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A Handy Field Guide to the Nearshore Marine Fishes of Alaska

by
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and M. R. Lindeberg

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Processing fish caught with a beach seine in southeastern Alaska.

Measuring Pacifc sand lance caught in a beach seine haul.

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PREFACE

This guide culminated from years of research on the importance of the nearshore marine environment to fishery resources in Alaska. We were continually astounded by the abundance and diversity of fishes that use the nearshore, particularly the early life history stages of many species. The lack of a portable field guide, and the difficulty in identifying the young of some species in the field, prompted us to create this guide. We hope *A Handy Field Guide to the Nearshore Marine Fishes of Alaska* is a useful reference for all those interested in the coastal fishes of Alaska.

INTRODUCTION

From 1998 to 2014, researchers with the Alaska Fisheries Science Center's Auke Bay Laboratories sampled fishes with a beach seine (37 m long, variable mesh) in nearshore marine waters (< 6 m deep, < 20 m offshore) of Alaska. Beach seining was used to identify essential fish habitat (EFH) for all life stages of managed species; EFH is defined as those waters and substrate necessary for breeding, feeding, and growth to maturity (Sigler et al. 2012). Fish catches from 6 coastal regions of Alaska (Fig. 1), encompassing 4 habitats and 129 fish species, are accessible on the Nearshore Fish Atlas of Alaska website (NMFS 2014) hosted by the NMFS Alaska Regional Office. A brief summary of our sampling methods and fish catch, inclusive of all years and regions, are as follows: 1) a total of 746,871 fish were captured in 1,142 seine hauls; 2) most effort (74%) and fish catch (85%) were from June through August; 3) all seining was during daylight hours and within 2 hours of low tide; 4) habitats sampled were bedrock, eelgrass (*Zostera marina*), kelp, and sand (Fig. 2); and 5) not all habitats were sampled in each region. A detailed description of each region, habitat type, and the methods used to capture and process fish is provided in the hardcopy Fish Atlas (Johnson et al. 2012). With this 17-year sampling effort comes a wealth of knowledge on fishes of coastal Alaska (Johnson et al. 2012, NMFS 2014), particularly skills in species identification. Over the years we have taken thousands of photographs of all species and life stages represented in our catches. Correct identification of fishes in the field is of paramount importance when evaluating the potential effects of shoreline development projects on fish habitat, and determining species-level impacts in the natural resource damage assessment process following a disaster (e.g., oil spill).

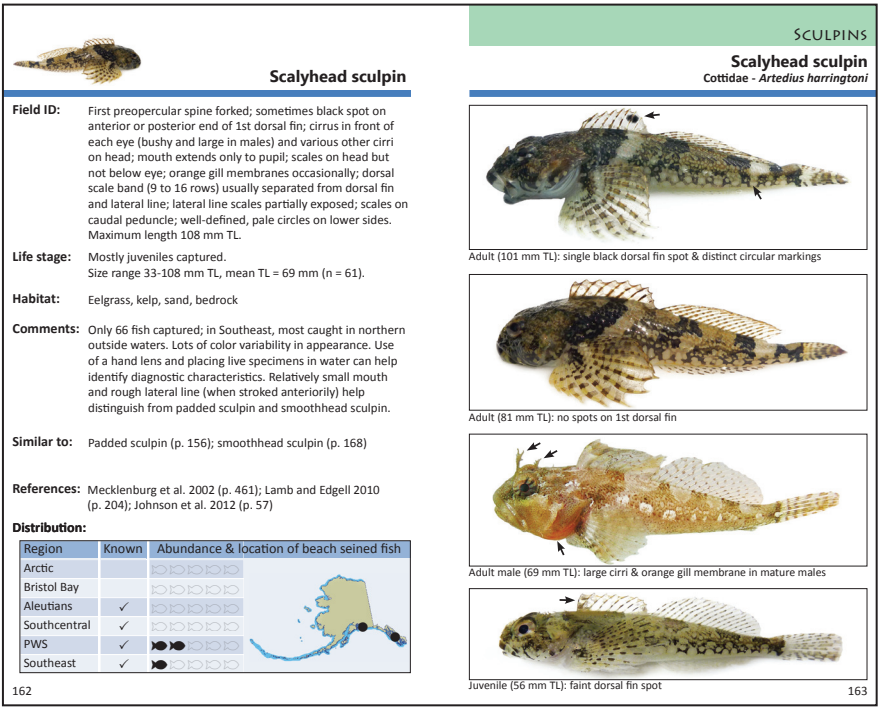
We developed this photo-rich guide as a tool to help all user groups identify nearshore fishes of Alaska without going through extensive taxonomic keys in the field. The guide includes photos and other useful information (e.g., distribution and habitat use) on 113 fish species (managed and unmanaged) from 23 families. For the more common species captured, photos are included of all life-history stages (larvae to adults) represented in our catches. Photos of the early life-history stages of many nearshore, marine fishes of Alaska are largely missing from other field guides. Our guide is not meant to replace the many excellent identification guides available to researchers (Phillips 1977, Kramer et al. 1995, Pollard et al. 1997, Mecklenburg et al. 2002, Lamb and Edgell 2010), but is intended to supplement these other guides with a portable and waterproof photo catalog to aid in fish identification in the field. It should be

noted that our sampling represents only a "snapshot" in time and space of fish distribution and habitat use. Many factors can determine the presence or absence of any given species at any given time including water temperature, salinity, proximity to spawning areas, and time of sampling. The photographic richness of our handy field guide, in combination with the online Fish Atlas (NMFS 2014) and hardcopy Fish Atlas (Johnson et al. 2012), provides researchers, managers, and the public with a unique and comprehensive synopsis on the nearshore fishery resources of Alaska.

Figure 1. Six Alaskan regions sampled: Arctic (n = 92 seine hauls; sand only), Bristol Bay (n = 8; sand only), Aleutians (n = 70; no eelgrass), Southcentral (n = 48; all 4 habitats), Prince William Sound (n = 147; all 4 habitats), and Southeast (n = 777; all 4 habitats). Blue outline represents the coast.

Figure 2. Four habitat types sampled: bedrock (n = 195 seine hauls), eelgrass (n = 327), kelp (n = 300), and sand (n = 320).

USING THIS GUIDE



Scalyhead sculpin

Field ID: First preopercular spine forked; sometimes black spot on anterior or posterior end of 1st dorsal fin; cirrus in front of each eye (bushy and large in males) and various other cirri on head; mouth extends only to pupil; scales on head but not below eye; orange gill membranes occasionally; dorsal scale band (9 to 16 rows) usually separated from dorsal fin and lateral line; lateral line scales partially exposed; scales on caudal peduncle; well-defined, pale circles on lower sides. Maximum length 108 mm TL.

Life stage: Mostly juveniles captured. Size range 33-108 mm TL, mean TL = 69 mm (n = 61).

Habitat: Eelgrass, kelp, sand, bedrock

Comments: Only 66 fish captured; in Southeast, most caught in northern outside waters. Lots of color variability in appearance. Use of a hand lens and placing live specimens in water can help identify diagnostic characteristics. Relatively small mouth and rough lateral line (when stroked anteriorily) help distinguish from padded sculpin and smoothhead sculpin.

Similar to: Padded sculpin (p. 156); smoothhead sculpin (p. 168)

References: Mecklenburg et al. 2002 (p. 461); Lamb and Edgell 2010 (p. 204); Johnson et al. 2012 (p. 57)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

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SCULPINS

Scalyhead sculpin
Cottidae - *Artedius harringtoni*

Adult (101 mm TL): single black dorsal fin spot & distinct circular markings

Adult (81 mm TL): no spots on 1st dorsal fin

Adult male (69 mm TL): large cirri & orange gill membrane in mature males

Juvenile (56 mm TL): faint dorsal fin spot

163

Fishes in this guide are arranged alphabetically by general group name (e.g., cods, flatfishes, and forage fishes) and then alphabetically by common name within each group (e.g., Arctic cod, Pacific cod, and Pacific tomcod). Fish groups are distinguished from each other by different colored headers at the top of the pages. Within each group of fishes, individual accounts of each of the species captured are profiled; detailed profiles are provided for most species, but some of the rare species (e.g., fewer than 5 individuals caught) warrant only a brief profile. Detailed, full accounts include information on fish identification, life stage, habitat, distribution, and a series of photos arranged from oldest to youngest life stages represented in our catches. Brief, mini profiles are typically limited to a single photo and the region(s) of capture. Photo captions describe the life stage and size of the specimen, and in some cases, highlight a key identifying characteristic.

Definitions of the descriptive categories for the full species accounts are as follows:

Field ID - Describes the major identifying characteristics of each species, largely obtained from the literature. Maximum recorded length is also included (Mecklenburg et al. 2002 or FishBase 2014).

Life Stage - Describes the dominant life stage captured (e.g., only juveniles; determined from FishBase (2014) length-at-maturity data), and the length range and mean length for all years and regions sampled. Fish were measured to the nearest millimeter (mm) fork length (FL) or total length (TL) depending on species; n = total number of fish measured.

Habitat - Identifies the habitat types (bedrock, eelgrass, kelp, and sand) where each species was captured; some species were captured in only one habitat type, whereas others were captured in all four habitats. For each species, a relative measurement of occurrence within each habitat is presented. The habitat with the highest frequency of occurrence (i.e., number of hauls per habitat a species was captured divided by total number of hauls captured, multiplied by 100) is listed first and continues in descending order.

Comments - Includes general comments on fish catch, specific distribution information, and where appropriate, key diagnostic characteristics we find helpful in the field.

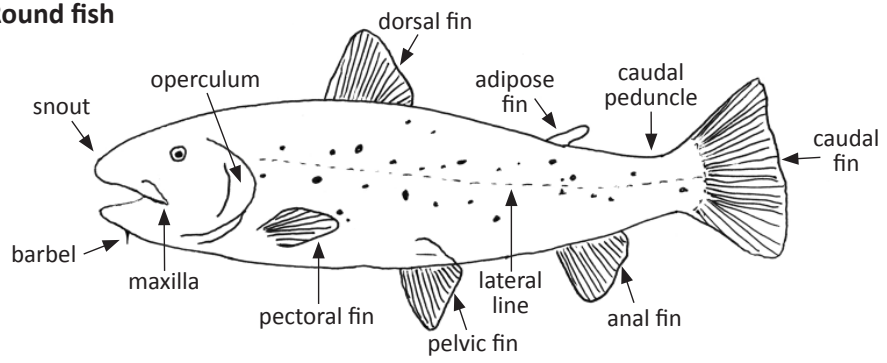
Similar to - A list of other species profiled in this guide that are most likely to be confused with the given species.

References - Sources used for diagnostic characteristics, distribution, and size information for a given species.

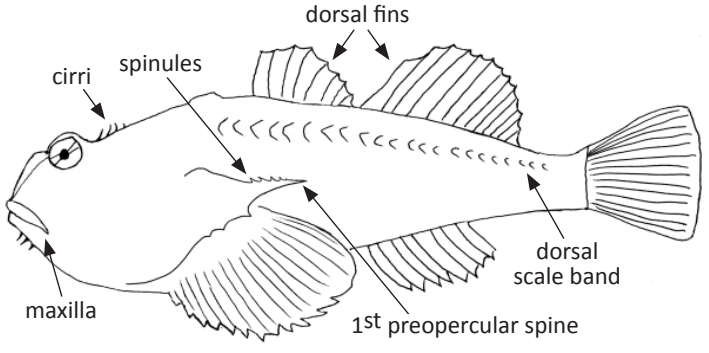
Distribution - Illustrates the occurrence of species within the Arctic, Bristol Bay, Aleutians, Southcentral, Prince William Sound, and Southeast regions (Fig. 1). A distribution table and map are provided for each species. The table shows the known occurrence and relative abundance for the given species within each region. Known distribution is the published range distribution of a given species based on the literature (Mecklenburg et al. 2002); in some cases, a given species was reported to occur in a region that we sampled, but we did not capture them there with a beach seine. Abundance, in this context, is a relative measurement of how common or ubiquitous a given species is based on percent frequency of occurrence within each region (i.e., number of hauls a species was captured divided by total number of hauls made, multiplied by 100); the number of solid fish icons per region represents the percent of hauls in which the species was captured: 1 fish (< 5% of hauls in the region), 2 fish (5-9%), 3 fish (10-24%), 4 fish (25-49%), and 5 fish (≥ 50%). An absence of a solid fish icon means the given species was not captured in that region. The map has a solid dot in those regions where the species was captured. The blue outline of Alaska represents the coast, not species distribution.

