 2002). Shallow coastal waters and in estuaries (Watson et al. in Moser 1996) to 50 m (164 ft; Amezcua Linares 1996); also reported from fresh water (Greenfield and Thomerson 1997).
- Selar crumenophthalmus*** (Bloch, 1793). **Bigeye Scad** or Purse-eyed Scad. Unverified to 60 cm (23.6 in) SL, documented to 27 cm (10.6 in) SL (Smith-Vaniz in Carpenter and Niem 1999). Circumglobal; Pacific coast of southern Japan (Senou in Nakabo 2002) and Sea of Japan (Parin 2003); Lagunas Ojo de Liebre-Guerrero Negro, central Baja California (Galván-Magaña et al. 2000) to Cabo Blanco, Peru (Chirichigno 1974), including Gulf of California (Smith-Vaniz in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997) and other offshore islands (Robertson and Allen 2002). Coastal waters, surface (Laboute and Grandperrin 2000) to 170 m (558 ft) (min.: Allen and Robertson 1994; max.: Randall et al. 1990).
- Selene brevoortii*** (Gill, 1863). **Mexican Lookdown**. To 42 cm (16.5 in) TL (Robertson and Allen 2002). San Diego Bay, southern California (Lea and Walker 1995) to Isla San Lorenzo, Peru (Chirichigno and Vélez 1998), including Gulf of California (Smith-Vaniz in Fischer et al. 1995). Coastal waters, including bays and estuaries (Watson et al. in Moser 1996), to 50 m (164 ft; Robertson and Allen 2002).
- ****Selene orstedii*** Lütken, 1880. Hairfin Lookdown, **Mexican Moonfish**, or Pacific Lookdown. To 31 cm (12.2 in) TL (Smith-Vaniz in Fischer et al. 1995). Tip of Baja California (Smith-Vaniz in Fischer et al. 1995) to Caleta La Cruz, Peru (Chirichigno and Vélez 1998), including southern Gulf of California (Smith-Vaniz in Fischer et al. 1995). Shallow coastal waters, occasionally in estuaries, to 50 m (165 ft; Robertson and Allen 2002).
- Selene peruviana*** (Guichenot, 1866). **Pacific Moonfish**. To 85 cm (34 in) TL (Franke and Acero 1993), 35 cm (13.8 in) TL (Velasco and Thiel 2002). Long Beach, southern California (Miller and Lea 1972) to Chile (Pequeño 1989), including Gulf of California (Smith-Vaniz 1996) and Islas Galápagos (Grove and Lavenberg 1997). Inshore (Grove and Lavenberg 1997) and shallow coastal waters (Watson et al. in Moser 1996) to 450 m (1,476 ft; Franke and Acero 1993).

-
- Seriola lalandi*** Valenciennes, 1833. **Yellowtail**, Yellowtail Amberjack, Yellowtail Jack, or Yellowtail Kingfish. To 250 cm (98.4 in) TL (Robertson and Allen 2002). Circumglobal in warm waters, also in some areas in temperate waters; in western North Pacific as far north as Japan (Senou in Nakabo 2002) and southern Kuril Islands (Savinykh 1998); in eastern Pacific from northern British Columbia (54°35'N, 31°00'W; Nagtegaal and Farlinger 1981) to Chile, including Gulf of California (Miller and Lea 1972), Islas Galápagos (Grove and Lavenberg 1997), and Isla Malpelo (Robertson and Allen 2002). Unverified reports from Gulf of Alaska off Kodiak Island and Cordova (Mecklenburg et al. 2002). Primarily epipelagic, recorded from surface to 300 m (984 ft) (min.: Miller and Lea 1972; max.: Laboute and Grandperrin 2000). Nelson et al. (2004) changed the official common name from Yellowtail to Yellowtail Jack, but West Coast fishers and researchers may be reluctant to adopt the change. *Seriola dorsalis* (Gill, 1863) is treated as a junior synonym. Also recently as *S. lalandi dorsalis*.
- Seriola rivoliana*** Valenciennes, 1833. **Almaco Jack** or Pacific Amberjack. To 157 cm (61.8 in) TL in Franke and Acero (1993), but only to 55 cm (21.6 in) FL in Smith-Vaniz (in Carpenter 2003). Circumglobal; Korea (Kim et al. 1997) and southern Japan (Senou in Nakabo 2002); Oceanside, southern California (Eschmeyer and Herald 1983) to Cabo Blanco, Peru (Chirichigno and Vélez 1998), including Gulf of California (Smith-Vaniz in Fischer et al. 1995) and Islas Galápagos (Eschmeyer and Herald 1983). Pelagic, at depths of 3–250 m (10–820 ft; Robertson and Allen 2002).
- Trachinotus kennedyi*** Steindachner, 1876. **Blackblotch Pompano** or Pacific Permit. To 73 cm (28.7 in) TL (Robertson and Allen 2002). Bahia San Bartolome (27°41'N, 114°53'W; SIO 60–317), southern Baja California to Pucusana, Peru (Chirichigno and Vélez 1998), including Gulf of California (Robertson and Allen 2002). Shallow inshore areas (Watson et al. in Moser 1996) and estuaries (Allen and Robertson 1994) to 72 m (236 ft; Franke and Acero 1993).
- Trachinotus paitensis*** Cuvier, 1832. **Paloma Pompano**. To 50.8 cm (20 in) TL (Miller and Lea 1972). Redondo Beach, southern California (Miller and Lea 1972) to Chile (Pequeño 1989), including Gulf of California and Islas Galápagos (Miller and Lea 1972). Shallow inshore areas (Miller and Lea 1972) and to 100 m (328 ft; Amezcua Linares 1996).
- Trachinotus rhodopus*** Gill, 1863. **Gafftopsail Pompano**. To 61.0 cm (24 in) TL (Miller and Lea 1972). Zuma Beach, southern California (Miller and Lea 1972) to Callao, Peru (Chirichigno and Vélez 1998), including southern and central Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Miller and Lea 1972). Surface to 30 m (98 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996).
- Trachurus symmetricus*** (Ayres, 1855). **Jack Mackerel**. To 81.3 cm (32 in) TL (Miller and Lea 1972). Pacific Ocean south of Aleutian Islands (Mecklenburg et al. 2002 [UW 15469]) and in Gulf of Alaska to Gulf of California (Smith-Vaniz in Fischer et al. 1995). Primarily pelagic, surface (Miller and Lea 1972) from surf zone (Carlisle et al. 1960) and offshore to 403 m (1,320 ft [220 fm]), sometimes taken in bottom trawls (Hart 1973). Although *Trachurus murphyi* Nichols, 1920, found off South America, is considered by some authors (e.g., Grove and Lavenberg 1997) to be a subspecies of *T. symmetricus*, DNA evidence indicates it is a separate species (Poulin et al. 2004).
- Uraspis helvola*** (Forster, 1801). **Cottonmouth Jack**, Whitemouth Jack, or Whitetongue Jack. To 50 cm (19.7 in) TL (Allen and Roberts 1994). Circumglobal; southern Kuril Islands (Savinykh and Shevtsov 2001) and southern Japan (Senou in Nakabo 2002); Santa Catalina Island, southern California (Miller and Lea 1972) to Ecuador (Béarez 1996), including Islas Galápagos (Grove and Lavenberg 1997). Benthopelagic (Smith-Vaniz in Carpenter and Niem 1999), 10–300 m (33–984 ft; Robertson and Allen 2002). *Uraspis secunda* (Poey, 1860) may be a junior synonym (Smith-Vaniz in Carpenter and Niem 1999, Smith-Vaniz in Carpenter 2003).

Family Bramidae — Pomfrets

Brama japonica Hilgendorf, 1878. **Pacific Pomfret** or Small-scaled Pomfret. To 61.0 cm (24 in) TL (Miller and Lea 1972), but reported to 122 cm (4 ft; Jordan and Evermann 1896b). Southern Sea of Japan and off southern coast of Korean Peninsula (Lindberg and Krasnyukova 1969) to Pacific Ocean south of Aleutian Islands and southern Bering Sea (Mecklenburg et al. 2002) to Chile (Robertson and Allen 2002); apparently absent from tropics (Robertson and Allen 2002). Oceanic, primarily epipelagic, recorded from surface to 620 m (2,034 ft) (min.: Mead 1972; max.: Moser and Mundy in Moser 1996).

Brama orcinii Cuvier, 1831. Bigbelly Pomfret or **Bigtooth Pomfret**. To 35 cm (13.75 in) TL (Eschmeyer and Herald 1983). Mid-Pacific and Indian oceans (Eschmeyer and Herald 1983) to Imperial Beach, southern California (Mead 1972). The Imperial Beach record was a beached specimen. Surface to 100 m (328 ft; Smith in Smith and Heemstra 1986).

Pteraclis aesticola (Jordan & Snyder, 1901). **Pacific Fanfish**. To 61.0 cm (24 in) TL (Miller and Lea 1972). Cosmopolitan; Japan (Hatooka in Nakabo 2002); northern California (37°50'N, 125°W; SIO 90-73) to Chile (Pequeño 1989). Pelagic.

Taractes asper Lowe, 1843. Flathead Pomfret or **Rough Pomfret**. To more than 50 cm (19.7 in) TL (Mecklenburg et al. 2002). Circumglobal; Japan (Mochizuki in Masuda et al. 1984) to Gulf of Alaska off Kodiak Island (Mecklenburg et al. 2002) to southern California (31°20'N, 121°10'W; Parin and Scherbachev 1998) to Chile (Pequeño 1997). Oceanic, primarily pelagic (Mead 1972), from surface to depth of about 550 m (1,804 ft; Mecklenburg et al. 2002).

Taractichthys steindachneri (Döderlein, 1883). **Sicklefin Pomfret**. To 91.4 cm (36 in) TL (Miller and Lea 1972). Warmer waters of Pacific and Indian oceans; Japan (Hatooka in Nakabo 2002); Point Conception, California (Eschmeyer and Herald 1983) and central Baja California (27°15'N, 118°16'W; SIO 89-101). To depth of at least 300 m (984 ft; Myers and Donaldson 1996). Date of publication of the species description is sometimes seen as 1884, but the correct date evidently is 1883 (Eschmeyer 1998 and online editions).

Family Caristiidae — Manefishes or Veilfins

Taxonomically, this group is poorly understood. Undescribed species have been reported (e.g., Hatooka in Nakabo 2002:1552) and consensus is lacking on nomenclature of the named Pacific species. Manefishes are meso- and bathypelagic as adults and epi- and mesopelagic as larvae and juveniles (Paxton in Carpenter and Niem 2001:2837).

Caristius macropus (Bellotti, 1903). **Bigmouth Manefish** or Veilfin. To more than 39 cm (15.3 in) TL (UW 44441; 33 cm SL). Widespread in Pacific Ocean; Japan (Fuji in Masuda et al. 1984) to southern Bering Sea, Aleutian Islands (Mecklenburg et al. 2002; additional western Alaska records include UW 41927, UW 44232, UW 44420, UW 44441, UW 44494), and Gulf of Alaska (D. J. Csepp, pers. comm. to C. W. M.; AB 03-09) to central Baja California near Isla Cedros (Hart 1973). Pelagic, adults at 200 m (656 ft) to more than 740 m (2,428 ft) (min.: UW 20920; max.: Amaoka in Amaoka et al. 1983 [2 specimens caught at 740–1,420 m]).

**Caristius maderensis* Maul, 1949. To perhaps 30 cm (11.8 in) TL (Post in Whitehead et al. 1986). Atlantic and possibly Pacific oceans; reported from northern Baja California (Berry and Perkins 1966) nearly to the equator (SIO 64–175). Beltrán-León and Rios Herrera (2000) identified larvae taken off Colombia. The species called *C. maderensis* in the eastern Pacific may not be that species (Moser in Moser 1996). Pelagic, adults at 300–2,000 m (984–6,560 ft; Post in Whitehead et al. 1986).

Family Lutjanidae — Snappers

- Hoplopagrus guentherii* Gill, 1862. **Barred Pargo** or Mexican Barred Snapper. To 92 cm (36.2 in) TL (Allen in Fischer et al. 1995). Bahia Abreojos, southern Baja California (Watson and Brogan in Moser 1996) to northern Peru (Grove and Lavenberg 1997), including Gulf of California (Allen 1985), Islas Galápagos (Grove and Lavenberg 1997), and Isla Cocos (Robertson and Allen 2002). Tidepools (Thomson and Lehner 1976) and to about 50 m (10–164 ft) (min.: Allen and Robertson 1994; max.: Allen 1985).
- Lutjanus aratus* (Günther, 1864). **Mullet Snapper**. To 99 cm (39 in) TL (Allen 1985). Bahia Magdalena, southern Baja California (Galván-Magaña et al. 2000) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Allen 1985) and Islas Galápagos (Grove and Lavenberg 1997) and other offshore islands (Robertson and Allen 2002). At depths of 0–50 m (164 ft) (min.: Robertson and Allen 2002; max.: Allen 1985).
- Lutjanus argentiventris* (Peters, 1869). **Amarillo Snapper** or Yellow Snapper. To 66 cm (26.0 in) TL (Franke and Acero 1992). Oceanside, southern California (Eschmeyer and Herald 1983) to Islas Lobos de Afuera, Peru (Chirichigno 1974), including Gulf of California (Allen 1985) and Islas Galápagos (Eschmeyer and Herald 1983). Intertidal zone (juveniles) and to 94 m (308 ft) (min.: Grove and Lavenberg 1997; max.: Amezcua Linares 1996); also found in fresh water and in the lower reaches of streams where there is tidal influence (Bussing 1998).
- Lutjanus colorado* Jordan & Gilbert, 1882. **Colorado Snapper**. To 107 cm (42.1 in) TL (Robertson and Allen 2002). Estero (Morro) Bay, central California to Panama (Eschmeyer and Herald 1983) and probably to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Allen 1985). Surface to 90 m (295 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996), sometimes in estuaries (Allen and Robertson 1994).
- Lutjanus guttatus* (Steindachner, 1869). **Spotted Rose Snapper**. To 80 cm (31.5 in) TL (Allen 1985). Bahia Magdalena, southern Baja California (Watson and Brogan in Moser 1996) to Huacho, Peru (Beltrán-León and Rios Herrera 2000), including Gulf of California (Allen 1985). Surface to 107 m (351 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996) in brackish and marine waters (Allen 1985).
- Lutjanus jordani* (Gilbert, 1898). **Whipper Snapper**. To 61 cm (24.0 in) TL (Fuertes and Araya 1979). Southern Baja California (27°06'N, 114°11'W; SIO 47-28) to Paita, Peru (Chirichigno 1974), including lower Gulf of California (Allen 1985) and Islas Galápagos (Grove and Lavenberg 1997) and other offshore islands (Robertson and Allen 2002). Both inshore and in deeper waters (Allen and Robertson 1994) to 200 m (656 ft; Fuertes and Araya 1979).
- Lutjanus novemfasciatus* Gill, 1862. Dog Snapper or **Pacific Dog Snapper**. To 1.7 m (67 in) TL (Allen 1985). Morro Bay, central California (Tognazzini 2003) to Puerto Pizarro, Peru (Chirichigno 1974), throughout Gulf of California (Allen 1985), and around Islas Galápagos (Grove and Lavenberg 1997). Tidepools and to 60 m (197 ft) (min.: Thomson and Lehner 1976; max.: Allen 1985); also in estuaries and may ascend freshwater streams (Allen and Robertson 1994).
- Lutjanus peru* (Nichols & Murphy, 1922). **Pacific Red Snapper**. To 95 cm (37.4 in) TL (Allen 1985). La Jolla, southern California (SIO 89-126) and Bahia Santa Maria, southern Baja California (Watson and Brogan in Moser 1996) to Huermey, Peru (Chirichigno and Vélez 1998) and throughout Gulf of California (Allen 1985). Surface (SIO 65-288, nightlight) to at least 90 m (295 ft; Allen and Robertson 1994).
- Lutjanus viridis* (Valenciennes, 1846). **Blue-and-Gold Snapper**. To 30 cm (11.8 in) TL (Allen 1985). Rocas Alijos, southern Baja California (SIO 90-135) to Peru, including Islas Galápagos (Grove and Lavenberg 1997) and Gulf of California (Allen 1985). Surface to 60 m (min.: SIO 58-141; max.: SIO 63-791).

Family Lobotidae — Tripletails

Lobotes pacificus Gilbert, 1898. **Pacific Tripletail**. To 110 cm (43.3 in) TL (Carpenter in Carpenter 2003). Circumglobal; in western Pacific as far north as Japan (Hatooka in Nakabo 2002) and southern Kuril Islands (Savinykh 1998); in eastern Pacific from San Pedro Breakwater, southern California (Rounds and Feeney 1993) to Chimbote, Peru (Beltrán-León and Rios Herrera 2000). Bays, brackish estuaries, coastal freshwaters, and sometimes well out to sea around floating objects (Allen and Robertson 1994). Considered by some authors a junior synonym of *Lobotes surinamensis* (Bloch, 1790).

Family Gerreidae — Mojarras

Diapterus peruvianus (Cuvier, 1830). **Peruvian Mojarra** or Shortsnout Mojarra. To 38 cm (15.0 in) TL (Amezcuca Linares 1996). Bahía Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Caleta La Cruz, Peru (Chirichigno and Vélez 1998), including lower and central Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Surface to 104 m (341 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996); also in estuaries and lower parts of streams (Allen and Robertson 1994).

Eucinostomus currani Zahuranec, 1980. Blackspot Mojarra, Flagfin Mojarra, **Pacific Flagfin Mojarra**, or Spotted-fin Mojarra. To at least 21 cm (8.3 in) TL (Robertson and Allen 2002). Anaheim Bay, southern California (Bussing in Fischer et al. 1995) to Huacho, Peru (Chirichigno and Vélez 1998), including Gulf of California (Bussing in Fischer et al. 1995), Islas Galápagos (Grove and Lavenberg 1997), and Isla Cocos (Robertson and Allen 2002). The *Eucinostomus* sp. of Miller and Lea (1972) refers to this species (Nelson et al. 2004). Intertidal area (SIO 71-51) and to 100 m (328 ft; Amezcua Linares 1996), and freshwater streams (Allen and Robertson 1994).

Eucinostomus dowii (Gill, 1863). Dow's Mojarra, **Pacific Spotfin Mojarra**, or Silver Mojarra. To 20 cm (7.9 in) TL (Amezcuca Linares 1996). Camp Pendleton Harbor (SIO 76-191), southern California to Gulf of California (De La Cruz-Agüero et al. 1997) and to Peru (Allen and Robertson 1994). Shallow bays and estuaries; tidepools and to 114 m (3–374 ft) (min.: Thomson and Lehner 1976; max.: Amezcua Linares 1996). We follow Nelson et al. (2004) in treating *Eucinostomus argenteum* records from the Pacific Ocean as *E. dowii*.

Eucinostomus entomelas Zahuranec, 1980. Blackgill Mojarra, Black-spot Mojarra, or **Darkspot Mojarra**. To 24 cm (9.5 in) TL (Robertson and Allen 2002). From 4.8 km (3 mi) east of the entrance to Laguna Ojo de Liebre (27°54'N, 114°18'W), central Baja California (SIO 52-141) to northern Peru (Chirichigno and Vélez 1998), including southern and central Gulf of California (Robertson and Allen 2002). At depths of 0–100 m (328 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996).

Eucinostomus gracilis (Gill, 1862). **Graceful Mojarra** or Slender Mojarra. To 23.9 cm (9.4 in) TL (Amezcuca Linares 1996). Bahía de Ballenas, southern Baja California (Zahuranec 1967) to northern Peru (Chirichigno and Vélez 1998), including southern Gulf of California (Bussing in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Mangrove estuaries (Allen and Robertson 1994) and coastal freshwaters (Bussing in Fischer et al. 1995); in ocean, surface and at depths of 1–112 m (3–367 ft) (min.: Gonzáles-Acosta et al. 1999; max.: Amezcua Linares 1996). *Eucinostomus californiensis* (Gill, 1862) and *E. gracilis* are synonymous. The name *E. californiensis* was selected as the correct name by Jordan and Evermann (1898) but this has been largely overlooked and *E. gracilis* is the name usually seen. The current edition of the *International Code of Zoological Nomenclature* (ICZN 1999) allows continued use of the name *E. gracilis*, rather than introduce instability in nomenclature by not maintaining current usage.

Eugerres axillaris (Günther, 1864). **Black Axillary Mojarra**. To 25 cm (9.8 in) TL (Robertson and Allen 2002). Boca Soledad (25°23'N, 112°06'W), southern Baja California (SIO 64-83) to Honduras (Robertson and Allen 2002). At depths of 0–4 m (14 ft) (min.: Robertson and Allen 2002; max.: SIO 64-83), to perhaps 30 m (99 ft; Robertson and Allen 2002).

Eugerres lineatus (Humboldt, 1821). **Streaked Mojarra**. To 18 cm (7 in) TL (Bussing in Fischer et al. 1995). Near Boca de Soledad (25°11'N, 112°06'W), southern Baja California (SIO 64-80) and southern and central Gulf of California (Robertson and Allen 2002) to Ecuador (Béarez 1996), including Islas Galápagos (Grove and Lavenberg 1997). Surface to perhaps 30 m (98 ft; Robertson and Allen 2002).

Gerres cinereus (Walbaum, 1792). **Yellowfin Mojarra**. To 41 cm (16.1 in) TL (Greenfield and Thomerson 1997). Atlantic and Pacific; Bahía Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Callao, Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997) and lower two-thirds of Gulf of California (Robertson and Allen 2002). Brackish estuaries (Allen and Robertson 1994) at depths of 1–107 m (3–351 ft) (min.: González-Acosta et al. 1999; max.: Amezcua Linares 1996).

Family Haemulidae — Grunts

Anisotremus davidsoni (Steindachner, 1876). **Sargo** or Xanthic Sargo. To 60 cm (23.6 in) TL (McKay and Schneider in Fischer et al. 1995). Santa Cruz, central California to Bahía Magdalena, southern Baja California, and isolated population in Gulf of California (Miller and Lea 1972). Surf zone and to 61 m (201 ft) (min.: Carlisle et al. 1960; max.: Thomson et al. 2000).

Anisotremus interruptus (Gill, 1862). **Burrito Grunt**. To 90 cm (35.4 in) TL (Amezcua Linares 1996). Isla Cedros (M. L., unpubl. data) and mainland at Lagunas Ojo de Liebre-Guerrero Negro, central Baja California (De La Cruz-Agüero et al. 1996) and throughout Gulf of California (McKay and Schneider in Fischer et al. 1995) to Mancora, Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997). Young fish in tidepools (SIO 60-309); 1–25 m (3–83 ft) (min.: SIO 50-253; max.: De La Cruz-Agüero et al. 1997).

Anisotremus taeniatus Gill, 1861. **Panamic Porkfish**. To 30 cm (11.8 in) TL (Allen and Robertson 1994). Bahía Santa María (24°45'N, 112°15'W), southern Baja California (SIO 62-734) to Punta Sal, Peru (Chirichigno and Vélez 1998), including southeast corner of Gulf of California (Robertson and Allen 2002). At depths of 5–25 m (17–83 ft; Robertson and Allen 2002).

Conodon serrifer Jordan & Gilbert, 1882. **Armed Grunt** or Serrated Grunt. To 30 cm (11.8 in) TL (Allen and Robertson 1994). San Onofre, southern California (Moore and Herbinson 2002) to Paita, Peru (Chirichigno and Vélez 1998), including Gulf of California (McKay and Schneider in Fischer et al. 1995). Nearshore waters (McKay and Schneider in Fischer et al. 1995) at 1–72 m (3–236 ft) (min.: González-Acosta et al. 1999; max.: Amezcua Linares 1996).

Haemulon flaviguttatum Gill, 1862. **Cortez Grunt** or Yellowspotted Grunt. To 42 cm (16.5 in) TL (McKay and Schneider in Fischer et al. 1995). Three collected in southern California: Newport Bay (M. Shane, pers. comm. to M. L.), Mission Bay, and San Diego Bay (Lea and Rosenblatt 1992); throughout Gulf of California (McKay and Schneider in Fischer et al. 1995) to Peru (Robertson and Allen 2002). At depths of 1–107 m (3–351 ft) (min.: González-Acosta et al. 1999; max.: Amezcua Linares 1996).

Haemulon maculicauda (Gill, 1862). **Spottail Grunt**. To 30 cm (11.8 in) TL (McKay and Schneider in Fischer et al. 1995). Bahía Magdalena, southern Baja California (De La Cruz-Agüero et al. 1997) to Panama (Allen and Robertson 1994) and probably to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Galván-Magaña et al. 1996). At depths of 1–33 m (3–110 ft) (min.: González-Acosta et al. 1999; max.: SIO 75-513).

- Haemulon scudderi* Gill, 1862. Goldeneye Grunt, Grey Grunt, or **Mojarra Grunt**. To 35 cm (13.7 in) TL (Allen and Robertson 1994). Bahia Magdalena, southern Baja California (Thomson et al. 1979) into Gulf of California (Thomson et al. 1979) to Ecuador (Thomson et al. 1979), including Islas Galápagos (Grove and Lavenberg 1997). Shallow water (McKay and Schneider in Fischer et al. 1995), 1–30 m (3–98 ft) (min.: Gonzáles-Acosta et al. 1999; max.: Robertson and Allen 2002).
- **Haemulon sexfasciatum* Gill, 1862. **Graybar Grunt**. To 48 cm (18.7 in) TL (Thomson et al. 1979). Gulf of California (Thomson et al. 1979) to Ecuador (Béarez 1996), including southern tip of Baja California (Thomson et al. 1979) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–30 m (3–98 ft) (min.: SIO 50-253; max.: Robertson and Allen 2002).
- Haemulon steindachneri* (Jordan & Gilbert, 1882). **Latin Grunt**. To 30 cm (11.8 in) TL (De La Cruz-Agüero et al. 1997). Atlantic and Pacific (Lindeman in Carpenter 2003); Bahia Magdalena, southern Baja California to Peru, including Gulf of California (De La Cruz-Agüero et al. 1997). At depths of 1–75 m (3–246 ft) (min.: Gonzáles-Acosta et al. 1999; max.: Robertson and Allen 2002). Lindeman (in Carpenter 2003) notes that the taxonomic status of this species is unresolved.
- Haemulopsis axillaris* (Steindachner, 1869). Axil Grunt or **Yellowstripe Grunt**. To 30 cm (11.8 in) TL (McKay and Schneider in Fischer et al. 1995). North of Boca de Soledad (25°18'N, 112°11'W), southern Baja California (SIO 64-79) to Ecuador (Béarez 1996), including mouth of Gulf of California (Robertson and Allen 2002). Surface to 113 m (371 ft) (min.: SIO 60-294; max.: Amezcua Linares 1996). Also recently as *Pomadasys axillaris*.
- Haemulopsis elongatus* (Steindachner, 1879). **Elongate Grunt** or Sharpsnout Grunt. To 30 cm (11.8 in) TL (Robertson and Allen 2002). Bahia Magdalena, southern Baja California (SIO 62-111) to Ecuador (Béarez 1996), including mouth of Gulf of California (Robertson and Allen 2002). At depths of 0–66 m (217 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996).
- Haemulopsis leuciscus* (Günther, 1864). **Raucous Grunt** or White Grunt. To 37 cm (14.6 in) TL (McKay and Schneider in Fischer et al. 1995). Bahia de San Quintin, northern Baja California (Rosales-Casian and Ruiz-Campos 1999) to Ecuador (Béarez 1996), including Gulf of California (McKay and Schneider in Fischer et al. 1995). At depths of 0–134 m (440 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996). Recently as *Pomadasys leuciscus*.
- Haemulopsis nitidus* (Steindachner, 1869). **Shining Grunt**, Shortspine Grunt, or Silver Grunt. To 30 cm (11.8 in) TL (McKay and Schneider in Fischer et al. 1995). North of Boca Soledad (25°18'N, 112°11'W), southern Baja California (SIO 64-79) to Peru (Velasco and Thiel 2002), including Gulf of California (McKay and Schneider in Fischer et al. 1995). At depths of 0–50 m (164 ft) (min.: Robertson and Allen 2002; max.: Velasco and Thiel 2002).
- **Microlepidotus brevipinnis* (Steindachner, 1869). **Brassy Grunt**, Humpback Grunt, or Shortfin Grunt. To 38 cm (15.0 in) TL (Robertson and Allen 2002). Gulf of California (McKay and Schneider in Fischer et al. 1995) to Caleta La Cruz, Peru (Chirichigno and Vélez 1998), including southern tip of Baja California (McKay and Schneider in Fischer et al. 1995). At depths of 5–94 m (17–308 ft) (min.: Allen and Robertson 1994; max.: Amezcua Linares 1996). Recently as *Orthopristis brevipinnis*.
- Microlepidotus inornatus* Gill, 1862. **Wavyline Grunt**. To 45 cm (17.7 in) TL (Allen and Robertson 1994). Newport Bay, southern California (M. Shane, pers. comm. to M. L.) into central Gulf of California (McKay and Schneider in Fischer et al. 1995) and at least as far south as Manzanillo, Mexico (Thomson et al. 1979). At depths of 1–22 m (3–73 ft) (min.: LACM 49768.011; max.: SIO 62-236).
- Orthopristis cantharinus* (Jenyns, 1840). **Sheephead Grunt**. To 45 cm (18 in) TL (Robertson and Allen 2002). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Peru, including Islas Galápagos (Robertson and Allen 2002). At depths of 0–35 m (116 ft; Robertson and Allen 2002). Grove and Lavenberg (1997) consider this species to be endemic to the Galápagos.

Orthopristis chalceus (Günther, 1864). Brassy Grunt, Brassy Humpback Grunt, or **Humpback Grunt**. To 45 cm (17.7 in) TL (McKay and Schneider in Fischer et al. 1995). Laguna San Ignacio, southern Baja California (Danemann and De La Cruz-Agüero 1993) to Islas Lobos de Afuera, Peru (Chirichigno and Vélez 1998), including Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 0–100 m (328 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996).

Orthopristis reddingi Jordan & Richardson, 1895. **Bronzestriped Grunt**. To 30 cm (11.8 in) TL (Allen and Robertson 1994). Lagunas Ojo de Liebre-Guerrero Negro, central Baja California (De La Cruz-Agüero et al. 1996) through Gulf of California (McKay and Schneider in Fischer et al. 1995) to central Mexico (Robertson and Allen 2002). Tidepools and to 103 m (8–338 ft) (min.: Thomson and Lehner 1976; max.: Amezcua Linares 1996).

Pomadasys banyanus Jordan & Evermann, 1898. Freshwater Grunt or **Purplemouth Grunt**. To 36 cm (14.2 in) TL (Allen and Robertson 1994). Southern Baja California (McKay and Schneider in Fischer et al. 1995) to Rio Tumbes, Peru (Chirichigno 1974) and at mouth of Gulf of California (Robertson and Allen 2002). Nearshore marine waters at depths of 0–10 m (33 ft; Robertson and Allen 2002) and in fresh water (Bussing 1998).

Pomadasys branickii (Steindachner, 1879). Branick's Grunt or **Sand Grunt**. To 30 cm (11.8 in) TL (Robertson and Allen 2002). North of Boca Soledad (25°19'N, 112°06'W), southern Baja California (SIO 64-82) to Paita, Peru (Chirichigno 1974), including Gulf of California (Castro-Aguirre et al. 1999). Bays, estuaries and river mouths (Allen and Robertson 1994) at depths of 0–55 m (180 ft) (min.: Robertson and Allen 2002; max.: Cabrera Mancilla et al. 1988).

Pomadasys macracanthus (Günther, 1864). Bigspine Grunt or **Longspine Grunt**. To 35 cm (13.8 in) TL (Robertson and Allen 2002). Boca Soledad (25°23'N, 112°06'W), southern Baja California (SIO 64-83) to Ecuador (Béarez 1996), including Gulf of California (Robertson and Allen 2002). At depths of 0–20 m (66 ft; Robertson and Allen 2002), including estuaries (Allen and Robertson 1994).

Pomadasys panamensis (Steindachner, 1876). Highfin Grunt or **Panamic Grunt**. To 35 cm (13.8 in) TL (Amezcua Linares 1996). Bahía Magdalena, southern Baja California (Galván-Magaña et al. 2000) and Gulf of California (McKay and Schneider in Fischer et al. 1995) to Puerto Pizarro, Peru (Chirichigno and Vélez 1998), including southern tip of Baja California (McKay and Schneider in Fischer et al. 1995). At depths of 5–107 m (15–351 ft) (min.: SIO 64-355; max.: Amezcua Linares 1996).

Xenichthys xanti Gill, 1863. **Longfin Salema**. To 25.4 cm (10.0 in) TL (Amezcua Linares 1996). Bahía Santa María, southern Baja California (SIO 62-734) to Chimbote, Peru (Chirichigno and Vélez 1998), including southern Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Nearshore waters (Aguilar-Palomino et al. 2001) at 10–107 m (33–351 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996).

Xenistius californiensis (Steindachner, 1876). **Salema**. To 30.3 cm (11.8 in) TL (M. Shane, pers. comm. to M. L.). Monterey Bay, central California (Miller and Lea 1972) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Miller and Lea 1972). At depths of 1–33 m (4–109 ft) (min.: Miller and Lea 1972; max.: LACM 38092.019).

Family Sparidae — Porgies

Calamus brachysomus (Lockington, 1880). **Pacific Porgy**. To about 61 cm (24 in) TL (Miller and Lea 1972). Oceanside, southern California (Miller and Lea 1972) to Callao, Peru (Chirichigno and Vélez 1998), including Islas Galápagos, Gulf of California (Miller and Lea 1972), and Isla Malpelo (Robertson and Allen 2002). Surface (Miller and Lea 1972) and 3–80 m (10–262 ft) (min.: Pérez-España et al. 1996; max.: Bianchi in Fischer et al. 1995).

Family Polynemidae — Threadfins

Polydactylus approximans (Lay & Bennett, 1839). **Blue Bobo**. To 40 cm (15.7 in) TL (Amezcue Linares 1996). Monterey Bay, central California (Follett 1948) to Chile (Pequeño 1989), including Gulf of California (Schneider in Fischer et al. 1995) and Islas Galápagos (Miller and Lea 1972). Inshore (Miller and Lea 1972), 0–107 m (351 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996), brackish and marine waters (Velasco and Thiel 2002).

Polydactylus opercularis (Gill, 1863). **Yellow Bobo**. To 45 cm (17.7 in) TL (Amezcue Linares 1996). Los Angeles Harbor, southern California (Miller and Lea 1972) to Chile (Pequeño 1989), including Gulf of California (Miller and Lea 1972). Inshore (Miller and Lea 1972), 0–107 m (351 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996).

Family Sciaenidae — Drums and Croakers

Atractoscion nobilis (Ayres, 1860). **White Seabass**. To 166 cm (65.4 in) TL (Robertson and Allen 2002). Juneau and the Boca de Quadra, southeastern Alaska (Mecklenburg et al. 2002) to Bahia Magdalena, southern Baja California (Robertson and Allen 2002) and Gulf of California (Walford 1937). Surf zone and to 122 m (400 ft) (min.: Carlisle et al. 1960; max.: Miller and Lea 1972). Recently as *Cynoscion nobilis*.

Bairdiella icistia (Jordan & Gilbert, 1882). **Bairdiella**, Romeo Croaker, or Ronco Croaker. To 30 cm (11.8 in) TL (Allen and Robertson 1994). Laguna San Ignacio, southern Baja California (Danemann and De La Cruz-Agüero (1993) to Chiapas, Mexico (Chao in Fischer et al. 1995), including Gulf of California (Chao in Fischer et al. 1995). Inshore areas, including estuaries (Allen and Robertson 1994), to at least 18 m (59 ft; LACM 38105.024).

Cheilotrema saturnum (Girard, 1858). **Black Croaker**. To 45 cm (17.7 in) TL (Robertson and Allen 2002). Point Conception, California to Bahia Magdalena, southern Baja California (Miller and Lea 1972) and Gulf of California (Chao in Fischer et al. 1995). Surface to 100 m (328 ft) or more (min.: Miller and Lea 1972; max.: Moser in Moser 1996), including surf zone (Carlisle et al. 1960).

Corvula macrops (Steindachner, 1876). Bigeye Croaker, Large-eye Croaker, or **Vacuocua Croaker**. To 25 cm (9.8 in) TL (Allen and Robertson 1994). Bahia Santa Maria (24°40'N, 112°11'W), southern Baja California (SIO 60-369) to Peru (Grove and Lavenberg 1997), probably as far south as northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Chao in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Inshore (Allen and Robertson 1994) at depths of 5–13 m (17–43 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996).

Cynoscion parvipinnis Ayres, 1861. **Shortfin Corvina** or Shortfin Weakfish. To 60 cm (23.6 in) TL (Allen and Robertson 1994). Huntington Beach, southern California to Mazatlán, Mexico (Eschmeyer and Herald 1983), including Gulf of California (Miller and Lea 1972). Intertidal and to 101 m (6–331 ft) (min.: Allen 1999; max.: LACM 8842.018).

Cynoscion reticulatus (Günther, 1864). **Striped Corvina** or Striped Weakfish. To 90 cm (35.4 in) TL (Allen and Robertson 1994). Bahia Magdalena, southern Baja California (SIO 64-8) to northern Peru (Robertson and Allen 2002), including Gulf of California (Chao in Fischer et al. 1995). Estuaries (Allen and Robertson 1994), at depths of 1–107 m (3–351 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996).

Cynoscion squamipinnis (Günther, 1867). Scalefin Weakfish, **Scalyfin Corvina**, or Yellowmouth Weakfish. To 64 cm (25.2 in) TL (Allen and Robertson 1994). Bahia Magdalena, southern Baja California (LACM 38103.018) to Puerto Pizarro, Peru (Chirichigno 1974), including Gulf of California (Chao in Fischer et al. 1995). Inshore waters, occasionally estuaries (Allen and Robertson 1994), at depths of 1–30 m (3–99 ft; Robertson and Allen 2002).

-
- Cynoscion xanthulus* Jordan & Gilbert, 1882. **Orangemouth Corvina** or Orangemouth Weakfish. To 90 cm (35.4 in) TL (Allen and Robertson 1994). Central Baja California (Chao in Fischer et al. 1995) to Acapulco, Mexico (Allen and Robertson 1994), including Gulf of California (Chao in Fischer et al. 1995). Coastal waters (Allen and Robertson 1994) at 1–50 m (3–164 ft) (min.: González-Acosta et al. 1999; max.: Robertson and Allen 2002).
- Elattarchus archidium* (Jordan & Gilbert, 1882). **Bluestreak Drum**. To about 25 cm (9.8 in) TL (Allen and Robertson 1994). North of Boca Soledad (25°18'N, 112°11'W), southern Baja California (SIO 64-79) to Isla Lobos de Tierra, Peru (Chirichigno 1974), including Gulf of California (Chao in Fischer et al. 1995). At depths of 2–50 m (6–164 ft) (min.: Chao in Fischer et al. 1995; max.: Amezcua Linares 1996).
- Genyonemus lineatus* (Ayres, 1855). **White Croaker**. To 41 cm (16.25 in) TL (Eschmeyer and Herald 1983). Barkley Sound, British Columbia (Eschmeyer and Herald 1983) to Bahía Magdalena, southern Baja California (Miller and Lea 1972). Surf zone and to 238 m (10–781 ft) (min.: Carlisle et al. 1960; max.: RACE).
- Isopisthus remifer* Jordan & Gilbert, 1882. **Bigeye Corvina** or Silver Weakfish. To 35 cm (13.8 in) TL (Allen and Robertson 1994). Bahía San Juanico (26°03'N, 112°18'W), southern Baja California (SIO 63-488) to Peru (Allen and Robertson 1994), including Gulf of California (Robertson and Allen 2002). At depths of 4–124 m (12–341 ft) (min.: SIO 80-23; max.: Amezcua Linares 1996).
- Larimus acclivis* Jordan & Bristol, 1898. **Steeplined Drum**. To 30 cm (11.8 in) TL (Amezcua Linares 1996). Central Baja California (Chao in Fischer et al. 1995) to Talero, Peru (Chirichigno 1974), including Gulf of California (Chao in Fischer et al. 1995). At depths of 1–108 m (3–354 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996).
- Larimus argenteus* (Gill, 1863). **Silver Drum**. To 35 cm (13.8 in) TL (Allen and Robertson 1994). Southern Baja California (Chao in Fischer et al. 1995) to Tumbes, Peru (Chirichigno and Vélez 1998), including lower Gulf of California (Chao in Fischer et al. 1995). Inshore waters and estuaries (Allen and Robertson 1994) at 1–50 m (3–164 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996).
- Larimus effulgens* Gilbert, 1898. **Shining Drum**. To 28 cm (11 in) TL (Allen and Robertson 1994). Southern Baja California (Chao in Fischer et al. 1995) to Puerto Pizarro, Peru (Chirichigno 1974), including lower Gulf of California (Chao in Fischer et al. 1995). At depths of 1–25 m (3–83 ft) (min.: Robertson and Allen 2002; max.: Velasco and Thiel 2002); also enters river mouths (Velasco and Thiel 2002).
- Larimus pacificus* Jordan & Bollman, 1890. **Pacific Drum**. To 30 cm (11.8 in) TL (Chao in Fischer et al. 1995). Bahía Magdalena, southern Baja California (SIO 62-112) to Coquimbo, central Chile (Kong and Valdés 1990), including Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–273 m (3–895 ft) (min.: Robertson and Allen 2002; max.: Zeballos et al. 1998).
- Menticirrhus elongatus* (Günther, 1864). Pacific Kingcroaker or **Slender Kingcroaker**. To 70 cm (28 in) TL (Amezcua Linares 1996). Bahía de Ballenas (26°44'N, 113°27'W), southern Baja California (SIO 48-91) to Paita, Peru (Chirichigno and Vélez 1998), including southern Gulf of California (Chao in Fischer et al. 1995). Surf zone and to 66 m (216 ft; Amezcua Linares 1996).
- Menticirrhus nasus* (Günther, 1868). Highfin King Croaker or **Highfin Kingfish**. To 50 cm (19.7 in) TL (Allen and Robertson 1994). Laguna de San Ignacio, southern Baja California (De La Cruz-Agüero and Cota-Gómez 1998) into the Gulf of California (Chao in Fischer et al. 1995) to Caleta La Cruz, Peru (Chirichigno and Vélez 1998). Estuaries and nearshore waters (Allen and Robertson 1994) at 1–146 m (3–479 ft) (min.: Robertson and Allen 2002; max.: Zeballos et al. 1998).
- Menticirrhus panamensis* (Steindachner, 1877). Panama Kingcroaker or **Panama Kingfish**. To 55 cm (21.7 in) TL (Allen and Robertson 1994). Laguna San Ignacio (26°50'N, 113°10'W), southern Baja California (Danemann and De La Cruz-Agüero 1993) to Chile (Allen and Robertson 1994), including

Gulf of California (Chao in Fischer et al. 1995). At depths of 2–107 m (8–351 ft) (min.: SIO 64-76; max.: Amezcua Linares 1996). Evidently the correct date of publication of the species description is 1877, as given by Eschmeyer (1998 and online editions), not 1875 as seen elsewhere.

Menticirrhus undulatus (Girard, 1854). **California Corbina**. To 83.6 cm (32.6 in) TL (M. Shane, pers. comm. to M. L.). Point Conception, central California to Gulf of California (Miller and Lea 1972); also reported from Ecuador (Béarez 1996) to northern Peru (Chirichigno and Vélez 1998). Surf zone and to 20 m (66 ft) (min.: Miller and Lea 1972; max.: Allen et al. 2002).

Micropogonias altipinnis (Günther, 1864). **Golden Croaker**, Highfin Corvina, or Tailfin Croaker. To 66 cm (26 in) TL (Allen and Robertson 1994). North of Boca de Soledad (25°18'N, 112°11'W), southern Baja California (SIO 64-79) to Talara, Peru (Chirichigno and Vélez 1998), including Gulf of California (Chao in Fischer et al. 1995). Estuarine and marine waters (Chao in Fischer et al. 1995) at depths of 1–104 m (3–341 ft) (min.: Robertson and Allen 2002; max.: Amezcua Linares 1996).

Micropogonias ectenes (Jordan & Gilbert, 1882). **Slender Croaker**. To 40 cm (15.7 in) TL (Allen and Robertson 1994). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Acapulco, southern Mexico (Robertson and Allen 2002), including Gulf of California (Chao in Fischer et al. 1995). Coastal (Allen and Robertson 1994) brackish and marine waters (Chao in Fischer et al. 1995) at 1–33 m (3–109 ft) (min.: González-Acosta et al. 1999; max.: LACM 38092.022), .

****Micropogonias megalops*** (Gilbert, 1890). Bigeye Croaker or **Gulf Croaker**. To 40 cm (15.7 in) TL (Allen and Robertson 1994). Gulf of California (Chao in Fischer et al. 1995) to vicinity of Acapulco, Mexico (Allen and Robertson 1994), including southern tip of Baja California (Chao in Fischer et al. 1995). Brackish and marine waters (Chao in Fischer et al. 1995) at depths of 1–27 m (3–89 ft) (min.: Robertson and Allen 2002; max.: LACM 49694.005).

Odontoscion xanthops Gilbert, 1898. **Yelloweye Croaker**. To 30 cm (11.8 in) TL (Allen and Robertson 1994). Southern Baja California (Chao in Fischer et al. 1995) to Tumbes, Peru (Chirichigno and Vélez 1998), including Gulf of California (Chao in Fischer et al. 1995). Estuaries and shallow coastal waters (Chao in Fischer et al. 1995) to at least 7 m (23 ft; Godinez-Dominguez et al. 2000), and perhaps to 30 m (99 ft; Robertson and Allen 2002).

Ophioscion vermicularis (Günther, 1867). Vermiculated Croaker or **Wormlined Croaker**. To at least 35 cm (13.8 in) TL (Robertson and Allen 2002). Punta Marquez (listed as Punta Marquis; 23°57'N, 110°51'W), southern Baja California (SIO 62-706) and Panama (Robertson and Allen 2002) to Tumbes, Peru (Chirichigno and Veléz 1998). At depths of 1–20 m (3–66 ft; Robertson and Allen 2002).

***Pareques* sp.** **Rock Croaker**. To 30 cm (11.8 in) TL (Robertson and Allen 2002). Isla Cedros, central Baja California (M. L., unpubl. data) and on the mainland from Bahia Magdalena, southern Baja California (SIO 64-63) to Peru (Allen and Robertson 1994). At depths of 10 m to perhaps 35 m (33–115 ft; Robertson and Allen 2002). Formerly referred to as *Pareques viola*. *Pareques viola* occurs as far north as Panama (Robertson and Allen 2002).

Paralonchurus goodei Gilbert, 1898. **Angel Croaker**. To about 35 cm (13.8 in) TL (Robertson and Allen 2000). Bahia Magdalena, southern Baja California (Galván-Magaña et al. 2000) and lower eastern Gulf of California (Robertson and Allen 2002) to Puerto Pizarro, Peru (Chirichigno and Vélez 1998). At depths of 1 m to perhaps 30 m (3–98 ft; Robertson and Allen 2002).

Roncador stearnsii (Steindachner, 1876). **Spotfin Croaker**. To 68.6 cm (27 in) TL (Miller and Lea 1972). Point Conception, central California (Miller and Lea 1972) to tip of Baja California (Robertson and Allen 2002). One individual reported from south San Francisco Bay (Pearson 1989). Surf zone and to 22 m (73 ft) (min.: Miller and Lea 1972; max.: LACM 38107.023).

Seriphus politus Ayres, 1860. **Queenfish**. To 30.5 cm (12 in) TL (Miller and Lea 1972). Burrard Inlet, Vancouver Island, British Columbia (Peden and Hughes 1986) to southern Gulf of California (Chao in Fischer et al. 1995). Surf zone and to depth of 181 m (594 ft) (min.: Carlisle et al. 1960; max.: M. L., unpubl. data).

Stellifer ericymba (Jordan & Gilbert, 1882). Chimbera Stardrum or **Hollow Stardrum**. To 19 cm (7.6 in) TL (Amezcuca Linares 1996). Laguna de San Ignacio, southern Baja California (De La Cruz-Agüero and Cota Gómez 1998) to Chile (Pequeño 1989). At depths of 1–104 m (3–341 ft) (min.: Robertson and Allen 2002; max.: Amezcuca Linares 1996). The spelling *Stellifer erycimba* is occasionally seen.

Umbrina analis Günther, 1868. **Longspine Croaker** or Longspine Drum. To 35 cm (13.8 in) TL (Chao in Fischer et al. 1995). Southern Baja California to Colombia, including lower Gulf of California (Chao in Fischer et al. 1995). At depths of 1–50 m (3–164 ft; Robertson and Allen 2002).

Umbrina bussingi López, 1980. **Bigeye Croaker** or Bussing's Drum. To 38.8 cm (15.5 in) TL (Béarez 2001). Southern Baja California to southern Colombia (Béarez 2001), including mouth of Gulf of California (Robertson and Allen 2002). At depths of 20–183 m (66–600 ft) or more (min.: Amezcuca Linares 1996; max.: Walker and Radford 1992).

Umbrina dorsalis Gill, 1862. **Longfin Croaker** or Longfin Drum. To 35 cm (13.8 in) TL (Chao in Fischer et al. 1995). South of Bahia Magdalena, southern Baja California to Ecuador, including southern parts of Gulf of California (Walker and Radford 1992). Surf zone (SIO 90-30) and to at least 20 m (66 ft; Aguilar-Palomino et al. 2001); juveniles in tidepools (Walker and Radford 1992).

Umbrina roncadorensis Jordan & Gilbert, 1882. **Yellowfin Croaker**. To 55.6 cm (21.9 in) TL (M. Shane, pers. comm. to M. L.). Point Conception, central California (Miller and Lea 1972) to Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) and in Gulf of California (Robertson and Allen 2002); old records to San Francisco (Miller and Lea 1972). Surf zone to 46 m (150 ft; Miller and Lea 1972).

Umbrina wintersteeni Walker & Radford, 1992. **Cortez Croaker** or Wintersteen Drum. To 35 cm (13.8 in) TL (Robertson and Allen 2002). Near Boca de Soledad, southern Baja California (SIO 64-84) and into Gulf of California (Chao in Fischer et al. 1995). At depths of 1–11 m (3–36 ft) (min.: Robertson and Allen 2002; max.: LACM 38104.026), and perhaps to 15 m (50 ft; Robertson and Allen 2002).

Umbrina xanti Gill, 1862. Golden Drum, Polla Drum, or **Surf Croaker**. To 46.5 cm (18.3 in) TL (Amezcuca Linares 1996). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1997) to Chipana, Chile (Kong and Valdés 1990), including Gulf of California (Chao in Fischer et al. 1995). At depths of 1–107 m (3–351 ft) (min.: Robertson and Allen 2002; max.: Amezcuca Linares 1996); juveniles in tidepools (Walker and Radford 1992).

Family Mullidae — Goatfishes

Mulloidichthys vanicolensis* (Valenciennes, 1831). **Yellowfin Goatfish. To 31 cm (12.4 in) TL. Pacific and Indian oceans; tip of Baja California and several locations in Central America. At depths of 2–115 m (7–377 ft). All in Robertson and Allen (2002).

Pseudupeneus grandisquamis (Gill, 1863). **Bigscale Goatfish** or Red Goatfish. To about 30 cm (12 in) TL (Eschmeyer and Herald 1983). San Onofre, southern California to Chile (Eschmeyer and Herald 1983), including Gulf of California (Schneider in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–67 m (3–220 ft) (min.: Robertson and Allen 2002; max.: Zeballos et al. 1998). The *Mulloidichthys dentatus* noted from Long Beach, southern California (Eschmeyer and Herald 1983) was based on a misidentification of *P. grandisquamis* (Lea and Rosenblatt 2000).

Family Chaetodontidae — Butterflyfishes

Chaetodon humeralis Günther, 1860. **Threebanded Butterflyfish**. To 26.4 cm (10.6 in) TL (Amezcuca Linares 1996). King Harbor, southern California (Pondella et al. 1998) to Chile (Pequeño 1989), including Islas Galápagos (Miller and Lea 1972) and Gulf of California (Galván-Magaña et al. 1996). Tidepools and to 107 m (351 ft; Amezcua Linares 1996).

Forcipiger flavissimus* Jordan & McGregor, 1898. **Forcepsfish or Longnose Butterflyfish. To 22 cm (8.7 in) TL (Allen and Robertson 1994). Pacific and Indian oceans; Japan (Ida in Masuda et al. 1984); Cabo San Lucas and in Gulf of California (Thomson et al. 1979) to Chile (Pequeño 1989), and Islas Galápagos (Grove and Lavenberg 1997) and other offshore islands (Robertson and Allen 2002). At depths of 1–145 m (3–476 ft) (min.: Robertson and Allen 2002; max.: Ralston et al. 1986).

Johnrandallia nigrirostris (Gill, 1862). **Barberfish**. To 20 cm (7.9 in) TL (Allen and Robertson 1994). Islas San Benito and Isla Cedros, central Baja California (M. L., unpubl. data) to Pucusana, Peru (Chirichigno and Vélez 1998), including Gulf of California and Islas Galápagos (Grove and Lavenberg 1997). At depths of 2–40 m (7–131 ft) (min.: LACM 9777.001; max.: Allen and Robertson 1994).

Prognathodes falcifer (Hubbs & Rehnitz, 1958). **Scythe Butterflyfish** or Scythe-marked Butterflyfish. To 17 cm (6.8 in) TL (Robertson and Allen 2002). Santa Cruz Island, southern California (Richards and Engle 2001) to Islas Galápagos (Eschmeyer and Herald 1983), including southern tip of Baja California and a number of offshore islands (Robertson and Allen 2002). At depths of 3–270 m (10–896 ft) (min.: Pérez-España et al. 1996; max.: McCosker et al. 1997). Recently as *Chaetodon falcifer*.

Family Pomacanthidae — Angelfishes

Holacanthus clarionensis Gilbert, 1891. **Clarion Angelfish**. To 20 cm (7.8 in) TL (Krupp and Schneider in Fischer et al. 1995). Isla Guadalupe, central Baja California (SIO 84-64) and southern tip of Baja California, Isla Clárion (Krupp and Schneider in Fischer et al. 1995), and other offshore islands (Robertson and Allen 2002). At depths of 0–30 m (98 ft) (min.: Robertson and Allen 2002; max.: Allen and Robertson 1994).

Holacanthus passer Valenciennes, 1846. **King Angelfish**. To about 30 cm (11.7 in) TL (Grove and Lavenberg 1997). Isla Guadalupe, central Baja California (SIO 60-10) and Bahia Magdalena, southern Baja California (SIO 62-99) to Gulf of California (Krupp and Schneider in Fischer et al. 1995) to Talara, Peru (Chirichigno 1974) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–80 m (3–262 ft) or more (min.: Robertson and Allen 2002; max.: Allen and Robertson 1994).

Pomacanthus zonipectus (Gill, 1862). **Cortez Angelfish**. To about 50 cm (19.7 in) TL (Grove and Lavenberg 1997). Redondo Beach, southern California (Lea and Rosenblatt 2000) to northern Gulf of California (Krupp and Schneider in Fischer et al. 1995) to Máncora, Peru (Chirichigno 1974) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–50 m (4–164 ft) (min.: SIO 50-253; max.: Amezcua Linares 1996).

Family Pentacerotidae — Armorheads

Pseudopentaceros wheeleri Hardy, 1983. **North Pacific Armorhead** or Pelagic Armorhead. To 53 cm (21 in) TL (Hart 1973). Japan to Hawaii (Hardy 1983) and Gulf of Alaska (Mecklenburg et al. 2002) to central California (Eschmeyer and Herald 1983). Reported in error from Bering Sea (see discussion in Mecklenburg et al. [2002:658–659]). Pelagic and benthic, surface to 1,060 m (3,478 ft; Parin and Pakhorukov 2003). Includes North Pacific records of *Pentaceros richardsoni* Smith, 1844, and *Pseudopentaceros richardsoni*; see synonymy in Humphreys et al. (1989). Previously reported from the Indian Ocean, but those records represent a different species; pelagic and benthic records of *P. wheeleri* were mapped by Boehlert and Sasaki (1988).

Family Kyphosidae — Sea Chubs

Girella nigricans (Ayres, 1860). **Opaleye**. To 66 cm (26 in) TL (Eschmeyer and Herald 1983). Otter Rock, Oregon (Bond and Olson 1985) to Cabo San Lucas, southern Baja California (Miller and Lea 1972), with an isolated population in the Gulf of California (Robertson and Allen 2002). Intertidal and to about 32 m (105 ft) (min.: Eschmeyer and Herald 1983; max.: M. L., unpubl. data); pelagic juveniles near surface, often associated with floating material (Watson in Moser 1996). Occasionally found in estuaries (Ruiz-Campos et al. 2000).

Hermosilla azurea Jenkins & Evermann, 1889. **Zebraperch** or Zebra Sea Chub. To 45 cm (17.7 in) TL (Robertson and Allen 2002). Klamath River estuary, northern California (Fritzsche et al. 1991) to Gulf of California (Miller and Lea 1972). Intertidal area and to 15 m (49 ft) (min.: Miller and Lea 1972; max.: Robertson and Allen 2002).

Kyphosus analogus (Gill, 1862). **Blue-bronze Chub** or Striped Sea Chub. To 45 cm (17.75 in) TL (Eschmeyer and Herald 1983). Redondo Beach, southern California (Brooks 1987) to Isla San Lorenzo, Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997) and Gulf of California (Galván-Magaña et al. 1996). Surface to 20 m (60 ft) (min.: SIO 52-188; max.: Robertson and Allen 2002).

Kyphosus elegans (Peters, 1869). Cortez Chub or **Cortez Sea Chub**. To 38 cm (15.0 in) TL (Sommer in Fischer et al. 1995). Pacific coast of southern Baja California and in Gulf of California (Sommer in Fischer et al. 1995) to Ecuador (Béarez 1996), including Islas Galápagos (Grove and Lavenberg 1997). Shallow waters, including intertidal (Grove and Lavenberg 1997), to 20 m (66 ft; Robertson and Allen 2002).

Medialuna californiensis (Steindachner, 1876). **Halfmoon**. To 48.3 cm (19 in) TL (Miller and Lea 1972). Vancouver Island, British Columbia (Nagtegaal and Farlinger 1981) to southwestern corner of Gulf of California (Robertson and Allen 2002). Surface to 44 m (144 ft; M. L., unpubl. data), including intertidal area (Allen 1999).

Sectator ocyurus (Jordan & Gilbert, 1882). **Bluestriped Chub** or Rainbow Sea Chub. To 70 cm (27.6 in) TL (Robertson and Allen 2002). Tropical, mostly eastern Pacific; one record from Japan (Araga in Masuda et al. 1984); Redondo Beach, southern California (Brooks 1987) to Ecuador (Béarez 1996), apparently excluding Gulf of California (Robertson and Allen 2002) but including Islas Galápagos (Grove and Lavenberg 1997). Inshore and pelagic around floating material (Allen and Robertson 1994); on bottom to depth of at least 7 m (23 ft; Godinez-Dominguez et al. 2000).

Family Kuhliidae — Flagtails

Kuhlia mugil* (Forster, 1801). **Barred Flagtail or Fivebar Flagtail. To 40 cm (15.7 in) TL (Sadovy and Cornish 2000). Pacific and Indian oceans (Randall and Randall 2001); Japan (Mochizuki in Masuda et al. 1984); Cabo San Lucas, southern Baja California (De La Cruz-Agüero et al. 1997) to Colombia (Allen and Robertson 1994), including Islas Galápagos (Allen and Robertson 1994). Shallow waters (Allen and Robertson 1994), surface (SIO 46-220, nightlight) to at least 26 m (85 ft; SIO 64-1044); young fish in tidepools (Allen and Robertson 1994).

Family Cirrhitidae — Hawkfishes

Cirrhitichthys oxycephalus* (Bleeker, 1855). **Coral Hawkfish. Probably no larger than 10 cm (3.9 in) TL (Grove and Lavenberg 1997). Pacific and Indian oceans; Japan (Hayashi in Nakabo 2002); Cabo San Lucas, southern Baja California (Bussing and Lavenberg in Fischer et al. 1995) into middle Gulf of California (Bussing and Lavenberg in Fischer et al. 1995) to Ecuador (Béarez 1996), including Islas Galápagos (Grove and Lavenberg 1997) and other offshore islands (Robertson and Allen 2002). At depths of 1–40 m (3–132 ft) (min.: Lieske and Myers 2002; max.: Grove and Lavenberg 1997).

Cirrhitus rivulatus Valenciennes, 1846. **Giant Hawkfish** or Hieroglyphic Hawkfish. To 52 cm (20.4 in) TL (Allen and Robertson 1994). Bahia Magdalena, southern Baja California (Galván-Magaña et al. 2000) to Ecuador (Béarez 1996), including Gulf of California (Bussing and Lavenberg in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1975). At depths of 1–20 m (3–66 ft) (min.: Robertson and Allen 2002; max.: Allen and Robertson 1994).

Oxycirrhites typus* Bleeker, 1857. **Longnose Hawkfish. To 13 cm (5.1 in) TL (Bussing and Lavenberg in Fischer et al. 1995). Pacific and Indian oceans; Japan (Hayashi in Nakabo 2002); Cabo San Lucas, southern Baja California (Bussing and Lavenberg in Fischer et al. 1995) to Colombia (Allen and Robertson 1994), including Gulf of California (Bussing and Lavenberg in Fischer et al. 1995), Islas Galápagos (Grove and Lavenberg 1997), and Isla Malpelo (Robertson and Allen 2002). At depths of 5–100 m (15–328 ft) (min.: Thomson et al. 1979; max.: Allen and Robertson 1994).

Family Cichlidae — Cichlids

***Tilapia zillii* (Gervais, 1848). **Redbelly Tilapia**. To 40 cm (15.7 in) SL (Van Oijen 1995). Long Beach Harbor area (Dill and Cordone 1997; M. L., unpubl. data). Primarily a freshwater species, *T. zillii* are periodically taken in Long Beach Harbor at least as far south as the Belmont Pier. They probably have been washed down rivers or creeks entering the harbor area.

Family Embiotocidae — Surfperches

Amphistichus argenteus Agassiz, 1854. **Barred Surfperch**. To 43.2 cm (17 in) TL (Miller and Lea 1972). Bodega Bay, northern California (Miller and Lea 1972) to Bahia Santa Rosalia (28°35'N, 114°10'W), north-central Baja California (SIO 52-160). Surf zone and to 73 m (240 ft; Miller and Lea 1972); occasionally found in relatively low salinity conditions (to 24.6 ppt) in estuaries (Ruiz-Campos et al. 2000).

Amphistichus koelzi (Hubbs, 1933). **Calico Surfperch**. To 30.5 cm (12 in) TL (Miller and Lea 1972). Cape Flattery, Washington (Eschmeyer and Herald 1983) to Arroyo San Isidro, northern Baja California (Miller and Lea 1972). Surf zone and to 9.1 m (30 ft; Miller and Lea 1972).

Amphistichus rhodoterus (Agassiz, 1854). **Redtail Surfperch**. To 40.6 cm (16 in) TL (Miller and Lea 1972). Vancouver Island, British Columbia (Miller and Lea 1972) to Avila Beach, central California (Dentler and Grossman 1980). One specimen was reported from the ocean off San Diego, southern California by Eigenmann (1892). Surf zone and to 7.3 m (24 ft; Miller and Lea 1972).

Brachyistius frenatus Gill, 1862. **Kelp Perch** or Kelp Surfperch. To 21.6 cm (8.5 in) TL (Miller and Lea 1972). Near Sitka, southeastern Alaska (Mecklenburg et al. 2002) to Bahia Tortugas, central Baja California, including Isla Guadalupe (Miller and Lea 1972). Intertidal area and to 76 m (249 ft) (min.: Hubbs and Hubbs 1954; max.: M. L., unpubl. data), seldom in tidepools and primarily at middepths among columns of giant kelp (particularly *Macrocystis*) (Hubbs and Hubbs 1954).

Cymatogaster aggregata Gibbons, 1854. **Shiner Perch**, Shiner Surfperch, White Surf-fish, or Yellow Shiner. To 20.3 cm (8.0 in) TL (Evermann and Goldsborough 1907). Sitka, southeastern Alaska (Mecklenburg et al. 2002) to Bahia San Quintin, northern Baja California (Miller and Lea 1972). Surf zone and to 146 m (480 ft) (min.: Evermann and Goldsborough 1907; max.: Eschmeyer and Herald 1983), reported to 303 m (1,000 ft; Lauth 1999); also in tidepools (Metz 1912). The Island Perch, *Cymatogaster gracilis* Tarp, 1952, is a junior synonym.

Embiotoca jacksoni Agassiz, 1853. **Black Perch** or Black Surfperch. To 39 cm (15.35 in) TL (Miller and Lea 1972). Fort Bragg, northern California to Punta Abreojos, central Baja California, including Isla Guadalupe (Miller and Lea 1972). Surface to 46 m (150 ft) (min.: Miller and Lea 1972; max.: Eschmeyer and Herald 1983), including intertidal area (Eschmeyer and Herald 1983); rarely below 24 m (80 ft; Humann 1996).

-
- Embiotoca lateralis* Agassiz, 1854. **Blue Seaperch**, **Striped Seaperch**, or **Striped Surfperch**. To 39.6 cm (15.6 in) TL (M. L., unpubl. data). Southeastern Alaska at Klakas Inlet, reported but without documentation as far north as Wrangell (see Mecklenburg et al. 2002:663), to Punta Cabras, northern Baja California (Miller and Lea 1972). Surface to 50 m (165 ft) (min.: Miller and Lea 1972; max.: M.L., unpubl. data), including intertidal area (Chotkowski 1994); reported to 96 m (312 ft; W. A. Palsson, pers. comm. to M. L.).
- Hyperprosopon anale* Agassiz, 1861. **Spotfin Surfperch**. To 20 cm (8 in) TL (Eschmeyer and Herald 1983). Seal Rock, Oregon to Bahia Blanca, central Baja California (Miller and Lea 1972). Surface to 101 m (331 ft) (min.: Miller and Lea 1972; max.: Weinberg et al. 2002), including surf zone (M. L., unpubl. data).
- Hyperprosopon argenteum* Gibbons, 1854. **Walleye Surfperch**. To 30.5 cm (12 in) TL (Miller and Lea 1972). Vancouver Island, British Columbia to Punta San Rosarito, central Baja California, including Isla Guadalupe (Miller and Lea 1972). Surface to 182 m (597 ft) (min.: Miller and Lea 1972; max.: M. L., unpubl. data), including surf zone (Carlisle et al. 1960). One taken inside the mouth of a stream (24.6 ppt) during tidal inflow (Ruiz-Campos et al. 2000).
- Hyperprosopon ellipticum* (Gibbons, 1854). **Silver Surfperch**. To 26.7 cm (10.5 in) TL (Miller and Lea 1972). Brooks Peninsula, British Columbia (Peden and Hughes 1986) to Rio San Vicente, northern Baja California (Miller and Lea 1972). Intertidal and to 110 m (360 ft) (min.: Chotkowski 1994; max.: Miller and Lea 1972); also one report from a brackish lagoon (Saiki and Martin 2001).
- Hypsurus caryi* (Agassiz, 1853). **Rainbow Seaperch** or **Rainbow Surfperch**. To 30.5 cm (12 in) TL (Miller and Lea 1972). Cape Mendocino, northern California (Miller and Lea 1972) to Punta Santo Tomas (31°33'N, 116°24'W), northern Baja California (SIO 50-281). Surf zone and to 50 m (165 ft) (min.: Carlisle et al. 1960; max.: D. Schroeder, pers. comm. to M. L.).
- Micrometrus aurora* (Jordan & Gilbert, 1880). **Reef Perch** or **Reef Surfperch**. To 18 cm (7.1 in) TL. Tomales Bay, northern California to Punta Baja, central Baja California. Intertidal and to 6.1 m (20 ft). All in Miller and Lea (1972).
- Micrometrus minimus* (Gibbons, 1854). **Dwarf Perch** or **Dwarf Surfperch**. To 16 cm (6.25 in) TL (Miller and Lea 1972). Bodega Bay, northern California to Isla Cedros, central Baja California (Miller and Lea 1972). Intertidal and to 9.1 m (30 ft; Miller and Lea 1972). One individual collected from the mouth of a coastal creek at a salinity of 1.1 ppt (Ruiz-Campos et al. 2000).
- Phanerodon atripes* (Jordan & Gilbert, 1880). **Sharpnose Seaperch** or **Sharpnose Surfperch**. To 29 cm (11.5 in) TL (Miller and Lea 1972). Yaquina Bay, Oregon (Bond and Olson 1985) to Islas San Benito, central Baja California (Miller and Lea 1972). Surface to 229 m (750 ft; Miller and Lea 1972).
- Phanerodon furcatus* Girard, 1854. **White Seaperch**. To 31.5 cm (12.4 in) TL (Miller and Lea 1972). Vancouver Island, British Columbia (Miller and Lea 1972) to Bahia San Carlos (29°36'N, 115°12'W; SIO 52-209), central Baja California. Surf zone and to 70 m (230 ft) (min.: Carlisle et al. 1960; max.: Allen 1982).
- Rhacochilus toxotes* Agassiz, 1854. **Rubberlip Seaperch**. To 47.0 cm (18.5 in) TL (Miller and Lea 1972). Mendocino County, northern California to Cabo Thurloe, southern Baja California, including Isla Guadalupe (Miller and Lea 1972). Surf zone and to 50 m (164 ft) (min.: Carlisle et al. 1960; max.: D. Schroeder, pers. comm. to M. L.).
- Rhacochilus vacca* (Girard, 1855). **Pile Perch** or **Porgee**. To 44.2 cm (17.4 in) TL (Miller and Lea 1972). Southern British Columbia (Mecklenburg et al. 2002) to Isla Guadalupe, central Baja California (Miller and Lea 1972). Individuals were observed at Bahia Playa Maria (28°52'N, 114°30'W; SIO 52-166) but specimens were not saved. A report of occurrence from Wrangell, southeastern Alaska lacks documentation (Mecklenburg et al. 2002). Intertidal and to 90 m (295 ft) (min.: Chotkowski 1994; max.: M. L., unpubl. data), reported to 210 m (690 ft) (W. A. Palsson, pers. comm. to M. L.). Originally and still occasionally seen as *Damalichthys vacca*.

Zalembius rosaceus (Jordan & Gilbert, 1880). **Pink Seaperch** or Pink Surfperch. To 20.3 cm (8 in) TL (Miller and Lea 1972). Point Delgada, northern California (Allen and Smith 1988) to Bahia de San Cristobal, central Baja California (Miller and Lea 1972); isolated population in Gulf of California (Miller and Lea 1972). Surf zone and to 229 m (750 ft) (min.: Carlisle et al. 1960; max.: Eschmeyer and Herald 1983), reported to 238 m (784 ft; RACE).

Family Pomacentridae — Damselishes

Abudefduf declivifrons (Gill, 1862). **Mexican Night Sergeant**. To 18 cm (7.1 in) TL (Allen and Robertson 1994). Bahia Magdalena, southern Baja California and Gulf of California to Costa Rica (Robertson and Allen 2002). Tidepools (SIO 59-208) and to 5 m (17 ft; Allen and Robertson 1994).

Abudefduf troschelii (Gill, 1862). **Panamic Sergeant Major**. To 22.9 cm (9 in) TL (Thomson et al. 1979). King Harbor, Redondo Beach, southern California (Pondella 1997) to Pucusana, Peru (Chirichigno and Vélez 1998), including Gulf of California (Schneider and Krupp in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997) and other offshore islands (Robertson and Allen 2002). Tidepools (Watson in Moser 1996) and to 15 m (50 ft; Robertson and Allen 2002).

Azurina hirundo Jordan & McGregor, 1898. **Swallow Damselish**. To 17 cm (6.8 in) TL (Robertson and Allen 2002). Anacapa, Santa Catalina, and San Clemente islands, southern California (Richards and Engle 2001); Isla Guadalupe, Rocas Alijos, and Islas Revillagigedo (Allen and Robertson 1994). Shallow waters.

Chromis alta Greenfield & Woods, 1980. **Oval Chromis**, **Oval Damselish**, or **Silverstripe Chromis**. To 15 cm (5.9 in) TL (Allen and Robertson 1994). Santa Catalina Island, southern California (Richards and Engle 2001), Islas San Benito, central Baja California (SIO 85-199), and (mainland) Arrecife Sacramento (29°40'N, 115°47'W; M. L., unpubl. data), central Baja California to Pucusana, Peru (Chirichigno and Vélez 1998), including Gulf of California (Allen and Robertson 1994), Islas Galápagos (Grove and Lavenberg 1997), and many other offshore islands (Robertson and Allen 2002). At depths of 1–200 m (4–656 ft) (min.: Grove and Lavenberg 1997; max.: McCosker et al. 1997).

Chromis atrilobata Gill, 1862. **Scissortail Chromis** or Scissortail Damselish. To about 13 cm (5.1 in) TL (Grove and Lavenberg 1997). Isla Guadalupe (SIO 57-190) and Isla Cedros (M. L., unpubl. data), central Baja California and (mainland) Rocas Chester (27°53'N, 115°47'W; M. L., unpubl. data) to Pucusana, Peru (Chirichigno and Vélez 1998), including Gulf of California (Schneider and Krupp in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–80 m (3–262 ft) (min.: Robertson and Allen 2002; max.: Schneider and Krupp in Fischer et al. 1995).

Chromis limbaughi* Greenfield & Woods, 1980. **Blue-and-Yellow Chromis or Limbaugh's Damselish. To 12 cm (4.7 in) TL (Allen and Robertson 1994). Gulf of California to southern tip of Baja California (Schneider and Krupp in Fischer et al. 1995). At depths of 5–76 m (17–249 ft) (min.: Schneider and Krupp in Fischer et al. 1995; max.: Thomson et al. 2000).

Chromis punctipinnis (Cooper, 1863). **Blacksmith**. To 30.5 cm (12 in) TL (Miller and Lea 1972). Monterey Bay, central California to Punta San Pablo, central Baja California (Miller and Lea 1972). At depths of 2–62 m (7–203 ft) (min.: Pondella and Allen 2003; max.: M. L., unpubl. data).

Hypsypops rubicundus (Girard, 1854). **Garibaldi**. To 35.6 cm (14 in) TL (Miller and Lea 1972). Monterey Bay, central California (Miller and Lea 1972) to southwest corner of Gulf of California, southern Baja California (Robertson and Allen 2002). Intertidal and to 29 m (95 ft) (min.: Mitchell 1953; max.: Miller and Lea 1972).

Microspathodon bairdii* (Gill, 1862). **Bumphead Damselish or Sheephead Mickey. To 31 cm (12.1 in) TL (Grove and Lavenberg 1997). Gulf of California, including southern tip of Baja California (Schneider and Krupp in Fischer et al. 1995), to Ecuador (Thomson et al. 2000), Islas Galápagos (Grove and Lavenberg

1997), and many other offshore islands (Robertson and Allen 2002). At depths of 1–10 m (3–33 ft) (min.: Robertson and Allen 2002; max.: Allen and Robertson 1994).

Microspathodon dorsalis (Gill, 1862). **Giant Damsel**fish. To 31 cm (12.4 in) TL (Grove and Lavenberg 1997). Bahia Magdalena, southern Baja California (Grove and Lavenberg 1997) and central Gulf of California to Ecuador (Béarez 1996), including Islas Galápagos (Grove and Lavenberg 1997) and many other offshore islands (Robertson and Allen 2002). At depths of 1–25 m (3–83 ft; Robertson and Allen 2002).

****Stegastes acapulcoensis*** (Fowler, 1944). **Acapulco Damsel**fish or Acapulco Major. To 18 cm (7.2 in) TL (Robertson and Allen 2002). Lower Gulf of California (Schneider and Krupp in Fischer et al. 1995) to Islas Lobos de Afuera, Peru (Chirichigno and Vélez 1998), including southern tip of Baja California (Schneider and Krupp in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–16 m (3–53 ft) (min.: Robertson and Allen 2002; max.: Schneider and Krupp in Fischer et al. 1995).

Stegastes flavilatus (Gill, 1862). **Beaubrummel**, Beaubrummel Gregory, or Beaubrummel Major. To 15 cm (6 in) TL (Robertson and Allen 2002). Isla Cedros and (mainland) Rocas Chester (27°53'N, 115°47'W; M. L., unpubl. data), central Baja California to Pucusana, Peru (Chirichigno and Vélez 1998), including Gulf of California (Galván-Magaña et al. 1996), Islas Galápagos (Grove and Lavenberg 1997), and other offshore islands (Robertson and Allen 2002). At depths of 1–38 m (3–125 ft) (min.: Schneider and Krupp in Fischer et al. 1995; max.: Thomson et al. 2000). Also recently as *Eupomacentrus flavilatus*.

Stegastes leucurus (Gilbert, 1892). **Whitetail Damsel**fish or Whitetail Major. To 17 cm (6.7 in) TL (Allen and Robertson 1994). Isla Guadalupe (Allen and Robertson 1994) and Islas San Benito (SIO 77-396), central Baja California to Mazatlán, Mexico (Thomson et al. 1979), including Gulf of California (Schneider and Krupp in Fischer et al. 1995). At depths of 0–18 m (59 ft) (min.: Robertson and Allen 2002; max.: SIO 77-396).

Stegastes rectifraenum (Gill, 1862). **Cortez Damsel**fish or Cortez Gregory. To 12.7 cm (5.1 in) TL (Thomson et al. 1979). Isla San Martin (30°28'N, 116°07'W; M. L., unpubl. data), northern Baja California to Pucusana, Peru (Chirichigno and Vélez 1998), including Gulf of California (Thomson et al. 1979) and Islas Revillagigedo. Tidepools and to 12 m (40 ft) (min.: Thomson and Lehner 1976; max.: Aburto-Oropeza and Balart 2001).

Stegastes redemptus (Heller & Snodgrass, 1903). **Clarion Damsel**fish or Clarion Major. To 14.5 cm (5.7 in) TL (Allen and Robertson 1994). Bahia Santa Maria (24°52'N, 112°15'W), southern Baja California (SIO 64-43, out on loan and not verified), tip of Baja California (Thomson et al. 1979), and Islas Revillagigedo (Allen and Robertson 1994). Intertidal (SIO 73-69) and to 20 m (66 ft; Robertson and Allen 2002).

Family Labridae — Wrasses

Bodianus diplotaenia (Gill, 1862). **Mexican Hog**fish. To 76 cm (29.9 in) TL (Allen and Robertson 1994). Isla Guadalupe (Thomson et al. 2000) and Isla Cedros (M. L., unpubl. data), central Baja California and Bahia Magdalena, southern Baja California (SIO 62-95) to Chile (Pequeño 1989), including Gulf of California (Gomon in Fischer et al. 1995), Islas Galápagos (Grove and Lavenberg 1997), and other offshore islands (Robertson and Allen 2002). Parenti and Randall (2000) note that the Chile reference is questionable. The next furthest south reference is at Pucusana, Peru (Chirichigno and Vélez 1998). Surface (SIO 62-95) and 3–76 m (10–250 ft) (min.: Pérez-España et al. 1996; max.: Gomon in Fischer et al. 1995).

****Decodon melasma*** Gomon, 1974. **Blackspot Wrasse**. To 23 cm (9 in) TL (Gomon in Fischer et al. 1995). Gulf of California (Gomon in Fischer et al. 1995) to Banco de Máncora, Peru (Chirichigno and Vélez 1998), including vicinity of Cabo San Lucas, southern Baja California (Gomon in Fischer et al. 1995) and Islas Galápagos (Baldwin and McCosker 2001). At depths of 40–160 m (132–525 ft; Allen and Robertson 1994).

****Halichoeres adustus*** (Gilbert, 1890). **Black Wrasse**. To 12.5 cm (5 in) TL (Gomon in Fischer et al. 1995).

Cabo San Lucas, southern Baja California and offshore islands of Mexico and central America (Robertson and Allen 2002). At depths of 0–5 m (17 ft; Robertson and Allen 2002).

Halichoeres chierchiae Di Caporiacco, 1947. **Wounded Wrasse**. To 20 cm (7.9 in) TL (Allen and Robertson 1994). Bahia Magdalena, southern Baja California (SIO 62-85) to Colombia (Robertson and Allen 2002), including Gulf of California (Gomon in Fischer et al. 1995) and Islas Galápagos (Victor et al. 2001). At depths of 1–70 m (5–230 ft) (min.: Robertson and Allen 2002; max.: Allen and Robertson 1994).

Halichoeres dispilus (Günther, 1864). **Chameleon Wrasse**. To 25 cm (9.8 in) TL (Allen and Robertson 1994). Islas San Benito (Cowen 1985) and Isla Cedros, central Baja California (M. L., unpubl. data), to northern Chile (20°34'S; Vargas et al. 1998), including Islas Galápagos (Grove and Lavenberg 1997), and Gulf of California (Gomon in Fischer et al. 1995). Northernmost mainland site is Isla Asuncion (27°06'N, 114°18'W), southern Baja California (M. L., unpubl. data). Tidepools and to 76 m (3–249 ft) (min.: Thomson and Lehner 1976; max.: Gomon in Fischer et al. 1995).

Halichoeres melanotis (Gilbert, 1890). **Golden Wrasse**. To 15 cm (5.9 in) TL (Allen and Roberts 1994). Isla Cedros and Islas San Benito, central Baja California (M. L., unpubl. data) to Colombia (Robertson and Allen 2002), including Gulf of California (Allen and Robertson 1994). At depths of 5–40 m (17–132 ft; Robertson and Allen 2002).

Halichoeres nicholsi* (Jordan & Gilbert, 1882). **Spinster Wrasse. To 38.1 cm (15.2 in) TL (Thomson et al. 2000). Gulf of California (Gomon in Fischer et al. 1995) to Ecuador (Béarez 1996), including vicinity of Cabo San Lucas, southern Baja California (Gomon in Fischer et al. 1995), Islas Galápagos (Grove and Lavenberg 1997), and other offshore islands (Robertson and Allen 2002). Tidepools and to depth of 82 m (7–269 ft) (min.: Thomson and Lehner 1976; max.: Thomson et al. 2000).

Halichoeres notospilus (Günther, 1864). **Banded Wrasse**. To 26 cm (10.2 in) TL (Robertson and Allen 2002). Bahia San Juanico (26°13'N, 112°28'W), southern Baja California (SIO 64-65) into Gulf of California (Gomon in Fischer et al. 1995) to Islas Lobos de Afuera, Peru (Chirichigno and Vélez 1998) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 0.5–10 m (2–33 ft; Allen and Robertson 1994).

Halichoeres semicinctus (Ayres, 1859). **Rock Wrasse**. To 38 cm (15 in) TL (Eschmeyer and Herald 1983). Diablo Cove, central California (J. Carroll, pers. comm. to M. L.) to southern Baja California (Robertson and Allen 2002); also at Isla Guadalupe, central Baja California (Miller and Lea 1972) and perhaps to Cabo San Lucas, southern Baja California (Gomon in Fischer et al. 1995) and Gulf of California (Gomon in Fischer et al. 1995). Tidepools (Eschmeyer and Herald 1983) and surface to 40 m (131 ft) (min.: Miller and Lea 1972; max.: Allen and Robertson 1994).

Iniistius pavo (Valenciennes, 1840). Pacific Razorfish, Pavo Razorfish, **Peacock Razorfish**, or Peacock Wrasse. To 41 cm (16.1 in) TL (Lieske and Myers 2002). Pacific and Indian oceans; Japan (Yamakawa in Masuda et al. 1984); Punta Rosarito (28°34'N), central Baja California (Rodriguez-Romero et al. 1993) to Panama (Gomon in Fischer et al. 1995), including southwestern and central eastern Gulf of California (Robertson and Allen 2002), Islas Galápagos (Grove and Lavenberg 1997), and many other offshore islands (Robertson and Allen 2002). At depths of 2 m (7 ft; juveniles) to more than 100 m (320 ft; Myers 1999). Recently as *Xyrichtys pavo*.

Novaculichthys taeniourus* (Lacepède, 1801). **Rockmover Wrasse. To 30 cm (12 in) TL (Gomon in Fischer et al. 1995). Pacific and Indian oceans; near tip of Baja California and Gulf of California to Colombia, including many offshore islands (Robertson and Allen 2002). At depths of 3–30 m (10–99 ft; Robertson and Allen 2002).

Oxyjulis californica (Günther, 1861). **Señorita**. To 25.4 cm (10 in) TL (Miller and Lea 1972). Salt Point, northern California (Eschmeyer and Herald 1983) to Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994); also reported, although without attribution, from Bahia Concepcion, Gulf

of California (Galván-Magaña et al. 2000). Intertidal and to 97 m (318 ft) (min.: M. L., unpubl. data; max.: Lissner and Dorsey 1986).

Polylepion cruentum* Gomon, 1977. **Bleeding Wrasse. To 24 cm (9.4 in) TL (Gomon in Fischer et al. 1995). Lower Gulf of California (Gomon in Fischer et al. 1995) to Costa Rica (Parenti and Randall 2000), including Cabo San Lucas, southern Baja California (Gomon in Fischer et al. 1995). At depths of 132–236 m (430–774 ft) (min.: SIO 73-273; max.: SIO 79-9).

Pseudojuloides inornatus* (Gilbert, 1890). **Cape Wrasse. Known only from a juvenile collected at Cabo San Lucas, southern Baja California. Thomson et al. (2000) suggested that the validity of this species be re-examined. Parenti and Randall (2000) noted that the dentition is that of the genus *Pseudojuloides* and that the description of the color of the specimen in preservative by Gilbert (1890) does not match that of any known species of the genus.

Semicossyphus pulcher (Ayres, 1854). **California Sheephead**. To 91.4 cm (36 in) TL (Miller and Lea 1972). Monterey Bay, central California to Cabo San Lucas, southern Baja California (Miller and Lea 1972), including Gulf of California (Gomon in Fischer et al. 1995) and Isla Guadalupe (Miller and Lea 1972). Intertidal and to 90 m (295 ft) (min.: Mitchell 1953; max.: M. L., unpubl. data). Recently as *Pimelometopon pulchrum*.

Thalassoma grammaticum Gilbert, 1890. Green Wrasse, Island Wrasse, or **Sunset Wrasse**. To 32 cm (12.6 in) TL (Gomon in Fischer et al. 1995). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) into northern Gulf of California (Gomon in Fischer et al. 1995) and to Colombia (Robertson and Allen 2002), Islas Galápagos (Grove and Lavenberg 1997), and many other offshore islands (Robertson and Allen 2002). At depths of 0–65 m (213 ft; Robertson and Allen 2002).

Thalassoma lucasanum (Gill, 1862). **Cortez Rainbow Wrasse**. To 15 cm (5.9 in) TL (Allen and Robertson 1994). Islas San Benito and Isla Cedros (M. L., unpubl. data) and (mainland) Rocas Chester (27°53'N, 115°04'W), central Baja California (M. L., unpubl. data) to Ecuador (Béarez 1996), including Gulf of California (Gomon in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 0.5–64 m (2–210 ft; Gomon in Fischer et al. 1995).

Thalassoma virens* Gilbert, 1890. **Emerald Wrasse or Long-finned Wrasse. To 30 cm (11.8 in) TL (Gomon in Fischer et al. 1995). Islas Revillagigedo and Isla Clipperton (Allen and Robertson 1994) to tip of Baja California (Robertson and Allen 2002) and northwards into the Gulf of California around the La Paz area (Victor et al. 2001). At depths of 0–10 m (33 ft; Robertson and Allen 2002).

Xyrichtys mundiceps Gill, 1862. **Cape Razorfish**. To 15.9 cm (6.4 in) SL (SIO 87-19). Bahia Magdalena (SIO 87-19) and Cabo San Lucas, southern Baja California (Thomson et al. 1979) and central Gulf of California to central Mexico (Robertson and Allen 2002). At depths of 5–27 m (17–90 ft) (min.: Robertson and Allen 2002; max.: SIO 87-19).

Family Scaridae — Parrotfishes

Calotomus carolinus* (Valenciennes, 1840). Halftooth Parrotfish or **Stareye Parrotfish. To 50 cm (19.7 in) TL. Pacific and Indian oceans; tip of Baja California, Islas Revillagigedo, and Islas Galápagos. At depths of 3–25 m (10–83 ft). All in Robertson and Allen (2002).

Nicholsina denticulata (Evermann & Radcliffe, 1917). **Loosetooth Parrotfish**. To 30 cm (11.8 in) TL (Robertson and Allen 2002). Santa Catalina Island, southern California (Lea et al. 2001); also Islas San Benito and Isla Cedros (M. L., unpubl. data) and (mainland) Rocas Chester (27°53'N, 115°04'W), central Baja California (M. L., unpubl. data) to Islas Chincha, Peru (Chirichigno 1974), including Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–10 m (4–33 ft) (min.: SIO 50-253; max.: Robertson and Allen 2002).

-
- **Scarus compressus* (Osburn & Nichols, 1916). **Azure Parrotfish**. To at least 60 cm (23.6 in) TL (Robertson and Allen 2002). Southern tip of Baja California to Gulf of California (Bellwood in Fischer et al. 1995) and Ecuador (Béarez 1996), including Islas Galápagos (Grove and Lavenberg 1997). At depths of 3–25 m (10–83 ft) (min.: Pérez-España et al. 1996; max.: Allen and Robertson 1994).
- **Scarus ghobban* Forsskål, 1775. Bluebanded Parrotfish, Bluebarred Parrotfish, **Bluechin Parrotfish**, or Yellowscale Parrotfish. To 80 cm (31.5 in) TL (Sadovy and Cornish 2000). Pacific and Indian oceans and Mediterranean Sea (Goren and Aronov 2002); Japan (Shimada in Nakabo 2002); Cabo San Lucas, southern Baja California (Rosenblatt and Hobson 1969) into Gulf of California (Allen and Robertson 1994) to Ecuador (Allen and Robertson 1994), including Islas Galápagos (Grove and Lavenberg 1997) and other offshore islands (Robertson and Allen 2002). At depths of 1–30 m (3–99 ft) (min.: Robertson and Allen 2002; max.: Lieske and Myers 2002).
- Scarus perrico* Jordan & Gilbert, 1882. **Bumphead Parrotfish**. To 80 cm (31.5 in) TL (Allen and Robertson 1994). Bahia Almejas, southern Baja California (Watson in Moser 1996) to Islas Lobos de Afuera, Peru (Grove and Lavenberg 1997), including Gulf of California (Allen and Robertson 1994), Islas Galápagos (Grove and Lavenberg 1997), and Isla Malpelo (Robertson and Allen 2002). At depths of 1–30 m (4–98 ft) (min.: Robertson and Allen 2002; max.: Thomson et al. 2000).
- **Scarus rubroviolaceus* Bleeker, 1847. **Bicolor Parrotfish**, Ember Parrotfish, or Redlip Parrotfish. To 71 cm (28 in) TL (Randall 1996). Pacific and Indian oceans; Japan (Shimada in Nakabo 2002); southern tip of Baja California (Bellwood in Fischer et al. 1995) to Ecuador (Béarez 1996), including southern Gulf of California (Bellwood in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–35 m (3–115 ft) (min.: Myers 1999; max.: Robertson and Allen 2002).

Family Bathymasteridae — Ronquils

- Bathymaster caeruleofasciatus* Gilbert & Burke, 1912. **Alaskan Ronquil**. To 30 cm (about 1 ft) TL (Eschmeyer and Herald 1983). Commander Islands, Russia and Aleutian Islands, Alaska (Mecklenburg et al. 2002) to Queen Charlotte Islands, northern British Columbia (Peden and Wilson 1976). Subtidal, at depths of 5–225 m (16–738 ft; Stevenson and Matarese 2005).
- Bathymaster leurolepis* McPhail, 1965. **Smallmouth Ronquil**. To 21 cm (8.25 in) TL (Eschmeyer and Herald 1983). Pacific coast of Hokkaido, Japan (Wakimoto and Amaoka 1994) to Commander Islands, Aleutian Islands, and southeastern Bering Sea off Pribilof Islands to Little Port Walter, southeastern Alaska (Mecklenburg et al. 2002). Tidepools and shallow inshore areas (Eschmeyer and Herald 1983) and to depth of 97 m (318 ft; Stevenson and Matarese 2005).
- Bathymaster signatus* Cope, 1873. **Searcher**. To 38 cm (15 in) TL (Mecklenburg et al. 2002). Pacific coast of Hokkaido, Japan (Shinohara et al. 1992), Sea of Okhotsk, and Kuril Islands to western Bering Sea and Commander Islands to East Siberian Sea; and Bering Sea, Alaska southeast from Navarin Canyon and throughout Aleutian Islands to Washington (Mecklenburg et al. 2002). Records as far south as northern British Columbia have good documentation, but those from Washington are uncertain (Stevenson and Matarese 2005). Adults at depths of 25–380 m (82–1,247 ft) (min.: Allen and Smith 1988; max.: Fedorov 1973), juveniles often collected at surface. Reported to depth of 825 m (2,707 ft; Allen and Smith 1988), but the fish may not have entered the net near the maximum depth of the tow.
- Rathbunella alleni* Gilbert, 1904. **Stripefin Ronquil**. To 16.1 cm (6.3 in) SL (Kiernan 1990). Marin County, north of San Francisco Bay, northern California (Kiernan 1990) to Bahia San Carlos, northern Baja California (Stevenson and Matarese 2005). At depths of 1.8–40 m (5.8–131 ft) (min.: Kiernan 1990; max.: Stevenson and Matarese 2005); reported to depth of 90 m (295 ft; Watson in Moser 1996) but more likely attributable to *R. hypoplecta*. Kiernan (1990) considered *R. alleni* to be an inshore species.

Common name is from Nelson et al. (2004); previously called Rough Ronquil (Robins et al. 1980) or Stripedfin Ronquil (Robins et al. 1991).

Rathbunella hypoplecta (Gilbert, 1890). **Bluebanded Ronquil.** To 21.5 cm (8.5 in) TL (Kiernan 1990). Point Conception, southern California to Santo Tomás anchorage (31°33'N, 116°24'W), northern Baja California (Stevenson and Matarese 2005). Previous reports from San Francisco and farther north are probably due to confusion with *R. alleni* and perhaps *Ronquilus jordani* (Stevenson and Matarese 2005). At depths of 2.7–91.4 m (9–300 ft; Kiernan 1990), reported but not confirmed to 136 m (446 ft; SCCWRP). Evidently this is the “deepwater ronquil” of Eschmeyer and Herald (1983) (Stevenson and Matarese 2005). Common name, Bluebanded Ronquil, is from Nelson et al. (2004); previously called Smooth Ronquil (Robins et al. 1980). Although Stripefin Ronquil was a name in general use for this species (Fitch and Lavenberg 1975, Eschmeyer and Herald 1983), *R. alleni* is actually the stripefin form (Kiernan 1990).

Ronquilus jordani (Gilbert, 1889). **Northern Ronquil.** To 20 cm (8 in) TL (Jordan and Starks 1895). Southeastern Bering Sea (Allen and Smith 1988) and Amchitka Island, Aleutian Islands (Simenstad et al. 1977) to La Jolla, southern California (Stevenson and Matarese 2005). At depths of 3–275 m (10–908 ft) (min.: Eschmeyer and Herald 1983; max.: Allen and Smith 1988), usually shallower than 150 m (492 ft; Mecklenburg et al. 2002).

Family Zoarcidae — Eelpouts

Bothrocara brunneum (Bean, 1890). **Twoline Eelpout.** To 72 cm (28.3 in) TL (Glubokov and Orlov 2000). Sea of Okhotsk (Schmidt 1950) and Pacific Ocean off Kuril Islands (Sheiko and Fedorov 2000) to Commander–Aleutian chain and Bering Sea (Mecklenburg et al. 2002) to Islas Coronados (Miller and Lea 1972) and off Bahia Descanso (32°04'N, 117°12'W), northern Baja California (SIO 66-537); also Gulf of California (SIO 70-247, SIO 70-248). Benthic, at depths of 129–2,570 m (423–8,432 ft) (min.: Sheiko and Fedorov 2000; max.: Anderson 1994).

Bothrocara molle Bean, 1890. **Soft Eelpout.** To 58.7 cm (23.2 in) TL (Mecklenburg et al. 2002 [UW 17767]). Japan Sea (Anderson 1994) and Pacific coast of Honshu (Shinohara et al. 1996) to Bering Sea (Mecklenburg et al. 2002) to northern Baja California (30°47'N, 116°52'W; SIO 61-168); also reported from Gulf of California (SIO 70-248, SIO 70-249) and Chile (Mecklenburg et al. 2002 [MCZ 45051, confirmed by M. E. Anderson]). Benthic, at depths of 60–2,688 m (197–8,819 ft) (min.: Toyoshima in Amaoka et al. 1983; max.: Percy et al. 1982). *Bothrocara remigerum* Gilbert, 1915, is a junior synonym of *B. molle*.

Bothrocara pusillum (Bean, 1890). **Alaska Eelpout.** To 15.5 cm (6.1 in) SL (Mecklenburg et al. 2002). Eastern Bering Sea (Anderson 1994) to Oregon (Gillespie 1993). Taken in bottom and midwater trawls at depths of 80–2,189 m (262–7,182 ft) (min.: UW 46034; max.: Percy et al. 1982).

****Bothrocara zestum*** Jordan & Fowler, 1902. To 48.2 cm (19 in) TL (Jordan and Fowler 1902). Japan Sea and Pacific coast of Japan (Lindberg and Krasnyukova 1975); possibly Bering Sea (Anderson and Fedorov 2004; M. E. Anderson, pers. comm. to C. W. M.). Probably benthic, at depths of 600–1,370 m (1,968–4,494 ft) (min.: Anderson 1984; max.: Jordan and Fowler 1902). The status of this taxon is uncertain; more research is needed (Anderson and Fedorov 2004). Recently also as *Lycogramma zesta*.

Derepodichthys alepidotus Gilbert, 1896. **Cuskpout.** To 15.1 cm (5.9 in) SL (Mecklenburg et al. 2002). Near Alaska off Dixon Entrance, northern British Columbia (G. E. Gillespie, pers. comm. to C. W. M.) to Gulf of California (Anderson and Hubbs 1981). Benthopelagic, at depths of 1,000–2,904 m (3,280–9,527 ft) (min.: Mecklenburg et al. 2002; max.: Anderson and Hubbs 1981).

-
- Eucryphycus californicus* (Starks & Mann, 1911). **Persimmon Eelpout**. To 22 cm (8.75 in) TL (Eschmeyer and Herald 1983). Monterey Bay, central California to San Diego, southern California (Eschmeyer and Herald 1983). In drifting kelp and eelgrass accumulated at bottom of submarine canyons and basins (Eschmeyer and Herald 1983), at depths of 60–545 m (197–1,787 ft) (min.: SCCWRP; max.: Eschmeyer and Herald 1983). Recently as *Maynea californica*.
- Gymnelus hemifasciatus* Andriashev, 1937. **Halfbarred Pout**. To 14 cm (5.5 in) SL. Sea of Okhotsk, Commander Islands, east coast of Kamchatka; Barents Sea; Beaufort Sea to northern Gulf of Alaska northeast of Kodiak Island. Benthic, from intertidal area to depth of 200 m (656 ft). All in Mecklenburg et al. (2002) after Anderson (1982).
- Gymnelus popovi* (Taranez & Andriashev, 1935). **Aleutian Pout**. To 16.3 cm (6.4 in) SL. Simushir Island, Kuril Islands; Commander Islands; Agattu Island (Wilimovsky 1964), Aleutian Islands to Kodiak Island at Karluk. Benthic, from intertidal above tidemark at low tide to water depth of 2 m (7 ft). All in Mecklenburg et al. (2002) primarily after Anderson (1982).
- Gymnelus viridis* (Fabricius, 1780). **Fish Doctor**. To 26.0 cm (10.2 in) SL, more than 26.6 cm (10.5 in) TL (caudal rays broken; UW 44459). Circumpolar in Arctic Ocean; Beaufort Sea to Islands of Four Mountains in the eastern Bering Sea and to Gulf of Anadyr in the west (Mecklenburg et al. [2002], primarily after Anderson [1982]). Benthic, from intertidal area (Anderson 1982) to 318 m (1,043 ft; Koyanagi in Okamura et al. 1995). Chernova (1998) attributed specimens from the northern Bering Sea and Chukchi Sea to *Gymnelus bilabrus* Andriashev, 1937, a form which she resurrected from synonymy; this taxonomic problem requires further research.
- Lycenchelys alta* Toyoshima, 1985. **Short Eelpout**. Known from one specimen, 12.7 cm (5.0 in) TL. Buldir Island, western Aleutian Islands. Benthic, at 336 m (1,102 ft). All in Mecklenburg et al. (2002) after Toyoshima (1985).
- Lycenchelys callista* Anderson, 1995. To 20.3 cm (8.0 in) TL. Central Oregon (44°24'N, 125°07'W) to Tanner Basin, southern California. Benthic, at depths of 1,200–1,830 m (3,937–6,004 ft). All in Anderson (1995).
- Lycenchelys camchatica* (Gilbert & Burke, 1912). **Kamchatka Eelpout**. To 43 cm (16.9 in) TL (Fedorov 1976). Sea of Okhotsk (Toyoshima 1985) and southeastern Kamchatka (Gilbert and Burke 1912), Shirshov Ridge (Fedorov 1976), and Commander Islands (Andriashev 1937); Bering Sea south of Cape Navarin to near Unalaska Island (Toyoshima 1985, Anderson 1995); Washington (Peden 1973) to northern Baja California (Anderson 1995). Benthic, at depths of about 200–2,100 m (656–6,890 ft) (min.: Andriashev 1937; max.: Anderson 1995). Additional citations in Mecklenburg et al. (2002).
- Lycenchelys crotalinus* (Gilbert, 1890). **Snakehead Eelpout**. To 46.8 cm (18.4 in) TL (Toyoshima 1985). Western Bering Sea across Shirshov Ridge and Commander Plateau (Fedorov 1976); eastern Bering Sea and Gulf of Alaska (Gilbert 1896, Mecklenburg et al. 2002) to northern Baja California (Anderson 1995). Benthic, at depths of 200–2,816 m (656–9,239 ft; Anderson 1995). Additional citations in Mecklenburg et al. (2002). Recently as *Embryx crotalinus*.
- **Lycenchelys hippopotamus* Schmidt, 1950. **Behemoth Eelpout** or Hippopotamus Eelpout. To 22.3 cm (8.8 in) TL, but none recorded is fully mature (Anderson 1995). Southern Okhotsk Sea (Schmidt 1950) to western Bering Sea southwest of Cape Navarin (Fedorov 1976). Benthic, at depths of 840–1,340 m (2,756–4,396 ft) (min.: Fedorov 1976; max.: Toyoshima 1985). Additional citations in Mecklenburg et al. (2002).
- Lycenchelys jordani* (Evermann & Goldsborough, 1907). **Shortjaw Eelpout**. To 38.9 cm (15.3 in) TL (Anderson 1995). Sitka Sound, southeastern Alaska (Evermann and Goldsborough 1907, Mecklenburg et al. 2002); central British Columbia (Peden 1973); and Oregon to Cabo Colnett, northern Baja California (Anderson 1995). Benthic, at depths of 1,500–2,570 m (4,921–8,432 ft; Anderson 1995).

-
- Lycenchelys micropora* Andriashev, 1955. **Manytoothed Eelpout** or Pale Eelpout. To 34.9 cm (13.7 in) TL (Andriashev 1955). Northern Bering Sea, one record in U.S. waters; Pacific Ocean off British Columbia (Mecklenburg et al. 2002) to Gulf of Tehuantepec, central Mexico (14°28'N, 93°09'W; Anderson 1995). Benthic, at depths of 2,377–3,512 m (7,798–11,522 ft; Anderson 1995). Additional citations in Mecklenburg et al. (2002).
- Lycenchelys monstrosa* Anderson, 1982. To 27.6 cm (10.9 in) TL. Southern Baja California at 27°20'N, 115°23'W to Gulf of Panama. Benthic, at depths of 3,193–4,188 m (10,476–13,740 ft). All in Anderson (1995).
- Lycenchelys pearcyi* Anderson, 1995. To 38.5 cm (15.2 in) TL. Northern Oregon to southern tip of Baja California. Benthic, at depths of 2,663–3,051 m (8,737–10,010 ft). All in Anderson (1995).
- Lycenchelys plicifera* Andriashev, 1955. **Keeled Eelpout**. To 19.1 cm (7.5 in) TL (a juvenile; Andriashev 1958). Western North Pacific off Paramushir Island (Kuril–Kamchatka Trench; Andriashev 1955, 1958); Bering Sea north of Near Islands, Aleutian Islands (Aleutian Basin; Andriashev 1955). Benthic, at depths of 3,820–4,070 m (12,697–13,353 ft) (min.: Andriashev 1955; max.: Andriashev 1958). Additional citations in Mecklenburg et al. (2002). *Lycenchelys birsteini* Andriashev, 1958, is a junior synonym.
- Lycenchelys rassi* Andriashev, 1955. **Earless Eelpout**. To 23.2 cm (9.1 in) TL (Toyoshima 1985). Okhotsk Sea off Sakhalin (Andriashev 1955) and Hokkaido (Toyoshima in Amaoka et al. 1983); southwestern Bering Sea at Kronotskiy Bay (Anderson 1995); one record from southeastern Bering Sea, Alaska north of Unalaska Island (Peden 1973, Mecklenburg et al. 2002). Benthic, at depths of 920–1,805 m (3,018–5,922 ft) (min.: Dudnik and Dolganov 1992; max.: Peden 1973).
- Lycenchelys ratmanovi* Andriashev, 1955. **Manypore Eelpout**. To 19.0 cm (7.5 in) TL (Andriashev 1955). Western Pacific off southeast Kamchatka and northern Kuril Islands; western Bering Sea southwest of Cape Navarin and off Cape Olyutorskiy; eastern Bering Sea slope south to Unalaska Island (Fedorov 1976, Toyoshima 1985, Anderson 1995, Mecklenburg et al. 2002). Benthic, at depths of 620–1,120 m (2,034–3,674 ft; Anderson 1995). Known only from immature individuals. *Lycenchelys longirostris* Toyoshima, 1985, is a junior synonym.
- Lycenchelys rosea* Toyoshima, 1985. **Rosy Eelpout**. To 23.7 cm (9.3 in) TL. Known from two specimens. Central Aleutian Islands. Benthic, at depths of 358 and 750 m (1,174 and 2,461 ft). All in Mecklenburg et al. (2002) after Toyoshima (1985).
- **Lycenchelys volki* Andriashev, 1955. **Longnape Eelpout**. Known from one specimen, 20.8 cm (8.2 in) TL. Southwestern Bering Sea northeast of Medny Island, Commander Islands. Benthic, at depth of 3,940 m (12,926 ft). All in Mecklenburg et al. (2002), mainly from Andriashev (1955).
- Lycodapus dermatinus* Gilbert, 1896. **Looseskin Eelpout**. To 12.2 cm (4.8 in) SL (Peden and Anderson 1978). Welker Seamount, Gulf of Alaska (Peden and Anderson 1981); British Columbia (Peden 2003); northern Oregon (Peden and Anderson 1978) to Gulf of California (Peden and Anderson 1978) and Peru (Anderson 1989). Bering Sea and western Gulf of Alaska reports not verifiable (Mecklenburg et al. 2002); M. E. Anderson (pers. comm. to C. W. M.) recently commented that the Unimak Island record is surely a label switching error (see Mecklenburg et al. 2002:740). Mesopelagic and bathypelagic, at depths of 198–1,370 m (650–4,495 ft) (min.: UW 47326; max.: Peden and Anderson 1978).
- Lycodapus endemoscotus* Peden & Anderson, 1978. **Deepwater Eelpout**. To 13.2 cm (5.2 in) SL (Peden and Anderson 1978). Southern Bering Sea north of Pribilof Islands (D. E. Stevenson, pers. comm. to C. W. M.; identified by M. E. Anderson) and off central Aleutian Islands (Anderson 1989) to Gulf of California (Peden and Anderson 1978) and off Peru (Anderson 1989). Mesopelagic and bathypelagic, at depths to 439–2,225 m (1,440–7,300 ft) (min.: Anderson 1989; max.: Peden and Anderson 1978).

-
- Lycodapus fierasfer* Gilbert, 1890. **Blackmouth Eelpout.** To 14.1 cm (5.6 in) SL (Mecklenburg et al. 2002). Western Bering Sea on Shirshov Ridge (Mecklenburg et al. 2002); eastern Bering Sea (Peden and Anderson 1978, 1981); and off Dixon Entrance, northern British Columbia (G. E. Gillespie, pers. comm. to C. W. M.) to Peru (Anderson 1989). Mesopelagic and bathypelagic to benthopelagic, at depths to 102–2,189 m (335–7,182 ft; Peden and Anderson 1978). *Lycodapus grossidens* Gilbert, 1915, in part, is a synonym.
- Lycodapus leptus* Peden & Anderson, 1981. **Slender Eelpout.** To 9.8 cm (3.9 in) SL. Eastern Bering Sea. Mesopelagic, at depths to 465–760 m (1,526–2,493 ft). All in Peden and Anderson (1981).
- Lycodapus mandibularis* Gilbert, 1915. **Pallid Eelpout.** To 19.8 cm (7.8 in) SL (Peden and Anderson 1978). Prince William Sound, Gulf of Alaska to La Jolla Canyon, southern California (Peden and Anderson 1978). A report of occurrence off Peru is a mistake (M. E. Anderson, pers. comm. to C. W. M., 1 Dec. 1998). Mesopelagic, typically taken in midwater tows at depths to 800 m (2,625 ft) but sometimes in bottom trawls (Mecklenburg et al. 2002); reported as shallow as 203 m (666 ft; W. A. Palsson, pers. comm. to M. L.) and deep as 1,237 m (4,058 ft; Lauth 2000).
- Lycodapus pachysoma* Peden & Anderson, 1978. **Stout Eelpout.** To 20 cm (7.9 in) TL (Anderson in Gon and Heemstra 1990). Eastern Pacific Ocean and Southern Ocean (Peden and Anderson 1978); Bering Sea, Alaska (D. E. Stevenson, pers. comm. to C. W. M.; specimen identified by M. E. Anderson); near Alaska off Dixon Entrance, northern British Columbia (G. E. Gillespie, pers. comm. to C. W. M.) to Oregon (50°54'N; Peden and Anderson 1978). Mesopelagic and bathypelagic, at depths of 534–2,600 m (1,752–8,530 ft) (min.: UW 47335; max.: Anderson in Gon and Heemstra 1990).
- Lycodapus parviceps* Gilbert, 1896. **Smallhead Eelpout.** To 12.2 cm (4.8 in) TL (Peden and Anderson 1978), perhaps to 16.6 cm (6.5 in) TL (Mecklenburg et al. 2002). Southeastern Bering Sea off Unalaska Island (Gilbert 1896) to Strait of Juan de Fuca near British Columbia–Washington border (Peden and Anderson 1978). Mesopelagic, at depths to 81–469 m (266–1,539 ft) (min.: Peden and Anderson 1978; max.: UW 47562).
- Lycodapus poecilus* Peden & Anderson, 1981. **Variform Eelpout.** To 12.6 cm (5.0 in) SL (Peden and Anderson 1981). Eastern Bering Sea continental slope (Peden and Anderson 1981). Mesopelagic, at depths to 313–900 m (1,027–2,952 ft) (min.: UW 47567; max.: Peden and Anderson 1981).
- Lycodapus psarostomatus* Peden & Anderson, 1981. **Specklemouth Eelpout.** To 15.5 cm (6.1 in) SL (Peden and Anderson 1981). Eastern Bering Sea (Peden and Anderson 1981); British Columbia (Peden 2003); Monterey Bay, central California (Anderson 1989). Mesopelagic, at depths to 470–590 m (1,542–1,936 ft; Peden and Anderson 1981). The one record from California was a 9.8 cm SL specimen collected by midwater trawl at 0–15 m (0–49 ft; Anderson 1989).
- Lycodes brevipes* Bean, 1890. **Shortfin Eelpout.** To 32.8 cm (12.9 in) TL (Toyoshima 1985). Eastern Chukchi Sea (UAM 4563; 69°40'N, 168°39'W), western and eastern Bering Sea and eastern Aleutian Islands (Mecklenburg et al. 2002) to central California (34°34'N; Weinberg et al. 2002). Benthic, at depths of 13–973 m (42–3,192 ft) (min.: W. A. Palsson, pers. comm. to M. L.; max.: Allen and Smith 1988), reported at about 2 m (7 ft) or less in beach seine catch (Miller et al. 1977).
- Lycodes brunneofasciatus* Suvorov, 1935. **Tawnystripe Eelpout.** To 65.5 cm TL (Toyoshima 1985). Sea of Okhotsk and North Pacific off Hokkaido to southeastern Kamchatka and Commander Islands; one record from eastern North Pacific near Unalaska Island, Alaska. Benthic, at depths of 20–800 m. All except length in Mecklenburg et al. (2002).
- Lycodes concolor* Gill & Townsend, 1897. **Ebony Eelpout.** To about 80 cm (31.5 in) TL (Mecklenburg et al. 2002). Western Bering Sea to southern Okhotsk Sea and northern Kuril Islands; one eastern Chukchi Sea record; eastern Bering Sea from Navarin Canyon to Aleutian Islands and west to Stalemate Bank, and south of Aleutian Islands to Kodiak Island, western Gulf of Alaska (Mecklenburg et al. 2002). Benthic, at depths of 42–1,200 m (138–3,937 ft) (min.: Allen and Smith 1988; max.: Hoff and Britt 2003).

-
- Lycodes cortezianus* (Gilbert, 1890). **Bigfin Eelpout**. To 49.3 cm (19.4 in) TL (Bali and Bond 1959). Prince of Wales Island, southeastern Alaska (Allen and Smith 1988) to San Diego, southern California (Miller and Lea 1972). Not documented from western Gulf of Alaska or Bering Sea (Mecklenburg et al. 2002). Benthic, at depths of 61–1,158 m (200–3,799 ft) (min.: Weinberg et al. 2002; max.: Ramsey et al. 2002), reported as shallow as 20 m (66 ft) (W. A. Palsson, pers. comm. to M. L.).
- Lycodes diapterus* Gilbert, 1892. **Black Eelpout** or Blackfin Eelpout. To 37.1 cm (14.6 in) TL (Toyoshima 1985). Sea of Japan and Sea of Okhotsk to northern Bering Sea at Navarin Canyon, west to Attu Island in Aleutian Islands and to San Diego, southern California (Allen and Smith 1988). Benthic, at depths of 13–1,300 m (42–4,265 ft) (min.: Eschmeyer and Herald 1983; max.: Allen and Smith 1988).
- Lycodes eudipleurostictus* Jensen, 1902. **Doubleline Eelpout**. To 44.5 cm (17.5 in) TL. Atlantic Arctic; one record from Beaufort Sea north of Kaktovik, Alaska. Benthic, at depths of 25–975 m (82–3,199 ft). All in Mecklenburg et al. (2002).
- Lycodes japonicus* Matsubara & Iwai, 1951. **Japanese Eelpout**. To 34.0 cm SL (Nalbant 1994). Sea of Japan off Honshu in Toyama Bay and near Sado Island; one record from eastern North Pacific from Bering Sea north of Near Islands (western Aleutian Islands), Alaska. Benthic, at depths of about 300–303 m (984–994 ft). All in Mecklenburg et al. (2002).
- **Lycodes jugoricus* Knipowitsch, 1906. **Shulupaoluk**. To 40 cm (15.7 in) TL (Andriashev in Whitehead et al. 1986). White Sea east to Laptev Sea, New Siberian Islands (Andriashev 1954), and East Siberian Sea (mouth of Kolyma River; Andriashev in Whitehead et al. 1986); Arctic Canada from eastern Beaufort Sea, Yukon Territory (McAllister 1962) to Boothia Peninsula, Nunavut (Hunter et al. 1984). Not reported from Alaska although likely occurs there. Reported but not confirmed from Chukchi Sea; see range note in Mecklenburg et al. (2002:706). Benthic, at depths of 9–90 m (29–295 ft; Andriashev in Whitehead et al. 1986).
- Lycodes mucosus* Richardson, 1855. Lightcheek Eelpout or **Saddled Eelpout**. To 49 cm (19.3 in) TL (Andriashev 1954); at 48.5 cm SL, UW 111520 was probably a bit more than 49 cm TL but the caudal rays are broken off (C. W. M., unpubl. data). Russian Arctic to Gulf of Anadyr; Beaufort Sea off Canada and Alaska to Bering Sea near Pribilof Islands (Mecklenburg et al. 2002). Benthic, at depths of 1.5–80 m (5–262 ft) (min.: UW 41493; max.: Mecklenburg et al. 2002).
- Lycodes pacificus* Collett, 1879. **Blackbelly Eelpout**. To 46 cm (18 in) TL (Jordan and Evermann 1898). Aleutian Islands and Gulf of Alaska (Mecklenburg et al. 2002) to Ensenada, northern Baja California (Miller and Lea 1972). Benthic, at depths of 7–1,036 m (23–3,399 ft) (min.: SCCWRP; max.: Ramsey et al. 2002).
- Lycodes palearis* Gilbert, 1896. **Wattled Eelpout**. To 62.0 cm (24.4 in) TL (UW 28872, UW 28873). Okhotsk Sea to Chukchi Sea, over the continental shelf in the Bering Sea and off the Aleutian Islands to Oregon (Mecklenburg et al. 2002). Benthic, at depths of about 2 m (7 ft) or less to 925 m (3,035 ft) (min.: Miller et al. 1977 and UW 978 [beach seine]; max.: Allen and Smith 1988), nearly always less than 200 m (656 ft; Mecklenburg et al. 2002). Rarely recorded from very shallow water, *L. palearis* were caught in about 3 m (9.8 ft) of water at low tide at Jackson Beach, San Juan Island, on two different days (A. P. Summers, pers. comm. to M. L. and C. W. M.).
- Lycodes polaris* (Sabine, 1824). Canadian Eelpout or **Polar Eelpout**. To 24.5 cm (9.6 in) TL (Andriashev 1954). Nearly circumpolar along Arctic coasts; Beaufort and Chukchi seas to eastern Bering Sea between Hall Island and St. Lawrence Island to western Bering Sea off Cape Olyutorskiy. Benthic, at depths of 5–236 m (16–774 ft). All in Mecklenburg et al. (2002). The American Fisheries Society (Nelson et al. 2004) calls this fish the Canadian Eelpout, but its range is nearly circumpolar and Canadian (e.g., McAllister 1990, Coad 1995) and Russian scientists (e.g., Sheiko and Fedorov 2000), as well as many U.S. scientists (e.g., Mecklenburg et al. 2002), call it the Polar Eelpout. With the specific epithet *polaris*, it is logical and less confusing to use the name Polar Eelpout.

-
- Lycodes raridens* Taranetz & Andriashev, 1937. **Marbled Eelpout** or Sparse-tooth Lycod. To 70 cm (27.6 in) TL. Western Bering Sea and Commander Islands to Okhotsk Sea; Chukchi and Bering seas to Bristol Bay, and one record north of Near Islands, western Aleutian Islands. Benthic, at depths of 8–360 m (26–1,181 ft). All in Mecklenburg et al. (2002). Maximum depth of 525 m (1,722 ft) was reported for *L. raridens* wintering off the shelf in the Okhotsk Sea (Kim Sen Tok 2001).
- **Lycodes reticulatus* Reinhardt, 1835. **Arctic eelpout**. To 76 cm (29.9 in) TL (Morosova 1982). Arctic Canada to Greenland and Gulf of St. Lawrence, and east to Barents, Kara, and Laptev seas. Records nearest to our area are from just east of the Alaska–Yukon border in the Beaufort Sea (Mecklenburg et al. 2002). Benthic, at depths of 20–930 m (66–3,051 ft; Mecklenburg et al. 2002).
- Lycodes rossi* Malmgren, 1865. **Threespot Eelpout**. To 31 cm (12.3 in) TL (Andriashev 1954). Greenland and Norwegian seas to Kara Sea; Chukchi and Beaufort seas off Alaska east to Canadian Arctic at Dease Strait (Mecklenburg et al. 2002). Benthic, at depths of 42–365 m (138–1,197 ft), except juveniles as shallow as 9 m (29 ft; Mecklenburg et al. 2002).
- Lycodes sagittarius* McAllister, 1976. **Archer Eelpout**. To 27.8 cm (10.9 in) TL (Mecklenburg et al. 2002). Beaufort Sea, Alaska; Northwest Territories, Canada; and Kara Sea (Mecklenburg et al. 2002). Benthic, at depths of 335–600 m (1,099–1,968 ft) (min.: Mecklenburg et al. 2002; max.: Andriashev in Whitehead et al. 1986).
- Lycodes seminudus* Reinhardt, 1837. **Longear Eelpout**. To 51.7 cm (20.3 in) TL (Mecklenburg et al. 2002). Arctic Ocean from Beaufort Sea, Alaska to Norwegian and Kara Seas (Mecklenburg et al. 2002). Benthic, at depths of 130–1,400 m (426–4,593 ft; Andriashev in Whitehead et al. 1986).
- Lycodes soldatovi* Taranetz & Andriashev, 1935. **Dipline Eelpout**. To 80 cm (31.5 in) TL (Balanov et al. 2004). Okhotsk and Japan seas to Bering Sea (Lindberg and Krasnyukova 1975). One record from Alaska (Mecklenburg et al. 2002). Balanov et al. (2004) question whether this species occurs in the Sea of Japan. Benthic, at depths of 154–1,030 m (505–3,379 ft; Sheiko and Fedorov 2000).
- Lycodes squamiventer* Jensen, 1904. **Scalebelly Eelpout**. To 26 cm (10.2 in) TL. Beaufort Sea off Alaska to Norwegian Sea. Benthic, at depths of 357–1,808 m (1,171–5,932 ft). All in Mecklenburg et al. (2002).
- Lycodes turneri* Bean, 1879. **Estuarine Eelpout** or Polar Eelpout. To 64 cm (25.2 in) TL (Mecklenburg et al. 2002). Beaufort and Chukchi seas to Bristol Bay in the eastern Bering Sea and to about Cape Olyutorskiy in the western Bering Sea (Mecklenburg et al. 2002). Benthic, at depths of 10–125 m (33–410 ft) (min.: Mecklenburg et al. 2002; max.: Allen and Smith 1988). The AFS–ASIH fish names committee (Nelson et al. 2004) calls this fish the Polar Eelpout, the name we prefer for *L. polaris*.
- Lycinema barbatum* Gilbert, 1896. **Bearded Eelpout**. To 18 cm (7.1 in) TL (Allen et al. 2002). Northern Oregon (45°00'N, 124°23'W; A. Cramer, pers. comm. to M. L.) to between Islas San Benito and Isla Cedros (28°17'N, 115°28'W), central Baja California (SIO 71-121). Published reports of occurrence in the Bering Sea are mistaken (Mecklenburg et al. 2002:676). Benthic, at depths of 45–400 m (148–1,312 ft) (min.: SCCWRP; max.: Wakefield 1990).
- Melanostigma pammelas* Gilbert, 1896. **Midwater Eelpout** or Pacific Softpout. To 12.2 cm (4.8 in) SL (SIO 64-1027), 13.3 cm (5.2 in) TL (Lancraft 1982). Off Queen Charlotte Islands, British Columbia (Grinols 1966) to Gulf of Tehuantepec, Mexico (Anderson 1994). Not documented from Alaska (Mecklenburg et al. 2002). Mesopelagic and possibly bathypelagic, collected in nets towed from 97 m (318 ft) to as deep as 2,012 m (6,601 ft; Mecklenburg et al. 2002).
- Nalbantichthys elongatus* Schultz, 1967. **Thinskin Eelpout**. To 13.8 cm (5.4 in) TL (Springer and Anderson 1997). Bering Sea near western Aleutian Islands (Schultz 1967, Anderson 1984) at positions estimated and plotted in Mecklenburg et al. (2002). Benthic, at depths of 300–520 m (984–1,706 ft) (min.: Schultz 1967; max.: Anderson 1984).

-
- Opaeophacus acrogeneius* Bond & Stein, 1984. **Bulldog Eelpout**. To 15.4 cm (6.1 in) SL. Seguam and Umnak Islands, Aleutian Islands. Benthic, at depths of 500–800 m (1,640–2,625 ft). All in Mecklenburg et al. (2002) after Bond and Stein (1984).
- Pachycara bulbiceps* (Garman, 1899). **Snubnose Eelpout**. To 52.5 cm (20.7 in) SL (Anderson and Peden 1988). Pacific and North Atlantic; Queen Charlotte Islands, northern British Columbia (Mecklenburg et al. 2002) to Chile (25°27'N, 71°52'W; SIO 72-160). Benthic, at depths of 2,400–4,780 m (7,874–15,682 ft; Anderson and Peden 1988).
- Pachycara gymninium* Anderson & Peden, 1988. **Nakednape Eelpout**. To 42.2 cm (16.6 in). Queen Charlotte Islands, northern British Columbia to vicinity of Isla Guadalupe, central Baja California; and Gulf of California. Benthic, at depths of 1,829–3,219 m (6,000–10,561 ft). All in Mecklenburg et al. (2002) after Anderson and Peden (1988).
- Pachycara lepinium* Anderson & Peden, 1988. **Scalynape Eelpout**. To 59.7 cm (23.5 in) TL. Queen Charlotte Islands, northern British Columbia to vicinity of Isla Guadalupe, central Baja California. Benthic, at depths of 1,728–2,970 m (5,669–9,744 ft). All in Mecklenburg et al. (2002) after Anderson and Peden (1988).
- Puzanovia rubra* Fedorov, 1975. **Tough Eelpout**. To 38 cm (15.0 in) TL (Tokranov et al. 2004). Okhotsk Sea (Fedorov 1975), Pacific Ocean off Hokkaido (Amaoka et al. 1977) to northern Kuril Islands, and Shirshov Ridge, southwestern Bering Sea (Fedorov 1975); Cape Navarin, northern Bering Sea to Pribilof Islands and north of Aleutian Islands (Fedorov 1975, Mecklenburg et al. 2002). Benthic, at depths of 200–1,038 m (656–3,405 ft) (min.: Fedorov 1975; max.: Hoff and Britt 2003).
- Taranetzella lyoderma* Andriashev, 1952. **Ghostly Eelpout**. To 16.0 cm (6.3 in) SL, 16.5 cm (6.6 in) TL (Anderson 1995). Suruga Bay, Japan (Machida and Ohta 1996); western Bering Sea at Olyutorskiy Bay (Andriashev 1952); eastern Bering Sea off southern British Columbia (Peden and Jamieson 1988) to Isla Guadalupe, central Baja California (Anderson 1995). Benthopelagic, at depths of 986–3,000 m (3,235–9,842 ft) (min.: Machida and Ohta 1996; max.: Percy et al. 1982). Additional citations in Mecklenburg et al. (2002).

Family Stichaeidae — Pricklebacks

- Acantholumpenus mackayi* (Gilbert, 1896). **Blackline Prickleback** or Pighead Prickleback. To 70 cm (27.6 in) SL (Amaoka and Miki in Masuda et al. 1984). Okhotsk and Japan seas, Pacific coast of Hokkaido, and southeastern Kamchatka; Canadian Beaufort Sea to eastern Chukchi Sea, eastern Bering Sea, Aleutian Islands, and Gulf of Alaska (Mecklenburg et al. 2002). Shallow water near shore at depths of 2–56 m (7–184 ft) (min.: B. A. Sheiko, pers. comm. to C. W. M.; max.: Mecklenburg et al. 2002), often in brackish waters of river mouths and coastal lakes. Collections from depths as great as 150 m (492 ft) have been reported, but they lack documentation and could represent misidentified *Lumpenus sagitta*, a common misidentification in older museum lots (C. W. M., unpubl. data).
- Alectrias alectrolophus* (Pallas, 1814). **Stone Cockscomb**. To 12.8 cm (5.0 in) TL (Lindberg and Krasnyukova 1975). Sea of Okhotsk and northern Sea of Japan to southeastern Kamchatka and Commander Islands; Norton Sound, Bering Sea, Alaska; an uncertain record from Amchitka Island, Aleutian Islands (Mecklenburg et al. 2002). Intertidal (primarily) and shallow subtidal to 100 m (328 ft) (min.: Peden 1967; max.: Sheiko and Fedorov 2000).
- Alectridium aurantiacum* Gilbert & Burke, 1912. **Lesser Prickleback**. To 10.2 cm (4.0 in) SL (Balanov et al. 1999). Kuril Islands, Commander Islands, and Aleutian Islands (Balanov et al. 1999). Lower intertidal and shallow subtidal to depth of 56 m (184 ft) (min.: Peden 1967; max.: Sheiko and Fedorov 2000), including tidepools (Balanov et al. 1999).

-
- Anisarchus medius* (Reinhardt, 1837). **Stout Eelblenny**. To 18 cm (7.1 in) TL (Mecklenburg et al. 2002). Nearly circumpolar in Arctic Ocean; southern Greenland to Gulf of St. Lawrence; Barents Sea and along Siberian coasts to Chukchi and Beaufort seas to Tatar Strait (northern Sea of Japan) and Okhotsk Sea, and to southeastern Alaska at Auke Bay (Mecklenburg and Sheiko 2004) and Coco Harbor (55°03'N, 133°02'W; B. L. Wing, pers. comm. to C. W. M.). Depth range 2.5–265 m (8–869 ft) (min.: Thorsteinson et al. 1991; max.: ZIN 50346). Classified by some authors in *Lumpenus*. Date of the original species description is 1837, although previously given as 1836 (Mecklenburg and Sheiko 2004).
- Anoplarchus insignis* Gilbert & Burke, 1912. **Slender Cockscomb**. To 11.8 cm (4.6 in) TL (Peden and Wilson 1976). Attu Island, Aleutian Islands to Pribilof Islands and Bristol Bay, Bering Sea, Alaska (Mecklenburg et al. 2002) to Arena Cove, northern California (Eschmeyer and Herald 1983). Intertidal and to 55 m (180 ft) (min.: Eschmeyer and Herald 1983; max.: C. W. M., unpubl. data).
- Anoplarchus purpureus* Gill, 1861. **High Cockscomb**. To 20 cm (7.8 in) TL (Hart 1973). Attu Island, Aleutian Islands and Pribilof Islands, Bering Sea (Mecklenburg et al. 2002) to Santa Rosa Island, southern California (Miller and Lea 1972). Intertidal and to 30 m (100 ft; Eschmeyer and Herald 1983), including tidepools (Cross 1981).
- Bryozoichthys lysimus* (Jordan & Snyder, 1902). Longfin Moss Blenny, Longfin Prickleback, or **Nutcracker Prickleback**. To 27 cm (10.6 in) SL (Tokranov and Orlov 2004). Sea of Japan off Primorskii Krai (Russian coast; Antonenko et al. 2004), Hokkaido, and Tatar Strait, Pacific Ocean off Hokkaido, and Okhotsk Sea to Aleutian Islands, Bering Sea north to Cape Navarin and vicinity of St. Matthew Island, and western Gulf of Alaska (Mecklenburg et al. 2002). At depths of 45–490 m (148–1,608 ft; Lavrova 1990).
- Bryozoichthys marjorius* McPhail, 1970. **Pearly Prickleback**. To 30 cm (1 ft) TL (Eschmeyer and Herald 1983). Western Aleutian Islands to Gulf of Alaska (Mecklenburg et al. 2002) to La Perouse Bank, southern British Columbia (Peden and Wilson 1976). At depths of 99–374 m (325–1,227 ft) (min.: UW 110060; max.: UW 22302). Incorrectly spelled *majorius* by some authors.
- Cebidichthys violaceus* (Girard, 1854). **Monkeyface Prickleback**. To 76.2 cm (30 in) TL (Miller and Lea 1972). Southern Oregon (Eschmeyer and Herald 1983) to Bahia San Quintin, northern Baja California (Miller and Lea 1972). Intertidal and to depth of 24 m (80 ft; Miller and Lea 1972), reported but not confirmed to 91 m (300 ft; D. Pearson, pers. comm. to M. L.); typically intertidal.
- Chirolophis decoratus* (Jordan & Snyder, 1902). **Decorated Warbonnet**. To 42 cm (16.5 in) TL (Eschmeyer and Herald 1983). Eastern Bering Sea and Aleutian Islands, Alaska (Mecklenburg et al. 2002) to Humboldt Bay, northern California (Eschmeyer and Herald 1983). Subtidal and to depth of 91 m (300 ft; Eschmeyer and Herald 1983).
- Chirolophis nugator* (Jordan & Williams, 1895). **Mosshead Warbonnet**. To more than 14.6 cm (5.75 in) TL (Peden and Wilson 1976). Western Aleutian Islands, Alaska (Mecklenburg et al. 2002) to San Miguel Island, southern California (Miller and Lea 1972). Intertidal and to 80 m (264 ft; Miller and Lea 1972).
- Chirolophis snyderi* (Taranetz, 1938). **Bearded Warbonnet** or Wendell's Warbonnet. To 41.7 cm (16.4 in) TL (UW 21190). Sea of Okhotsk, west coast of Sakhalin (northern Sea of Japan), and Pacific coast of Hokkaido to Bering and Chukchi seas, Aleutian Islands west to Adak Island (UW 21190), to northwestern Gulf of Alaska (Mecklenburg et al. 2002). At depths of 3–490 m (10–1,608 ft) (min.: Barsukov 1958; max.: Lavrova 1990), typically less than 70 m (230 ft).
- Chirolophis tarsodes* (Jordan & Snyder, 1902). **Matcheck Warbonnet**. To 17.6 cm (6.9 in) SL (Peden 1975). Pacific Ocean south of Sanak Islands and western Gulf of Alaska at Chiniak Bay, Kodiak Island (Mecklenburg et al. 2002); Queen Charlotte Islands, northern British Columbia (Peden 1975). At depths of 1–75 m (3–246 ft; Mecklenburg et al. 2002).

-
- Ernogammus walkeri* Follett & Powell, 1988. **Masked Prickleback**. To 28.8 cm (11.3 in) SL. Monterey Bay, central California to San Miguel Island, southern California. Intertidal and to depth of 21.3 m (70 ft). All in Follett and Powell (1988).
- Esselenichthys carli* (Follett & Anderson, 1990). **Threeline Prickleback**. To 17.5 cm (6.9 in) SL. Pacific Grove, northern California to Bahia San Quintin, northern Baja California. At depths of 1.2–26 m (4–85 ft). All in Follett and Anderson (1990). The original genus name was *Esselenia* but this name is not available for fishes because it was already given to a grasshopper, so Anderson (2003) changed the name to *Esselenichthys*.
- Esselenichthys laurae* (Follett & Anderson, 1990). **Twoline Prickleback**. To 9.8 cm (3.9 in) SL. Farallon Islands, northern California to Punta Banda, northern Baja California. At depths of 10.7–46 m (35–151 ft). All in Follett and Anderson (1990). The original genus name was *Esselenia* but was preoccupied as a grasshopper name, so Anderson (2003) changed the name to *Esselenichthys*.
- Eumesogammus praecisus* (Krøyer, 1837). **Fourline Snakeblenny**. To 23 cm (9.1 in) TL. Sea of Okhotsk to northern Bering Sea and Chukchi and Beaufort seas, Alaska through Canadian Arctic to western North Atlantic. At depths of 16–400 m (52–1,312 ft), typically less than 70 m (230 ft). All in Mecklenburg et al. (2002) and Mecklenburg and Sheiko (2004).
- Gymnoclinus cristulatus* Gilbert & Burke, 1912. **Trident Prickleback**. To 11.6 cm (4.6 in) SL. Hokkaido to Kuril Islands, eastern Kamchatka, Commander Islands, and western Aleutian Islands at Amchitka Island, Alaska. Intertidal and to depth of 40 m (131 ft), usually in tidepools or shallower than 20 m (66 ft). All in Mecklenburg et al. (2002).
- Kasatkia seigeli* Posner & Lavenberg, 1999. **Sixspot Prickleback**. To 14 cm (5.5 in) TL. Mendocino County, northern California to Diablo Cove, central California. Inshore and to depth of 26 m (85 ft). All in Eschmeyer and Herald (1983) from *Kasatkia* sp.; the species was later described and named by Posner and Lavenberg (1999).
- Leptoclinus maculatus* (Fries, 1837). **Daubed Shanny**. To 20 cm (7.9 in) TL. Northern Scandinavia, White Sea to Spitsbergen, Iceland, southern Greenland to Cape Cod, Massachusetts; Arctic Canada to Beaufort Sea, Alaska to Sea of Okhotsk and Tatar Strait, Sea of Japan and to Puget Sound, Washington. At depths of 2–475 m (7–1,558 ft). All in Mecklenburg et al. (2002) and Mecklenburg and Sheiko (2004). Classified by some authors in *Lumpenus*.
- Lumpenella longirostris* (Evermann & Goldsborough, 1907). **Longsnout Prickleback**. To 43 cm (17.2 in) TL (Antonenko et al. 2003). Western North Atlantic (one record from Greenland; Miki in Okamura et al. 1995) and North Pacific; Sea of Japan (Lindberg and Krasnyukova 1975, Grigor'ev 1993, Antonenko et al. 2004) and Sea of Okhotsk (Dudnik and Dolganov 1992) to Bering Sea and Aleutian Islands, Alaska (Mecklenburg et al. 2002) to Burrard Inlet, southern British Columbia (Hart 1973). At depths of 25–1,195 m (82–3,921 ft) (min.: Allen and Smith 1988; max.: Parin and Pakhorukov 2003), adults typically at 300–600 m (984–1,968 ft; Mecklenburg and Sheiko 2004). *Lumpenella nigricans* is a junior synonym.
- Lumpenopsis clitella* Hastings & Walker, 2003. **Saddled Prickleback**. To 5.5 cm (2.2 in) SL (Hastings and Walker 2003). Collected in southern California off San Diego and Santa Catalina Island (Hastings and Walker 2003). Observed from a manned submersible at a number of offshore banks in southern California (M. L., unpubl. data). Depth range 54–130 m (177–429 ft) (min.: Hastings and Walker 2003; max.: M. L., unpubl. data). Only two specimens have been collected.
- Lumpenopsis hypochroma* (Hubbs & Schultz, 1932). **Y-Prickleback**. To 7.4 cm (2.9 in) SL (Hubbs and Schultz 1932). Known with certainty only from British Columbia (Hastings and Walker 2003). At depths of 30–100 m (98–328 ft; Campbell 1989). Moved from genus *Allolumpenus* to *Lumpenopsis* by Hastings and Walker (2003). The correct spelling of the specific name in the new combination is *hypochroma*, to agree with the gender (feminine) of *Lumpenopsis* (Mecklenburg and Sheiko 2004).

Lumpenus fabricii Reinhardt, 1836. **Slender Eelblenny**. To 36.5 cm (14.4 in) TL. Barents Sea, Russia eastward across Siberia and Arctic North America to western Greenland, south to Nova Scotia (not in eastern North Atlantic); in Pacific region from Beaufort Sea to northern Sea of Okhotsk and to southeastern Alaska; not along Aleutian Islands west of Unimak Pass or Commander Islands. Subtidal and to depth of 175 m (574 ft); rarely, if ever, in intertidal area. All in Mecklenburg et al. (2002) and Mecklenburg and Sheiko (2004).

Lumpenus sagitta Wilimovsky, 1956. **Snake Prickleback**. To 51 cm (20.1 in) TL (Mecklenburg et al. 2002). Sea of Japan and Sea of Okhotsk to Commander Islands (Russia), southern Bering Sea, and eastern Aleutian Islands, Alaska to Humboldt Bay, northern California (Mecklenburg et al. 2002). Reports from northern Bering Sea (NMFS data reported in Mecklenburg et al. 2002) may have been misidentified *L. fabricii* (C. W. M.). Near shore at intertidal depths (Miller et al. 1980) to unconfirmed depth of 425 m (1,394 ft; Allen and Smith 1988), almost always shallower than 200 m (Mecklenburg et al. 2002).

Phytichthys chirus (Jordan & Gilbert, 1880). **Ribbon Prickleback**. To 21.1 cm (8.3 in) TL. Aleutian Islands and Gulf of Alaska coasts to southern California. Intertidal and to depth of 12 m (39 ft), including tidepools (Cross 1981). Other citations in Mecklenburg et al. (2002).

Plagiogrammus hopkinsii Bean, 1894. **Crisscross Prickleback**. To 19.7 cm (7.75 in) TL. Pacific Grove, central California to San Nicolas Island, southern California. Intertidal and to depth of 21 m (70 ft). All in Miller and Lea (1972).

Plectobranthus evides Gilbert, 1890. **Bluebarred Prickleback**. To 13.7 cm (5.38 in) TL (Miller and Lea 1972). Central British Columbia to San Diego, southern California (Miller and Lea 1972). At depths of 73–368 m (239–1,206 ft) (min.: UW 5883, UW 5959; max.: Gilbert 1915), reported as shallow as 57 m (186 ft; W. A. Palsson, pers. comm. to M. L.).

Poroclinus rothrocki Bean, 1890. Whitebarred Blenny or **Whitebarred Prickleback**. To 25.4 cm (10 in) TL (Miller and Lea 1972). Southeastern Bering Sea (57°N, 172°W; UW 48670, UW 49345) and Aleutian Islands (Mecklenburg et al. 2002), Alaska to San Diego, southern California (Miller and Lea 1972). At depths of 35–160 m (115–525 ft) (min.: UW 40935; max.: UW 49938, UW 49990).

Stichaeus punctatus (Fabricius, 1780). **Arctic Shanny**. To 22 cm (8.7 in) TL. Canadian Arctic east to Greenland and Gulf of Maine (not in eastern North Atlantic), west to Beaufort and Chukchi seas, Alaska and south to Seas of Okhotsk and Japan and to Skidegate Inlet, British Columbia, including Commander–Aleutian chain. Shallow subtidal and to depth of 100 m (328 ft). All in Mecklenburg et al. (2002) and Mecklenburg and Sheiko (2004).

Xiphister atropurpureus (Kittlitz, 1858). **Black Prickleback**. To 32.3 cm (12.7 in) TL (Mecklenburg et al. 2002). Kodiak Island, western Gulf of Alaska to Rio Santo Tomas, northern Baja California (Miller and Lea 1972). Intertidal and to 12 m (39 ft) (min.: Miller and Lea 1972; max.: LACM 31938.003), including tidepools (Cross 1981).

Xiphister mucosus (Girard, 1858). **Rock Prickleback**. To 58.6 cm (23.07 in) TL (Miller and Lea 1972). Kodiak Island, western Gulf of Alaska to Santa Cruz Island, southern California (Mecklenburg et al. 2002). Intertidal and to 18 m (60 ft; Miller and Lea 1972), including tidepools (Cross 1981).

Family Cryptacanthodidae — Wrymouths

Cryptacanthodes aleutensis (Gilbert, 1896). **Dwarf Wrymouth** or Red Devil. To 31 cm (12.2 in) TL (Mecklenburg et al. 2002). Southeastern Bering Sea and eastern Aleutian Islands from Unalaska Island (Mecklenburg et al. 2002) to Eureka, northern California (Eschmeyer and Herald 1983). Benthic, at depths of 21–750 m (70–2,460 ft) (min.: UW 21174; max.: UW 21163). Occasionally seen as *Lyconectes aleutensis*, the original name.

Cryptacanthodes giganteus (Kittlitz, 1858). **Giant Wrymouth**. To 134.5 cm (52.9 in) TL (UW 21080). Southeastern Bering Sea and eastern Aleutian Islands from Unalaska Island (Mecklenburg et al. 2002) to Humboldt Bay, northern California (Miller and Lea 1972). Benthic, at depths of 6–331 m (20–1,086 ft) (min.: Miller and Lea 1972; max.: UW 47754). Occasionally seen as *Delolepis gigantea*, an old name for this species.

Family Pholidae — Gunnels

Apodichthys flavidus Girard, 1854. **Penpoint Gunnel**. To 46 cm (18 in) TL (Miller and Lea 1972). Kodiak Island, western Gulf of Alaska to Santa Barbara Island (Eschmeyer and Herald 1983) and Gaviota, southern California (SIO 61-426). Benthic; intertidal and to 8 m (25 ft) (min.: Miller and Lea 1972; max.: Burge and Schultz 1973), including tidepools (Cross 1981).

Apodichthys fucorum Jordan & Gilbert, 1880. **Rockweed Gunnel**. To 22.9 cm (9 in) TL (Miller and Lea 1972). Banks Island, British Columbia (Eschmeyer and Herald 1983) to Punta Escarpada, northcentral Baja California (Miller and Lea 1972). Benthic; intertidal and to 9 m (30 ft; Miller and Lea 1972).

Apodichthys sanctaerosae (Gilbert & Starks, 1897). **Kelp Gunnel**. To 28.6 cm (11.25 in) TL (Miller and Lea 1972). Pacific Grove, central California to Bahia Papalote, northern Baja California and Isla Guadalupe, central Baja California (Miller and Lea 1972). Benthic; intertidal and to 12 m (40 ft) (min.: Chotkowski 1994; max.: Miller and Lea 1972). Still classified by some authors in *Ulvicola*.

Pholis clemensi Rosenblatt, 1964. **Longfin Gunnel**. To 13.4 cm (5.3 in) TL (Peden and Wilson 1976). One unverifiable record from Kodiak Island, western Gulf of Alaska (Mecklenburg et al. 2002); Fillmore Island, southeastern Alaska (Peden and Wilson 1976) to Arena Cove, northern California (Eschmeyer and Herald 1983). Benthic, at depths of 7.3–64 m (24–210 ft; Eschmeyer and Herald 1983).

Pholis fasciata (Bloch & Schneider, 1801). **Banded Gunnel**. To 30 cm (11.8 in) TL. North Atlantic off Greenland and Labrador, Arctic seas off Canada and Alaska to Seas of Okhotsk and Japan and western Gulf of Alaska. Benthic; shallow subtidal to 46 m (150 ft), typically shallower than 20 m (65 ft). All in Mecklenburg et al. (2002). *Pholis gilli* Evermann & Goldsborough, 1907, is a junior synonym (Mecklenburg et al. 2002, Mecklenburg 2003).

Pholis laeta (Cope, 1873). **Crescent Gunnel**. To 25.4 cm (10 in) TL (Miller and Lea 1972). Southeastern Kamchatka, Commander Islands, and Aleutian Islands, east along north side of Alaska Peninsula to Port Heiden, southeastern Bering Sea and Gulf of Alaska (Mecklenburg et al. 2002) to Crescent City, northern California (Miller and Lea 1972). Benthic; intertidal, including tidepools (Cross 1981), and to 73 m (240 ft; Miller and Lea 1972), reported to 99 m (324 ft) (W. A. Palsson, pers. comm. to M. L.).

Pholis ornata (Girard, 1854). **Saddleback Gunnel**. To 30.5 cm (12 in) TL (Miller and Lea 1972). Vancouver Island, southern British Columbia to Carmel Beach, central California (Eschmeyer and Herald 1983). Peden and Hughes (1984) demonstrated that records of *P. ornata* from Alaska were misidentified *P. laeta*. Consequently, we must view recent reports of occurrence in Alaska with scepticism, especially since specimens were not retained for verification. Benthic; intertidal and to 37 m (120 ft; Miller and Lea 1972), reported to 60 m (198 ft; W. A. Palsson, pers. comm. to M. L.). Reports of *P. ornata* from Hokkaido (e.g., Hatooka in Nakabo 2002), the Sea of Japan, and the Korean Peninsula are probably the western Pacific species *Pholis nea* (Peden and Hughes 1984) or these forms are conspecific or subspecies (Mecklenburg 2003).

Pholis schultzi Schultz, 1931. **Red Gunnel**. To 12.7 cm (5 in) TL (Miller and Lea 1972). Rivers Inlet, north of Vancouver Island, British Columbia (Peden and Wilson 1976) to Diablo Cove, central California (Miller and Lea 1972). Benthic; intertidal and to 20 m (66 ft) (min.: Miller and Lea 1972; max.: LACM 51970.007), reported to 26 m (84 ft) (W. A. Palsson, pers. comm. to M. L.).

Rhodymenichthys dolichogaster (Pallas, 1814). **Stippled Gunnel**. To 25 cm (9.8 in) TL. Sea of Japan and Sea of Okhotsk to Kuril Islands, Commander Islands, and Aleutian Islands, to St. Lawrence Island and Norton Sound, northern Bering Sea. Benthic; intertidal, frequently in tidepools, and to depth of 148 m (485 ft); typically intertidal. All in Mecklenburg et al. (2002).

Family Anarhichadidae — Wolffishes

Anarhichas denticulatus* Krøyer, 1845. **Northern Wolffish. To 144 cm (56.7 in) TL. Arctic and North Atlantic oceans; Greenland to southern New England (Moore et al. 2003), Iceland to Novaya Zemlya; probably occurs in deep water off northern Alaska; closest records to Alaska are Canadian high Arctic at Mould Bay, Prince Patrick Island and possibly Amundsen Gulf. Benthic or bathypelagic, recorded from surface to depth of 1,501 m (4,925 ft). All citations in Mecklenburg et al. (2002) except New England records of Moore et al. (2003).

Anarhichas orientalis Pallas, 1814. **Bering Wolffish**. To 124 cm (48.8 in) TL. Canadian Arctic at Bathurst Inlet, Nunavut; Okhotsk and Japan seas to Bering, Chukchi, and Beaufort seas and to Prince William Sound, northern Gulf of Alaska (Mecklenburg et al. 2002). Intertidal area (e.g., under rocks at low tide [Nelson 1887]) and shallow water, 1.2 m (3.9 ft) or less (Frugé and Wiswar 1991), to about 100 m (330 ft; Mecklenburg et al. 2002).

Anarrhichthys ocellatus Ayres, 1855. **Wolf-eel**. To 240 cm (nearly 8 ft) TL (Mecklenburg et al. 2002). Southeastern Bering Sea east to Cape Menshikof, west along Aleutian Islands to Krenitzin Islands, and Gulf of Alaska (Mecklenburg et al. 2002) to Imperial Beach, southern California (Miller and Lea 1972). A Wolf-eel recently found on the northeastern Bering Sea coast at Nome after a major storm (C. Lean, pers. comm. with photograph to L. K. T. and C. W. M.) may have drifted there from farther south in the Bering Sea. Intertidal and to 226 m (740 ft) (min.: Miller and Lea 1972; max.: Eschmeyer and Herald 1983), reported but not confirmed to 416 m (1,365 ft; RACE).

Family Ptilichthyidae — Quillfishes

Ptilichthys goodei Bean, 1881. **Quillfish**. To 39.0 cm (15.3 in) SL (Mecklenburg 2003). Seas of Japan and Okhotsk to Litke Strait and Commander, Aleutian, and Pribilof islands, southern Bering Sea (Mecklenburg et al. 2002) to central Oregon (Eschmeyer and Herald 1983). Possibly buried in substrate during the day, recorded from surface to 360 m (1,181 ft) (min.: Hart 1973; max.: Mecklenburg et al. 2002).

Family Zaproridae — Prowfishes

Zaprora silenus Jordan, 1896. **Prowfish**. To 1 m (3.3 ft) TL or more (Mecklenburg 2003). Hokkaido, Japan and Sea of Okhotsk to Bering Sea and Aleutian Islands (Mecklenburg et al. 2002) to San Miguel Island, southern California (Allen and Smith 1988). At depths of 10–801 m (33–2,628 ft) (min.: Allen and Smith 1988; max.: Smith et al. 2004); adults near bottom, young fish often taken near surface (Mecklenburg et al. 2002).

Family Scytalinidae — Graveldivers

Scytalina cerdale Jordan & Gilbert, 1880. **Graveldiver**. To 15.2 cm (6 in) TL (Miller and Lea 1972), usually under 10 cm (4 in; Mecklenburg 2003). Western Aleutian Islands (Mecklenburg et al. 2002) to Diablo Cove, central California (Miller and Lea 1972). Benthic; intertidal, including tidepools, and to depth of 7.6 m (25 ft; Eschmeyer and Herald 1983).

Family Trichodontidae — Sandfishes

Most systematists classify the family Trichodontidae within the order Perciformes (e.g., Nelson 1994, Eschmeyer 1998). Recent morphological and molecular evidence indicates classification within the Scorpaeniformes as a cottoid family (Smith and Wheeler 2004) may more correctly reflect relationships.

Arctoscopus japonicus (Steindachner, 1881). **Sailfin Sandfish**. To 16.8 cm (6.6 in) SL (Amaoka et al. 1995). Yellow Sea and Japan Sea off Korea to Okhotsk Sea, Kuril Islands (Lindberg and Krasnyukova 1969), and Pacific coast of Hokkaido (Hatooka in Nakabo 2002); one record from Akutan Bay, Aleutian Islands (Mecklenburg et al. 2002). Bottom at depths of 100–400 m (328–1,312 ft) (min.: Hatooka in Nakabo 2002; max.: Amaoka in Masuda et al. 1984), except spawning on seaweed beds at depths of about 2–10 m (7–33 ft; Amaoka in Masuda et al. 1984). The one *A. japonicus* recorded from Alaska could be a fish that drifted unusually far after hatching before it settled to the bottom, but recent records from the northern Okhotsk Sea indicate *A. japonicus* may not be as rare north of Japan as authors have believed it to be (Mecklenburg 2003).

Trichodon trichodon (Tilesius, 1813). **Pacific Sandfish**. To 30.5 cm (12 in) TL (Miller and Lea 1972). Japan to Kuril Islands (rare), southeastern Kamchatka, and Commander–Aleutian chain to southeastern Bering Sea, including Pribilof Islands (Mecklenburg et al. 2002), to San Francisco, northern California (Miller and Lea 1972). Intertidal area, where it is often found buried in the sand after a receding tide (e.g., Lamb and Edgell 1986), and to reported depth of 375 m (1,230 ft) but usually found shallower than 150 m (492 ft; Allen and Smith 1988). Greatest depth we found from museum specimens is 172 m (564 ft; UW 26863).

Family Ammodytidae — Sand Lances

Ammodytes hexapterus Pallas, 1814. **Pacific Sand Lance** or Stout Sand Lance. To 28 cm (11.0 in; Mecklenburg et al. 2002). Sea of Japan to Aleutian Islands, Bering Sea, and western Canadian Arctic (Mecklenburg et al. 2002) to Balboa Island, southern California (Miller and Lea 1972). School near surface to fairly shallow depths and rest buried in substrate; intertidal and to 100 m (330 ft) (min.: Eschmeyer and Herald 1983; max.: Allen and Smith 1988), reported to 172 m (564 ft; W. A. Palsson, pers. comm. to M. L.).

Ammodytoides gilli* (Bean, 1895). **Panamic Sand Lance or Silver Sand Lance. To 13.5 cm (5.3 in) TL (Robertson and Allen 2002). Cabo San Lucas, southern Baja California (Collette and Robertson 2001) and central Mexico to Ecuador, including Islas Galápagos (Robertson and Allen 2002). At depths of 1–25 m (3–82 ft) (min.: Robertson and Allen 2002; max.: Collette and Robertson 2001).