DIAGNOSTIC FEATURES OF FISH TYPES

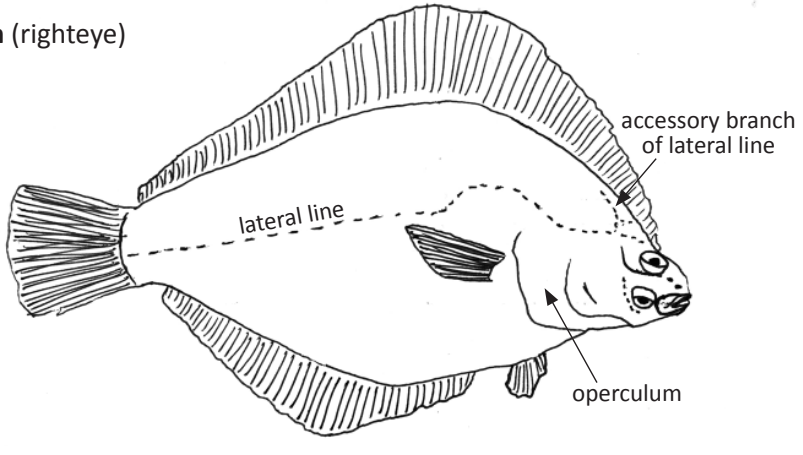
Round fish



Sculpin



Flatfish (righteye)



GLOSSARY

Here are some key words used throughout this guide; the morphological characteristics used to identify fish were adapted from Mecklenburg et al. (2002).

Barbel – fleshy appendage or projection on the snout, around the mouth, or on the lower jaw (some gadids).

Caudal peduncle – the part of the body between the dorsal or anal fin and base of the caudal fin.

Cirrus (plural cirri) – slender, long, hair-like appendage; sometimes referred to as whiskers.

Flatfishes – in this guide, includes lefteye (Paralichthyidae) and righteye (Pleuronectidae) flatfishes. Group often referred to as flounders and soles.

Forage fishes – small, schooling fishes that are important prey for other fishes, seabirds, and marine mammals. In this guide, includes Pacific herring (Clupeidae), Pacific sand lance (Ammodytidae), Pacific sandfish (Trichodontidae), and six species of smelt (Osmeridae).

Juvenile – not sexually mature; based on external characteristics and reported lengths at maturity.

Lateral line – generally, a line of pores extending along the side of the body; can be single or multiple and have accessory branches.

Maxilla – outermost or hindmost, main bone of the upper jaw; one on each side.

Operculum – cover over the gills on each side of the head.

Spinule – small, pointed projections, often found on the upper preopercular spine in cottids.

Young-of-the-year (YOY) – juveniles less than 1 year of age; sometimes referred to as age-0.

Arctic cod

Field ID: Large head tapering to slender body; lower jaw slightly protruding; small barbel under chin; three dorsal fins; lateral line wavy under 2nd dorsal fin; strongly forked caudal fin. Maximum length 400 mm TL.

Life stage: Only juveniles captured.
Size range 23-83 mm TL, mean TL = 40 mm (n = 141).

Habitat: Sand

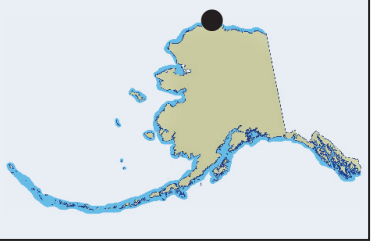
Comments: Captured only in Beaufort and Chukchi seas (Arctic). Wavy lateral line very difficult to see in fish < 100 mm TL. Blue eyes characteristic of larvae.

Similar to: Saffron cod (p. 14); walleye pollock (p. 16)

References: Mecklenburg et al. 2002 (p. 290); Johnson et al. 2012 (p. 83)

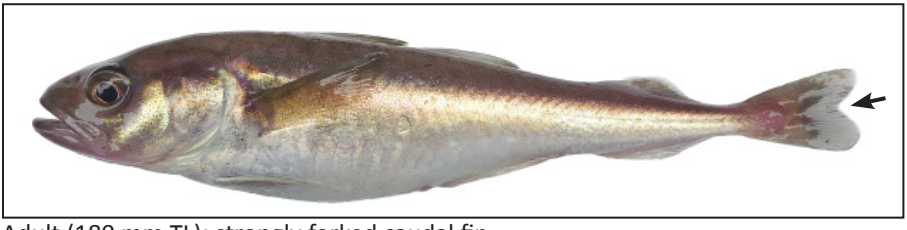
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	●●●
Bristol Bay	✓	
Aleutians		
Southcentral		
PWS		
Southeast		

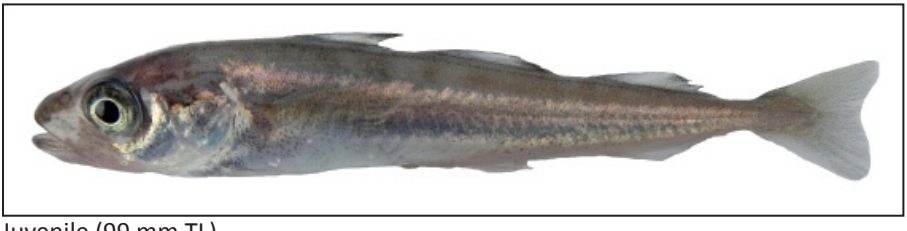


Arctic cod

Gadidae - *Boreogadus saida*



Adult (180 mm TL): strongly forked caudal fin



Juvenile (99 mm TL)

Juvenile (72 mm TL)

YOY (61 mm TL)

Larva (36 mm TL): blue eyes

Pacific cod

Field ID: Large head with bulbous snout and upper jaw slightly protruding; long barbel under chin; orangish-brown body with blotches or spots; three dorsal fins; lateral line becomes interrupted near caudal fin. Maximum length 120 cm TL.

Life stage: Only juveniles captured.
Size range 21-270 mm TL, mean TL = 71 mm (n = 2,140).

Habitat: Eelgrass, kelp, bedrock, sand

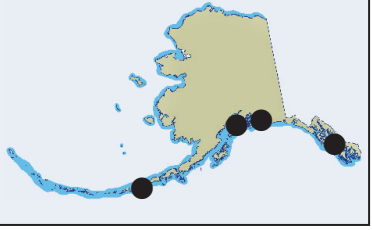
Comments: Captured in all regions except Arctic and Bristol Bay. We sometimes refer to them as “leopards” because of their spots and blotches. An important commercial fish in Alaska.

Similar to: Pacific tomcod (p. 12); saffron cod (p. 14); walleye pollock (p. 16)

References: Mecklenburg et al. 2002 (p. 296); Johnson et al. 2012 (p. 85)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Pacific cod

Gadidae - *Gadus macrocephalus*

Juvenile (229 mm TL): “leopard” markings distinct

Long chin barbel

YOY (77 mm TL): “leopard” markings becoming evident

YOY (57 mm TL): long chin barbel apparent at young age

YOY (45 mm TL)

Pacific tomcod

Field ID: Bulbous snout with upper jaw slightly protruding; small barbel under chin; greenish, silvery body without spots or mottling; three dorsal fins, 1st noticeably long and pointed; lateral line continuous to insertion of 3rd dorsal fin, then interrupted to caudal fin. Maximum length 370 mm TL.

Life stage: Mostly juveniles captured.
Size range 72-235 mm TL, mean TL = 120 mm (n = 19).

Habitat: Sand, eelgrass, kelp

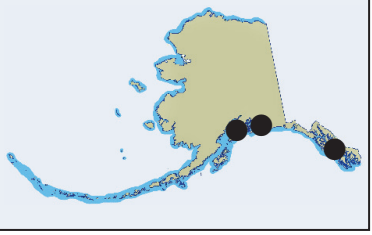
Comments: The least common cod that we captured; only 19 fish caught in Southcentral, Prince William Sound, and Southeast.

Similar to: Pacific cod (p. 10); saffron cod (p. 14); walleye pollock (p. 16)

References: Mecklenburg et al. 2002 (p. 294); Johnson et al. 2012 (p. 86)

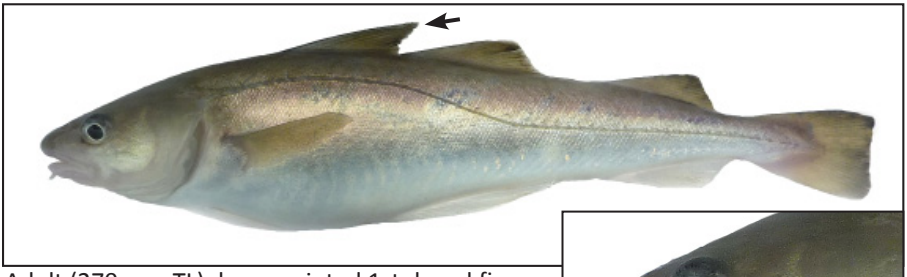
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians		
Southcentral	✓	
PWS	✓	
Southeast	✓	



Pacific tomcod

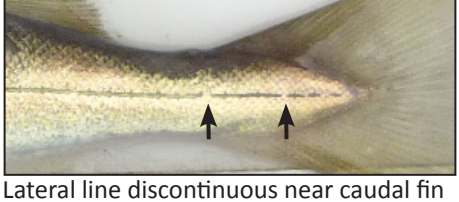
Gadidae - *Microgadus proximus*



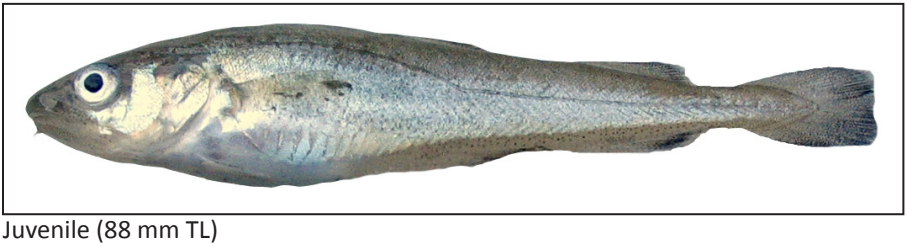
Adult (270 mm TL): long, pointed 1st dorsal fin

Small chin barbel

Juvenile (180 mm TL)



Lateral line discontinuous near caudal fin



Juvenile (88 mm TL)

Saffron cod

Field ID: Bulbous snout with upper jaw slightly protruding; small barbel under chin; yellowish body; three dorsal fins; lateral line continuous to about origin of 2nd dorsal fin, then interrupted to caudal fin. Maximum length 550 mm TL.

Life stage: Mostly juveniles captured.
Size range 20-365 mm TL, mean TL = 118 mm (n = 2,601).

Habitat: Eelgrass, sand, kelp, bedrock

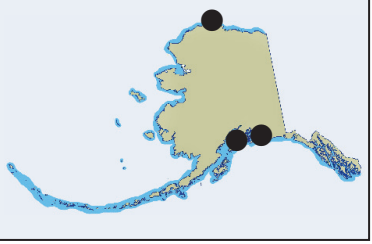
Comments: Very common in Southcentral and Prince William Sound (PWS); often seen in large schools in PWS, especially in eelgrass. Fin margins often black in larvae and YOY. Larvae often have blue eyes. Sometimes referred to as “yellow-bellies”.

Similar to: Arctic cod (p. 8); Pacific cod (p. 10); Pacific tomcod (p. 12)

References: Mecklenburg et al. 2002 (p. 293); Johnson et al. 2012 (p. 84)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	●●●○○
Bristol Bay	✓	○○○○○
Aleutians		○○○○○
Southcentral	✓	●●●●●
PWS	✓	●●●●●
Southeast	✓	○○○○○

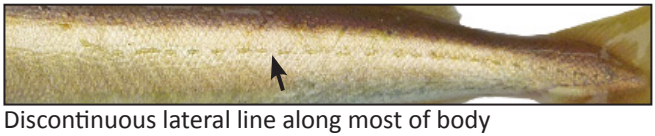


Saffron cod

Gadidae - *Eleginus gracilis*

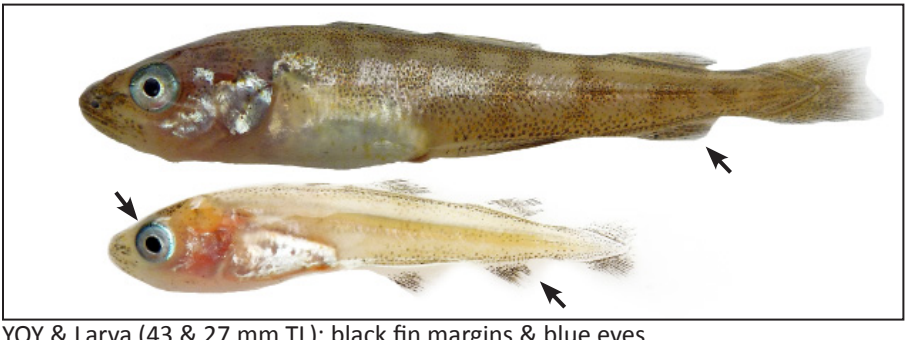
Adult (365 mm TL): “yellow belly” characteristic of adult

Juvenile (195 mm TL): bulbous snout & small chin barbel



Discontinuous lateral line along most of body

YOY (65 mm TL): bulbous snout apparent at young age



YOY & Larva (43 & 27 mm TL): black fin margins & blue eyes

Walleye pollock

Field ID: Lower jaw protruding; barbel under chin very small or absent; slender, olive-colored body; three dorsal fins; lateral line continuous to origin of 2nd dorsal fin and then interrupted; caudal fin indented but not strongly forked. Maximum length 910 mm TL.

Life stage: Only juveniles captured.
Size range 25-242 mm TL, mean TL = 60 mm (n = 2,613).

Habitat: Eelgrass, kelp, bedrock, sand

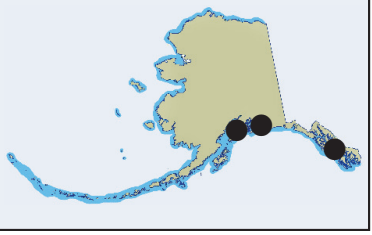
Comments: Based on total catch, the most abundant cod and second most abundant species overall. At times, extremely abundant in northern inside waters of Southeast. Taxonomists recently changed the scientific name from *Theragra chalcogramma* back to the original name, *Gadus chalcogrammus*. Young walleye pollock are not hardy; minimize handling and release as soon as possible. A very important commercial fish in Alaska.

Similar to: Pacific cod (p. 10); Pacific tomcod (p. 12); saffron cod (p. 14)

References: Mecklenburg et al. 2002 (p. 295); Johnson et al. 2012 (p. 87)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Walleye pollock

Gadidae - *Gadus chalcogrammus*

Juvenile (200 mm TL): lower jaw protruding

Small chin barbel

Juvenile (170 mm TL)

Juvenile (121 mm TL)

YOY (72 mm TL)

YOY (43 mm TL): protruding lower jaw apparent even at young age

Pacific sanddab

Field ID: Eyed side mottled brown, often with rust colored spots, and blind side off-white to tan; high bony ridge above lower eye; long pectoral fin reaching to middle of lower eye when folded forward; lateral line nearly straight. Maximum length 410 mm TL.

Life stage: Only juveniles captured.
Size range 35-160 mm TL, mean TL = 81 mm (n = 49).

Habitat: Eelgrass, sand, bedrock, kelp

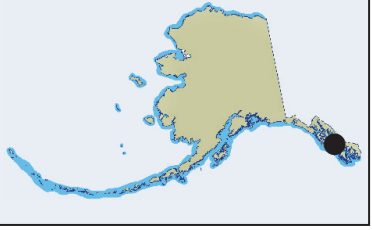
Comments: Captured only in Southeast, mostly in northern outside waters. Can be difficult to distinguish from speckled sanddab; best diagnostic feature is that pectoral fin reaches lower eye when folded forward. Young do not transform (i.e., both eyes on left side) until about 30 mm TL.

Similar to: Speckled sanddab (p. 20)

References: Kramer et al. 1995 (p. 14); Mecklenburg et al. 2002 (p. 816); Johnson et al. 2012 (p. 113)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians	✓	
Southcentral		
PWS		
Southeast	✓	

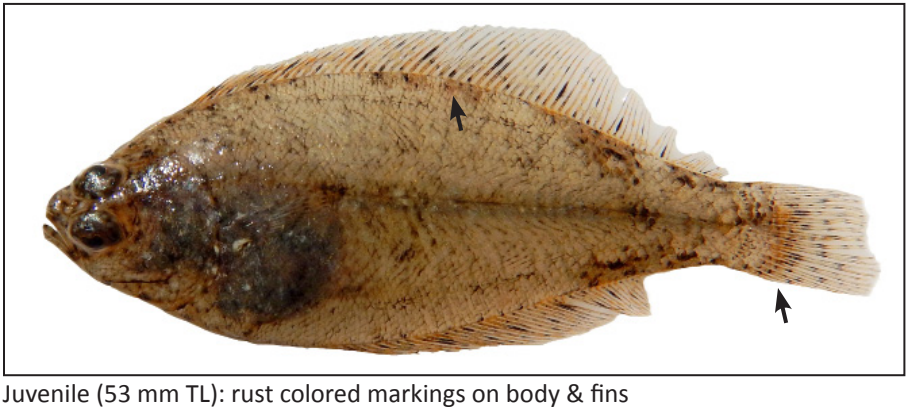


Pacific sanddab

Paralichthyidae - *Citharichthys sordidus*

Juvenile (137 mm TL): “long” pectoral fin, reaching eye when folded forward

Bony ridge between eyes



Juvenile (53 mm TL): rust colored markings on body & fins

Speckled sanddab

Field ID: Eyed side tan to olive brown and speckled with black, and blind side off-white; no bony ridge above lower eye; short pectoral fin barely reaches or does not reach eye when folded forward; lateral line nearly straight. Maximum length 170 mm TL.

Life stage: Adults and juveniles captured.
Size range 35-163 mm TL, mean TL = 93 mm (n = 77).

Habitat: Eelgrass, sand, kelp

Comments: Most captured in outside waters of Southeast. Can be difficult to distinguish from Pacific sanddab; best diagnostic feature is that pectoral fin does not reach lower eye when folded forward. Young do not transform (i.e., both eyes on left side) until about 30 mm TL.

Similar to: Pacific sanddab (p. 18)

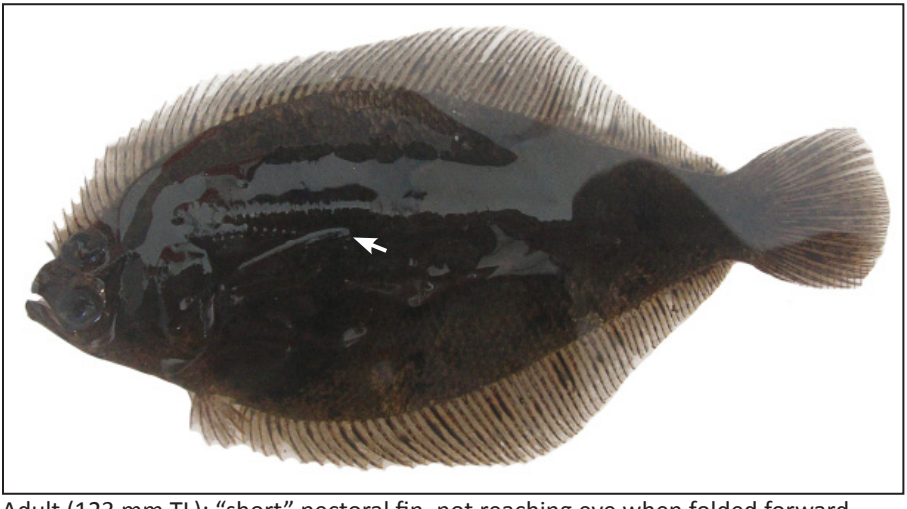
References: Kramer et al. 1995 (p. 16); Mecklenburg et al. 2002 (p. 817); Johnson et al. 2012 (p. 114)

Distribution:

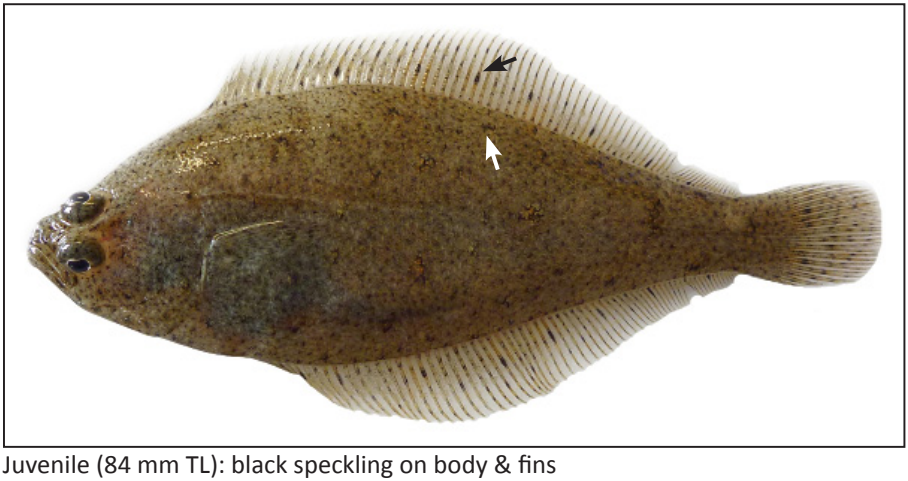
Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral		
PWS	✓	
Southeast	✓	

Speckled sanddab

Paralichthyidae - *Citharichthys stigmaeus*



Adult (123 mm TL): “short” pectoral fin, not reaching eye when folded forward



Juvenile (84 mm TL): black speckling on body & fins

Alaska plaice

Field ID: Eyed side olive green to black and blind side yellow; juveniles can be spotted; 4 to 7 bony knobs behind eyes; lateral line slightly curved over pectoral fin. Maximum length 620 mm TL.

Life stage: Only juveniles captured.
Size range 69-269 mm TL, mean TL = 135 mm (n = 6).

Habitat: Sand, eelgrass

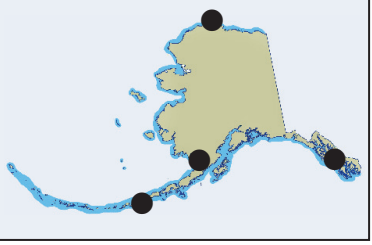
Comments: Rare in our catches; only 6 fish caught. Knobs behind eyes clearly visible even in small specimens.

Similar to: Arctic flounder (p. 24)

References: Kramer et al. 1995 (p. 78); Mecklenburg et al. 2002 (p. 835); Johnson et al. 2012 (p. 126)

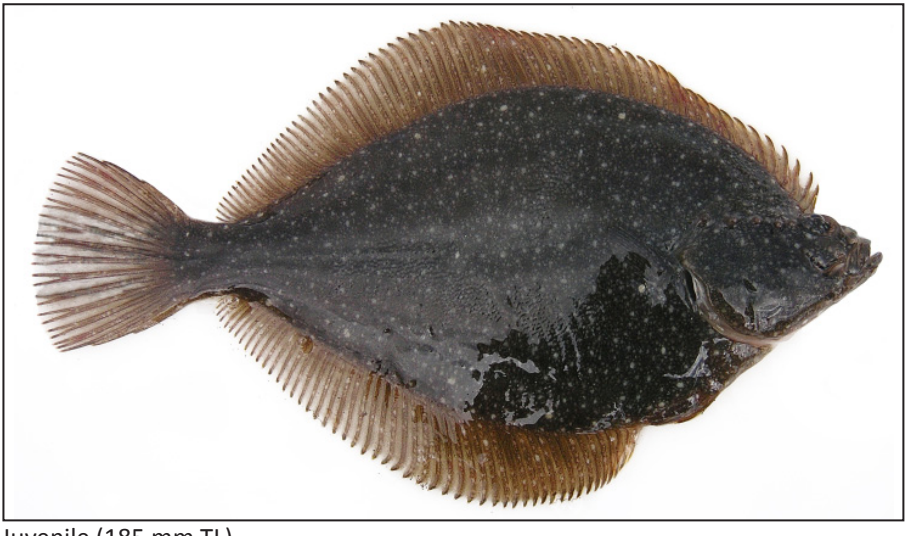
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	●
Bristol Bay	✓	●●●
Aleutians		●
Southcentral	✓	
PWS	✓	
Southeast	✓	●

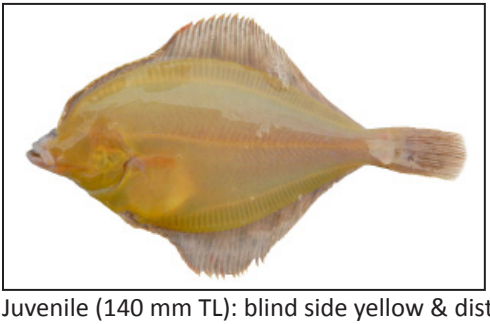


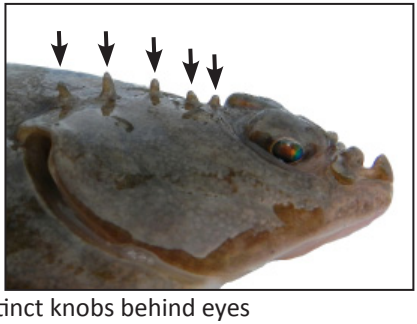
Alaska plaice

Pleuronectidae - *Pleuronectes quadrituberculatus*



Juvenile (185 mm TL)





Juvenile (140 mm TL): blind side yellow & distinct knobs behind eyes

Juvenile (60 mm TL): head knobs easily seen in young fish when in hand

Arctic flounder

Field ID: Eyed side brownish with dark blotches, and blind side white to lime green; prominent ridge behind eyes; dorsal and anal fins usually with dark spots; lateral line nearly straight. Maximum length 350 mm TL.