Family Uranoscopidae — Stargazers

Astroscopus zephyreus Gilbert & Starks, 1897. Electric Stargazer, **Pacific Stargazer**, or Zephyr Stargazer. To 52 cm (20.5 in) TL (Jesus-Roldan et al. 1993). Huntington Beach, southern California (Jesus-Roldan et al. 1993) to Chimbote, Peru (Chirichigno and Vélez 1998), including Gulf of California (Jesus-Roldan et al. 1993). At depths of 7–385 m (23–1,263 ft) (min.: Godinez-Dominguez et al. 2000; max.: Robertson and Allen 2002).

Kathetostoma averruncus Jordan & Bollman, 1890. **Smooth Stargazer**. To 32 cm (12.6 in) TL (Bussing and Lavenberg in Fischer et al. 1995). Piedras Blancas Point, central California (Fitch and Lavenberg 1968) to Isla Lobos de Tierra, Peru (Chirichigno 1974), including mouth of Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 13–600 m (42–1,968 ft) (min.: Miller and Lea 1972; max.: Robertson and Allen 2002).

Family Tripterygiidae — Triplefins

Axoclinus nigricaudus* Allen & Robertson, 1991. **Cortez Triplefin. To 4.5 cm (1.8 in) TL (Allen and Robertson 1994). Gulf of California to Cabo San Lucas, southern Baja California (Watson in Moser 1996). Intertidal (Allen and Robertson 1994) and to 5 m (17 ft; Robertson and Allen 2002). Classified by some authors in *Enneanectes*; see review of taxonomic status in Smith and Williams (2002).

-
- Axoclinus storeyae* (Brock, 1940). **Carmine Triplefin**. To 3 cm (1.2 in) TL. Southern Baja California to central Mexico, including Gulf of California. At depths of 1–5 m (3–17 ft). All in Robertson and Allen (2002).
- **Crocodilichthys gracilis* Allen & Robertson, 1991. **Lizard Triplefin**. To 7.6 cm (3 in) TL (Robertson and Allen 2002). Gulf of California to Cabo San Lucas, southern Baja California (Watson in Moser 1996). At depths of 3–40 m (10–132 ft; Robertson and Allen 2002).
- Enneanectes carminalis* (Jordan & Gilbert, 1882). **Carmine Triplefin** or Delicate Triplefish. To 3.8 cm (1.5 in) SL (Thomson et al. 2000). Islas San Benito (LACM 37009.005) and Bahia Magdalena, southern Baja California into central Gulf of California to Oaxaca, Mexico (Thomson et al. 2000). At depths of 3–5 m (10–16 ft) (Robertson and Allen 2002). Classified by some authors in *Axoclinus*; see review of taxonomic status in Smith and Williams (2002).
- Enneanectes reticulatus* Allen & Robertson, 1991. **Flag Triplefin**, Network Triplefin, or Reticulated Triplefin. To 4.5 cm (1.8 in) TL (Allen and Robertson 1994). Isla Guadalupe, central Baja California and, on mainland, Bahia de Sebastian Vizcaino, central Baja California (Thomson et al. 2000) to Gulf of California (Allen and Roberts 1991). At depths of 0–55 m (180 ft) (min.: Allen and Robertson 1994; max.: Thomson et al. 2000). Classified by some authors in *Gillias*; see review of taxonomic status in Smith and Williams (2002).
- **Enneanectes sexmaculatus* (Fowler, 1944). **Delicate Triplefin**. Cabo San Lucas, southern Baja California (SIO 59-210) and central Gulf of California to Panama (Thomson et al. 2000). At depths of 1–14 m (4–45 ft) (min.: SIO 76-284; max.: SIO 62-55).
- Enneanectes* sp. Isla Guadalupe and Bahia de Sebastian Vizcaino, central Baja California to Gulf of California (Watson in Moser 1996).

Family Dactyloscopidae — Sand Stargazers

- Dactylagnus mundus* Gill, 1863. Giant Sand Stargazer or **Giant Stargazer**. To 16.5 cm (6.5 in) TL (Robertson and Allen 2002). Bahia Ojo de Liebre (Scammons Lagoon), central Baja California to Panama, including Gulf of California (Dawson 1976) and perhaps Islas Galápagos (Grove and Lavenberg 1997). At depths of 0.5–15 m (2–50 ft) (min.: Dawson 1976; max.: De La Cruz-Agüero et al. 1997).
- Dactylagnus parvus* Dawson, 1976. Dwarf Sand Stargazer or **Panamic Stargazer**. To 5.8 cm (2.3 in) TL (Robertson and Allen 2002). Punta Marquez, southern Baja California to Panama (Dawson 1976). At depths of 0–6 m (20 ft; Dawson 1976).
- Dactyloscopus byersi* Dawson, 1969. **Notchtail Stargazer**. To 8.3 cm (3.3 in) TL (Robertson and Allen 2002). Bahia San Juanico, southern Baja California (Dawson 1975) to Gulf of California (De La Cruz-Agüero et al. 1997) and to Ecuador (Robertson and Allen 2002). At depths of 0–8 m (26 ft; Dawson 1975).
- Dactyloscopus fimbriatus* (Reid, 1935). Fringed Sand Stargazer or **Fringed Stargazer**. To 10.4 cm (4.1 in) TL (Robertson and Allen 2002). Bahia Santa Maria (24°45'N, 112°15'W), southern Baja California (Dawson 1975) to Ecuador, including Gulf of California (Robertson and Allen 2002). At depths of less than 2 m (7 ft) to 40 m (131 ft) (min.: Dawson 1975; max.: Robertson and Allen 2002).
- Dactyloscopus lunaticus* Gilbert, 1890. **Moonstruck Stargazer**. To 8.5 cm (3.4 in) TL (Robertson and Allen 2002). Punta Tosca, southern Baja California to Ecuador, including Gulf of California (Dawson 1975). At depths of 5–138 m (17–452 ft; Dawson 1975).
- Dactyloscopus pectoralis* Gill, 1861. **Whitesaddle Stargazer**. To at least 5.2 cm (2.1 in) TL (Robertson and Allen 2002). Bahia Santa Maria, southern Baja California into Gulf of California (Dawson 1975) to northern Peru and some offshore islands (Robertson and Allen 2002). Tidepools and to 45 m (148 ft) (min.: Thomson and Lehner 1976; max.: De La Cruz-Agüero et al. 1997).

- Gillellus arenicola* Gilbert, 1890. **Sandloving Stargazer** or Sandy Stargazer. To 5.5 cm (2.2 in) TL (Allen and Robertson 1994). Punta Marquis (23°57'N, 110°52'W; SIO 62-704) and Cabo San Lucas area, southern Baja California; Oaxaca and Colima, Mexico (Dawson 1977). At depths of 10–40 m (33–131 ft; Robertson and Allen 2002).
- **Gillellus ornatus* Gilbert, 1892. Ornate Sand-Stargazer or **Ornate Stargazer**. To 6 cm (2.4 in) TL (Robertson and Allen 2002). Near tip of Baja California and in central and southern Gulf of California (Robertson and Allen 2002). At depths of 2–55 m (6–180 ft) (min.: SIO 65-297; max.: Robertson and Allen 2002).
- Gillellus semicinctus* Gilbert, 1890. **Halfbanded Stargazer** or Smooth-tip Sand Stargazer. To 5.2 cm (2 in) TL (Allen and Robertson 1994). Isla Guadalupe and vicinity of Punta Eugenia, central Baja California to Colombia, including Gulf of California, Islas Galápagos (Watson in Moser 1996), and other offshore islands (Robertson and Allen 2002). At depths of 5–137 m (17–449 ft; Dawson 1977).
- Heteristius cinctus* (Osburn & Nichols, 1916). Banded Sand Stargazer or **Banded Stargazer**. To 4.5 cm (1.8 in) TL (Allen and Robertson 1994). Bahia Magdalena, southern Baja California to Cabo San Francisco, Ecuador (Dawson 1977), including mouth of Gulf of California (Robertson and Allen 2002). At depths of 1–27 m (3–89 ft; Dawson 1977).
- Myxodagnus opercularis* Gill, 1861. **Dart Stargazer**. To 9.1 cm (3.6 in) TL (Robertson and Allen 2002). Punta Hughes (about 29°45'N), southern Baja California and Gulf of California (Dawson 1976) to Costa Rica and some offshore islands (Robertson and Allen 2002). Intertidal area and to 20 m (66 ft) (min.: Dawson 1976; max.: Robertson and Allen 2002).

Family Chiasmodontidae — Swallowers

- Chiasmodon niger* Johnson, 1864. **Black Swallower**. To 25.0 cm (9.8 in) SL (UW 47234), and “probably exceeding” this length (Johnson and Keene in Quéro et al. 1990). Widespread in temperate to tropical waters; in Atlantic north to Greenland (Krefft in Hureau and Monod 1973); Japan and southern Kuril Islands (Parin et al. 1995); in mid-North Pacific recorded north to 43°N (Mecklenburg et al. 2002); in eastern North Pacific from Washington (47°33'N, 125°19'W; UW 45555) to southern California (32°43'N, 117°39'W; SIO 51-148) and in the south, Panama (5°52'N, 85°02'W; SIO 96-137) to Chile (20°19'S, 71°15'W; SIO 72-180). Larvae of this species have been taken off Colombia (Beltrán-León and Rios Herrera 2000). Mesopelagic and bathypelagic, recorded to about 2,740 m (8,989 ft), most specimens taken below 750 m (2,461 ft; Mecklenburg et al. 2002).
- Dysalotus oligoscolus* Johnson & Cohen, 1974. To 22.7 cm (8.9 in) SL (Johnson and Cohen 1974). Widespread in temperate to tropical waters except not recorded from North Atlantic; southern California to Gulf of California (Johnson and Cohen 1974). Bathypelagic, taken in nets towed as deep as 3,580 m (11,745 ft; Johnson and Cohen 1974).
- Kali indica* Lloyd, 1909. **Shortnose Swallower**. To 26.2 cm (10.3 in) SL (Johnson and Cohen 1974). Widespread, typically in temperate to tropical waters; off northern Honshu, Japan (Shinohara et al. 1996); eastern Bering Sea (58°22'N, 175°01'W; Yabe et al. 1981) and off Vancouver Island, southern British Columbia (G. E. Gillespie, pers. comm. to M. L. and C. W. M.) to central Baja California (Johnson and Cohen 1974). Mesopelagic and bathypelagic, recorded to about 2,870 m (9,416 ft), most adults taken at depths greater than 900 m (2,953 ft; Mecklenburg et al. 2002).
- Kali macrodon* (Norman, 1929). To 26.0 cm (10.2 in) SL (Johnson and Cohen 1974). Widespread in temperate to tropical waters, a few records from subarctic North Atlantic (Moore et al. 2003); southern Baja California (Johnson and Cohen 1974). Bathypelagic, most records deeper than 1,500 m (4,920 ft; Johnson and Keene in Quéro et al. 1990).

Kali macrura (Parr, 1933). **Longnose Swallower**. To 12.3 cm (4.8 in) SL (Johnson 1969). Widespread in temperate to tropical waters; southern California to Baja California (Johnson and Cohen 1974). Mesopelagic and bathypelagic, at 600 m (1,968 ft) or deeper (Moore et al. 2003).

Kali normani (Parr, 1931). **Needletooth Swallower**. To 20.1 cm (7.9 in) SL (Johnson and Cohen 1974). Widespread in temperate to tropical waters; La Jolla, southern California (SIO 79-184) to Chile (Pequeño 1989). Mesopelagic and bathypelagic, adults taken in hauls from 500 m (1,650 ft) to more than 1,500 m (4,920 ft; Johnson and Keene in Quéro et al. 1990).

Pseudoscopelus scriptus* Lütken, 1892. **Luminous Swallower. To 17.2 cm (6.8 in) SL (Mecklenburg et al. 2002). Widespread in temperate to tropical waters; Japan (Okamura in Okamura et al. 1985) and southern Kuril Islands (Parin et al. 1995); western Bering Sea off northeastern Kamchatka and vicinity of Commander Islands (Sheiko and Fedorov 2000); probably inhabits deep waters north and south of the Aleutian Islands and in the Gulf of Alaska (Mecklenburg et al. 2002). Mesopelagic and bathypelagic, recorded from depths of 200–2,100 m (656–6,890 ft; Mecklenburg et al. 2002). Most authors include the western Pacific form *Pseudoscopelus sagamianus* Tanaka, 1908, as a junior synonym; it was originally named as a subspecies of *P. scriptus* and later treated as a distinct species (Mecklenburg et al. 2002).

Family Labrisomidae — Labrisomid Blennies

Alloclinus holderi (Lauderbach, 1907). **Island Kelpfish**. To 10.2 cm (4 in) TL (Miller and Lea 1972). San Miguel Island, southern California (D. Kushner, pers. comm. to M. L.) to Punta San Pablo (27°12'N, 114°29'W), southern Baja California (Miller and Lea 1972). Intertidal and to 91 m (298 ft) (min.: M. L., unpubl. data; max.: SCCWRP).

Cryptotrema corallinum Gilbert, 1890. **Deepwater Blenny** or Deepwater Kelpfish. To 12.7 cm (5 in) TL (Miller and Lea 1972). Off Cook Point, San Miguel Island, southern California (D. Schroeder, pers. comm. to M. L.) to Bahia San Quintin, northern Baja California (Miller and Lea 1972). At depths of 24–195 m (78–639 ft) (min.: Miller and Lea 1972; max.: M. L., unpubl. data).

Exerpes asper (Jenkins & Evermann, 1889). **Sargassum Blenny**. To 6.5 cm (2.6 in) TL (Allen and Robertson 1994). Lagunas Ojo de Liebre-Guerrero Negro, central Baja California (De La Cruz-Agüero et al. 1996) into upper Gulf of California (Allen and Robertson 1994). Tidepools and to 10 m (33 ft) (min.: Thomson and Lehner 1976; max.: Robertson and Allen 2002).

Labrisomus multiporosus Hubbs, 1953. **Porehead Blenny**. To about 13 cm (5.1 in) TL (Allen and Robertson 1994). Lagunas Ojo de Liebre-Guerrero Negro, central Baja California (De La Cruz-Agüero et al. 1996) into upper Gulf of California (Thomson et al. 2000) to Islas Chincha, Peru (Chirichigno 1974), including Islas Galápagos (Grove and Lavenberg 1997). Intertidal and to 20 m (65 ft) (min.: SIO 48-65; max.: SIO 64-49).

Labrisomus striatus* Hubbs, 1953. **Green Blenny. To 6 cm (2.4 in) TL (Allen and Robertson 1994). Cabo San Lucas, southern Baja California to southern Mexico (Allen and Robertson 1994) and central Gulf of California (Robertson and Allen 2002). At depths of 1–9 m (3–30 ft) (min.: SIO 62-9; max.: SIO 61-237).

Labrisomus wigginsii Hubbs, 1953. **Baja Blenny**. To 9 cm (3.5 in) SL (SIO 64-42). Punta Eugenia, central Baja California (SIO 52-115) to Arroyo Seco (“half way between Magdalena Bay and Cape San Lucas”), southern Baja California (Hubbs 1953). Intertidal (Hubbs 1953) and to 4 m (12 ft; SIO 64-65).

Labrisomus xanti Gill, 1860. **Largemouth Blenny**. To 17.8 cm (7 in) TL (Thomson et al. 1979). Isla Cedros, central Baja California (M. L., unpubl. data) and (mainland) Bahia de Sebastian Vizcaino, southern Baja California into Gulf of California (Thomson et al. 1979) and to northern Peru (Chirichigno and Vélez 1998). Tidepools and to 11 m (36 ft) (min.: Thomson and Lehner 1976; max.: LACM 31768.028).

-
- Malacoctenus ebisui* Springer, 1959. **Fishgod Blenny**. To 6.5 cm (2.6 in) TL (Robertson and Allen 2002). Isla Guadalupe, central Baja California (SIO 70-50), tip of Baja California, and Mazatlán, Mexico to Panama and Isla Malpelo; apparently not in Gulf of California (Robertson and Allen 2002). Intertidal area (SIO 70-356) and to 18 m (59 ft; SIO 70-50).
- Malacoctenus hubbsi* Springer, 1959. **Redside Blenny**. To 9 cm (3.5 in) TL (Allen and Robertson 1994). Bahia de Sebastian Vizcaino, central Baja California into northern Gulf of California to Acapulco, Mexico (Thomson et al. 1979). At depths of 1–7.6 m (3–25 ft) (min.: Robertson and Allen 2002; max.: Thomson et al. 1979).
- **Malacoctenus margaritae* (Fowler, 1944). **Margarita Blenny**. To 6.5 cm (2.6 in) TL (Robertson and Allen 2002). Tip of Baja California and Gulf of California to Ecuador (Robertson and Allen 2002). At depths of 1–21 m (3–70 ft) (min.: Robertson and Allen 2002; max.: SIO 64-57).
- Malacoctenus tetranemus* (Cope, 1877). **Speckled Blenny** or **Throat-spotted Blenny**. To 7.5 cm (3 in) TL (Allen and Robertson 1994). Bahia Magdalena (SIO 62-100) and Cabo San Lucas, southern Baja California (Thomson et al. 1979) to Chile (Grove and Lavenberg 1997), including Gulf of California (Thomson et al. 2000) and Islas Galápagos (Grove and Lavenberg 1997). Intertidal area (Grove and Lavenberg 1997) and to 25 m (83 ft; Robertson and Allen 2002).
- **Malacoctenus zacae* Springer, 1959. **Zaca Blenny**. To 6.5 cm (2.6 in) TL (Allen and Robertson 1994). Tip of Baja California (Robertson and Allen 2002) to Acapulco, Mexico (Allen and Robertson 1994); also Cabo San Lucas area, but not including Gulf of California (Thomson et al. 2000). Shallow water (Thomson et al. 1979) to perhaps 10 m (33 ft; Robertson and Allen 2002).
- **Mnierpes macrocephalus* (Günther, 1861). **Foureye Rockskipper**. To 11 cm (4.3 in) TL (Allen and Robertson 1994). Cabo San Lucas, southern Baja California to Colombia (Thomson et al. 2000). Intertidal area and to 5 m (15 ft) (min.: Thomson et al. 2000; max.: SIO 70-359).
- Paraclinus beebeyi* Hubbs, 1952. **Pink Blenny**. To 4.3 cm (1.8 in) TL (Robertson and Allen 2002). Arroyo Seco, southern Baja California to Bahia Honda, Panama (Rosenblatt and Parr 1969), including Gulf of California south of La Paz (Thomson et al. 2000). Intertidal and to 9 m (30 ft; Rosenblatt and Parr 1969).
- Paraclinus integripinnis* (Smith, 1880). **Reef Finspot**. To 6.4 cm (2.5 in) TL (Miller and Lea 1972). Santa Cruz Island, southern California (Rosenblatt and Parr 1969) and Naples, Santa Barbara County, southern California (S. Norton, pers. comm. to M. L.) to Bahia Almejas, southern Baja California (Miller and Lea 1972). Intertidal and to 15 m (50 ft; Miller and Lea 1972).
- Paraclinus magdalena* Rosenblatt & Parr, 1969. **Magdalena Blenny**. To 3.9 cm (1.5 in) TL. Bahia Magdalena and vicinity, southern Baja California. At 8–21 m (25–70 ft). All in Rosenblatt and Parr (1969).
- Paraclinus sini* Hubbs, 1952. **Flapscale Blenny**. To 6 cm (2.4 in) TL (Allen and Robertson 1994). Laguna Ojo de Liebre, central Baja California into northern Gulf of California (Rosenblatt and Parr 1969). Intertidal and to 15 m (50 ft; Rosenblatt and Parr 1969).
- Paraclinus stephensi* Rosenblatt & Parr, 1969. **Professor Blenny**. To 3.9 cm (1.5 in) TL (Robertson and Allen 2002). Bahia Magdalena, southern Baja California (Galván-Magaña et al. 2000) and central to southern Mexico (Robertson and Allen 2002). At depths of 0–15 m (49 ft; Robertson and Allen 2002).
- **Paraclinus tanygnathus* Rosenblatt & Parr, 1969. **Longjaw Blenny**. To 3.5 cm (1.4 in) TL (Allen and Robertson 1994). Gulf of California to southern Mexico (Allen and Robertson 1994), including Cabo San Lucas (Rosenblatt and Parr 1969). At depths of 0–15 m (50 ft; Robertson and Allen 2002).
- Paraclinus walkeri* Hubbs, 1952. **San Quintin Blenny**. To 8.7 cm (3.5 in) TL (Rosales-Casián 2000). Bahia San Quintin, northern Baja California (Hubbs 1952). Shallow water (Hubbs 1952) to 10 m (33 ft; Rosales-Casián 2000).

Starksia guadalupae Rosenblatt & Taylor, 1971. **Guadalupe Blenny**. To 4.4 cm (1.7 in) TL. Isla Guadalupe, central Baja California and Rocas Alijos, southern Baja California. At depths of 9–18 m (30–60 ft). All in Rosenblatt and Taylor (1971).

Starksia spinipennis* Al-Uthman, 1960. **Phallic Blenny. To 6.5 cm (2.6 in; Robertson and Allen 2002). Cabo San Lucas, southern Baja California to southern Mexico, including Gulf of California (Rosenblatt and Taylor 1971). At depths of 1–20 m (3–65 ft) (min.: Robertson and Allen 2002; max.: SIO 61-242).

Xenomedea rhodopyga* Rosenblatt & Taylor, 1971. **Redrump Blenny. To 6.5 cm (2.6 in) TL (Allen and Robertson 1994). Cabo San Lucas, southern Baja California into northern Gulf of California (Rosenblatt and Taylor 1971). At depths of 1–33 m (2–100 ft; Rosenblatt and Taylor 1971).

Family Clinidae — Kelp Blennies

Gibbonsia elegans (Cooper, 1864). **Spotted Kelpfish**. To 15.7 cm (6.2 in) TL (Miller and Lea 1972). Piedras Blancas Point, central California to Bahia Magdalena, southern Baja California, including Isla Guadalupe (Eschmeyer and Herald 1983). Intertidal and to 56 m (185 ft) (min.: Wells 1986; max.: Eschmeyer and Herald 1983). The Spotted Kelpfish was mistakenly given the name *Gibbonsia evides* by Eschmeyer (1998); for explanation see Nelson et al. (2004:243).

Gibbonsia metzi Hubbs, 1927. **Striped Kelpfish**. To 23.5 cm (9.25 in) TL (Miller and Lea 1972). Vancouver Island, British Columbia to Punta Rompiente, central Baja California (Miller and Lea 1972). Intertidal, including tidepools, and to 9 m (30 ft) (min.: Eschmeyer and Herald 1983; max.: Miller and Lea 1972).

Gibbonsia montereyensis Hubbs, 1927. **Crevice Kelpfish**. To 13.9 cm (5.5 in) SL (SIO 80-19). British Columbia (Miller and Lea 1972) to Isla Guadalupe (SIO 60-15) and Bahia San Carlos (SIO 52-215), central Baja California. Intertidal and to 37 m (121 ft) (min.: M. L., unpubl. data; max.: J. Carroll, pers. comm. to M. L.). *Gibbonsia erythra* Hubbs, 1952, is a junior synonym (Stepien and Rosenblatt 1991).

Heterostichus rostratus Girard, 1854. **Giant Kelpfish**. To 61.0 cm (24 in) TL (Miller and Lea 1972). British Columbia to Cabo San Lucas, southern Baja California, including Isla Guadalupe (Miller and Lea 1972). Intertidal and to 40 m (132 ft) (min.: M. L., unpubl. data; max.: Eschmeyer and Herald 1983).

Family Chaenopsidae — Tube Blennies

Acanthemblemaria balanorum* Brock, 1940. **Clubhead Barnacle Blenny. To 4.5 cm (1.8 in) TL (Allen and Robertson 1994). Cabo San Lucas, southern Baja California into southern Gulf of California (Thomson et al. 1979) to Isla Gorgona, Colombia (Robertson and Allen 2002). At depths of 0–5 m (17 ft) (min.: Robertson and Allen 2002; max.: Allen and Robertson 1994).

Acanthemblemaria crockeri* Beebe & Tee-Van, 1938. **Browncheck Barnacle Blenny or **Browncheek Blenny**. To 6 cm (2.4 in) TL (Robertson and Allen 2002). Cabo San Lucas, southern Baja California into northern Gulf of California (Thomson et al. 1979). At depths of 1–60 m (3–198 ft; Allen and Robertson 1994).

Acanthemblemaria macrospilus Brock, 1940. **Barnacle Blenny** or **Mexican Barnacle Blenny**. To 6 cm (2.4 in) TL (Allen and Robertson 1994). Punta Marquis (23°56'N, 11°52'W), southern Baja California (SIO 62-704) and Gulf of California to Acapulco, Mexico (Allen and Robertson 1994). At depths of 1–15 m (3–49 ft) (min.: Robertson and Allen 2002; max.: Allen and Robertson 1994).

Chaenopsis alepidota (Gilbert, 1890). **Orangethroat Pikeblenny**. To 15.2 cm (6 in) TL (Miller and Lea 1972). Pelican Harbor, Santa Cruz Island, southern California (Kushner et al. 2001) to Gulf of California (Thomson et al. 1979). The only known mainland population in southern California is in King Harbor, southern California (Stephens et al. 1989). At depths of 1–23 m (3–75 ft) (min.: Robertson and Allen 2002; max.: Allen and Robertson 1994).

-
- Cirriemblemaria lucasana* (Stephens, 1963). **Plume Blenny**. To 4 cm (1.6 in) TL (Allen and Robertson 1994). Bahia Magdalena, southern Baja California (Galván-Magaña et al. 2000) into central Gulf of California (Thomson et al. 1979) to southern Mexico (Robertson and Allen 2002). At depths of 5–30 m (17–98 ft) (min.: Robertson and Allen 2002; max.: Allen and Robertson 1994). Recently as *Protemblemaria lucasana*.
- **Coralliozetus angelicus* (Böhlke & Mead, 1957). **Angel Blenny** or Angel Tube Blenny. To 3.5 cm (1.4 in) TL (Allen and Robertson 1994). Cabo San Lucas, southern Baja California to southern Mexico, including Gulf of California (Thomson et al. 1979). At depths of 1–5 m (3–17 ft) (min.: Allen and Robertson 1994; max.: Robertson and Allen 2002).
- Coralliozetus micropes* (Beebe & Tee-Van, 1938). **Scarletfin Blenny**, **Scarlet Tube Blenny**, or **Zebraface Blenny**. To 4 cm (1.6 in) TL (Allen and Robertson 1994). Bahia Magdalena, southern Baja California into upper Gulf of California (Thomson et al. 1979). At depths of 1–5 m (3–17 ft; Robertson and Allen 2002).
- Coralliozetus rosenblatti* Stephens, 1963. **Speckled Tube Blenny** or **Spikefin Blenny**. To 3.5 cm (1.4 in) TL (Allen and Robertson 1994). Bahia Magdalena, southern Baja California (Watson in Moser 1996) into northern Gulf of California (Thomson et al. 1979). At depths of 1–9 m (3–30 ft) (min.: Allen and Robertson 1994; max.: SIO 61-252).
- **Ekemblemaria myersi* Stephens, 1963. **Reef-sand Blenny** or Reef-sand Tube Blenny. To 7 cm (2.8 in) TL (Allen and Robertson 1994). Cabo San Lucas, southern Baja California (SIO 59-210) to Colombia, including Gulf of California (Allen and Robertson 1994). At depths of 1–5 m (3–17 ft) (min.: Allen and Robertson 1994; max.: Robertson and Allen 2002).
- **Emblemaria hypacanthus* (Jenkins & Evermann, 1889). **Gulf Signal Blenny** or Signal Blenny. To 5.1 cm (2 in) TL (Thomson et al. 1979). Cabo San Lucas, southern Baja California and throughout Gulf of California (Thomson et al. 1979). Tidepools and to 10 m (33 ft) (min.: Thomson and Lehner 1976; max.: Allen and Robertson 1994).
- Neoclinus blanchardi* Girard, 1858. **Sarcastic Fringehead**. To 30.5 cm (12 in) TL (Miller and Lea 1972). San Francisco, northern California to Isla Cedros, central Baja California (Miller and Lea 1972). At depths of 3–73 m (10–239 ft) (min.: Miller and Lea 1972; max.: Carlisle 1969).
- Neoclinus stephensae* Hubbs, 1953. **Yellowfin Fringehead**. To 10 cm (4 in) TL. Monterey Bay, central California to Punta San Hipolito, central Baja California. At depths of 3–27 m (10–90 ft). All in Miller and Lea (1972).
- Neoclinus uninotatus* Hubbs, 1953. **Onespot Fringehead**. To 25 cm (9.75 in) TL (Eschmeyer and Herald 1983). Bodega Bay, northern California to northern Baja California (Eschmeyer and Herald 1983). Surf zone to 55 m (180 ft) (min.: Carlisle et al. 1960; max.: Fay et al. 1978).
- Protemblemaria bicirris* (Hildebrand, 1946). **Warthead Blenny** or Warthead Tube Blenny. To 4.5 cm (1.8 in) TL (Allen and Robertson 1994). Bahia Magdalena, southern Baja California and throughout Gulf of California (Thomson et al. 1979) to Bahia Independencia, Peru (Chirichigno and Vélez 1998). At depths of 5–20 m (17–66 ft; Robertson and Allen 2002). Recently as *Emblemaria bicirris*.
- Stathmonotus sinuscalifornici* (Chabanaud, 1942). **Gulf Worm Blenny** or Worm Blenny. To 6.5 cm (2.6 in) TL (Allen and Robertson 1994). Bahia Magdalena, southern Baja California into northern Gulf of California (Hastings and Springer 1994). Reports of this species from Mazatlán, Sinaloa, Mexico are doubtful (Hastings and Springer 1994). At depths of 0–5 m (17 ft; Robertson and Allen 2002).

Family Blenniidae — Combtooth Blennies

Entomacrodus chiostictus (Jordan & Gilbert 1882). **Notchfin Blenny** or Rock Blenny. To 8 cm (3.1 in) TL (De La Cruz-Agüero et al. 1997). Bahia San Ignacio, southern Baja California (Galván-Magaña et al. 2000) and Gulf of California to Colombia (De La Cruz-Agüero et al. 1997), including all offshore islands except Islas Galápagos (Robertson and Allen 2002). Tidepools (Allen and Robertson 1994) and to 14 m (46 ft; Robertson and Allen 2002).

Hypsoblennius brevipinnis (Günther, 1861). **Barnaclebill Blenny** or Barnacled Blenny. To 7 cm (2.8 in) TL (Robertson and Allen 2002). Bahia Santa Maria (24°40'N, 112°11'W), southern Baja California (SIO 60-311) and Gulf of California (Robertson and Allen 2002) to northern Peru (Chirichigno and Vélez 1998), including Islas Galápagos, Cocos, and Malpelo (Robertson and Allen 2002). At depths of 1–10 m (3–33 ft; Robertson and Allen 2002).

Hypsoblennius gentilis (Girard, 1854). **Bay Blenny**. To 14.7 cm (5.8 in) TL (Miller and Lea 1972). Monterey Bay, central California to Gulf of California (Miller and Lea 1972). Intertidal and to 24 m (3–80 ft; Miller and Lea 1972).

Hypsoblennius gilberti (Jordan, 1882). **Rockpool Blenny**. To 17 cm (6.75 in) TL (Miller and Lea 1976). Morro Bay, central California (J. Stephens, pers. comm. to M. L.) to Bahia Magdalena, southern Baja California (Miller and Lea 1972). Usually intertidal and subtidal; to 18 m (60 ft; Eschmeyer and Herald 1983).

Hypsoblennius jenkinsi (Jordan & Evermann, 1896). **Mussel Blenny**. To 13 cm (5 in) TL (Eschmeyer and Herald 1983). Morro Bay, central California (J. Stephens, pers. comm. to M. L.) to Puerta Marquis, Mexico, including Gulf of California (Miller and Lea 1972). Intertidal and to 21 m (70 ft) (min.: Wells 1986; max.: Miller and Lea 1972).

Ophioblennius steindachneri Jordan & Evermann, 1898. Large-banded Fanged Blenny or **Panamic Fanged Blenny**. To 18 cm (7.1 in) TL (Allen and Robertson 1994). Isla Cedros (M. L., unpubl. data) and (mainland) Arriçefe Sacramento (29°40'N, 115°47'W; M. L., unpubl. data), central Baja California into northern Gulf of California (Thomson et al. 1979) and to Islas Lobos de Afuera, Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–12 m (3–40 ft) (min.: SIO 48-82; max.: Aburto-Oropeza and Balart 2001) and perhaps to 20 m (66 ft; Robertson and Allen 2002).

Plagiotremus azaleus (Jordan & Bollman, 1890). **Sabertooth Blenny**. To 10.2 cm (4.0 in) TL (Robertson and Allen 2002). King Harbor, southern California (Pondella and Craig 2001); Rocas Chester (27°53'N, 115°04'W) and Isla Cedros, central Baja California (Pondella and Craig 2001) to Puerto Pizarro, Peru (Chirichigno and Vélez 1998), including Gulf of California (Allen and Robertson 1994), Islas Galápagos (Grove and Lavenberg 1997), and many other offshore islands (Robertson and Allen 2002). At depths of 2–25 m (7–83 ft) (min.: Allen and Robertson 1994; max.: Robertson and Allen 2002).

Family Icosteidae — Ragfishes

Icosteus aenigmaticus Lockington, 1880. **Ragfish**. To 2.13 m (7 ft) TL (Clemens and Wilby 1946) or more (Hart 1973). Okhotsk Sea (Sheiko and Fedorov 2000) and Pacific coast of southern Honshu, Japan (Suzuki and Tsukada 1994) to Bering Sea and Gulf of Alaska (Mecklenburg et al. 2002) to Point Loma, southern California (Miller and Lea 1972). Larvae have been taken off northernmost Baja California (Moser et al. 1994). Surf zone and to 1,420 m (4,092 ft) (min.: Carlisle et al. 1960; max.: Mecklenburg et al. 2002). Ragfish under about 30 cm (12 in) TL in shallow water or offshore near surface; adults near bottom and deep (Mecklenburg et al. 2002). Adults occasionally found at the shoreline or in the surf zone evidently are out of their normal depth range and may be injured or disoriented. *Acrotus willoughbyi* Bean, 1888, is a junior synonym; complete synonymy given in Mecklenburg (2003).

Family Gobiesocidae — Clingfishes

- **Arcos erythroptus* (Jordan & Gilbert, 1882). **Rockwall Clingfish**. To 5.4 cm (2.1 in) SL (SIO 61-279). Cabo San Lucas, southern Baja California and Gulf of California (De La Cruz-Agüero et al. 1997) to southern Mexico (Robertson and Allen 2002). At depths of 0–15 m (49 ft) (min.: Robertson and Allen 2002; max.: SIO 70-163).
- **Gobiesox ajustus* Jordan & Gilbert, 1882. **Panamic Clingfish**. To 5 cm (2 in) TL (De La Cruz-Agüero et al. 1997). Cabo San Lucas, southern Baja California and Gulf of California to Ecuador (De La Cruz-Agüero et al. 1997). At depths of 0 to perhaps 10 m (33 ft; Robertson and Allen 2002).
- Gobiesox eugrammus* Briggs, 1955. **Lined Clingfish**. To 5.7 cm (2.25 in) TL (Miller and Lea 1972). Bird Rock, San Diego County, southern California (Miller and Lea 1972) to Islas San Benito (SIO 90-74) and Isla Guadalupe (Miller and Lea 1972), central Baja California. At depths of 9–82 m (30–270 ft; Miller and Lea 1972).
- Gobiesox maeandricus* (Girard, 1858). **Northern Clingfish**. To 16 cm (6.5 in) TL (Eschmeyer and Herald 1983). Noyes Island, southeastern Alaska (Mecklenburg et al. 2002) to central Baja California (between Isla Guadalupe and mainland on drifting kelp; Miller and Lea 1972). Intertidal zone and to 18 m (59 ft) (min.: Miller and Lea 1972; max.: Cross 1981), including tidepools (Cross 1981; also numerous museum records, e.g., UW 2318, UW 21223, UW 22447).
- Gobiesox papillifer* Gilbert, 1890. **Bearded Clingfish**. To 8 cm (3.2 in) TL (Robertson and Allen 2002). San Pedro, southern California to Panama Bay (Miller and Lea 1972), including Gulf of California (Robertson and Allen 2002). Intertidal and to 5 m (17 ft; Robertson and Allen 2002).
- **Gobiesox pinniger* Gilbert, 1890. Feathered Clingfish or **Tadpole Clingfish**. To 13 cm (5.1 in) TL (Robertson and Allen 2002). Cabo San Lucas, southern Baja California into northern Gulf of California (Thomson et al. 1979). Intertidal and to 5 m (17 ft) (min.: Thomson et al. 1979; max.: LACM 50801.003).
- Gobiesox rhessodon* Smith, 1881. **California Clingfish**. To 6.4 cm (2.5 in) TL (Miller and Lea 1972). Pismo Beach, central California (Eschmeyer and Herald 1983) to Bahia Magdalena, southern Baja California (SIO 64-10). Intertidal and to 11 m (35 ft) (min.: Eschmeyer and Herald 1983; max.: Miller and Lea 1972).
- Rimicola cabrilloi* Briggs, 2002. **Channel Islands Clingfish**. To 3.5 cm (1.4 in) SL (Briggs 2002). Islands off southern California (Santa Rosa, Santa Cruz, Santa Catalina, and San Nicolas). Intertidal and shallow subtidal (min.: SIO 47-81; max.: SIO 51-244).
- Rimicola dimorpha* Briggs, 1955. **Southern Clingfish**. To 3.4 cm (1.35 in) TL (Miller and Lea 1972). Gaviota (SIO 61-426) and northern Channel Islands, southern California to Islas San Benito, central Baja California (Miller and Lea 1972). Kelp, occasionally in tidepools (Watson in Moser 1996).
- Rimicola eigenmanni* (Gilbert, 1890). **Slender Clingfish**. To 5.7 cm (2.25 in) TL (Miller and Lea 1972). Palos Verdes, southern California to Bahia San Juanico, southern Baja California (Miller and Lea 1972). Intertidal and to 15 m (48 ft) (min.: Miller and Lea 1972; max.: Fitch 1952).
- Rimicola muscarum* (Meek & Pierson, 1895). **Kelp Clingfish**. To 7 cm (2.75 in) TL (Eschmeyer and Herald 1983). Glacier Bay, southeastern Alaska (Mecklenburg et al. 2002) to Punta Baja, northern Baja California (Watson in Moser 1996). Also reported from Kachemak Bay, northern Gulf of Alaska (Abookire 2002), but not verifiable. Evidently the arrival of *R. muscarum* in Kachemak Bay coincided with arrival of large quantities of floating bull kelp (*Nereocystis*) which likely was their mode of travel (J. Figurski, pers. comm. to C. W. M.). Intertidal and in kelp beds (Miller and Lea 1972). The Glacier Bay specimen (UAM 1997) may have been lost, as a different fish is now in the jar (K. D. Vogt, pers. comm. to C. W. M.).
- Rimicola sila* Briggs, 1955. **Guadalupe Clingfish**. To at least 2.8 cm (1.1 in) SL. Isla Guadalupe, central Baja California. All in Briggs (1955).

-
- **Tomicodon boehlkei* Briggs, 1955. **Cortez Clingfish**. To 7.5 cm (3 in) TL (Robertson and Allen 2002). Cabo San Lucas, southern Baja California to northern Gulf of California (Thomson et al. 1979). Intertidal area and to 12 m (39 ft) (min.: Thomson et al. 1979; max.: SIO 65-330).
- **Tomicodon eos* (Jordan & Gilbert, 1882). **Rosy Clingfish**. To 5 cm (2 in) TL (Robertson and Allen 2002). Cabo San Lucas, southern Baja California and Gulf of California to Oaxaca, Mexico (De La Cruz-Agüero et al. 1997). Intertidal and to 14 m (46 ft) (min.: De La Cruz-Agüero et al. 1997; max.: SIO 62-55).
- **Tomicodon humeralis* (Gilbert, 1890). **Sonora Clingfish**. To 10 cm (4 in) TL (Robertson and Allen 2002). Cabo San Lucas, southern Baja California into northern Gulf of California (Thomson et al. 1979). Intertidal and to 5 m (16 ft) (min.: Thomson et al. 1979; max.: Robertson and Allen 2002).
- Tomicodon zebra* (Jordan & Gilbert, 1882). **Zebra Clingfish**. To 5.6 cm (2.2 in) TL (Robertson and Allen 2002). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Oaxaca, Mexico, including Gulf of California (Thomson et al. 2000). Intertidal zone (SIO 59-208) and to 6 m (20 ft; SIO 61-225), perhaps to 10 m (33 ft; Robertson and Allen 2002).

Family Callionymidae — Dragonets

- Synchiropus atrilabiatus* (Garman, 1899). Antlered Dragonet, Black Dragonet, **Blacklip Dragonet**, or Sleepy Dragonet. To at least 13.1 cm (5.2 in) TL (Rodriguez-Romero et al. 1993). Santa Catalina Island and Point Loma, southern California (Groce, Rosenblatt, and Allen 2001) and Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Talara, Peru (Grove and Lavenberg 1997), including Gulf of California (Castro-Aguirre 1991) and Islas Galápagos (Grove and Lavenberg 1997) and Isla Cocos (Robertson and Allen 2002). At depths of 3–235 m (10–771 ft) (min.: SIO 52-166; max.: Robertson and Allen 2002).

Family Eleotridae — Sleepers

- Dormitator latifrons* (Richardson, 1844). **Pacific Fat Sleeper** or Spotted Sleeper. To 61 cm (2 ft) TL (Eschmeyer and Herald 1983). Palos Verdes, southern California to Peru (Bussing 1998), including Islas Galápagos (Grove and Lavenberg 1997); also Lake Merritt, San Francisco Bay area (Long 1996). Shallow inshore areas, usually in freshwaters (Eschmeyer and Herald 1983) to depth of 2 m (7 ft) or more (Robertson and Allen 2002).
- **Eleotris picta* Kner, 1863. **Spotted Sleeper**. To at least 53 cm (20.8 in) TL (Robertson and Allen 2002). Southern tip of Baja California (23°03'N, 109°41'W; SIO 46-254) to Peru (Bussing 1998), including Gulf of California and Islas Galápagos (Grove and Lavenberg 1997) and Isla Cocos, often in fresh water (Bussing 1998).
- **Erotelis armiger* (Jordan & Richardson, 1895). Armiger's Goby or **Flathead Sleeper**. To 8.9 cm (3.5 in) SL (SIO 62-46). Tip of Baja California and mouth of Gulf of California to Colombia (Robertson and Allen 2002). At depths of 0–5 m (17 ft; Robertson and Allen 2002).
- **Gobiomorus maculatus* (Günther, 1859). Bigscale Sleeper or **Pacific Sleeper**. To 35 cm (13.8 in) TL (R. Robertson, pers. comm. to M. L.). Tip of Baja California into Gulf of California to northern Peru, including Islas Galápagos and Isla Cocos (Robertson and Allen 2002). At depths of 0–5 m (16 ft; Robertson and Allen 2002), often in fresh water (Bussing 1998).

Family Gobiidae — Gobies

- ***Acanthogobius flavimanus* (Temminck & Schlegel, 1845). **Yellowfin Goby**. To 25 cm (9.75 in) TL in eastern Pacific, 30 cm (1 ft) TL in Japan (Eschmeyer and Herald 1983). Native to Russian coast of Sea of Japan (Vasil'eva 2003), Japan, China, and Korea. Tomales Bay (Moyle 2002), San Francisco Bay, and other

central and southern California bays and estuaries (Eschmeyer and Herald 1983) to Ensenada, northern Baja California (Watson in Moser 1996). Bays and estuaries; ascends rivers (Eschmeyer and Herald 1983). Intertidal and to at least 6.5 m (21 ft) (min.: Allen 1999; max.: Allen et al. 2002).

Barbulifer mexicanus Hoese & Larson, 1985. Mexican Bearded Goby or **Saddlebanded Goby**. To 3.5 cm (1.4 in) TL (Robertson and Allen 2002). Punta Marquis, southern Baja California (SIO 62-706), tip of Baja California, central Mexico, and Islas Tres Marias (Robertson and Allen 2002). At depths of 0 to perhaps 20 m (66 ft; Robertson and Allen 2002).

Barbulifer pantherinus* (Pellegrin, 1901). **Panther Goby. To 5.2 cm (2 in) TL (Allen and Robertson 1994). Cabo San Lucas, southern Baja California into central Gulf of California (Thomson et al. 1979). Intertidal and to 32 m (105 ft; Robertson and Allen 2002).

Bathygobius ramosus Ginsburg, 1947. **Panamic Frillfin**. To 11.4 cm (4.5 in) TL (Robertson and Allen 2002). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) into northern Gulf of California (Thomson et al. 1979) to Paita, Peru (Chirichigno and Vélez 1998). Intertidal (Thomson et al. 1979) and to 2 m (7 ft; Robertson and Allen 2002). The *B. saporator* listed from Bahia Magdalena by De La Cruz-Agüero et al. (1994) may be *B. ramosus*, since *B. saporator* is known to be an Atlantic species.

Chriolepis cuneata* Bussing, 1990. **Rail Goby. To 3.1 cm (1.2 in) SL (SIO 65-343). Cabo San Lucas and Gulf of California (Thomson et al. 2000) to Panama (Robertson and Allen 2002). At depths of 0–32 m (105 ft) (min.: Robertson and Allen 2002; max.: Thomson et al. 2000).

Chriolepis zebra* Ginsburg, 1938. **Gecko Goby. To 4.4 cm (1.8 in) TL (Thomson et al. 1979). Cabo San Lucas, southern Baja California to central Gulf of California (Thomson et al. 1979). At depths of 2–30 m (5–98 ft) (min.: Thomson et al. 1979; max.: Robertson and Allen 2002).

Clevelandia ios (Jordan & Gilbert, 1882). **Arrow Goby**. To 5.7 cm (2.25 in) TL (Eschmeyer and Herald 1983). Rivers Inlet, British Columbia (Eschmeyer and Herald 1983) to Bahia San Bartolome, southern Baja California (Watson in Moser 1996) and in Gulf of California (Miller and Lea 1972). Estuaries, lagoons, and tidal sloughs (Eschmeyer and Herald 1983); 2 m (7 ft) or less (Allen 1982) to 45 m (148 ft; Levings 1973).

Coryphopterus urospilus Ginsburg, 1938. Orangespot Goby or **Redlight Goby**. To 8 cm (3.1 in) TL (Grove and Lavenberg 1997). Isla Asuncion, southern Baja California (M. L., unpubl. data) to northern Gulf of California (Thomson et al. 1979) to Colombia, including Islas Galápagos (Grove and Lavenberg 1997). Subtidal and to 38 m (125 ft; Thomson et al. 1979).

Ctenogobius sagittula (Günther, 1861). Lancetail Goby or **Longtail Goby**. To 20.3 cm (8 in) TL (Miller and Lea 1972). Marina de Rey, southern California (Lea and Rosenblatt 2000) to Puerto Pizarro, Peru (Chirichigno and Vélez 1998). Intertidal and to 5 m (17 ft) (min.: SIO 52-139; max.: Robertson and Allen 2002). Also recently as *Gobionellus sagittula* and *G. longicaudus*.

Elacatinus digueti* (Pellegrin, 1901). Banded Cleaner Goby or **Banded Cleaning Goby. To 3.2 cm (1.3 in) SL (SIO 65-351). Cabo San Lucas, southern Baja California (Hoese and Reader 2001) to central Gulf of California and to central Mexico (Robertson and Allen 2002). At depths of 1–21 m (4–69 ft) (min.: SIO 67-37; max.: Hoese and Reader 2001).

Elacatinus limbaughi* Hoese & Reader, 2001. Widebanded Cleaner Goby or **Widebanded Cleaning Goby. To 3.4 cm (1.3 in) SL (SIO 65-263). Central Gulf of California to Bahia Banderas, central Mexico, including Cabo San Lucas, southern Baja California (Hoese and Reader 2001). At depths of 5–35 m (17–116 ft) (min.: Robertson and Allen 2002; max.: Hoese and Reader 2001).

Elacatinus puncticulatus* (Ginsburg, 1938). **Redhead Goby. To 41 cm (16.1 in) SL (SIO 65-330). Cabo San Lucas (Hoese and Reader 2001) and northern Gulf of California to Ecuador (Robertson and Allen 2002). At depths of 1–21 m (3–69 ft) (min.: Robertson and Allen 2002; max.: Hoese and Reader 2001).

-
- Eucyclogobius newberryi* (Girard, 1856). **Tidewater Goby**. To 5.7 cm (2.3 in) TL (Eschmeyer and Herald 1983). Tillas Slough, mouth of Smith River, northern California (Moyle 2002) to Agua Hedionda Lagoon, San Diego County, southern California (Watson in Moser 1996). Coastal lagoons and brackish bays at mouths of freshwater streams (Eschmeyer and Herald 1983).
- Gillichthys mirabilis* Cooper, 1864. **Longjaw Mudsucker**. To 21 cm (8.25 in) TL (Eschmeyer and Herald 1983). Tomales Bay, northern California to Gulf of California (Miller and Lea 1972). Shallow waters of bays and mudflats (Miller and Lea 1972) to at least 4 m (13 ft; LACM 50502.001).
- Gobiosoma nudum* (Meek & Hidebrand, 1928). **Knobchin Goby**. To 4.5 cm (1.8 in) TL (Allen and Robertson 1994). Introduced to Atlantic; Punta Marquis, southern Baja California to Cabo Pulmo, Gulf of California and from Mazatlán to Colombia (Thomson et al. 1979). Intertidal and to 10 m (33 ft) (min.: Allen and Robertson 1994; max.: Robertson and Allen 2002).
- Gobiosoma* sp. **B**. To 2.1 cm (0.8 in) TL. Central Baja California and Gulf of California. At depths of 1–10 m (3–33 ft). All in Robertson and Allen (2002).
- Gobulus crescentalis* (Gilbert, 1892). **Crescent Goby**. To 6.1 cm (2.4 in) TL (Thomson et al. 1979). Laguna Ojo de Liebre (Scammon's Lagoon), central Baja California into northern Gulf of California and to Guaymas, Mexico (Thomson et al. 1979). At depths of 1–18 m (3–59 ft) (min.: Robertson and Allen 2002; max.: Thomson et al. 1979).
- Gymneleotris seminudus* (Günther, 1864). **Splitbanded Goby**. To 5.1 cm (2 in) TL. Bahia Magdalena, southern Baja California into central Gulf of California and to Ecuador. At depths of 1–23 m (3–75 ft). All in Thomson et al. (2000). Hoese and Reader (2001) give Panama for the southern range limit.
- Ilypnus gilberti* (Eigenmann & Eigenmann, 1889). **Cheekspot Goby**. To 6.4 cm (2.5 in) TL (Miller and Lea 1972). Tomales Bay, northern California (Miller and Lea 1972) to Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) and Gulf of California (Miller and Lea 1972). Mudflats and shallow bays (Miller and Lea 1972) and estuaries (Ruiz-Campos et al. 2000); 0 to at least 7 m (23 ft) (min.: Robertson and Allen 2002; max.: LACM 49741.002).
- Lepidogobius lepidus* (Girard, 1858). **Bay Goby**. To 10.2 cm (4 in) TL (Miller and Lea 1972). Kegan Cove, southeastern Alaska (Mecklenburg et al. 2002) to Isla Cedros (Miller and Lea 1972) and Bahia de Sebastian Vizcaino (SIO 84-90), central Baja California. Intertidal and to 305 m (1,000 ft) (min.: Eschmeyer and Herald 1983; max.: LACS 2002).
- Lethops connectens* Hubbs, 1926. **Halfblind Goby**. To 6.4 cm (2.5 in) TL (Miller and Lea 1972). Carmel, central California to Cabo Colnett, northern Baja California (Miller and Lea 1972). Intertidal and to 18 m (60 ft; Miller and Lea 1972).
- Lythrypnus dalli* (Gilbert, 1890). **Bluebanded Goby**. To 6.4 cm (2.5 in) TL (Eschmeyer and Herald 1983). Morro Bay, central California (Miller and Lea 1972) to Islas Lobos de Afuera, Peru (Grove and Lavenberg 1997), including Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Miller and Lea 1972). Intertidal and to 76 m (250 ft; Eschmeyer and Herald 1983). Islas Galápagos specimens previously identified as *Lythrypnus crinitus*.
- Lythrypnus pulchellus* Ginsburg, 1938. **Gorgeous Goby**. To 4.5 cm (1.8 in) TL (Allen and Robertson 1994). Bahia Magdalena, southern Baja California to central Gulf of California (Thomson et al. 1979) and parts of central Mexico (Robertson and Allen 2002). At depths of 2–70 m (7–229 ft; Allen and Robertson 1994).
- Lythrypnus zebra* (Gilbert, 1890). **Zebra Goby**. To 5.7 cm (2.25 in) TL (Eschmeyer and Herald 1983). Carmel Bay, central California (Eschmeyer and Herald 1983) to Cabo San Lucas, southern Baja California (Robertson and Allen 2002), Isla Clarión, and Islas Revillagigedo (Robertson and Allen 2002). Intertidal and to 97 m (318 ft; Eschmeyer and Herald (1983).

-
- Microgobius brevispinis*** Ginsburg, 1939. **Balboa Goby** or Shortspine Goby. To 8 cm (3.1 in) TL. Pacific coast of southern Baja California to Panama (SIO 71-224), including Gulf of California. At depths of 0–6 m (20 ft). All in Robertson and Allen (2002).
- Microgobius cyclolepis*** Gilbert, 1890. **Roundscale Goby**. To 6.5 cm (2.6 in) TL (Allen and Robertson 1994). Punta Pequena (26°14'N, 112°32'W), southern Baja California (SIO 64-888) to Panama (Allen and Robertson 1994). At depths of 2–36 m (5–118 ft) (min.: SIO 62-737; max.: SIO 64-888).
- Microgobius erectus*** Ginsburg, 1938. **Erect Goby**. To 6 cm (2.4 in) TL (Allen and Robertson 1994). Bahia Santa Maria, southern Baja California (SIO 62-729) to Gulf of California and Panama (Allen and Robertson 1994). At depths of 3–36 m (9–118 ft) (min.: SIO 64-356; max.: SIO 63-521).
- Microgobius tabogensis*** Meek & Hildebrand, 1928. **Tagoba Goby**. To 7 cm (2.8 in) TL (Robertson and Allen 2002). Boca de Soledad (25°23'N, 112°05'W), southern Baja California (SIO 64-84) to Puerto Pizarro, Peru (Chirichigno 1974). At depths of 0–6 m (20 ft; Robertson and Allen 2002).
- Quietula y-cauda*** (Jenkins & Evermann, 1889). **Shadow Goby**. To 7.0 cm (2.75 in) TL (Miller and Lea 1972). Morro Bay, central California to Gulf of California (Miller and Lea 1972). Intertidal (Allen 1999) and to 6 m (20 ft; Robertson and Allen 2002).
- Rhinogobiops nicholsii*** (Bean, 1882). **Blackeye Goby**. To 15 cm (6 in) TL (Follett 1970). Near Sitka, southeastern Alaska (Csepp and Wing 2000) to south of Punta Rompiente (Miller and Lea 1972) and Isla Guadalupe (SIO 54-215) and Isla Cedros (M. L., unpubl. data), central Baja California. Intertidal and to more than 640 m (2,100 ft) (min.: Follett 1970; max.: Barnhart 1936). Classified until recently in genus *Coryphopterus*.
- *****Tridentiger barbatus*** (Günther, 1861). **Shokihaze Goby**. To 10.9 cm (4.4 in) TL (Greiner 2002). Native to western Pacific; Japan and Korea as far south as Taiwan (Akihito et al. in Nakabo 2002). San Francisco Bay estuary (Moyle and Davis 2000). Brackish waters (Akihito et al. in Nakabo 2002) and marine waters (Hwang and Lee 1999) to depth of 25.9 m (85 ft; Greiner 2002).
- *****Tridentiger bifasciatus*** Steindachner, 1881. **Shimofuri Goby**. To 10.4 cm (4.1 in) TL (S. Matern, pers. comm.). Native to Asia; China, Korea, Japan, and Russian Sea of Japan (Vasil'eva 2003). Sacramento–San Joaquin Delta and various freshwater systems in California (Matern and Fleming 1995).
- *****Tridentiger trigonocephalus*** (Gill, 1859). **Chameleon Goby**. To 11 cm (4.5 in) TL (Eschmeyer and Herald 1983). Native to China, Japan, and Siberia. Primarily marine, San Francisco Bay, Los Angeles Harbor (Eschmeyer and Herald 1983), and San Diego Bay (Allen 1997). Surf zone to more than 15 m (49 ft; Hwang and Lee 1999). Salt, brackish, and fresh water (Eschmeyer and Herald 1983).
- Typhlogobius californiensis*** Steindachner, 1879. **Blind Goby**. To 8.3 cm (3.25 in) TL (Eschmeyer and Herald 1983). San Simeon Point, central California (Eschmeyer and Herald 1983) to Bahia Magdalena, southern Baja California (Miller and Lea 1972). Intertidal and to 15 m (50 ft; Eschmeyer and Herald 1983).

Family Microdesmidae — Wormfishes

- ****Clarkichthys bilineatus*** (Clark, 1936). **Flagtail Wormfish**. To 6.2 cm (2.4 in) TL (Robertson and Allen 2002). Cabo San Lucas, southern Baja California to Ecuador (Robertson and Allen 2002), including Islas Galápagos (Watson in Moser 1996). Intertidal and to 10 m (33 ft; Robertson and Allen 2002).
- Microdesmus dorsipunctatus*** Dawson, 1968. Black-spotted Worm Goby or **Spotback Wormfish**. To 12.5 cm (4.9 in) TL (Robertson and Allen 2002). Bahia Almejas, southern Baja California (24°22'N, 111°42'W) to Panama (Dawson 1968). Intertidal and shallow subtidal (Dawson 1968), perhaps to 10 m (33 ft; Robertson and Allen 2002).

Family Ehippidae — Spadefishes

Chaetodipterus zonatus (Girard, 1858). **Pacific Spadefish**. To 66 cm (26.0 in) TL (Amezcue Linares 1996). San Diego, southern California (Miller and Lea 1972) to Bahia de Sechura, Peru (Chirichigno and Vélez 1998), including Gulf of California (Schneider in Fischer et al. 1995). At depths of 1–107 m (3–351 ft) (min.: Robertson and Allen 2002; max.: Amezcue Linares 1996).

Family Luvaridae — Louvars

Luvarus imperialis Rafinesque, 1810. **Louvar**. To 2 m (78.7 in) TL (Bauchot in Fischer et al. 1995). Circumglobal; Washington (Matarese et al. 1989) to Chile (Miller and Lea 1972). Epipelagic to mesopelagic (Miller and Lea 1972).

Family Zanclidae — Moorish Idols

Zanclus cornutus* (Linnaeus, 1758). **Moorish Idol. To 30 cm (11.8 in) TL (Araga in Masuda et al. 1984). Pacific and Indian oceans; Japan (Araga in Masuda et al. 1984); Cabo San Lucas, southern Baja California and southern Gulf of California to Peru (Robertson and Allen 2002) and Easter Island (Pequeño 1989), including Islas Galápagos (Grove and Lavenberg 1997). At depths of 2–180 m (5–590 ft) (min.: Thompson et al. 1979; max.: Randall et al. 1990). Often referred to as *Zanclus canescens*.

Family Acanthuridae — Surgeonfishes

Acanthurus achilles* Shaw, 1803. Achilles Surgeon or **Achilles Tang. To 26 cm (10.2 in) TL (Randall in Carpenter and Niem 2001). Pacific; Cabo San Lucas, southern Baja California (Thomson et al. 1979). Inshore surge areas (Allen and Robertson 1994) to 10 m (33 ft; Robertson and Allen 2002).

Acanthurus nigricans* (Linnaeus, 1758). **Goldrim Surgeonfish, Velvet Surgeonfish, or Whitecheek Surgeonfish. To 21.3 cm (8.4 in) TL (Allen and Robertson 1994). Tropical Pacific; southern tip of Baja California (Krupp in Fischer et al. 1995) to Ecuador (Béarez 1996), including Islas Galápagos (Grove and Lavenberg 1997). Shallow surge zone to 70 m (230 ft; Grove and Lavenberg 1997).

Acanthurus triostegus* (Linnaeus, 1758). **Convict Surgeonfish or Convict Tang. To 26.3 cm (10.4 in) TL (Allen and Robertson 1994). Pacific and Indian oceans; southern Japan (Shimada in Nakabo 2002); Gulf of California (Krupp in Fischer et al. 1995) to Chile (Pequeño 1989), including tip of Baja California (Krupp in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 0–90 m (295 ft) (min.: Lieske and Myers 2002; max.: Grove and Lavenberg 1997).

Acanthurus xanthopterus* Valenciennes, 1835. Purple Surgeonfish, **Yellowfin Surgeonfish, or Yellow-masked Surgeon. To 70 cm (27.6 in) TL (Robertson and Allen 2002). Pacific and Indian oceans; southern Japan (Shimada in Nakabo 2002); Gulf of California (Krupp in Fischer et al. 1995) to Ecuador (Béarez 1996), including tip of Baja California (Krupp in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–100 m (3–328 ft) (min.: Robertson and Allen 2002; max.: Krupp in Fischer et al. 1995).

Prionurus punctatus Gill, 1862. California Sawtail, Yellowtail Sawtail, or **Yellowtail Surgeonfish**. To 60 cm (23.6 in) TL (Krupp in Fischer et al. 1995). Bahia Santa Maria (24°40'N, 112°11'W), southern Baja California (SIO 52-18) to Ecuador (Béarez 1996), including Gulf of California (Krupp in Fischer et al. 1995). At depths of 0–30 m (7–98 ft) (min.: Robertson and Allen 2002; max.: Krupp in Fischer et al. 1995).

Family Sphyraenidae — Barracudas

Sphyraena argentea Girard, 1854. **Pacific Barracuda**. To 122 cm (48 in) TL, reported to 152 cm (60 in) TL (Miller and Lea 1972). Kodiak Island, Gulf of Alaska (Van Cleve and Thompson 1938) to Cabo San Lucas,

southern Baja California (Miller and Lea 1972), southwestern Gulf of California, and Islas Revillagigedo (Robertson and Allen 2002). Neritic epipelagic (Mecklenburg et al. 2002), surface to 38 m (125 ft) (min.: Miller and Lea 1972; max.: M. L., unpubl. data), including surf zone (Carlisle et al. 1960).

Sphyraena ensis Jordan & Gilbert, 1882. **Mexican Barracuda**. To 70 cm (27.6 in) TL (Allen and Robertson 1994). Oceanside, southern California (Shane 2001) to Chile (Pequeño 1989), including lower Gulf of California (Sommer in Fischer et al. 1995). Coastal waters (Sandknop and Watson in Fischer et al. 1995) to 25 m (82 ft; Robertson and Allen 2002).

Sphyraena lucasana Gill, 1863. **Cortez Barracuda** or Lucas Barracuda. To 70 cm (27.6 in) TL (Allen and Robertson 1994). Isla Cedros (M. L., unpubl. data) and Bahía de Sebastián Vizcaino (Sandknop and Watson in Fischer et al. 1995), central Baja California into Gulf of California (Sommer in Fischer et al. 1995) to central Mexico (Robertson and Allen 2002). Nearshore, as shallow as 3 m (10 ft; Pérez-España et al. 1996) to 25 m (82 ft; Robertson and Allen 2002).

Family Gempylidae — Snake Mackerels

Diplospinus multistriatus Maul, 1948. Lined Cutlassfish or **Striped Escolar**. To about 33 cm (13.0 in) SL (Nakamura and Parin 1993). Circumglobal in temperate and tropical waters; in western Pacific as far north as southern Japan (Nakabo in Nakabo 2002) and east of Kuril Islands (Savinykh et al. 2004); central California (35°N; Ambrose in Moser 1996) to Chile (Pequeño 1989). Oceanic mesopelagic, at depths of 50–1,000 m (164–3,280 ft) (min.: Parin in Whitehead et al. 1986; max.: Clarke and Wagner 1976).

Gempylus serpens Cuvier, 1829. **Snake Mackerel**. To about 100 cm (40 in) SL (Nakamura and Parin 1993). Circumglobal; in western Pacific as far north as southern Japan (Nakabo in Nakabo 2002); San Pedro, southern California to central Chile (Fitch and Lavenberg 1968), including Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Oceanic epipelagic and mesopelagic, surface to 200 m (656 ft) and perhaps deeper (Nakamura and Parin 1993).

Lepidocybium flavobrunneum (Smith, 1843). **Escolar**. To 220 cm (86.6 in) TL (Robertson and Allen 2002). Circumglobal; in western Pacific as far north as Japan (Nakabo in Nakabo 2002) and southern Kuril Islands (Savinykh 1998); Washington (Miller and Lea 1972) to Cabo Blanco, Peru (Chirichigno 1974) and Gulf of California (Robertson and Allen 2002). Oceanic pelagic, at depths of 25 to 200 m (82–656 ft) and more (min.: Azevedo and Heemstra 1995; max.: Nakamura and Parin in Carpenter and Niem 2001), usually caught at 100–300 m (328–984 ft) in tuna longline fishery (Nakamura and Parin 1993).

Nealotus tripes Johnson, 1865. **Black Mackerel**, **Black Snake Mackerel**, or **Striped Snake Mackerel**. To 30 cm (11.8 in) TL (Nakamura in Masuda et al. 1984). Circumglobal in temperate and tropical waters; in western Pacific as far north as southern Japan (Nakabo in Nakabo 2002) and southern Kuril Islands (Parin 2003); southern Baja California (26°N; Ambrose in Moser 1996) to Chile (Pequeño 1989), including southern part of Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Oceanic epipelagic and mesopelagic, surface to about 820 m (2,690 ft) (min.: Nakamura and Parin 1993; max.: Robertson and Allen 2002).

Ruvettus pretiosus Cocco, 1833. **Oilfish**. To 203 cm (80 in) TL, reported to 305 cm (10 ft) TL (Eschmeyer and Herald 1983). Circumglobal in temperate and tropical waters; southern Japan (Nakabo in Nakabo 2002) and southern Kuril Islands (Parin 2003); Encinitas, southern California (Miller and Lea 1972) to southern Baja California and Guatemala (Robertson and Allen 2002) to Chile (Pequeño 1989). Oceanic benthopelagic, at depths of 60 m (197 ft) and probably shallower, to 1,160 m (3,806 ft) (min.: Boltachev 2001; max.: Pakhorukov 1999).

Family Trichiuridae — Cutlassfishes

Aphanopus intermedius Parin, 1983. **Intermediate Scabbardfish.** To 104 cm (40.9 in) SL (Fitch and Gotshall 1972). Pacific and Atlantic oceans; Japan, Kuril Islands (Nakamura and Parin 1993), and southeastern Kamchatka (Sheiko and Fedorov 2000) to Hawaii and British Columbia to California, northern Chile (Nakamura and Parin 1993), Peru, and Islas Galápagos (McCosker et al. 1997). Benthopelagic, adults mostly at 800–1,350 m (2,624–4,428 ft; Nakamura and Parin 1993), at least one at about 494 m (1,630 ft; Fitch and Gotshall 1972); juveniles mesopelagic, at 300–1,000 m (984–3,280 ft; Nakamura and Parin 1993). North Pacific records of *Aphanopus carbo* Lowe, 1839, are now considered to belong to *A. intermedius*, while *A. carbo* is recognized as an Atlantic form. However, all North Pacific records of *Aphanopus* may belong to *Aphanopus arigato* Parin, 1994 (Nakabo in Nakabo 2002), called Pacific Black Scabbardfish (Sheiko and Fedorov 2000), but the status of this form is uncertain or it may include only western North Pacific records.

Assurger anzac (Alexander, 1917). **Razorback Scabbardfish.** To 250 cm (98.4 in) SL (Nakamura in Fischer et al. 1995). Circumglobal in temperate and tropical waters, from scattered records (Nakamura and Parin 1993); southern Japan (Nakabo in Nakabo 2002); Point Dume, southern California to Chile (Eschmeyer and Herald 1983). Adults probably benthopelagic, at depths of 150–400 m (492–1,312 ft; Nakamura and Parin 1993).

Benthodesmus pacificus Parin & Becker, 1970. **North Pacific Frostfish.** To 112 cm (44.1 in) SL. Kyushu-Palau Ridge and Ryukyu Islands, Japan (Nakamura and Parin 1993); British Columbia and Puget Sound, Washington (Peden and Hughes 1986) to Monterey Bay, central California (Anderson and Cailliet 1975). Benthopelagic, to 380 m and deeper, sometimes migrating to surface; juveniles mesopelagic (Nakamura and Parin 1993). Originally described as a subspecies of *Benthodesmus elongatus*, this form was treated as a full species by Nakamura and Parin (1993) and recognized as such by Nelson et al. (2004); *B. pacificus* occurs in the North Pacific, whereas *B. elongatus* occurs in the Southern Hemisphere in the Indian, Pacific, and Atlantic oceans. Records from British Columbia and Washington (Peden and Hughes 1986) were reported as *B. tenuis*.

Lepidopus fitchi Rosenblatt & Wilson, 1987. **Black Scabbardfish or Pacific Scabbardfish.** To 210 cm (82.7 in) SL (Nakamura in Fischer et al. 1995). Eastern Pacific; off Newport, Oregon (collected by S. Meguffy; J. Cusick, pers. comm. to M. L.) to southern Peru (Chirichigno and Vélez 1998), including Gulf of California (Nakamura in Fischer et al. 1995). No collections appear to have been made between 20°N and 5°N; Rosenblatt and Wilson (1987) speculate that this is an example of antitropical distribution. Benthopelagic, adults at depths of 150–500 m (492–1,640 ft) (min.: Rosenblatt and Wilson 1987; max.: Fitch and Lavenberg 1968). Also recently as *Lepidopus xantusi*.

Trichiurus nitens Garman, 1899. **Pacific Cutlassfish.** To 1.5 m (59 in) SL (Nakamura in Fischer et al. 1995). Western Pacific as far north as Sea of Japan (Parin 2003); Oxnard, southern California (Lea and Rosenblatt 2000) to Callao, Peru (Chirichigno 1974), including Gulf of California (Nakamura in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Surface to 384 m (1,260 ft) (min.: Nakamura and Parin 1993; max.: Miller and Lea 1972). Nelson et al. (2004) note the confused systematics of *Trichiurus* and, pending further research, recognize *T. nitens* as a species separate from *T. lepturus* of the Atlantic.

Family Scombridae — Mackerels

Acanthocybium solandri (Cuvier, 1832). **Wahoo.** To 2.5 m (8.2 ft) TL (Robertson and Allen 2002). Circumglobal; in western Pacific as far north as Japan (Nakabo in Nakabo 2002) and southern Kuril Islands (Savinykh 1998); about 130 km (80 mi) south of the U.S.–Mexican border (M. L., unpubl. data)

-
- to Paita, Peru (Chirichigno and Vélez 1998) and Easter Island (Pequeño 1989), including Islas Galápagos (Grove and Lavenberg 1997). Oceanic epipelagic, surface to 15 m (49 ft; Robertson and Allen 2002). Recently and commonly as *A. solanderi*.
- Allothunnus fallai*** Serventy, 1948. **Slender Tuna**. To 96.5 cm (38 in) TL (Miller and Lea 1972). Warm waters of Southern Hemisphere to 50°S (Chirichigno and Vélez 1998); one report from North Pacific Subarctic Gyre (44°01'N, 151°13'W; Schaefer and Childers 1999) and one from Los Angeles–Long Beach Harbor, southern California (Miller and Lea 1972). Epipelagic, probably oceanic.
- Auxis rochei*** (Risso, 1810). **Bullet Mackerel**. To 55 cm (21.6 in) TL (Nakamura in Masuda et al. 1984). Circumglobal in warm waters; in western Pacific as far north as southern Kuril Islands (Parin 2003); Redondo Beach, southern California (Miller and Lea 1972) to northern Chile (Pequeño 1997), including Gulf of California (Collette in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Neritic and oceanic epipelagic, surface to perhaps 200 m (656 ft; Robertson and Allen 2002). The eastern Pacific form is recognized as a subspecies *Auxis rochei eudorax* (Collette and Aadland 1996, Collette 2003).
- Auxis thazard*** (Lacepède, 1800). **Frigate Mackerel** or Frigate Tuna. To 61 cm (24 in) TL (Miller and Lea 1972). Circumglobal in warm waters; in eastern Pacific from Santa Catalina Island, southern California to Chile (Pequeño 1989), including southern Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Miller and Lea 1972). Neritic and oceanic epipelagic, surface to perhaps 200 m (656 ft; Robertson and Allen 2002). The eastern Pacific form is recognized as a subspecies *Auxis thazard eurydorax* (Collette and Aadland 1996, Collette 2003). The record of this species from the southern Kuril Islands in Savinykh (1998) appears to be in error and was changed to *Auxis rochei* in Parin (2003).
- Euthynnus affinis*** (Cantor, 1849). **Kawakawa** or Mackerel Tuna. To 110 cm (43.3 in) TL (Robertson and Allen 2002). Warm waters of Indian Ocean and western and central Pacific; southern Japan (Nakabo in Nakabo 2002); Los Angeles Harbor, southern California (Miller and Lea 1972). Neritic epipelagic, surface to perhaps 50 m (164 ft; Robertson and Allen 2002).
- Euthynnus lineatus*** Kishinouye, 1920. **Black Skipjack**. To 92 cm (36.2 in) TL (Robertson and Allen 2002). San Simeon, central California (Miller and Lea 1972) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Miller and Lea 1972) and Islas Galápagos (Eschmeyer and Herald 1983). Neritic and oceanic epipelagic, surface to perhaps 40 m (131 ft; Robertson and Allen 2002).
- Katsuwonus pelamis*** (Linnaeus, 1758). **Skipjack Tuna**. To 120 cm (47.2 in) TL (Robertson and Allen 2002). Circumglobal in tropical and subtropical waters (Collette 2003); in western Pacific as far north as Japan (Nakabo in Nakabo 2002) and southern Kuril Islands (Savinykh 1998); Yakutat Bay, southeastern Alaska (Mecklenburg et al. 2002) to Chile (Collette and Nauen 1983), including southern Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Oceanic epipelagic, surface to 260 m (853 ft; Robertson and Allen 2002). In some older guides as *Euthynnus pelamis*.
- Sarda chiliensis*** (Cuvier, 1832). **Pacific Bonito**. To 122 cm (48.0 in) TL (Robertson and Allen 2002). Eastern Pacific, with two populations: northern and eastern Gulf of Alaska (Quast 1964, Karinen et al. 1985, Mecklenburg et al. 2002) to southern Baja California (Eschmeyer and Herald 1983) and just into Gulf of California on Baja California side (Robertson and Allen 2002); and Máncora, Peru to Talcahuano, Chile (Collette and Nauen 1983). Neritic epipelagic, to depth of 110 m (361 ft; Robertson and Allen 2002).
- ****Sarda orientalis*** (Temminck & Schlegel, 1844). **Striped Bonito**. To 117 cm (46.0 in) TL (Robertson and Allen 2002). Pacific and Indian oceans; in western Pacific as far north as southern Japan (Nakabo in Nakabo 2002); tip of Baja California, central Mexico (Robertson and Allen 2002) to Cabo Blanco, Peru (Chirichigno and Vélez 1998). Neritic epipelagic, surface to about 30 m (98 ft; Robertson and Allen 2002).

-
- Scomber japonicus*** Houttuyn, 1782. Chub Mackerel, **Pacific Chub Mackerel**, or Pacific Mackerel. To nearly 63.5 cm (25 in) TL (Fitch 1956). Pacific and Indian oceans; in western Pacific as far north as Japan (Collette and Nauen 1983), southern Kuril Islands (Savinykh 1998), and southeastern Kamchatka (Sheiko and Fedorov 2000); western Gulf of Alaska (Mecklenburg et al. 2002) to Gulf of California (Castro Hernández and Santana Ortega 2000) and Panama to Chile, including Islas Galápagos (Collette and Nauen 1983). Apparently absent from southern Mexico to northern Panama (Robertson and Allen 2002). Coastal pelagic to epipelagic or mesopelagic over continental slope, surface to depth of about 300 m (984 ft; Collette and Nauen 1983), sometimes near shore in surf zone (C. Valle, pers. comm. to M. L.). Previously treated as conspecific with *Scomber colias* Gmelin, 1789, of the Atlantic (Collette 1999, 2003).
- Scomberomorus concolor*** (Lockington, 1879). **Gulf Sierra** or Monterey Spanish Mackerel. To 87 cm (34.2 in) TL (Robertson and Allen 2002). Soquel, Monterey Bay, central California to Gulf of California (Miller and Lea 1972) to central Mexico (Robertson and Allen 2002). Neritic epipelagic, to 15 m (49 ft) or more (Robertson and Allen 2002).
- Scomberomorus sierra*** Jordan & Starks, 1895. **Pacific Sierra**. To 112 cm (44.1 in) TL (Robertson and Allen 2002). Santa Monica, southern California (Miller and Lea 1972) to central Chile (33°35'S; Brito 2002), including Gulf of California (Collette and Nauen 1983) and Islas Galápagos (Miller and Lea 1972). Neritic epipelagic, surface to 15 m (49 ft) or more (Robertson and Allen 2002).
- Thunnus alalunga*** (Bonnaterre, 1788). **Albacore**. To 152 cm (5.0 ft) TL (Foreman 1980). Circumglobal in tropical to temperate waters; in western Pacific north to Japan (Collette and Nauen 1983) and southern Kuril Islands (Savinykh 1998); northern and eastern Gulf of Alaska (Karinen et al. 1985, Mecklenburg et al. 2002) to Chile (Foreman 1980), including Islas Galápagos (Grove and Lavenberg 1997) and entrance to Gulf of California (G. Kira, pers. comm. with photographs to M. L.). Oceanic epipelagic and mesopelagic, surface to 600 m (1,968 ft; Robertson and Allen 2002).
- Thunnus albacares*** (Bonnaterre, 1788). **Yellowfin Tuna**. To 220 cm (86.6 in) TL (Robertson and Allen 2002). Circumglobal in tropical and subtropical waters; in western Pacific north to Japan (Collette and Nauen 1983) and southern Kuril Islands (Savinykh 1998); eastern North Pacific at 50°00'N, 150°02'W (Larkins 1964, Mecklenburg et al. 2002), and Morro Bay, central California (Squire 1987) to Chile (Miller and Lea 1972), including Islas Galápagos (Grove and Lavenberg 1997). Oceanic epipelagic, surface to 464 m (1,522 ft; Gunn and Block 1999).
- Thunnus obesus*** (Lowe, 1839). **Bigeye Tuna**. To 250 cm (8.2 ft) TL (Nakamura in Masuda et al. 1984). Circumglobal in tropical and subtropical waters; in western Pacific north to Japan (Collette and Nauen 1983) and southern Kuril Islands (Parin 2003); Iron Springs, central Washington (Eschmeyer and Herald 1983) to Chile (Pequeño 1989), including Islas Galápagos (Miller and Lea 1972); apparently not in Gulf of California (Robertson and Allen 2002). Oceanic epipelagic and mesopelagic, surface to 1,500 m (4,920 ft) (min.: Eschmeyer and Herald 1983; max.: Schaefer and Fuller 2002).
- Thunnus orientalis*** (Temminck & Schlegel, 1844). **Pacific Bluefin Tuna**. To about 3 m (10 ft) TL (Foreman and Ishizuka 1990). Japan (Nakabo in Nakabo 2002) to southern Kuril Islands (Savinykh 1998) and southern Okhotsk Sea; Shelikof Strait, Gulf of Alaska (Mecklenburg et al. 2002) to tip of Baja California (Robertson and Allen 2002). Oceanic epipelagic, surface to 450–550 m (1,476–1,804 ft; Marcinek et al. 2001). Previously considered a subspecies of *Thunnus thynnus* (Linnaeus, 1758), raised to full species status by Collette (1999). The size of more than 3 m (10 ft) FL and weight of about 680 kg given by Mecklenburg et al. (2002), after Collette and Nauen (1983), pertains to the Atlantic species *T. thynnus*. The largest *T. orientalis* of record may be “about 555 kg (ca. 3 m)” from Japan, and 271.2 cm FL and 457.7 kg off California (Foreman and Ishizuka 1990).