Life stage: Only juveniles captured.
Size range 23-227 mm TL, mean TL = 87 mm (n = 33).

Habitat: Sand

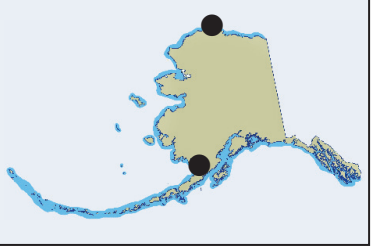
Comments: Only 33 fish captured in Beaufort and Chukchi seas (Arctic) and Nushagak Bay (Bristol Bay).

Similar to: Alaska plaice (p. 22)

References: Kramer et al. 1995 (p. 70); Mecklenburg et al. 2002 (p. 836); Johnson et al. 2012 (p. 125)

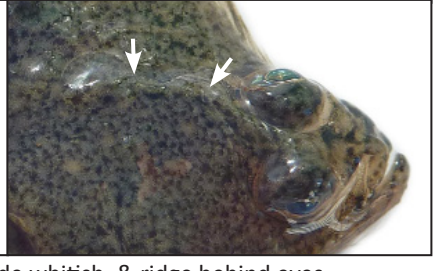
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians	✓	
Southcentral		
PWS		
Southeast		

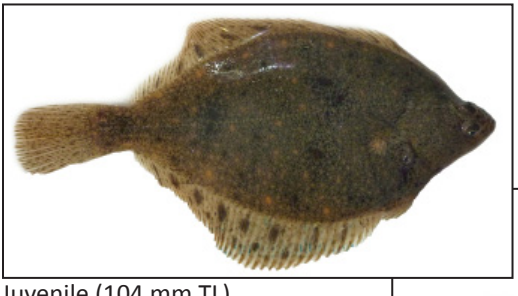


Arctic flounder

Pleuronectidae - *Pleuronectes glacialis*



Juvenile (130 mm TL): flat lateral line, blind side whitish, & ridge behind eyes



Juvenile (104 mm TL)

Juvenile (70 mm TL)

Butter sole

Field ID: Eyed side brownish and blind side white; dorsal and anal fins edged with yellow in adults; upper eye not visible from blind side; lateral line with low arch above pectoral fin; accessory dorsal branch moderately long, extending beyond operculum; caudal fin often pointed. Maximum length 550 mm TL.

Life stage: Only juveniles captured.
Size range 57-124 mm TL, mean TL = 72 mm (n = 5).

Habitat: Eelgrass, sand

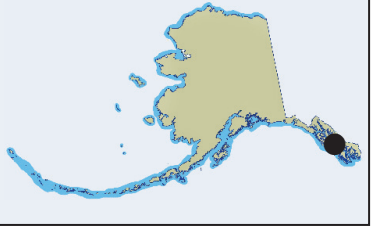
Comments: Rare in our catches; only 7 fish captured in northern Southeast. Scales extend onto dorsal fin rays; an especially helpful diagnostic in identifying smaller specimens.

Similar to: English sole (p. 30); rock sole (p. 36)

References: Kramer et al. 1995 (p. 72); Mecklenburg et al. 2002 (p. 842); Johnson et al. 2012 (p. 118)

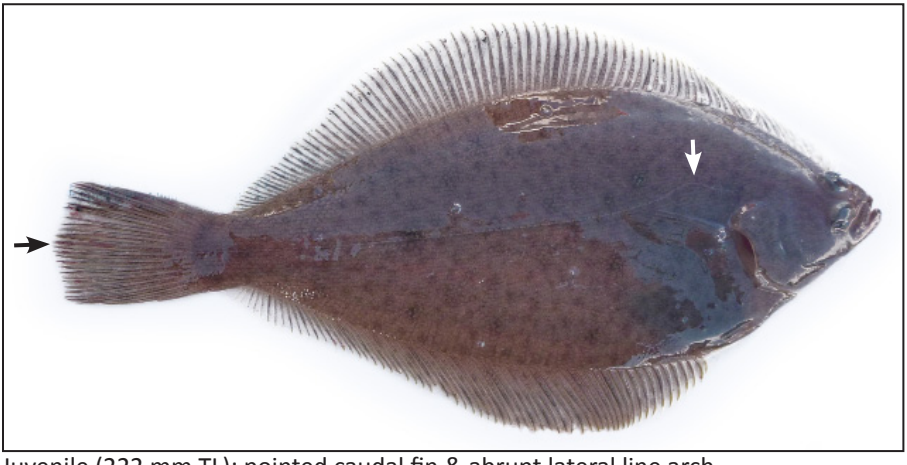
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

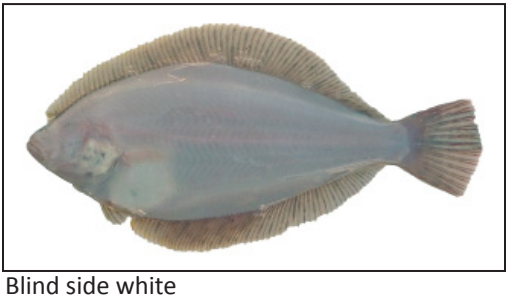


Butter sole

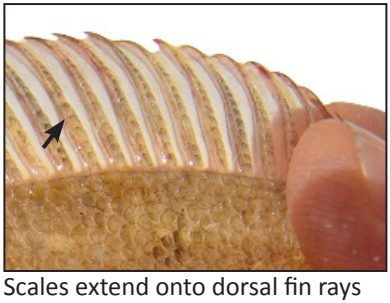
Pleuronectidae - *Isopsetta isolepis*



Juvenile (222 mm TL): pointed caudal fin & abrupt lateral line arch



Blind side white



Scales extend onto dorsal fin rays

Juvenile (100 mm TL)

C-O sole

Field ID: Eyed side with conspicuous dark spot in middle of body and dark spot and dark curved bar on caudal fin; blind side white; lateral line almost straight with long accessory dorsal branch extending beyond middle of body. Maximum length 360 mm TL.

Life stage: Adults and juveniles captured.
Size range 98-265 mm TL, mean TL = 167 mm (n = 4).

Habitat: Eelgrass, kelp

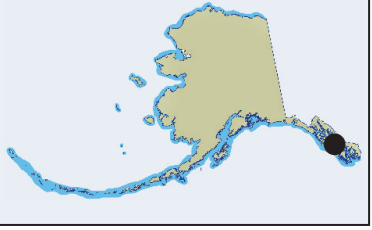
Comments: Rare in our catches; only 5 fish captured in outside waters of Southeast.

Similar to: Relatively easy to identify

References: Kramer et al. 1995 (p. 84); Mecklenburg et al. 2002 (p. 839); Johnson et al. 2012 (p. 127)

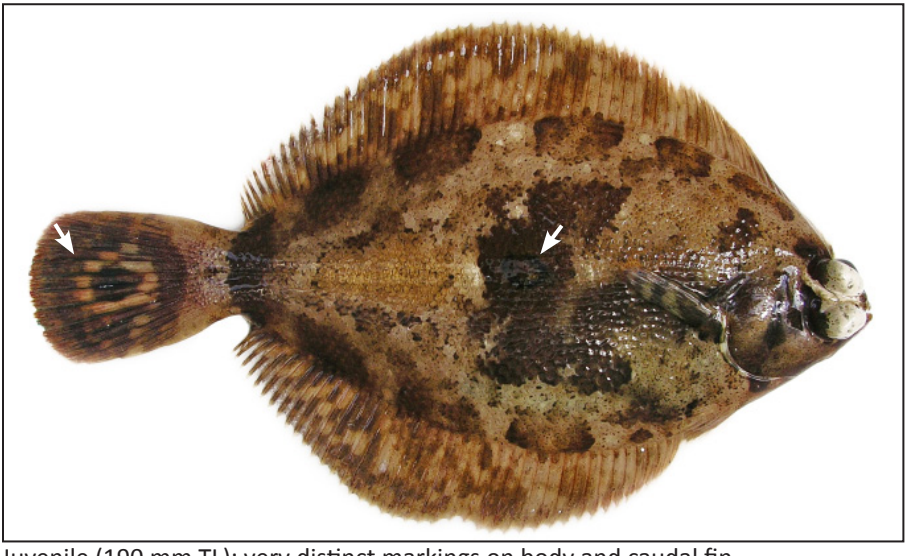
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral		
PWS		
Southeast	✓	

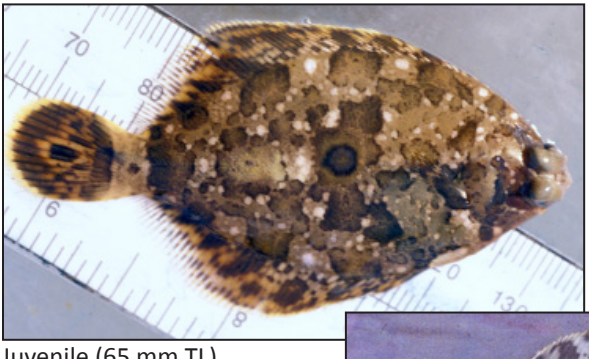


C-O sole

Pleuronectidae - *Pleuronichthys coenosus*



Juvenile (190 mm TL): very distinct markings on body and caudal fin



Juvenile (65 mm TL)

Blind side white

English sole

Field ID: Eyed side brownish, sometimes with white spots, and blind side white to pale yellow; head and snout elongate and pointed; portion of upper eye visible from blind side; lateral line nearly straight with low curve above pectoral fin and long anterior branch. Maximum length 610 mm TL.

Life stage: Only juveniles captured.
Size range 21-212 mm TL, mean TL = 79 mm (n = 189).

Habitat: Eelgrass, sand, kelp

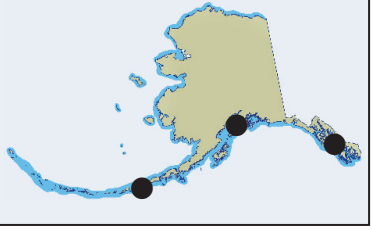
Comments: Most captured in outside waters of Southeast. As fish increase in size, eye becomes more readily visible from blind side.