Family Xiphiidae — Swordfishes

Xiphias gladius Linnaeus, 1758. **Swordfish**. To 457 cm (15 ft) TL (Eschmeyer and Herald 1983). Circumglobal; in western Pacific as far north as southern Kuril Islands (Savinykh 1998); south of Vancouver Island (47°06'N, 131°03'W), British Columbia (Peden and Jamieson 1988) to Valdivia, Chile (Chirichigno and Vélez 1998), including southernmost part of Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Surface to 2,878 m (9,442 ft; Pakhorukov 2001).

Family Istiophoridae — Billfishes

Istiophorus platypterus (Shaw, 1792). **Sailfish**. To 360 cm (11.7 ft) TL (Randall et al. 1990). Circumglobal; in western Pacific as far north as southern Kuril Islands (Parin 2003); Dana Point, southern California (Oliphant 1991) to Chile (Miller and Lea 1972), including Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Oceanic, near surface (Eschmeyer and Herald 1983) to 30 m (98 ft) or more (Robertson and Allen 2002).

Makaira indica (Cuvier, 1832). **Black Marlin**. To 5 m (16.3 ft) TL (Randall et al. 1990). Circumglobal; in western Pacific as far north as southern Kuril Islands (Savinykh 1998); southern California (Miller and Lea 1972) to northern Chile (Grove and Lavenberg 1997), including Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Oceanic, near surface (Eschmeyer and Herald 1983) to 100 m (328 ft) or more (Robertson and Allen 2002).

Makaira nigricans Lacepède, 1802. **Blue Marlin**. To 5 m (16.4 ft) TL (Heemstra in Smith and Heemstra 1986). Circumglobal; Sea of Japan and off southern Kuril Islands (Parin 2003); southern California (Miller and Lea 1972) to Mejillones, Chile (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997). Oceanic, near surface to 200 m (656 ft; Robertson and Allen 2002). Also recently as *M. mazara*.

Tetrapturus angustirostris Tanaka, 1915. **Shortbill Spearfish**. To at least 2.4 m (8 ft) TL (Eschmeyer and Herald 1983). Circumglobal; Cape Mendocino, central California (Miller and Lea 1972) to Mejillones, Chile (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997). Apparently not in Gulf of California (Robertson and Allen 2002). Oceanic, near surface to 1,830 m (6,004 ft) (min.: Eschmeyer and Herald 1983; max.: Robertson and Allen 2002).

Tetrapturus audax (Philippi, 1887). **Striped Marlin**. To 4.2 m (13.8 ft) TL (Randall et al. 1990). Pacific and Indian oceans; in western Pacific as far north as southern Kuril Islands (Savinykh 1998); near Westport, Washington (W. A. Palsson, pers. comm. to M. L.) to Chile (35°S; Chirichigno and Vélez 1998), including central and southern Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Oceanic, near surface to 289 m (948 ft) (min.: Eschmeyer and Herald 1983; max.: Bedford and Hagerman 1983).

Family Centrolophidae — Medusafishes

Icichthys lockingtoni Jordan & Gilbert, 1880. **Medusafish**. To about 46 cm (18.4 in) TL (Mecklenburg et al. 2002). Japan and Kuril Islands (Haedrich 1967) to Pacific side of Aleutian Islands (Mecklenburg et al. 2002) to about Punta Eugenia, central Baja California (Ahlstrom et al. 1976). Larvae have been taken somewhat to the south of Punta Eugenia, at Punta Abreojos, southern Baja California (Moser et al. 1993). Oceanic pelagic, juveniles near surface, adults to 1,010 m (3,314 ft) (min.: Jordan 1923; max.: Amaoka et al. 1990) and perhaps to 1,257 m (4,124 ft; Lauth 2001); also reported as intertidal (Bolin 1975). Haedrich (1967) opined that this species probably reaches bathypelagic depths.

Family Nomeidae — Driftfishes or Flotsamfishes

Cubiceps baxteri McCulloch, 1923. **Black Fathead**. To 115 cm (45.3 in) SL (Nakabo in Masuda et al. 1984); to at least 42 cm (16.5 in) SL (Last in Carpenter and Niem 2001). Circumglobal; Japan (Nakabo in Nakabo 2002); southern California (32°N) to Chile (Pequeño 1989), including Islas Galápagos (Grove and Lavenberg 1997). Not in oxygen minimum layer off Mexico and central America (Watson in Moser 1996). Epipelagic (Watson in Moser 1996).

Cubiceps capensis (Smith, 1845). **Cape Cigarfish** or Cape Fathead. To 100 m (39.3 in) TL (Agafonova 1994). Apparently circumglobal in subtropical and temperate waters (Agafonova 1994); one specimen taken 145 km (90 mi) west-southwest of Morro Bay, central California (35°08'N, 122°24'W; McCosker et al. 2004). Pelagic.

Cubiceps paradoxus Butler, 1979. **Longfin Cigarfish**. To 70 cm (27.5 in) TL (Eschmeyer and Herald 1983). North Pacific; in western Pacific as far north as southern Kuril Islands (Savinykh 1998); Palos Verdes, southern California (Butler 1979).

Nomeus gronovii (Gmelin, 1789). **Man-of-War Fish**. To 40 cm (15.7 in) TL (Robertson and Allen 2002). Circumglobal; Punta Gorda (23°05'N, 109°33'W) and near tip of southern Baja California (Fitch 1953) to Peru (Robertson and Allen 2002), including Islas Galápagos (Grove and Lavenberg 1997). Juveniles epipelagic; adults deeper, possibly bathypelagic (Watson in Moser 1996).

Psenes pellucidus Lütken, 1880. **Bluefin Driftfish**. To 80 cm (31.5 in) TL (Haedrich in Whitehead et al. 1986). Circumglobal; Japan (Nakabo in Nakabo 2002) and southern Kuril Islands (Parin 2003); Santa Catalina Island, southern California (Ahlstrom et al. 1976) to southern end of Baja California (Watson in Moser 1996) and about 5°N (Ahlstrom et al. 1976) to northwest of Callao, Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997). Juveniles epipelagic, adults mesopelagic and possibly bathypelagic (Haedrich in Whitehead et al. 1986) to depths of at least 1,000 m (3,280 ft; Robertson and Allen 2002).

Psenes sio Haedrich, 1970. **Sio Driftfish** or **Twospine Driftfish**. To 24 cm (9.5 in) TL (Eschmeyer and Herald 1983). Eastern Pacific; southern Baja California (Ahlstrom et al. 1976) to Punta Doña Maria, Peru (Chirichigno and Vélez 1998), including Gulf of California (Galván-Magaña et al. 1996) and Islas Galápagos (Grove and Lavenberg 1997). Surface to 500 m (1,640 ft; Robertson and Allen 2002).

Family Tetragonuridae — Squaretails

Tetragonurus atlanticus Lowe, 1839. **Bigeye Squaretail**. To 50 cm (19.7 in) SL (Haedrich in Whitehead et al. 1986). Circumglobal; in eastern Pacific from central Baja California (28°N; Watson in Moser 1996) to Chile (Pequeño 1989) and west of Islas Galápagos (Ahlstrom et al. 1976). Larvae and juveniles have been reported off eastern Japan (Okamoto et al. 2001). Oceanic; young fish epipelagic, adults presumably mesopelagic (Haedrich in Whitehead et al. 1986).

Tetragonurus cuvieri Risso, 1810. **Smalleye Squaretail**. To 70 cm (27.6 in) SL (Haedrich in Whitehead et al. 1986). Circumglobal; Japan to south of Aleutian Islands (Mecklenburg et al. 2002) to Chile (Pequeño 1989). Oceanic pelagic; young fish near surface, adults to about 700 m (2,296 ft; Mecklenburg et al. 2002).

Family Stromateidae — Butterfishes

Peprilus simillimus (Ayres, 1860). Pacific Butterfish or **Pacific Pompano**. To about 28 cm (11 in) TL (Clemens and Wilby 1961). Eastern North Pacific; Queen Charlotte Sound, British Columbia (Clemens and Wilby 1961) to Bahia Magdalena, southern Baja California and Gulf of California (Miller and Lea 1972). Pelagic neritic, surf zone and to about 91 m (300 ft) (min.: Carlisle et al. 1960; max.: Eschmeyer and Herald 1983), reported to 311 m (1,026 ft; RACE).

Peprilus snyderi Gilbert & Starks, 1904. **Salema Butterfish**. To 39 cm (15.3 in) TL (Robertson and Allen 2002). Bahia San Juanico, southern Baja California (Watson in Moser 1996) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Haedrich and Schneider in Fischer et al. 1995). Pelagic neritic, shallow water to 108 m (354 ft; Amezcua Linares 1996).

Order Pleuronectiformes

Family Bothidae — Lefteye Flounders

Bothus constellatus (Jordan, 1889). **Pacific Eyed Flounder**. To 20 cm (7.9 in) TL (Allen and Robertson 1994). Laguna San Ignacio, southern Baja California (Dannemann and De La Cruz-Agüero 1993) to Caleta Buena (19°53'S, 70°08'W), northern Chile (Sielfeld et al. 2003), including Gulf of California (Hensley in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Benthic, at depths of 1–121 m (3–397 ft; Hensley in Fischer et al. 1995).

Bothus leopardinus (Günther, 1862). **Pacific Leopard Flounder** or Speckled Flounder. To 15 cm (5.9 in) TL (Allen and Robertson 1994). Boca de Carrizal (23°42'N, 110°38'W), southern Baja California (Castro-Aguirre et al. 1992) to Peru (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997), including Gulf of California (Hensley in Fischer et al. 1995). Benthic, at depths of 1–121 m (3–397 ft) (min.: Robertson and Allen 2002; max.: Hensley in Fischer et al. 1995).

Engyophrys sanctilaurentii Jordan & Bollman, 1890. **Speckledtail Flounder**. To 20 cm (7.9 in) TL (Hensley in Fischer et al. 1995). North of La Jolla Submarine Canyon, southern California (Allen and Groce 2001) to Bahía Salinas, Huacho, Peru (Chirichigno 1974), including Gulf of California (Hensley in Fischer et al. 1995). Benthic, at depths of 20–232 m (66–766 ft; Amezcua Linares 1996).

Monolene asaedai Clark, 1936. **Dark Flounder**. To 13.2 cm (5.2 in) TL (Castro-Aguirre et al. 1992). Isla Santa Margarita (at mouth of Bahia Magdalena), southern Baja California (Martinez-Muñoz and Ramirez-Cruz 1992); Pacific coast of Mexico (Hensley in Fischer et al. 1995) to Panama (Moser and Charter in Moser 1996). Benthic, about 20 m (66 ft; Aguilar-Palomino et al. 2001) to 209 m (686 ft; SIO 63-508). May be a junior synonym of *Monolene dubiosa* Garman, 1899 (Evseenko 1999).

Perissias taeniopterus (Gilbert, 1890). **Flag Flounder** or Striped-fin Flounder. To 15 cm (5.9 in) TL (Amezcua Linares 1996). Central Baja California to Colombia (Robertson and Allen 2002), including Gulf of California (Hensley in Fischer et al. 1995). Benthic, at depths of 41–157 m (134–515 ft) (min.: Castro-Aguirre 1992; max.: Hensley in Fischer et al. 1995).

Family Paralichthyidae — Sand Flounders

Ancylosetta dendritica Gilbert, 1890. Threespot Flounder or **Threespot Sand Flounder**. To 35 cm (13.8 in) TL (Robertson and Allen 2002). Bahia Magdalena, southern Baja California (Galván-Magaña et al. 2000) into Gulf of California (Hensley in Fischer et al. 1995) to northern Peru (4°56'S, 81°22'W; Chirichigno and Vélez 1998). Benthic, at depths of 7–100 m (23–328 ft) (min.: SIO 69-386; max.: Hensley in Fischer et al. 1995).

Citharichthys fragilis Gilbert, 1890. **Gulf Sanddab**. To 22 cm (8.7 in) TL (Hensley in Fischer et al. 1995). Manhattan Beach, southern California to Gulf of California (Eschmeyer and Herald 1983). Benthic, at depths of 18–347 m (60–1,138 ft; Eschmeyer and Herald 1983).

Citharichthys gilberti Jenkins & Evermann, 1889. **Bigmouth Sanddab**. To 30 cm (11.8 in) TL (Amezcua Linares 1996). Central Baja California (Robertson and Allen 2002) to Gulf of California (Hensley in Fischer et al. 1995) to Paita, Peru (Chirichigno 1974), including Islas Galápagos (Grove and Lavenberg 1997). Benthic, at depths of 1–36 m (3–118 ft) (min.: Robertson and Allen 2002; max.: Hensley in Fischer et al. 1995). Fresh, brackish, and marine waters (Hensley in Fischer et al. 1995).

-
- Citharichthys gordae* Beebe & Tee-Van, 1938. **Mimic Sanddab**. To at least 14 cm (5.5 in) TL (Hensley in Fischer et al. 1995). Off Bahia Magdalena, southern Baja California (SIO 84-86) and perhaps to Panama (Moser and Sumida in Moser 1996), including Gulf of California (Hensley in Fischer et al. 1995). Benthic, at depths of 73–145 m (239–656 ft) (min.: Hensley in Fischer et al. 1995; max.: Robertson and Allen 2002).
- Citharichthys platophrys* Gilbert, 1891. **Small Sanddab**. To 35 cm (13.7 in) TL (Morales-Nin 1994). Boca de Carrizal, southern Baja California (24°16'N, 111°32'W; Castro-Aguirre et al. 1992) to Huacho, Peru (Chirichigno and Vélez 1998), including Gulf of California (Hensley in Fischer et al. 1995). Benthic, at depths of 11–145 m (36–476 ft) (min.: Hensley in Fischer et al. 1995; max.: Robertson and Allen 2002).
- Citharichthys sordidus* (Girard, 1854). **Pacific Sanddab**. To 41 cm (16 in) TL (Kramer et al. 1995), reported to 41.3 cm (16.2 in) FL (D. Pearson, pers. comm. to M. L.). Holiday Beach, Kodiak Island, western Gulf of Alaska (57°42'N, 152°28'W; UW 49445, collected by A. A. Abookire) to Cabo San Lucas, southern Baja California (Miller and Lea 1972). Records from southeastern Bering Sea and Aleutian Islands are in error or not verifiable (Mecklenburg 2002). Also reported off Peru (Zeballos et al. 1998). Benthic, from intertidal to about 549 m (1,800 ft) (min.: Carlisle et al. 1960; max.: Miller and Lea 1972).
- Citharichthys stigmaeus* Jordan & Gilbert, 1882. **Speckled Sanddab**. To 17.8 cm (7 in) TL (Humann 1996), reported to 19 cm (7.5 in) TL (W. A. Palsson, pers. comm. to M. L.). Prince William Sound, northern Gulf of Alaska (Townsend 1935, Orsi et al. 1991) to Bahia Magdalena, southern Baja California (Miller and Lea 1972) and in Bahia Concepcion, Gulf of California (Galván-Magaña et al. 2000). Larvae have been collected as far west in the Gulf of Alaska as south of Kodiak Island (Matarese et al. 2003). Also reported from Ecuador (Béarez 1996) to Puerto Pizarro, Peru (Chirichigno and Vélez 1998). Benthic, from intertidal to 366 m (1,200 ft) (min.: Hart 1973; max.: Kramer et al. 1995).
- Citharichthys xanthostigma* Gilbert, 1890. **Longfin Sanddab**. To 25 cm (10 in) TL (Eschmeyer and Herald 1983). Monterey Bay, central California to Costa Rica, including Gulf of California (Miller and Lea 1972). Benthic, at depths of 2.4–201 m (8–660 ft; Eschmeyer and Herald 1983).
- Cyclopsetta panamensis* (Steindachner, 1876). God's Flounder, **Panamic Flounder**, or Southern Flounder. To 29.5 cm (11.6 in) TL (Amezcue Linares 1996). Atlantic and Pacific; Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Hensley in Fischer et al. 1995). Benthic, at depths of 1–114 m (3–374 ft) (min.: González-Acosta et al. 1999; max.: Amezcue Linares 1996).
- Cyclopsetta querna* Jordan & Bollman, 1890. **Toothed Flounder**. To 43 cm (16.9 in) TL (Morales-Nin 1994). Boca de Carrizal (23°16'N, 110°11'W), southern Baja California (Castro-Aguirre et al. 1992) to Huacho, Peru (Chirichigno and Vélez 1998), including Gulf of California (Hensley in Fischer et al. 1995). Benthic, at depths of 1–92 m (3–302 ft) (min.: Robertson and Allen 2002; max.: Amezcue Linares 1996). Brackish and marine waters.
- Etropus crossotus* Jordan & Gilbert, 1882. **Fringed Flounder**. To 22 cm (8.7 in) TL (Allen and Robertson 1994). Atlantic and Pacific; Lagunas Ojo de Liebre-Guerrero Negro, central Baja California (Galván-Magaña et al. 2000) to Peru (De La Cruz-Agüero et al. 1997), including Gulf of California (Hensley in Fischer et al. 1995). Benthic, at depths of 1–108 m (3–354 ft) (min.: González-Acosta et al. 1999; max.: Amezcue Linares 1996). Brackish and marine waters (Hensley in Fischer et al. 1995).
- Etropus peruvianus* Hildebrand, 1946. **Peruvian Flounder**. To 10 cm (3.9 in) TL (Hensley in Fischer et al. 1995). Bahia Magdalena, southern Baja California (SIO 62-83) to Bahia de Sechura, Peru (Chirichigno and Vélez 1998), including Gulf of California (Hensley in Fischer et al. 1995). Benthic, in shallow water to 46 m (151 ft; Hensley in Fischer et al. 1995).

-
- Hippoglossina bollmani* Gilbert, 1890. **Spotted Flounder**. To 20 cm (7.9 in) TL (Hensley in Fischer et al. 1995). Off Laguna San Ignacio, southern Baja California (Martinez-Muñoz and Ramirez-Cruz 1992) to Paita, Peru (Chirichigno and Vélez 1998), including Gulf of California (Hensley in Fischer et al. 1995). Benthic, at depths of 18–191 m (59–626 ft) (min.: Hensley in Fischer et al. 1995; max.: SIO 84-81).
- Hippoglossina stomata* Eigenmann & Eigenmann, 1890. **Bigmouth Sole**. To 39.9 cm (15.7 in) TL (Miller and Lea 1972). Monterey Bay, central California to Gulf of California, including Isla Guadalupe (Miller and Lea 1972). Benthic, at depths of 23–237 m (75–777 ft) (min.: Allen et al. 2002; max.: Martinez-Muñoz and Ramirez-Cruz 1992). One estuarine record (Ruiz-Campos et al. 2000).
- Hippoglossina tetraphthalma* (Gilbert, 1890). **Fourspot Flounder**. To 40 cm (15.7 in) TL (Hensley in Fischer et al. 1995). Just west of Laguna de Guerrero Negro, central Baja California (Martinez-Muñoz and Ramirez-Cruz 1992) to Islas Lobos de Afuera, Peru (Chirichigno and Vélez 1998), including Gulf of California (Hensley in Fischer et al. 1995). Benthic, at depths of 23–233 m (75–768 ft) (min.: Cabrera Mancilla 1988; max.: Robertson and Allen 2002).
- Paralichthys aestivalis* Gilbert & Scofield, 1898. Cortez Flounder or **Cortez Halibut**. To 58.3 cm (23.0 in) TL (Arellano-Martinez et al. 1997). Lagunas Ojo de Liebre-Guerrero Negro, central Baja California (Arellano-Martinez et al. 1997) to Gulf of California (Hensley in Fischer et al. 1995). Galván-Magaña et al. (2000) report on captures from Bahía de La Paz and Bahía Concepción, Gulf of California, but do not give attributions. Benthic, in shallow estuaries to 44 m (144 ft; Hensley in Fischer et al. 1995). Brackish and marine waters (Hensley in Fischer et al. 1995).
- Paralichthys californicus* (Ayres, 1859). **California Halibut**. To 152 cm (5 ft) TL (Eschmeyer and Herald 1983). Quillayute River, northern Washington (Eschmeyer and Herald 1983) to Cabo Falsa (22°50'N), southern Baja California (Martinez Muñoz and Ramirez Cruz 1992). Benthic, surf zone to 281 m (922 ft) (min.: Carlisle et al. 1960; max.: RACE). Brackish and marine waters (Hensley in Fischer et al. 1995).
- Paralichthys woolmani* Jordan & Williams, 1897. **Dappled Flounder** or Speckled Flounder. To 80 cm (31.5 in) TL (Robertson and Allen 2002). North of Boca Soledad (25°23'N, 112°06'W), southern Baja California (SIO 64-85) to Chimbote, Peru (Chirichigno 1974), including Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Benthic, at depths of 1–91 m (3–298 ft) (min.: Robertson and Allen 2002; max.: SIO 84-71). Brackish and marine waters (Hensley in Fischer et al. 1995).
- Syacium latifrons* (Jordan & Gilbert, 1882). **Beach Flounder**. To 25 cm (9.8 in) TL (Hensley in Fischer et al. 1995). Bahía Magdalena, southern Baja California (SIO 62-111) to Peru (3°39'S, 80°55'W; Chirichigno and Vélez 1998), including Gulf of California (Hensley in Fischer et al. 1995). Benthic, at depths of 12–94 m (39–308 ft) (min.: Godínez-Domínguez et al. 2000; max.: Hensley in Fischer et al. 1995).
- Syacium ovale* (Günther, 1864). **Oval Flounder**. To 25 cm (9.8 in) TL (Morales-Nin 1994). Bahía Santa María (24°42'N, 112°11'W), southern Baja California (SIO 64-814) to Paita, Peru (Chirichigno and Vélez 1998), including Gulf of California (Hensley in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Larvae have been taken somewhat further north at about 26°N (Moser et al. 1994). Benthic, at depths of 7–60 m (23–341 ft) (min.: SIO 69-386; max.: Robertson and Allen 2002).
- Xystreurus liolepis* Jordan & Gilbert, 1880. **Fantail Sole**. To 53 cm (21 in) TL (Eschmeyer and Herald 1983). Monterey Bay, central California to Gulf of California (Miller and Lea 1972). Benthic, surf zone to 136 m (446 ft) (min.: Carlisle et al. 1960; max.: Martinez-Muñoz and Ramirez-Cruz 1992).

Family Pleuronectidae — Righteye Flounders

- **Acanthopsetta nadeshnyi* Schmidt, 1904. **Scalyeye Plaice**. To 46 cm (18.1 in) TL (Fadeev 1987). Japan Sea off Korean Peninsula to southern Okhotsk Sea and Pacific Ocean off Hokkaido to western Bering Sea off Cape Navarin (Lindberg and Fedorov 1993). Benthic, at depths of 29–900 m (95–2,953 ft), probably to 1,000–1,200 m (3,281–3,937 ft; Kim Sen Tok et al. 1999). Additional citations in Mecklenburg et al. (2002).
- Atheresthes evermanni* Jordan & Starks, 1904. Asiatic Arrowtooth or **Kamchatka Flounder**. To 110 cm (44 in) TL (Mecklenburg et al. 2002). Sea of Okhotsk and northern Sea of Japan to Gulf of Anadyr, western Bering Sea (Lindberg and Fedorov 1992) to eastern Bering Sea, Aleutian Islands, and southwestern Gulf of Alaska (Zimmerman and Goddard 1996). Benthic, at depths of 25–1,200 m (83–3,960 ft; Mecklenburg et al. 2002).
- Atheresthes stomias* (Jordan & Gilbert, 1880). **Arrowtooth Flounder**. To 86 cm (34 in) TL (Kramer et al. 1995). Commander Islands and east coast of Kamchatka to Cape Navarin, Bering Sea to Aleutian Islands and Gulf of Alaska (Mecklenburg et al. 2002) to Santa Barbara, southern California (LACM 38362.001). San Pedro record of Miller and Lea (1972) is a mistakenly identified *Lyopsetta exilis* (Allen and Smith 1988). Benthic, at depths of 9–1,145 m (29–3,756 ft) (min.: Levings 1973; max.: Ramsey et al. 2002).
- Clidoderma asperrimum* (Temminck & Schlegel, 1846). **Roughscale Sole**. To 62 cm (24.4 in) TL (Tokranov and Orlov 2003). Yellow Sea off Korean Peninsula, Japan Sea, and Okhotsk Sea to Commander Islands (Lindberg and Fedorov 1993), Bering Sea, and Aleutian Islands (Lea et al 1989, Mecklenburg et al. 2002) to off Half Moon Bay, central California (37°30'N, 123°00'W; SIO 95-23); except no records for Gulf of Alaska to southern British Columbia (Mecklenburg et al. 2002). Benthic, at depths of 15–1,900 m (50–6,233 ft; Lindberg and Fedorov 1993).
- Embassichthys bathybius* (Gilbert, 1890). **Deepsea Sole**. To 52 cm (20.5 in) TL (Mecklenburg et al. 2002). Hokkaido, Japan (Sakamoto in Masuda et al. 1984) to Bering Sea and Aleutian Islands (Mecklenburg et al. 2002) to northern Baja California (32°38'N, 119°24'W; LACM 37464.001). Benthic, at depths of 91–1,433 m (300–4,700 ft) (min.: UW 18139; max.: Miller and Lea 1972); individuals taken at the shallower depths in the range typically are juveniles.
- Eopsetta jordani* (Lockington, 1879). Brill or **Petrals Sole**. To 70 cm (27.5 in) TL (Clemens and Wilby 1961). Aleutian Islands west at least as far as Unalaska Island, and Gulf of Alaska (Mecklenburg et al. 2002) to Islas Coronados, northern Baja California (Miller and Lea 1972). Benthic, at depths of 0–550 m (0–1,800 ft; Hart 1973).
- Glyptocephalus stelleri* (Schmidt, 1904). Far-Eastern Long Flounder, **Korean Flounder**, or Small-mouth Plaice. To 53 cm (20.9 in) SL (Kim Sen Tok et al. 1999), 60 cm (24 in) TL (Kramer et al. 1995). Japan and Okhotsk seas to Kuril Islands and southern Kamchatka; one record from Bering Sea in vicinity of Pribilof Islands (Lindberg and Fedorov 1993). Benthic, at depths of about 5–1,600 m (16–5,250 ft; Lindberg and Fedorov 1993), with greatest densities in winter below 700 m (2,300 ft; Kim Sen Tok et al. 1999). Additional citations in Mecklenburg et al. (2002).
- Glyptocephalus zachirus* Lockington, 1879. Longfin Sole, **Rex Sole**, or Witch Sole. To 61 cm (24 in) TL (Kramer et al. 1995). Northern Kuril Islands (Orlov et al. 2002) to Commander Islands and western Bering Sea to Navarin Canyon, and Aleutian Islands, eastern Bering Sea, and Gulf of Alaska (Mecklenburg et al. 2002) to Isla Cedros, central Baja California (Allen and Smith 1988). Benthic, at depths of 0–1,145 m (0–3,756 ft) (min.: Kramer et al. 1995; max.: Ramsey et al. 2002). Recently as *Errex zachirus*.
- Hippoglossoides elassodon* Jordan & Gilbert, 1880. Cigarette Paper, **Flathead Sole**, or Paper Sole. To 56 cm (22 in) TL (Fadeev 1987). Okhotsk Sea off southwestern Kamchatka and northern Kuril Islands (B. A. Sheiko, pers. comm. to C. W. M.) to Gulf of Anadyr, Bering Sea and Commander–Aleutian chain to Monterey, central California (Allen and Smith 1988). Benthic, from intertidal zone (Kussakin et al. 1997) to depth of 1,050 m (3,445 ft; Allen and Smith 1988).

-
- Hippoglossoides robustus* Gill & Townsend, 1897. **Bering Flounder**. To 52 cm (20.5 in) TL (Fadeev 1987). Northern Japan Sea off Hokkaido, Okhotsk Sea, Pacific off Kamchatka (Lindberg and Fedorov 1993), and Commander Islands (B. A. Sheiko, pers. comm. to C. W. M.) to Bering Sea, Chukchi Sea, and possibly Beaufort Sea (Mecklenburg et al. 2002), and south to Alaska Peninsula and west to Akutan Island, Aleutian Islands (Allen and Smith 1988). Benthic, intertidal zone (Kussakin et al. 1997) and at depths of 2 m (7 ft; Lindberg and Fedorov 1993) to about 532 m (1,745 ft; Dudnik and Dolganov 1992).
- Hippoglossus stenolepis* Schmidt, 1904. **Pacific Halibut**. To 267 cm (8.75 ft) TL (Clemens and Wilby 1961). Hokkaido, Japan and Sea of Okhotsk (Sakamoto in Masuda et al. 1984) to southeastern Chukchi Sea, Bering Sea, and Aleutian Islands to Punta Camalu, Baja California (Allen and Smith 1988); reported (Barber et al. 1997) but not confirmed farther north in Chukchi Sea off Cape Lisburne (Mecklenburg et al. 2002). Benthic, at depths of 6–1,100 m (20–3,600 ft) (min.: Miller and Lea 1972; max.: Clemens and Wilby 1961).
- Isopsetta isolepis* (Lockington, 1880). **Butter Sole** or Scalyfin Sole. To 55.2 cm (21.75 in) TL (Miller and Lea 1972). Southeastern Bering Sea and Aleutian Islands (west to Amchitka Island; Wilimovsky 1964) to Ventura, southern California (Miller and Lea 1972). Benthic, at depths of 2 m or less to 425 m (7–1,404 ft) (min.: Miller et al. 1980; max.: Allen and Smith 1988). Recently as *Pleuronectes isolepis*.
- Lepidopsetta bilineata* (Ayres, 1855). Rock Sole or **Southern Rock Sole**. To 59 cm (23.2 in) TL (Fadeev 1965), reported but not confirmed to 69 cm (27.2 in) TL (Orr and Matarese 2000). Atka Island, Aleutian Islands (Zenger 2004) and southeastern Bering Sea (Slime Bank north of Unimak Island) to Cortes Bank, southern California (Orr and Matarese 2000). Benthic, 13–339 m (43–1,112 ft) (min.: W. A. Palsson, pers. comm. to M. L.; max.: Orr and Matarese 2000). Rock soles are commonly caught in beach seines and both species are likely to occur in nearshore collections (W. A. Palsson, pers. comm. to M. L.). The AFS–ASIH fish names committee (Nelson et al. 2004) chose to keep the name Rock Sole for this fish, but with the new species, the Northern Rock Sole, we feel it is less confusing to call *L. bilineata* the Southern Rock Sole, as recommended by Orr and Matarese (2000).
- Lepidopsetta polyxystra* Orr & Matarese, 2000. **Northern Rock Sole**. To 69 cm (27.2 in) TL (Orr and Matarese 2000). Northern coast of Hokkaido, Kuril Islands, and Okhotsk Sea to Gulf of Anadyr and vicinity of St. Lawrence Island, Bering Sea, and Commander–Aleutian chain to Puget Sound, Washington (Orr and Matarese 2000). Benthic, at depths of 3–5 m (10–16 ft) to 480–517 m (1,575–1,696 ft; B. A. Sheiko, pers. comm. to C. W. M.). Rock soles are commonly caught in beach seines and both species are likely to occur in nearshore collections (W. A. Palsson, pers. comm. to M. L.).
- Limanda aspera* (Pallas, 1814). Muddab or **Yellowfin Sole**. To 49 cm (19.3 in) TL (Fadeev 1987). Japan Sea off Korea and Okhotsk Sea (Lindberg and Fedorov 1993) to Beaufort Sea off Point Barrow and south through Bering Sea and eastern Aleutian Islands (Mecklenburg et al. 2002) to Barkley Sound, British Columbia (Clemens and Wilby 1961). Benthic, at depths of 10–600 m (33–1,968 ft; Allen and Smith 1988). Originally named *Pleuronectes asper*.
- Limanda proboscidea* Gilbert, 1896. **Longhead Dab**. To 41 cm (16.1 in) TL (Andriashev 1954). Hokkaido, Japan (Nakabo in Nakabo 2002) and Okhotsk Sea (Sakamoto in Masuda et al. 1984) to Beaufort Sea off Point Barrow and to eastern Bering Sea north of Unimak Island (Mecklenburg et al. 2002). Benthic, at depths of 5–7 m (16–23 ft; ZIN 18165) to 125 m (410 ft; Allen and Smith 1988). Classified by some taxonomists in *Pleuronectes* or *Myzopsetta*.
- Limanda sakhalinensis* Hubbs, 1915. Sakhalin Flounder or **Sakhalin Sole**. To 35 cm (14 in) TL (Kramer et al. 1995). Sea of Okhotsk and northern Sea of Japan (Tatar Strait) to Gulf of Anadyr and St. Lawrence Island, to southeastern Bering Sea (Lindberg and Fedorov 1993, Mecklenburg et al. 2002); one record from Chukchi Sea (Barber et al. 1997) but not verifiable (Mecklenburg et al. 2002). Benthic, at depths of 10–110 m (33–361 ft) or more (Lindberg and Fedorov 1993), perhaps to 360 m (1,181 ft; Sheiko and Fedorov 2000). Recently as *Pleuronectes sakhalinensis*.

-
- Lyopsetta exilis*** (Jordan & Gilbert, 1880). Rough Sole or **Slender Sole**. To 35 cm (13.7 in) TL (Hart 1973). Gulf of Alaska east of Kodiak Island at North Albatross Bank (Allen and Smith 1988) to Pacific off Boca de Santa Domingo (about 25°30'N), southern Baja California (Martinez-Muñoz and Ramirez-Cruz 1992). Benthic, at depths of 9–1,145 m (30–3,756 ft) (min.: Kramer et al. 1995; max.: Ramsey et al. 2002). Recently as *Eopsetta exilis*.
- Microstomus pacificus*** (Lockington, 1879). **Dover Sole**, Slime Sole, or Slippery Flounder. To 76 cm (30 in) TL (Kramer et al. 1995). Northwestern Bering Sea (Evseenko 2003), southeastern Bering Sea and Aleutian Islands from Stalemate Bank (Allen and Smith 1988) to just south of Punta San Juanico, southern Baja California (25°59'N, 113°17'W; Snytko 1987). Benthic, at depths of 2 m (7 ft) or less to 1,372 m (4,500 ft) (min.: Miller et al. 1980; max.: Kramer et al. 1995).
- Parophrys vetulus*** Girard, 1854. **English Sole** or Lemon Sole. To 61 cm (24 in) TL (Kramer et al. 1995). Nunivak Island, Bering Sea and Agattu Island, Aleutian Islands (Allen and Smith 1988) to Bahia San Cristobal, central Baja California (Knaggs et al. 1975). Benthic, intertidal zone (juveniles) and to about 550 m (1,800 ft; Hart 1973). Recently as *Pleuronectes vetulus*.
- Platichthys stellatus*** (Pallas, 1787). **Starry Flounder**. To 91 cm (36 in) TL (Clemens and Wilby 1946). Sea of Japan off Korean Peninsula and Japan to Sea of Okhotsk, to Arctic Ocean in East Siberian Sea, Chukchi Sea, Beaufort Sea, and Canada to Bathurst Inlet, Northwest Territories, and Bering Sea and Commander–Aleutian chain (citations in Mecklenburg et al. 2002) to Los Angeles Harbor, southern California (Kramer et al. 1995). Benthic, intertidal area and to depth of about 600 m (1,968 ft) (min.: Kramer et al. 1995; max.: Fedorov 2000); enters lower reaches of rivers (Morrow 1980). The deepest records are from winter, when the fish move off the shelf (B. A. Sheiko, pers. comm. to C. W. M.). We follow Eschmeyer (1998 and online editions) in retaining 1787 for the date of publication; sometimes given as 1788.
- Pleuronectes glacialis*** Pallas, 1776. **Arctic Flounder** or Polar Flounder. To 35 cm (13.8 in) TL (Morrow 1980). Arctic Russia to Labrador in the Atlantic and Okhotsk Sea in western Pacific; in our area off Alaska from Beaufort Sea to southeastern Bering Sea and Aleutian Islands. Benthic, in shallow brackish waters of bays and estuaries to depth of about 19 m (62 ft); rarely, if ever, found in deeper water (Mecklenburg et al. 2002) but reported to 91 m (298 ft; Kramer et al. 1995); sometimes enters fresh water (Morrow 1980).
- Pleuronectes quadrituberculatus*** Pallas, 1814. **Alaska Plaice** or Lemon Sole. To 62 cm (24.4 in) TL (Fadeev 1987). Sea of Japan (Lindberg and Fedorov 1993) to Chukchi Sea (Barber et al. 1997) and possibly Beaufort Sea, to eastern Aleutian Islands and Gulf of Alaska to southeastern Alaska near Ketchikan (Mecklenburg et al. 2002); one record from Bellingham Bay, Washington (Townsend 1936). Benthic, at depths of 5–500 m (16–1,640 ft; Lindberg and Fedorov 1993), except reported to 850 m (2,789 ft) or more in winter in Okhotsk Sea (Kim Sen Tok et al. 1999). *Pleuronectes pallasii* Steindachner, 1880, is a junior synonym and the name under which the Washington record was published (Mecklenburg et al. 2002).
- Pleuronichthys coenosus*** Girard, 1854. **C-O Sole** or C-O Turbot. To 36 cm (14 in) TL (Clemens and Wilby 1946). Southeastern Alaska (landed at Sitka but catch locality not known; well documented from sites farther south near Etolin Island and Ketchikan; Mecklenburg et al. 2002) to Punta Abreojos, southern Baja California (Charter and Moser in Moser 1996). Benthic, at 0–350 m (0–1,146 ft) (min.: Kramer et al. 1995; max.: Hart 1973).
- Pleuronichthys decurrens*** Jordan & Gilbert, 1881. California Turbot, **Curlfin Sole**, or Curlfin Turbot. To 37 cm (15 in) TL (Kramer et al. 1995), reported to 42 cm (16.5 in) TL (W. A. Palsson, pers. comm. to M. L.). Aleutian Islands off northwest coast of Unimak Island (Mecklenburg et al. 2002) and Gulf of Alaska to just south of Punta San Juanico, southern Baja California (25°59'N, 112°35'W; Snytko 1987). Benthic, surf zone (Carlisle et al. 1960) and to depth of 349 m (1,146 ft; Gilbert 1896). Maximum depth is sometimes given, incorrectly, as 533 m, 1,746 ft, or 291 fathoms. The error stems from Clemens and Wilby (1961) who, as pointed out by Fitch (1963:22), in giving a maximum depth of 291 fm (532 m) miscited Gilbert

(1896). Gilbert collected this species as deep as 191 fm (349 m). The *Albatross* station data (Townsend 1901) show that one of the seven stations listed by Gilbert (1896) as collecting *P. decurrens* was sampled by large beam trawl at 191 fm, and the rest were sampled at 21–56 fm. The greatest depth, even at 191 fm, was far from the norm. Miller and Lea (1972) reported the correct maximum depth of 1,146 ft (191 fm).

Pleuronichthys guttulatus Girard, 1856. **Diamond Turbot**. To 45.7 cm (18 in) TL (Miller and Lea 1972). Cape Mendocino, northern California to Cabo San Lucas, southern Baja California (Kramer et al. 1995); isolated population in Gulf of California (Miller and Lea 1972). Benthic, surf zone and to 46 m (150 ft) (min.: Carlisle et al. 1960; max.: Miller and Lea 1972). Recently as *Hypsopsetta guttulata*.

Pleuronichthys ocellatus Starks & Thompson, 1910. **Ocellated Turbot**. To 24 cm (9.4 in) TL (Sommer in Fischer et al. 1995). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Gulf of California (Sommer in Fischer et al. 1995). Benthic, at depths of 1–140 m (3–459 ft; Sommer in Fischer et al. 1995).

Pleuronichthys ritteri Starks & Morris, 1907. Catalina Sanddab or **Spotted Turbot**. To 29 cm (11 in) TL (Kramer et al. 1995), reported to 33 cm (13.0 in) TL (RACE). Northern California (37°55'N; Weinberg et al. 2002) to southern Baja California (24°12'N, 111°21'W; Cabrera Mancilla et al. 1988). Benthic, at depths of 1–197 m (3–646 ft) (min.: Sommer in Fischer et al. 1995; max.: Martinez-Muñoz and Ramirez-Cruz 1992).

Pleuronichthys verticalis Jordan & Gilbert, 1880. **Hornyhead Turbot** or Sharpridge Flounder. To 36.8 cm (14.5 in) TL (Miller and Lea 1972). Oregon (Kramer et al. 1995) to Bahia Magdalena, southern Baja California (Miller and Lea 1972); isolated population in Gulf of California (Eschmeyer and Herald 1983). Benthic, at depths of 5–237 m (16–777 ft) (min.: M. L., unpubl. data; max.: Martinez-Muñoz and Ramirez-Cruz 1992).

Psettichthys melanostictus Girard, 1854. Fringe Sole or **Sand Sole**. To 63 cm (24.75 in) TL (Clemens and Wilby 1961). Southeastern Bering Sea and Aleutian Islands from Unalaska Island to Port Heiden and Gulf of Alaska (Allen and Smith 1988) to Balboa Pier, southern California (33°36'N, 117°54'W; M. L., unpubl. data). Benthic, from intertidal area to 325 m (1,066 ft) (min.: Bolin 1975; max.: Allen and Smith 1988).

Reinhardtius hippoglossoides (Walbaum, 1792). Pacific Black Halibut or **Greenland Halibut**. To 130 cm (51.2 in) TL (Fadeev 1987). North Atlantic, Arctic, and North Pacific; Japan and Okhotsk seas to Bering, Chukchi, and Beaufort seas, and Aleutian Islands and Gulf of Alaska (Mecklenburg et al. 2002) to just south of U.S.–Mexico border (Hubbs and Wilimovsky 1964); rare south of Alaska. Benthic, at depths of 14–2,000 m (46–6,562 ft; Allen and Smith 1988).

Family Achiridae — American Soles

Achirus mazatlanus (Steindachner, 1869). Mazatlán Sole or **Pacific Lined Sole**. To 20 cm (7.9 in) TL (Allen and Robertson 1994). Islas Coronados, northern Baja California (Jordan 1923) to Puerto Pizarro, Peru (Chirichigno 1974), including Gulf of California (Krupp in Fischer et al. 1995). Benthic, at depths of 1–55 m (3–180 ft) (min.: González-Acosta et al. 1999; max.: Amezcua Linares 1996). Fresh, brackish, and marine waters (Krupp in Fischer et al. 1995).

Achirus scutum* (Günther, 1862). **Network Sole. To 19 cm (7.5 in) TL (Robertson and Allen 2002). Gulf of California (Krupp in Fischer et al. 1995) to Puerto Pizarro, Peru (Chirichigno 1974), including southern tip of Baja California (Krupp in Fischer et al. 1995). Benthic, at 5–46 m (17–151 ft) (min.: Robertson and Allen 2002; max.: Krupp in Fischer et al. 1995). Brackish and marine waters (Krupp in Fischer et al. 1995).

Trinectes fonsecensis* (Günther, 1862). **Spottedfin Sole or Spotted Sole. To 19 cm (7.5 in) TL (Robertson and Allen 2002). Lower Gulf of California (Krupp in Fischer et al. 1995) to Paita, Peru (Chirichigno 1974), including southern tip of Baja California (Moser in Moser 1996) and Islas Galápagos (Grove and

Lavenberg 1997). Benthic, at depths of 3–107 m (10–351 ft) (min.: SIO 62-39); max.: Amezcua Linares 1996). Adults in brackish and marine waters (Krupp in Fischer et al. 1995), juveniles sometimes found in fresh water (Bussing 1998).

Family Cynoglossidae — Tonguefishes

Symphurus atramentatus Jordan & Bollman, 1890. Barfinned Tonguefish, **Halfspotted Tonguefish**, Inkspot Tonguefish, or Spot-fin Tonguefish. To 14.4 cm (5.7 in) SL (Munroe et al. in Fischer et al. 1995). Bahia Magdalena, southern Baja California (De La Cruz-Agüero et al. 1994) to Isla San Lorenzo, Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997) and Gulf of California (Munroe et al. in Fischer et al. 1995). Benthic, at depths of 1–120 m (3–394 ft; Munroe et al. in Fischer 1995).

Symphurus atricaudus (Jordan & Gilbert, 1880). **California Tonguefish**. To 21.0 cm (8.25 in) TL (Miller and Lea 1972). Barkley Sound, Vancouver Island (collected by J. Boutillier and A. Phillips; G. E. Gillespie, pers. comm. to M. L. and C. W. M.) and Washington (Dinnel and Rogers 1986) to Gulf of California (Robertson and Allen 2002); also reported to northern Peru (Chirichigno and Vélez 1998). Benthic, surf zone and to 305 m (1,000 ft) (min.: Carlisle et al. 1960; max.: LACS 2002).

Symphurus callopterus Munroe & Mahadeva, 1989. **Chocolate Tonguefish** or Feather Tonguefish. To 16.2 cm (6.4 in) SL (Munroe et al. in Fischer et al. 1995). Pacific coast of southern Baja California (Munroe et al. in Fischer et al. 1995) to northern Peru (Chirichigno and Vélez 1998), including lower Gulf of California (Munroe et al. in Fischer et al. 1995). Benthic, at depths of 18–317 m (59–1,040 ft; Munroe et al. in Fischer et al. 1995).

Symphurus fasciolaris Gilbert, 1892. **Banded Tonguefish**. To 16.4 cm (6.5 in) SL (SIO 62-710). Bahia Magdalena, southern Baja California (SIO 62-710) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Munroe et al. in Fischer et al. 1995). Benthic, at depths of 1–50 m (3–164 ft; Munroe et al. in Fischer et al. 1995).

Symphurus gorgonae* Chabanaud, 1948. **Dwarf Tonguefish or Gorgonian Tonguefish. To 9 cm (3.5 in) TL (Robertson and Allen 2002). Southern tip of Baja California to Ecuador, including Gulf of California (Robertson and Allen 2002). Benthic, at depths of 20–120 m (66–394 ft) (min.: Robertson and Allen 2002; max.: Munroe et al. in Fischer et al. 1995).

Symphurus melanurus Clark, 1936. **Drab Tonguefish**. To 18.6 cm (7.3 in) SL (Munroe et al. in Fischer et al. 1995). Pacific coast of southern Baja California (Munroe et al. in Fischer et al. 1995) to northern Peru (Chirichigno and Vélez 1998), including southern Gulf of California (Munroe et al. in Fischer et al. 1995). Benthic, at depths of 1–35 m (3–115 ft; Munroe et al. in Fischer et al. 1995). Brackish and marine waters (Munroe et al. in Fischer et al. 1995).

Symphurus oligomerus* Mahadeva & Munroe, 1990. Spotfin Tonguefish or **Whiptail Tonguefish. To 16 cm (6.3 in) TL (Robertson and Allen 2002). Southern tip of Baja California (Munroe et al. in Fischer et al. 1995) to northern Peru (Chirichigno and Vélez 1998), including Gulf of California (Munroe et al. in Fischer et al. 1995). Benthic, at depths of 80–300 m (262–990 ft; Munroe et al. in Fischer et al. 1995).

Symphurus prolatinaris Munroe, Nizinski, & Mahadeva, 1991. **Halfstriped Tonguefish**. To 16.1 cm (6.3 in) SL (Munroe et al. in Fischer et al. 1995). Southern Baja California (about 24°19'N, 111°46'W; Munroe et al. 1991) to central Peru (Munroe et al. 1991), including lower Gulf of California (Munroe et al. in Fischer et al. 1995). Benthic, at depths of 9–162 m (30–531 ft; Munroe et al. 1991).

Symphurus williamsi Jordan & Culver, 1895. Williams' Tonguefish or **Yellow Tonguefish**. To 11.6 cm (4.6 in) SL (Munroe et al. in Fischer et al. 1995). Bahia Santa Maria (24°41'N, 112°10'W), southern Baja California (SIO 64-48) to northern Peru (Chirichigno and Vélez 1998) and Gulf of California (Munroe et al. in Fischer et al. 1995). Benthic, at depths of 1–52 m (3–171 ft; Munroe et al. in Fischer et al. 1995).

Order Tetraodontiformes

Family Balistidae — Triggerfishes

Balistes polylepis Steindachner, 1876. **Finescale Triggerfish**. To 80 cm (31.5 in) TL (De La Cruz-Agüero et al. 1997). Metlakatla, southeastern Alaska (Karinen et al. 1985; see comment under *Melichthys niger* below) to San Antonio (about 33°32'S), central Chile (Brito 2003), including Gulf of California (Bussing in Fischer et al. 1995), Islas Galápagos (Grove and Lavenberg 1997), and Hawaii (Randall and Mundy 1998). Only one Alaska record and isolated records from Washington to California; most common south of California (Mecklenburg et al. 2002). At depths of 3–512 m (10–1,680 ft) (min.: Pérez-España et al. 1996; max.: Miller and Lea 1972).

Melichthys niger (Bloch, 1786). **Black Durgon** or Black Triggerfish. To 51 cm (20 in) TL (Eschmeyer and Herald 1983). Circumglobal; San Diego, southern California to southern Gulf of California (Robertson and Allen 2002) and Ecuador, including Islas Galápagos (Grove and Lavenberg 1997). Not confirmed north of Mexico since it was reported off San Diego in the 1800s (Miller and Lea 1972, Eschmeyer and Herald 1983). A report of this fish from Metlakatla, Alaska (Karinen et al. 1985), represents a misidentified *Balistes polylepis* (Mecklenburg et al. 2002). Surface to 75 m (246 ft) (min.: Lieske and Myers 2002; max.: Matsuura in Carpenter and Niem 2001).

Pseudobalistes naufragium (Jordan & Starks, 1895). **Blunthead Triggerfish** or Stone Triggerfish. To 1 m (39.4 in) TL (Allen and Robertson 1994). Bahia Almejas (24°22'N, 111°43'W), southern Baja California (SIO 65-182) to Chile (Pequeño 1989), including lower Gulf of California (Bussing in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 2–100 m (7–328 ft) (min.: SIO 65-182; max.: Amezcua Linares 1996).

Sufflamen verres (Gilbert & Starks, 1904). **Orangeside Triggerfish**. To 40 cm (15.7 in) TL (Bussing in Fischer et al. 1995). Isla Cedros, central Baja California and, on mainland, Isla Asuncion (27°06'N, 114°18'W), southern Baja California (M. L., unpubl. data) to central Gulf of California and Ecuador (Béarez 1996), including Islas Galápagos (Grove and Lavenberg 1997). At depths of 3–35 m (10–115 ft; Allen and Robertson 1994).

Xanthichthys mento (Jordan & Gilbert, 1882). Crosshatch Triggerfish or **Redtail Triggerfish**. To 30 cm (11.7 in) TL (Randall 1996). Tropical Pacific; Ventura, southern California (Miller and Lea 1972) to Chile (Pequeño 1989), including Islas Galápagos (Grove and Lavenberg 1997). Surface to 131 m (430 ft) (min.: Eschmeyer and Herald 1983; max.: Chave and Mundy 1994).

Family Monacanthidae — Filefishes

Aluterus monoceros (Linnaeus, 1758). **Unicorn Filefish** or Unicorn Leatherjacket. To 76 cm (29.9 in) TL. Pacific coast of southern Baja California, southeastern Gulf of California to Chile, Isla Cocos, Isla Malpelo, and Islas Revillagigedo. At depths of 0–50 m (164 ft). All in Robertson and Allen (2002).

Aluterus scriptus (Osbeck, 1765). **Scrawled Filefish** or Scrawled Leatherjacket. To 1.1 m (43.3 in) TL (Lieske and Myers 2002). Circumglobal; Japan (Hiyashi in Nakabo 2002); Pacific coast of southern Baja California (Bussing and Lavenberg in Fischer et al. 1995) to Ecuador (Béarez 1996), including Gulf of California (Bussing and Lavenberg in Fischer et al. 1995), Easter Island (Pequeño 1997), and Islas Galápagos (Grove and Lavenberg 1997). At depths of 0–120 m (394 ft) (min.: Robertson and Allen 2002; max.: Chave and Mundy 1994).

Cantherhines dumerilii* (Holland, 1854). **Barred Filefish or Whitespotted Filefish. To 38 cm (15.0 in) TL (Laboute and Grandperrin 2000). Pacific and Indian oceans; Japan (Hiyashi in Nakabo 2002); a few sites in eastern Pacific including southern tip of Baja California (Bussing and Lavenberg in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Inshore, 1–35 m (3–115 ft; Myers 1999).

Family Ostraciidae — Boxfishes

- Lactoria diaphana* (Bloch & Schneider, 1801). Roundbelly Cowfish, **Spiny Boxfish**, or Spiny Cowfish. To 34 cm (13.4 in) TL (Robertson and Allen 2002). Pacific and Indian oceans; Santa Barbara, southern California (Miller and Lea 1972) to Chile (Pequeño 1989), including Islas Galápagos (Grove and Lavenberg 1997). Shallow water, surface to 50 m (164 ft) (min.: Miller and Lea 1972; max.: Robertson and Allen 2002).
- **Ostracion meleagris* Shaw, 1796. Pacific Boxfish, **Spotted Boxfish**, or Spotted Trunkfish. To 25 cm (9.8 in) TL (Smith in Smith and Heemstra 1986). Pacific and Indian oceans; southern Japan (Yamada in Nakabo 2002); Cabo San Lucas, southern Baja California, and other locations in tropical eastern Pacific (Thomson et al. 1979), including Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–30 m (3–98 ft) (min.: Lieske and Myers 2002; max.: Myers 1999).

Family Tetraodontidae — Puffers

- Arothron hispidus* (Linnaeus, 1758). **Stripebelly Puffer** or White-spotted Pufferfish. To 50 cm (19.7 in) TL (Laboute and Grandperrin 2000). Pacific and Indian oceans; northern Baja California (Bussing in Fischer et al. 1995) to Ecuador (Béarez 1996), including Gulf of California (Galván-Magaña et al. 1998) and Islas Galápagos (Grove and Lavenberg 1997). 0.5–90 m (2–295 ft) (min.: SIO 61-425; max.: Chave and Mundy 1994).
- **Arothron meleagris* (Lacepede, 1798). **Guineafowl Puffer** or Guineafowl Pufferfish. To 40 cm TL (15.7 in; Robertson and Allen 2002). Tip of Baja California into central and southern Gulf of California (Robertson and Allen 2002) to Peru (Pequeño 1989), including Islas Galápagos, and other offshore islands (Robertson and Allen 2002). At depths of 1–35 m (3–115 ft; Robertson and Allen 2002).
- **Canthigaster punctatissima* (Günther, 1870). Sharpnosed Puffer or **Spotted Sharpnose Puffer**. To 9 cm (3.5 in) TL (Bussing in Fischer et al. 1995). Tip of Baja California (Robertson and Allen 2002) to La Libertad, Ecuador (Grove and Lavenberg 1997), including Gulf of California (Bussing in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 2–24 m (5–79 ft) (min.: Allen and Robertson 1994; max.: SIO 61-233).
- Lagocephalus lagocephalus* (Linnaeus, 1758). **Oceanic Puffer**. To 61.0 cm (24 in) TL (Miller and Lea 1972). Circumglobal; Japan (Yamada in Nakabo 2002) and southern Kuril Islands (Parin 2003); Alder Creek Beach, Mendocino County, northern California (Miller and Lea 1972) to Peru (Grove and Lavenberg 1997), including Gulf of California (Bussing in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Oceanic, near surface (Eschmeyer and Herald 1983) to at least 1,000 m (3,280 ft; Shipp in Carpenter 2003).
- Sphoeroides annulatus* (Jenyns, 1842). **Bullseye Puffer**. To 48 cm (18.0 in) TL (Amezcuea Linares 1996). Redondo Beach, southern California (Grove and Lavenberg 1997) to Pisco, Peru (Chirichigno 1974), including Gulf of California (Bussing in Fischer et al. 1995) and Islas Galápagos (Watson in Moser 1996). At depths of 1–105 m (3–344 ft) (min.: SIO 61-185; max.: Amezcuea Linares 1996). Marine; juveniles in estuaries (Velasco and Thiel 2002).
- Sphoeroides lispus* Walker, 1996. **Naked Puffer** or Smooth Puffer. To 35.2 cm (13.9 in) TL (Cota-Gómez et al. 1998). Lagunas Ojo de Liebre-Guerrero Negro, central Baja California (Cota-Gómez et al. 1998) to Gulf of California (Walker and Bussing 1996). Shallow waters to 20 m (66 ft; Walker and Bussing 1996).
- Sphoeroides lobatus* (Steindachner, 1870). **Longnose Puffer**. To at least 30 cm (11.8 in) TL (Grove and Lavenberg 1997). Redondo Beach, southern California (Grove and Lavenberg 1997) to Salinas (33°57'S), central Chile (Brito 2003), including southern and central Gulf of California (Robertson and Allen 2002) and Islas Galápagos (Grove and Lavenberg 1997). Surface (SIO 50-155, nightlight) and 1–107 m (3–351 ft) (min.: Allen and Robertson 1994; max.: Amezcuea Linares 1996).

Sphoeroides sechurae* Hildebrand, 1946. **Peruvian Puffer or Southern Puffer. To 17 cm (6.7 in) TL (Bussing in Fischer et al. 1995). Tip of Baja California and western and central-eastern Gulf of California (Robertson and Allen 2002) to Bahia de Sechura, Peru (Chirichigno and Veléz 1998). At depths of 4–118 m (13–387 ft) (min.: SIO 62-214; max.: SIO 65-350).

Sphoeroides trichocephalus (Cope, 1870). Dwarf Puffer or **Pygmy Puffer**. To 12.6 cm (5 in) TL (Robertson and Allen 2002). Bahia Santa Maria (24°40'N, 112°W), southern Baja California (SIO 60-311) and southern Mexico to Chile, including Islas Tres Marias (Robertson and Allen 2002). At depths of 1–10 m (3–33 ft; Robertson and Allen 2002).

Family Diodontidae — Porcupinefishes

Chilomycterus reticulatus (Linnaeus, 1758). **Spotfin Burrfish** or Spotted Burrfish. To about 75 cm (29.5 in) TL (Leis in Carpenter and Niem 2001). Circumtropical; Japan (Aizawa in Nakabo 2002) and as far north as southern Kuril Islands (Savinykh 1998); Long Beach Harbor, southern California (Lea 1998) to Chile (Allen and Robertson 1994), including Islas Galápagos (Grove and Lavenberg 1997). At depths of 1–141 m (3–462 ft; Chave and Mundy 1994). *Chilomycterus affinis* Günther, 1870, is a junior synonym.

Diodon holacanthus Linnaeus, 1758. **Balloonfish**, Freckled Porcupinefish, Longnose Porcupinefish, or Longspined Balloonfish. To 60 cm (23.6 in) TL (Amezcuca Linares 1996), 30 cm (11.8 in) SL (Leis 2003). Circumglobal; Japan (Aizawa in Nakabo 2002) to La Jolla, southern California (Grove and Lavenberg 1997) to Easter Island (Pequeño 1989), including Gulf of California (Thomson et al. 2000) and Islas Galápagos (Grove and Lavenberg 1997). At depths of 1 m (3 ft; Robertson and Allen 2002) to at least 100 m (328 ft; Randall et al. 1990).

Diodon hystrix Linnaeus, 1758. Freckled Porcupinefish, **Porcupinefish**, Spotfin Porcupinefish, or Spotted Porcupinefish. To 91 cm (36 in) TL (Miller and Lea 1972), 75 cm (29.5 in) SL (Leis 2003). Circumglobal in warm waters; Japan (Aizawa in Nakabo 2002) and southeast of Kuril Islands (Parin 2003); San Diego, southern California to Chile, including Gulf of California and Islas Galápagos (Miller and Lea 1972). At depths of 1–135 m (3–443 ft) (min.: González-Acosta et al. 1999; max.: Ralston et al. 1986).

Family Molidae — Molas or Ocean Sunfishes

Mola mola (Linnaeus, 1758). Mola or **Ocean Sunfish**. Confirmed to 2.7 m (8.9 ft) TL (T. Thys, pers. comm. to M. L.); possibly to 4 m (13.1 ft) TL (Miller and Lea 1972). Circumglobal in temperate and tropical waters; Japan (Hatooka in Nakabo 2002) and southern Kuril Islands (Parin 2003) to Gulf of Alaska (Mecklenburg et al. 2002) to Las Cruces (33°29'S), central Chile (Brito 2003), including Gulf of California (Scott in Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). Surface to 644 m (2,113 ft) (min.: Clemens and Wilby 1946; max.: T. Thys, pers. comm. to M. L.). Deepest known occurrence off eastern Pacific coasts is 392 m (1,286 ft; Cartamil and Lowe 2004).

Ranzania laevis (Pennant, 1776). **Slender Mola**. To 90 cm (35.4 in) TL (Hutchins in Carpenter and Niem 2001). Circumglobal (Hutchins in Carpenter and Niem 2001); Oceano, central California (Snyder 1913) to Chile (Eschmeyer and Herald 1983), including Gulf of California (Scott in Fischer et al. 1995). Surface to 200 m (660 ft; Robertson and Allen 2002).

REFERENCES CITED

- Aasen, G. A., D. A. Sweetnam, and L. M. Lynch. 1998. Establishment of the wakasagi, *Hypomesus nipponensis*, in the Sacramento–San Joaquin Estuary. *Calif. Fish Game* 84: 31–35.
- Abe, T. and K. Hiramoto. 1984. Records of *Spectrunculus gigas* [sic; *grandis*] (Günther) (Ophidiidae, Teleostei) from off Boso Peninsula, Japan. *U O (Jpn. Soc. Ichthyol.)* 34: 1–3.
- Able, K. W. and D. E. McAllister. 1980. Revision of the snailfish genus *Liparis* from Arctic Canada. *Can. Bull. Fish. Aquat. Sci.* 208: 1–52.
- Abookire, A. A. 2002. Chapter 6. Benthic and intertidal fishes in Kachemak Bay, p. 48–54. *In* J. F. Piatt (ed.), *Response of seabirds to fluctuations in forage fish density. Final report to Exxon Valdez Oil Spill Trustee Council (Restoration Project 00163M) and Minerals Management Service (Alaska OCS Region)*. Alaska Science Center, U.S. Geological Survey, Anchorage, Alaska.
- Aburto-Oropeza, O. and E. F. Balart. 2001. Community structure of reef fish in several habitats of a rocky reef in the Gulf of California. *Mar. Ecol.* 22: 283–305.
- Agafonova, T. B. 1994. Systematics and distribution of *Cubiceps* (Nomeidae) of the world ocean. *J. Ichthyol.* 34: 116–143.
- Aguilar-Palomino, B., C. Pérez-Reyes, and F. Galván-Magaña. 2001. Ictiofauna de la Bahía de Navidad, Jalisco, México. *Rev. Biol. Trop.* 49: 173–190.
- Aguirre, H., V. J. Madrid, and J. A. Virgen. 2002. Presence of *Echinorhinus cookei* off central Pacific Mexico. *J. Fish Biol.* 61: 1403–1409.
- Ahlstrom, E. H., J. L. Butler, and B. Y. Sumida. 1976. Pelagic stromateoid fishes (Pisces, Perciformes) of the eastern Pacific: kinds, distributions, and early life histories and observations on five of these from the northwest Atlantic. *Bull. Mar. Sci.* 26: 285–402.
- Ahlstrom, E. H. and R. C. Counts. 1958. Development and distribution of *Vinciguerria lucetia* and related species in the eastern Pacific. *U. S. Fish Wildl. Serv., Fish. Bull.* 58: 363–416.
- Allen, G. R. 1985. *FAO species catalogue. Vol. 6. Snappers of the world.* FAO Fisheries Synopsis No. 125, Vol. 6. FAO, Rome.
- Allen, G. R. 1991. *Damselfishes of the world.* Mergus Press, Melle, Germany.
- Allen, G. R. and D. R. Robertson. 1994. *Fishes of the tropical eastern Pacific.* University of Hawaii Press, Honolulu.
- Allen, L. G. 1982. Seasonal abundance, competition and productivity of the littoral fish assemblage in upper Newport Bay, California. *Fish. Bull.* 80: 769–790.
- Allen, L. G. 1997. Fisheries inventory and utilization of San Diego Bay, San Diego, California. Third Annual Report, FY 1996–97; Summary for sampling period July 1996 to April 1997, U. S. Navy, Naval Facilities Engineering Command Southwest Division and the San Diego Unified Port District.
- Allen, L. G. 1999. Fisheries inventory and utilization of San Diego Bay, San Diego, California. Final report, sampling periods July 1994 to April 1999. Prepared for the U. S. Navy, Department of Defense, Agreement N68711-94-LT-4033.
- Allen, M. J. 1982. Functional structure of soft-bottom fish communities of the southern California Shelf. Ph.D. thesis, University of California, San Diego.
- Allen, M. J. and A. K. Groce. 2001. First occurrence of blackspot wrasse, *Decodon melasma* Goman 1974 (Pisces: Labridae) in California. *Bull. S. Calif. Acad. Sci.* 100: 131–136.
- Allen, M. J. and A. K. Groce. 2001. First occurrence of speckletail flounder, *Engyophrys sanctilaurentii* Jordan and Bollman 1890 (Pisces: Bothidae), in California. *Bull. S. Calif. Acad. Sci.* 100: 137–143.
- Allen, M. J., A. K. Groce, D. Diener, J. Brown, S. A. Steinert, G. Deets, J. A. Noblet, S. L. Moore, D. Diehl, E. T. Jarvis, V. Raco-Rands, C. Thomas, Y. Ralph, R. Gartman, D. Cadien, S. B. Weisberg, and T. Mikel. 2002. Southern California Bight 1998 Regional Monitoring Program: V. Demersal fishes and megabenthic invertebrates. Southern California Coastal Water Research Project. Westminster, California.

-
- Allen, M. J. and G. B. Smith. 1988. Atlas and zoogeography of common fishes in the Bering Sea and northeastern Pacific. NOAA Tech. Rep. NMFS 66.
- Alt, K. T. 1973. Contributions to the biology of the Bering cisco (*Coregonus laurettae*) in Alaska. J. Fish. Res. Board Can. 30: 1885–1888.
- Alton, M. A. 1972. Characteristics of the demersal fish fauna inhabiting the outer continental shelf and slope off the northern Oregon coast, p. 583–634. In A. T. Pruter and D. L. Alverson (eds.), The Columbia River estuary and adjacent ocean waters. Bioenvironmental studies. University of Washington Press, Seattle.
- Amaoka, K., K. Matsuura, T. Inada, M. Takeda, H. Hatanaka, and K. Okada. 1990. Fishes collected by the R/V *Shinkai Maru* around New Zealand. Japan Marine Fishery Resource Research Center.
- Amaoka, K., K. Nakaya, H. Araya, and T. Yasui (editors). 1983. Fishes from the north-eastern Sea of Japan and the Okhotsk Sea off Hokkaido. Japan Fisheries Resource Conservation Association, Tokyo.
- Amaoka, K., K. Nakaya, and M. Yabe. 1995. The fishes of northern Japan. Kita-Nihon Kaiyo Center Co. Ltd., Sapporo, Hokkaido. [In Japanese and English.]
- Ambrose, D. A., R. L. Charter, H. G. Moser, S. R. Charter, and W. Watson. 2002. Ichthyoplankton and station data for surface (manta) and oblique (bongo) plankton tows taken during a survey in the eastern tropical Pacific Ocean July 30–December 9, 1998. NOAA-TM-NMFS-SWFSC-337.
- Amezcuca Linares, F. 1996. Peces demersales de la plataforma continental del Pacífico Central de México. Instituto de Ciencias del Mar y Limnológica, Universidad Nacional Autónoma de México.
- Anderson, M. E. 1984. On the anatomy and phylogeny of the Zoarcidae (Teleostei: Perciformes). Ph.D. thesis, College of William and Mary, Williamsburg, Virginia.
- Anderson, M. E. 1989. Records of rare eelpouts of the genus *Lycodapus* Gilbert in the north and southeastern Pacific Ocean, with an addition to the California marine fish fauna. Calif. Fish Game 75(3): 148–154.
- Anderson, M. E. 1994. Systematics and osteology of the Zoarcidae (Teleostei: Perciformes). J. L. B. Smith Inst. Ichthyol., Ichthyol. Bull. No. 60.
- Anderson, M. E. 1995. The eelpout genera *Lycenchelys* Gill and *Taranetzella* Andriashev (Teleostei: Zoarcidae) in the eastern Pacific, with descriptions of nine new species. Proc. Calif. Acad. Sci. 49(2): 55–113.
- Anderson, M. E. 2003. *Esselenichthys*: a new replacement name for *Esselenia* Follett and Anderson, 1990, junior homonym of *Esselenia* Hebard, 1920 (Orthoptera). Copeia 2003: 414.
- Anderson, M. E. and G. M. Cailliet. 1975. Occurrence of the rare North Pacific frostfish, *Benthodesmus elongatus pacificus* Parin and Becker, 1970, in Monterey Bay, California. Calif. Fish Game 61: 149–153.
- Anderson, M. E., G. M. Cailliet, and B. S. Antrim. 1979. Notes on some uncommon deep-sea fishes from the Monterey Bay area, California. Calif. Fish Game 65: 256–264.
- Anderson, M. E. and V. V. Fedorov. 2004. Family Zoarcidae Swainson 1839 — eelpouts. Calif. Acad. Sci. Annotated Checklists of Fishes No. 34.
- Anderson, M. E. and C. L. Hubbs. 1981. Redescription and osteology of the northeastern Pacific fish *Derepodichthys alepidotus* (Zoarcidae). Copeia 1981: 341–352.
- Andriashev, A. P. 1937. A contribution to the knowledge of the fishes from the Bering and Chukchi seas. Issled. Morei SSSR 25 (Issled. Dal'nevostoch. Morei 5), Leningrad: 292–355. [In Russian; translation by L. Lanz and N. J. Wilimovsky, 1955, U.S. Fish Wildl. Serv. Spec. Sci. Rep. Fish. 145.]
- Andriashev, A. P. 1952. A new deep-sea fish of the eelpout family (Pisces, Zoarcidae) from the Bering Sea. Tr. Zool. Inst. Akad. Nauk SSSR 12: 415–417. [Translation by Israel Prog. Sci. Transl., 1963, pp. 47–49 in A. P. Andriyashev: Selected taxonomic papers on northern marine fishes.]
- Andriashev, A. P. 1954. Fishes of the northern seas of the USSR. Akad. Nauk SSSR, Zool. Inst., Opredeliteli po Faune SSSR 53. [In Russian; translation by Israel Prog. Sci. Transl., 1964.]
- Andriashev, A. P. 1955. A review of the genus *Lycenchelys* Gill (Pisces, Zoarcidae) and related forms in the seas of the U.S.S.R. and adjacent waters. Tr. Zool. Inst. Akad. Nauk SSSR 18: 349–384. [In Russian; translation by Israel Prog. Sci. Transl., 1963, p. 1–36 in A. P. Andriyashev: Selected taxonomic papers on northern marine fishes.]

-
- Andriashev, A. P. 1958. An addition to the review of *Lycenchelys* Gill, with a description of three new species from the Kurilo-Kamchatkan Trench. Vopr. Ikhtiol. 11: 171–180. [In Russian; translation by Israel Prog. Sci. Transl., 1963, pages 37–46 in A. P. Andriyashev: Selected taxonomic papers on northern marine fishes.]
- Antonenko, D. V., P. V. Kalchugin, D. V. Izmyatinskii, and L. N. Kim. 2003. On the occurrence of cold-water species of fish, rare for Peter the Great Bay (the Sea of Japan). J. Ichthyol. 43: 54–57.
- Antonenko, D. V., P. V. Kalchugin, and S. F. Solomatov. 2004. Catches of fish new for the Primorskii Krai waters (the Sea of Japan). J. Ichthyol. 44: 188–189.
- Antonenko, D. V., P. O. Pushchina, and P. V. Kalchugin. 2004. Distribution and biological features of the long-snouted blenny *Lumpenella longirostris* (Stichaeidae) in waters of Primorye (the Sea of Japan). J. Ichthyol. 44: 747–751.
- Antonenko, D. V., S. F. Solomatov, and P. V. Kalchugin. 2003. Discovery of *Pleurogrammus monoptyerygius* and *Sebastes baramenuke* in waters of Primorye (the Sea of Japan). J. Ichthyol. 43: 273–274.
- Arellano-Martinez, M., J. De La Cruz-Agüero, and V. M. Cota-Gómez. 1997. New records and range extensions of fishes on the Pacific Coast of Mexico. Rev. Biol. Trop. 45: 936.
- Aron, W. 1960. The distribution of animals in the eastern North Pacific and its relationship to physical and chemical conditions. Tech. Rep. Univ. Wash. Dep. Oceanogr. 63.
- Azevedo, J. M. N. and P. C. Heemstra. 1995. New records of marine fishes from the Azores. Arquipelago. Life and Marine Sciences 13A: 1–10.
- Badcock, J. 1988. Evidence for the assignment of *Dolichopteryx brachyrhynchus* Parr to the genus *Bathyllynops* Cohen (Pisces, Opisthoproctidae). J. Fish Biol. 32: 423–432.
- Baird, R. C. 1971. The systematics, distribution, and zoogeography of the marine hatchetfishes (family Sternoptychidae). Bull. Mus. Comp. Zool. 142: 1–128.
- Balart, E. F., J. González-García, and C. Villavicencio-Garayzar. 2000. Notes on the biology of *Cephalurus cephalus* and *Parmaturus xaniurus* (Chondrichthyes: Scyliorhinidae) from the west coast of Baja California Sur, Mexico. Fish. Bull. 98: 219–221.
- Balanov, A. A. 1992. New discoveries of deep-water fishes in pelagic waters of the Bering Sea. J. Ichthyol. 32(9): 133–137.
- Balanov, A. A. 2003a. Additions to the ichthyofauna of the southwestern part of the Sea of Okhotsk. J. Ichthyol. 43: 483–485.
- Balanov, A. A. 2003b. Supplement to ichthyofauna of the continental slope of the southeastern Sakhalin (the Sea of Okhotsk). J. Ichthyol. 43: 127–130.
- Balanov, A. A., K. Amaoka, and T. W. Pietsch. 1999. Redescription and first record of the prickleback fish *Alectridium aurantiacum* (Perciformes: Stichaeidae) from the central Kuril Islands. Species Diversity 4: 389–396.
- Balanov, A. A. and V. V. Fedorov. 1996. About some deep-sea fishes new to the Bering Sea fauna. J. Ichthyol. 36: 313–316.
- Balanov, A. A. and A. P. Kasatkina. 2003. The first record of *Cyclothone pseudopallida* (Gonostomatidae) in the high Arctic. J. Ichthyol. 43: 271–272.
- Balanov, A. A., V. V. Zemnukhov, and O. A. Ivanov. 2004. Distribution of the eelpout *Lycodes soldatovi* (Pisces: Zoarcidae) over the continental slope of the Sea of Okhotsk. Russ. J. Mar. Biol. 30: 248–258.
- Baldwin, C. C. and J. E. McCosker. 2001. Wrasses of the Galápagos Islands, with the description of a new deepwater species of *Halichoeres* (Perciformes: Labridae). Rev. Biol. Trop. 49 (Suppl. 1): 89–100.
- Bali, J. B. and C. E. Bond. 1959. The bigfin eelpout, *Aprodon corteziianus* Gilbert, common in waters off Oregon. Copeia 1959: 74–76.
- Banford, H. M. and B. B. Collette. 2001. A new species of halfbeak, *Hyporhamphus naos* (Beloniformes: Hemiramphidae), from the tropical eastern Pacific. Rev. Biol. Trop. 49 (Suppl. 1): 39–49.
- Barber, W. E., R. L. Smith, M. Vallarino, and R. M. Meyer. 1997. Demersal fish assemblages of the northeastern Chukchi Sea, Alaska. Fish. Bull. 95: 195–209.