Similar to: Butter sole (p. 26); rock sole (p. 36)

References: Kramer et al. 1995 (p. 82); Mecklenburg et al. 2002 (p. 841); Johnson et al. 2012 (p. 123)

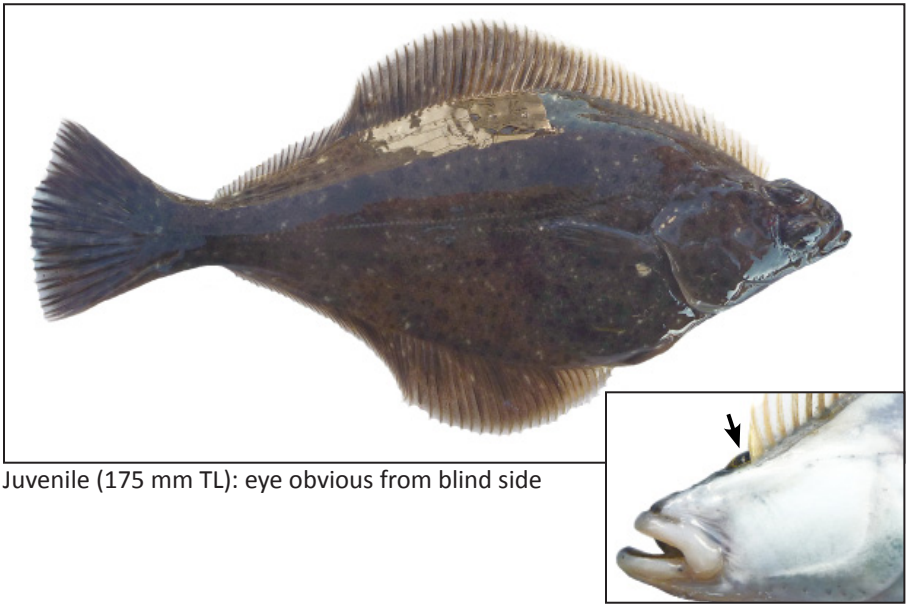
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

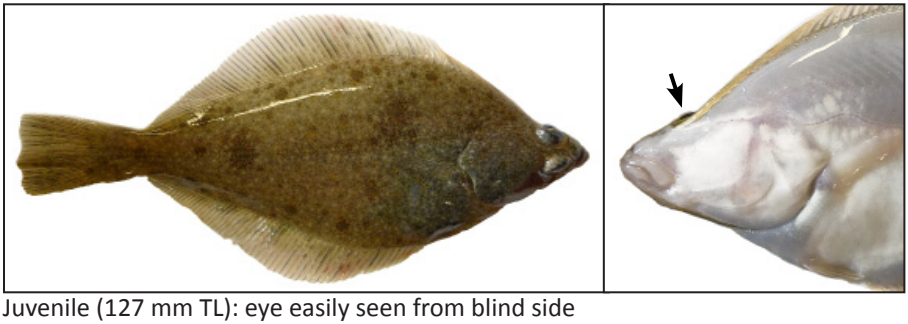


English sole

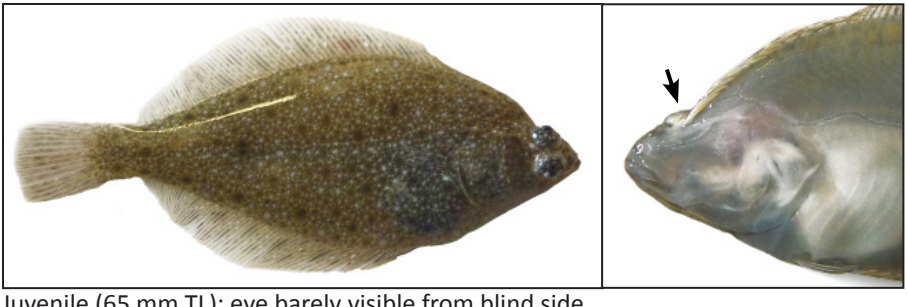
Pleuronectidae - *Parophrys vetulus*



Juvenile (175 mm TL): eye obvious from blind side



Juvenile (127 mm TL): eye easily seen from blind side



Juvenile (65 mm TL): eye barely visible from blind side

Longhead dab

Field ID: Eyed side brown with white spots, and blind side yellow; head profile concave above eyes with pronounced snout; maxilla very small, barely extending to below anterior edge of eye. Maximum length 410 mm TL.

Life stage: Only juveniles captured.
Size range 44-91 mm TL, mean TL = 67 mm (n = 12).

Habitat: Sand

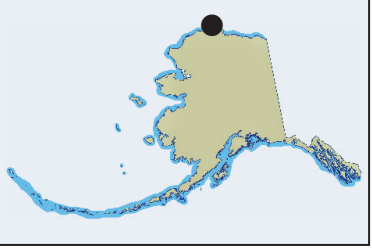
Comments: Only 12 fish captured in the Beaufort and Chukchi seas (Arctic). As fish increase in size, characteristic head profile becomes more pronounced; oftentimes easier to see the diagnostic concavity above eye and prominent snout from blind side.

Similar to: Relatively easy to identify

References: Kramer et al. 1995 (p. 76); Mecklenburg et al. 2002 (p. 843); Johnson et al. 2012 (p. 121)

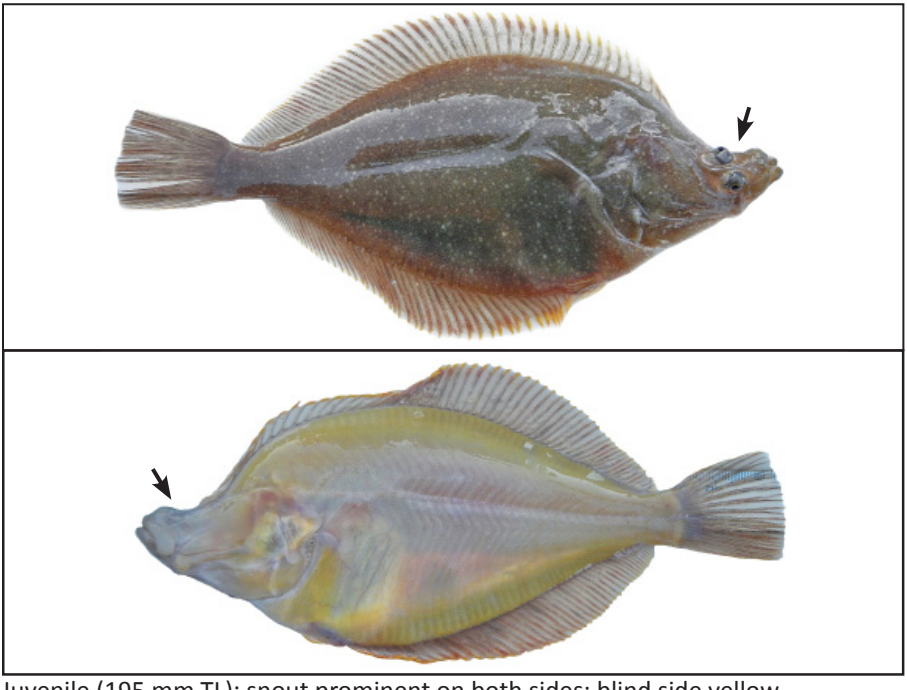
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians		
Southcentral		
PWS		
Southeast		

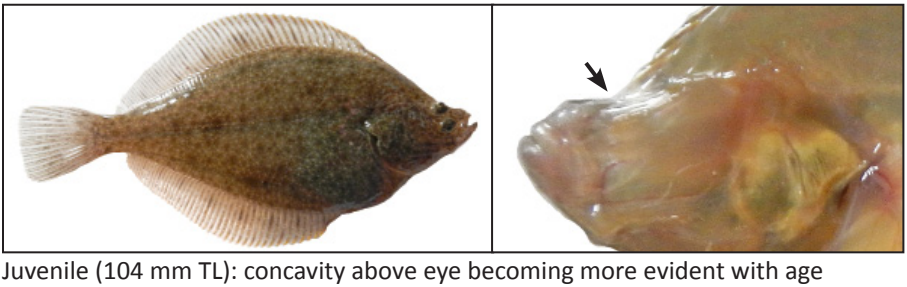


Longhead dab

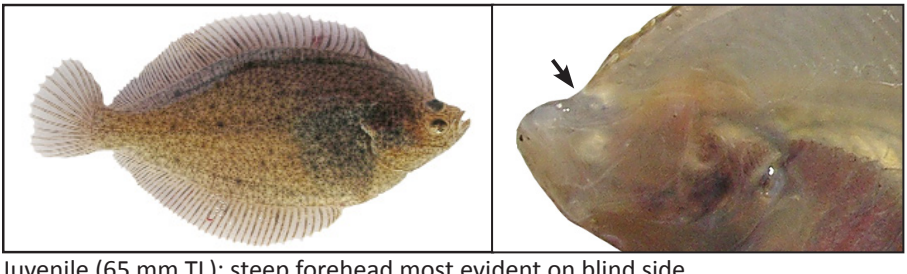
Pleuronectidae - *Limanda proboscidea*



Juvenile (195 mm TL): snout prominent on both sides; blind side yellow



Juvenile (104 mm TL): concavity above eye becoming more evident with age



Juvenile (65 mm TL): steep forehead most evident on blind side

Pacific halibut

Field ID: Eyed side greenish brown to dark brown with lighter blotches, and blind side white; crescent shaped caudal fin; high arch in lateral line above pectoral fin; accessory dorsal branch absent. Maximum length 267 cm TL.

Life stage: Only early juveniles captured (mostly YOY).
Size range 25-68 mm TL, mean TL = 31 mm (n = 16).

Habitat: Sand, eelgrass

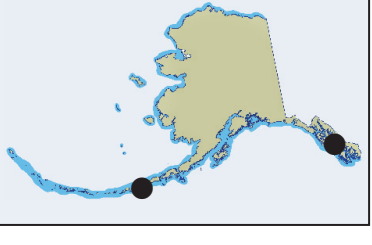
Comments: Only 20 fish captured; 16 in Yakutat Bay (northern Southeast) and 4 in Aleutians. Distinct horseshoe pattern on eyed side of YOY. Narrow caudal peduncle helps distinguish from juvenile rock sole. Nursery areas are unknown for this very important commercial, subsistence, and sport fish in Alaska.

Similar to: Rock sole (p. 36)

References: Kramer et al. 1995 (p. 54); Mecklenburg et al. 2002 (p. 823)

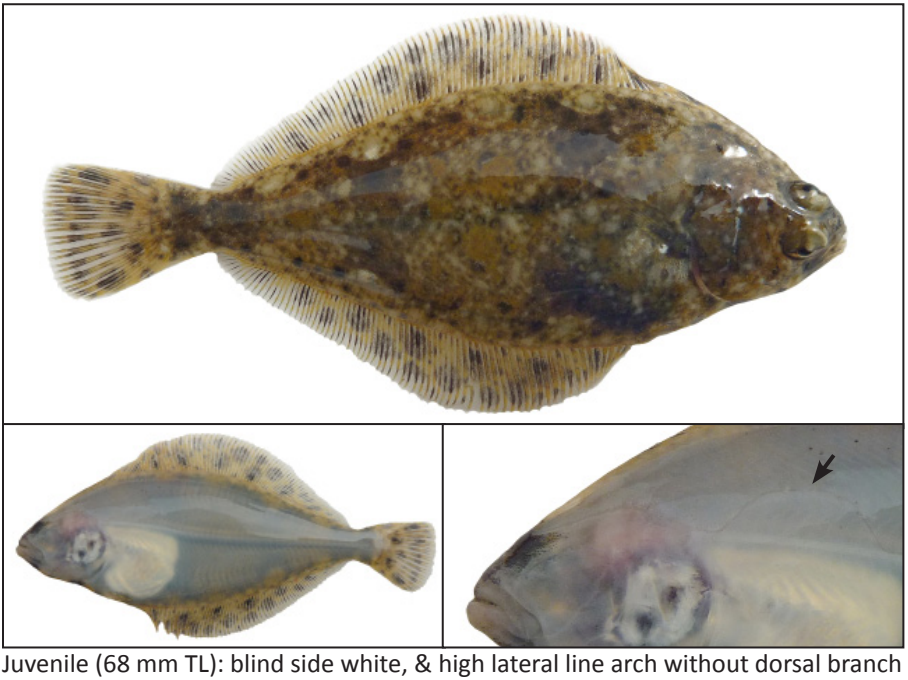
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

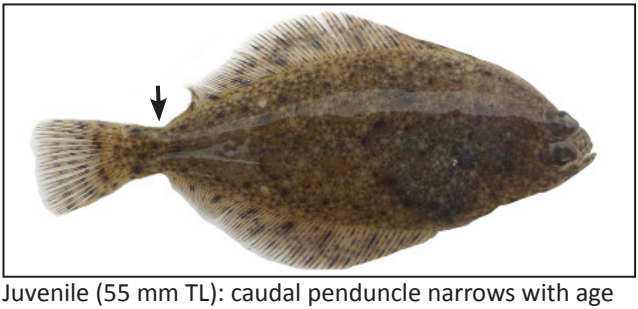


Pacific halibut

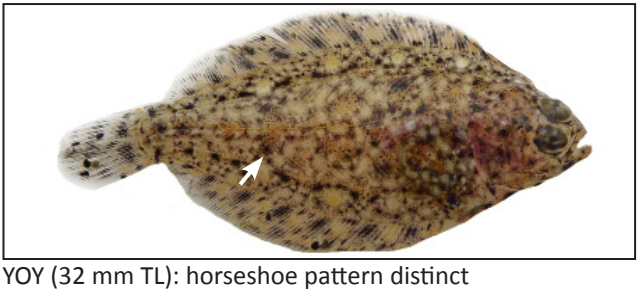
Pleuronectidae - *Hippoglossus stenolepis*



Juvenile (68 mm TL): blind side white, & high lateral line arch without dorsal branch



Juvenile (55 mm TL): caudal penduncle narrows with age



YOY (32 mm TL): horseshoe pattern distinct

Rock sole

Field ID: Eyed side gray, olive, dark brown or black, mottled with lighter or darker shades, and blind side white; dorsal and anal fins have dark blotches or bars; high arch in lateral line above pectoral fin, and short accessory branch. Maximum length 690 mm TL.