-
- Barnhart, P. S. 1936. Marine fishes of southern California. University of California Press, Berkeley.
- Barraclough, W. E. and K. S. Ketchen. 1963. First record of the thornback sculpin, *Paricelinus hopliticus*, Eigenmann and Eigenmann, in British Columbia waters. J. Fish. Res. Board Can. 20(3): 851–852.
- Barraclough, W. E. and A. E. Peden. 1976. First records of the pricklebreast poacher (*Stellerina xyosterna*), and the cutfin poacher (*Xeneretmus leiops*) from British Columbia, with keys to the poachers (Agonidae) of the Province. Syesis 9: 19–23.
- Barsukov, V. V. 1958. Fishes of Providence Bay and adjacent waters of the Chukotsk Peninsula. Tr. Zool. Inst. Akad. Nauk SSSR 25: 130–163. [In Russian.]
- Barsukov, V. V., L. A. Borets, L. S. Kodolov, and V. A. Snytko. 1983. New data on *Adelosebastes latens* Eschmeyer, Abe and Nakano, 1979 (Scorpaenidae). Vopr. Ikhtiol. 23(4): 538–543. [In Russian. English transl. in J. Ichthyol. 23(4): 8–13.]
- Baxter, J. L. 1966. Inshore fishes of California. California Department of Fish and Game.
- Bayer, R. D. 1980. Size, seasonality, and sex ratios of the bay pipefish (*Syngnathus leptorhynchus*) in Oregon. Northwest Sci. 54: 161–167.
- Bean, T. H. 1880. Descriptions of some genera and species of Alaskan fishes. Proc. U.S. Natl. Mus. (for 1879) 2: 353–359.
- Bean, T. H. 1890. Scientific results of explorations by the U.S. Fish Commission steamer Albatross. No. XI.—New fishes collected off the coast of Alaska and the adjacent region southward. Proc. U.S. Natl. Mus. 13: 37–45.
- Béarez, P. 1996. Lista de los peces marinos del Ecuador continental. Rev. Biol. Trop. 44: 731–741.
- Béarez, P. 2001. Description of a new weakfish, *Cynoscion nortoni*, from Ecuador with a note on the distribution of *Umbrina bussingi* (Perciformes: Sciaenidae). Rev. Biol. Trop. 49 (Suppl. 1): 59–65.
- Béarez, P., H. Treviño, and M. Zambrano. 2002. Primer registro para el sur del Péru du *Rynchoconger nitens* (Jordan and Bollman 1890) (Teleostei: Congridae). Un caso de dispersión larvaria relacionada con El Niño? Rev. Biol. Mar. Oceanogr. 37: 9–13.
- Bedford, D. W. and F. B. Hagerman. 1983. The billfish fishery resource of the California Current. CalCOFI Rep. 24: 70–78.
- Behnke, R. J. 1992. Native trout of western North America. Am. Fish. Soc. Monogr. 6. American Fisheries Society, Bethesda, Maryland.
- Bekker, V. E. 1983. Myctophid fishes of the World oceans. Nauka, Moscow. [In Russian.]
- Beltrán-León, B. S. and R. Rios Herrera. 2000. Estadios tempranos de peces del Pacific Colombiano. Republica de Colombia. Instituto Nacional de Pesca y Acuicultura INPA.
- Benz, G. W., R. Hocking, A. Kowunna Sr., S. A. Bullard, and J. C. George. 2004. A second species of Arctic shark: Pacific sleeper shark *Somniosus pacificus* from Point Hope, Alaska. Polar Biol. 27: 250–252.
- Berg, L. S. 1948. Freshwater fishes of the USSR and adjacent countries. Vol. 1, 4th edition. Acad. Sci. USSR Zool. Inst., Fauna USSR 27. [Translation by Israel Prog. Sci. Transl., 1962.]
- Berry, F. H. and H. C. Perkins. 1966. Survey of pelagic fishes of the California Current area. Fish. Bull. U.S. 65: 625–682.
- Bertelsen, E. 1982. Notes on Linophryniidae VIII. A review of the genus *Linophryne*, with new records and descriptions of two new species. Steenstrupia 8(13): 49–104.
- Bertelsen, E. and G. Krefft. 1988. The ceratioid family Himantolophidae (Pisces, Lophiiformes). Steenstrupia 14(2): 9–89.
- Bertelsen, E., G. Krefft, and N. B. Marshall. 1976. The fishes of the family Notosudidae. Dana-Rep. Carlsberg Found. No. 86.
- Bertelsen, E. and J. G. Nielsen. 1987. The deepsea eel family Monognathidae (Pisces, Anguilliformes). Steenstrupia 13(4): 141–198.
- Bertelsen, E. and T. W. Pietsch. 1977. Results of the research cruises of FRV “Walther Herwig” to South America. XLVII. Ceratioid anglerfishes of the family Oneirodidae collected by the FRV “Walther Herwig”. Arch. FischWiss. 27(3): 171–189.

-
- Bertelsen, E., T. W. Pietsch, and R. J. Lavenberg. 1981. Ceratioid anglerfishes of the family Gigantactinidae: morphology, systematics and distribution. Nat. Hist. Mus. Los Angel. Cty. Contrib. Sci. 332.
- Bertelsen, E. and P. J. Struhsaker. 1977. The ceratioid fishes of the genus *Thaumatichthys*: osteology, relationships, distribution, and biology. Galathea Rep. 14: 7–40.
- Bigelow, H. B. and W. C. Schroeder. 1953. Fishes of the Gulf of Maine. Fish. Bull. Fish Wildl. Serv. 53.
- Birman, I. B. 1958. On the distribution of some pelagic fishes in the northern part of the Pacific Ocean. Zool. Zh. 37: 1058–1062. [In Russian.]
- Black, G. F. 1977. Notes on some fishes collected off the outer coast of Baja California. Calif. Fish Game 63: 71–72.
- Boehlert, G. W. and T. Sasaki. 1988. Pelagic biogeography of the armorhead, *Pseudopentaceros wheeleri*, and recruitment to isolated seamounts in the North Pacific Ocean. U.S. Natl. Mar. Fish. Serv. Fish. Bull. 86: 453–465.
- Boggs, C. 1992. Fine tuning tuna fishery: timing bits of fish with chips. Southwestern Fisheries Science Center, Quarterly Report (Jan.-Feb.), p. 18–20.
- Bolin, R. L. 1936. A revision of the genus *Icelinus* Jordan. Copeia 1936: 151–159.
- Bolin, R. L. 1944. A review of the marine cottid fishes of California. Stanford Ichthyol. Bull. 3(1): 1–135.
- Bolin, R. L. 1975. Intertidal fishes, p. 656–668. In R. I. Smith and J. T. Carlton (eds.), Light's Manual. Third edition. University of California Press.
- Bond, C. E. and R. E. Olson. 1985. Northward occurrence of the opaleye, *Girella nigricans*, and the sharpnose seaperch, *Phanerodon furcatus*. Calif. Fish Game 71: 56–57.
- Bond, C. E. and D. L. Stein. 1984. *Opaephacus acrogeneius*, a new genus and species of zoarcidae (Pisces: Osteichthyes) from the Bering Sea. Proc. Biol. Soc. Wash. 97: 522–525.
- Borges, L. 2001. A new maximum length for the snipefish *Macrorhamphosus scolopax*. Cybium 25: 191–192.
- Bottom, D. L. and K. M. Jones. 1990. Species composition, distribution, and invertebrate prey of fish assemblages in the Columbia River Estuary. Prog. Oceanogr. 25: 243–270.
- Bradbury, M. G. 1999. A review of the fish genus *Dibranchius* with descriptions of new species and a new genus, *Solocisquama* (Lophiiformes, Ogocephalidae). Proc. Calif. Acad. Sci. 51: 259–310.
- Briggs, J. C. 1955. A monograph of the clingfishes (Order Xenopterygii). Stanford Ichthyol. Bull. 6.
- Briggs, J. C. 2002. New species of *Rimicola* from California. Copeia 2002: 441–444.
- Bright, D. B. 1959. The occurrence and food of the sleeper shark, *Somniosus pacificus*, in a central Alaska bay. Copeia 1959(1): 76–77.
- Brito, J. L. 2002. *Scomberomorus sierra* Jordan y Starks, 1895 (Perciformes: Scombridae) en San Antonio, Chile. Estud. Oceanol. 21: 9–11.
- Brito, J. L. 2003. Nuevos registros de *Balistes polylepis* (Balistidae), *Sphoeroides lobatus* (Tetraodontidae), *Mola mola* y *M. ramsayi* (Molidae) en San Antonio, Chile (Pisces, Tetraodontiformes). Investig. Mar., Valparaiso 31: 77–83.
- Brodeur, R. D. 1988. Zoogeography and trophic ecology of the dominant epipelagic fishes in the northern North Pacific. Bull. Ocean Res. Inst. Univ. Tokyo No. 26 (Part II): 1–27.
- Brodeur, R. D. and M. S. Busby. 1998. Occurrence of an Atlantic salmon *Salmo salar* in the Bering Sea. Alaska Fish. Res. Bull. 5: 64–66.
- Brooks, A. 1987. Two species of Kyphosidae seen in King Harbor, Redondo Beach, California. Calif. Fish Game 73: 49–61.
- Bureau of Fisheries. 1907. Dredging and hydrographic records of the U.S. Fisheries steamer *Albatross* for 1906. Bureau of Fisheries Doc. 621.
- Burge, R. T. and S. A. Schultz. 1973. The marine environment in the vicinity of Diablo Cove with special reference to abalones and bony fishes. Calif. Dep. Fish Game Mar. Resour. Tech. Rep. 19.
- Burgner, R. L. 1991. Life history of sockeye salmon (*Oncorhynchus nerka*), p. 1–117. In C. Groot and L. Margolis (eds.), Pacific salmon life histories. UBC Press, Vancouver.

-
- Busby, M. S. 1998. Guide to the identification of larval and early juvenile poachers (Scorpaeniformes: Agonidae) from the northeastern Pacific Ocean and Bering Sea. NOAA Tech. Rep. NMFS 137.
- Bussing, W. A. 1998. Freshwater fishes of Costa Rica. *Rev. Biol. Trop.* 46 (Suppl. 2).
- Butler, J. 1979. The nomeid genus *Cubiceps* (Pisces) with a description of a new species. *Bull. Mar. Sci.* 29: 226–241.
- Butler, J. L., L. D. Jacobs, J. T. Barnes, and H. G. Moser. 2003. Biology and population dynamics of cowcod (*Sebastes levis*) in the southern California Bight. *Fish. Bull.* 101: 260–280.
- Butler, J. L., L. Jacobson, J. T. Barnes, H. G. Moser, and R. Collins. 1999. Stock assessment of cowcod. Pacific Fishery Management Council, Portland, Oregon.
- Butler, J. L., H. G. Moser, W. Watson, D. A. Ambrose, S. R. Charter, and E. M. Sandknop. 1997. Fishes collected by midwater trawls during two cruises of the *David Starr Jordan* in the northeastern Pacific Ocean, April–June and September–October, 1972. NOAA Tech. Memo. NMFS-SWFSC-244.
- Cabrera Mancilla, I., E. Castañeda Beltrán, and O. López Tello. 1988. “Peces colectados con red de arrastre, en la costa oeste de Baja California, Mexico (desde Cabo Tosco a Boca Carrizal y Bahía Sebastian Vizcaino), en los meses de Julio de 1981 y 1982.” *Biol. Mar., Inv. Ocean/B* 4(1): 1–189.
- Campbell, R. E. 1989. Status of the Y-Prickleback, *Allolumpenus hypochromus*, in Canada. Report to the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Canadian Wildlife Service, Ottawa, Ontario.
- Carlisle, J. G. Jr. 1969. Results of a six-year trawl study in an area of heavy waste discharge: Santa Monica Bay, California. *Calif. Fish Game* 55: 26–46.
- Carlisle, J. G. Jr., J.W. Schott, and N. J. Abramson. 1960. The barred surfperch (*Amphistichus argenteus* Agassiz) in southern California. *Calif. Dep. Fish Game Fish Bull.* 109.
- Carpenter, K. E. (editor). 2003. The living marine resources of the Western Central Atlantic. Vol. 1. Mollusca, crustacea, hagfishes, sharks, batoid fishes, and chimaeras. Vol. 2. Bony fishes part 1 (Acipenseridae to Grammatidae). Vol. 3. Bony fishes part 2 (Opistognathidae to Molidae), sea turtles and marine mammals. FAO Species Identification Guide for Fishery Purposes and American Society of Ichthyologists and Herpetologists Spec. Publ. No. 5. FAO, Rome. [Date on cover is 2002, but publication date is 2003.]
- Carpenter, K. E. and V. H. Niem (editors). 1998. The living marine resources of the Western Central Pacific. Vol 2. Cephalopods, crustaceans, holothurians and sharks. FAO, Rome.
- Carpenter, K. E. and V. H. Niem (editors). 1999. The living marine resources of the Western Central Pacific. Vol. 3. Batoid fishes, chimaeras and bony fishes part 1 (Elopidae to Linophrynidae). Vol. 4. Bony fishes part 2 (Mugilidae to Carangidae). FAO, Rome.
- Carpenter, K. E. and V. H. Niem (editors). 2001. The living marine resources of the Western Central Pacific. Vol. 5. Bony fishes part 3 (Menidae to Pomacentridae). Vol. 6. Bony fishes part 4 (Labridae to Latimeriidae), estuarine crocodiles, sea turtles, sea snakes and marine mammals. FAO, Rome.
- Carr, S. M., D. S. Kivlichan, P. Pepin, and D. C. Crutcher. 1999. Molecular systematics of gadid fishes: implications for the biogeographic origins of Pacific species. *Can. J. Zool.* 77: 19–26.
- Cartamil, D. and C. G. Lowe. 2004. Diel movement patterns of ocean sunfish *Mola mola* off southern California. *Mar. Ecol. Prog. Ser.* 266: 245–253.
- Caruso, J. 1981. The systematics and distribution of the lophiid anglerfishes: I. A revision of the genus *Lophiodes* with the description of two new species. *Copeia* 1981: 522–549.
- Castle, P. H. J. and N. S. Raju. 1975. Some rare leptocephali from the Atlantic and Indo-Pacific oceans. *Dana-Rep. Carlsberg Found.* No. 85.
- Castro, J. I. 1983. The sharks of North American waters. Texas A&M University Press, College Station.
- Castro-Aguirre, J. L. 1991. Nuevos registros de peces mesopelagicos y bentonicos en el Golfo de California, Mexico. *An. Esc. Nac. Cienc. Biol. Mex.* 35: 71–89.
- Castro-Aguirre, J. L. and H. Espinosa Pérez. 1996. Listados faunísticos de México. VII. Catálogos sistemático de Las Rayas y especies afines de México. Universidad Nacional Autónoma de México.

-
- Castro-Aguirre, J. L., H. Espinosa Pérez, and J. J. Schmitter-Soto. 1999. Ictiofauna estuarino-lagunar y vicaria de Mexico. Limusa Noriega Editores, Mexico.
- Castro-Aguirre, J. L., J. C. Ramirez-Cruz, and M. J. Martinez-Munoz. 1992. Nuevos datos sobre la distribución de lenguados (Pisces: Pleuronectiformes) en la costa del oeste de Baja California, Mexico; con aspectos biológicas y zoogeográficos. *An. Esc. Nac. Cienc. Biol. Mex.* 37: 97–119.
- Castro-Aguirre, J. L., G. Ruiz-Campos, and E. F. Balart. 2002. A new species of the genus *Lile* (Clupeiformes: Clupeidae) of the eastern tropical Pacific. *Bull. S. Calif. Acad. Sci.* 101: 1–12.
- Castro-Aguirre, J. L., J. J. Schmitter, and E. F. Balart. 1993. Sobre la distribución geográfica de algunas peces bentónicos de la costa oeste de Baja California Sur, Mexico, con consideraciones ecológicas y evolutivas. *An. Esc. Nac. Cienc. Biol. Mex.* 38: 75–102.
- Castro Hernández, J. J. and A. T. Santana Ortega. 2000. Synopsis of biological data on the chub mackerel (*Scomber japonicus* Houttuyn, 1782). FAO Fisheries Synopsis 157. Food and Agriculture Organization of the United Nations, Rome.
- Chapman, W. M. 1943. The osteology of the Pacific saury, *Cololabis saira*. *Copeia* 1943(3): 171–182.
- Chapman, W. M. and A. C. DeLacy. 1934. New species of *Careproctus* from Alaska. *J. Pan-Pac. Res. Inst.* 9(2): 2–5.
- Chave, E. H. and B. C. Mundy. 1994. Deep-sea benthic fish of the Hawaiian archipelago, Cross Seamount and Johnston Atoll. *Pac. Sci.* 48: 367–409.
- Chen, L.-C. 1971. Systematics, variation, distribution, and biology of rockfishes of the subgenus *Sebastomus* (Pisces, Scorpaenidae, *Sebastes*). *Bull. Scripps Inst. Oceanogr. Univ. Calif.* 18.
- Chereshnev, I. A. and M. V. Nazarkin. 2004. The first finding of the Atka mackerel *Pleurogrammus monopterygius* (Scorpaeniformes: Hexagrammidae) in the Tauiskaya Bay (northern part of the Sea of Okhotsk). *J. Ichthyol.* 44: 307–311.
- Chereshnev, I. A., V. V. Volobuev, I. E. Khovansky, and A. B. Shestakov. 2001. Coastal fishes of the northern part of the Sea of Okhotsk. *Dal'nauka, Vladivostok*. [In Russian.]
- Chernova, N. V. 1998. Reestablishment of the validity of species *Gymnelus bilabrus* Andriashev 1937 with characteristics of species *G. viridis* verified (Fabricius, 1780) (Zoarcidae). *J. Ichthyol.* 38(2): 163–169.
- Chernova, N. V. and D. L. Stein. 2002. Ten new species of *Pseudnos* (Pisces, Scorpaeniformes, Liparidae) from the Pacific and North Atlantic oceans. *Copeia* 2002: 755–778.
- Chernova, N. V., D. L. Stein, and A. P. Andriashev. 2004. Family Liparidae Scopoli 1777 — snailfishes. *Calif. Acad. Sci. Annotated Checklists of Fishes* No. 31.
- Childress, J. J. and M. N. Nygaard. 1973. The chemical composition of midwater fishes as a function of depth of occurrence off southern California. *Deep-Sea Res.* 20: 1093–1109.
- Childress, J. J., S. M. Taylor, G. M. Cailliet, and M. H. Price. 1980. Patterns of growth, energy utilization and reproduction in some meso- and bathypelagic fishes off southern California. *Mar. Biol.* 61: 27–40.
- Chirichigno, F. N. 1974. Clave para identificar los peces marinos del Peru. Instituto del Mar del Peru Informe, No. 44.
- Chirichigno, F. N. and J. Vélez D. 1998. Clave para identificar los peces marinos del Peru (segunda edición, revisada y actualizada). Instituto de Mar de Peru. Publicación Especial.
- Chotkowski, M. A. 1994. The behavioral ecology and population dynamics of the intertidal fishes of the northeast Pacific. Ph.D. thesis, University of California, Los Angeles.
- Clark, E. and E. Kristof. 1990. Deep-sea elasmobranchs observed from submersibles off Bermuda, Grand Cayman, and Freeport, Bahamas, p. 269–284. *In* H. L. Pratt Jr., S. H. Gruber, and T. Taniuchi (eds.), *Elasmobranchs as living resources: advances in the biology, ecology, systematics, and the status of the fisheries*. NOAA Tech. Rep. NMFS 90.
- Clarke, T. A. 1980. Diets of fourteen species of vertically migratory mesopelagic fishes in the Hawaiian water. *Fish. Bull.* 78: 619–640.
- Clarke, T. A. and P. J. Wagner. 1976. Vertical distribution and other aspects of the ecology of certain mesopelagic fishes taken near Hawaii. *Fish. Bull.* 74: 635–645.

-
- Clemens, W. A., and G. V. Wilby. 1946. Fishes of the Pacific coast of Canada. Fish. Res. Board Can. Bull. 68.
- Clemens, W. A. and G. V. Wilby. 1949. Fishes of the Pacific coast of Canada, revised. Fish. Res. Board Can. Bull. 68.
- Clemens, W. A. and G. V. Wilby. 1961. Fishes of the Pacific coast of Canada, 2nd edition. Fish. Res. Board Can. Bull. 68.
- Coad, B. W. 1995. Encyclopedia of Canadian fishes. Canadian Museum of Nature and Canadian Sportfishing Productions Inc.
- Cohen, D. M. 1974. A review of the pelagic ophidioid fish genus *Brotulataenia* with descriptions of two new species. Zool J. Linn. Soc. 55: 119–149.
- Cohen, D. M., T. Inada, T. Iwamoto, and N. Scialabba. 1990. FAO species catalogue. Vol 10. Gadiform fishes of the world. FAO Fisheries Synopsis No. 125, Vol. 10. FAO, Rome.
- Coleman, L. R. and B. G. Nafpaktitis. 1972. *Dorsadena yaquinae*, a new genus and species of myctophid fish from the eastern North Pacific Ocean. Nat. Hist. Mus. Los Angel. Cty. Contrib. Sci. 225.
- Collette, B. B. 1999. Mackerels, molecules, and morphology, p. 149–164. In B. Séret and J.-Y. Sire (eds.), Proceedings of the 5th Indo-Pacific Fish Conference, Nouméa-New Caledonia, 1997. Société Française d'Ichtyologie, Paris.
- Collette, B. B. 2003. Family Belonidae Bonaparte 1832 — needlefishes. Calif. Acad. Sci. Annotated Checklists of Fishes No. 16.
- Collette, B. B. 2003. Family Scombridae Rafinesque 1815 — mackerels, tunas, and bonitos. Calif. Acad. Sci. Annotated Checklists of Fishes No. 19.
- Collette, B. B. 2004. Family Scomberesocidae Müller 1843 — sauries. Calif. Acad. Sci. Annotated Checklists of Fishes No. 21.
- Collette, B. B. 2004. Family Hemiramphidae Gill 1859 — halfbeaks. Calif. Acad. Sci. Annotated Checklists of Fishes No. 22.
- Collette, B. B. and C. R. Aadland. 1996. Revision of the frigate tunas (Scombridae, *Auxis*), with descriptions of two new subspecies from the eastern Pacific. Fish. Bull. 94: 423–441.
- Collette, B. B. and H. M. Banford. 2001. Status of the eastern Pacific agujon needlefish *Tylosurus pacificus* (Steindachner, 1876) (Beloniformes: Belonidae). Rev. Biol. Trop. 49 Suppl. 1: 51–57.
- Collette, B. B. and G. Klein-MacPhee. 2002. Bigelow and Schroeder's Fishes of the Gulf of Maine. Third edition. Smithsonian Institution Press, Washington, D.C.
- Collette, B. B. and C. E. Nauen. 1983. FAO species catalogue. Vol. 2. Scombrids of the world. An annotated and illustrated catalogue of tunas, mackerels, bonitos, and related species known to date. FAO Fish. Synop. No. 125, Vol. 2.
- Collette, B. B. and D. R. Robertson. 2001. Redescription of *Ammodytoides gilli*, the tropical eastern Pacific sand lance (Perciformes: Ammodytidae). Rev. Biol. Trop. 49, Suppl. 1: 111–115.
- Compagno, L. J. V. 1984. FAO species catalogue. Vol. 4. Sharks of the world. An annotated and illustrated catalogue of shark species known to date. Part 1. Hexanchiformes to Lamniformes. Part 2. Carcharhiniformes. FAO Fisheries Synopsis No. 125, Vol. 4, Parts 1 and 2. FAO, Rome.
- Compagno, L. J. V. 1999. Checklist of living elasmobranchs, p. 471–498. In W. C. Hamlett (ed.), Sharks, skates, and rays. The biology of elasmobranch fishes. Johns Hopkins University Press, Baltimore.
- Compagno, L. J. V. 2001. Sharks of the world. An annotated and illustrated catalogue of shark species known to date. Vol. 2. Bullhead, mackerel and carpet sharks (Heterodontiformes, Lamniformes, and Orectolobiformes). FAO Species Catalogue for Fishery Purposes No. 1, Vol. 2. FAO, Rome.
- Cota-Gómez, V. M., J. De La Cruz-Aguero, and M. A. Martínez. 1998. Distributional notes on some marine fishes collected on southern Baja California, Mexico. Bol. Investig. Mar. Costeras 27: 103–105.
- Cowen, R. L. 1985. Large scale patterns of recruitment by the labrid, *Semicossyphus pulcher*: causes and implication. J. Mar. Res. 43: 719–742.
- Crabtree, R. E., K. J. Sulak, and J. A. Musick. 1985. Biology and distribution of species of *Polyacanthonotus* (Pisces: Notacanthiformes) in the western North Atlantic. Bull. Mar. Sci. 36(2): 235–248.

-
- Craig, P. and L. Haldorson. 1986. Pacific salmon in the North American Arctic. *Arctic* 39: 2–7.
- Craig, M. T., P. A. Hastings, and D. S. Pondella II. 2004. Notes on the systematics of the crestfish genus *Lophotus* (Lampridifomres: Lophotidae), with a new record from California. *Bull. S. Calif. Acad. Sci.* 103: 57–65.
- Cross, J. N. 1981. Structure of a rocky intertidal fish assemblage. Ph.D. thesis, University of Washington, Seattle.
- Crow, G. L., C. G. Lowe, and B. M. Wetherbee. 1996. Shark records from longline fishing programs in Hawai'i with comments on Pacific Ocean distributions. *Pac. Sci.* 50: 382–392.
- Crow, K. D., Z. Kanamoto, and G. Bernardi. 2004. Molecular phylogeny of the hexagrammid fishes using a multi-locus approach. *Mol. Phylogenet. Evol.* 32: 986–997.
- Csepp, D. J. and B. L. Wing. 2000. Northern range extensions and habitat observations for blackeye *Rhinogobius nicholsii* and kelp perch *Brachyistius frenatus* in southeastern Alaska. *Alaska Fish. Res. Bull.* 6: 78–84.
- Curtis, M. D. and K. T. Herbinson. 2001. First record of the Pacific cornetfish, *Fistularia corneta* Gilbert and Starks 1904, a new species to the southern California fauna during the 1997–1998 El Niño. *Bull. S. Calif. Acad. Sci.* 100: 156–159.
- Danemann, G. D. and J. De La Cruz-Agüero. 1993. Ichthyofauna of San Ignacio Lagoon, Baja California Sur, Mexico. *Cien. Mar.* 19: 333–341.
- Davies, I. E. and R. P. Bradley. 1972. Deep observations of anchovy and blue sharks from *Deepstar 4000*. *Fish. Bull.* 70: 510–511.
- Davis, J. L. D. 2000. Changes in tidepool fish assemblages on two scales of environmental variation: seasonal and El Niño Southern Oscillation. *Limnol. Oceanogr.* 1368–1379.
- Dawson, C. E. 1968. Eastern Pacific wormfishes, *Microdesmus dipus* Gunther and *Microdesmus dorsipunctatus* sp. nov. *Copeia* 1968: 512–531.
- Dawson, C. E. 1975. Studies on eastern Pacific sand stargazers (Pisces: Dactyloscopidae). 2. Genus *Dactyloscopus*, with descriptions of new species and subspecies. *Los Angeles Co. Nat. Hist. Mus., Sci. Bull.* 22.
- Dawson, C. E. 1976. Studies on eastern Pacific sand stargazers 3. *Dactylagnus* and *Myxodagnus*, with description of a new species and subspecies. *Copeia* 1976: 13–43.
- Dawson, C. E. 1977. Studies on eastern Pacific sand stargazers (Pisces: Dactyloscopidae) 4. *Gillellus*, *Sindoscopus* new genus, and *Heteristius* with description of new species. *Proc. Calif. Acad. Sci.* 4th Ser. 41: 125–160.
- DeCicco, A. L. 1992. Long-distance movements of anadromous Dolly Varden between Alaska and the U.S.S.R. *Arctic* 45(2): 120–123.
- De La Cruz-Agüero, J. 1998. *Borophryne apogon* (Ceratioidei: Linophrynidae) in the eastern Pacific Ocean. *Rev. Biol. Trop.* 46(3): 848.
- De La Cruz-Agüero, J. 1999. A first Mexican record of the chinook salmon, *Oncorhynchus tshawytscha*. *Calif. Fish Game* 85: 77–78.
- De La Cruz-Agüero, J., M. Arellano-Martinez, and V. M. Cota-Gómez. 1996. Systematic list of the marine fishes from Ojo de Liebre and Guerrero Negro lagoons, BCS and BC, Mexico. *Ciencias Marinas* 22: 111–128.
- De La Cruz-Agüero, J. and V. M. Cota-Gómez 1998. Ichthyofauna of San Ignacio Lagoon, Baja California Sur, Mexico: new records and range extensions. *Ciencias Marinas* 24: 353–358.
- De La Cruz-Agüero, J. and F. Galvan-Magaña. 1992. Peces mesopelagicos de la costa occidental de Baja California sur y del Golfo de California. *An. Inst. Cienc. Mar Limnol. Univ. Nal. Auton. Mex.* 19: 25–31.
- De La Cruz-Agüero, J., F. Galvan-Magaña, L. A. Abitia-Cardenas, J. Rodriguez-Romero, and F. J. Gutierrez-Sanchez. 1994. Systematic list of marine fishes from Bahia Magdalena, Baja California Sur (Mexico). *Cienc. Mar.* 20: 17–31.
- De La Cruz-Agüero, J., M. A. Martínez, V. M. Cota-Gómez, and G. De La Cruz-Agüero. 1997. Catalogo de los peces marinos de Baja California sur. Centro Interdisciplinario de Ciencias Marinas.
- Dentler, J. L. and G. D. Grossman. 1980. A geographic record for the redbtail surfperch *Amphistichus rhodoterus*. *Calif. Fish Game* 66: 242.

-
- Diaz de Astarloa, J. M., D. E. Figueroa, L. Lucifora, R. C. Menni, B. L. Prenski, and G. Chiaramonte. 1999. New records of the Pacific sleeper shark, *Somniosus pacificus*, (Chondrichthyes: Squalidae), from the southwest Atlantic. *Ichthyol. Res.* 46: 303–308.
- Dill, W. A. and A. J. Cordone. 1997. History and status of introduced fishes in California, 1871–1996. *Calif. Dep. Fish Game Fish Bull.* 178.
- Dinnel, P. A. and C. W. Rogers. 1986. Northern range extension for California tonguefish, *Symphurus atricauda*, to Washington State. *Calif. Fish Game* 72: 119–121.
- Dudnik, Yu. I. and V. N. Dolganov. 1992. Distribution and abundance of fish on the continental slopes of the Sea of Okhotsk and of the Kuril Islands during the summer of 1989. *J. Ichthyol.* 32(9): 58–76.
- Duffy, J. M. and H. J. Bernard. 1985. Milkfish, *Chanos chanos* (Forsskal, 1775), taken in southern California adds new family (Chanidae) to the California marine fauna. *Calif. Fish Game* 71: 122–125.
- Ebeling, A. W. 1962. Melamphaidae 1. Systematics and zoogeography of the species in the bathypelagic fish genus *Melamphaes* Günther. Dana-Rep. Carlsberg Found. No. 58.
- Ebeling, A. W. 1975. A new Indo-Pacific bathypelagic-fish species of *Poromitra* and a key to the genus. *Copeia* 1975: 306–315.
- Ebeling, A. W. and W. H. Weed III. 1963. Melamphaidae III. Systematics and distribution of the species in the bathypelagic fish genus *Scopelogadus* Vaillant. Dana Rep. Carlsberg Found. No. 60.
- Ebeling, A. W. and W. H. Weed III. 1973. Order Xenoberycyces (Stephanoberyciformes), p. 397–478. *In* *Fishes of the western North Atlantic*. Mem. Sears Found. Mar. Res., New Haven, 1(6).
- Ebert, D. A. 1989. Life history of the sevengill shark, *Notorynchus cepedianus* Peron, in two northern California bays. *Calif. Fish Game* 75: 102–112.
- Ebert, D. A. 2003. *Sharks, rays, and chimaeras of California*. University of California Press, Berkeley.
- Ebert, D. A. 2005. Reproductive biology of the skates, *Bathyraja* (Ishiyama), along the eastern Bering Sea continental slope. *J. Fish Biol.* (in press).
- Echeverria, T. and W. H. Lenarz. 1984. Conversions between total, fork, and standard lengths in 35 species of *Sebastes* from California. *Fish. Bull.* 82: 249–251.
- Eigenmann, C. H. 1892. The fishes of San Diego, California. *Proc. U. S. Natl. Mus.* 15: 123–178.
- Eldridge, M. 1994. Hook and line fishery study at Cordell Bank, California, 1986–1991. NOAA Tech. Memo. 197.
- Endo, H. and O. Okamura. 1992. New records of the abyssal grenadiers *Coryphaenoides armatus* and *C. yaquinae* from the western North Pacific. *Jpn. J. Ichthyol.* 38: 433–437.
- Endo, H., D. Tsutsui, and K. Amaoka. 1994. Range extensions of two deep-sea macrourids *Coryphaenoides filifer* and *Squalogadus modificatus* to the Sea of Okhotsk. *Jpn. J. Ichthyol.* 41: 330–333.
- Erickson, D. L. and E. K. Pikitch. 1987. First Oregon record for the cowcod, *Sebastes levis*. *Calif. Fish Game* 73: 192.
- Erickson, D. L., E. K. Pikitch, and J. W. Orr. 1991. Northern range extension for the squarespot rockfish, *Sebastes hopkinsi*. *Calif. Fish Game* 77: 51–52.
- Eschmeyer, W. N. (editor). 1998. *Catalog of fishes*. Spec. Publ. No. 1, Center for Biodiversity Research and Information. California Academy of Sciences, San Francisco. Vols. 1 and 2.
- Eschmeyer, W. N. (editor). 2005 and earlier editions. *Catalog of fishes online*. California Academy of Sciences, San Francisco. www.calacademy.org/research/ichthyology
- Eschmeyer, W. N., T. Abe, and S. Nakano. 1979. *Adelosebastes latens*, a new genus and species of scorpionfish from the North Pacific Ocean (Pisces, Scorpaenidae). *U O (Jpn. Soc. Ichthyol.)* 30: 77–84.
- Eschmeyer, W. N. and E. S. Herald. 1983. *A field guide to Pacific Coast fishes of North America from the Gulf of Alaska to Baja California*. Houghton Mifflin, Boston.
- Evermann, B. W. and E. L. Goldsborough. 1907. The fishes of Alaska. *Bull. Bur. Fish.* (for 1906) 26: 219–360, pls. 14–42.

-
- Evseenko, S. A. 1999. Early developmental stages of two flounder species of the genus *Monolene* — *M. dubiosa* and *M. maculipinna* (Bothidae) — from central waters of the eastern Pacific with notes on taxonomic status of *M. asaedai* and *M. danae*. *J. Ichthyol.* 39: 600–605.
- Evseenko, S. A. 2003. An annotated catalogue of pleuronectiform fishes (Order Pleuronectiformes) of the seas of Russia and adjacent countries. *J. Ichthyol.* 43: S57–S74.
- Fadeev, N. S. 1965. Comparative outline of the biology of flatfishes in the southeastern part of the Bering Sea and condition of their resources. Soviet fisheries investigations in the northeast Pacific, Part 4. Pacific Scientific Research Institute of Marine Fisheries and Oceanography (TINRO). *Izv. TINRO* 58: 112–129. [Translated in 1968 from Russian by Israel Prog. Sci. Transl.] [Cited in Orr and Matarese 2000.]
- Fadeev, N. S. 1987. North Pacific flatfishes (distribution and biology). Moscow. [Cited in Lindberg and Fedorov 1993.]
- Fast, T. N. 1957. The occurrence of the deep-sea anglerfish, *Cryptopsaras couesii*, in Monterey Bay, California. *Copeia* 1957: 237–240.
- Fay, R. C., J. A. Vallee, and P. Brophy. 1978. An analysis of fish catches obtained with an otter trawl in Santa Monica Bay, 1969–73. *Calif. Fish Game* 64: 104–116.
- Fedorov, V. V. 1973. Ichthyofauna of the continental slope of the Bering Sea and some aspects of its origin and development. *Izv. Tikhookean. Nauchno-Issled. Inst. Rybn. Khoz. Okeanogr. (TINRO)* 87: 3–41. [Fish. Mar. Serv. Transl. Ser. 3345. Department of the Environment, Fisheries and Marine Service, Pacific Biological Station, Nanaimo, B.C., Canada.]
- Fedorov, V. V. 1975. Description of a new genus and species of a zoarcid fish *Puzanovia rubra*, gen. et sp. n. (Pisces, Zoarcidae) from the northern part of the Pacific Ocean. *J. Ichthyol.* 15(4): 527–531.
- Fedorov, V. V. 1976. New data on the eel-like likods (Pisces, Zoarcidae) from the northwestern Pacific Ocean and Bering Sea]. *Izv. Tikhookean. Nauchno-Issled. Inst. Rybn. Khoz. Okeanogr. (TINRO)* 100: 3–18. [In Russian.]
- Fedorov, V. V. 2000. Species composition, distribution and habitation depths of the northern Kuril Islands fish and fish like species, p. 7–41. In B. N. Kotenev, ed., Commercial and biological studies of fishes in the Pacific waters of the Kuril Islands and adjacent areas of the Okhotsk and Bering seas in 1992–1998: collected papers. VNIRO Publishing. [In Russian.]
- Feeney, R. F. 1987. Development of the eggs and larvae of the yellowchin sculpin *Icelinus quadriseriatus* (Pisces: Cottidae). *Fish. Bull.* 85: 201–212.
- Fischer, W., F. Krupp, W. Schneider, C. Sommer, K. E. Carpenter, and V. H. Niem. 1995. Guía FAO para la identificación para los fines de la pesca. Pacífico centro-oriental. Vol. II, Vertebrados, Parte 1. Vol. III, Vertebrados, Parte 2. FAO, Rome.
- FishBase. www.fishbase.org/search.cfm
- Fisheries Research Board of Canada. 1954. An unusual catch of green sturgeon, p. 19. *Fish. Res. Board Can., Proj. Repts. Pac. Coast Station No. 100.*
- Fitch, J. E. 1952. Distributional notes on some Pacific coast marine fishes. *Calif. Fish Game* 38: 557–564.
- Fitch, J. E. 1953. Extensions to known geographic distribution of some marine fishes on the Pacific Coast. *Calif. Fish Game* 39: 539–554.
- Fitch, J. E. 1956. Pacific mackerel. *Calif. Coop. Oceanic Fish. Invest. Prog. Rep.* 1956: 29–32. [Cited in Castro Hernández and Santana Ortega 2000.]
- Fitch, J. E. 1963. A review of the fishes of the genus *Pleuronichthys*. *Nat. Hist. Mus. Los Angel. Cty. Contrib. Sci.* 76.
- Fitch, J. E. and D. W. Gotshall. 1972. First record of the black scabbardfish, *Aphanopus carbo*, from the Pacific Ocean with notes on other California trichiurid fishes. *Bull. S. Calif. Acad. Sci.* 71: 12–18.
- Fitch, J. E. and R. J. Lavenberg. 1968. Deep-water fishes of California. *Calif. Nat. Hist. Guides*, No. 25, University of California Press, Berkeley.
- Fitch, J. E. and R. J. Lavenberg. 1971. Marine food and game fishes of California. *Calif. Nat. Hist. Guides*, No. 38. University of California Press, Berkeley.

-
- Fitch, J. E. and R. J. Lavenberg. 1975. Tidepool and nearshore fishes of California. California Natural History Guides 38. University of California Press, Berkeley.
- Fitch, J. E. and S. A. Schultz. 1978. Some rare and unusual occurrences of fishes off California and Baja California. *Calif. Fish Game* 62: 74–92.
- Follett, W. I. 1948. A northerly record of *Polydactylus approximans* (Lay and Bennett), a polynemid fish of the Pacific Coast of tropical America. *Copeia* 1948: 34–40.
- Follett, W. I. 1970. Benthic fishes cast ashore by giant waves near Point Joe, Monterey County, California. *Proc. Calif. Acad. Sci., Ser. 4*, 37(15): 473–488.
- Follett, W. I. and M. E. Anderson. 1990. *Esselinia*, a new genus of prickleback (Teleostei: Stichaeidae), with two new species from California and Baja California Norte. *Copeia* 1990: 147–163.
- Follett, W. I. and D. C. Powell. 1988. *Ernogrammus walkeri*, a new species of prickleback (Pisces: Stichaeidae) from south-central California. *Copeia* 1988: 135–152.
- Foreman, T. J. 1980. Synopsis of biological data on the albacore tuna, *Thunnus alalunga* (Bonnatere, 1788), in the Pacific Ocean, p. 17–70. *In* W. H. Bayliff (ed.), Synopses of biological data on eight species of scombrids. *Int. Am. Trop. Tuna Comm. Spec. Rep.* 2.
- Foreman, T. J. and Y. Ishizuka. 1990. Giant bluefin tuna off southern California, with a new California size record. *Calif. Fish Game* 76(3): 181–186.
- Franke, R. and A. Acero P. 1990. Remoras (Pisces: Echeneididae) conocidas de los mares Colombianos. *Boletín Ecotropica* 23: 23–30.
- Franke, R. and A. Acero P. 1992. Peces Lutjanidos del Parque Gargona Pacifico Colombiano (Osteichthyes: Lutjanidae). *Rev. Biol. Mar., Valparaiso* 27: 59–71.
- Franke, R. and A. Acero P. 1993. Peces carangoideos del Parque Gorgona, Pacifico Colombiano (Osteichthys: Carangidae, Nematiistiidae y Coryphaenidae). *Rev. Biol. Mar., Valparaiso* 28: 51–73.
- Fritzsche, R. 1980. Revision of the eastern Pacific Syngnathidae (Pisces: Syngnathiformes), including both recent and fossil forms. *Proc. Calif. Acad. Sci.* 42: 181–227.
- Fritzsche, R., G. Assen, L. Everest, P. Petros, and S. Shimek. 1991. Northern range extension for the zebraperch (*Hermosilla azurea*, Jenkins and Evermann). *Calif. Fish Game* 77: 106–107.
- Frugé, D. J. and D. W. Wiswar. 1991. First records of the Bering wolffish, *Anarhichas orientalis*, for the Alaskan Beaufort Sea. *Can. Field-Nat.* 105(1): 107–109.
- Fuertes, J. R. and H. Araya. 1979. Campaña de prospección pesquera en la plataforma continental del Pacífico de Costa Rica (Noviembre 1977, enero 1978). *Inf. Techn. Int. Inv. Pesq.* 69.
- Fulton, J. D. and R. J. LeBrasseur. 1985. Interannual shifting of the subarctic boundary and some of the biotic effects on juvenile salmonids, p. 237–252. *In* W. S. Wooster and D. L. Fluharty (eds.), *El Niño north: Niño effects in the eastern subarctic Pacific Ocean*. Washington Sea Grant Program, University of Washington, Seattle.
- Gago, F. J. and R. C. Ricord. 2005. *Symbolophorus reversus*: a new species of lanternfish from the eastern Pacific (Myctophiformes: Myctophidae). *Copeia* 2005: 138–145.
- Galván-Magaña, F., L. A. Abitia-Cárdenas, J. Rodríguez-Romero, H. Pérez-Espada, and H. Chávez-Ramos. 1996. Systematic list of the fishes from Cerralvo Island, Baja California Sur, Mexico. *Ciencias Marinas* 22: 295–311.
- Galván-Magaña, F., F. Gutiérrez-Sánchez, L. A. Abitia-Cárdenas, and J. Rodríguez-Romero. 2000. The distribution and affinities of the shorefishes of the Baja California Sur lagoons, p. 383–398. *In* M. Munawar, S. G. Lawrence, I. F. Munawar, and D. F. Malle (eds.), *Aquatic ecosystems of Mexico: status and scope*. *Ecovision World Monograph Series*. Backhuys Publisher, Leiden, The Netherlands.
- García-Rodríguez, F. J. and D. Aurióles-Gamboá. 1997. Contribución al conocimiento de la diversidad ictica en la Bahía de la Paz por medio del análisis coprológico en el lobo Marino de California, *Zalophus californiensis californianus*, p. 151–161. *In* J. Urbán Ramírez and M. Ramírez Rodríguez (eds.), *La Bahía de La Paz, investigación y conservación*. UABCS, CICIMAR, Scripps Institute of Oceanography.

-
- Gartman, R. and A. Groce. 1998. Demersal fishes and megabenthic invertebrates, p. 69–80. *In* L. Vereker and T. Stebbins (eds.), City of San Diego Ocean Monitoring Program 1997 Receiving Water Monitoring Report.
- Gasparini, J. L. and S. B. Floeter. 2001. The shore fishes of Trindade Island, western South Atlantic. *J. Nat. Hist.* 35: 1639–1656.
- Gharrett, A. J., A. P. Matala, E. L. Peterson, A. K. Gray, and Z. Li. 2005. Two genetically distinct forms of rougheye rockfish are different species. *Trans. Am. Fish. Soc.* 134: 242–260.
- Gibbs, M. A. 1991. Notes on the distribution and morphology of the rubynose brotula (*Cataetyx rubrirostris*) off central California. *Calif. Fish Game* 77: 149–152.
- Gibbs, R. H. Jr., T. A. Clarke, and J. R. Gomon. 1983. Taxonomy and distribution of the stomioid fish genus *Eustomias* (Melanostomiidae), I: subgenus *Nominostomias*. *Smithson. Contrib. Zool.* No. 380.
- Gilbert, C. H. 1890. A preliminary report on the fishes collected by the steamer “Albatross” on the Pacific Coast of North America during the year 1889, with descriptions of twelve new genera and ninetytwo new species. *Proc. U. S. Natl. Mus.* 13: 49–126.
- Gilbert, C. H. 1896. Appendix 6.—The ichthyological collections of the steamer *Albatross* during the years 1890 and 1891. *Rep. U.S. Fish Comm.* (for 1893) 19: 393–476, pls. 20–35.
- Gilbert, C. H. 1915. Fishes collected by the United States steamer “Albatross” in southern California in 1904. *Proc. U. S. Natl. Mus.* 48: 305–380.
- Gilbert, C. H. and C. V. Burke. 1912. Fishes from Bering Sea and Kamchatka. *Bull. U.S. Bur. Fish.* 30: 31–96.
- Gill, T. N. and C. H. Townsend. 1897. Diagnoses of new species of fishes found in Bering Sea. *Proc. Biol. Soc. Wash.* 11: 231–234.
- Gillespie, G. E. 1991. Range extensions and records of rare fishes from the coastal water of British Columbia. *Can. Field-Nat.* 105: 124–126.
- Gillespie, G. E. 1993. An updated list of the fishes of British Columbia, and those of interest in adjacent waters, with numeric code designations. *Can. Tech. Rep. Fish. Aquat. Sci.* 1918.
- Gillespie, G. E. and M. W. Saunders. 1994. First verified record of the shortfin mako shark, *Isurus oxyrinchus* and second records or range extensions for three additional species, from British Columbia waters. *Can. Field-Nat.* 108: 347–350.
- Gillespie, G. E., R. D. Stanley, and B. M. Leaman. 1993. Cruise details and biological information from the juvenile rockfish surveys aboard the R/V *Ricker*, May 13–25, 1991, and the F/V *Island Sun*, June 3–11, 1991. *Can. Data Rep. Fish. Aquat. Sci.* No. 920.
- Ginsburg, I. 1954. Whittings on the coasts of the American continents. *U. S. Fish Wildl. Serv., Fish. Bull.* 56(96). 69 p.
- Glubokov, A. I. and A. M. Orlov. 2000. Some morphological parameters and feedings characteristics of two species from the family Zoarcidae from the western part of the Bering Sea. *J. Ichthyol.* 40: 651–660.
- Godinez-Dominguez, E., J. Rojo-Vázquez, V. Galván-Pina, and B. Aguilar-Palomino. 2000. Changes in the structure of a coastal fish assemblage exploited by a small scale gillnet fishery during an El Niño–La Niña event. *Estuar. Coast. Shelf Sci.* 51: 773–787.
- Golovan, G. A. and N. P. Pakhorukov. 1986. New records of rare species of cartilaginous fishes. *J. Ichthyol.* 26(2): 117–120.
- Gon, O. and P. C. Heemstra (editors). 1990. *Fishes of the Southern Ocean*. J. L. B. Smith Institute of Ichthyology, Grahamstown, South Africa.
- González-Acosta, A. F., J. De La Cruz-Agüero, and V. M. Cota-Gómez. 1999. Extension of geographical distribution and first occurrence of fishes in the northwest of Mexico. *Hidrobiológica* 9: 39–44.
- González-Acosta, A. F., G. De La Cruz-Agüero, J. De La Cruz-Agüero, and G. Ruiz-Campos. 1999. Ictiofauna asociada al manglar del Estero el Conchalito, Ensenada de la Paz, Baja California Sur, México. *Océanides* 14(2): 121–131.
- Gorbatenko, K. M. and E. N. Il’inskii. 1992. Feeding behavior of the most common mesopelagic fishes in the Bering Sea. *J. Ichthyol.* 32(2): 52–60.

-
- Goren, M. and A. Aronov. 2002. First record of the Indo-Pacific parrrotfish *Scarus ghobban* in the eastern Mediterranean. *Cybiurn* 26: 239–240.
- Gotshall, D. W. and R. S. Dyer. 1987. Deepwater demersal fishes observed from the submersible *Avalon* (DSRV-2) off the Farallon Islands, 24 June 1985. *Calif. Dep. Fish Game Mar. Resour. Tech. Rep.* 55.
- Gotshall, D. W. and J. J. Geibel. 2005. Fish by-catch in Dungeness crab, *Cancer magister*, research trawls off northern California 1966–1969. *Calif. Fish Game* 91: 21–37.
- Gotshall, D. W., R. N. Lea, L. L. Laurant, T. L. Hoban, and G. D. Farrens. 1974. Mendocino power plant site ecological study final report. *Calif. Dep. Fish Game Mar. Resour. Admin. Rep.* 74-7.
- Green, J. M. 1971. Local distribution of *Oligocottus maculosus* Girard and other tide pool cottids of the west coast of Vancouver Island, British Columbia. *Can. J. Zool.* 49(8): 1111–1128.
- Greenfield, D. W. and J. E. Thomerson. 1997. *Fishes of the continental waters of Belize*. University Press of Florida, Gainesville.
- Greiner, T. A. 2002. Records of the shokihaze goby, *Tridentiger barbatus* (Günther), newly introduced into the San Francisco estuary. *Calif. Fish Game* 88: 68–74.
- Grey, M. 1956. The distribution of fishes found below a depth of 2000 meters. *Fieldiana Zool.* 36: 75–337.
- Grey, M. 1964. Family Phosichthyidae, p. 78–240. *In* *Fishes of the western North Atlantic*. Mem. Sears Found. Mar. Res., New Haven, 1(4).
- Grigor'ev, S. S. 1993. Cases of catching long-snouted blenny in the Sea of Japan. *Russ. J. Mar. Biol.* 18 (3–4): 129. [English translation of *Biol. Morya* 1992 (3–4): 92–93.]
- Grinols, R. B. 1966. Northeastern Pacific records of *Anoplogaster cornuta* Valenciennes (Anoplogasteridae: Pisces) and *Cyema atrum* Günther (Cyemidae: Pisces). *J. Fish. Res. Board Can.* 23: 305–307.
- Grinols, R. B. 1966. Northern records of the zoarcid, *Melanostigma pammelae*, in the eastern subarctic Pacific region. *Copeia* 1966: 601–602.
- Grinols, R. B. 1966. Southern occurrence of *Acantholiparis opercularis* Gilbert and Burke in the eastern subarctic Pacific region. *J. Fish. Res. Board Can.* 23: 935–937.
- Grinols, R. B. 1969. A new species of *Acantholiparis* (Pisces: Liparidae) from the eastern subarctic Pacific region, with distribution notes for the genus. *J. Fish. Res. Board Can.* 26: 1237–1242.
- Grinols, R. B. and H. Heyamoto. 1965. Description, distribution, and taxonomic status of two species of Alepocephalidae from the northeastern Pacific Ocean. *J. Fish. Res. Board Can.* 22(5): 1151–1164.
- Groce, A. K. and R. Gartman. 2001. Demersal fishes and megabenthic invertebrates, p. 65–74. *In* (T. Stebbins, ed.), *City of San Diego, Annual Receiving Water Monitoring Report for the Point Loma Ocean Outfall*.
- Groce, A. K., S. L. Lagos, and E. C. Nestler. 2001. Addition of the calico lizardfish, *Synodus lacertinus* Gilbert, 1890 (Pisces: Synodontidae) to the ichthyofauna of the southern California Bight. *Bull. S. Calif. Acad. Sci.* 100: 153–155.
- Groce, A. K., R. H. Rosenblatt, and M. J. Allen. 2001. Addition of blacklip dragonet, *Synchiropus atrilabiatus* (Barman, 1899) (Pisces: Callionymidae) to the California ichthyofauna. *Bull. S. Calif. Acad. Sci.* 100: 149–152.
- Grove, J. S. and R. J. Lavenberg. 1997. *The fishes of the Galápagos Islands*. Stanford University Press, Stanford, California.
- Haedrich, R. L. 1967. The stromateoid fishes: systematics and a classification. *Bull. Mus. Comp. Zool. (Harvard)* 135(2): 31–139.
- Hammann, M. G. and M. A. Cisneros-Mata. 1989. Range extension and commercial captures of the northern anchovy, *Engraulis mordax* Girard, in the Gulf of California, Mexico. *Calif. Fish Game* 75: 49–53.
- Hanan, D. A., D. B. Holts, and A. L. Coan Jr. 1993. The California drift gill net fishery for sharks and swordfish, 1981–82 through 1990–91. *Calif. Fish Game, Fish Bull.* 175.
- Hardy, G. S. 1983. A revision of the fishes of the family Pentacerotidae (Perciformes). *N. Z. J. Zool.* 10: 177–220.

-
- Harold, A. S. 1993. Phylogentic relationships of the sternoptychid *Argyropelecus* (Teleostei: Stomiiformes). *Copeia* 1993: 123–133.
- Harry, R. R. 1953. Studies on the bathypelagic fishes of the family Paralepididae (Order Iniomi). 2. A revision of the North Pacific species. *Proc. Phil. Acad. Nat. Sci.* 105: 169–209.
- Hart, J. L. 1973. Pacific fishes of Canada. *Fish. Res. Board Can., Bull.* 180.
- Hastings, P. A. and V. G. Springer. 1994. Review of *Stathmonotus*, with redefinition and phylogenetic analysis of the Chaenopsidae (Teleostei: Blennioidei). *Smithson. Contrib. Zool. No.* 558.
- Hastings, P. A. and H. J. Walker Jr. 2003. *Lumpenopsis clitella*: a new species of prickleback (Teleostei: Stichaeidae) from South California with comments on *Lumpenopsis* Soldatov. *Copeia* 2003: 803–809.
- Henriques, M., A. G. Murta, and H. N. Cabral. 2001. *Melanous zugmayeri* Norman, 1930, captured off Portugal. A review of the current knowledge of this species. *Scientia Marina* 65: 43–46.
- Hoese, D. F. and S. Reader. 2001. A preliminary review of the eastern Pacific species of *Elacatinus* (Perciformes: Gobiidae). *Rev. Biol. Trop.* 49, Suppl. 1: 157–167.
- Hoese, D. F. and S. Reader. 2001. Revision of the eastern Pacific species of *Gobulus* (Perciformes: Gobiidae), with description of a new species. *Rev. Biol. Trop.* 49, Suppl. 1: 169–196.
- Hoff, G. R. 1999. Range extensions of three species of macrourids from the west coast of North America. *Calif. Fish Game* 85: 113–117.
- Hoff, G. R. 2002. New records of the Aleutian skate, *Bathyraja aleutica* from northern California. *Calif. Fish Game* 88: 145–148.
- Hoff, G. R. 2002. New records of the slender codling *Halargyreus johnsonii* Günther, 1862 from the eastern Bering Sea, Alaska. *Alaska Fish. Res. Bull.* 9: 65–67.
- Hoff, G. R. 2002. Record of the shoulderspot grenadier, *Caelorinchus scaphopsis*, from northern California, U.S.A. *Calif. Fish Game* 88: 45–47.
- Hoff, G. R. and L. L. Britt. 2003. The 2002 Eastern Bering Sea upper continental slope survey of groundfish and invertebrate resources. NOAA Tech. Memo. NMFS-AFSC-141.
- Hubbard, J. D. and W. G. Reeder. 1965. New locality records for Alaskan fishes. *Copeia* 1965: 506–508.
- Hubbs, C. L. 1921. Notes on *Cottus asper* and *Cottus aleuticus*. *Copeia* 90: 7–8.
- Hubbs, C. 1952. A contribution to the classification of the blennioid fishes of the family Clinidae, with a partial revision of the eastern Pacific forms. *Stan. Ichthyol. Bull.* 4: 41–165.
- Hubbs, C. 1953. Revision of the eastern Pacific fishes of the clinid genus *Labrisomus*. *Zoologica* 38: 113–135.
- Hubbs, C. L. 1967. Occurrence of the Pacific lamprey, *Entosphenus tridentatus*, off Baja California and in streams of southern California, with remarks on its nomenclature. *Trans. San Diego Society Nat. Hist.* 14: 301–312.
- Hubbs, C. L., W. I. Follett, and L. J. Dempster. 1979. List of the fishes of California. *Occas. Pap. Calif. Acad. Sci.* 133.
- Hubbs, C. L. and L. C. Hubbs. 1954. Data on the life history, variation, ecology, and relationships of the kelp perch, *Brachyistius frenatus*, an embiotocid fish of the Californias. *Calif. Fish Game* 40(2): 183–198.
- Hubbs, C. L. and L. P. Schultz. 1932. A new blenny from British Columbia with records of two other fishes new to the region. *Contrib. Can. Biol. Fish.* 7(22): 319–324.
- Hubbs, C. L. and L. P. Schultz. 1934. The reef liparid fishes inhabiting the west coast of the United States. *J. Pan-Pac. Res. Inst.* 9(4): 2–7.
- Hubbs, C. L. and R. L. Wisner. 1964. *Parvilux*, a new genus of myctophid fishes from the northeastern Pacific, with two new species. *Zool. Meded. (Leiden)*, 39: 445–463.
- Hubbs, C. L. and R. L. Wisner. 1980. Revision of the sauries (Pisces, Scomberesocidae) with descriptions of two new genera and one new species. *U.S. Natl. Mar. Fish. Serv. Fish. Bull.* 77: 521–566.
- Hughes, G. W. 1985. Northern range extension of the echniid fish *Remora remora* in the northeastern Pacific Ocean during a year of El Niño. *Can. Field-Nat.* 99: 541–542.

-
- Humann, P. 1996. Coastal fish identification: California to Alaska. New World Publications, Inc., Jacksonville, Florida.
- Humphreys, R. L. Jr., G. A. Winans, and D. T. Tagmi. 1989. Synonymy and life history of the North Pacific pelagic armorhead, *Pseudopentaceros wheeleri* Hardy (Pisces: Pentacerotidae). *Copeia* 1989: 142–153.
- Hunter, J. G., S. T. Leach, D. E. McAllister, and M. B. Steigerwald. 1984. A distributional atlas of records of the marine fishes of Arctic Canada in the National Museums of Canada and Arctic Biological Station. *Syllogeus* (Ottawa) 52.
- Hwang, H. B. and T. W. Lee. 1999. Seasonal variation in species composition of fish with depth in Asan Bay. *Korean J. Ichthyol.* 11: 52–61.
- ICZN (International Commission on Zoological Nomenclature). 1999. International Code of Zoological Nomenclature, 4th edition. The International Trust for Zoological Nomenclature 1999, c/o The Natural History Museum, Cromwell Road, London SW7 5BD, UK.
- Imamura, H. and D. Kitagawa. 1999. First record of an agonid fish, *Bathyagonus nigrippinis* (Pisces: Teleostei), from Japan. *Jpn. J. Ichthyol.* 46(2): 105–108.
- Ishida, M. 1994. Phylogeny of the suborder Scorpaenoidei (Pisces: Scorpaeniformes). *Bull. Nansei Natl. Fish. Res. Inst.* 27: 1–112.
- Ishihara, H. and R. Ishiyama. 1985. Two new North Pacific skates (Rajidae) and a revised key to *Bathyraja* in the area. *Jpn. J. Ichthyol.* 32(2): 143–179.
- Iwamoto, T. and D. L. Stein. 1974. A systematic review of the rattail fishes (Macrouridae: Gadiformes) from Oregon and adjacent waters. *Occas. Pap. Calif. Acad. Sci.* No. 111.
- Jensen, A. S. 1944. Contributions to the ichthyofauna of Greenland 4–7. *Spolia Zool. Mus. Haun.* 4.
- Jespersen, P. 1934. Gonostomatidae and Sternoptychidae. *Int. Council. Explor. Sea, Faune Ichthyologique de l'Atlantique Nord.* No. 151.
- Jesus-Roldan, M. de., L. Ellis, and F. G. Magaña. 1993. Geographical and size records of the electric stargazer (*Astroscopeus zephyreus*) Gilbert and Starks, 1896 (Pisces: Uranoscopidae). *Calif. Fish Game* 79: 171–172.
- Johnson, K. A. 1997. Rockfish (*Sebastes* spp.) recruitment to soft bottom habitats in Monterey Bay, CA. Masters thesis, California State University, Stanislaus.
- Johnson, R. K. 1969. A review of the fish genus *Kali* (Perciformes; Chiasmodontidae). *Copeia* 1969: 386–391.
- Johnson, R. K. 1974. A revision of the Alepisaurid family Scopelarchidae (Pisces: Myctophiformes). *Fieldiana Zool.* 66.
- Johnson, R. K. 1982. Fishes of the families Evermannellidae and Scopelarchidae: systematics, morphology, interrelationships, and zoogeography. *Fieldiana Zool. new ser.* 12.
- Johnson, R. K. and E. Bertelsen. 1991. The fishes of the family Giganturidae: systematics, development, distribution, and aspects of biology. *Dana-Rep. Carlsberg Found.* No. 91.
- Johnson, R. K. and D. M. Cohen. 1974. Results of the research cruises of FRV “Walther Herwig” to South America. XXX. Revision of the chiasmodontid fish genera *Dysalotus* and *Kali*, with descriptions of two new species. *Arch. FischWiss.* 25: 13–46.
- Johnson, S. W., M. L. Murphy, and D. J. Csepp. 2003. Distribution, habitat, and behaviour of rockfishes *Sebastes* spp., in nearshore waters of southeastern Alaska: observations from a remotely operated vehicle. *Environ. Biol. Fish.* 66: 259–270.
- Jones, A. C. 1962. The biology of the euryhaline fish *Leptocottus armatus* Girard (Cottidae). *Univ. Calif. Publ. Zool.* 67(4): 321–367.
- Jordan, D. S. 1921. Records of Pacific fishes. *Copeia* No. 93: 28.
- Jordan, D. S. 1923. Note on *Icichthys lockingtoni* Jordan and Gilbert, a pelagic fish from California. *Proc. U.S. Natl. Mus.* 63: 1–3.
- Jordan, D. S. 1923. On the family of Achiridae or broad-soles, with description of a new species *Achirus barnharti* from California. *Univ. Calif. Publ. Zool.* 26: 1–14.

-
- Jordan, D. S. and B. W. Evermann. 1896a. A check-list of the fishes and fish-like vertebrates of North and Middle America. Rep. U.S. Fish Comm.(for 1895) 21, Append. 5: 207–584.
- Jordan, D. S. and B. W. Evermann. 1896b. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America, north of the Isthmus of Panama. Part I. U.S. Natl. Mus. Bull. 47.
- Jordan, D. S. and B. W. Evermann. 1898. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America, north of the Isthmus of Panama. Parts II and III. U.S. Natl. Mus. Bull. 47.
- Jordan, D. S. and B. W. Evermann. 1900. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America, north of the Isthmus of Panama. Part IV. U.S. Natl. Mus. Bull. 47
- Jordan, D. S., B. W. Evermann, and H. W. Clark. 1930. Check list of the fishes and fishlike invertebrates of North and Middle America north of the northern boundary of Venezuela and Colombia. Rep. U.S. Comm. Fish. for 1928, Appendix X.
- Jordan, D. S. and H. W. Fowler. 1902. A review of the ophidioid fishes of Japan. Proc. U.S. Natl. Mus. 25: 743–766.
- Jordan, D. S. and E. C. Starks. 1895. The fishes of Puget Sound. Proc. Calif. Acad. Sci., Ser. 2, 5: 785–855.
- Kanayama, T. 1991. Taxonomy and phylogeny of the family Agonidae (Pisces: Scorpaeniformes). Mem. Fac. Fish. Hokkaido Univ. 38(1.2).
- Karinen, J. F., B. L. Wing, and R. R. Straty. 1985. Records and sightings of fish and invertebrates in the eastern Gulf of Alaska and oceanic phenonmenon related to the 1983 El Niño event. *In* W. S. Wooster and D. L. Fluherty (eds.), *El Niño north: Niño effects in the eastern subarctic Pacific Ocean*. Washington Sea Grant Program, University of Washington, Seattle.
- Karnella, C. 1987. Biology of midwater fishes of the Bermuda Ocean Acre, p. 51–168. *In* R. H. Gibbs Jr. and W. H. Krueger (eds.), *Biology of midwater fishes of the Bermuda Ocean Acre*. Smithson. Contrib. Zool. No. 452.
- Kawaguchi, K. and J. L. Butler. 1984. Fishes of the genus *Nansenia* (Microstomatidae) with descriptions of seven new species. Nat. Hist. Mus. Los Angel. Cty. Contrib. Sci. No. 352.
- Kendall, R. L. 2002. Capital punishment. *Fisheries* 27(7): 33–34.
- Kiernan, A. M. 1990. Systematics and zoogeography of the ronquils, family Bathymasteridae (Teleostei: Perciformes). Ph.D. thesis, University of Washington, Seattle.
- Kido, K. 1983. New and rare liparidid species from the Okhotsk and Bering Seas and their adjacent waters. *Jpn. J. Ichthyol.* 29: 374–384.
- Kido, K. 1984. The third specimen of cyclopterid fish, *Eumicrotremus barbatus*, from Japan. *Jpn. J. Ichthyol.* 31(1): 83–85.
- Kido, K. 1984. Occurrence of the liparidid fish, *Paraliparis pectoralis*, in the Bering Sea. *Jpn. J. Ichthyol.* 31(2): 203–204.
- Kido, K. 1985. New and rare species of the genus *Careproctus* (Liparididae) from the Bering Sea. *Jpn. J. Ichthyol.* 32(1): 6–17.
- Kido, K. 1988. Phylogeny of the family Liparididae, with the taxonomy of the species found around Japan. Mem. Fac. Fish. Hokkaido Univ. 35(2): 125–256.
- Kido, K. 1992. Redescription of *Paraliparis tremebundus* (Liparididae). *Jpn. J. Ichthyol.* 39: 251–254.
- Kido, K. 1993. New records of *Paraliparis pectoralis* and *P. nanus* (Liparidae) from Japan. *Jpn. J. Ichthyol.* 40: 107–109.
- Kido, K. and G. Shinohara. 1996. *Pelagocyclus vitiazi* Lindberg & Legeza, 1955, a junior synonym of *Aptocyclus ventricosus* (Pallas, 1769) (Scorpaeniformes: Cyclopteridae). *Ichthyol. Res.* 43(2): 175–177.
- Kido, K. and G. Shinohara. 1997. First record of a liparid fish, *Careproctus melanurus* (Teleostei, Scorpaeniformes), from Japan. Bull. Natl. Sci. Mus. (Tokyo) Ser. A, 23(2): 127–130.

-
- Kim, I.-S., E.-J. Kang, and C.-H. Youn. 1993. New records of eight species of the suborder Cottoidei (Pisces: Scorpaeniformes) from Korea. *Korean J. Zool.* 36: 21–27. [In Korean.]
- Kim Sen Tok. 2001. Winter migrations of shelf fish to the continental slope of the southwestern Sakhalin. *J. Ichthyol.* 41: 564–574.
- Kim Sen Tok, I. A. Biryukov, and E. V. Pometejev. 1999. Species composition, distribution, and structural changes in the flatfish community of the Tatarskii Strait during the fishery period 1994–1997. *J. Ichthyol.* 39: 433–440.
- Kim, Y. S., Y. U. Kim, and G. Ahn. 1997. First record of the carangid fish, *Seriola rivoliana* from Korea. *Korean J. Ichthyol.* 9: 244–247.
- Kim, Y. U., Y. S. Kim, G. Ahn, and J. K. Kim. 1999. New record of the two carangid fishes (Perciformes, Carangidae) from Korea. *Korean J. Ichthyol.* 11: 17–22.
- Klepadlo, C., P. A. Hastings, and R. H. Rosenblatt. 2003. Pacific footballfish, *Himantolophus sagamius* (Tanaka) (Teleostei: Himantolophidae), found in the surf-zone at Del Mar, San Diego County, California, with notes on its morphology. *Bull. S. Calif. Acad. Sci.* 102: 99–106.
- Knaggs, E. H., J. S. Sunada, and R. N. Lea. 1975. Notes on some fishes collected off the outer coast of Baja California. *Calif. Fish Game* 61: 56–59.
- Kobyliansky, S. G. 1985. Material for the revision of the genus *Bathylagus* Günther (Bathylagidae): the group of “light” deepsea smelts. *J. Ichthyol.* 25: 1–17.
- Kobyliansky, S. G. 1986. Materials for a revision of the family Bathylagidae (Teleostei, Salmoniformes). *Tr. Inst. Okeanol. Akad. Nauk SSSR* 121: 6–50. [In Russian.]
- Kobyliansky, S. G. 1990. Taxonomic status of microstomatid fishes and problems of classification of suborder Argentinoidei (Salmoniformes, Teleostei). *Tr. Inst. Okeanol. Akad. Nauk SSSR* 125: 147–177. [In Russian.]
- Kobyliansky, S. G. and V. V. Fedorov. 2001. A new species of the genus *Dolichopteryx* — *D. parini* (Opisthoproctidae [sic], Salmoniformes) from the mesopelagial zone of the Sea of Okhotsk and the Bering Sea. *J. Ichthyol.* 41: 115–118.
- Kondrat'ev, M. A. 1996. On the biology of the blue rockfish in Tauyskaya Bay, Sea of Okhotsk. *Biol. Morya* 22: 252–254.
- Kong, I. and C. R. Melendez. 1991. Estudio taxonomico y sistematico de la ictiofauna de aguas profundas capturada entre Arica e Isla Mocha (18°30'–38°30' Lat. S). *Estud. Oceanol.* 10: 1–81.
- Kong, I., C. R. Melendez, and A. G. Henriquez. 1988. Los peces ophidiiformes de aguas profundas entre Arica (18°19'S) e Isla Mocha (38°30'S). *Estud. Oceanol.* 7: 1–15.
- Kong, I. and J. Valdés. 1990. Sciaenidos de Chile: analisis taxonomico y morfologico. *Estud. Oceanol.* 9: 13–56.
- Kotlyar, A. N. 1986. Classification and distribution of fishes of the family Anoplogasteridae (Beryciformes). *J. Ichthyol.* 26(4): 133–152.
- Kotlyar, A. N. 1996. The osteology, intraspecific structure, and distribution of *Rondeletia loricata* (Rondeletiidae). *J. Ichthyol.* 36: 154–168.
- Kotlyar, A. N. 1999. *Melamphaes suborbitalis* (Melamphaidae): osteology, intraspecific structure, distribution, and description of a new species, *Melamphaes parini* sp. nova. *J. Ichthyol.* 39: 421–432.
- Kovalenko, S. A., A. O. Shubin, and I. A. Nemchinova. 2005. Distribution and biological characteristics of Kamchatka steelhead *Parasalmo mykiss* (Salmonidae) in Pacific waters off the Kurils and in the Sea of Okhotsk. *J. Ichthyol.* 45: 65–75.
- Kramer, D. E., W. H. Barss, B. C. Paust, and B. E. Bracken. 1995. Guide to northeast Pacific flatfishes: families Bothidae, Cynoglossidae, and Pleuronectidae. University of Alaska Sea Grant, Fairbanks, Marine Advisory Bull. 47.
- Kramer, D. E. and V. M. O'Connell. 1995. Guide to northeast Pacific rockfishes genera *Sebastes* and *Sebastes*. University of Alaska Sea Grant, Fairbanks, Marine Advisory Bull. No. 25.
- Kreff, G. 1985. Alepocephalidae (Osteichthyes, Argentioidei) dreier Reisen der Fischerei-forschungsschiffe “Anton Dohrn” und “Walther Herwig” in den Nordatlantik. *Arch. FischWiss.* 36: 213–233.

-
- Kushner, D. J., D. Lerma, J. Shaffer, and B. Hajduczek. 2001. Kelp forest monitoring 1999 annual report. National Park Service, Channel Islands National Park, Tech. Rep. CHIS-01-05.
- Kussakin, O. G., M. B. Ivanova, A. P. Tsurpalo, and others. 1997. A check-list of animals, plants, and fungi from the intertidal zone of the Far-Eastern seas of Russia. Dalnauka, Vladivostok. [In Russian.]
- Laboute, P. and R. Grandperrin. 2000. Poissons de Nouvelle-Calédonie. Catharine Ledru, IRD, Nouméa, New Caledonia.
- LACS. 2002. Palos Verdes Ocean Monitoring, 2002. Los Angeles County Sanitation District. Submitted to Los Angeles Regional Water Quality Control Board, Whittier, California.
- Lamb, A. and P. Edgell. 1986. Coastal fishes of the Pacific Northwest. Harbour Publishing, Madeira Park, British Columbia.
- Lancraft, H. T. M. 1982. Aspects of the natural history of *Melanostima pammelas* (Pisces: Zoarcidae). Masters thesis, University of California, Santa Barbara.
- Larkins, H. A. 1964. Some epipelagic fishes of the North Pacific Ocean, Bering Sea, and Gulf of Alaska. *Trans. Am. Fish. Soc.* 93(3): 286–290.
- Lauth, R. R. 1999. The 1997 Pacific Coast West Coast upper continental slope trawl survey of groundfish resources off Washington, Oregon, and California: estimates of distribution, abundance, and length composition. NOAA Tech. Memo. NMFS-AFSC-97.
- Lauth, R. R. 2000. The 1999 Pacific Coast West Coast upper continental slope trawl survey of groundfish resources off Washington, Oregon, and California: estimates of distribution, abundance, and length composition. NOAA Tech. Memo. NMFS-AFSC-115.
- Lauth, R. R. 2001. The 2000 Pacific Coast West Coast upper continental slope trawl survey of groundfish resources off Washington, Oregon, and California: estimates of distribution, abundance, and length composition. NOAA Tech. Memo. NMFS-AFSC-120.
- Lavenberg, R. J. 1988. Chlopsid eels of the eastern Pacific with a new species and descriptions of larval forms. *Bull. Mar. Sci.* 42: 253–264.
- Lavenberg, R. J. and A. Ebeling. 1967. Distribution of midwater fishes among deep-water basins of the Southern California Shelf, p. 185–201. *In* R. N. Philbrick (ed.), *Proceedings of the Symposium on the Biology of the California Islands*. Santa Barbara Botanic Garden.
- Lavrova, T. V. 1990. A preliminary list and distribution of species of the family Stichaeidae in the Okhotsk Sea. *Tr. Zool. Inst. Akad. Nauk SSSR* 213: 46–54. [In Russian.]
- Lea, R. N. 1980. Systematics and zoogeography of cusk-eels of the family Ophidiidae, subfamily Ophidiinae, from the eastern Pacific Ocean. Ph.D. thesis, University of Miami, Florida.
- Lea, R. N. 1988. Family Himantolophidae added to the ichthyofauna of the temperate eastern North Pacific. *Calif. Fish Game* 74: 180–182.
- Lea, R. N. 1997. A new and unique Ophidiine cusk-eel from the Panamic region of the eastern North Pacific. *Bull. Mar. Sci.* 60: 960–965.
- Lea, R. N. 1998. The spotfin burrfish—an infrequent visitor. *Cabrillo Marine Aquarium* (spring): 8.
- Lea, R. N. and P. Béarez. 1999. Occurrence of *Chilara taylori* (Ophidiidae), an eastern North Pacific cusk-eel from Ecuadorian waters. *Cybium* 23: 99–100.
- Lea, R. N., E. D. Erickson, K. Boyle, and R. Given. 2001. Occurrence of the loosetooth parrotfish, *Nicholsina denticulata* (Scaridae), from Santa Catalina Island, California. *Bull. S. Calif. Acad. Sci.* 100: 167–169.
- Lea, R. N. and J. E. Fitch. 1979. A new species of rockfish, genus *Sebastes* (Scorpaenidae), from the eastern North Pacific off Mexico and California. *Nat. Hist. Mus. Los Angel. Cty. Contrib. Sci.* No. 320.
- Lea, R. N. and L. Fukuhara. 1991. The gulf coney, *Epinephelus acanthistius*, from the marine waters of southern California. *Bull. S. Calif. Acad. Sci.* 90: 80–82.
- Lea, R. N., K. A. Karpov, and L. F. Quirollo. 1989. Record of the roughscale sole, *Clidoderma asperrimum*, from northern California with a note on the Pacific lined sole, *Achirus mazatlanus*. *Calif. Fish Game* 75(4): 239–241.