Life stage: Mostly juveniles captured.
Size range 30-522 mm TL, mean TL = 120 mm (n = 680).

Habitat: Sand, eelgrass, kelp, bedrock

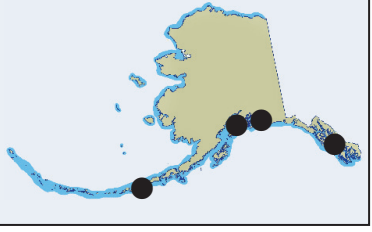
Comments: The most abundant flatfish captured based on total catch. Catches greatest in northern inside waters of Southeast. We could not easily discern the northern rock sole (*L. polyxystra*) from the southern rock sole (*L. bilineata*). An important commercial fish in Alaska.

Similar to: Butter sole (p. 26); English sole (p. 30); Pacific halibut (p. 34)

References: Kramer et al. 1995 (p. 68); Mecklenburg et al. 2002 (pp. 837-38); Johnson et al. 2012 (p. 119)

Distribution:

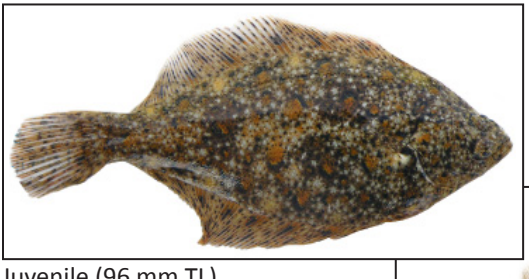
Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



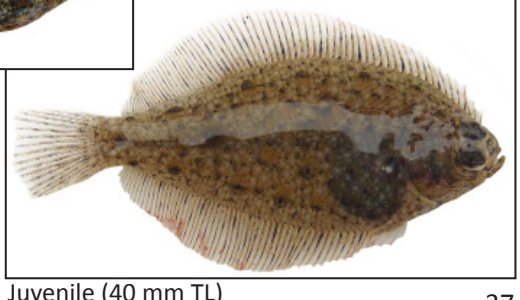
Rock sole

Pleuronectidae - *Lepidopsetta* spp.

Juvenile (104 mm TL): blind side white; high lateral line arch with dorsal branch



Juvenile (96 mm TL)



Juvenile (40 mm TL)

Sand sole

Field ID: Eyed side light brown with white and black speckling, and blind side white; large mouth; 1st dorsal fin rays (adjacent to eye) long and largely free from the fin membrane; lateral line slightly curved above pectoral fin with short to moderate accessory branch. Maximum length 630 mm TL.

Life stage: Only juveniles captured.
Size range 34-202 mm TL, mean TL = 97 mm (n = 130).

Habitat: Sand, eelgrass

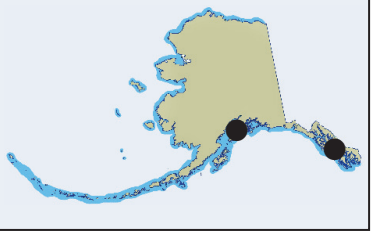
Comments: Only 138 fish captured, mostly in Yakutat Bay (northern Southeast).

Similar to: Butter sole (p. 26)

References: Kramer et al. 1995 (p. 92); Mecklenburg et al. 2002 (p. 824); Johnson et al. 2012 (p. 128)

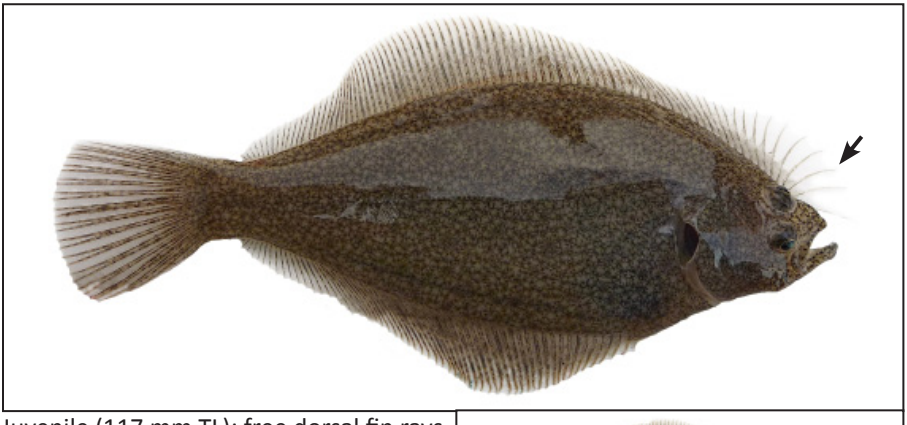
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral	✓	
PWS	✓	
Southeast	✓	



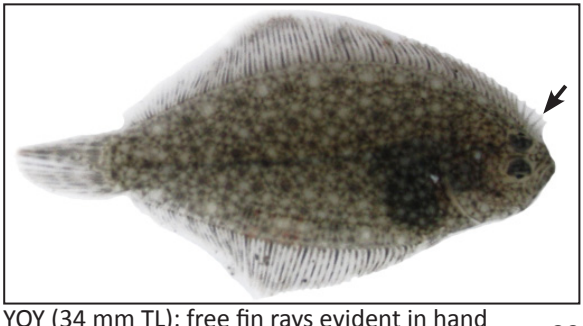
Sand sole

Pleuronectidae - *Psettichthys melanostictus*



Juvenile (117 mm TL): free dorsal fin rays & blind side white

Juvenile (58 mm TL)



YOY (34 mm TL): free fin rays evident in hand

Starry flounder

Field ID: Eyed side with obvious dark bands on dorsal, anal, and caudal fins; lateral line has slight arch over pectoral fin. Maximum length 910 mm TL.

Life stage: Mostly juveniles captured.
Size range 12-560 mm TL, mean TL = 154 mm (n = 731).

Habitat: Sand, eelgrass, kelp

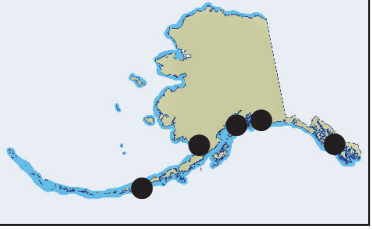
Comments: The most widely distributed and second most common flatfish caught based on total catch. In some regions, left-eyed starry flounder are as common or more common than right-eyed. Transform (i.e., both eyes on one side of head) early, as small as 10 mm TL.

Similar to: Relatively easy to identify

References: Kramer et al. 1995 (p. 62); Mecklenburg et al. 2002 (p. 833); Johnson et al. 2012 (p. 124)

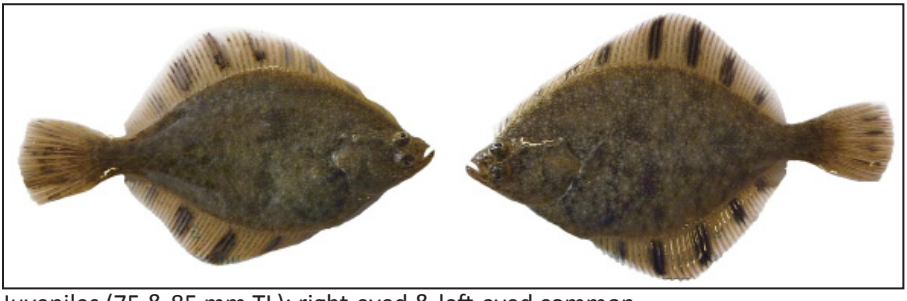
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

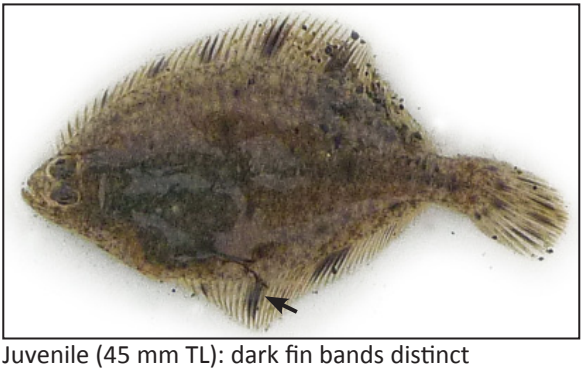


Starry flounder

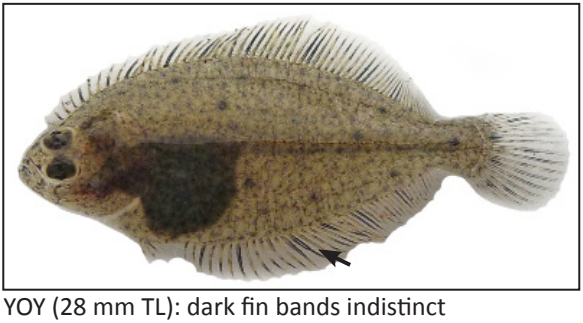
Pleuronectidae - *Platichthys stellatus*



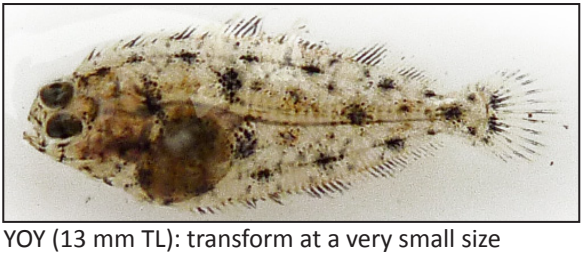
Juveniles (75 & 85 mm TL): right-eyed & left-eyed common



Juvenile (45 mm TL): dark fin bands distinct



YOY (28 mm TL): dark fin bands indistinct



YOY (13 mm TL): transform at a very small size

Yellowfin sole

Field ID: Eyed side olive to brown with dark mottling, and blind side white; fins with yellowish tinge; narrow black line at base of dorsal and anal fins; lateral line with high arch above pectoral fin and no accessory branch. Maximum length 490 mm TL.

Life stage: Mostly juveniles captured.
Size range 60-285 mm TL, mean TL = 107 mm (n = 81).

Habitat: Eelgrass, sand, kelp

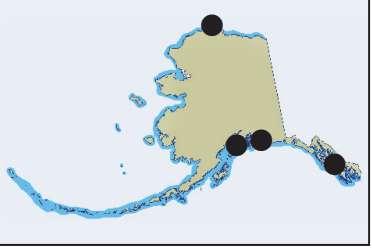
Comments: Only 113 fish captured, most in northern inside waters of Southeast. An important commercial fish in Alaska.