-
- Lea, R. N., T. Keating, G. V. Dykhuizen, and P. B. Lehtonen. 1984. Records of goosefishes (family: Lophiidae, genus *Lophiodes*) from Californian waters. Calif. Fish Game 70: 250–251.
- Lea, R. N. and F. McAlary. 1994. Occurrence of the swallow damselfish, *Azurina hirundo*, from islands off Southern California. Bull. South. Calif. Acad. Sci. 93: 42–44.
- Lea, R. N. and L. F. Quirolo. 1986. First record of *Hemitripterus bolini*, the bigmouth sculpin, from Californian waters. Calif. Fish Game 72: 117–126.
- Lea, R. N. and R. H. Rosenblatt. 1992. The Cortez grunt (*Haemulon flaviguttatum*) recorded from two embayments in southern California. Calif. Fish Game 78: 163–165.
- Lea, R. N. and R. H. Rosenblatt. 2000. Observations on fishes associated with the 1997–98 El Niño off California. CalCOFI Rep. 41: 117–129.
- Lea, R. N., C. C. Swift, and R. J. Lavenberg. 1988. Records of *Mugil curema* Valenciennes, the white mullet, from southern California. Bull. S. Calif. Acad. Sci. 87: 31–34.
- Lea, R. N. and H. J. Walker Jr. 1995. Record of the bigeye trevally, *Caranx sexfasciatus*, and Mexican lookdown, *Selene brevoorti*, with notes on other carangids from California. Calif. Fish Game 81: 89–95.
- Leaman, B. M. 1980. The ecology of fishes in British Columbia kelp beds. I. Barkley Sound *Nereocystis* beds. Province of British Columbia, Marine Resources Branch, Fisheries Development Rep. No. 22.
- LeBoeuf, B. J., J. E. McCosker, and J. Hewitt. 1987. Crater wounds on northern elephant seals: the cookiecutter shark strikes again. Fish. Bull. 85: 387–392.
- Leipertz, S. L. 1985. A review of the fishes of the agonid genus *Xeneretmus* Gilbert. Proc. Calif. Acad. Sci. 44(3): 17–40.
- León-Castro, H., G. Ruiz-Campos, J. Alanis Garcia, and O. A. Pedrin-Osuna. 1993. Escorpenidos (Pisces, Scorpaenidae) de Isla Guadalupe, Baja California, p. 319–327. In S. I. Salazar-Vallejo and N. E. Gonzalez (eds.), Biodiversidad marina y costera de Mexico. Com. Nal. Biodiversidad y CIQRO, Mexico.
- Levings, C. D. 1973. Sediments and abundance of *Lycodopsis pacifica* (Pisces, Zoarcidae) near Point Grey, B. C., with catch data for associated demersal fish. Fish. Res. Board Can., Tech. Rep. 393.
- Lieske, E. and R. Myers. 2002. Coral reef fishes. Revised edition. Princeton University Press, Princeton, New Jersey.
- Limbaugh, C. 1955. Fish life in the kelp beds and the effects of kelp harvesting. Univ. Calif., Inst. Mar. Res., IMR Ref. 55-9.
- Lindberg, G. U. and V. V. Fedorov. 1993. Fishes of the Sea of Japan and the adjacent areas of the Sea of Okhotsk and the Yellow Sea. Part 6. Teleostomi, Osteichthyes, Actinopterygii. XXXI. Pleuronectiformes (CXC.V. Family Psettodidae—CCI. Family Cynoglossidae). Zool. Inst. Ross. Akad. Nauk, Faune 166. [In Russian.]
- Lindberg, G. U. and Z. V. Krasnyukova. 1969. Fishes of the Sea of Japan and the adjacent areas of the Sea of Okhotsk and the Yellow Sea. Part 3. Teleostomi. XXIX. Perciformes: Percoidei (XC. Serranidae—CXLIV. Champsodontidae). Acad. Sci. USSR Zool. Inst., Fauna USSR 99. [Translation by Israel Prog. Sci. Transl., 1971.]
- Lindberg, G. U. and Z. V. Krasnyukova. 1975. Fishes of the Sea of Japan and the adjacent areas of the Sea of Okhotsk and the Yellow Sea. Part 4. Teleostomi. XXIX. Perciformes: 2. Blennioidei—13. Gobioidi (CXLV. Anarhichadidae—CLXXV. Periophthalmidae). Nauka Publishers, Leningrad. [Translation by Smithsonian Institution Libraries and National Science Foundation, Washington, D.C., B. B. Collette, editor, 1989.]
- Lindberg, G. U. and Z. V. Krasnyukova. 1987. Fishes of the Sea of Japan and the adjacent areas of the Sea of Okhotsk and the Yellow Sea. Part 5. Teleostomi, Osteichthyes, Actinopterygii. XXX. Scorpaeniformes (CLXXVI. Scorpaenidae—CXCIV. Liparididae). Zool. Inst. Akad. Nauk SSSR, Faune 150. [In Russian.]
- Lindberg, G. U. and M. I. Legeza. 1955. Review of genera and species of fishes of the subfamily Cyclopterinae (Pisces). Tr. Zool. Inst. Akad. Nauk SSSR 18: 389–458. [In Russian; and translation by Israel Prog. Sci. Transl., 1964.]
- Lindberg, G. U. and M. I. Legeza. 1965. Fishes of the Sea of Japan and the adjacent areas of the Sea of Okhotsk and the Yellow Sea. Part 2. Teleostomi. XII. Acipenseriformes—XXVIII. Polynemiformes. Acad. Sci. USSR, Zool. Inst., Fauna USSR 84. 389 pp. [Translation by Israel Prog. Sci. Transl., 1969.]

-
- Lissner, A. L. and J. H. Dorsey. 1986. Deep-water biological assemblages of a hard-bottom bank-ridge complex of the southern California continental borderland. *Bull. S. Calif. Acad. Sci.* 85: 87–101.
- Logan, J. E., K. L. Day, M. Marks, and O. Assemien. 1993. Occurrence of the codling (*Halargyreus johnsonii*), in the eastern North Pacific. *Calif. Fish Game* 79: 39–41.
- Long, D. L. 1992. Confirmation of the northern range of the snubnose sculpin (*Orthonopias triacis*). *Calif. Fish Game* 78: 160–162.
- Long, D. L. 1994. First records of the combtooth dogfish shark, *Centroscyllium nigrum* (Chondrichthyes: Squalidae) from the Pacific subantarctic of Chile. *Jpn. J. Ichthyol.* 40: 478–481.
- Long, D. L. 1996. A Pacific fat sleeper, *Dormitator latifrons* (Perciformes: Eleotridae) from Lake Merritt, San Francisco Bay, California. *Calif. Fish Game* 82: 192–194.
- Love, M. S. and R. Lea. 1997. Range extension of the quillback rockfish to the southern California Bight. *Calif. Fish Game* 83: 78–83.
- Love, M. S., M. Yoklavich, and L. Thorsteinson. 2002. The rockfishes of the northeast Pacific. University of California Press, Berkeley.
- MacGinitie, G. E. 1947. Notes on the devilfish, *Mobula lucasana*, and its parasites. *Copeia* 1947(4): 276–278.
- Machida, Y. and S. Ohta. 1996. First finding of the deep-sea eelpout, *Taranetzella lyoderma*, from Japan (Zoarcidae, Lycodinae). *Ichthyol. Res.* 43(1): 90–92.
- Machida, Y., S. Ohta, and O. Okamura. 1987. Newly obtained specimens and information on a deep-sea fish *Spectrunculus grandis* (Günther) (Ophidiidae, Ophidiiformes) from Japan. *Rep. Usa Mar. Biol. Inst. Kochi Univ.* 9: 189–200.
- Machida, Y. and Y. Tachibana. 1986. A new record of *Bassozetus zenkevitchi* (Ophidiidae, Ophidiiformes) from Japan. *Jpn. J. Ichthyol.* 32(4): 437–439.
- Machida, Y., H. Wu, J. Zhong, and H. Endo. 1997. Notes on a specimen of the deep-sea pelagic fish *Brotulotaenia nielsenii* (Ophidiidae) from the South China Sea. *Ichthyol. Res.* 44: 421–424.
- Marchal, E. and A. Lebourges. 1996. Acoustic evidence for unusual diel behaviour of a mesopelagic fish (*Vinciguerrria nimbaria*) exploited by tuna. *ICES J. Mar. Sci.* 53: 443–447.
- Markevich, A. I. 2000. Spawning of the sea raven *Hemitripterus villosus* in Peter the Great Bay, Sea of Japan. *Russ. J. Mar. Biol.* 26: 283–285.
- Markle, D. F. 1980. A new species and a review of the deep-sea fish genus *Asquamiceps* (Salmoniformes: Alepocephalidae). *Bull. Mar. Sci.* 30: 45–53.
- Markle, D. F. and G. Krefft. 1985. A new species and review of *Bajacalifornia* (Pisces: Alepocephalidae) with comments on the hook jaw of *Narctes stomias*. *Copeia* 1985: 345–356.
- Martinez-Muñoz, M. A. and J. C. Ramirez-Cruz. 1992. Distribucion y abundancia de pleuronectiformes (TELEOSTEI), en la costa occidental de Baja California Sur, Mexico. Tesis de Licenciatura. Univ. Nal. Autónoma, México, Fac. De Ciencias.
- Mason, J. C. and A. C. Phillips. 1985. Biology of the bathylagid fish, *Leuroglossus schmidti*, in the Strait of Georgia, British Columbia, Canada. *Can. J. Fish. Aquat. Sci.* 42: 1144–1153.
- Masuda, H., K. Amoaka, C. Araga, T. Uyeno, and T. Yoshino. 1984. The fishes of the Japanese Archipelago. Tokai Univ. Press.
- Matarese, A. C., D. M. Blood, S. J. Picquelle, and J. L. Benson. 2003. Atlas of abundance and distribution patterns of ichthyoplankton from the northeast Pacific Ocean and Bering Sea ecosystems based on research conducted by the Alaska Fisheries Science Center (1972–1996). NOAA Professional Paper NMFS 1.
- Matarese, A. C., A. W. Kendall Jr., D. M. Blood, and B. M. Vintner. 1989. Laboratory guide to early life history stages of northeast Pacific fishes. NOAA Tech. Rep. NMFS 80.
- Matarese, A. C. and D. L. Stein. 1980. Additional records of the sculpin *Psychrolutes phrictus* in the eastern Bering Sea and off Oregon. *U.S. Natl. Mar. Fish. Serv. Fish. Bull.* 78(1): 169–171.
- Matern, S. A. and K. J. Fleming. 1995. Invasion of a third Asian goby, *Tridentiger bifasciatus*, into California. *Calif. Fish Game* 81: 71–76.

-
- Matsubara, K. 1943. Studies of the scorpaenoid fishes of Japan. Trans. Sigen-kagaku Kenkyosyo, Tokyo. [Cited in Lindberg and Krasnyukova 1987.]
- Matsui, T. and R. H. Rosenblatt. 1987. Review of the deep-sea fish family Platytroctidae (Pisces: Salmoniformes). Bull. Scripps Inst. Oceanogr. Univ. Calif. 26.
- McAllister, D. E. 1962. Fishes of the 1960 "Salvelinus" program from western Arctic Canada. Natl. Mus. Can. Bull. 185: 17–39.
- McAllister, D. E. 1963. A revision of the smelt family, Osmeridae. Natl. Mus. Can. Bull. 191.
- McCosker, J. E., S. Anderson, J. Richards, and M. Love. 2004. First records of the Cape cigarfish, *Cubiceps capensis* (Family Nomeidae), from California waters. Calif. Fish Game 90: 157–159.
- McCosker, J. E. and R. H. Rosenblatt. 1987. Notes on the biology, taxonomy, and distribution of flashlight fishes (Beryciformes: Anomalopidae). Jpn. J. Ichthyol. 34: 157–164.
- McCosker, J. E. and R. H. Rosenblatt. 1998. A revision of the eastern Pacific snake-eel genus *Ophichthus* (Anguilliformes: Ophichthiidae) with the description of six new species. Proc. Calif. Acad. Sci. 50: 397–432.
- McCosker, J. E. and D. G. Smith. 2004. The argus moray, *Muraena argus*, added to the California fauna. Proc. Calif. Acad. Sci. 55: 248–249.
- McCosker, J. E., G. Merlin, D. S. Long, R. G. Gilmore, and C. Villon. 1997. Deep slope fishes collected during the 1995 eruption of Isla Fernandina, Galápagos, p. 22–26. Noticias de Galapagos No. 58.
- McDowell, S. B. 1973. Family Notacanthidae. Pages 124–207 in Fishes of the western North Atlantic. Mem. Sears Found. Mar. Res., New Haven, 1(6).
- McEachran, J. D. and J. D. Fechhelm. 1998. Fishes of the Gulf of Mexico. Vol. 1. University of Texas Press, Austin.
- McFarlane, G. A. and R. J. Beamish. 1983. Biology of adult sablefish (*Anoplopoma fimbria*) in waters off western Canada, p. 59–80. In B. R. Melteff (ed.), Proceedings of the International Sablefish Symposium. University of Alaska, Fairbanks, Alaska Sea Grant Rep. 83-8.
- McPhail, J. D. 1969. Two rare sculpins (Cottidae) new to the marine fauna of British Columbia. Can. Field-Nat. 83(4): 400–401.
- McPhail, J. D. and C. C. Lindsey. 1970. Freshwater fishes of northwestern Canada and Alaska. Fish. Res. Board Can. Bull. 173.
- Mead, G. W. 1972. Bramidae. Dana-Rep. Carlsberg Found. No. 81.
- Mecklenburg, C. W. 2003. Family Anoplopomatidae Jordan & Gilbert 1883 — sablefishes. Calif. Acad. Sci. Annotated Checklists of Fishes No. 2.
- Mecklenburg, C. W. 2003. Family Rhamphocottidae Gill 1888 — grunt sculpins. Calif. Acad. Sci. Annotated Checklists of Fishes No. 4.
- Mecklenburg, C. W. 2003. Family Hemitripterae Gill 1872 — sea ravens or sailfin sculpins. Calif. Acad. Sci. Annotated Checklists of Fishes No. 5.
- Mecklenburg, C. W. 2003. Family Bathymasteridae Jordan & Gilbert 1883 — ronquils. Calif. Acad. Sci. Annotated Checklists of Fishes No. 7.
- Mecklenburg, C. W. 2003. Family Cryptacanthodidae Gill 1861 — wrymouths. Calif. Acad. Sci. Annotated Checklists of Fishes No. 8.
- Mecklenburg, C. W. 2003. Family Pholidae Gill 1893 — gunnels. Calif. Acad. Sci. Annotated Checklists of Fishes No. 9.
- Mecklenburg, C. W. 2003. Family Anarhichadidae Bonaparte 1846 — wolffishes. Calif. Acad. Sci. Annotated Checklists of Fishes No. 10.
- Mecklenburg, C. W. 2003. Family Scytalinidae Jordan & Evermann 1898 — graveldivers. Calif. Acad. Sci. Annotated Checklists of Fishes No. 11.
- Mecklenburg, C. W. 2003. Family Ptilichthyidae Jordan & Gilbert 1883 — quillfishes. Calif. Acad. Sci. Annotated Checklists of Fishes No. 12.

-
- Mecklenburg, C. W. 2003. Family Zaproridae Jordan & Evermann 1898 — prowfishes. Calif. Acad. Sci. Annotated Checklists of Fishes No. 13.
- Mecklenburg, C. W. 2003. Family Icosteidae Jordan & Gilbert 1880 — ragfishes. Calif. Acad. Sci. Annotated Checklists of Fishes No. 14.
- Mecklenburg, C. W. and W. N. Eschmeyer. 2003. Family Hexagrammidae Gill 1889 — greenlings. Calif. Acad. Sci. Annotated Checklists of Fishes No. 3.
- Mecklenburg, C. W., T. A. Mecklenburg, and L. K. Thorsteinson. 2002. Fishes of Alaska. American Fisheries Society, Bethesda, Maryland.
- Mecklenburg, C. W. and B. A. Sheiko. 2003. Family Cyclopteridae Bonaparte 1831 — lumpsuckers. Calif. Acad. Sci. Annotated Checklists of Fishes No. 6.
- Mecklenburg, C. W. and B. A. Sheiko. 2004. Family Stichaeidae Gill 1864 — pricklebacks. Calif. Acad. Sci. Annotated Checklists of Fishes No. 35.
- Melendez C., R., R. Cespedes, and A. Cornejo C. 1991. *Barbourisia rufa* Parr, 1945 en aguas del sur de Chile (Teleostei, Beryciformes, Barboursiidae). Investig. Pesq. (Chile) 36: 97–100.
- Melendez C., R. and W. Sielfeld K. 1991. *Melanonus zugmayeri* Norman, 1930, primer registro para la costa de Chile (Pisces: Gadiformes: Melanonidae). Estud. Oceanol. 10: 113–116.
- Messersmith, J. D. 1965. Southern range extensions for chum and silver salmon. Calif. Fish Game 51(3): 220.
- Metz, C. W. 1912. The fishes of Laguna Beach, California. First. Ann. Rep. Laguna Marine Laboratory.
- Miller, B. S., C. A. Simenstad, J. N. Cross, K. L. Fresh, and S. N. Steinfors. 1980. Nearshore fish and macroinvertebrate assemblages along the Strait of Juan de Fuca including food habits of the common nearshore fish. Interagency Energy/Environment R and D Program Report. EPA-600/7-80-027.
- Miller, B. S., C. A. Simenstad, L. L. Moulton, K. L. Fresh, F. C. Funk, W. A. Karp, and S. F. Borton. 1977. Puget Sound baseline program nearshore fish survey. Fisheries Research Institute, University of Washington, Seattle, WA, FRI-UW-7710.
- Miller, D. J. and R. N. Lea. 1972. Guide to the coastal marine fishes of California. Calif. Dep. Fish Game Fish Bull. 157.
- Miller, D. J. and R. N. Lea. 1976. Addendum, p. 237–249. In Guide to the coastal marine fishes of California. Calif. Dep. Fish Game Fish Bull. 157. [Reprint with addendum.]
- Mitani, I., Kamei M., and Shimizu T. 1986. Some aspects of biology and fisheries of skilfish (*Erilepis zonifer* (Lockington)) off Japan. Kamisuikenhou 7: 23–27. [In Japanese.] [Cited in Orlov and Biryukov 2003.]
- Mitchell, D. F. 1953. An analysis of stomach contents of California tidepool fishes. Am. Midl. Nat. 49: 862–871.
- Miya, M. 1994. Seasonal occurrences of deep-sea bathylagid fishes in Sagami Bay, central Japan, with notes on their reproduction. Jpn. J. Ichthyol. 40: 433–440.
- Miyake, T. and J. D. McEachran. 1986. Taxonomy of the stingray genus *Urotrygon* (Myliobatiformes: Urolophidae): preliminary results based on external morphology, p. 291–302. In Indo-Pacific Fish Biology, Proceedings of the 2nd International Conference on Indo-Pacific Fishes. Ichthyological Society of Japan, Tokyo.
- Møller, P. R., A. D. Jordan, P. Gravlund, and J. F. Steffensen. 2002. Phylogenetic position of the cryopelagic codfish genus *Arctogadus* Drjagin, 1932 based on partial mitochondrial cytochrome b sequences. Polar Biol. 25: 342–349.
- Moore, J. A., K. E. Hartel, J. E. Craddock, and J. K. Galbraith. 2003. An annotated list of deepwater fishes from off the New England region, with new area records. Northeastern Nat. 10(20): 159–248.
- Moore, R. H. 1991. First record of the leather bass (*Epinephelus dermatolepis*, Boulenger) in southern California. Calif. Fish Game 77: 145–147.
- Moore, R. H. and K. T. Herbinson. 2002. First record of the armed grunt, *Conodon serrifer* (Haemulidae), in southern California. Calif. Fish Game 88: 178–180.
- Morales-Nin, B. 1992. First biological data on *Synodus evermanni* Jordan and Bollman, 1890 (Pisces: Synodontidae) from the central Mexican Pacific. Scientia Marina 57: 95–99.

-
- Morales-Nin, B. 1994. Growth of demersal fish species of the Mexican Pacific Ocean. *Mar. Biol.* 121: 211–217.
- Morales-Nin, B. 1996. Abundance, distribution and growth of *Synodus evermanni* Jordan and Bollman, 1890 and *Synodus scituliceps* Jordan and Gilbert, 1882 (Pisces: Synodontidae) from the Mexican Pacific shelf. *Publ. Espec. Inst. Esp. Oceanogr.* 21: 253–262.
- Moring, J. R. 1972. Check list of intertidal fishes of Trinidad Bay, California, and adjacent areas. *Calif. Fish Game* 58: 315–320.
- Morosova, G. N. 1982. Distribution, relative abundance and size composition of three species of eelpouts in the Labrador and Newfoundland areas. *J. Northwest Atl. Fish. Sci.* 3: 159–164.
- Morris, P. A., M. Domeir, and J. Stephens Jr. 1996. Notes on the occurrence and depth distribution of the bat ray in the southern California Bight, with comments on the effect of trawl size on estimates of abundance. *Calif. Fish Game* 82: 48–53.
- Morrow, J. E. 1980. The freshwater fishes of Alaska. Alaska Northwest Publishing Company, Anchorage.
- Morrow, J. E. and R. H. Gibbs Jr. 1964. Family Melanostomiidae, p. 351–511. *In* Fishes of the western North Atlantic. Mem. Sears Found. Mar. Res., New Haven, 1(4).
- Moser, H. G. 1966. Reproduction and developmental biology of the rockfishes (*Sebastes* spp.) off California. Ph.D. thesis, University of Southern California.
- Moser, H. G. (editor). 1996. The early stages of fishes in the California Current region. CALCOFI (California Cooperative Oceanic Fisheries Investigations) Atlas No. 33. U.S. Department of Commerce, NOAA, NMFS, Southwest Fisheries Science Center, La Jolla, California.
- Moser, H. B. and E. H. Ahlstrom. 1970. Development of lanternfishes (family Myctophidae) in the California Current. Part 1. Species with narrow-eyed larvae. *Bull. Los Angeles Nat. Hist. Mus.* No. 7.
- Moser, H. G. and E. H. Ahlstrom. 1978. Larvae and pelagic juveniles of blackgill rockfish, *Sebastes melanostomus*, taken in midwater trawls off southern California and Baja California. *J. Fish. Res. Board Can.* 35: 981–996.
- Moser, H. G., R. L. Charter, P. E. Smith, D. A. Ambrose, S. R. Charter, C. A. Meyer, E. M. Sandknop, and W. W. Watson. 1993. Distributional atlas of fish larvae and eggs in the California Current region: taxa with 1000 or more total larvae, 1951 through 1984. CalCOFI Atlas No. 31.
- Moser, H. G., R. L. Charter, P. E. Smith, D. A. Ambrose, S. R. Charter, C. A. Meyer, E. M. Sandknop, and W. W. Watson. 1994. Distribution atlas of the fish larvae in the California Current region: taxa with less than 1000 total larva 1951 through 1984. CalCOFI Atlas No. 32.
- Moser, H. G., R. L. Charter, P. E. Smith, D. A. Ambrose, W. Watson, S. B. Charter, and E. M. Sandknop. 2002. Distributional atlas of fish larvae and eggs from manta (surface) samples collected on CalCOFI surveys from 1977 to 2000. CalCOFI Atlas No. 35.
- Moser, H. G., E. M. Sandknop, and D. A. Ambrose. 1985. Larvae and juveniles of aurora rockfish, *Sebastes aurora*, from off California and Baja California, p. 55–64. *In* A. W. Kendall Jr. and J. B. Marliave (eds.), Descriptions of early life history stages of selected fishes. Third International Symposium on the Early Life History of Fishes. Can. Tech. Rep. Fish. Aquat. Sci. 1359.
- Motomura, H. 2004. Family Polynemidae Rafinesque 1815 — threadfins. *Calif. Acad. Sci. Annotated Checklists of Fishes* No. 32.
- Moulton, L. L. 1977. An ecological analysis of fishes inhabiting the rocky nearshore regions of northern Puget Sound, Washington. Ph.D. thesis, University of Washington, Seattle.
- Moyle, P. B. 1976. Inland fishes of California. University of California Press, Berkeley.
- Moyle, P. B. 2002. Inland fishes of California. Revised and expanded. University of California Press, Berkeley.
- Moyle, P. B. and L. H. Davis. 2000. A list of freshwater, anadromous and euryhaline fishes of California. *Calif. Fish Game* 86: 244–258.
- Munroe, T. A., M. S. Nizinski, and M. N. Mahadeva. 1991. *Symphurus prolatinaris*, a new species of shallow-water tonguefish (Pleuronectidae: Cynoglossidae) from the eastern Pacific. *Proc. Biol. Soc. Wash.* 104: 448–458.

-
- Myers, R. F. 1999. Micronesian reef fishes. Coral Graphics, Barrigada, Guam.
- Myers, R. F. and T. J. Donaldson. 1996. New and recent records of fishes from the Mariana Islands. *Micronesica* 28: 207–266.
- Nafpaktitis, B. 1977. Family Neoscolopelidae, p. 1–12. *In* Fishes of the western North Atlantic. Mem. Sears Found. Mar. Res., New Haven, 7(1).
- Nafpaktitis, B., R. H. Backus, J. R. Craddock, R. L. Haedrich, B. H. Robison, and C. Karnella. 1977. Family Myctophidae, p. 13–265. *In* Fishes of the western North Atlantic. Mem. Sears Found. Mar. Res., New Haven, 7(1).
- Nagtegaal, D. A. and S. P. Farlinger. 1981. First record of two fishes, *Seriola dorsalis* and *Medialuna californiensis*, from waters off British Columbia. *Syesis* 13: 206–207. [Journal dated 1980 but not issued until 1981.]
- Nakabo, T. (editor). 2002. Fishes of Japan with pictorial keys to the species, English edition. Tokai University Press, Tokyo.
- Nakano, H., H. Matsunaga, H. Okamoto, and M. Okazuki. 2003. Acoustic tracking of bigeye thresher shark, *Alopias superciliosus*, in the eastern Pacific. *Mar. Ecol. Prog. Ser.* 265: 255–261.
- Nakamura, I. and N. V. Parin. 1993. FAO species catalogue. Vol. 15. Snake mackerels and cutlassfishes of the world. FAO Fisheries Synopsis No. 125, Vol. 15. FAO, Rome.
- Nakano, H. and M. Tabuchi. 1990. Occurrence of the cookiecutter shark *Isistius brasiliensis* in surface waters of the north Pacific Ocean. *Jpn. J. Ichthyol.* 37: 60–63.
- Nakaya, K., K. Amaoka, and K. Abe. 1980. A review of the genus *Lepidion* (Gadiformes, Moridae) from the northwestern Pacific. *Jpn. J. Ichthyol.* 27: 41–47.
- Nalbant, T. T. 1994. Fishes obtained during the first cruise (1964) of M/S *Galati* in the Bering Sea. I. Family Zoarcidae (Pisces: Perciformes). *Travaux de Muséum d'Histoire naturelle "Grigore Antipa"* 34: 381–390.
- Nelson, D. W. 1984. Systematics and distribution of cottid fishes of the genera *Rastrinus* and *Icelus*. *Occas. Pap. Calif. Acad. Sci.* No. 138.
- Nelson, E. W. 1887. Field notes on Alaskan fishes, by Edward W. Nelson, with additional notes by Tarleton H. Bean, p. 295–322, plates 13–21. *In* H. W. Henshaw (ed.), Report upon natural history collections made in Alaska between the years 1877 and 1881 by Edward W. Nelson. Arctic Series of Publications Issued in Connection with the Signal Service, U.S. Army, No. 3. Government Printing Office, Washington, D.C.
- Nelson, J. S. 1994. *Fishes of the World*. John Wiley and Sons, New York.
- Nelson, J. S., E. J. Crossman, H. Espinosa-Pérez, L. T. Findley, C. R. Gilbert, R. N. Lea, and J. D. Williams. 2004. Common and scientific names of fishes from the United States, Canada, and Mexico. 6th ed. *Am. Fish. Soc. Spec. Publ.* 29.
- Nelson, J. S., W. C. Starnes, and M. L. Warren. 2002. A capital case for common names of species of fishes—a white crappie or a White Crappie. *Fisheries* 27(7): 31–33.
- Neyelov, A. V. 1979. Seismosensory system and classification of sculpins (Cottidae: Myoxocephalinae, Artediellinae). Leningrad, Nauka. [In Russian.]
- Nichol, D. G., N. T. Richmond, and E. K. Pikitch. 1989. Northern range extension of the speckled rockfish, *Sebastes ovalis*. *Calif. Fish Game* 75: 173.
- Nielsen, J. G., D. M. Cohen, D. F. Markle, and C. R. Robins. 1999. FAO species catalogue. Vol 18. Ophidiiform fishes of the world (Order Ophidiiformes). FAO Fisheries Synopsis No. 125, Vol. 18. FAO, Rome.
- Nielsen, J. G. and R. J. Eagle. 1974. Description of a new species of *Barathronus* (Pisces, Aphyonidae) and four specimens of *Sciadonus* sp. from the eastern Pacific. *J. Fish. Res. Board Can.* 31: 1067–1072.
- Nielsen, J. G. and D. G. Smith. 1978. The eel family Nemichthyidae (Pisces, Anguilliformes). Dana-Rep. Carlsberg Found. No. 88.
- Nishida, K. and K. Nakaya. 1990. Taxonomy of the genus *Dasyatis* (Elasmobranchii, Dasyatidae) from the North Pacific. NOAA Tech. Rep. NMFS No. 90: 327–346.
- Notarbartolo-di-Sciara, G. 1988. Natural history of the rays of the genus *Mobula* in the Gulf of California. *Fish. Bull.* 86: 45–66.

-
- Novikov, N. P. 1974. Commercial fishes of the continental slope of the northern part of the Pacific Ocean. Pishchevaya Promyshlennost', Moscow. [Cited in Tokranov and Davydov 1998.]
- Obermiller, L. E. and E. Pfeiler. 2003. Phylogenetic relationships of elopomorph fishes inferred from mitochondrial ribosomal DNA sequences. *Mol. Phylogenet. Evol.* 26: 202–214.
- O'Connell, V. M., D. A. Gordon, A. Hoffmann, and K. Hepler. 1992. Northern range extension of the vermilion rockfish (*Sebastes miniatus*). *Calif. Fish Game* 78: 173.
- Okamoto, M., H. Ida, and H. Sugisaki. 2001. Larvae and a juvenile of two tetragonurid fishes (Perciformes: Tetragonuridae) from the North-West Pacific. *Jpn. J. Ichthyol.* 48: 113–119.
- Okamura, O. 1970. *Fauna Japonica. Macrourina (Pisces)*. Academic Press of Japan, Tokyo.
- Okamura, O., K. Amaoka, M. Takeda, K. Yano, K. Okuda, and S. Chikuni. 1995. Fishes collected by the R/V Shinkai Maru around Greenland. Japan Marine Fishery Resources Research Center.
- Okamura, O. and T. Kitajima (editors). 1984. Fishes of the Okinawa Trough and the adjacent waters. Vol. 1. The intensive research of unexploited fishery resources on continental slopes. Japan Fisheries Conservation Association, Tokyo.
- Okamura, O. and Y. Machida. 1986. Additional records of fishes from Kochi Prefecture, Japan. *Mem. Fac. Sci. Kochi Univ.* 7(Ser. D): 17–41.
- Okamura, O., Y. Machida, T. Yamakawa, K. Matsuura, and T. Yatou (editors). 1985. Fishes of the Okinawa Trough and the adjacent waters. Vol. 2. The intensive research of unexploited fishery resources on continental slopes. Japan Fisheries Conservation Association, Tokyo.
- Okiyama, M. and H. Kato. 1997. A pelagic juvenile of *Barathronus pacificus* (Ophidiiformes: Aphyonidae) from the southwest Pacific, with notes on its metamorphosis. *Ichthyol. Res.* 44: 222–226.
- Orlov, A. M. 1994. Some characteristics of distribution and biological status of *Eumicrotremus soldatovi* (Cyclopteridae) in the northeastern part of the Sea of Okhotsk during the spring. *J. Ichthyol.* 34: 122–127.
- Orlov, A. M. 1996. Ecology of nekton, nektobenthos and plankton of the far eastern seas. *Izv. TINRO (Vladivostok)* 119: 149–177. [In Russian.]
- Orlov, A. M. 1998. Demersal ichthyofauna of Pacific waters around the Kuril Islands and southeastern Kamchatka. *Russ. J. Mar. Biol.* 24: 144–160.
- Orlov, A. M. and P. N. Kochkin. 1995. Distinctive features of the spatial distribution and size composition of the large-fin thornyhead, *Sebastolobus macrochir* (Scorpaenidae), on the slope of southeastern Sakhalin, summer 1993. *J. Ichthyol.* 38: 219–225.
- Orlov, A. M. and A. M. Tokranov. 2005. Distribution and size composition of anglers of the genus *Oneirodes* (Oneirodidae) off the northern Kurils and southeastern Kamchatka. *J. Ichthyol.* 45: 271–274.
- Orlov, A. M., A. M. Tokranov, and I. A. Biryukov. 2002. New records of rex sole *Glyptocephalus zachirus* Lockington, 1879 (Teleostei: Pleuronectidae) from the north-western Pacific. *Aqua* 5: 89–98.
- Orlov, A. M., A. M. Tokranov, and A. V. Vinnikov. 2001. Additional records of scaled sculpin *Archaulus biseriatus* Gilbert & Burke, 1912 (Teleostei: Cottidae) from the North Pacific. *Aqua, J. Ichthyol. Aquat. Biol.* 5: 11–18.
- Orr, J. W. 2004. *Lopholiparis flerxi*: A new genus and species of snailfish (Scorpaeniformes: Liparidae) from the Aleutian Islands, Alaska. *Copeia* 2004: 551–555.
- Orr, J. W. and D. C. Baker. 1996. New North American records of the northeast Pacific scorpaenids *Adelosebastes latens* and *Sebastes glaucus*. *Alaska Fish. Res. Bull.* 3: 94–102.
- Orr, J. W. and D. C. Baker. 1996. Southern range extension of the harlequin rockfish, *Sebastes variegatus* (Scorpaenidae). *Calif. Fish Game* 82: 133–136.
- Orr, J. W. and J. E. Blackburn. 2004. The dusky rockfishes (Teleostei: Scorpaeniformes) of the North Pacific Ocean: resurrection of *Sebastes variabilis* (Pallas, 1814) and a redescription of *Sebastes ciliatus* (Tilesius, 1813). *Fish. Bull.* 102: 328–348.
- Orr, J. W., M. A. Brown, and D. C. Baker. 1998. Guide to rockfishes (Scorpaenidae) of the genera *Sebastes*, *Sebastolobus*, and *Adelosebastes* of the northeast Pacific Ocean. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-95.

-
- Orr, J. W., M. A. Brown, and D. C. Baker. 2000. Guide to rockfishes (Scorpaenidae) of the genera *Sebastes*, *Sebastolobus*, and *Adelosebastes* of the northeast Pacific Ocean, 2nd edition. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-117.
- Orr, J. W. and M. S. Busby. 2001. *Prognatholiparis ptychomandibularis*, a new genus and species of the fish family Liparidae (Teleostei: Scorpaeniformes) from the Aleutian Islands, Alaska. Proc. Biol. Soc. Wash. 114: 51–57.
- Orr, J. W. and A. C. Matarese. 2000. Revision of the genus *Lepidopsetta* Gill, 1862 (Teleostei: Pleuronectidae) based on larval and adult morphology, with a description of a new species from the North Pacific Ocean and Bering Sea. Fish. Bull. 98: 539–582.
- Orr, J. W., E. H. Sinclair, and W. W. Walker. 2005. *Bassozetus zenkevitchi* (Ophidiidae: Teleostei) and *Paraliparis paucidens* (Liparidae: Teleostei): new records for Alaska from the Bering Sea. Northwestern Naturalist 86: 000–000.
- Orsi, J. A., R. K. Gish, and B. L. Wing. 1991. Northern range extensions of four nearshore marine fishes in Alaska. Can. Field-Nat. 105: 82–86.
- Page, L. M. and B. M. Burr. 1991. A field guide to freshwater fishes. Houghton Mifflin, Boston.
- Pakhorukov, N. P. 1999. Underwater observations on deepwater fish of the Atlantic Ocean in the region of the Sierra Leone Rise. J. Ichthyol. 39: 626–633.
- Pakhorukov, N. P. and A. R. Boltachev. 2001. On the distribution and behavior of the oilfish *Ruvettus pretiosus* (Gempylidae) over seamounts. J. Ichthyol. 41: 755–760.
- Parenti, P. and J. E. Randall. 2000. An annotated checklist of the species of the labroid fish families Labridae and Scaridae. J. L. B. Smith Inst. Ichthyol., Ichthyol. Bull. No. 68.
- Parin, N. V. 1960. The range of the saury (*Cololabis saira* Brev. — Scomberesocidae, Pisces) and effects of oceanographic features on its distribution. Dokl. Akad. Nauk SSSR 130(3): 649–652. [In Russian. Transl. by L. Penny, Ichthyological Laboratory, U.S. National Museum, Washington, D.C.]
- Parin, N. V. 2003. An annotated catalogue of fish-like vertebrates and fishes of the seas of Russia and adjacent countries: Part 3. Orders Perciformes (excluding suborders Gobioidi, Zoarcoidei and Stichaeoidei) and Tetraodontiformes. J. Ichthyol. 43: S1–S40.
- Parin, N. V. and T. N. Beljanina. 2000. Comparative description of two close Atlantic flying fish species — *Cheilopogon heterurus* and *Ch. melanurus* (Exocoetidae). J. Ichthyol. 40: 213–229.
- Parin, N. V. and A. W. Ebeling. 1980. A new western Pacific *Poromitra* (Pisces: Melamphaidae). Copeia 1980: 87–93.
- Parin, N. V., V. V. Fedorov, O. D. Borodulina, and V. E. Bekker. 1995. New records of mesopelagic and epipelagic fishes in Pacific waters off the southern Kuril Islands. J. Ichthyol. 35: 193–204.
- Parin, N. V., V. V. Fedorov, and B. A. Sheiko. 2002. An annotated catalogue of fish-like vertebrates and fishes of the seas of Russian and adjacent countries: Part 2. Order Scorpaeniformes. J. Ichthyol. 42: S60–S135.
- Parin, N. V. and A. N. Kotlyar. 1998. *Melamphaes suborbitalis* and *Scopeloberyx robustus* (Melamphaeidae) from the Russian part of the Sea of Okhotsk. J. Ichthyol. 38: 481–482.
- Parin, N. V. and N. S. Novikova. 1974. Taxonomy of viperfishes (Chauliodontidae, Osteichthyes) and their distribution in the world ocean. Tr. Inst. Okeanol. Akad. Nauk SSSR 96: 255–315. [In Russian; English summary.]
- Parin, N. V. and Yu. N. Scherbachev. 1998. *Taractes asper* (Bramidae) in the waters of California. J. Ichthyol. 38: 338–339.
- Parin, N. V. and I. B. Shakhovskoy. 2000. A review of the flying fish genus *Exocoetus* (Exocoetidae) with description of two new species from the southern Pacific Ocean. J. Ichthyol. 40: S31–S63.
- Parr, A. E. 1954. Review of the deep-sea fishes of the genus *Asquamiceps* Zugmayer, with descriptions of two new species. Am. Mus. Novit. No. 1655.
- Paulin, C. 1989. Review of the morid genera *Gadella*, *Physiculus*, and *Salilota* (Teleostei: Gadiformes) with description of seven new species. New Zealand J. Zool. 16: 93–133.
- Pauly, D. 2002. Growth and mortality of the basking shark *Cetorhinus maximus* and their implications for management of whale shark *Rhincodon typus*. Occas. Pap. IUCN Survival Comm. 25: 199–208.

-
- Paxton, J. R. 1989. Synopsis of the whalefishes (family Cetomimidae) with descriptions of four new genera. *Rec. Aust. Mus.* 41: 135–206.
- Pearcy, W. G., J. Fisher, R. Brodeur, and S. Johnson. 1985. Effects of the 1983 El Niño on coastal nekton off Oregon and Washington, p. 188–204. *In* W. S. Wooster and D. L. Fluharty (eds.), *El Niño north: Niño effects in the eastern subarctic Pacific Ocean*. Washington Sea Grant Program, University of Washington, Seattle.
- Pearcy, W. G., D. L. Stein, and R. S. Carney. 1982. The deep-sea benthic fish fauna of the northeastern Pacific Ocean on Cascadia and Tufts abyssal plains and adjoining continental slopes. *Biol. Oceanogr.* 1: 375–428.
- Pearson, D. E. 1989. Survey of fishes and water properties of south San Francisco Bay, California, 1973–82. NOAA Tech. Rep. NMFS 78.
- Peden, A. E. 1972. New records of sculpins (Cottidae) from the coasts of British Columbia and Washington. *Can. Field-Nat.* 86(2): 168–169.
- Peden, A. E. 1973. Records of eelpouts of the genus *Lycenchelys* and *Embryx* from the northeastern Pacific Ocean. *Syesis* 6: 115–120.
- Peden, A. E. 1975. Rare fishes including first records of thirteen species from British Columbia. *Syesis* 7: 47–62. [1974 on journal, but not issued until January 1975.]
- Peden, A. E. 1976. First records of the notacanth fish, *Notacanthus chemnitzii* Bloch, from the northeastern Pacific. *Calif. Fish Game* 62: 304–305.
- Peden, A. E. 1978. A systematic revision of the hemilepidotine fishes (Cottidae). *Syesis* 11: 11–49.
- Peden, A. E. 1981. Recognition of *Leuroglossus schmidti* and *L. stilbius* (Bathylagidae, Pisces) as distinct species in the North Pacific Ocean. *Can. J. Zool.* 59: 2396–2398.
- Peden, A. E. 1984. Redefinition of *Icelinus fimbriatus* and *I. oculatus* (Cottidae, Pisces), and their corrected geographic distribution, with a new key to the genus. *Syesis* 17: 67–80.
- Peden, A. E. 1997. The California slickhead, B.C.'s “missing fish.” *The Westcoast Fisherman*, Vancouver, B.C., March: 39.
- Peden, A. E. 2003. Marine fishes, p. 4–7. *In* *The vertebrates of British Columbia: scientific and English names. Changes since version 3.0. Standards for Components of British Columbia's Biodiversity No. 2.* Ministry of Sustainable Resource Management, Resources Inventory Committee, British Columbia, Canada.
- Peden, A. E. and M. E. Anderson. 1978. A systematic review of the fish genus *Lycodapus* (Zoarcidae) with descriptions of two new species. *Can. J. Zool.* 56: 1925–1961.
- Peden, A. E. and M. E. Anderson. 1979. Erratum: A systematic review of the fish genus *Lycodapus* (Zoarcidae) with descriptions of two new species. *Can. J. Zool.* 57: 472–473.
- Peden, A. E. and M. E. Anderson. 1981. *Lycodapus* (Pisces: Zoarcidae) of eastern Bering Sea and nearby Pacific Ocean, with three new species and a revised key to the species. *Can. J. Zool.* 59: 667–678.
- Peden, A. E. and C. G. Gruchy. 1971. First record of the bluespotted poacher, *Xeneretmus triacanthus*, in British Columbia. *J. Fish. Res. Board Can.* 28: 1347–1348.
- Peden, A. E. and G. W. Hughes. 1984. Distribution, morphological variation, and systematic relationship of *Pholis laeta* and *P. ornata* (Pisces: Pholididae) with a description of the related form *P. nea* n. sp. *Can. J. Zool.* 62: 291–305.
- Peden, A. E. and G. W. Hughes. 1986. First records, confirmatory records, and range extensions of marine fishes off Canada's west coast. *Can. Field-Nat.* 100: 1–9.
- Peden, A. E. and G. S. Jamieson. 1988. New distributional records of marine fishes off Washington, British Columbia and Alaska. *Can. Field-Nat.* 102: 491–494.
- Peden, A. E. and W. Ostermann. 1980. Three fish species previously unknown from marine waters off British Columbia. *Syesis* 13: 215–217.
- Peden, A. E., W. Ostermann, and L. J. Pozar. 1985. Fishes observed at Canadian weathership ocean station Papa (50°N, 145°W) with notes on the trans-Pacific cruise of the CSS *Endeavor*. British Columbia Provincial Museum, Heritage Record 18.

-
- Peden, A. E. and D. E. Wilson. 1976. Distribution of intertidal and subtidal fishes of northern British Columbia and southeastern Alaska. *Syesis* 9: 221–248.
- Pequeño R., G. 1989. Peces de Chile lista sistematica revisada y comentada. *Rev. Biol. Mar. (Valparaiso)* 24: 1–132.
- Pequeño R., G. 1997. Peces de Chile. Lista sistemática revisada y comentada: *addendum*. *Rev. Biol. Mar. Oceanogr.* 32: 77–94.
- Pérez-España, H., F. Galván-Magaña, and L. A. Abitia-Cárdenas. 1996. Temporal and spatial variation in the structure of the rocky reef fish community of the southeast Gulf of California, Mexico. *Cienc. Mar.* 22: 273–294.
- Pfeiler, E. 1996. Allozyme differences in Caribbean and Gulf of California populations of bonefishes (*Albula*). *Copeia* 1996: 181–183.
- Pfeiler, E., J. Colborn, M. R. Douglas, and M. E. Douglas. Systematic status of bonefishes (*Albula* spp.) from the eastern Pacific Ocean inferred from analyses of allozymes and mitochondrial DNA. *Environ. Biol. Fish.* 63: 151–159.
- Phillips, J. B. 1957. A review of the rockfishes of California. *Calif. Dep. Fish Game Fish Bull.* 104.
- Pietsch, T. W. 1969. A remarkable new genus and species of deep-sea angler-fish (Family Oneirodidae) from off Guadalupe Island, Mexico. *Copeia* 1969: 365–369.
- Pietsch, T. W. 1972. A review of the monotypic deep-sea anglerfish family Centrophrynidae: taxonomy, distribution and osteology. *Copeia* 1972: 17–47.
- Pietsch, T. W. 1972. Ergebnisse der Forschungsreisen des FFS “Walther Herwig” nach Sudamerika. XIX. Systematics and distribution of ceratioid fishes of the genus *Dolopichthys* (Family Oneirodidae), with the description of a new species. *Arch. FischWiss.* 23: 1–28.
- Pietsch, T. W. 1974. Osteology and relationships of ceratioid anglerfishes of the family Oneirodidae, with a review of the genus *Oneirodes* Lutken. *Nat. Hist. Mus. Los Angel. Cty. Sci. Bull.* 18.
- Pietsch, T. W. 1975. Systematics and distribution of ceratioid anglerfishes of the genus *Chaenophryne* (family Oneirodidae). *Bull. Mus. Comp. Zool.* 147(2): 75–100.
- Pietsch, T. W. 1979. Systematics and distribution of ceratioid anglerfishes of the family Caulophrynidae with the description of a new genus and species from the Banda Sea. *Nat. Hist. Mus. Los Angel. Cty. Contrib. Sci.* 310.
- Pietsch, T. W. 1986. Systematics and distribution of bathypelagic anglerfishes of the family Ceratiidae (order: Lophiiformes). *Copeia* 1986: 479–493.
- Pietsch, T. W. 1994. Systematics and distribution of cottid fishes of the genus *Triglops* Reinhardt (Teleostei: Scorpaeniformes). *Zool. J. Linn. Soc.* 109(4): 335–393.
- Pietsch, T. W. 2004. Revision of the deep-sea anglerfish *Phyllorhinichthys* Pietsch (Lophiiformes: Ceratioidei: Oneirodidae), with a description of a new species from the Atlantic Ocean. *Copeia* 2004: 797–803.
- Pietsch, T. W. and J. P. Van Duzer. 1980. Systematics and distribution of ceratioid anglerfishes of the family Melanocetidae with the description of a new species from the eastern North Pacific Ocean. *Fish. Bull.* 78: 59–87.
- Plant, R. 1989. A northern range extension for the thornback, *Platyrrhinoidis triseriata*. *Calif. Fish Game* 75: 54.
- Pondella, D. and L. Allen. 2003. Fish utilization of artificial reef-fisheries enhancement structures at the navy homeporting mitigation site, North Island, California. Final Report for Survey Conducted: September 1997 through September 2002.
- Pondella, D. J. III. 1997. The first occurrence of the Panamic sergeant major, *Abudefduf troschelii* (Pomacentridae) in California. *Calif. Fish Game* 83: 84–86.
- Pondella, D. J. III. 1999. First record of deepwater bass, *Serranus aequidens* (Serranidae), from California. *Calif. Fish Game* 85: 130–134.
- Pondella, D. J. III and M. T. Craig. 2001. First record of the sabertooth blenny, *Plagiotrema azaleus*, in California with notes on its distribution along the Pacific Coast of Baja California. *Bull. S. Calif. Acad. Sci.* 100: 144–148.

-
- Pondella, D. J. III, R. Snodgrass, M. Craig, and H. Khim. 1998. Re-occurrence of the threebanded butterflyfish, *Chaetodon humeralis* (Chaetodontidae), with notes on its distribution in southern California. *Bull. S. Calif. Acad. Sci.* 97: 121–124.
- Posner, M. and R. J. Lavenberg. 1999. *Kasatkia seigeli*: A new species of stichaeid (Perciformes: Stichaeidae) from California. *Copeia* 1999: 1035–1040.
- Post, A. and J.-C. Quéro. 1981. Revision des Diretmidae (Pisces, Trachichthyoidei) de L'Atlantique avec description d'un nouveau genre et d'une nouvelle espece. *Cybium* 5: 33–60.
- Post, A. and J.-C. Quéro. 1991. Distribution and taxonomie des *Howella* (Perciformes, Percichthyidae) de l'Atlantique. *Cybium* 15: 111–128.
- Poulin, E., L. Cardenas, C. E. Hernandez, I. Kornfield, and F. P. Ojeda. 2004. Resolution of the taxonomic status of Chilean and California jack mackerels using mitochondrial DNA sequence. *J. Fish Biol.* 65: 1160–1164.
- Quast, J. C. 1964. Occurrence of the Pacific bonito in coastal Alaskan waters. *Copeia* 1964(2): 448.
- Quast, J. C. 1968. New records of thirteen cottoid and blennioid fishes for southeastern Alaska. *Pac. Sci.* 22(4): 482–487.
- Quast, J. C. and E. L. Hall. 1972. List of fishes of Alaska and adjacent waters with a guide to some of their literature. U.S. Dep. Commer., NOAA Tech. Rep. NMFS SSRF-658. [With errata sheet dated 20 Dec. 1972.]
- Quéro, J. C., J.-C. Hureau, C. Karrer, A. Post, and L. Saldanha (editors). 1990. Check-list of the fishes of the eastern tropical Atlantic (Clofeta). 3 vols. Unesco.
- RACE (Resource Assessment and Conservation Engineering Division). Unpublished data from RACE database. Alaska Fisheries Science Center, NMFS, NOAA, 7600 Sand Point Way NE, Seattle, WA 98115.
- Raju, S. N. 1974. Three new species of the genus *Monognathus* and the leptocephali of the order Saccopharyngiformes. *Fish. Bull.* 72: 547–562.
- Ralston, S., R. M. Gooding, and G. M. Ludwig. 1986. An ecological survey and comparisons of bottom fish resource assessments (submersible versus handline fishing) at Johnston Atoll. *Fish. Bull.* 84: 141–155.
- Ramsey, T. B., T. A. Turk, E. L. Funk, J. R. Wallace, B. H. Horness, A. J. Cook, K. L. Bosley, D. J. Kamikawa, L. C. Hufnagle, and K. Piner. 2002. The 1999 Northwest Fisheries Science Center Pacific West Coast upper continental slope trawl survey of groundfish resources. NOAA Tech. Memo. NMFS-NWFSC-55.
- Randall, J. E. 1987. Refutation of lengths of 11.3, 9.0, and 6.4 m attributed to the white shark, *Carcharodon carcharias*. *Calif. Fish Game* 73(3): 163–168.
- Randall, J. E. 1992. Review of the biology of the tiger shark (*Galeocerdo cuvier*). *Aust. J. Mar. Freshwater Res.* 43: 21–31.
- Randall, J. 1995. Coastal fishes of Oman. University of Hawaii Press, Honolulu.
- Randall, J. 1996. Shore fishes of Hawaii. National World Press, Vida, Oregon.
- Randall, J., G. R. Allen, and R. C. Steene. 1990. Fishes of the Great Barrier Reef and Coral Sea. University of Hawaii Press, Honolulu.
- Randall, J. and B. A. Carlson. 1999. *Caranx caballus*, a new immigrant carangid fish to the Hawaiian Islands from the tropical eastern Pacific. *Pac. Sci.* 53: 357–360.
- Randall, J. and B. C. Mundy. 1998. *Balistes polylepis* and *Xanthichthys caeruleolineatus*, two large triggerfishes (Tetraodontiformes: Balistidae) from the Hawaiian Islands, with a key to Hawaiian species. *Pac. Sci.* 52: 322–333.
- Randall, J. and H. A. Randall. 2001. Review of the fishes of the genus *Kuhlia* (Perciformes: Kuhliidae) of the central Pacific. *Pac. Sci.* 55: 227–256.
- Rass, T. S. 1963. Deep-sea fishes (Pisces, Macrouridae) of the Sea of Okhotsk. *Tr. Inst. Okeanol. Akad. Nauk SSSR* 62: 211–223. [In Russian; translation into English by U.S. Fish and Wildlife Service, Seattle, Washington.] [Cited in Iwamoto and Stein 1974.]
- Rechnitzer, A. B. and J. Böhlke. 1958. *Ichthyococcus irregularis*, a new gonostomatiine fish from the eastern Pacific. *Copeia* 1958: 10–15.

-
- Richards, D. V. and J. M. Engle. 2001. New and unusual reef fish discovered at the California Channel Islands during the 1997–1998 El Niño. *Bull. S. Calif. Acad. Sci.* 100: 175–185.
- Rivas, L. R. 1986. Systematic review of the perciform fishes of the genus *Centropomus*. *Copeia* 1986: 579–611.
- Robertson, D. R. and G. R. Allen. 2002. Shorefishes of the tropical eastern Pacific: an information system. CD-ROM. Smithsonian Tropical Research Institute, Balboa, Panama.
- Robins, C. R., R. M. Bailey, C.E. Bond, J. R. Brooker, E. A. Lachner, R. N. Lea, and W. B. Scott. 1991. Common and scientific names of fishes from the United States and Canada. *Am. Fish. Soc. Spec. Publ.* 20.
- Rocha-Olivares, A. 1998. Molecular evolution, systematics, zoogeography and levels of intraspecific genetic differentiation in the species of the antitropical subgenus *Sebastomus*, *Sebastes* (Scorpaeniformes, Teleostei) using mitochondrial DNA sequence data. Ph.D. thesis, University of California, San Diego.
- Rodriguez-Graña, L., G. Herrera, L. Herrera, and L. R. Castro. 2004. Divergence of two forms of *Triphoturus* in the eastern Pacific based on mtDNA cytochrome b gene sequence and larval morphology. *J. Fish Biol.* 64: 1455–1461.
- Rodriguez-Romero, J., L. Andres Abitia-Cardenas, and B. Aguilar-Palomino. 1993. Range extensions and first record of some marine fish in Baja California, Mexico. *Rev. Biol. Trop.* 41: 917–919.
- Rofen, R. R. 1960. *Lestidium johnfitchi*, a new bathypelagic fish of the family Paralepididae from off California. *Copeia* 1960: 284–288.
- Rosales-Casián, J. A. 2000. New occurrences of the endemic labrisomid fish *Paraclinus walkeri* Hubbs, 1952, in Bahía de San Quintin, Baja California, México. *Bull. S. Calif. Acad. Sci.* 99: 110–113.
- Rosales-Casián, J. A. and G. Ruiz-Campos. 1999. Northern range extension of the white grunt, *Haemulopsis leuciscus*. *Calif. Fish Game* 85: 135–138.
- Rosenblatt, R. H. and J. L. Butler. 1977. The ribbonfish genus *Desmodema*, with the description of a new species (Pisces, Trachipteridae). *Fish. Bull.* 75: 843–855.
- Rosenblatt, R. H. and T. Hobson. 1969. Parrotfishes (Scaridae) of the eastern Pacific, with a generic rearrangement of the Scarinae. *Copeia* 1969: 434–453.
- Rosenblatt, R. H. and W. L. Montgomery. 1976. *Kryptophaneron harveyi*, a new anomalopid fish from the eastern tropical Pacific, and the evolution of the Anomalopidae. *Copeia* 1976: 510–515.
- Rosenblatt, R. H. and T. D. Parr. 1969. The Pacific species of clinid fish genus *Paraclinus*. *Copeia* 1969: 1–20.
- Rosenblatt, R. H. and N. L. Smith. 2004. *Icelinus limbaughi*: a new species of sculpin (Teleostei: Cottidae) from southern California. *Copeia* 2004: 556–561.
- Rosenblatt, R. H. and L. R. Taylor Jr. 1971. The Pacific species of the clinid fish tribe Starksini. *Pac. Sci.* 25: 436–463.
- Rosenblatt, R. H. and R. R. Wilson Jr. 1987. Cutlassfishes of the genus *Lepidopus* (Trichiuridae), with two new eastern Pacific species. *Jpn. J. Ichthyol.* 33: 342–351.
- Rosenthal, R. J. 1980. Shallow water fish assemblages in the northeastern Gulf of Alaska: habitat evaluation, species composition, abundance, spatial distribution, and trophic interaction. U.S. Dep. Commer., NOAA, and U.S. Dep. Inter., Minerals Manage. Serv., Environmental Assessment of the Alaskan Continental Shelf, Final Rep., *Biol. Stud.* 17: 451–540.
- Rounds, J. M. and R. F. Feeney. 1993. First record of the tripletail (*Lobotes surinamensis*, family Lobotidae) in California waters. *Calif. Fish Game* 79: 167–168.
- Ruiz-Campos, G., S. Contreras-Balderas, and M. D. L. Lozano-Vilano. 1998. Occurrence of the red pike-conger, *Cynoponticus coniceps* (Jordan and Gilbert, 1881) (Pisces: Muraenesocidae), in the Gulf of California. *Calif. Fish Game* 84: 146–148.
- Ruiz-Campos, G., S. Contreras-Balderas, M. L. Lozano-Vilano, S. González-Guzmán, and J. Alaníz-García. 2000. Ecological and distributional status of the continental fishes of northwestern Baja California, Mexico. *Bull. S. Calif. Acad. Sci.* 99: 59–90.
- Sadovy, Y. and A. S. Cornish. 2000. Reef fishes of Hong Kong. Hong Kong University Press, Hong Kong.

-
- Sadovy, Y. and A.-M. Eklund. 1999. Synopsis of biological data on the Nassau grouper, *Epinephelus striatus* (Bloch, 1792) and the jewfish, *E. itajara* (Lichtenstein, 1822). NOAA Tech. Rep. NMFS 146.
- Safronov, S. N. and S. N. Nikiforov. 2003. The list of pisciformes and fishes of the fresh and brackish waters of Sakhalin. J. Ichthyol. 43: 42–53.
- Saiki, M. K. and B. A. Martin. 2001. Survey of fishes and environmental conditions in Abbotts Lagoon, Point Reyes National Seashore, California. Calif. Fish Game 87: 123–138.
- Salo, E. O. 1991. Life history of chum salmon (*Oncorhynchus keta*), p. 231–309. In C. Groot and L. Margolis (eds.), Pacific salmon life histories. UBC Press, Vancouver.
- Sandercock, F. K. 1991. Life history of coho salmon (*Oncorhynchus kisutch*), p. 395–445. In C. Groot and L. Margolis (eds.), Pacific salmon life histories. UBC Press, Vancouver.
- Sandercock, F. K. and N. J. Wilimovsky. 1968. Revision of the cottid genus *Enophrys*. Copeia 1968: 832–853.
- Saruwatari, T., J. A. López, and T. W. Pietsch. 1997. A revision of the osmerid genus *Hypomesus* Gill (Teleostei: Salmoniformes), with the description of a new species from the southern Kuril Islands. Species Diversity 2: 59–82.
- Sasaki, T. 1985. Studies on the sablefish resources in the North Pacific Ocean. Far Seas Fish. Res. Lab., Shimizu, Japan, Bull. 22.
- Sassa, C., K. Kawaguchi, T. Kinoshita, and C. Watanabe. 2002. Assemblages of vertical migratory mesopelagic fish in the transitional region of the western North Pacific. Fish. Oceanogr. 11: 193–204.
- Savin, A. B. 1993. Distribution and migration of *Laemonema longipes* (Moridae) in the northwestern Pacific. J. Ichthyol. 33: 107–117.
- Savinykh, V. F. 1998. Nekton composition of near-surface waters of the subarctic front zone in the northwest part of the Pacific Ocean according to the data of drift-net catches. J. Ichthyol. 38: 18–27.
- Savinykh, V. F. 1999. Nektonic community of the epipelagial zone of the Californian Convergence Region in winter. J. Ichthyol. 39: 29–42.
- Savinykh, V. F., A. A. Baitalyuk, and A. Yu. Zhigalin. 2004. Pelagic fish new to the Pacific waters of the southern Kurils, migrants from the zone of the Kuroshio. J. Ichthyol. 44: 611–615.
- Savinykh, V. F. and A. A. Balanov. 1999. New findings of bathypelagic fishes in Pacific Ocean. J. Ichthyol. 39: 415–418.
- Savinykh, V. F. and G. A. Shevtsov. 2001. Two new species from Russian fauna from the waters of the southern Kuril Islands. J. Ichthyol. 41: 122–124.
- Savinykh, V. F. and V. N. Tuponogov. 2004. The first capture of *Scopeloberyx robustus* (Melamphaidae) in Pacific waters of the Kuril Isles. J. Ichthyol. 44: 128–129.
- Sazonov, Y. I. 1995. Three rare species of slickheads (Alepocephalidae), found for the first time in the Indian Ocean, with remarks about the status of *Microphotolepis schmidti*. J. Ichthyol. 35: 130–139.
- Sazonov, Y. I. 1998. A brief review of the genus *Narctes* (Alepocephalidae) with a description of the genus type *N. erimelas*. J. Ichthyol. 38: 491–500.
- Sazonov, Y. I., A. A. Balanov, and V. V. Fedorov. 1993. Slickheads (Alepocephaloidei) from the western North Pacific Ocean. Tr. Inst. Okeanol. Ross. Akad. Nauk 128: 40–68. [In Russian.]
- Sazonov, Y. I. and T. Iwamoto. 1992. Grenadiers (Pisces, Gadiformes) of the Nazca and Sala y Gomez Ridges, southeastern Pacific. Proc. Calif. Acad. Sci. 48: 27–95.
- Sazonov, Yu. I. and A. Williams. 2001. A review of the alepocephalid fishes (Argentiniformes, Alepocephalidae) from the continental slope of Australia: Part 1. J. Ichthyol. 41: S1–S36.
- SCCWRP. Southern California Coastal Water Research Project, 7171 Fenwick Land, Westminster, CA 92683. Unpublished data from their trawl surveys.
- Schaefer, K. M. and J. Childers. 1999. Northernmost occurrence of the slender tuna, *Allothunnus fallai*, in the Pacific Ocean. Calif. Fish Game 85: 121–123.
- Schaefer, K. M. and D. W. Fuller. 2002. Movements, behavior, and habitat selection of bigeye tuna (*Thunnus obesus*) in the eastern equatorial Pacific, ascertained through archival tags. Fish. Bull. 100: 765–788.

-
- Schmidt, P. J. 1950. Fishes of the Sea of Okhotsk. Akad. Nauk SSSR, Tr. Tikhookeanskogo Komiteta [Acad. Sci. USSR, Trans. Pac. Committee] 6. [In Russian; and translation by Israel Prog. Sci. Transl., 1965.]
- Schoener, A. and D. L. Fluharty. 1985. Biological anomalies off Washington in 1982–83 and other major Niño periods, p. 211–226. In W. S. Wooster and D. L. Fluharty (eds.), *El Niño north: Niño effects in the eastern subarctic Pacific Ocean*. Washington Sea Grant Program, University of Washington, Seattle.
- Schultz, L. P. 1967. A new genus and new species of zoarcid fish from the North Pacific Ocean. *Proc. U.S. Natl. Mus.* 122: 1–5.
- Schultz, L. P. and A. C. DeLacy. 1935–36. Fishes of the American Northwest. A catalogue of the fishes of Washington and Oregon, with distributional records and a bibliography. *J. Pan-Pacific Res. Inst. in Mid-Pacific Mag.* 10: 365–380; 11: 63–78, 127–142, 211–226, 275–290.
- Scott, W. B. and E. J. Crossman. 1973. Freshwater fishes of Canada. *Fish. Res. Board Can. Bull.* 184.
- Scott, W. B. and M. G. Scott. 1988. Atlantic fishes of Canada. *Can. Bull. Fish. Aquat. Sci.* 219.
- Seigel, J. A. 1985. The scalloped hammerhead, *Sphyrna lewini*, in coastal southern California waters: Three records including the first reported juvenile. *Calif. Fish Game* 71: 189–190.
- Seigel, J. A. 1987. Record of the twinpored eel, *Xenomystax atrarius* (Anguilliformes: Congridae) from California waters. *Calif. Fish Game* 73: 57–59.
- Seigel, J. A. and J. V. Compagno. 1986. New records of the ragged-tooth shark, *Odontaspis ferox*, from California waters. *Calif. Fish Game* 72: 172–178.
- Shane, M. A. 2001. Records of Mexican barracuda, *Sphyaena ensis*, and scalloped hammerhead, *Sphyrna lewini*, from southern California associated with elevated water temperatures. *Bull. S. Calif. Acad. Sci.* 100: 160–166.
- Shaw, F. R. 1999. Life history traits of four species of rockfish (genus *Sebastes*). Masters thesis, University of Washington, Seattle.
- Shaw, F. R., M. E. Wilkins, K. L. Weinberg, M. Zimmerman, and R. R. Lauth. 2000. The 1998 Pacific West Coast bottom trawl survey of groundfish resources: estimates of distribution, abundance, and length and age composition. NOAA Tech. Memo. NMFS-AFSC-114.
- Sheiko, B. A. and V. V. Fedorov. 2000. Chapter 1. Class Cephalaspidomorphi — Lampreys. Class Chondrichthyes — Cartilaginous fishes. Class Holocephali — Chimaeras. Class Osteichthyes — Bony fishes, p. 7–69. In *Catalog of vertebrates of Kamchatka and adjacent waters*. Kamchatsky Pechatny Dvor, Petropavlovsk-Kamchatsky, Russia. [In Russian.]
- Sheiko, B. A. and C. W. Mecklenburg. 2004. Family Agonidae Swainson 1839 — poachers. *Calif. Acad. Sci. Annotated Checklists of Fishes* No. 30.
- Sheiko, B. A. and A. G. Tranbenkova. 1998. New for the Russian fauna and rare marine fishes from Kamchatka and the Kuril and Commander islands, p. 62–63. In *Abstracts, All-Russian Conference on Problems in Fish Taxonomy*, 17–19 November 1998, St. Petersburg, Russia. [In Russian.]
- Shelekhov, V. A. 2004. Results of otolith microstructure analysis, the growth rate, and life span of *Diaphus theta* (Myctophidae). *J. Ichthyol.* 44: 616–623.
- Shimizu, T. 1978. Record of the beryciform fish, *Anoplogaster cornuta*, from the western North Pacific. *Jpn. J. Ichthyol.* 25(1): 65.
- Shimokawa, T., K. Amaoka, Y. Kajiwara, and S. Suyama. 1995. Occurrence of *Thalassenchelys coheni* (Anguilliformes; Chlopsidae) in the West Pacific Ocean. *Jpn. J. Ichthyol.* 42: 89–92.
- Shinohara, G., H. Endo, and K. Matsuura. 1996. Deep-water fishes collected from the Pacific coast of northern Honshu, Japan. *Mem. Natl. Sci. Mus. (Tokyo)* 29: 153–185.
- Shinohara, G., M. Yabe, K. Nakaya, G. Anma, S. Yamaguchi, and K. Amaoka. 1994. Deep-sea fishes collected from the North Pacific by the T/S *Oshoro-Maru*. *Bull. Fac. Fish. Hokkaido Univ.* 45(2): 48–80.
- Shinohara, G., H. Yoshida, and M. Yabe. 1992. First record of *Bathymaster signatus* (Perciformes: Bathymasteridae) from Japan. *Jpn. J. Ichthyol.* 39: 163–166.
- Siefeld, K. W. and M. Vargas F. 1996. Composición y estructura de la ictiofauna demersal en la zona norte de Chile. *Investig. Mar., Valparaiso* 24: 3–17.

-
- Sielfeld, K. W., M. Vargas F., and R. Fuenzalida F. 1995. Peces mesopelagicos frente a la costa norte de Chile (18°25'–21°47'S). *Investig. Mar., Valparaiso* 23: 83–97.
- Sielfeld, K. W., M. Vargas, and I. Kong. 2003. Primer registro de *Etropus ectenes* Jordan, 1889, *Bothus constellatus* Jordan & Goss, 1889, *Achirus klunzingeri* (Steindachner, 1880) y *Symphurus elongatus* (Günther, 1868) (Pisces, Pleuronectiformes) en Chile, con comentarios sobre la distribución de los lenguados chilenos. *Investig. Mar., Valparaiso* 31: 51–65.
- Sims, D. W., E. J. Southall, A. J. Richardson, P. C. Reid, and J. D. Metcalfe. 2003. Seasonal movements and behaviour of basking sharks from archival tagging: no evidence of winter hibernation. *Mar. Ecol. Prog. Ser.* 248: 187–196.
- Small, G. J. 1981. A review of the bathyal fish genus *Antimora* (Moridae: Gadiformes). *Proc. Calif. Acad. Sci.* 42(13): 341–348.
- Smith, D. G. 1989. Order Saccopharyngiformes. Family Cyematidae, p. 629–635. *In Fishes of the western North Atlantic*. Mem. Sears Found. Mar. Res., New Haven, 1(9), Vol. 1.
- Smith, D. G. and E. S. Karmovskaya. 2003. A new genus and two new species of congrid eels (Teleostei: Anguilliformes: Congridae) from the Indo-West Pacific, with a redescription and osteology of *Chilconger dentatus*. *Zootaxa* No. 343.
- Smith, D. G. and J. G. Nielsen. 1989. Family Nemichthyidae, p. 441–459. *In Fishes of the western North Atlantic*. Mem. Sears Found. Mar. Res., New Haven, 1(9), Vol. 1.
- Smith, D. G. and J. T. Williams. 2002. History and status of the genera *Enneanectes* and *Axoclinus* (Teleostei: Blennioidei: Tripterygiidae). *Zootaxa* No. 105.
- Smith, G. C. and J. D. Parrish. 2002. Estuaries as nurseries for the jacks *Caranx ignobilis* and *Caranx melampygus* (Carangidae) in Hawaii. *Estuar. Coast. Shelf Sci.* 55: 347–359.
- Smith, K. R., D. A. Somerton, M.-S. Yang, and D. G. Nichol. 2004. Distribution and biology of prowlfish (*Zaprora silenus*) in the northeast Pacific. *Fish. Bull.* 102: 168–178.
- Smith, M. M. and P. C. Heemstra (editors). 1986. *Smiths' sea fishes*. Springer-Verlag, Berlin.
- Smith, W. L. and W. C. Wheeler. 2004. Polyphyly of the mail-cheeked fishes (Teleostei: Scorpaeniformes): evidence from mitochondrial and nuclear sequence data. *Mol. Phylogenet. Evol.* 32: 627–646.
- Snyder, J. O. 1913. Notes on *Ranzania makua* Jenkins and other species of fishes of rare occasion on the California coast. *Proc. U. S. Natl. Mus.* 44: 455–460.
- Snytko, V. A. 1986. New distribution records of rockfishes of the subfamily Sebastinae in the northern Pacific Ocean. *J. Ichthyol.* 26: 124–130.
- Snytko, V. A. 1987. New data on the distribution of some species of fish in the North Pacific. *J. Ichthyol.* 27(1): 142–146.
- Snytko, V. A. and V. V. Fedorov. 1974. New data on the distribution of scorpaenid fishes of the subfamily Sebastinae and notes on their biology. *J. Ichthyol.* 14: 811–818.
- Snytko, V. A. and V. V. Fedorov. 1975. The southern and northern borders of the areas of distribution of some fishes near the Pacific coast of North America. *Izv. Tikhookean. Nauchno-Issled. Inst. Rybn. Khoz. Okeanogr.* 96: 175–180.
- Soule, D. F. and M. Oguri. 1987. The marine environment of Marina Del Rey. A report to the Department of Beaches and Harbors, County of Los Angeles. Harbor Environmental Projects, University of Southern California. Marine Studies of San Pedro Bay, California, Part 20D.
- Springer, V. G. and M. E. Anderson. 1997. Catalog of type specimens of Recent fishes in the National Museum of Natural History, Smithsonian Institution, 8: Suborder Zoarcoidei (Anarhichadidae, Bathymasteridae, Pholidae, Ptilichthyidae, Scytalinidae, Stichaeidae, Zoarcidae). *Smithson. Contrib. Zool.* 589.
- Squire, J. L. 1987. Relation of sea surface temperature changes during the 1983 El Niño to the geographical distribution of some important recreational pelagic species and their catch temperature parameters in the northeast Pacific. *Mar. Fish. Rev.* 49(2): 44–57.
- Starnes, W. C. 1988. Revision, phylogeny and biogeographic comments on the circumtropical marine percoid fish family Priacanthidae. *Bull. Mar. Sci.* 43: 117–203.

-
- Stein, D. L. 1978. A review of the deepwater Liparidae (Pisces) from the coast of Oregon and adjacent waters. Occas. Pap. Calif. Acad. Sci. No. 127.
- Stein, D. L. 1980. Aspects of reproduction of liparid fishes from the continental slope and abyssal plain off Oregon, with notes on growth. *Copeia* 1980: 687–699.
- Stein, D. L. and C. E. Bond. 1978. A new deep-sea fish from the eastern North Pacific, *Psychrolutes phrictus* (Pisces: Cottidae [Psychrolutinae]). *Nat. Hist. Mus. Los Angel. Cty. Contrib. Sci.* 296.
- Stein, D. L., C. E. Bond, and D. Misitano. 2003. *Liparis adiastolus* (Teleostei, Liparidae): a new snailfish species from the littoral zone of the northeastern Pacific, and redescription of *Liparis rutteri* (Gilbert and Snyder, 1898). *Copeia* 2003: 818–823.
- Stein, D. and J. Butler. 1971. A notacanthid *Macdonaldia challengerii* collected off the Oregon coast. *J. Fish. Res. Board Can.* 28: 1349–1350.
- Stein, D. L. and J. E. Fitch. 1984. *Paraliparis nassarum* n. sp. (Pisces, Liparididae) from off southern California, with description of its otoliths and others from north-east Pacific liparidids. *Bull. South. Calif. Acad. Sci.* 83: 76–83.
- Stein, D. L. and A. E. Peden. 1979. First record of *Paraliparis paucidens* Stein (Pisces: Liparidae) from British Columbia waters. *Syesis* 12: 181.
- Stephens, J. S. Jr., P. A. Morris, D. J. Pondella, T. A. Koonce, and G. A. Jordan. 1994. Overview of the dynamics of an urban artificial reef fish assemblage at King Harbor, California, USA, 1974–1991: a recruitment driven system. *Bull. Mar. Sci.* 55(2–3): 1224–1239.
- Stephens, J. S. Jr., M. Singer, and L. Targgart. 1989. Notes on the first record of the orangethroat pikeblenny, *Chaenopsis alepidota* (Gilbert), in mainland California. *Calif. Fish Game* 75: 180–183.
- Stepien, C. A. and R. H. Rosenblatt. 1991. Patterns of gene flow and genetic divergence in the northeastern Pacific Clinidae (Teleostei: Blennioidei), based on allozyme and morphological data. *Copeia* 1991(4): 873–896.
- Stevenson, D. E. 2004. Identification of skates, sculpins, and smelts by observers in North Pacific groundfish fisheries (2002–2003). NOAA Tech. Memo. NMFS-AFSC-142.
- Stevenson, D. E. and A. C. Matarese. 2005. The ronquils: a review of the North Pacific fish family Bathymasteridae (Actinopterygii: Perciformes: Zoarcoidei). *Proc. Biol. Soc. Wash.* 18(2): 367–406.
- Stevenson, D. E., J. W. Orr, G. R. Hoff, and J. D. McEachran. 2004. *Bathyraja mariposa*: A new species of skate (Rajidae: Arhynchobatinae) from the Aleutian Islands. *Copeia* 2004: 305–314.
- Stewart, A. L. and T. W. Pietsch. 1998. The ceratioid anglerfishes (Lophiiformes: Ceratioidei) of New Zealand. *J. Royal Soc. N. Z.* 28: 1–37.
- Suda, Y., T. Inoue, and H. Uchida. 2002. Fish communities in the surf zone of a protected sandy beach at Doigahama, Yamaguchi Prefecture, Japan. *Estuar. Coast. Shelf Sci.* 55: 81–96.
- Sulak, K. J., R. E. Crabtree, and J.-C. Hureau. 1984. Provisional review of the genus *Polyacanthonotus* (Pisces, Notacanthidae) with description of a new Atlantic species, *Polyacanthonotus merretti*. *Cybium* 8(4): 57–68.
- Sulak, J. and Y. N. Shcherbachev. 1997. Zoogeography and systematics of six deep-living genera of synphobranchid eels, with a key to taxa and description of two new species of *Ilyophis*. *Bull. Mar. Sci.* 60: 1158–1194.
- Sulak, J., G. A. Wenner, G. R. Sedberry, and L. Van Guelpen. 1985. The life history and systematics of deep-sea lizard fishes, genus *Bathysaurus* (Synodontidae). *Can. J. Zool.* 63: 623–642.
- Suzuki, K. and O. Tsukada. 1994. Adult form of the ragfish, *Icosteus aenigmaticus*, collected from Mie Prefecture, Japan. *Ann. Rep. Toba Aquarium* 5: 45–48.
- Swift, C. C. 1986. First record of the spotted scorpionfish, *Scorpaena plumieri*, from California: the curtain falls on “a comedy of errors.” *Calif. Fish Game* 72: 176–178.
- Swift, C. C., T. R. Haglund, M. Ruiz, and R. N. Fisher. 1993. The status and distribution of the freshwater fishes of southern California. *Bull. S. Calif. Acad. Sci.* 92: 101–167.