Similar to: Rock sole (p. 36)

References: Kramer et al. 1995 (p. 66); Mecklenburg et al. 2002 (p. 844); Johnson et al. 2012 (p. 120)

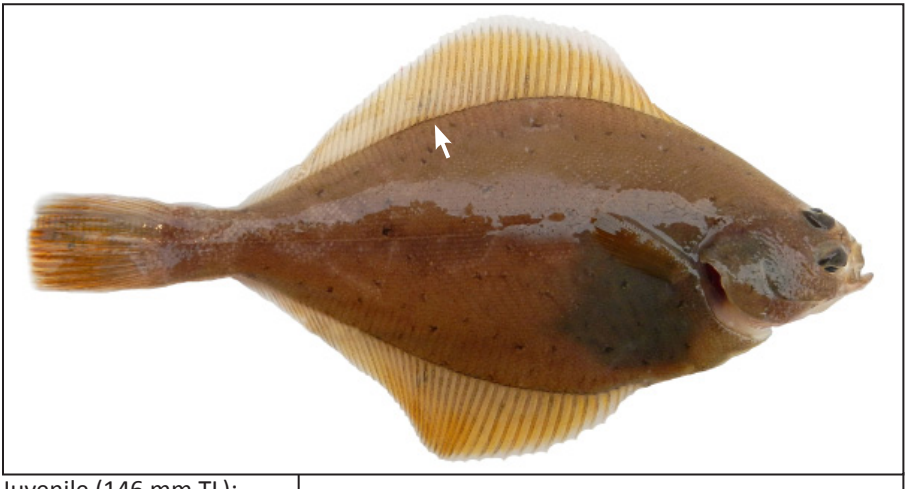
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

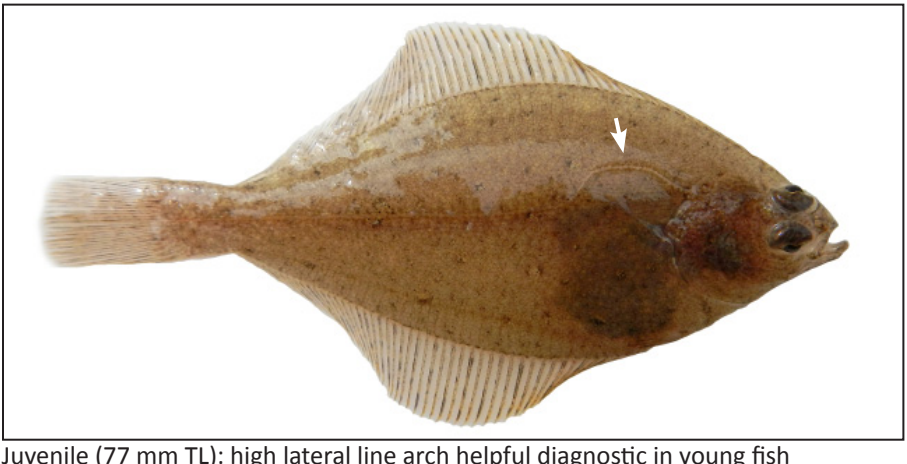


Yellowfin sole

Pleuronectidae - *Limanda aspera*



Juvenile (146 mm TL): black line along fin bases, yellow fins, & blind side white



Juvenile (77 mm TL): high lateral line arch helpful diagnostic in young fish

Pacific herring

Field ID: Lower jaw protruding; large scales very deciduous and slough off easily; no adipose fin; strongly forked caudal fin. Maximum length 460 mm TL.

Life stage: Mostly juveniles captured.
Size range 24-231 mm FL, mean FL = 61 mm (n = 4,075).

Habitat: Kelp, eelgrass, sand, bedrock

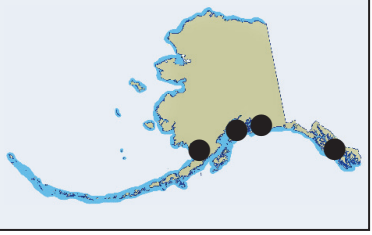
Comments: Often observed in large schools near the shoreline, especially when spawning. An important prey species for other fishes, seabirds, and marine mammals. Larval and YOY Pacific herring can be easily distinguished from smelt species by the absence of an adipose fin. Pacific herring are not hardy; minimize handling and release as soon as possible. A very important commercial and subsistence fish in Alaska.

Similar to: Smelt species (p. 50-60)

References: Mecklenburg et al. 2002 (p. 134); Johnson et al. 2012 (p. 55)

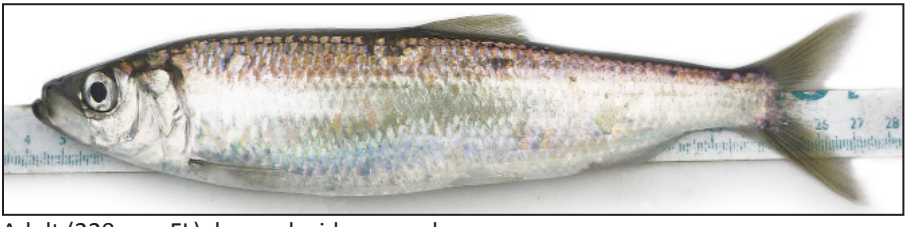
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



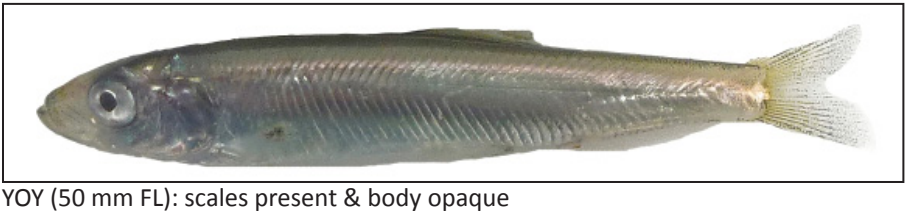
Pacific herring

Clupeidae - *Clupea pallasii*



Adult (220 mm FL): large, deciduous scales

Juvenile (95 mm FL): adipose fin absent



YOY (50 mm FL): scales present & body opaque

YOY (36 mm FL): larval coloration & markings gone, but body still transparent

Larvae (34, 31, & 29 mm FL): whitish, transparent coloration; very fragile

Pacific sand lance

Field ID: Lower jaw protruding; slender, needle-like body; two-toned appearance, blueish-green or tan dorsally and silver ventrally; long, low dorsal and anal fins; deeply forked caudal fin. Maximum length 280 mm TL.

Life stage: Mostly juveniles captured.
Size range 24-190 mm FL, mean FL = 91 mm (n = 4,016).

Habitat: Sand, kelp, eelgrass, bedrock

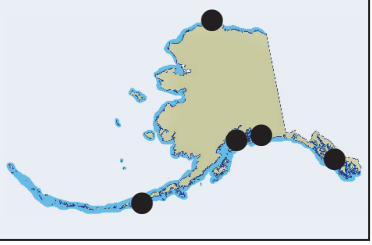
Comments: A very common and ubiquitous forage fish caught from the Arctic to Southeast. Often observed in large schools; important prey for other fishes, seabirds, and marine mammals. Unique fish that buries itself in sand when not actively foraging. When held in buckets of water, oftentimes lay on side "resting" motionless on bottom because, similar to flatfish, sand lances lack a swim bladder. A hardy fish, but benefit from a layer of sand in bucket if held captive for long. Sometimes referred to as needlefish. Recent genetic and morphological evidence indicates that two species of sand lance occur in Alaska (*A. hexapterus* and *A. personatus*; Orr et al. 2015).

Similar to: Relatively easy to identify

References: Mecklenburg et al. 2002 (p. 795); Lamb and Edgell 2010 (p. 54); Johnson et al. 2012 (p. 47)

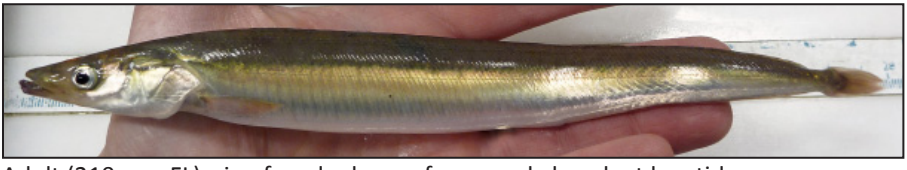
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	●●●●●
Bristol Bay	✓	○○○○○
Aleutians	✓	●●●●●
Southcentral	✓	●●○○○
PWS	✓	●●○○○
Southeast	✓	●●●○○

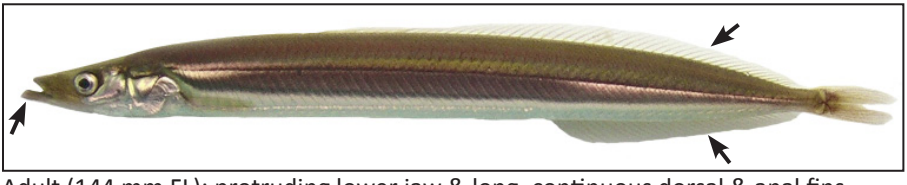


Pacific sand lance

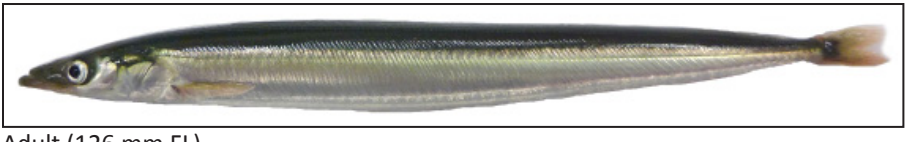
Ammodytidae - *Ammodytes hexapterus*



Adult (210 mm FL): ripe female dug up from sandy beach at low tide

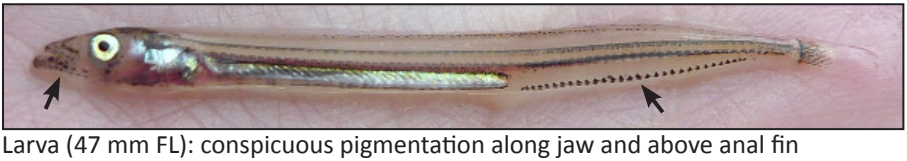


Adult (144 mm FL): protruding lower jaw & long, continuous dorsal & anal fins



Adult (126 mm FL)

Juveniles (70 mm FL): color varies from tan to blue-green



Larva (47 mm FL): conspicuous pigmentation along jaw and above anal fin

Pacific sandfish

Field ID: Mouth turned upward; conspicuous teeth; body brown dorsally and silver ventrally; scaleless body; long anal fin. Maximum length 305 mm TL.

Life stage: Mostly juveniles captured.
Size range 16-150 mm FL, mean FL = 56 mm (n = 816).

Habitat: Kelp, bedrock, sand, eelgrass

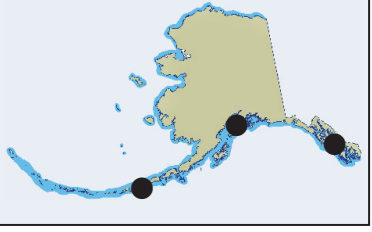
Comments: Common in the Aleutians, and at times, in some areas of northern Southeast. An important prey species for other fishes, seabirds, and marine mammals. Unique fish that forages by burying body in the sand, leaving only its large mouth exposed to capture prey. Juveniles often school at the surface and can be easily jigged.

Similar to: Relatively easy to identify

References: Mecklenburg et al. 2002 (p. 793); Lamb and Edgell 2010 (p. 89); Johnson et al. 2012 (p. 157)

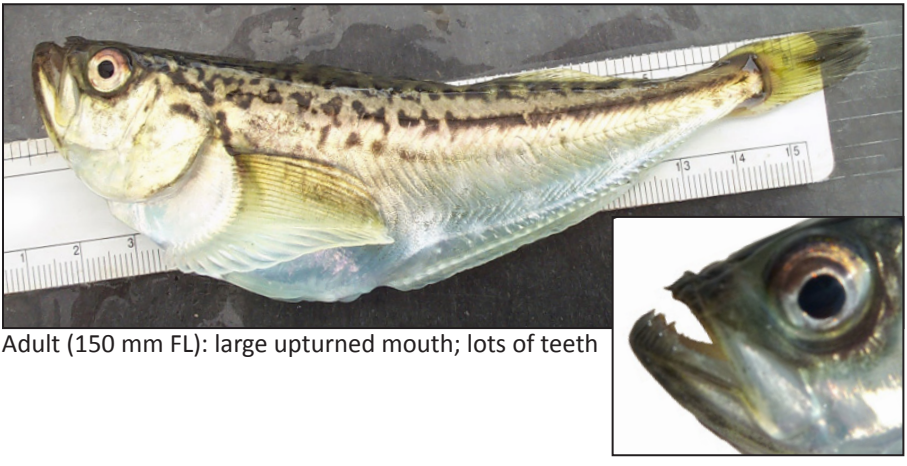
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

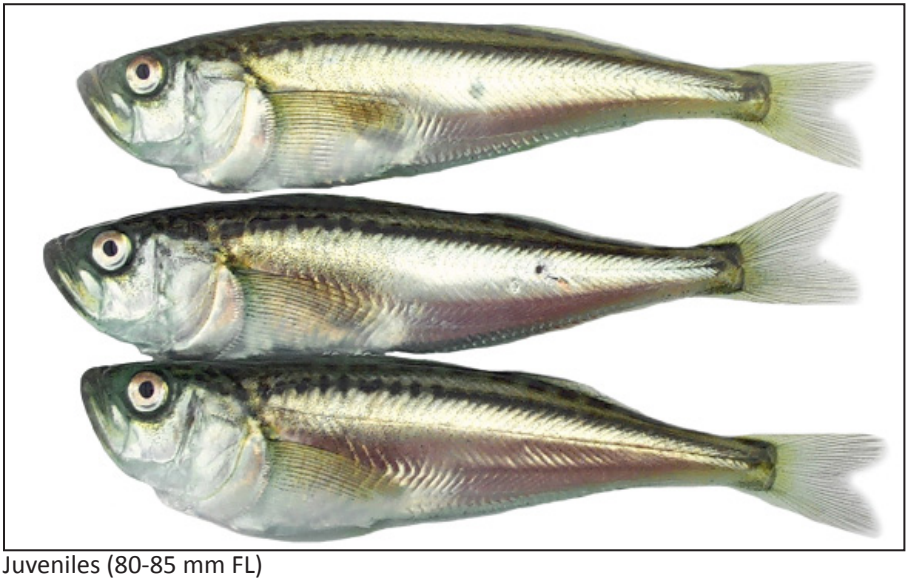


Pacific sandfish

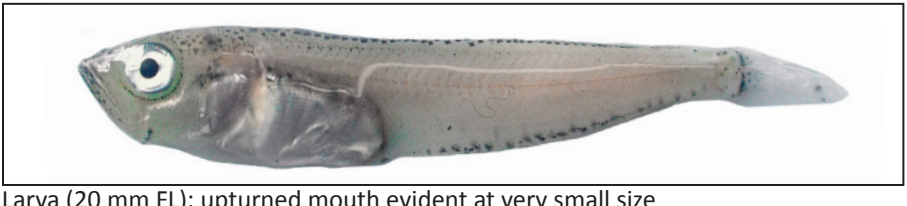
Trichodontidae - *Trichodon trichodon*



Adult (150 mm FL): large upturned mouth; lots of teeth



Juveniles (80-85 mm FL)



Larva (20 mm FL): upturned mouth evident at very small size

Capelin

Field ID: Mouth moderately sized, maxilla extending to or almost mideye; slender, silvery body; scales very small; long-based adipose fin with square corners. Maximum length 252 mm TL.