-
- Swinney, G. N. 1994. Comments on the Atlantic species of the genus *Evermannella* (Scopelomorpha, Aulopiformes, Evermannellidae) with a re-evaluation of the status of *Evermannella melanoderma*. J. Fish Biol. 44: 809–819.
- Taranetz, A. Ya. 1933. New data on the ichthyofauna of the Bering Sea. Vestn. Dv. Filiala Akad. Nauk SSSR [Bull. Far Eastern Branch Acad. Sci. USSR] 1933(1–2–3): 67–78. [In Russian; new species and summary in English.]
- Taylor, F. H. C. 1967. Unusual fishes taken by midwater trawl off the Queen Charlotte Islands, British Columbia. J. Fish. Res. Board Can. 24: 2101–2115.
- Thompson, B. A. 1998. Redescription of *Aulopus bajacali* Parin and Kotlyar, 1984, comments on its relationships and new distribution records. Ichthyol. Res. 45: 43–51.
- Thomson, D. A. and C. E. Lehner. 1976. Resilience of a rocky intertidal fish community in a physically unstable environment. J. Exp. Mar. Biol. Ecol. 22: 1–29.
- Thomson, D. A., L. T. Findley, and A. N. Kerstitch. 1979. Reef fishes of the Sea of Cortez. John Wiley and Sons, New York.
- Thomson, D. A., L. T. Findley, and A. N. Kerstitch. 2002. Reef fishes of the Sea of Cortez. Revised edition. University of Texas Press.
- Thorpe, T. 1997. First occurrence and new length record for the bigeye thresher shark in the north-east Atlantic. J. Fish Biol. 50: 222–224.
- Thorsteinson, L. K., L. E. Jarvela, and D. A. Hale. 1991. Arctic fish habitat use investigations: nearshore studies in the Alaskan Beaufort Sea, summer 1990. Annual report, National Oceanic and Atmospheric Administration, National Ocean Service, Office of Ocean Resources Conservation and Assessment, Anchorage, Alaska.
- Tognazzini, M. T. 2003. First record of the Pacific dog snapper, *Lutjanus novemfasciatus*, in California. Calif. Fish Game 89: 201–202.
- Tokranov, A. M. 1981. Rate of sexual maturation and fecundity of the staghorn sculpin, *Gymnocanthus detrisus* (Cottidae), off the east coast of Kamchatka. J. Ichthyol. 21(1): 76–82.
- Tokranov, A. M. 1988. Some aspects of the biology of the Kamchatkan sculpins, *Artediellus camchaticus*, on the eastern coast of Kamchatka. J. Ichthyol. 28(2): 65–71.
- Tokranov, A. M. 1992a. Diet of alligatorfishes of the genus *Podothecus* (Agonidae) in the coastal waters of Kamchatka. J. Ichthyol. 32(5): 23–30.
- Tokranov, A. M. 1992b. Dietary characteristics of sea poachers (Agonidae) in the coastal waters of Kamchatka. J. Ichthyol. 32(9): 85–94.
- Tokranov, A. M. 1992c. Features of feeding of benthic predatory fishes of the West Kamchatka Shelf. J. Ichthyol. 32(7): 45–55.
- Tokranov, A. M. 2000a. Size-age composition of liparids (Liparidae) in the Pacific Ocean of southeastern Kamchatka and north Kuril Islands. J. Ichthyol. 40: 364–369.
- Tokranov, A. M. 2000b. Distribution and some features of the biology of *Bathyagonus nigripinnis* (Agonidae) in Pacific waters of southeast Kamchatka and the northern Kurils. J. Ichthyol. 40: 585–591.
- Tokranov, A. M. 2001. Some biological characteristics of the hook-eared sculpin *Artediellichthys nigripinnis* (Cottidae) in the Pacific waters of the northern Kuril Islands and southeastern Kamchatka. J. Ichthyol. 41: 584–588.
- Tokranov, A. M. and I. I. Davydov. 1998. Some aspects of biology of the shortraker rockfish *Sebastes borealis* (Scorpaenidae) in the Pacific waters of Kamchatka and western part of the Bering Sea: 2. Size and age composition. J. Ichthyol. 38: 37–41.
- Tokranov, A. M. and R. N. Novikov. 1997. Distribution and size-age composition of *Sebastolobus alascanus* (Scorpaenidae) in Pacific waters of Kamchatka and the western part of the Bering Sea. J. Ichthyol. 37: 344–350.
- Tokraov, A. M. and A. M. Orlov. 2001. Some biological features of Psychrolutidae in the Pacific waters of southeastern Kamchatka and the northern Kuril Islands: Communication 2. Size–age and sex composition and feeding. J. Ichthyol. 41: 575–583.

-
- Tokranov, A. M. and A. M. Orlov. 2003. On the distribution and biology of roughscale sole *Clidoderma asperinum* (Temminck et Schlegel, 1846) in the Pacific waters off the northern Kuril Islands and southeastern Kamchatka. Bull. Sea Fish. Inst. Issue 2 (159): 67–80.
- Tokranov, A. M. and A. M. Orlov. 2004. Biology of longfin prickleback *Bryozoichthys lysimus* (Stichaeidae) from Pacific waters of northern Kuril Islands. J. Ichthyol. 44: 366–370.
- Tokranov, A. M. and A. M. Orlov. 2004. Some aspects of the biology of the northern four-horned poacher *Hypsagonus quadricornis* (Agonidae) in Pacific waters off the northern Kuril Islands. J. Ichthyol. 44: 508–514.
- Tokranov, A. M. and A. M. Orlov. 2005. Some features of the biology of *Icelus spiniger* (Cottidae) in Pacific waters off the northern Kuril Islands. J. Ichthyol. 45: 229–236.
- Tokranov, A. M., A. M. Orlov, and I. A. Biryukov. 2004. Distribution and size–weight composition of some rare fish species in Pacific waters off the northern Kurile Islands and southeast Kamchatka. J. Ichthyol. 44: 208–216.
- Tokranov, A. M., A. M. Orlov, and B. A. Sheiko. 2003. Brief review of the genera *Hemilepidotus* and *Melletes* (Cottidae) and some traits of the biology of a new species for Russia *Hemilepidotus zapus* from Pacific waters of the northern Kurils. J. Ichthyol. 4: 333–349.
- Townsend, C. H. 1901. Dredging and other records of the United States Fish Commission steamer *Albatross*, with bibliography relative to the work of the vessel. Rep. U.S. Fish Comm. (for 1900) 26: 387–562.
- Townsend, C. H. and J. T. Nichols. 1925. Deep sea fishes of the *Albatross* Lower California expedition. Bull. Am. Mus. Nat. Hist. 52(1): 1–21, pls. 1–4, and 1 map with stations.
- Townsend, L. D. 1935. Notes on *Citharichthys sordidus* and *C. stigmaeus* with an extension of range. Copeia 1935(4): 193.
- Townsend, L. D. 1936. Variations in the meristic characters of flounders from the northeastern Pacific. Rep. Int. Fish. Comm. 11.
- Toyoshima, M. 1985. Taxonomy of the subfamily Lycodinae (family Zoarcidae) in Japan and adjacent waters. Mem. Fac. Fish. Hokkaido Univ. 32(2): 131–243.
- Tsukamoto, Y., M. Aizawa, and M. Okiyama. 1992. First record of the alepocephalid fish, *Photostylus pycnopterus*, from Japan. Jpn. J. Ichthyol. 39: 255–258.
- Tsutsui, D. and K. Amaoka. 1997. First record of the snailfish, *Careproctus simus* (Scorpaeniformes: Liparidae), from Japan. Ichthyol. Res. 44: 89–91.
- Tuponogov, V. N. 1997. Seasonal migrations of the grenadier *Coryphaenoides pectoralis* in the Sea of Okhotsk and contiguous waters. Russ. J. Mar. Biol. 23: 314–321.
- Ueber, E. 1989. Xanthic, gigantic, China rockfish. Calif. Fish Game 75(1): 47–48.
- Ueno, T. 1970. Fauna Japonica. Cyclopteridae (Pisces). Academic Press of Japan.
- Ugoretz, J. K. and J. A. Seigel. 1999. First eastern Pacific record of the goblin shark, *Mitsukurina owstoni* (Lamniformes: Mitsukurinidae). Calif. Fish Game 85: 118–120.
- Van Cleve, R. and W. F. Thompson. 1938. A record of the pomfret and barracuda from Alaska. Copeia 1938(1): 45–46.
- Van Oijen, M. J. P. 1995. Appendix I. Key to Lake Victoria fishes other than haplochromine cichlids, p. 209–300. In F. Witte and W. L. T. van Densen (eds.), Fish stocks and fisheries of Lake Victoria. A handbook for field observations. Samara Publishing Limited, Dyfed, Great Britain. [Cited by FishBase.]
- Vargas, F. M., W. Sielfeld K., and N. Amado P. 1998. Nuevos antecedentes sobre peces Labridae (Osteichthys, Perciformes) de Chile continental. Bol. Soc. Biol. Concepción, Chile 69: 191–202.
- Vasil'eva, E. D. 2003. An annotated catalogue of fishes and fish-like organisms living in seas of Russia and adjacent countries: Part 4. Gobioidae. J. Ichthyol. 43: S41–S56.
- Velasco, A. and R. Thiel. 2002. A bilingual field manual for the identification of juvenile fish over soft bottom off the Pacific Coast of Colombia a review from literature. Arch. Fish. Mar. Res. 50: 55–118.

-
- Victor, B. C., G. W. Wellington, D. R. Robertson, and B. I. Ruttenberg. 2001. The effect of the El Niño-Southern Oscillation event on the distribution of reef-associated labrid fishes in the eastern Pacific Ocean. *Bull. Mar. Sci.* 69: 279–288.
- Vinnikov, A. V., R. N. Novikov, and K. A. Vinnikov. 2004. Catches of *Ulca bolini* (Hemipteridae) in the eastern part of the Sea of Okhotsk. *J. Ichthyol.* 44: 140–143.
- Vladykov, V. D. and W. I. Follett. 1958. Redescription of *Lampetra ayresii* (Günther) of western North America, a species of lamprey (Petromyzontidae) distinct from *Lampetra fluviatilis* (Linnaeus) of Europe. *J. Fish. Res. Board Can.* 15: 47–77.
- Vogt, K. D. 1973. New distributional records and description of a new species of liparid from Alaska. *Biol. Pap. Univ. Alaska* 13: 22–27.
- Volpe, J. P., E. B. Taylor, D. W. Rimmer, and B. W. Glickman. 2000. Evidence of natural reproduction of aquaculture-escaped Atlantic salmon in a coastal British Columbia river. *Conserv. Biol.* 14(3): 899–903.
- Wakefield, W. W. II. 1990. Patterns in the distribution of demersal fishes on the upper continental slope off central California with studies on the role of ontogenetic vertical migration in particle flux. Ph.D. thesis, University of California, San Diego.
- Wakimoto, H. and K. Amaoka. 1994. Occurrence of juveniles of two bathymasterid species from Hokkaido, Japan. *Jpn. J. Ichthyol.* 41: 222–226.
- Walford, L. A. 1937. Marine game fishes of the Pacific coast from Alaska to the Equator. University of California Press, Berkeley.
- Walker, H. J. Jr. and W. A. Bussing. 1996. Two new pufferfishes of the genus *Sphoeroides* from the eastern Pacific. *Copeia* 1996: 677–684.
- Walker, H. J. Jr., P. A. Hastings, and R. H. Steele. 2002. The Pacific golden-eyed tilefish, *Caulolatilus affinis* Gill (Teleostei: Malacanthidae), first occurrence in California. *Calif. Fish Game* 88: 139–141.
- Walker, H. J. Jr. and K. W. Radford. 1992. Eastern Pacific species of the genus *Umbrina* (Pisces: Sciaenidae) with a description of a new species. *Fish. Bull.* 90: 574–587.
- Walker, H. J. Jr. and R. H. Rosenblatt. 1988. Pacific toadfishes of the genus *Porichthys* (Batrachoididae) with descriptions of three new species. *Copeia* 1988: 887–904.
- Watanabe, H., M. Moku, K. Kawaguchi, K. Ishimaru, and A. Ohno. 1999. Diel vertical migration of myctophid fishes (Family Myctophidae) in the transitional waters of the western North Pacific. *Fish. Oceanogr.* 8: 115–127.
- Weinberg, K. L., M. E. Wilkins, F. R. Shaw, and M. Zimmerman. 2002. The 2001 Pacific west coast bottom trawl survey of groundfish resources: estimates of distribution, abundance, and length and age composition. NOAA Tech. Memo. NMFS-AFSC-128.
- Wells, A. W. 1986. Aspects of ecology and life history of the woolly sculpin, *Clinocottus analis*, from southern California. *Calif. Fish Game* 72: 213–226.
- Weng, K. C. and B. A. Block. 2004. Diel vertical migration of the bigeye thresher shark (*Alopias superciliosus*), a species possessing orbital retia mirabilia. *Fish. Bull.* 102: 221–229.
- Whitehead, P. J. P. 1985. FAO species catalogue. Vol. 7. Clupeoid fishes of the world (Suborder Clupeoidei). Part 1. Chirocentridae, Clupeidae and Pristigasteridae. FAO Fisheries Synopsis No. 125, Vol. 7, Part 1. FAO, Rome.
- Whitehead, P. J. P., M.-L. Bauchot, J.-C. Hureau, J. Nielsen, and E. Tortonese (editors). 1984. Fishes of the north-eastern Atlantic and the Mediterranean. Vol. I. Paris, Unesco. [Reprint with corrections, 1989.]
- Whitehead, P. J. P., M.-L. Bauchot, J.-C. Hureau, J. Nielsen, and E. Tortonese (editors). 1986. Fishes of the north-eastern Atlantic and the Mediterranean. Vols. II and III. Paris, Unesco.
- Whitehead, P. J. P., G. J. Nelson, and T. Wongratana. 1988. FAO species catalogue. Vol. 7. Clupeoid fishes of the world (Suborder Clupeoidei). Part 2. Engraulididae. FAO Fisheries Synopsis No. 125, Vol. 7, Part 2. FAO, Rome.
- Wilby, G. V. 1937. The lingcod, *Ophiodon elongatus* Girard. *Biol. Board Can. Bull.* 54.

-
- Wilimovsky, N. J. 1954. List of the fishes of Alaska. Stanford Ichthyol. Bull. 4: 279–294.
- Wilimovsky, N. J. 1958. Provisional keys to the fishes of Alaska. U.S. Fish and Wildlife Service, Fisheries Research Laboratory, Juneau, Alaska.
- Wilimovsky, N. J. 1964. Inshore fish fauna of the Aleutian archipelago. Proc. Alaska Sci. Conf. 14: 172–190.
- Wilimovsky, N. J. and D. E. Wilson. 1978. A new species of Agonidae, *Agonomalus mozinoi*, from the west coast of North America. Syesis 11: 73–79.
- Wilkins, M. E., M. Zimmermann, and K. L. Weinberg. 1998. The 1995 Pacific West Coast bottom trawl survey of groundfish resources: Estimates of distribution, abundance, and length and age composition. NOAA Tech. Mem NMFS-AFSC-89.
- Williams, G. D., J. S. Desmond, and J. B. Zedler. 1998. Extension of two nonindigenous fishes, *Acanthogobius flavimanus* and *Poecilia latipinna*, into San Diego Bay marsh habitats. Calif. Fish Game 84: 1–17.
- Willis, J. M., W. G. Pearcy, and N. V. Parin. 1988. Zoogeography of midwater fishes in the Subarctic Pacific. Bull. Ocean Res. Inst. Univ. Tokyo No. 26 (part II): 79–142.
- Wilson, D. E. 1973. Revision of the cottid genus *Gymnocanthus*, with a description of their osteology. M.S. thesis, University of British Columbia, Vancouver.
- Wilson, D. E. and G. W. Hughes. 1978. The first record of the brown cat shark, *Apristurus brunneus* (Gilbert, 1891) from Alaskan waters. Syesis 11: 283.
- Wilson, R. R. Jr. 2001. A new species of *Nezumia* (Gadiformes: Macrouridae) from Fieberling Guyot, eastern North Pacific Ocean. Rev. Biol. Trop. 49 (Suppl. 1): 29–37.
- Wilson, R. R. Jr. and R. S. Waples. 1983. Distribution, morphology, and biochemical genetics of *Coryphaenoides armatus* and *C. yaquinae* (Pisces: Macrouridae) in the central and eastern North Pacific. Deep-Sea Res. 30(11A): 1127–1145.
- Wing, B. L., C. M. Guthrie III, and A. J. Gharrett. 1992. Atlantic salmon in marine waters of southeastern Alaska. Trans. Am. Fish. Soc. 121: 814–818.
- Wing, B. L., J. M. Murphy, and T. L. Rutecki. 2000. Occurrence of Pacific sardine, *Sardinops sagax*, off southeastern Alaska. Fish. Bull. 98: 881–883.
- Wisner, R. L. 1967. New data on the rare alepocephalid fish *Photostylus pycnopterus*. Bull. S. Calif. Acad. Sci. 67: 153–158.
- Wisner, R. L. 1974. Description of five new species of myctophid fishes from the Pacific, Indian, and Atlantic oceans. Occas. Pap. Calif. Acad. Sci. No. 110.
- Wisner, R. L. 1976. The taxonomy and distribution of lanternfishes (family Myctophidae) of the eastern Pacific Ocean. Navy Ocean Research and Development Activity (NORDA) Rep. 3. Bay St. Louis, Mississippi.
- Wisner, R. L. and C. B. McMillan. 1990. Three new species of hagfishes, genus *Eptatretus* (Cyclostomata, Myxinidae), from the Pacific Coast of North America, with new data on *E. deani* and *E. stoutii*. Fish. Bull. 88: 787–804.
- Wisner, R. L. and C. B. McMillan. 1995. Review of new world hagfishes of the genus *Myxine* (Agnatha, Myxinidae) with descriptions of nine new species. Fish. Bull. 93: 530–550.
- Workman, G. D., N. Olsen, and A. R. Kronlund. 1998. Results from a bottom trawl survey of rockfish stocks off the west coast of the Queen Charlotte Islands, September 5 to 23, 1997. Can. MS Rep. Fish. Aquat. Sci. 2457.
- Wydoski, R. S. and R. R. Whitney. 1979. Inland fishes of Washington. University of Washington Press, Seattle.
- Yabe, M. 1991. *Bolinia euryptera*, a new genus and species of sculpin (Scorpaeniformes: Cottidae) from the Bering Sea. Copeia 1991: 329–339.
- Yabe, M., D. M. Cohen, K. Wakabayashi, and T. Iwamoto. 1981. Fishes new to the eastern Bering Sea. Fish. Bull. 79(2): 353–356.
- Yabe, M. and A. Soma. 2000. A rare fish, *Archaulus biseriatus*, collected from the central Kuril Archipelago (Scorpaeniformes: Cottidae). Bull. Fac. Fish. Hokkaido Univ. 51: 159–163.
- Yabe, M., A. Soma, and K. Amaoka. 2001. *Icelinus pietschi* sp. nov. and a rare species, *Sigmistes smithi*, from the southern Kuril Archipelago (Scorpaeniformes: Cottidae). Ichthyol. Res. 48(1): 65–70.

-
- Yáñez-Arancibia, A. 1978. Taxonomía, ecología y estructura de las comunidades de peces en lagunas costeras con bocas efímeras del Pacífico de México. *Centro Cienc. Mar Limnol. Univ. Nal. Autón. México, Publ. Esp.* 2: 1–306.
- Youn, C.-H. 2002. Fishes of Korea, with pictorial key and systematic list. [Cited in Eschmeyer, 2005, Catalog of fishes online.]
- Zahuranec, B. J. 1967. The gerreid fishes of the genus *Eucinostomus* in the eastern Pacific. Ph.D. thesis, University of California, San Diego.
- Zahuranec, B. J. 2000. Zoogeography and systematics of the lanternfishes of the genus *Nannobranchium* (Myctophidae: Lampanyctini). *Smithson. Contrib. Zool.* No. 607.
- Zeballos, J., M. Samame, and M. Robero. 1998. Estructura especiológica demersal observada durante el Crucero de Evaluación de la Merluza entre Puerto Pizarro y Huarmey. *BIC José Olaya Balandra 9806-07. Inf. Inst. Mar Perú* 138: 87–100.
- Zenger, H. H. Jr. 2004. Data report: 2002 Aleutian Islands bottom trawl survey. NOAA Tech. Memo. NMFS-AFSC-143.
- Zimmermann, M. and P. Goddard. 1996. Biology and distribution of arrowtooth, *Atheresthes stomias*, and Kamchatka, *A. evermanni*, flounders in Alaskan waters. *U.S. Natl. Mar. Fish. Serv. Fish. Bull.* 94: 358–370.
- Zorzi, G. D. and M. E. Anderson. 1988. Records of the deep-sea skates, *Raja (Amblyraja) badia* Garman, 1899, and *Bathyraja abyssicola* (Gilbert, 1896) in the eastern North Pacific, with a new key to California skates. *Calif. Fish Game* 74: 87–105.
- Zorzi, G. D. and M. E. Anderson. 1990. Summary of records of the deep-water skates, *Raja (Amblyraja) badia* Garman, 1899 and *Bathyraja abyssicola* (Gilbert, 1896), in the eastern North Pacific, p. 389–390. *In* H. K. Pratt, Jr., S. H. Gruber, and T. Taniuchi (eds.), *Elasmobranchs as living resources: advances in the biology, ecology, systematics, and the status of the fisheries*. NOAA Tech. Rep. NMFS 90.

PERSONAL COMMUNICATIONS

Alisa A. Abookire, National Marine Fisheries Service, Kodiak Laboratory, Kodiak, Alaska.

M. Eric Anderson, J. L. B. Smith Institute of Ichthyology, Grahamstown, South Africa.

Mayumi L. Arimitsu, National Park Service, Juneau, Alaska.

Joe Bizarro, Moss Landing Marine Laboratory, Moss Landing, California.

Morgan S. Busby, National Marine Fisheries Service, Alaska Fisheries Science Center, Seattle, Washington.

Karla L. Bush, Alaska Department of Fish and Game, Dutch Harbor, Alaska.

Jay Carroll, Tenera Environmental Services, 225 Prado Rd., San Luis Obispo, California 93401.

Howard Chang, ERM Inc., Taipei, Taiwan.

Sharon Charter, National Marine Fisheries Service, Southwest Fisheries Science Center, La Jolla, California.

Natalia V. Chernova, Ichthyology Laboratory, Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia.

Dave Clausen, National Marine Fisheries Service, Alaska Fisheries Science Center, Auke Bay Laboratory, Juneau, Alaska.

Matthew Craig, Scripps Institution of Oceanography, La Jolla, California.

Allen Cramer, Hatfield Marine Science Center, Northwest Fisheries Science Center, NMFS, NOAA, Newport, Oregon.

David J. Csepp, National Marine Fisheries Service, Alaska Fisheries Science Center, Auke Bay Laboratory, Juneau, Alaska.

John Cusick, National Marine Fisheries Service, Northwest Fisheries Science Center, Seattle, Washington.

David A. Ebert, Moss Landing Marine Laboratory, Moss Landing, California.

Jared Figurski, Department of Ecology and Evolutionary Biology, University of California, Santa Cruz, California.

John E. Fitch, California Department of Fish and Game (deceased).

Graham E. Gillespie, Canadian Department of Fisheries and Oceans, Nanaimo, British Columbia.

Ami Groce, Ocean Monitoring Program, Metropolitan Wastewater Department, City of San Diego, San Diego, California.

Tim Herrlinger, Department of Integrative Biology, University of California, Berkeley, California.

Brenda A. Holladay, Institute of Marine Science, University of Alaska Fairbanks.

Lee B. Hulbert, National Marine Fisheries Service, Alaska Fisheries Science Center, Auke Bay Laboratory, Juneau, Alaska.

John Hyde, Scripps Institution of Oceanography, University of California, San Diego, La Jolla, California.

Dan Jehl, Sea World of California, Mission Bay, California.

Scott Johnson, National Marine Fisheries Service, Alaska Fisheries Science Center, Auke Bay Laboratory, Juneau, Alaska.

Gene Kira, P.O. Box 2296, Valley Center, California 92082.

Paul Krause, BBL Sciences, Long Beach, California.

David Kushner, National Park Service, Ventura, California.

Tom Laidig, National Marine Fisheries Service, Southwest Fisheries Science Center, Santa Cruz, California.

Robert N. Lea, California Department of Fish and Game, Monterey, California.

Charles Lean, National Park Service, Nome, Alaska.

Katherine Pearson Maslenikov, Fish Collection, School of Aquatic and Fisheries Sciences, University of Washington, Seattle.

Scott Matern, Department of Wildlife, Fisheries and Conservation Biology, University of California, Davis, California.

John E. McCosker, Department of Ichthyology, California Academy of Sciences, San Francisco, California.

Laird McDonald, Marine Science Institute, University of California, Santa Barbara, California.

Scott Meyer, Alaska Department of Fish and Game, Homer, Alaska.

Doug Molyneaux, Alaska Department of Fish and Game, Bethel, Alaska.

Steve Norton, Department of Biology, East Carolina University, Greenville, North Carolina.

Mary Nishimoto, Marine Science Institute, University of California, Santa Barbara, California.

Victoria M. O'Connell, Alaska Department of Fish and Game, Sitka, Alaska.

James W. Orr, National Marine Fisheries Service, Alaska Fisheries Science Center, Seattle, Washington.

John O'Sullivan, Monterey Bay Aquarium, Monterey, California.

Wayne A. Palsson, Washington Department of Fisheries and Wildlife, Mill Creek, Washington.

Don Pearson, National Marine Fisheries Service, Southwest Fisheries Science Center, Santa Cruz, California.

Alex E. Peden, Curator Emeritus, Royal British Columbia Museum, Victoria, British Columbia, Canada.

Julius Phillips, California Department of Fish and Game (deceased). Data from unpublished handwritten notes in J. Phillips' copy of Phillips (1957).

Dan Pondella, Vantuna Research Group, Occidental College, Los Angeles, California.

Rebecca Reuter, National Marine Fisheries Service, Alaska Fisheries Science Center, Seattle, Washington.

Dave Roseneau, United States Fish and Wildlife Service, Anchorage, Alaska.

Jorge A. Rosales-Casián, Centro de Investigacion Cientifica y de Educacion Superior Ensenada, Mexico.

Mike Schaadt, Cabrillo Marine Aquarium, San Pedro, California.

Donna Schroeder, Marine Science Institute, University of California, Santa Barbara, California.

Mike Shane, Hubbs-Sea World Research Institute, San Diego, California.

Boris A. Sheiko, Ichthyology Laboratory, Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia.

Wade Smith, Moss Landing Marine Laboratory, Moss Landing, California.

Rick Starr, University of California Sea Grant, Moss Landing, California.

David L. Stein, National Marine Fisheries Service Systematics Laboratory, Smithsonian Institution, Washington, D.C.

John Stephens, 2550 Nightshade Place, Arroyo Grande, California 93420.

Duane E. Stevenson, National Marine Fisheries Service, Alaska Fisheries Science Center, Seattle, Washington.

Adam P. Summers, Department of Ecology and Evolutionary Biology, University of California, Irvine, California.

Tierney Thys, Sea Studios Foundation, Monterey, California.

Vanessa Tuttle, National Marine Fisheries Service, Northwest Fisheries Science Center, Seattle, Washington.

Chuck Valle, California Department of Fish and Game, Los Alamitos, California.

William van Orden, Bilz Rockfish, Box 245, Heriot Bay, British Columbia, V0P 1H0, Canada.

Neville Venables, Nev's Groundfish Research, New Westminster, British Columbia, Canada.

Eric Vetter, College of Natural Sciences, Hawai'i Pacific University, Honolulu, Hawaii.

Kenneth D. Vogt, Department of Biology, University of Alaska, Anchorage.

Diana Watters, California Department of Fish and Game, Menlo Park, California.

Mark Wilkins, National Marine Fisheries Service, Alaska Fisheries Science Center, Seattle, Washington.

Nick Wilsman, Oregon Department of Fish and Wildlife, Brookings, Oregon.

Bruce L. Wing, National Marine Fisheries Service, Alaska Fisheries Science Center, Auke Bay Laboratory, Juneau, Alaska.

Carrie Worton, Alaska Department of Fish and Game, Kodiak, Alaska.

Tina Wyllie Echeverria, P.O. Box 111, Shaw Island, Washington 98286.

Mary Yoklavich, National Marine Fisheries Service, Southwest Fisheries Science Center, Santa Cruz, California.

Index

A

- Ablennes hians*, 63
Abudefduf
 declivifrons, 134
 trochelii, 134
Abyssal
 Grenadier, 53
 Snailfish, 103
Acanthemblemaria
 balanorum, 156
 crockeri, 156
 macrospilus, 156
Acanthocybium
 solanderi, 167
 solandri, 166
Acanthogobius flavimanus, 160
Acantholiparis
 caecus, 101
 opercularis, 101
Acantholumpenus mackayi, 145
Acanthopsetta nadeshnyi, 174
Acanthuridae, 164
Acanthurus achilles, 164
Acanthurus
 nigricans, 164
 trioptegus, 164
 xanthopterus, 164
Acapulco
 Damsel fish, 135
 Major, 135
Achilles
 Surgeon, 164
 Tang, 164
Achiridae, 177
Achirus
 mazatlanus, 177
 scutum, 177
Acipenseridae, 15
Acipenseriformes, 15
Acipenser
 medirostris, 15
 transmontanus, 15
Acropomatidae, 109
Acrotus willoughbyi, 158
Adelosebastes latens, 73
Aetobatus narinari, 14
African Pompano, 116
Agonidae, 95
Agonomalus mozinoi, 96
Agonopsis
 emmelane, 96
 sterletus, 96
 vulsa, 96
Agonostomus monticola, 62
Alalaua, 113
Alaskan
 Lumpsucker, 100
 Ronquil, 138
Alaska
 Dreamer, 61
 Eelpout, 139
 Plaice, 176
 Skate, 12
 Snailfish, 102
Albacore, 168
Albatrossia pectoralis, 53
Albula sp., 16
Albulidae, 16
Albuliformes, 16
Aldrovandia
 affinis, 16
 phalacra, 16
Alectis ciliaris, 116
Alectrias alectrolophus, 145
Alectridium aurantiacum, 145
Alepisauridae, 42
Alepisaurus ferox, 42
Alepocephalidae, 30
Alepocephalus tenebrosus, 30
Aleutian
 Alligatorfish, 96
 Fringed Sculpin, 91
 Pout, 140
 Scorpionfish, 73
 Skate, 11
Alligatorfish, 96
Allocareproctus, 103
Alloclinus holderi, 154
Allocyttus
 folletti, 70
 verrucosus, 70
Allosmerus elongatus, 32
Allothunnus fallai, 167
Almaco Jack, 119

- Alopias*
pelagicus, 5
superciliosus, 5
vulpinus, 5
Alopiidae, 5
Alosa sapidissima, 26
Alphestes
galapagensis, 109
immaculatus, 109
multiguttatus, 109
Aluterus
monoceros, 179
scriptus, 179
Amarillo Snapper, 121
Amberstripe Scad, 117
Amblyraja badia, 10
American
Shad, 26
Soles, 177
Ammodytes hexapterus, 151
Ammodytidae, 151
Ammodytoides gilli, 151
Amphistichus argenteus, 132
Amphistichus koelzi, 132
Amphistichus rhodoterus, 132
Anarchias galapagensis, 17
Anarhichadidae, 150
Anarhichas
denticulatus, 150
orientalis, 150
Anarrhichthys ocellatus, 150
Anchoa
argentivittata, 24
compressa, 24
curta, 24
delicatissima, 24
exigua, 24
ischana, 24
lucida, 24
mundeoloides, 25
nasus, 25
walkeri, 25
Anchoveta, 25
Anchovia
macrolepidota, 25
magdalena, 25
Anchovies, 24
Ancylopsetta dendritica, 171
Angelfishes, 130
Angel
Blenny, 157
Croaker, 128
Sharks, 4
Tube Blenny, 157
Anguilliformes, 17
Anisarchus medius, 146
Anisotremus
dauidsoni, 123
interruptus, 123
taeniatus, 123
Anomalopidae, 70
Anoplagonus inermis, 96
Anoplarchus
insignis, 146
purpurescens, 146
Anoplogaster cornuta, 69
Anoplogastridae, 69
Anoplopomatidae, 82
Anoplopoma fimbria, 82
Anotopteridae, 42
Anotopterus
nikparini, 42
pharao, 42
Antennariidae, 58
Antennarius
avalonis, 58
sanguineus, 58
strigatus, 58
Antimora
microlepis, 55
rostrata, 55
Antlered
Dragonet, 160
Sculpin, 86
Aphanopus
arigato, 166
carbo, 166
intermedius, 166
Aphyonidae, 52
Aphyonids, 52
Apodichthys
flavidus, 149
fucorum, 149
sanctaerosae, 149

Index

- Apogonidae, 114
Apogon
 atricaudus, 114
 guadalupensis, 114
 pacificus, 114
 parri, 114
 retrosella, 114
Apristurus
 brunneus, 6
 kampae, 6
Apristurus sp., 6
Aptocyclus ventricosus, 99
Archaulus biseriatus, 84
Arched
 Sculpin, 92
 Eelpout, 144
Archistes
 biseriatus, 84
 plumarius, 84
Arcos erythroptus, 159
Arctic
 Alligatorfish, 98
 Char, 35
 Cisco, 33
 Cod, 56
 Eelpout, 144
 Flounder, 176
 Lamprey, 1
 Sculpin, 90
 Shanny, 148
 Smelt, 33
 Staghorn Sculpin, 87
Arctogadus
 borisovi, 56
 glacialis, 56
Arctoscopus japonicus, 151
Arctozenus risso, 41
Argentina sialis, 28
Argentines, 28
Argentinidae, 28
Argentiniformes, 28
Argus Moray, 18
Argyropelecus
 affinis, 36
 hemigymnus, 36
 lychnus, 36
 sladeni, 36
Ariidae, 27
Ariopsis
 guatemalensis, 27
 planiceps, 27
 platypogon, 28
Ariosoma gilberti, 21
Aristostomias scintillans, 37
Arius, 27
Armed Grunt, 123
Armigers Goby, 160
Armored Redmouth Whalefish, 69
Armorheads, 130
Arothron
 hispidus, 180
 meleagris, 180
Arrowtail, 55
Arrowtooth Flounder, 174
Arrow Goby, 161
Artediellichthys nigripinnis, 84
Artediellus
 camchaticus, 84
 gomojunovi, 84
 miacanthus, 84
 ochotensis, 84
 pacificus, 84
 scaber, 84
Artedius
 corallinus, 84
 creaseri, 92
 fenestralis, 85
 harringtoni, 85
 lateralis, 85
 notospilotus, 85
Ascelichthys rhodorus, 85
Asiatic Arrowtooth, 174
Aspidophoroides
 bartoni, 96
 monopterygius, 96
Asquamiceps
 pacificus, 30
 velaris, 30
Assurger anzac, 166
Astroscopus zephyreus, 151
Atheresthes
 evermanni, 174
 stomias, 174
Atherinella
 eriarcha, 63
 nepenthe, 63

- Atherinidae, 63
 Atheriniformes, 63
 Atherinopsidae, 63
Atherinopsis californiensis, 63
Atherinops affinis, 63
 Atka Mackerel, 83
 Atlantic
 Fangjaw, 36
 Poacher, 97
 Salmon, 34
 Spiny Lump sucker, 100
Atractoscion nobilis, 126
 Attenuate Snailfish, 101
 Aulopidae, 39
 Aulopiformes, 39
Aulopus bajacali, 39
 Aulorhynchidae, 71
Aulorhynchus flavidus, 71
 Aulostomidae, 72
Aulostomus chinensis, 72
 Aurora Rockfish, 74
Auxis
 rochei, 167
 rochei eudorax, 167
 thazard, 167
 thazard eurydorax, 167
Avocettina
 bowersii, 21
 infans, 21
 Axil Grunt, 124
Axoclinus
 nigricaudus, 151
 storeyae, 152
 Azure Parrotfish, 138
Azurina hirundo, 134
- B**
- Bagre panamensis*, 28
 Bairdiella, 126
Bairdiella icistia, 126
Bajacalifornia burragei, 30
 Baja Blenny, 154
 Balboa Goby, 163
 Bald Sculpin, 86
Balistes polylepis, 179
 Balistidae, 179
 Balloonfish, 181
- Banded
 Cleaner Goby, 161
 Cleaning Goby, 161
 Flyingfish, 65
 Guitarfish, 10
 Gunnel, 149
 Irish Lord, 87
 Lizardfish, 40
 Sand Stargazer, 153
 Stargazer, 153
 Tonguefish, 178
 Wrasse, 136
 Bandfin Scorpionfish, 73
 Bandtail Frogfish, 58
 Bank's Ribbonfish, 49
 Bank Rockfish, 80
Barathronus pacificus, 52
 Barbeled Dragonfishes, 37
 Barbel Flyingfish, 65
 Barberfish, 130
Barbourisia rufa, 69
 Barbourisiidae, 69
Barbulifer
 mexicanus, 161
 pantherinus, 161
 Barcheck Pipefish, 72
 Barfinned Tonguefish, 178
 Barnaclebill Blenny, 158
 Barnacled Blenny, 158
 Barnacle Blenny, 156
 Barracudas, 164
Barracudinas, 41
 Barred
 Filefish, 179
 Flagtail, 131
 Needlefish, 63
 Pargo, 121
 Pipefish, 71
 Sandperch, 110
 Sand Bass, 112
 Searobin, 81
 Serrano, 113
 Surfperch, 132
 Barreleye, 30
 Barreleyes, 30
 Barspot Cardinalfish, 114
Bascanichthys bascanoides, 19

Index

- Basketweave Cusk-eel, 51
Basking Shark, 5
Bassozetus zenkevitchi, 50
Batfishes, 59
Bathophilus
 brevis, 38
 ilifer, 38
 flemingi, 38
Bathyagonus
 alascanus, 96
 infraspinatus, 96
 nigripinnis, 96
 pentacanthus, 96
Bathygobius ramosus, 161
Bathylaco nigricans, 30
Bathylagidae, 29
Bathylagoidea
 nigrigenys, 29
 wesethi, 29
Bathylagus
 alascanus, 29
 milleri, 29
 ochotensis, 29
 pacificus, 29
Bathyleptus lisae, 42
Bathylchnops exilis, 30
Bathymasteridae, 138
Bathymaster
 caeruleofasciatus, 138
 eurolepis, 138
 signatus, 138
Bathyraja
 abyssicola, 11
 aleutica, 11
 interrupta, 11
 kincaidii, 11
 indbergi, 11
 maculata, 11
 mariposa, 11
 matsubarai, 11
 microtrachys, 11
 minispinosa, 11
 parmifera, 12
 spinosissima, 12
 taranetzi, 12
 trachura, 12
 violacea, 12
Bathysaurus mollis, 40
Batrachoididae, 57
Batrachoidiformes, 57
Bat Ray, 14
Bay
 Blenny, 158
 Goby, 162
 Pipefish, 72
Beach Flounder, 173
Beaded Slickhead, 31
Bearded Clingfish, 159
Bearded Eelpout, 144
Bearded Warbonnet, 146
Beaubrummel, 135
Beaubrummel Gregory, 135
Beaubrummel Major, 135
Beautyfin Flyingfish, 65
Behemoth Eelpout, 140
Bellator
 gymnostethus, 81
 loxias, 81
 xenisma, 81
Belligerent Sculpin, 89
Belonidae, 63
Beloniformes, 63
Benthalbella
 dentata, 39
 linguidens, 40
Benthodesmus
 elongatus, 166
 pacificus, 166
Benthousema
 glaciale, 43
 panamense, 43
 pterotum, 43
 uborbitale, 43
Benttooth Bristlemouth, 35
Bering Cisco, 33
Bering Flounder, 175
Bering Poacher, 97
Bering Wolffish, 150
Berry's Grenadier, 54
Bertella idiomorpha, 60
Beryciformes, 69
Bicolor Parrotfish, 138
Bigbelly Pomfret, 120
Bigeyes, 113

- Bigeye
 Corvina, 127
 Crevalle, 116
 Croaker, 126, 128, 129
 Lanternfish, 46
 Poacher, 96
 Scad, 118
 Sculpin, 93
 Snailfish, 101
 Squaretail, 170
 Starsnout, 96
 Thresher, 5
 Trevally, 116
 Tuna, 168
- Bigfin
 Eelpout, 143
 Lanternfish, 47
- Bighead
 Cusk-eel, 51
 Grenadier, 53
 Mora, 55
 Sand Perch, 110
 Snailfish, 105
 Tilefish, 114
- Bigmouth
 Manefish, 120
 Sanddab, 171
 Sculpin, 94
 Sole, 173
- Bignose
 Anchovy, 25
 Conger, 22
 Shark, 7
- Bigpored Snailfish, 107
- Bigscales, 67
- Bigscale
 Anchovy, 25
 Goatfish, 129
 Sandfish, 110
 Sleeper, 160
- Bigspine Grunt, 125
- Bigtooth Pomfret, 120
- Big Skate, 12
- Billfishes, 169
- Black-and-Yellow Rockfish, 75
- Black-spotted Worm Goby, 163
- Black-spot Mojarra, 122
- Blackbelly
 Dragonfish, 39
 Eelpout, 143
 Pearleye, 40
- Blackblotch Pompano, 119
- Blackchin, 43
- Blackchins, 43
- Blackcod, 82
- Blackdevil, 59
- Blackdevils, 59
- Blackeye
 Goby, 163
 Snake Moray, 19
- Blackfin
 Eelpout, 143
 Hookear Sculpin, 84
 Jack, 118
 Poacher, 96
 Scad, 118
 Sculpin, 95
 Shark, 8
 Snook, 108
 Soapfish, 112
- Blackgill
 Mojarra, 122
 Rockfish, 78
- Blackline
 Prickleback, 145
 Snipe Eel, 21
- Blacklip Dragonet, 160
- Blackmouth Eelpout, 142
- Blacknose Sculpin, 88
- Blacksmith, 134
- Blackspot
 Mojarra, 122
 Reef-bass, 112
 Wrasse, 135
- Blackstripe Herring, 26
- Blacktail Snailfish, 102
- Blacktip
 Poacher, 99
 Shark, 8
 Snailfish, 103
- Blackwing Flyingfish, 65
- Black
 Axillary Mojarra, 123
 Barracudina, 41

Index

Black (*continued*)

Bobtail Eel, 23
Bristlemouth, 35
Brotula, 50
Chimaera, 2
Croaker, 126
Dragonet, 160
Durgon, 179
Eelpout, 143
Fathead, 170
Hagfish, 1
Jack, 116
Lampfish, 47
Mackerel, 165
Marlin, 169
Pelagic Cod, 55
Perch, 132
Prickleback, 148
Rockfish, 77
Sailfin Eel, 20
Scabbardfish, 166
Skate, 11, 12
Skipjack, 167
Snake Mackerel, 165
Snook, 108
Surfperch, 132
Swallower, 153
Triggerfish, 179
Wrasse, 135
Bladewing Flyingfish, 65
Bleeding Wrasse, 137
Blenniidae, 158
Blepsias
 bilobus, 94
 cirrhosus, 94
Blind Goby, 163
Blobby Dreamer, 60
Blob
 Sculpin, 95
 Sculpins, 94
Bloody Frogfish, 58
Blotched
 Midshipman, 57
 Snailfish, 103
 Stingray, 14
Blotcheye Solderfish, 70
Blotchfin Cusk-eel, 51
Blotchwing Flyingfish, 64

Blue-and-Gold Snapper, 121
Blue-and-Yellow Chromis, 134
Blue-bronze Chub, 131
Blueback, 34
Bluebanded
 Goby, 162
 Parrotfish, 138
 Ronquil, 139
 Parrotfish, 138
 Prickleback, 148
Bluechin Parrotfish, 138
Bluefin
 Driftfish, 170
 Jack, 116
 Trevally, 116
Bluespotted
 Cornetfish, 72
 Jawfish, 113
 Poacher, 99
Bluestreak Drum, 127
Bluestriped
 Chub, 131
 Pipefish, 71
Bluethroat Argentine, 28
Blue
 Bobo, 126
 Lanternfish, 47
 Marlin, 169
 Seaperch, 133
 Shark, 8
 Trevally, 116
Blunt-nosed Grenadier, 54
Blunthead Triggerfish, 179
Bluntnose Sixgill Shark, 2
Bobtail Eels, 23
Bocaccio, 78
Bodianus diplotaenia, 135
Bogoslovius clarki, 54
Bolinia euryptera, 85
Bolinichthys
 longipes, 43
 pyrsobolus, 43
Bonefishes, 16
Bonehead Sculpin, 85
Bonnethead, 9
Bonydisk Snailfish, 106
Bonyhead Sculpin, 85
Boreogadus saida, 56

- Borophryne apogon*, 59
Borostomias panamensis, 38
 Bothidae, 171
Bothrocara
 brunneum, 139
 molle, 139
 pusillum, 139
 remigerum, 139
 zestum, 139
Bothus
 constellatus, 171
 leopardinus, 171
 Bottlelight, 36
 Bowers Bank Snailfish, 101
 Boxfishes, 180
Brachyistius frenatus, 132
Brama
 japonica, 120
 orcini, 120
 Bramble Sharks, 3
 Bramidae, 120
 Branick's Grunt, 125
 Brassy
 Grunt, 124, 125
 Humpback Grunt, 125
Bregmaceros bathymaster, 56
 Bregmacerotidae, 56
 Brickred Rockfish, 75
 Bridled Sand Perch, 110
 Brightbelly Sculpin, 89
 Brighteye Cusk-eel, 51
 Bright Anchovy, 24
 Brill, 174
 Bristlemouths, 35
 Bristly Searobin, 81
 Bristol Snailfish, 104
 Broadbanded Thornyhead, 81
 Broadfin
 Lampfish, 46
 Sculpin, 85
 Snailfish, 107
 Thornyhead, 81
 Broadhead Lanternfish, 44
 Broadnose Sevengill Shark, 2
 Broad
 Skate, 10
 Whitefish, 33
 Brokenline Lampfish, 45
 Bronzespotted Rockfish, 76
 Bronzestriped Grunt, 125
 Bronze Midshipman, 57
 Broomtail Grouper, 112
Brosmophycis, 52
Brosmophycis marginata, 52
Brotulataenia nielsenii, 50
Brotula clarkae, 50
 Browncheck
 Barnacle Blenny, 156
 Blenny, 156
 Brownsnout Spookfish, 30
 Brown
 Cat Shark, 6
 Irish Lord, 87
 Rockfish, 74
 Smoothhound, 7
Bryozoichthys
 lysimus, 146
 marjorius, 146
 Buffalo Sculpin, 86
 Bulbous Dreamer, 60
 Bulldog
 Eelpout, 145
 Lightfish, 37
 Snailfish, 107
 Bullet Mackerel, 167
 Bulleye, 113
 Bullhead Sharks, 4
 Bullseye
 Electric Ray, 9
 Puffer, 180
 Stingray, 13
 Bull
 Sculpin, 86
 Shark, 8
 Bumphead
 Damsel fish, 134
 Parrotfish, 138
 Burrito Grunt, 123
 Bussing's Drum, 129
 Butterfishes, 170
 Butterflyfishes, 130
 Butterfly
 Flyingfish, 64
 Rays, 14
 Sculpin, 87
 Skate, 11
 Butter Sole, 175
 Bythitidae, 52

Index

C

- C-O Sole, 176
- C-O Turbot, 176
- Cabazon, 92
- Caecal Spiny Snailfish, 101
- Caelorhynchus*, 53
- Caelorinchus scaphopsis*, 53
- Calico
 - Lizardfish, 40
 - Rockfish, 76
 - Salmon, 34
 - Sculpin, 85
 - Surfperch, 132
- California
 - Butterfly Ray, 14
 - Clingfish, 159
 - Conger, 22
 - Corbina, 128
 - Flashlightfish, 46
 - Flyingfish, 65
 - Grenadier, 54
 - Grunion, 63
 - Halfbeak, 66
 - Halibut, 173
 - Headlightfish, 44
 - Killifish, 67
 - Lanternfish, 47
 - Lizardfish, 40
 - Moray, 18
 - Needlefish, 64
 - Sawtail, 164
 - Scorpionfish, 73
 - Sheephead, 137
 - Skate, 12
 - Slickhead, 30
 - Smoothtongue, 29
 - Tonguefish, 178
 - Turbot, 176
- Callechelys*
 - cliffi*, 19
 - eristigma*, 19
- Callionymidae, 160
- Calotomus carolinus*, 137
- Canadian Eelpout, 143
- Canary Rockfish, 79
- Candlefish, 33
- Cantherhines dumerilii*, 179
- Canthigaster punctatissima*, 180
- Capelin, 33
- Cape
 - Cigarfish, 170
 - Fathead, 170
 - Garden Eel, 22
 - Razorfish, 137
 - Wrasse, 137
- Carangidae, 116
- Carangoides*
 - caballus*, 116
 - orthogrammus*, 116
 - otrynter*, 116
 - vinctus*, 117
- Caranx*
 - caballus*, 116
 - caninus*, 116
 - hippos*, 116
 - lugubris*, 116
 - melampygus*, 116
 - orthogrammus*, 116
 - otrynter*, 116
 - sexfasciatus*, 116
 - vinctus*, 117
- Carapidae, 49
- Carcharhinidae, 7
- Carcharhiniformes, 6
- Carcharhinus*
 - albimarginatus*, 7
 - altimus*, 7
 - brachyurus*, 7
 - falciformis*, 7
 - galapagensis*, 7
 - leucas*, 8
 - limbatus*, 8
 - longimanus*, 8
 - obscurus*, 8
 - porosus*, 8
- Carcharodon carcharias*, 5
- Cardinalfishes, 114
- Careproctus*
 - abbreviatus*, 101
 - acanthodes*, 103
 - attenuatus*, 101
 - bowersianus*, 101
 - candidus*, 101

- Careproctus* (continued)
canus, 101
colletti, 102
cypselurus, 102
ectenes, 102
filamentosus, 102
furcellus, 102
gilberti, 102
longifilis, 102
melanurus, 102
microstomus, 102
mollis, 102
opisthotremus, 102
oregonensis, 102
ostentum, 103
ovigerus, 103
pellucidus, 103
phasma, 103
pycnosoma, 103
rastrinus, 103
scottae, 103
simus, 103
spectrum, 103
zachirus, 103
- Caristiidae, 120
- Caristius*
macropus, 120
maderensis, 120
- Carmine Triplefin, 152
- Cataetyx rubrirostris*, 52
- Catalina
 Conger, 22
 Sanddab, 177
- Cat Sharks, 6
- Caulolatilus*
affinis, 114
hubbsi, 114
princeps, 114
- Caulophryne*
jordani, 59
pelagica, 59
polynema, 59
- Caulophrynidae, 59
- Cebidichthys violaceus*, 146
- Centriscidae, 72
- Centrolophidae, 169
- Centrophryne spinulosa*, 59
- Centrophrynidae, 59
- Centropomidae, 108
- Centropomus*
medius, 108
nigrescens, 108
viridis, 109
- Centroscyllium nigrum*, 3
- Cephalopholis panamensis*, 110
- Cephaloscyllium ventriosum*, 6
- Cephalurus cephalus*, 6
- Ceratias holboelli*, 61
- Ceratiidae, 61
- Ceratoscopelus*
townsendi, 43
warmingii, 43
- Cetengraulis mysticetus*, 25
- Cetichthys parini*, 68
- Cetomimidae, 68
- Cetorhinidae, 5
- Cetorhinus maximus*, 5
- Cetostoma regani*, 69
- Chaenomugil proboscideus*, 62
- Chaenophryne*
draco, 60
longiceps, 60
melanorhabdus, 60
parviconus, 60
- Chaenopsidae, 156
- Chaenopsis alepidota*, 156
- Chaetodipterus zonatus*, 164
- Chaetodontidae, 130
- Chaetodon humeralis*, 130
- Chalinura filifera*, 54
- Chameleon
 Goby, 163
 Rockfish, 78
 Wrasse, 136
- Chanidae, 27
- Channel Islands Clingfish, 159
- Chanos chanos*, 27
- Charcoal Codling, 55
- Chauliodus macouni*, 38
- Cheekspot Sand Perch, 110
- Cheilopogon*
heterurus, 64
papilio, 64
pinnatibarbatus, 65
xenopterus, 65

Index

- Cheilotrema saturnum*, 126
Cherublemma emmelas, 50
Chesnonia verrucosa, 97
Chestnut Moray, 18
Chevron Searobin, 81
Chiasmodontidae, 153
Chiasmodon niger, 153
Chihuil, 28
Chihuil Sea Catfish, 28
Chilara taylori, 50
Chilean
 Devil Ray, 15
 Round Ray, 14
Chilipepper, 77
Chiloconger
 dentatus, 22
 labiatus, 22
 obtusus, 22
 similis, 22
Chilomycterus
 affinis, 181
 reticulatus, 181
Chimaeridae, 2
Chimaeriformes, 2
Chimbera Stardrum, 129
China Rockfish, 78
Chinese Trumpetfish, 72
Chinook Salmon, 34
Chirolophis
 decoratus, 146
 nugator, 146
 snyderi, 146
 tarsodes, 146
Chitonotus pugetensis, 85
Chlamydoselachidae, 2
Chlamydoselachus anguineus, 2
Chlopsidae, 17
Chlopsis
 apterus, 17
 kazunoko, 17
Chloroscombrus orqueta, 117
Chocolate
 Pipefish, 72
 Tonguefish, 178
Choelo Halfbeak, 66
Chriolepis
 cuneata, 161
 zebra, 161
Chromis
 alta, 134
 atrilobata, 134
 limbaughi, 134
 punctipinnis, 134
Chubby
 Flashlightfish, 44
 Lanternfish, 44
 Pearleye, 40
Chub Mackerel, 168
Chum Salmon, 34
Cichlidae, 132
Cichlids, 132
Cigarette Paper, 174
Cirrhichthys oxycephalus, 131
Cirrhitidae, 131
Cirrhitis rivulatus, 132
Cirriemblemaria lucasana, 157
Citharichthys
 fragilis, 171
 gilberti, 171
 gordae, 172
 platophrys, 172
 sordidus, 172
 stigmaeus, 172
 xanthostigma, 172
Clarion
 Angelfish, 130
 Damsel fish, 135
 Major, 135
Clarkichthys bilineatus, 163
Clark's Brotula, 50
Clevelandia ios, 161
Clidoderma asperrimum, 174
Clingfishes, 159
Clinidae, 156
Clinocottus
 acuticeps, 85
 analís, 85
 embryum, 85
 globiceps, 86
 recalvus, 86
Close-spine Snipe Eel, 21
Clownfin Sculpin, 84
Clubhead Barnacle Blenny, 156
Clupea pallasii, 26
Clupeidae, 26

- Clupeiformes, 24
 Coalfish, 55
 Coastrange Sculpin, 86
 Cocinero, 117
 Codlets, 56
 Codlings, 55
 Cods, 56
 Coho Salmon, 34
Cololabis saira, 64
 Colorado Snapper, 121
 Combtooth
 Blennies, 158
 Dogfish, 3
 Cominate Sea Catfish, 28
 Commander Skate, 11
 Common
 Carp, 27
 Searobin, 82
 Thresher Shark, 5
 Concinero Jack, 117
 Conehead Eel, 21
 Conger-head Pike Conger, 21
 Conger Eels, 21
 Congridae, 21
Conocara salmoneum, 31
Conodon serrifer, 123
 Convict
 Surgeonfish, 164
 Tang, 164
Cookeolus japonicus, 113
 Cookiecutter Shark, 3
 Copper
 Rockfish, 75
 Shark, 7
 Coralline Sculpin, 84
Coralliozetus
 angelicus, 157
 micropes, 157
 rosenblatti, 157
 Coral Hawkfish, 131
Coregonus
 autumnalis, 33
 laurettae, 33
 nasus, 33
 pidschian, 34
 sardinella, 34
 Cornetfish, 72
 Cortez
 Angelfish, 130
 Barracuda, 165
 Bonefish, 16
 Chub, 131
 Clingfish, 160
 Croaker, 129
 Damsel fish, 135
 Flounder, 173
 Garden Eel, 22
 Gregory, 135
 Grunt, 123
 Halibut, 173
 Rainbow Wrasse, 137
 Sea Chub, 131
 Soapfish, 112
 Stingray, 13
 Triplefin, 151
Corvula macrops, 126
Coryphaena
 equiselis, 115
 hippurus, 115
 Coryphaenidae, 115
Coryphaenoides
 acrolepis, 53
 anguliceps, 53
 armatus, 53
 capito, 53
 inereus, 53
 filifer, 53
 leptolepis, 54
 liocephalus, 54
 longifilis, 54
 yaquinae, 54
 urospilus, 161
Cosmocampus
 arctus, 71
 arctus coccineus, 71
 arctus heraldi, 71
 Cosmopolitan
 Dreamer, 61
 Whipnose, 62
 Cottidae, 84
 Cottonmouth Jack, 119
Cottunculus sadko, 94
Cottus
 aleuticus, 86
 asper, 86

Index

- Cowcod, 77
Cow Sharks, 2
Crafty Moray, 19
Crescent
 Goby, 162
 Gunnel, 149
Crested
 Bigscale, 68
 Ridgehead, 68
 Sculpin, 94
 Snailfish, 101
Crestfishes, 48
Crevice Kelpfish, 156
Crisscross Prickleback, 148
Crocodile
 Needlefish, 64
 Shark, 5
Crocodilichthys gracilis, 152
Crosshatch Triggerfish, 179
Crossthorat Sawpalate, 23
Cryptacanthodes
 aleutensis, 148
 giganteus, 149
Cryptacanthodidae, 148
Cryptopsaras couesii, 61
Cryptotrema corallinum, 154
Crystallichthys
 cameliae, 103
 cyclopilus, 103
 mirabilis, 104
Ctenogobius sagittula, 161
Cubiceps
 baxteri, 170
 capensis, 170
 paradoxus, 170
Curlfin
 Sole, 176
 Turbot, 176
Cusk-eels, 50
Cuskpout, 139
Cutlassfishes, 166
Cutthroat
 Eels, 19
 Trout, 34
Cyclopsetta
 panamensis, 172
 querna, 172
Cyclopteridae, 99
Cyclopteropsis
 bergi, 99
 inarmatus, 100
 lindbergi, 99
Cyclothone
 acclinidens, 35
 alba, 35
 atraria, 35
 pacifica, 35
 pallida, 35
 pseudopallida, 35
 signata, 35
Cyematidae, 23
Cyema atrum, 23
Cymatogaster
 aggregata, 132
 gracilis, 132
Cynoglossidae, 178
Cynoponticus coniceps, 21
Cynoscion
 nobilis, 126
 parvipinnis, 126
 reticulatus, 126
 squamipinnis, 126
 xanthulus, 127
Cyprinidae, 27
Cypriniformes, 27
Cyprinodontidae, 67
Cyprinodontiformes, 67
Cyprinus carpio, 27
Cypselurus
 californicus, 65
 callopterus, 65
 hubbsi, 64

D

- Dactylagnus*
 mundus, 152
 parvus, 152
Dactyloscopidae, 152
Dactyloscopus
 byersi, 152
 fimbriatus, 152
 lunaticus, 152
 pectoralis, 152
Daggertooth, 42

- Daggertooths, 42
 Dainty Mora, 55
 Daisy Midshipman, 57
 Dalatiidae, 3
Damalichthys vacca, 133
 Damsel
 Bass, 111
 Threadfin Bass, 111
Danaphos oculatus, 36
 Dappled Flounder, 173
 Darkblotched Rockfish, 76
 Darkblotch Scorpionfish, 73
 Darkedge Midshipman, 57
 Darkfin Sculpin, 95
 Darkspot Mojarra, 122
 Dark
 Flounder, 171
 Rockfish, 75
 Tubeshoulder, 32
 Sculpin, 91
 Dart Stargazer, 153
 Dasyatidae, 13
Dasyatis
 brevis, 13
 dipterura, 13
 longa, 13
Dasycottus setiger, 94
 Daubed Shanny, 147
Decapterus
 hypodus, 117
 macarellus, 117
 macrosoma, 117
 muroadsi, 117
 scombrinus, 117
Decodon melasma, 135
 Decorated Warbonnet, 146
 Deepbody
 Anchovy, 24
 Dragonfish, 38
 Thread Herring, 26
 Deepsea
 Anglerfishes, 59
 Cods, 55
 Skate, 11
 Slickhead, 31
 Smelts, 29
 Sole, 174
 Deepwater
 Blenny, 154
 Conger, 23
 Cornetfish, 72
 Cutthroat Eel, 19
 Eelpout, 141
 Kelpfish, 154
 Serrano, 113
 Delicate
 Triplefin, 152
 Triplefish, 152
Delolepis gigantea, 149
 Delta Smelt, 32
Derepodichthys alepidotus, 139
 Derichthyidae, 21
Derichthys serpentinus, 21
Dermatolepis dermatolepis, 110
Desmodema lorum, 48
 Diamond
 Stingray, 13
 Turbot, 177
Diaphus
 anderseni, 44
 pacificus, 44
 theta, 44
 trachops, 44
Diapterus peruvianus, 122
Dibranchus spongiosa, 59
Dicrolene filamentosa, 50
 Dimdisk Snailfish, 104
 Dimlight Lampfish, 47
 Diodontidae, 181
Diodon
 holacanthus, 181
 hystrix, 181
 Diogenes Lanternfish, 44
Diogenichthys
 atlanticus, 44
 laternatus, 44
Diplectrum
 eumelum, 110
 euryplectrum, 110
 labarum, 110
 macropoma, 110
 maximum, 110
 pacificum, 110
 rostrum, 110
 sciurus, 110

Index

- Dipline Eelpout, 144
Diplobatis ommata, 9
Diplophos
 proximus, 35
 taenia, 36
Diplospinus multistriatus, 165
Diretmidae, 69
Diretmoides pauciradiatus, 69
Diretmus
 argenteus, 70
 pauciradiatus, 70
Distalpore Snailfish, 102
Ditropichthys storeri, 69
Dixonina sp., 16
Docked Snailfish, 101
Dogface Witch Eel, 23
Dogfish Sharks, 3
Dogtooth Lampfish, 43
Dog
 Salmon, 34
 Snapper, 121
Dolichopteryx
 longipes, 30
 parini, 30
Dolly Varden, 35
Dolly Varden Char, 35
Dolopichthys
 longicornis, 60
 pullatus, 60
Dolphinfish, 115
Doormouth Snailfish, 108
Dories, 70
Dormitator latifrons, 160
Dorosoma petenense, 26
Doryrhamphus
 excisus, 71
 melanopleura, 71
Dotted Garden Eel, 22
Doubleline Eelpout, 143
Dover Sole, 176
Dove's Longfin Herring, 25
Dow's Mojarra, 122
Drab Tonguefish, 178
Dragonfishes, 37
Dragon Poacher, 98
Dreamers, 60
Driftfishes, 170
Duckbill
 Barracudina, 41
 Eels, 23
Dusky
 Hatchetfish, 37
 Rockfish, 80
 Sculpin, 88
 Shark, 8
 Snailfish, 105
Dwarf-red Rockfish, 79
Dwarf
 Lanternfish, 45
 Perch, 133
 Puffer, 181
 Sand Stargazer, 152
 Surfperch, 133
 Tonguefish, 178
 Wrymouth, 148
Dysalotus oligoscolus, 153
- ## E
- Eagle Rays, 14
Earless Eelpout, 141
Eastern Pacific Flagfin, 39
East Pacific Codlet, 56
Ebony
 Eelpout, 142
 Snailfish, 107
Echeneidae, 115
Echeneis naucrates, 115
Echidna
 nebulosa, 17
 nocturna, 17
 zebra, 17
Echinorhinidae, 3
Echinorhinus cookei, 3
Eelpouts, 139
Ekemblemaria myersi, 157
Elacatinus
 digueti, 161
 limbaughi, 161
 puncticulatus, 161
Elagatis bipinnulata, 117
Elassodiscus
 caudatus, 104
 tremebundus, 104
Elastic Eel, 20
Elastic Snake Eel, 20

- Elattarchus archidium*, 127
 Electric
 Rays, 9
 Stargazer, 151
Electrona
 risso, 44
 thompsoni, 47
Eleginus gracilis, 56
 Eleotridae, 160
Eleotris picta, 160
 Elongate Grunt, 124
 Elopidae, 16
 Elopiformes, 16
Elops affinis, 16
 Elusive Snailfish, 103
 Emarginate Snailfish, 102
Embassichthys bathybius, 174
 Ember Parrotfish, 138
Embiotoca
 jacksoni, 132
 lateralis, 133
 Embiotocidae, 132
Emblemaria
 bicirris, 157
 hypacanthus, 157
Embryx crotalinus, 140
 Emerald Wrasse, 137
 Emperor Rockfish, 73
Encheliophus dubius, 49
Enchelycore octaviana, 17
 English Sole, 176
 Engraulidae, 24
Engraulis
 japonicus, 25
 mordax, 25
Engyophrys sanctilaurentii, 171
 Enigmatic Tilefish, 114
Enneanectes
 carminalis, 152
 reticulatus, 152
 sexmaculatus, 152
Enneanectes sp., 152
Enophrys
 bison, 86
 diceraus, 86
 lucasi, 86
 taurina, 86
Entomacrodus chiostictus, 158
Entosphenus, 1
Eopsetta
 exilis, 176
 jordani, 174
 Ephippidae, 164
Epinephelus
 acanthistius, 111
 analogus, 111
 itajara, 111
 labriformis, 111
 niphobles, 111
Eptatretus
 deani, 1
 fritzi, 1
 mcconnaugheyi, 1
 stoutii, 1
 Equatorial
 Moray, 18
 Skate, 12
 Erect Goby, 163
Erilepis zonifer, 82
Ernogrammus walkeri, 147
Erotelis armiger, 160
Errex zachirus, 174
 Escolar, 165
Esselenia, 147
Esselenichthys
 carli, 147
 laurae, 147
 Estuarine Eelpout, 144
Ethadophis merenda, 19
 Etmopteridae, 3
Etropus
 crossotus, 172
 peruvianus, 172
Etrumeus teres, 26
Eucinostomus
 argenteum, 122
 californiensis, 122
 currani, 122
 dowii, 122
 entomelas, 122
 gracilis, 122
Eucryphycus californicus, 140
Eucyclogobius newberryi, 162
Eugerres
 axillaris, 123
 lineatus, 123

Index

Eulachon, 33

Euleptorhamphus

longirostris, 66

viridis, 66

Eumesogrammus praecisus, 147

Eumicrotremus

andriashevi, 99

asperrimus, 100

barbatus, 100

birulai, 100

derjugini, 100

eggvini, 100

fedorovi, 99

gyrinops, 100

orbis, 100

phrynoides, 100

schmidti, 99

soldatovi, 100

spinosus, 100

Eupomacentrus flavilatus, 135

Euprotomicrus bispinatus, 3

Eurymen gyrinus, 95

Eurypharyngidae, 23

Eurypharynx pelecانoides, 23

Eustomias perplexus, 38

Eutaeniophorus festivus, 69

Euthynnus

affinis, 167

lineatus, 167

pelamis, 167

Evermannella

ahlstromi, 42

indica, 42

melanoderma, 42

Evermannellidae, 42

Everyday Snailfish, 102

Exerpes asper, 154

Exocoetidae, 64

Exocoetus

monocirrhus, 65

volitans, 65

Eyeshade Sculpin, 94

F

Facciolella

equatorialis, 23

gilberti, 23

Falcate Snailfish, 102

False Morays, 17

Fanfin, 59

Fanged Snailfish, 101

Fangfish, 69

Fangtooth, 69

Fangtooths, 69

Fantail Pipefish, 71

Fantail Sole, 173

Far-Eastern Long Flounder, 174

Fathead Sculpins, 94

Feathered Clingfish, 159

Feather Tonguefish, 178

Ferocious Snailfish, 106

Festive

Ribbontail, 69

Snailfish, 105

Fierasfer dubius, 49

Filamented Rattail, 53

Filefishes, 179

Filetail Cat Shark, 6

Fine-spined Skate, 11

Finescale

Cusk-eel, 50

Triggerfish, 179

Finespotted Jawfish, 113

Fishgod Blenny, 155

Fishtrap Snailfish, 107

Fish Doctor, 140

Fistularia

commersonii, 72

corneta, 72

Fistulariidae, 72

Fivebar Flagtail, 131

Flabby

Sculpin, 93

Whalefishes, 68

Flagellostomias boureei, 38

Flagfins, 39

Flagfin Mojarra, 122

Flagtails, 131

Flagtail Wormfish, 163

- Flag
 Cabrilla, 111
 Flounder, 171
 Rockfish, 79
 Triplefin, 152
- Flapscale Blenny, 155
- Flashlightfishes, 70
- Flathead
 Mullet, 62
 Pomfret, 120
 Sea Catfish, 27
 Sleeper, 160
 Sole, 174
- Flatiron Herring, 26
- Flat Needlefish, 63
- Flotsamfishes, 170
- Fluffy Sculpin, 90
- Fluorescent Lampfish, 46
- Flyingfishes, 64
- Fodiator*
acutus, 65
rostratus, 65
- Footballfishes, 61
- Forcepsfish, 130
- Forcipiger flavissimus*, 130
- Forktail Snailfish, 102
- Foureye Rockskipper, 155
- Fourhorn
 Poacher, 97
 Sculpin, 90
- Fourline Snakeblenny, 147
- Fourspot Flounder, 173
- Freckled
 Moray, 17
 Porcupinefish, 181
 Rockfish, 77
- Freshwater Grunt, 125
- Frigate
 Mackerel, 167
 Tuna, 167
- Frill
 Shark, 2
 Sharks, 2
- Fringed
 Flounder, 172
 Sand Stargazer, 152
 Sculpin, 88
 Stargazer, 152
- Fringe Sole, 177
- Frogfishes, 58
- Frogmouth Sculpin, 88
- Frog Sculpin, 90
- Fundulidae, 67
Fundulus parvipinnis, 67
- G**
- Gabilan, 15
- Gadidae, 56
- Gadiformes, 53
- Gadus macrocephalus*, 57
Gadus ogac, 57
- Gafftopsail Pompano, 119
- Galapagos Shark, 7
- Galeocerdo cuvier*, 8
- Galeorhinus*
galeus, 6
zyopterus, 6
- Garden Eels, 21
- Garibaldi, 134
- Garnet Lampfish, 47
- Gasterosteidae, 71
- Gasterosteiformes, 71
- Gasterosteus aculeatus*, 71
- Gecko Goby, 161
- Gelatinous Seasnail, 104
- Gempylidae, 165
- Gempylus serpens*, 165
- Genyonemus lineatus*, 127
- Gerreidae, 122
- Gerres cinereus*, 123
- Ghostly Eelpout, 145
- Ghostly Grenadier, 54
- Giant
 Blobsculpin, 95
 Cusk-eel, 51
 Damsel fish, 135
 Electric Ray, 10
 Grenadier, 53
 Hawkfish, 132
 Jawfish, 113
 Kelpfish, 156
 Lampfish, 46
 Manta, 15
 Marbled Sculpin, 92
 Sand Stargazer, 152

Index

Giant (*continued*)

- Sea Bass, 109
- Stargazer, 152
- Wrymouth, 149

Gibbonsia

- elegans*, 156
- erythra*, 156
- evides*, 156
- metzi*, 156
- montereyensis*, 156

Gigantactinidae, 62

Gigantactis

- gargantua*, 62
- macronema*, 62
- microdontis*, 62
- savagei*, 62
- vanhoeffeni*, 62

Gigantura indica, 42

Giganturidae, 42

Gilbertidia sigalutes, 95

Gilbert's Conger, 21

Gillellus

- arenicola*, 153
- ornatus*, 153
- semicinctus*, 153

Gillias, 152

Gillichthys mirabilis, 162

Gill's Fringed Sculpin, 91

Ginglymostomatidae, 4

Ginglymostoma cirratum, 4

Girella nigricans, 131

Glacier Lanternfish, 43

Glasseye, 113

Glasseye Snapper, 113

Glowingfish, 43

Glyptocephalus

- stelleri*, 174
- zachirus*, 174

Gnathanodon speciosus, 117

Gnathopis cinctus, 22

Goatfishes, 129

Gobies, 160

Gobiesocidae, 159

Gobiesox

- ajustus*, 159
- eugrammus*, 159
- maeandricus*, 159

Gobiesox (*continued*)

- papillifer*, 159
- pinniger*, 159
- rhesodon*, 159

Gobiidae, 160

Gobiomorus

- maculatus*, 160
- nudum*, 162

Gobiosoma sp., 162

Goblin Shark, 4

Gobulus crescentalis, 162

Gods Flounder, 172

Goldeneye Grunt, 124

Golden

- Cownose Ray, 15
- Croaker, 128
- Drum, 129
- Ray, 15
- Trevally, 117
- Wrasse, 136

Goldrim Surgeonfish, 164

Goldspotted Sand Bass, 112

Goliath Grouper, 111

Gonichthys tenuiculus, 44

Gonorynchiformes, 27

Gonostomatidae, 35

Gonostoma

- atlanticum*, 36
- ebelingi*, 36
- elongatum*, 36

Goosefishes, 58

Gopher Rockfish, 75

Gorgasia punctata, 22

Gorgeous Goby, 162

Gorgonian Tonguefish, 178

Graceful Mojarra, 122

Grammonus diagrammus, 52

Grass Rockfish, 79

Graveldiver, 150

Graveldivers, 150

Graybar Grunt, 124

Gray

- Cod, 57
- Rattail, 53
- Rockfish, 77
- Smoothhound, 7
- Snailfish, 101
- Starsnout, 96

- Greater Sand Perch, 110
 Great Sculpin, 90
 Greenblotched Rockfish, 79
 Greenland
 Cod, 57
 Halibut, 177
 Seasnail, 106
 Greenlings, 82
 Greenspotted Rockfish, 75
 Greenstriped Rockfish, 76
 Green
 Blenny, 154
 Jack, 116
 Sturgeon, 15
 Wrasse, 137
 Grenadiers, 53
 Grey
 Grunt, 124
 Mullet, 62
 Grunion, 33
 Grunts, 123
 Grunt Sculpin, 83
 Guadalupe
 Blenny, 156
 Cardinalfish, 114
 Clingfish, 159
 Hagfish, 1
 Pipefish, 72
 Rockfish, 78
 Guineafowl
 Puffer, 180
 Pufferfish, 180
 Guitarfishes, 10
 Gulf
 Brotula, 52
 Coney, 111
 Croaker, 128
 Cusk-eel, 52
 Grouper, 111
 Sanddab, 171
 Sand Perch, 110
 Signal Blenny, 157
 Worm Blenny, 157
 Gulf of California Slender Anchovy, 24
 Gulpers, 23
 Gunnels, 149
Gymneleotris seminudus, 162
Gymnelus
 bilabrus, 140
 hemifasciatus, 140
Gymnelus popovi, 140
Gymnocanthus
 detrisus, 86
 pistilliger, 87
 tricuspis, 87
Gymnoclinus cristulatus, 147
Gymnomuraena zebra, 17
Gymnothorax
 castaneus, 18
 equatorialis, 18
 mordax, 18
 panamensis, 18
 phalarus, 18
 verrilli, 18
Gymnura marmorata, 14
 Gymnuridae, 14
Gyrinichthys minytremus, 104
Gyrinomimus sp., 69
H
 Haemulidae, 123
Haemulon
 flaviguttatum, 123
 maculicauda, 123
 scudderi, 124
 sexfasciatum, 124
 steindachneri, 124
Haemulopsis
 axillaris, 124
 elongatus, 124
 euciscus, 124
 nitidus, 124
 Hagfishes, 1
 Hairfin Lookdown, 118
 Hairhead Sculpin, 92
 Hairyfish, 69
Halargyreus johnsonii, 55
 Halfbanded
 Rockfish, 80
 Stargazer, 153
 Halfbarred Pout, 140
 Halfbeaks, 66
 Halfblind Goby, 162
 Halfmoon, 131

Index

- Halfspotted Tonguefish, 178
Halfstriped Tonguefish, 178
Halftooth Parrotfish, 137
Halichoeres
 adustus, 135
 chierchiae, 136
 dispilus, 136
 melanotis, 136
 nicholsi, 136
 notospilus, 136
 semicinctus, 136
Halosauridae, 16
Halosaurs, 16
Hamecon, 84
Hammerhead Sharks, 9
Hardhead Snailfish, 106
Hardtail
 Conger, 22
 Moray, 17
Harengula thrissina, 26
Harlequin Rockfish, 80
Harriotta raleighana, 2
Hatchetfishes, 36
Hawaiian Bigeye, 113
Hawkfishes, 131
Hemanthias
 peruanus, 111
 signifer, 111
Hemicaranx
 leucurus, 117
 zelotes, 118
Hemilepidotus
 gilberti, 87
 hemilepidotus, 87
 jordani, 87
 papilio, 87
 spinosus, 87
 zapus, 87
Hemiramphidae, 66
Hemiramphus saltator, 66
Hemitripteridae, 94
Hemitripterus
 bolini, 94
 villosus, 94
Hermosilla azurea, 131
Herpetoichthys fossatus, 20
Herrings, 26
Heteristius cinctus, 153
Heteroconger
 canabus, 22
 digueti, 22
 pellegrini, 22
Heterodontidae, 4
Heterodontiformes, 4
Heterodontus
 francisci, 4
 mexicanus, 4
Heteropriacanthus cruentatus, 113
Heterostichus rostratus, 156
Hexagrammidae, 82
Hexagrammos
 decagrammus, 82
 lagocephalus, 82
 octogrammus, 82
 stelleri, 82
 superciliosus, 82
Hexanchidae, 2
Hexanchiformes, 2
Hexanchus griseus, 2
Hexanematichthys, 27
Hieroglyphic Hawkfish, 132
Hierops
 crockeri, 46
 thompsoni, 47
Highbrow Sculpin, 93
Highfin
 Corvina, 128
 Dragonfish, 38
 Grunt, 125
 Kingfish, 127
 King Croaker, 127
 Sand Perch, 110
Highlight Hatchetfish, 37
Highseas Lightfish, 37
Highsnout
 Bigscale, 67
 Ridgehead, 67
High Cockscomb, 146
Himantolophidae, 61
Himantolophus
 groenlandicus, 61
 nigricornis, 61
 sagamius, 61
Hippocampus ingens, 71

- Hippoglossina*
bollmani, 173
stomata, 173
tetrophthalma, 173
- Hippoglossoides*
elassodon, 174
robustus, 175
- Hippoglossus stenolepis*, 175
- Hippopotamus Eelpout, 140
- Hirundichthys*
marginatus, 65
rondeleti, 65
speculiger, 65
- Histiobranchus bathybius*, 19
- Holacanthus*
clarionensis, 130
passer, 130
- Holcomycteronus profundissimus*, 50
- Hollow Stardrum, 129
- Holocentridae, 70
- Holtbyrnia*
innesi, 31
latifrons, 31
- Honeycomb Rockfish, 80
- Hookhorn Sculpin, 84
- Hookthroat Bass, 111
- Hoplopagrus guentherii*, 121
- Hornyhead Turbot, 177
- Horn Shark, 4
- Hospe Mullet, 63
- Houndfish, 64
- Hound
 Needlefish, 64
 Sharks, 6
- Hourglass Moray, 18
- Howella*
brodiei, 109
brodiei atlantica, 109
sherborni, 109
- Humpback
 Grunt, 124, 125
 Salmon, 34
 Snailfish, 104
 Whitefish, 34
- Hundred-fathom Codling, 55
- Hydrolagus colliei*, 2
Hydrolagus sp., 2
- Hygophum*
atratum, 44
proximum, 44
reinhardti, 44
- Hyperprosopon*
anale, 133
argenteum, 133
ellipticum, 133
- Hypomesus*
nipponensis, 32
olidus, 32
pretiosus, 32
transpacificus, 32
transpacificus nipponensis, 32
- Hyporhamphus*
gilli, 66
naos, 66
rosae, 66
snyderi, 66
- Hypsagonus quadricornis*, 97
- Hypsoblennius*
brevipinnis, 158
gentilis, 158
gilberti, 158
jenkinsi, 158
- Hypsopsetta guttulata*, 177
- Hypsurus caryi*, 133
- Hypsypops rubicundus*, 134
- I**
- Icelinus*
borealis, 88
burchami, 88
cavifrons, 88
filamentosus, 88
fimbriatus, 88
limbaughi, 88
oculatus, 88
quadriseriatus, 88
tenuis, 88
- Icelus*
bicornis, 88
canaliculatus, 88
eurypops, 89
spatula, 89
spiniger, 89
uncinalis, 89

Index

Ichthyapus selachops, 20

Ichthyococcus

elongatus, 37

irregularis, 37

Icichthys lockingtoni, 169

Icosteidae, 158

Icosteus aenigmaticus, 158

Idiacanthus

antrostromus, 38

fasciola, 38

Iguana Lizardfish, 41

Iniistius pavo, 136

Inkspot Tonguefish, 178

Inland Silverside, 63

Inshore Sand Perch, 110

Intermediate Scabbardfish, 166

Isistius brasiliensis, 3

Island

Kelpfish, 154

Trevally, 116

Wrasse, 137

Isopisthus remifer, 127

Isopsetta isolepis, 175

Istiophoridae, 169

Istiophorus platypterus, 169

Isurus

oxyrinchus, 6

paucus, 6

J

Jack Mackerel, 119

Jacksmelt, 63

Japanese

Anchovy, 25

Eelpout, 143

Javelin Spookfish, 30

Jawfishes, 113

Jewel Moray, 18

Jewfish, 111

Johnrandallia nigrirrostris, 130

Jordania zonope, 89

K

Kali

indica, 153

macrodon, 153

macrura, 154

normani, 154

Kamchatka

Eelpout, 140

Flounder, 174

Kasatkia seigeli, 147

Kathetostoma averruncus, 151

Katsuwonus pelamis, 167

Kawakawa, 167

Kazunokos False Moray, 17

Keeled Eelpout, 141

Keeltail Needlefish, 64

Kelp

Bass, 112

Blennies, 156

Clingfish, 159

Greenling, 82

Gunnel, 149

Perch, 132

Pipefish, 72

Poacher, 96

Rockfish, 74

Sculpin, 92

Snailfish, 106

Surfperch, 132

King-of-the-Salmon, 49

King

Angelfish, 130

Salmon, 34

Kitefin Sharks, 3

Knobchin Goby, 162

Korean Flounder, 174

Kuhlia mugil, 131

Kuhliidae, 131

Kyphosidae, 131

Kyphosus

analogus, 131

elegans, 131

L

Labridae, 135

Labrisomidae, 154

Labrisomus

multiporosus, 154

striatus, 154

wigginsi, 154

xanti, 154

Lactoria diaphana, 180

Ladlepole Dreamer, 60

- Laemonema*
 longipes, 55
 verecundum, 55
Lagocephalus lagocephalus, 180
Lamna ditropis, 6
Lamnidae, 5
Lamniformes, 4
Lampadena urophaos, 44
Lampanyctus
 acanthurus, 45
 idostigma, 46
 jordani, 45
 nobilis, 45
 parvicauda, 45
 ritteri, 46
 steinbecki, 45
 tenuiformis, 45
Lampedena yaquinae, 44
Lampetra
 ayresii, 1
 camtschatica, 1
 tridentata, 1
Lampreys, 1
Lamprididae, 48
Lampridiformes, 48
Lampris
 immaculatus, 48
 regius, 48
Lamprogrammus niger, 50
Lancetail Goby, 161
Lancetfishes, 42
Lance Lizardfish, 40
Lanternbellies, 109
Lanternfishes, 43
Lanternjaw Tubeshoulder, 31
Lantern Sharks, 3
Large-banded Fanged Blenny, 158
Large-eye
 Croaker, 126
 Dragonfish, 39
Largehead Moray, 19
Largemouth Blenny, 154
Largeplate Sculpin, 92
Larimus
 acclivis, 127
 argenteus, 127
 effulgens, 127
 pacificus, 127
 Latin Grunt, 124
 Lavender Sculpin, 89
 Leaflike Eel, 17
 Least Cisco, 34
 Leatherfin Lumpsucker, 100
 Leatherjacket, 118
 Leather Bass, 110
 Lefteye Flounders, 171
 Leiocottus hirundo, 89
 Leister Sculpin, 86
Lemon
 Shark, 8
 Sole, 176
Leopard
 Cusk-eel, 51
 Grouper, 111
 Shark, 7
Lepidion schmidti, 55
Lepidocybium flavobrunneum, 165
Lepidogobius lepidus, 162
Lepidophanes indicus, 43
Lepidopsetta
 bilineata, 175
 polyxystra, 175
Lepidopus
 fitchi, 166
 xantusi, 166
Lepophidium
 microlepis, 50
 negropinna, 51
 pardale, 51
 prorates, 51
 stigmatistium, 51
Leptagonus decagonus, 97
Leptochilichthyidae, 31
Leptochilichthyids, 31
Leptochilichthys agassizi, 31
Leptoclinus maculatus, 147
Leptocottus armatus, 89
Leptophidium prorates, 51
Lesser Prickleback, 145
Lestidiops
 jayakari, 41
 neles, 41
 pacificus, 41
 ringens, 41
 sphyraenopsis, 41

Index

Lestidium

- johnfitchi*, 41
- nudum*, 41
- pacificum*, 41

Letharchus rosenblatti, 20

Lethops connectens, 162

Lethotremus muticus, 101

Leuresthes tenuis, 63

Leuroglossus

- schmidti*, 29
- stilbius*, 29

Lightcheek Eelpout, 143

Lightfishes, 37

Lile

- nigrofasciata*, 26
- stolifera*, 26

Limanda

- aspera*, 175
- proboscidea*, 175
- sakhalinensis*, 175

Limbaugh's Damsel, 134

Lindberg's Lump, 99

Lined

- Clingfish, 159
- Cutlassfish, 165

Lingcod, 83

Linophryne

- coronata*, 59
- racemifera*, 59

Linophrynidae, 59

Liopropoma fasciatum, 111

Liparidae, 101

Lipariscus nanus, 106

Liparis

- adiastolus*, 104
- beringianum*, 105
- bristolensis*, 104
- callyodon*, 104
- catharus*, 104
- cyclopus*, 104
- dennyi*, 104
- fabricii*, 104
- florae*, 104
- fucensis*, 105
- gibbus*, 105
- greeni*, 105
- marmoratus*, 105
- megacephalus*, 105

Liparis (continued)

- micraspidophorus*, 105
- mucosus*, 105
- ochotensis*, 105
- osborni*, 102
- pulchellus*, 105
- rutteri*, 106
- tunicatus*, 106

Liparis sp., 106

Lipolagus ochotensis, 29

Liseta Mullet, 63

Little Bigscale, 68

Livebearers, 67

Livebearing Brotulas, 52

Lizardfishes, 40

Lizard Triplefin, 152

Lobefin Snailfish, 105

Lobianchia gemellari, 45

Lobotes pacificus, 122

Lobotidae, 122

Lollipop Cat Shark, 6

Long-finned Wrasse, 137

Longear Eelpout, 144

Longfinned Bigeye, 113

Longfin

- Bigscale, 67
- Cigarfish, 170
- Codling, 55
- Croaker, 129
- Dragonfish, 39
- Drum, 129
- Gunnel, 149
- Grenadier, 54
- Halfbeak, 66
- Herrings, 25
- Irish Lord, 87
- Lampfish, 45
- Lanternfish, 44
- Mako, 6
- Moss Blenny, 146
- Pearleye, 40
- Prickleback, 146
- Salema, 125
- Sanddab, 172
- Sculpin, 89
- Silverside, 63
- Smelt, 33
- Sole, 174

- Longhead
 Dab, 175
 Moray, 19
 Longhorn
 Dreamer, 60
 Fangtooth, 69
 Longjaw
 Bigscale, 68
 Blenny, 155
 Leatherjack, 118
 Mudsucker, 162
 Longnape Eelpout, 141
 Longneck Eels, 21
 Longnosed Snipefish, 72
 Longnose
 Anchovy, 25
 Butterflyfish, 130
 Cat Shark, 6
 Chimaera, 2
 Chimaeras, 2
 Eagle Ray, 14
 Hawkfish, 132
 Lancetfish, 42
 Poacher, 98
 Porcupinefish, 181
 Puffer, 180
 Skate, 12
 Snailfish, 108
 Swallower, 154
 Tapirfish, 16
 Witch Eel, 23
 Whipnose, 62
 Longsnout Prickleback, 147
 Longspined Balloonfish, 181
 Longspine
 Combfish, 83
 Croaker, 129
 Drum, 129
 Grunt, 125
 Hatchetfish, 36
 Snipefish, 72
 Thornyhead, 81
 Longtail
 Goby, 161
 Stingray, 13
 Looseskin Eelpout, 141
 Loosetooth Parrotfish, 137
 Lophiidae, 58
 Lophiiformes, 58
Lophiodes
 caulinaris, 58
 spilurus, 58
Lophiomus setigerus, 58
Lopholiparis flerxi, 106
 Lophotidae, 48
Lophotus capellei, 48
 Louvar, 164
 Lowcrest Hatchetfish, 36
Loweina
 laurae, 45
 rara, 45
 Lowlights Headlightfish, 44
Lucania parva, 67
 Luca's Barracuda, 165
 Luminous Swallower, 154
Lumpenella
 longirostris, 147
 nigricans, 147
Lumpenopsis
 clitella, 147
 hypochroma, 147
Lumpenus
 fabricii, 148
 sagitta, 145, 148
 Lumpfishes, 99
 Lumpsuckers, 99
 Lumptail Searobin, 82
 Lutjanidae, 121
Lutjanus
 aratus, 121
 argentiventris, 121
 colorado, 121
 guttatus, 121
 jordani, 121
 novemfasciatus, 121
 peru, 121
 viridis, 121
 Luvaridae, 164
Luvarus imperialis, 164
Lycenchelys
 alta, 140
 birsteini, 141
 callista, 140
 camchatica, 140
 crotalinus, 140
 hippopotamus, 140

Index

Lycenchelys (continued)

jordani, 140
longirostris, 141
micropora, 141
monstrosa, 141
pearcyi, 141
plicifera, 141
rassi, 141
ratmanovi, 141
rosea, 141
volki, 141

Lycodapus

dermatinus, 141
endemoscotus, 141
fierasfer, 142
grossidens, 142
leptus, 142
mandibularis, 142
pachysoma, 142
parviceps, 142
poecilus, 142
psarostomatus, 142

Lycodes

brevipes, 142
brunneofasciatus, 142
concolor, 142
cortezianus, 143
diapterus, 143
eudipleurostictus, 143
japonicus, 143
jugoricus, 143
mucosus, 143
pacificus, 143
palearis, 143
polaris, 143
raridens, 144
reticulatus, 144
rossi, 144
sagittarius, 144
seminudus, 144
soldatovi, 144
squamiventer, 144
turneri, 144

Lycogramma zesta, 139

Lyconectes aleutensis, 148

Lyconema barbatum, 144

Lyopsetta exilis, 174, 176

Lythrypnus

crinitus, 162
dalli, 162
pulchellus, 162
zebra, 162

M

Machete, 16

Mackerel

Scad, 117

Sharks, 5

Tuna, 167

Macropinna microstoma, 30

Macroramphosus

gracilis, 72

scolopax, 72

Macrorhamphosidae, 72

Macrouridae, 53

Macrurus, 53, 54

Magdalena Blenny, 155

Magnisudis

atlantica, 41

barysoma, 41

Makaira

indica, 169

nigricans, 169

Malacanthidae, 114

Malacocephalus laevis, 54

Malacocottus

aleuticus, 95

kincaidi, 95

zonurus, 95

Malacoctenus

ebisui, 155

hubbsi, 155

margaritae, 155

tetranemus, 155

zaca, 155

Malacosteus

danae, 38

niger, 38

Mallotus

catervarius, 33

villosus, 33

Man-of-War Fish, 170

Manacled Sculpin, 92

Manefishes, 120

- Manta birostris*, 15
 Many-spotted
 Hamlet, 109
 Moray, 19
 Manypore Eelpout, 141
 Manytoothed Eelpout, 141
 Marbled
 Eelpout, 144
 Snailfish, 104
 Margarita Blenny, 155
 Marlinsucker, 115
 Masked
 Greenling, 82
 Moray, 18
 Prickleback, 147
 Matcheck Warbonnet, 146
Maulisia
 acuticeps, 32
 argipalla, 32
Maynea californica, 140
 Mazatlan Sole, 177
Medialuna californiensis, 131
 Mediterranean Flyingfish, 64
 Medusafish, 169
Megachasma pelagios, 5
 Megachasmidae, 5
Megalocottus platycephalus, 89
 Megamouth Shark, 5
Melamphaes
 acanthomus, 67
 indicus, 67
 laeviceps, 67
 longivelis, 67
 lugubris, 67
 macrocephalus, 68
 parvus, 68
 rugosus, 68
 simus, 68
 spinifer, 68
 suborbitalis, 68
 Melamphidae, 67
 Melanocetidae, 59
Melanocetus
 johnsonii, 59
 pelagicus, 59
Melanolagus bercooides, 29
 Melanonidae, 55
Melanonus zugmayeri, 55
Melanostigma pammelas, 144
Melanostomias
 biseriatus, 38
 valdiviae, 39
Melichthys niger, 179
Melletes papilio, 87
Menidia beryllina, 63
Menticirrhus
 elongatus, 127
 nasus, 127
 panamensis, 127
 undulatus, 128
Mentodus eubranchus, 32
 Merlucciidae, 56
 Merlucciid Hakes, 56
Merluccius
 angustimanus, 56
 productus, 56
Mesobius berryi, 54
 Mexican
 Barnacle Blenny, 156
 Barracuda, 165
 Barred Snapper, 121
 Bearded Goby, 161
 Cusk-eel, 51
 Hogfish, 135
 Horn Shark, 4
 Lampfish, 48
 Lookdown, 118
 Moonfish, 118
 Needlefish, 64
 Night Sergeant, 134
 Rockfish, 77
 Sand Perch, 110
 Scad, 117
Microcottus sellaris, 89
 Microdesmidae, 163
Microdesmus dorsipunctatus, 163
 Microdisk Snailfish, 103
Microgadus proximus, 57
Microgobius
 brevispinis, 163
 cyclolepis, 163
 erectus, 163
 tabogensis, 163
Microlepidotus
 brevipinnis, 124
 inornatus, 124

Index

- Microlophichthys microlophus*, 60
Micrometrus
 aurora, 133
 minimus, 133
Micropogonias
 altipinnis, 128
 ectenes, 128
 megalops, 128
Microspathodon
 bairdii, 134
 dorsalis, 135
Microstomatidae, 28
Microstoma microstoma, 28
Microstoma sp., 28
Microstomus pacificus, 176
Middling Thread Herring, 27
Midwater
 Eelpout, 144
 Grenadier, 54
Milkfish, 27
Mimetic Midshipman, 57
Mime Garden Eel, 22
Mimic
 Cusk-eel, 51
 Midshipman, 57
 Sanddab, 172
Minigill Snailfish, 104
Minute Moray, 17
Mirapinnidae, 69
Mirrorictus tanningi, 31
Mirrorwing Flyingfish, 65
Mirror Dory, 70
Mitsukurina owstoni, 4
Mitsukurinidae, 4
Mnierpes macrocephalus, 155
Mobula
 japanica, 15
 tarapacana, 15
 thurstoni, 15
Mobulidae, 15
Mojarras, 122
Mojarra Grunt, 124
Mola, 181
Mola mola, 181
Molidae, 181
Monacanthidae, 179
Monkeyface Prickleback, 146
Monkfishes, 58
Monoceratias, 60
Monognathidae, 24
Monognathids, 24
Monognathus
 ahlstromi, 24
 rosenblatti, 24
Monognathus sp., 24
Monolene
 asaedai, 171
 dubiosa, 171
Monster Snailfish, 103
Moonfish, 48
Moonstruck Stargazer, 152
Moorish Idol, 164
Moras, 55
Morays, 17
Morone saxatilis, 109
Moronidae, 109
Mosshead
 Sculpin, 86
 Warbonnet, 146
Mottled Soapfish, 112
Mountain Mullet, 62
Muddab, 175
Mud
 Shark, 2, 3
 Skate, 12
Mugilidae, 62
Mugiliformes, 62
Mugil
 cephalus, 62
 curema, 62
 hospes, 63
 setosus, 63
Mullet, 62
Mullet Snapper, 121
Mullidae, 129
Mulloidichthys
 dentatus, 129
 vanicolensis, 129
Muraena
 argus, 18
 clepsydra, 18
 lentiginosa, 18
Muraenesocidae, 21
Muraenidae, 17
Mussel Blenny, 158
Mustachioed Snake, 20

- Mustelus*
californicus, 7
dorsalis, 7
henlei, 7
lunulatus, 7
Mycteroperca
jordani, 111
rosacea, 111
xenarcha, 112
 Myctophidae, 43
 Myctophiformes, 43
Myctophum
aurolaternatum, 45
longipes, 43
nitidulum, 45
oculeum, 47
 Myliobatidae, 14
 Myliobatiformes, 13
Myliobatis
californica, 14
longirostris, 14
Mylocheilus caurinus, 27
Myoxocephalus
jaok, 89
niger, 90
polyacanthocephalus, 90
quadricornis, 90
scorpioides, 90
scorpius, 90
stelleri, 90
Myrichthys tiginus, 20
Myripristis
berndti, 70
leiognathus, 70
Myrophis vafer, 20
Myxine
circifrons, 1
hubbsi, 1
 Myxinidae, 1
 Myxiniformes, 1
Myxodagnus opercularis, 153
Myzopsetta, 175
- N**
- Nakedbelly Searobin, 81
 Nakednape Eelpout, 145
 Naked Puffer, 180
Nalbantichthys elongatus, 144
Nannobranchium
bristori, 45
fernae, 45
hawaiiensis, 46
idostigma, 46
nigrum, 46
regale, 46
ritteri, 46
Nansenia
ahlstromi, 28
candida, 28
crassa, 28
sanrikuensis, 28
 Naos Halfbeak, 66
Narcetes stomias, 31
Narcine entemedor, 10
 Narcinidae, 9
 Narrowtooth Shark, 7
Nasolamia velox, 8
Naucrates ductor, 118
Nautichthys
oculofasciatus, 94
pribilovius, 94
robustus, 94
Nealotus tripes, 165
 Neck Eel, 21
Nectoliparis pelagicus, 106
 Needle-tooth Moray, 19
 Needlefishes, 63
 Needletail Conger, 22
 Needletooth Swallower, 154
Negaprion brevirostris, 8
 Nematistiidae, 114
Nematistius pectoralis, 114
 Nemichthyidae, 21
Nemichthys
larseni, 21
scolopaceus, 21
Neoclinus
blanchardi, 157
stephensae, 157
uninotatus, 157
Neonesthes capensis, 39
Neoopisthopterus tropicus, 25
 Neoscopelidae, 43
Neoscopelus macrolepidotus, 43

Index

- Netdevils, 59
Netdevil Anglerfish, 59
Nettastomatidae, 23
Network
 Sole, 177
 Triplefin, 152
New World Silversides, 63
Nezumia
 kensmithi, 54
 liolepis, 54
 stelgidolepis, 54
Nicholsina denticulata, 137
Night Smelt, 33
Ninespine Stickleback, 71
Nocturnal Pearlfish, 49
Nomeidae, 170
Nomeus gronovii, 170
Northern Anchovy, 25
Northern
 Atka Mackerel, 83
 Blue Lanternfish, 48
 Clingfish, 159
 Flashlightfish, 46
 Giant Seadevil, 61
 Gray Hakeling, 55
 Gulf Anchovy, 25
 Hookear Sculpin, 84
 Lampfish, 47
 Lanternfish, 46
 Pearleye, 39
 Rockfish, 79
 Rock Sole, 175
 Ronquil, 139
 Sculpin, 88
 Seadevil, 61
 Smoothtongue, 29
 Spearnose Poacher, 96
 Wolffish, 150
North Pacific
 Armorhead, 130
 Crestfish, 48
 Daggertooth, 42
 Frostfish, 166
Notacanthidae, 16
Notacanthus chemnitzii, 16
Notarius, 27
Notchfin Blenny, 158
Notchtail Stargazer, 152
Notolepis
 coruscans, 41
 risso, 41
Notolychnus
 valdiviae, 46
 cepedianus, 2
Notoscopelus
 japonicus, 46
 resplendens, 46
Notosudidae, 42
Notosudis adleri, 42
Novaculichthys taeniourus, 136
Numbfishes, 9
Nurse Shark, 4
Nutcracker Prickleback, 146
- ## O
- Oarfish, 49
Occella
 dodecaedron, 97
 impi, 98
Oceanic
 Lightfish, 37
 Puffer, 180
 Whitetip Shark, 8
 Sunfish, 181
 Whitefish, 114
Ocellated
 Electric Ray, 9
 Turbot, 177
Odontaspidae, 5
Odontaspis ferox, 5
Odontoliparis ferox, 106
Odontopyxis trispinosa, 97
Odontoscion xanthops, 128
Ogac, 57
Ogcocephalidae, 59
Ogilbia spp., 52
Ogilbia ventralis, 52
Oilfish, 165
Okhotsk
 Hookear Sculpin, 84
 Skate, 12
 Snailfish, 105
Oligocottus
 maculosus, 90

- Oligocottus (continued)*
rimensis, 90
rubellio, 90
snyderi, 90
Oligoplites
altus, 118
refulgens, 118
saurus, 118
Oligopus diagrammus, 52
 Olive Rockfish, 80
Oncorhynchus
clarkii, 34
gorbuscha, 34
keta, 34
kisutch, 34
mykiss, 34
nerka, 34
tshawytscha, 34
Oneirodes
acanthias, 60
basilii, 60
bulbosus, 60
eschrichtii, 61
thompsoni, 61
 Oneirodidae, 60
 Onejaws, 24
 Onespots Fringehead, 157
Opaeophacus acrogeneius, 145
 Opah, 48
 Opaleye, 131
 Ophichthidae, 19
Ophichthus
triserialis, 20
zophochir, 20
 Ophidiidae, 50
 Ophidiiformes, 49
Ophidion
galeoides, 51
imitator, 51
iris, 51
scrippsae, 51
Ophioblennius steindachneri, 158
Ophiodon elongatus, 83
Ophioscion vermicularis, 128
Opisthonema
libertate, 26
medirastre, 27
 Opisthoproctidae, 30
Opisthoproctus soleatus, 30
Opisthoproctus dovii, 25
 Opistognathidae, 113
Opistognathus
punctatus, 113
rhomaleus, 113
rosenblatti, 113
Opostomias mitsuii, 39
 Orange-spotted Sand Perch, 110
 Orangemouth
 Corvina, 127
 Weakfish, 127
 Orangeside Triggerfish, 179
 Orangespot Goby, 161
 Orangethroat Pikeblenny, 156
 Orectolobiformes, 4
 Oregon Snailfish, 102
 Oreos, 70
 Oreosomatidae, 70
 Ornamental Flyingfish, 65
 Ornate
 Sand-Stargazer, 153
 Stargazer, 153
Orthonopias triacis, 91
Orthopristis
brevispinnis, 124
cantharinus, 124
chalceus, 125
reddingi, 125
 Osmeridae, 32
Osmerus mordax, 33
Osteodiscus cascadiae, 106
 Ostraciidae, 180
Ostracion meleagris, 180
Otophidium indefatigabile, 51
 Oval
 Chromis, 134
 Damselfish, 134
 Flounder, 173
 Oxeye Oreo, 70
Oxycirrhites typus, 132
Oxyjulis californica, 136
Oxylebius pictus, 83
Oxyporhamphus micropterus, 66

Index

P

Pachycara

- bulbiceps*, 145
- gymninium*, 145
- lepinium*, 145

Pachystomias microdon, 39

Pacific

- Agujon, 64
- Amberjack, 119
- Anglerfish, 58
- Argentine, 28
- Barracuda, 164
- Bearded Brotula, 50
- Blackchin, 43
- Blackdragon, 38
- Blacksmelt, 29
- Black Dogfish, 3
- Black Halibut, 177
- Bluefin Tuna, 168
- Bonito, 167
- Boxfish, 180
- Brook Char, 35
- Bumper, 117
- Butterfish, 170
- Chub Mackerel, 168
- Cod, 57
- Cornetfish, 72
- Cownose Ray, 15
- Creolefish, 112
- Crevalle Jack, 116
- Cutlassfish, 166
- Dog Snapper, 121
- Drum, 127
- Electric Ray, 10
- Eyed Flounder, 171
- Fanfish, 120
- Fat Sleeper, 160
- Flagfin Moharra, 122
- Flatnose, 55
- Flyingfish, 65
- Footballfish, 61
- Golden-eyed Tilefish, 114
- Goosefish, 58
- Graysby, 110
- Grenadier, 53
- Guaseta, 109
- Hagfish, 1

Pacific (*continued*)

- Hake, 56
- Halibut, 175
- Hamlet, 109
- Herring, 26
- Hookear Sculpin, 84
- Kingcroaker, 127
- Ladyfish, 16
- Lamprey, 1
- Leopard Flounder, 171
- Lined Sole, 177
- Longfin Herring, 25
- Longnose Chimaera, 2
- Lookdown, 118
- Mackerel, 168
- Moonfish, 118
- Mutton Hamlet, 109
- Ocean Perch, 74
- Permit, 119
- Piquitinga, 26
- Pollock, 57
- Pomfret, 120
- Pompano, 170
- Razorfish, 136
- Red Snapper, 121
- Reef Bass, 112
- Sailfin Eel, 20
- Sanddab, 172
- Sandfish, 151
- Sand Lance, 151
- Sand Perch, 110
- Sardine, 27
- Saury, 64
- Scabbardfish, 166
- Seahorse, 71
- Sharpnose Shark, 9
- Sierra, 168
- Silverside Halfbeak, 66
- Silverstripe Halfbeak, 66
- Sleeper, 160
- Sleeper Shark, 3
- Snake Eel, 20
- Softpout, 144
- Spadefish, 164
- Spiny Lumpsucker, 100
- Spotfin Mojarra, 122
- Spotted Scorpionfish, 73
- Staghorn Sculpin, 89

- Pacific (*continued*)
- Stargazer, 151
 - Telescopefish, 42
 - Thread Herring, 26
 - Tomcod, 57
 - Torpedo Ray, 10
 - Tripletail, 122
 - Trumpetfish, 72
 - Viperfish, 38
 - White Skate, 12
 - Worm Eel, 20
- Padded Sculpin, 85
- Paddled Sculpin, 84
- Painted Greenling, 83
- Palenose Moray, 17
- Pale
- Eelpout, 141
 - Garden Eel, 22
 - Green Garden Eel, 22
 - Snipe Eel, 21
- Pallasina*
- aix*, 97
 - barbata*, 97
- Pallid
- Eelpout, 142
 - Snailfish, 108
- Paloma Pompano, 119
- Panama
- Graysby, 110
 - Green Moray, 18
 - Hake, 56
 - Kingcroaker, 127
 - Kingfish, 127
 - Lightfish, 37
 - Snaggletooth, 38
- Panamic
- Clingfish, 159
 - Cusk-eel, 51
 - Fanged Blenny, 158
 - Flashlightfish, 70
 - Flounder, 172
 - Flyingfish, 66
 - Frillfin, 161
 - Grunt, 125
 - Moray, 18
 - Porkfish, 123
 - Sand Lance, 151
 - Sergeant Major, 134
- Panamic (*continued*)
- Soldierfish, 70
 - Stargazer, 152
 - Stingray, 14
- Panther Goby, 161
- Paperbones, 42
- Paperbone Cusk-eel, 50
- Paperjaw, 31
- Paper Sole, 174
- Papillose Lump sucker, 100
- Paraclinus*
- beebei*, 155
 - integripinnis*, 155
 - magdalenae*, 155
 - sini*, 155
 - stephensi*, 155
 - tanygnathus*, 155
 - walkeri*, 155
- Paraconger*
- californiensis*, 22
 - similis*, 22
- Paralabrax*
- auroguttatus*, 112
 - clathratus*, 112
 - maculatofasciatus*, 112
 - nebulifer*, 112
- Paralepididae, 41
- Paralepis atlantica*, 41
- Paraetharchus pacificus*, 20
- Paralichthyidae, 171
- Paralichthys*
- aestuarius*, 173
 - californicus*, 173
 - woolmani*, 173
- Paraliparis*
- albescens*, 106
 - cephalus*, 106
 - dactylosus*, 107
 - deani*, 107
 - holomelas*, 107
 - latifrons*, 107
 - megalopus*, 107
 - melanobranchus*, 107
 - nassarum*, 107
 - paucidens*, 107
 - pectoralis*, 107
 - rosaceus*, 107
 - ulochir*, 107

Index

- Paralonchurus goodei*, 128
Paranthias colonus, 112
Pareques sp., 128
Pareques viola, 128
Paricelinus hopliticus, 91
Parmaturus xaniurus, 6
Parophrys vetulus, 176
Parrotfishes, 137
Parvilux ingens, 46
Patchwork Lampfish, 46
Pavo Razorfish, 136
Peachskin Snailfish, 103
Peacock
 Razorfish, 136
 Wrasse, 136
Peamouth, 27
Pearleyes, 39
Pearlfishes, 49
Pearlspot Midshipman, 57
Pearly
 Lanternfish, 45
 Prickleback, 146
Pectoral Snailfish, 107
Pelagic
 Armorhead, 130
 Basslet, 109
 Brotula, 52
 Cods, 55
 Stingray, 13
 Thresher, 5
Pelagocycclus vitiazi, 99
Pelican Eels, 23
Pencilmelts, 28
Penpoint Gunnel, 149
Pentacerotidae, 130
Peppered
 Garden Eel, 22
 Moray, 19
 Snake Moray, 19
Peprilus
 simillimus, 170
 snyderi, 171
Perciformes, 108
Percis japonica, 98
Perissias taeniopterus, 171
Persimmon Eelpout, 140
Persistent Anchovy, 25
Peruvian
 Codling, 55
 Flounder, 172
 Mojarra, 122
 Puffer, 181
Petrale Sole, 174
Petromyzontidae, 1
Petromyzontiformes, 1
Phaenomonas pinnata, 20
Phallic Blenny, 156
Phallocottus obtusus, 91
Phanerodon
 atripes, 133
 furcatus, 133
Phantom
 Bristlemouth, 35
 Snailfish, 106
Pholidae, 149
Pholis
 clemensi, 149
 fasciata, 149
 gilli, 149
 laeta, 149
 nea, 149
 ornata, 149
 schultzi, 149
Phosichthyidae, 37
Photichthyidae, 37
Photonectes margarita, 39
Photostylus pycnopterus, 31
Phthanophaneron harveyi, 70
Phtheirichthys lineatus, 115
Phyllorhinichthys micractis, 61
Physiculus
 nematopus, 55
 rastrelliger, 55
 talarae, 55
Phytichthys chirus, 148
Pighead Prickleback, 145
Piked Dogfish, 3
Pike
 Congers, 21
 Needlefish, 64
Pile Perch, 133
Pilotfish, 118
Pimelometopon pulchrum, 137
Pimpled Lumpsucker, 99

- Pinkbeard Cusk-eel, 50
 Pinkrose Rockfish, 80
 Pink
 Blenny, 155
 Cardinalfish, 114
 Flabby Whalefish, 69
 Rockfish, 76
 Salmon, 34
 Seaperch, 134
 Snailfish, 107
 Surfperch, 134
 Pinpoint Lampfish, 46
 Pipefishes, 71
 Pit-head Sculpin, 88
 Pitcher Silverside, 63
 Pitgum Dragonfish, 39
 Pitted Tubeshoulder, 32
Plagiogrammus hopkinsii, 148
Plagiotremus azaleus, 158
 Plainfin Midshipman, 58
 Plain
 Cardinalfish, 114
 Sculpin, 89
Platichthys stellatus, 176
Platybelone argalus, 64
Platyrrhinoidis triseriata, 10
 Platyrrhinidae, 10
 Platyroctidae, 31
 Player Scorpionfish, 73
Plectobanchus evides, 148
Pleurogrammus
 azonus, 83
 monopterygius, 83
Pleuronectes
 asper, 175
 glacialis, 176
 isolepis, 175
 pallasii, 176
 quadrituberculatus, 176
 sakhalinensis, 175
 vetulus, 176
 Pleuronectidae, 174
 Pleuronectiformes, 171
Pleuronichthys
 coenosus, 176
 decurrens, 176
 guttulatus, 177
 Pleuronichthys (continued)
 ocellatus, 177
 ritteri, 177
 verticalis, 177
Pliosteostoma lutipinnis, 26
 Plumed Sculpin, 84
 Plume Blenny, 157
 Poachers, 95
Podothecus
 accipenserinus, 98
 veternus, 98
Poecilia latipinna, 67
 Poeciliidae, 67
Pogonichthys macrolepidotus, 27
 Pointed Sand Perch, 110
 Polar
 Cod, 56
 Eelpout, 143, 144
 Flounder, 176
 Polka-dot Snailfish, 105
 Polla Drum, 129
Polyacanthonotus challengerii, 16
Polydactylus
 approximans, 126
 opercularis, 126
 Polydactyl Snailfish, 107
Polylepion cruentum, 137
 Polynemidae, 126
Polypera beringiana, 105
 Polyprionidae, 109
 Pomacanthidae, 130
Pomacanthus zonipectus, 130
 Pomacentridae, 134
Pomadasy
 axillaris, 124
 bayanus, 125
 branickii, 125
 euciscus, 124
 macracanthus, 125
 panamensis, 125
 Pomfrets, 120
 Pompano Dolphinfish, 115
 Pond Smelt, 32
Pontinus furcirhinus, 73
 sierra, 73
 vaughani, 73
Pontinus sp., 73

Index

Popeye

- Blacks melt, 29
- Catalufa, 113
- Grenadier, 53
- Lampfish, 43

Porcupinefish, 181

Porcupinefishes, 181

Porehead Blenny, 154

Porgee, 133

Porgies, 125

Porichthys

- analis*, 57
- ephippiatus*, 57
- margaritatus*, 57
- mimeticus*, 57
- myriaster*, 58
- notatus*, 58

Poroclinus rothrocki, 148

Porocottus

- bradfordi*, 91
- mednius*, 91
- quadrifilis*, 91

Poromitra

- crassiceps*, 68
- megalops*, 68
- oscitans*, 68

Priacanthidae, 113

Priacanthus

- alalaua*, 113
- cruentatus*, 113

Pricklebacks, 145

Pricklebreast Poacher, 98

Prickly

- Sculpin, 86
- Shark, 3
- Snailfish, 107

Priestfish, 82

Prionace glauca, 8

Prionotus

- albirostris*, 81
- birostratus*, 81
- horrens*, 81
- quiescens*, 82
- ruscarius*, 82
- stephanophrys*, 82

Prionurus punctatus, 164

Pristigasteridae, 25

Pristigenys serrula, 113

Proboscis Snailfish, 103

Professor Blenny, 155

Prognathodes falcifer, 130

Prognatholiparis ptychomandibularis, 107

Prognichthys tringa, 66

Pronotogrammus multifasciatus, 112

Protemblemaria

- bicirris*, 157
- lucasana*, 157

Protomyctophum

- crockeri*, 46
- thompsoni*, 46

Prowfish, 150

Prowspine Cusk-eel, 51

Pseudnos

- anoderkes*, 108
- cathetostomus*, 108
- griseus*, 108
- mexicanus*, 108
- pallidus*, 108

Psenes

- pellucidus*, 170
- sio*, 170

Psettichthys melanostictus, 177

Pseudobalistes naufragium, 179

Pseudobathylagus milleri, 29

Pseudocarcharinidae, 5

Pseudocarcharias kamoharai, 5

Pseudogramma thaumasium, 112

Pseudojuloides inornatus, 137

Pseudopentaceros

- richardsoni*, 130
- wheeleri*, 130

Pseudoscopelus

- sagamianus*, 154
- scriptus*, 154

Pseudupeneus grandisquamis, 129

Psychrolutes

- paradoxus*, 95
- phrictus*, 95
- sigalutes*, 95

Psychrolutidae, 94

Pteraclis aesticola, 120

Pteromylaeus asperrimus, 14

Pteroplatytrygon violacea, 13

Ptilichthyidae, 150

Ptilichthys goodei, 150

- Puffers, 180
 Puget Sound
 Rockfish, 76
 Sculpin, 92
Pungitius pungitius, 71
 Purity Snailfish, 104
 Purplegray Sculpin, 86
 Purplemouth Grunt, 125
 Purple
 Brotula, 52
 Surgeonfish, 164
 Purse-eyed Scad, 118
Puzanovia rubra, 145
 Pygmy
 Poacher, 97
 Puffer, 181
 Rockfish, 80
 Sand Perch, 110
 Shark, 3
 Snailfish, 106
- Q**
- Quassiremus nothochir*, 20
 Queenfish, 129
Quietula y-cauda, 163
 Quillback Rockfish, 77
 Quillfish, 150
- R**
- Radulinus*
 asprellus, 91
 boleoides, 91
 taylori, 91
 vinculus, 91
 Ragfish, 158
 Ragged-tooth Shark, 5
 Rail Goby, 161
 Rainbow
 Bass, 111
 Basslet, 111
 Cusk-eel, 51
 Runner, 117
 Scorpionfish, 74
 Seaperch, 133
 Sea Chub, 131
 Smelt, 33
 Surfperch, 133
 Trout, 34
 Rainwater Killifish, 67
Raja
 badia, 11
 binoculata, 12
 equatorialis, 12
 inornata, 12
 rhina, 12
 stellulata, 12
 velezi, 13
 Rajidae, 10
 Rajiformes, 10
Ranzania laevis, 181
 Rasptail Skate, 13
Rastrinus scutiger, 92
 Ratfishes, 2
Rathbunella
 alleni, 138
 hypoplecta, 139
 Rattails, 53
 Raucous Grunt, 124
 Razorback Scabbardfish, 166
 Red-banded Snake Eel, 20
 Redbanded Rockfish, 74
 Redbearded Cusk-eel, 50
 Redbelly Tilapia, 132
 Reddish Scorpionfish, 73
 Redhead Goby, 161
 Redlight Goby, 161
 Redlip Parrotfish, 138
 Redmouth
 Whalefish, 69
 Whalefishes, 69
 Redrump Blenny, 156
 Redsaddled Snake Eel, 20
 Redside Blenny, 155
 Redstripe Rockfish, 79
 Redtail
 Surfperch, 132
 Triggerfish, 179
 Red
 Brotula, 52
 Devil, 148
 Goatfish, 129
 Gunnel, 149
 Irish Lord, 87
 Pike Conger, 21
 Salmon, 34

Index

- Red (continued)
 Scorpionfish, 73
 Snapper, 79
 Whalefish, 69
- Reef-sand
 Blenny, 157
 Tube Blenny, 157
- Reef
 Cornetfish, 72
 Finspot, 155
 Lizardfish, 40
 Perch, 133
 Stingray, 13
 Surfperch, 133
- Regalecidae, 49
Regalecus glesne, 49
Reinhardtius hippoglossoides, 177
Remilegia australis, 115
- Remora*
 australis, 115
 brachyptera, 115
 osteochir, 115
 remora, 115
- Remorina albescens*, 115
- Requiem Sharks, 7
- Reticulated
 Round Ray, 13
 Triplefin, 152
- Rex Sole, 174
- Rhacochilus*
 toxotes, 133
 vacca, 133
- Rhamphocottidae, 83
Rhamphocottus richardsonii, 83
- Rhincodontidae, 4
Rhincodon typus, 4
- Rhinobatidae, 10
Rhinobatos
 glaucostigma, 10
 leucorhynchus, 10
 productus, 10
- Rhinochimaeridae, 2
Rhinogobiops nicholsii, 163
- Rhinoliparis*
 attenuatus, 108
 barbulifer, 108
- Rhinoptera steindachneri*, 15
- Rhinopteridae, 15
Rhinoraja
 interrupta, 11
 longi, 12
Rhizoprionodon longurio, 9
Rhodymenichthys dolichogaster, 150
Rhombochirus osteochir, 115
Rhynchoconger nitens, 22
- Ribbed Sculpin, 93
- Ribbonbearers, 69
- Ribbonfishes, 48
- Ribbon
 Barracudina, 41
 Halfbeak, 66
 Prickleback, 148
 Snailfish, 104
- Righteye Flounders, 174
- Rimicola*
 cabrilloi, 159
 dimorpha, 159
 eigenmanni, 159
 muscarum, 159
 сила, 159
- Ringeye Conger, 22
- Ringtail Snailfish, 106
- River Lamprey, 1
- Rivulated Mutton Hamlet, 109
- Rockfishes, 73
- Rockmover Wrasse, 136
- Rockpool Blenny, 158
- Rockwall Clingfish, 159
- Rockweed Gunnel, 149
- Rock
 Blenny, 158
 Croaker, 128
 Greenling, 82
 Prickleback, 148
 Sole, 175
 Wrasse, 136
- Romeo Croaker, 126
Roncador stearnsii, 128
- Ronco Croaker, 126
Rondeletia loricata, 69
- Rondeletiidae, 69
- Ronquils, 138
Ronquilus jordani, 139
- Roosterfish, 114
- Rooster Hind, 111
Rosenblattichthys volucris, 40

Rosethorn Rockfish, 77
 Rose
 Coney, 111
 Threadfin Bass, 111
 Rosybrown Snailfish, 104
 Rosylip Sculpin, 85
 Rosy
 Clingfish, 160
 Eelpout, 141
 Rockfish, 79
 Sculpin, 90
 Snailfish, 107
 Roughback Sculpin, 85
 Roughcheek Sculpin, 92
 Rougheyeye
 Headlightfish, 44
 Rockfish, 74
 Roughjaw Frogfish, 58
 Roughscale
 Rattail, 53
 Sole, 174
 Roughshoulder Skate, 10
 Roughskin Sculpin, 92
 Roughspine Sculpin, 93
 Roughtail Skate, 12
 Rough
 Abyssal Grenadier, 54
 Eagle Ray, 14
 Pomfret, 120
 Searobin, 82
 Sole, 176
Rouleina attrita, 31
 Roundbelly Cowfish, 180
 Rounded Batfish, 59
 Roundscale Goby, 163
 Round
 Herring, 26
 Ray, 13
 Stingray, 13
 Rubberlip Seaperch, 133
 Rubynose Brotula, 52
Ruscarius
 creaseri, 92
 manyi, 92
Ruvettus pretiosus, 165
Rypticus
 bicolor, 112
 nigripinnis, 112

S

Sabertooth
 Blenny, 158
 Fishes, 42
 Sablefish, 82
 Saccopharyngidae, 23
 Saccopharyngiformes, 23
Saccopharynx lavenbergi, 23
 Saddleback
 Gunnel, 149
 Sculpin, 90
 Saddlebanded Goby, 161
 Saddled
 Eelpout, 143
 Prickleback, 147
 Saddle Midshipman, 57
 Sadko Sculpin, 94
 Saffron Cod, 56
Sagamichthys abei, 32
 Sailfin
 Eel, 20
 Molly, 67
 Sandfish, 151
 Sculpin, 94
 Sculpins, 94
 Snake Eel, 20
 Sailfish, 169
 Sakhalin
 Flounder, 175
 Sculpin, 93
 Sole, 175
 Salema, 125
 Salema Butterfish, 171
 Salmonidae, 33
 Salmoniformes, 32
 Salmons, 33
 Salmon
 Shark, 6
 Snailfish, 103
Salmo
 clarki, 34
 gairdneri, 34
 salar, 34
Salvelinus
 alpinus, 35
 malma, 35

Index

- Samoa Sawtooth Eel, 23
Sandfishes, 150
Sandloving Stargazer, 153
Sandpaper Skate, 11
Sandy
 Ridgefin Eel, 19
 Stargazer, 153
Sand
 Flounders, 171
 Grunt, 125
 Lances, 151
 Sole, 177
 Stargazers, 152
 Tigers, 5
Sanguine Frogfish, 58
San Quintin Blenny, 155
Sarcastic Fringehead, 157
Sarda
 chiliensis, 167
 orientalis, 167
Sardinops sagax, 27
Sargassum Blenny, 154
Sargo, 123
Sargocentron suborbitalis, 70
Sarritor
 frenatus, 98
 leptorhynchus, 98
Sauries, 64
Sawback Poacher, 98
Sawtooth Eel, 23
Scalebelly Eelpout, 144
Scaled Sculpin, 84
Scalefin Weakfish, 126
Scalloped
 Bonnethead, 9
 Hammerhead, 9
 Ribbonfish, 49
Scalybreasted Sculpin, 93
Scalyeye Plaice, 174
Scalyfin
 Corvina, 126
 Sole, 175
Scalyhead Sculpin, 85
Scalynape Eelpout, 145
Scaly
 Paperbone, 42
 Waryfish, 42
 Scaridae, 137
 Scarletfin Blenny, 157
 Scarlet Tube Blenny, 157
 Scarus
 compressus, 138
 ghobban, 138
 perrico, 138
 rubroviolaceus, 138
 Sciaenidae, 126
 Sciaenidae, 126
 Scissortail
 Chromis, 134
 Damselselfish, 134
 Sculpin, 93
 Scomberesocidae, 64
 Scomberomorus sierra, 168
 Scomber
 colias, 168
 japonicus, 168
 Scombridae, 166
 Scoophead, 9
 Scopelarchidae, 39
 Scopelarchoides nicholsi, 40
 Scopelarchus
 analis, 40
 guentheri, 40
 Scopelengys tristis, 43
 Scopeloberyx robustus, 68
 Scopelogadus mizolepis, 68
 Scopelosaurus harryi, 42
 Scopelus, 29
 Scorpaena
 guttata, 73
 histrion, 73
 mystes, 73
 plumieri mystes, 73
 russula, 73
 sonorae, 74
 Scorpaenichthys marmoratus, 92
 Scorpaenidae, 73
 Scorpaeniformes, 73
 Scorpaenodes xyris, 74
 Scorpionfishes, 73
 Scrawled
 Filefish, 179
 Leatherjacket, 179
 Sculpins, 84
 Scuticaria tigrina, 18

- Scyliorhinidae, 6
Scytalichthys miurus, 21
Scytalina cerdale, 150
 Scytalinidae, 150
 Scythe-marked Butterflyfish, 130
 Scythe Butterflyfish, 130
 Seadevils, 61
 Searcher, 138
 Searobins, 81
 Sea
 Catfishes, 27
 Chubs, 131
 Ravens, 94
Sebastes
 aleutianus, 74
 alutus, 74
 atrovirens, 74
 auriculatus, 74
 aurora, 74
 babcocki, 74, 79
 baramenuke, 75
 borealis, 75
 brevispinis, 75
 carnatus, 75
 caurinus, 75
 chlorostictus, 75
 chrysomelas, 75
 ciliatus, 75
 constellatus, 75
 crameri, 76
 dallii, 76
 diploproa, 76
 elongatus, 76
 emphaeus, 76
 ensifer, 76
 entomelas, 76
 eos, 76
 flavidus, 76
 gilli, 76
 glaucus, 77
 goodei, 77
 helvomaculatus, 77
 hopkinsi, 77
 jordani, 77
 lentiginosus, 77
 levis, 77
 macdonaldi, 77
 maliger, 77
 melanops, 77
 melanosema, 77
 melanostomus, 78
 miniatus, 78
 moseri, 78
 nebulosus, 78
 nigrocinctus, 78
 notius, 78
 ovalis, 78
 paucispinis, 78
 phillipsi, 78
 pinniger, 79
 polyspinis, 79
 proriger, 79
 rastrelliger, 79
 reedi, 79
 rosaceus, 79
 rosenblatti, 79
 ruberrimus, 79
 rubrivinctus, 79
 rufinanus, 79
 rufus, 80
 saxicola, 80
 semicinctus, 80
 serranoides, 80
 serriceps, 80
 simulator, 80
 umbrosus, 80
 variabilis, 80
 variegatus, 80
 wilsoni, 80
 zacentrus, 80
Sebastolobus
 alascanus, 80
 altivelis, 81
 macrochir, 81
Sectator ocyurus, 131
Selar crumenophthalmus, 118
Selene
 brevoortii, 118
 orstedii, 118
 peruviana, 118
 Semaphore Rockfish, 77
Semicossyphus pulcher, 137
 Señorita, 136

Index

Seriola

- dorsalis*, 119
- lalandi*, 119
- rivoliana*, 119

Seriphus politus, 129

Serranidae, 109

Serranus

- aequidens*, 113
- psittacinus*, 113

Serrated Grunt, 123

Serrivomeridae, 23

Serrivomer

- jesperseni*, 23
- samoensis*, 23
- sector*, 23

Sevengill Shark, 2

Shadow Goby, 163

Shafted Bonefish, 16

Shaggy Sea Raven, 94

Sharksucker, 115

Shark Brotula, 51

Sharpchin

- Flyingfish, 65
- Rockfish, 80
- Slickhead, 30

Sharpnosed Puffer, 180

Sharpnose

- Anchovy, 24
- Conger, 21
- Sculpin, 85
- Seaperch, 133
- Surfperch, 133

Sharpridge Flounder, 177

Sharpsnout Grunt, 124

Sharptooth Smoothhound, 7

Sheephead

- Grunt, 124
- Mickey, 134

Shimofuri Goby, 163

Shiner

- Perch, 132
- Surfperch, 132

Shining

- Drum, 127
- Grunt, 124

Shining

- Loosejaw, 37
- Tubeshoulder, 32

Shokihaze Goby, 163

Short-fin Snake Eel, 20

Short-Spine Searobin, 81

Shortbelly Rockfish, 77

Shortbill Spearfish, 169

Shortfin

- Corvina, 126
- Eelpout, 142
- Grunt, 124
- Mako, 6
- Scad, 117
- Weakfish, 126

Shorthead

- Hagfish, 1
- Lizardfish, 40

Shorthorn Sculpin, 90

Shortjaw

- Eelpout, 140
- Leatherjack, 118

Shortmast Sculpin, 94

Shortnose

- Chimaeras, 2
- Flatironfish, 30
- Loosejaw, 38
- Snaggletooth, 39
- Swallower, 153

Shortraker Rockfish, 75

Shortsnout

- Conger, 22
- Mojarra, 122

Shortspine

- Basslet, 109
- Combfish, 83
- Goby, 163
- Grunt, 124
- Red Scorpionfish, 73
- Thornyhead, 80

Shorttail

- Conger, 22
- Stingray, 13
- Viper Eel, 21

Short

- Anchovy, 24
- Eelpout, 140
- Snailfish, 101

Shoulderspine Bigscale, 67

Shoulderspot Grenadier, 53

- Shovelhead Snailfish, 102
Shovelnose Guitarfish, 10
Showy
 Bristlemouth, 35
 Snailfish, 105
Shulupaoluk, 143
Siberian Lump sucker, 100
Sicklefin
 Devil Ray, 15
 Pomfret, 120
 Smoothhound, 7
Sigmistes
 caulias, 92
 smithi, 92
Sigmops
 ebelingi, 36
 elongata, 36
 gracilis, 36
Signal Blenny, 157
Silky Shark, 7
Siluriformes, 27
Silvergray Rockfish, 75
Silverspotted Sculpin, 94
Silverspot Sculpin, 94
Silverstripe
 Anchovy, 24
 Chromis, 134
Silvertip Shark, 7
Silvery Hatchetfish, 36
Silver
 Cusk-eel, 50
 Discfish, 70
 Drum, 127
 Grunt, 124
 Mojarra, 122
 Salmon, 34
 Sand Lance, 151
 Surfperch, 133
 Weakfish, 127
Sio Driftfish, 170
Sixband Jack, 116
Sixgill Shark, 2
Sixspot Prickleback, 147
Skilfish, 82
Skipjack Tuna, 167
Skipper Halfbeak, 66
Sleepers, 160
Sleeper Sharks, 3
Sleepy Dragonet, 160
Slender-spined Catfish, 28
Slenderjaw Moray, 17
Slender
 Anchovy, 24
 Barracudina, 41
 Blacksmelt, 29
 Bristlemouth, 35
 Clingfish, 159
 Cockscomb, 146
 Cod, 55
 Codling, 55
 Croaker, 128
 Eelblenny, 148
 Eelpout, 142
 Fangjaw, 36
 Hatchetfish, 36
 Kingcroaker, 127
 Lanternfish, 44
 Mojarra, 122
 Mola, 181
 Snipefish, 72
 Snipe Eel, 21
 Sole, 176
 Suckerfish, 115
 Tuna, 167
Slickheads, 30
Slime Sole, 176
Slimy Snailfish, 105
Slim
 Lightfish, 37
 Sculpin, 91
 Snailfish, 108
Slippery Flounder, 176
Slipskin Snailfish, 105
Slope Cutthroat Eel, 19
Slough Anchovy, 24
Sluggish Bigscale, 68
Small-eyed Rattail, 53
Small-mouth Plaice, 174
Small-scaled
 Blue Hake, 55
 Pomfret, 120
Small-spotted Moray, 18
Smalldisk Snailfish, 102

Index

- Smalleye
 - Snipe Eel, 21
 - Squaretail, 170
- Smallhead
 - Eelpout, 142
 - Flyingfish, 65
- Smallhook Sculpin, 84
- Smallmouthed Leatherjack, 118
- Smallmouth
 - Ronquil, 138
 - Snailfish, 102
- Smallplate Sculpin, 92
- Smalltail Shark, 8
- Smalltooth Sandtiger Shark, 5
- Smallwing Halfbeak, 66
- Small Sanddab, 172
- Smiling Sand Eel, 20
- Smooth-tip Sand Stargazer, 153
- Smoothcheek Sculpin, 95
- Smootheye Poacher, 99
- Smoothgum Sculpin, 91
- Smoothhead
 - Dreamer, 60
 - Sculpin, 85
- Smoothtail Mobula, 15
- Smooth
 - Abyssal Grenadier, 53
 - Alligatorfish, 96
 - Dreamer, 60
 - Grenadier, 54
 - Hammerhead, 9
 - Lumpsucker, 99
 - Puffer, 180
 - Stargazer, 151
- Snack Eel, 19
- Snailfishes, 101
- Snakehead Eelpout, 140
- Snake
 - Eels, 19
 - Mackerel, 165
 - Prickleback, 148
- Snappers, 121
- Snipefishes, 72
- Snooks, 108
- Snouted
 - Eagle Ray, 14
 - Mullet, 62
- Snowflake Moray, 17
- Snowy Grouper, 111
- Snubnosed Spiny Eel, 16
- Snubnose
 - Blacksmelt, 29
 - Eelpout, 145
 - Pipefish, 71
 - Sculpin, 91
- Sockeye Salmon, 34
- Softhead Grenadier, 54
- Softskin Slickhead, 31
- Soft
 - Eelpout, 139
 - Sculpin, 95
- Soldatov's Lumpsucker, 100
- Somniosidae, 3
- Somniosus*
 - antarcticus*, 3
 - pacificus*, 3
- Sonora
 - Clingfish, 160
 - Scorpionfish, 74
- Sooty
 - Dragonfish, 39
 - Sand Eel, 19
- Soupfin Shark, 6
- Southern
 - Blue Lanternfish, 47
 - Clingfish, 159
 - Flounder, 172
 - Puffer, 181
 - Rockfish, 78
 - Rock Sole, 175
 - Spearnose Poacher, 96
 - Spiny Dreamer, 60
- Spadefishes, 164
- Sparidae, 125
- Sparrow Flyingfish, 65
- Sparse-tooth Lycod, 144
- Spatulate Sculpin, 89
- Spearfish Remora, 115
- Speckled
 - Bass, 112
 - Blenny, 155
 - Cusk-eel, 51
 - Flounder, 171, 173
 - Garden Eel, 22

- Speckled (continued)
 Guitarfish, 10
 Midshipman, 58
 Rockfish, 78
 Sanddab, 172
 Scorpionfish, 73
 Tube Blenny, 157
- Speckledtail Flounder, 171
- Specklefin
 Cusk-eel, 51
 Midshipman, 58
- Specklemouth Eelpout, 142
- Spectacled Sculpin, 93
- Spectral Snailfish, 103
- Spectrunculus grandis*, 51
- Sphoeroides*
annulatus, 180
lispus, 180
lobatus, 180
sechurae, 181
trichocephalus, 181
- Sphyræna*
argentea, 164
ensis, 165
lucasana, 165
- Sphyrænidae, 164
- Sphyrna*
corona, 9
lewini, 9
media, 9
tiburo, 9
zygaena, 9
- Sphyrnidae, 9
- Spikefin Blenny, 157
- Spikehead Dreamer, 60
- Spineless Sculpin, 91
- Spinesnout Brotula, 51
- Spinetail Mobula, 15
- Spinster Wrasse, 136
- Spinycheek Starsnout, 96
- Spinyfins, 69
- Spinyhead Sculpin, 94
- Spinyhook Sculpin, 84
- Spinynose Sculpin, 91
- Spinytail
 Lampfish, 45
 Round Ray, 14
- Spiny
 Boxfish, 180
 Cowfish, 180
 Dogfish, 3
 Dreamer, 61
 Eels, 16
 Lanternfish, 46
 Round Ray, 14
 Snailfish, 101
 Stingray, 14
- Spirinchus*
starksi, 33
thaleichthys, 33
- Splitbanded Goby, 162
- Splitnose
 Rockfish, 76
 Searobin, 81
- Splittail, 27
- Splittail Bass, 111
- Sponge Sculpin, 92
- Spookfishes, 30
- Spotfin Burrfish, 181
- Spot-fin Tonguefish, 178
- Spot-on-Spot Round Ray, 13
- Spotback Scorpionfish, 73
- Spotback Wormfish, 163
- Spotfin
 Croaker, 128
 Cusk-eel, 51
 Porcupinefish, 181
 Sculpin, 88
 Surfperch, 133
 Tonguefish, 178
- Spottail
 Grunt, 123
 Moray, 18
- Spotted-fin Mojarra, 122
- Spottedfin Sole, 177
- Spottedtail Goosefish, 58
- Spotted
 Boxfish, 180
 Burrfish, 181
 Cabrilla, 111
 Cusk-eel, 50
 Eagle Ray, 14
 Flounder, 173
 Flyingfish, 65

Index

Spotted (*continued*)

Grouper, 111
Kelpfish, 156
Lizardfish, 40
Opah, 48
Porcupinefish, 181
Ratfish, 2
Ridgefin Eel, 19
Rose Snapper, 121
Round Ray, 13
Sand Bass, 112
Sharpnose Puffer, 180
Sleeper, 160
Snailfish, 104
Snake Eel, 20
Sole, 177
Trunkfish, 180
Turbot, 177
Spurred Hatchetfish, 36
Squalidae, 3
Squaliformes, 3
Squalus acanthias, 3
Squarespot Rockfish, 77
Squaretails, 170
Squatina californica, 4
Squatinae, 4
Squatiniiformes, 4
Squirrelfishes, 70
Squirrel Sand Perch, 110
Star-studded Grouper, 111
Stareye Parrotfish, 137
Stargazers, 151
Stargazer Snailfish, 108
Staring Pearleye, 40
Starksia
 guadalupae, 156
 spinipenis, 156
Starry
 Flounder, 176
 Grouper, 111
 Moray, 17
 Rockfish, 75
 Skate, 12
Stathmonotus sinuscalifornici, 157
Steelhead, 34
Steeplined Drum, 127
Stegastes
 acapulcoensis, 135

Stegastes (*continued*)

flavilatus, 135
 leucorus, 135
 rectifraenum, 135
 redemptus, 135
Stelgistrum
 beringianum, 92
 concinnum, 92
Stellerina xyosterna, 98
Stellifer
 ericymba, 129
 erycimba, 129
Stemonosudis macrura, 42
Stenobranchius
 leucopsarus, 47
 nannochir, 47
Stephanoberyciformes, 67
Stereolepis gigas, 109
Sternoptychidae, 36
Sternoptyx
 diaphana, 36
 obscura, 37
 pseudobscura, 37
Stichaeidae, 145
Stichaeus punctatus, 148
Sticklebacks, 71
Stippled
 Gunnel, 150
 Snailfish, 103
Stilegicottus xenogrammus, 92
Stomias atriventer, 39
Stomiidae, 37
Stomiiformes, 35
Stone
 Cockscomb, 145
 Scorpionfish, 73
 Triggerfish, 179
Stout
 Argentine, 28
 Blacksmelt, 29
 Eelblenny, 146
 Eelpout, 142
 Sand Lance, 151
 Snailfish, 103
Strangeline Sculpin, 92
Streaked Mojarra, 123
Streaklight Tubeshoulder, 31

- Stripebelly Puffer, 180
 Striped-fin Flounder, 171
 Striped
 Bass, 109
 Bonito, 167
 Corvina, 126
 Cusk-eel, 51
 Eagle Ray, 14
 Escolar, 165
 Herring, 26
 Jack, 117
 Kelpfish, 156
 Marlin, 169
 Mullet, 62
 Seaperch, 133
 Sea Chub, 131
 Snake Mackerel, 165
 Surfperch, 133
 Tubeshoulder, 31
 Weakfish, 126
 Stripefin
 Poacher, 99
 Ronquil, 138
 Stripesnout False Moray, 17
 Stripetail Rockfish, 80
 Stromateidae, 170
Strongylura exilis, 64
 Sturgeons, 15
 Sturgeon Poacher, 98
 Stylephoridae, 49
Stylephorus chordatus, 49
Sudis atrox, 42
Sufflamen verres, 179
 Sunbeam Lampfish, 44
 Sunset Wrasse, 137
 Surfperches, 132
 Surf Croaker, 129
 Surf Smelt, 32
 Surgeonfishes, 164
 Swallowers, 23, 153
 Swallow Damsel, 134
 Swellhead Snailfish, 106
 Swell Shark, 6
 Swordfish, 169
 Swordspine Rockfish, 76
Syacium
 latifrons, 173
 ovale, 173
Symbolophorus
 californiensis, 47
 reversus, 47
Symphurus
 atramentatus, 178
 atricaudus, 178
 callopterus, 178
 fasciolaris, 178
 gorgonae, 178
 melanurus, 178
 oligomerus, 178
 prolatinarius, 178
 williamsi, 178
 Synphobranchidae, 19
Synphobranchus affinis, 19
Synchiropus atrilabiatus, 160
Synchirus gilli, 92
 Syngnathidae, 71
Syngnathus
 auliscus, 71
 californiensis, 72
 euchrous, 72
 exilis, 72
 insulae, 72
 leptorhynchus, 72
 Synodontidae, 40
Synodus
 evermanni, 40
 lacertinus, 40
 lucioceps, 40
 scituliceps, 40
 sechurae, 41
T
Taaningichthys
 bathophilus, 47
 minimus, 47
 paurolychnus, 47
Tactostoma macropus, 39
 Tadpole
 Clingfish, 159
 Sculpin, 95
 Snailfish, 106
 Tagoba Goby, 163
 Tailfin Croaker, 128
 Taillight Lanternfish, 48
Talismania bifurcata, 31

Index

- Tan Bristlemouth, 35
Tapertail Ribbonfish, 49
Tapetails, 69
Taractes asper, 120
Taractichthys steindachneri, 120
Taranetzella lyoderma, 145
Tarletonbeania
 crenularis, 47
 taylori, 48
Tawnystripe Eelpout, 142
Teardrop Tubeshoulder, 31
Telescopefishes, 42
Tenpounders, 16
Tetragonuridae, 170
Tetragonurus
 atlanticus, 170
 cuvieri, 170
Tetraodontidae, 180
Tetraodontiformes, 179
Tetrapturus
 angustirostris, 169
 audax, 169
Thalassenchelys coheni, 17
Thalassobathia pelagica, 52
Thalassoma
 grammaticum, 137
 lucasanum, 137
 virens, 137
Thaleichthys pacificus, 33
Thaumatichthyidae, 61
Thecopterus aleuticus, 95
Theragra chalcogramma, 57
Thick-lipped Mullet, 62
Thickhead Flashlightfish, 44
Thicklip Conger, 22
Thinskin Eelpout, 144
Thornback, 10
Thornbacks, 10
Thornback Sculpin, 91
Thorny
 Sculpin, 89
 Stingray, 14
Thread-tail, 49
Thread-tails, 49
Threadbeard Dragonfish, 38
Threaded Sculpin, 87
Threadfins, 126
Threadfin
 Bass, 112
 Cusk-eel, 50
 Goosefish, 58
 Grenadier, 53
 Hakeling, 55
 Jack, 116
 Sculpin, 88
 Shad, 26
 Slickhead, 31
 Snailfish, 102
Threadtail Snipe Eels, 21
Thread Pompano, 116
Threebanded Butterflyfish, 130
Threeline Prickleback, 147
Threespine Stickleback, 71
Threespot
 Eelpout, 144
 Flounder, 171
 Sand Flounder, 171
Thresher Shark, 5
Throatspotted Blenny, 155
Thumbtack Snailfish, 105
Thunnus
 alalunga, 168
 albacares, 168
 obesus, 168
 orientalis, 168
 thynnus, 168
Thyriscus anoplus, 92
Tidepool
 Sculpin, 90
 Snailfish, 104
Tidewater Goby, 162
Tiger
 Moray, 18
 Reef Eel, 18
 Rockfish, 78
 Shark, 8
 Snake Eel, 20
Tilapia zillii, 132
Tilefishes, 114
Tinsel Squirrelfish, 70
Toadfishes, 57
Toad Lumpsucker, 100
Tomcod, 57
Tomicodon
 boehlkei, 160

- Tomicodon* (continued)
eos, 160
humeralis, 160
zebra, 160
- Tonguefishes, 178
- Toothed
 Flounder, 172
 Smelt, 33
- Toothless Snailfish, 107
- Tope, 6
- Topminnows, 67
- Topside Lampfish, 46
- Topsmelt, 63
- Torchlight Lanternfish, 44
- Torpedinidae, 10
- Torpediniformes, 9
- Torpedo californica*, 10
- Torpedo
 Electric Rays, 10
 Sand Perch, 110
- Tough Eelpout, 145
- Trachinotus*
kennedyi, 119
paitensis, 119
rhodopus, 119
- Trachipteridae, 48
- Trachipterus*
altivelis, 49
fukuzakii, 49
- Trachurus symmetricus*, 119
- Treefish, 80
- Triaenodon obesus*, 9
- Triakidae, 6
- Triakis semifasciata*, 7
- Trichiuridae, 166
- Trichiurus*
lepturus, 166
nitens, 166
- Trichocottus brashnikovi*, 92
- Trichodontidae, 150
- Trichodon trichodon*, 151
- Tridentiger*
barbatus, 163
bifasciatus, 163
trigonocephalus, 163
- Trident Prickleback, 147
- Triggerfishes, 179
- Triglidae, 81
- Triglops*
forficatus, 93
jordani, 93
macellus, 93
metopias, 93
nybelini, 93
pingelii, 93
scepticus, 93
xenostethus, 93
- Trinectes fonsecensis*, 177
- Tringa Flyingfish, 66
- Triphoturus*
mexicanus, 48
nigrescens, 48
- Triplefins, 151
- Tripletails, 122
- Triplewart Seadevil, 61
- Tripterygiidae, 151
- Tropical
 Hatchetfish, 36
 Longfin Herring, 25
 Two-wing Flyingfish, 65
- Trouts, 33
- True Cod, 57
- Trumpetfishes, 72
- Tube-eye, 49
- Tube-eyes, 49
- Tubenose Poacher, 97
- Tubeshoulders, 31
- Tubesnout, 71
- Tube Blennies, 156
- Turkey-Red Rockfish, 79
- Twice-spotted Soapfish, 112
- Twinpored Eel, 23
- Two-holes Moray, 19
- Twobeak Searobin, 81
- Twohorn Sculpin, 88
- Twoline
 Eelpout, 139
 Prickleback, 147
- Twopole Dreamer, 61
- Twospine Bigscale, 68
- Twospine Driftfish, 170
- Tylosurus*
acus, 64
crocodilus, 64
pacificus, 64
- Typhlogobius californiensis*, 163

Index

U

- Ulca, 94
- Ulcina olrikii*, 98
- Ulvicola*, 149
- Umbrellamouth Gulper, 23
- Umbrina*
 - analís*, 129
 - bussingi*, 129
 - dorsalis*, 129
 - roncador*, 129
 - wintersteeni*, 129
 - xanti*, 129
- Uncinate Sculpin, 89
- Unicorn
 - Filefish, 179
 - Leatherjacket, 179
- Uranoscopidae, 151
- Uraspis*
 - helvola*, 119
 - secunda*, 119
- Urobatis*
 - concentricus*, 13
 - halleri*, 13
 - maculatus*, 13
- Urolophidae, 13
- Urolophus*
 - concentricus*, 13
 - halleri*, 13
 - maculatus*, 13
- Uropterygius*
 - macrocephalus*, 19
 - polystictus*, 19
 - versutus*, 19
- Urotrygon*
 - aspidura*, 14
 - asterias*, 14
 - chilensis*, 14
 - munda*, 14
 - rogersi*, 14

V

- Vacuocua Croaker, 126
- Variiegated Snailfish, 105
- Variform Eelpout, 142
- Veilfin, 120

Velvet

- Grenadier, 54
- Surgeonfish, 164
- Whalefishes, 69
- Venefica tentaculata*, 23
- Vermiculated Croaker, 128
- Vermilion Rockfish, 78
- Veteran Poacher, 98
- Vinciguerría*
 - lucetia*, 37
 - nimbaria*, 37
 - poweriae*, 37
- Viviparous Brotulas, 52

W

- Wahoo, 166
- Wakasagi, 32
- Walkers Anchovy, 25
- Walleye
 - Pollock, 57
 - Surfperch, 133
- Warthead
 - Blenny, 157
 - Sculpin, 90
 - Tube Blenny, 157
- Warty
 - Poacher, 97
 - Sculpin, 90
- Waryfishes, 42
- Wattled Eelpout, 143
- Wavyline Grunt, 124
- Wendell's Warbonnet, 146
- Whalefishes, 68
- Whalesucker, 115
- Whale Shark, 4
- Whipnoses, 62
- Whipper Snapper, 121
- Whiptail
 - Gulpers, 23
 - Ribbonfish, 48
 - Stingray, 13
 - Stingrays, 13
 - Tonguefish, 178
- White-edged Moray, 18
- White-ring Garden Eel, 22
- White Seabass, 126

- White-spotted
 Moray, 18
 Pufferfish, 180
- Whitebait Smelt, 32
- Whitebarred
 Blenny, 148
 Prickleback, 148
- Whiteblotched Skate, 11
- Whitebrow Skate, 11
- Whitecheek Surgeonfish, 164
- Whiteface Hagfish, 1
- Whitemouth Jack, 119
- Whitenose Shark, 8
- Whitesaddle Stargazer, 152
- Whitesnout
 Guitarfish, 10
 Searobin, 81
- Whitespeckled Rockfish, 78
- Whitespotted
 Filefish, 179
 Goosefish, 58
 Greenling, 82
 Ratfish, 2
 Rockfish, 78
- Whitetail
 Damselfish, 135
 Major, 135
 Sculpin, 95
- Whitetip
 Flyingfish, 65
 Reef Shark, 9
- Whitetongue Jack, 119
- Whitewing Flyingfish, 65
- White
 Barracudina, 41
 Bristlemouth, 35
 Croaker, 127
 Grunt, 124
 Mullet, 62
 Pencilmelt, 28
 Seaperch, 133
 Shark, 5
 Skate, 12
 Snook, 109
 Sturgeon, 15
 Suckerfish, 115
 Surf-fish, 132
- Wide-eye Sculpin, 89
- Widebanded
 Cleaner Goby, 161
 Cleaning Goby, 161
- Widehead Sea Catfish, 27
- Widenose Chimaera, 2
- Widow Rockfish, 76
- William's Tonguefish, 178
- Winged Spookfish, 30
- Wintersteen Drum, 129
- Witch Sole, 174
- Wolf-eel, 150
- Wolffishes, 150
- Wolftrap Anglers, 61
- Wonderful Snailfish, 104
- Woodsia nonsuchae*, 37
- Woolly Sculpin, 85
- Wormfishes, 163
- Wormlined Croaker, 128
- Worm
 Blenny, 157
 Eels, 19
- Wounded Wrasse, 136
- Wrasses, 135
- Wreckfishes, 109
- Wrinklejaw Snailfish, 107
- Wrymouths, 148
- X**
- Xanthichthys mento*, 179
- Xanthic Sargo, 123
- Xeneretmus*
latifrons, 99
leiops, 99
ritteri, 99
triacanthus, 99
- Xenichthys xanti*, 125
- Xenistius californiensis*, 125
- Xenomedeia rhodopyga*, 156
- Xenomystax atrarius*, 23
- Xiphias gladius*, 169
- Xiphiidae, 169
- Xiphister*
atropurpureus, 148
mucosus, 148
- Xyrichtys mundiceps*, 137
- Xystreurus liolepis*, 173

Index

Y

Y-Prickleback, 147
Yellow-masked Surgeon, 164
Yellow-spotted Trevally, 116
Yellowchin Sculpin, 88
Yelloweye
 Croaker, 128
 Rockfish, 79
Yellowfin
 Croaker, 129
 Fringehead, 157
 Goatfish, 129
 Goby, 160
 Herring, 26
 Jack, 117
 Mojarra, 123
 Sole, 175
 Surgeonfish, 164
 Tuna, 168
Yellowjack, 118
Yellowmouth
 Rockfish, 79
 Weakfish, 126
Yellowscale Parrotfish, 138
Yellowspotted Grunt, 123
Yellowstripe Grunt, 124
Yellowtail, 119
Yellowtail
 Amberjack, 119
 Jack, 119
 Kingfish, 119
 Leatherjacket, 118
 Rockfish, 76
 Sawtail, 164
 Surgeonfish, 164
Yellow
 Bobo, 126
 Bristlemouth, 35
 Irish Lord, 87
 Jack, 117
 Shiner, 132
 Snake Eel, 20
 Snapper, 121
 Tonguefish, 178

Z

Zaca Blenny, 155
Zalembeus rosaceus, 134
Zalieutes elater, 59
Zanclidae, 164
Zanclus
 canescens, 164
 cornutus, 164
Zaniolepididae, 83
Zaniolepis
 frenata, 83
 latipinnis, 83
Zaprora silenus, 150
Zaproridae, 150
Zapteryx
 exasperata, 10
 xyster, 10
Zebraface Blenny, 157
Zebraperch, 131
Zebra
 Clingfish, 160
 Goby, 162
 Moray, 17
 Sea Chub, 131
Zeidae, 70
Zeiformes, 70
Zenopsis nebulosa, 70
Zephyr Stargazer, 151
Zesticelus profundorum, 93
Zoarcidae, 139
Zu cristatus, 49