Life stage: Mostly juveniles captured.
Size range 27-160 mm FL, mean FL = 57 mm (n = 1,373).

Habitat: Sand, kelp, bedrock, eelgrass

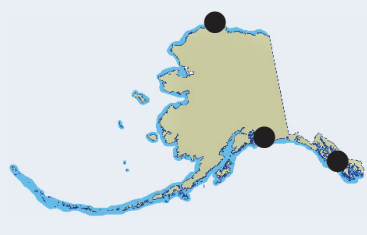
Comments: The most common smelt (i.e., osmerid) in our catches, especially abundant in the Arctic. An important forage fish for other fishes, seabirds, and marine mammals. Smell like cucumbers. Larval and YOY capelin easily distinguished from Pacific herring by the presence of an adipose fin.

Similar to: Other smelt species (p. 52-60); Pacific herring (p. 44)

References: Mecklenburg et al. 2002 (p. 171); Lamb and Edgell 2010 (p. 52); Johnson et al. 2012 (p. 109)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	●●●●○
Bristol Bay	✓	○○○○○
Aleutians	✓	○○○○○
Southcentral	✓	○○○○○
PWS	✓	●●○○○
Southeast	✓	●○○○○

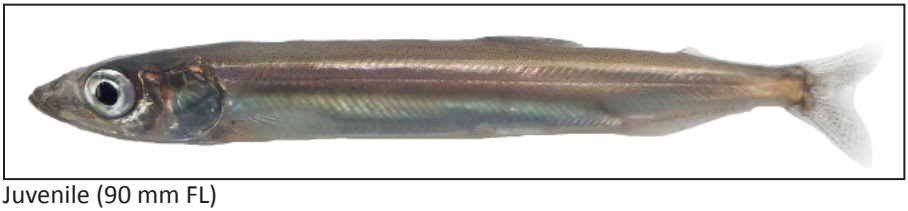


Capelin

Osmeridae - *Mallotus villosus*

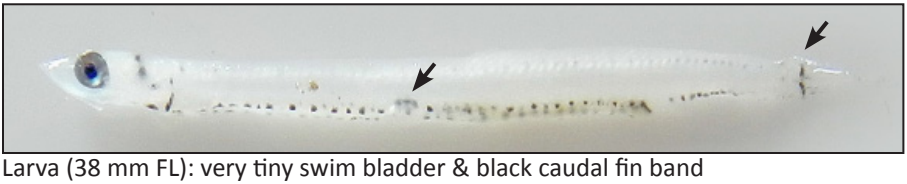
Breeding male (135 mm FL): adipose fin present in all osmerids (i.e., smelts)

Adult male (left) & female (right): anal fin base swollen in mature male



Juvenile (90 mm FL)

YOY & Larva (72 & 60 mm FL)



Larva (38 mm FL): very tiny swim bladder & black caudal fin band

Eulachon

Field ID: Mouth large; concentric striations on gill cover; slender, silvery body; dorsal fin starts behind pelvic fins. Maximum length 254 mm TL.

Life stage: Adults and juveniles captured.
Size range 38-223 mm FL, mean FL = 182 mm (n = 40).

Habitat: Sand, kelp

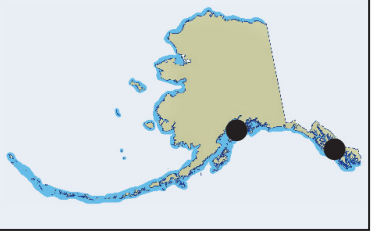
Comments: Only 40 fish captured; can be common in Cook Inlet (Southcentral) in spring (caught several spawned out fish in June). An important forage fish for other fishes, seabirds, and marine mammals. Larval and YOY eulachon can easily be distinguished from Pacific herring by the presence of an adipose fin. An important subsistence fish in Alaska. Sometimes referred to as hooligan or candlefish.

Similar to: Other smelt species (p. 50, 54-60); Pacific herring (p. 44)

References: Mecklenburg et al. 2002 (p. 175); Lamb and Edgell 2010 (p. 50); Johnson et al. 2012 (p. 112)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Eulachon

Osmeridae - *Thaleichthys pacificus*

Adult (218 mm FL): pelvic fin base further forward than dorsal fin

Adult (193 mm FL)

Gill cover striations or “crinkling”

Juvenile (150 mm FL)

Juvenile, YOY, & Larva (100, 90, & 65 mm FL): tail relatively large in young fish

Longfin smelt

Field ID: Lower jaw protruding; slender, silvery body; pectoral fin long, extending to base of pelvic fin. Maximum length 200 mm TL.

Life stage: Adults and juveniles captured.
Size range 44-155 mm FL, mean FL = 100 mm (n = 43).

Habitat: Sand, kelp

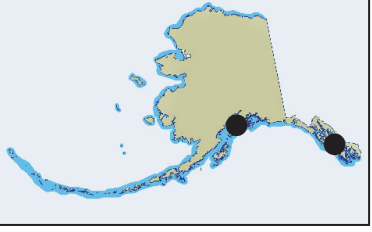
Comments: Only 43 fish captured; little is known about this species in Alaska. In Southeast, all captured near Yakutat (northern Southeast). An important forage fish for other fishes, seabirds, and marine mammals. Long pectoral fins clearly visible even in YOY fish.

Similar to: Other smelt species (p. 50-52, 56-60); Pacific herring (p. 44)

References: Mecklenburg et al. 2002 (p. 176); Lamb and Edgell 2010 (p. 50); Johnson et al. 2012 (p. 111)

Distribution:

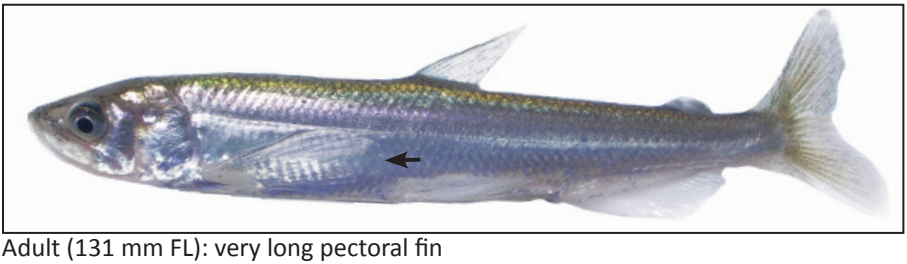
Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral		
PWS		
Southeast	✓	



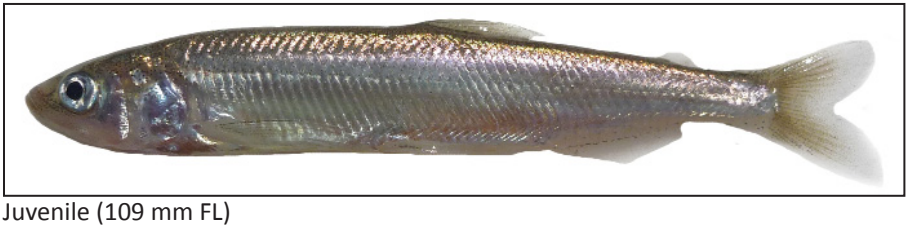
Longfin smelt

Osmeridae - *Spirinchus thaleichthys*

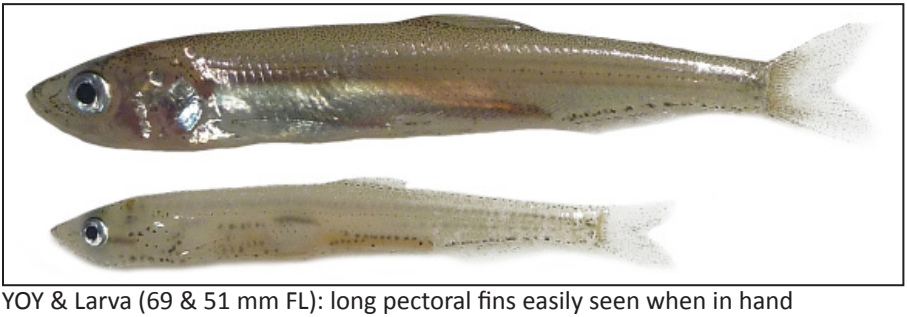
Adult (148 mm FL)



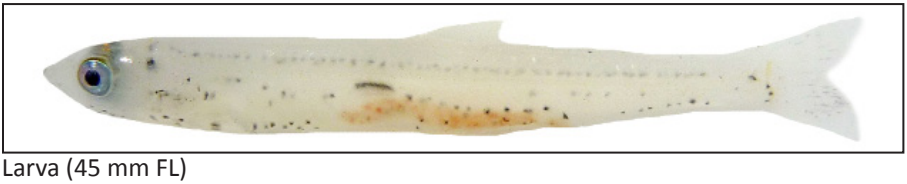
Adult (131 mm FL): very long pectoral fin



Juvenile (109 mm FL)



YOY & Larva (69 & 51 mm FL): long pectoral fins easily seen when in hand



Larva (45 mm FL)

Pacific rainbow smelt

Field ID: Mouth large, with one large canine tooth on each side; maxilla extending to posterior part of eye or past eye; slender body; large, triangular gas bladder and black caudal fin visible in YOY and larvae. Maximum length 356 mm TL.

Life stage: Mostly juveniles captured.
Size range 20-270 mm FL, mean FL = 54 mm (n = 319).

Habitat: Sand

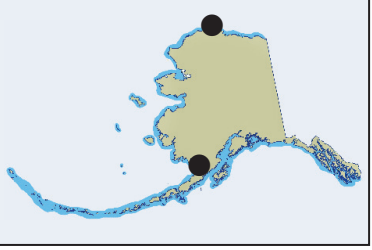
Comments: Larval and YOY rainbow smelt easily distinguished from Pacific herring by presence of an adipose fin. Fish can smell like cucumbers. The Pacific rainbow smelt has recently been recognized to be a different species than the Atlantic rainbow smelt, *Osmerus mordax* (Page et al. 2013).

Similar to: Other smelt species (p. 50-54, 58-60); Pacific herring (p. 44)

References: Mecklenburg et al. 2002 (p. 174); Johnson et al. 2012 (p. 110)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

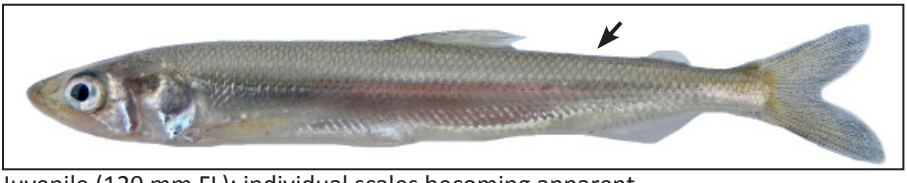


Pacific rainbow smelt

Osmeridae - *Osmerus dentex*

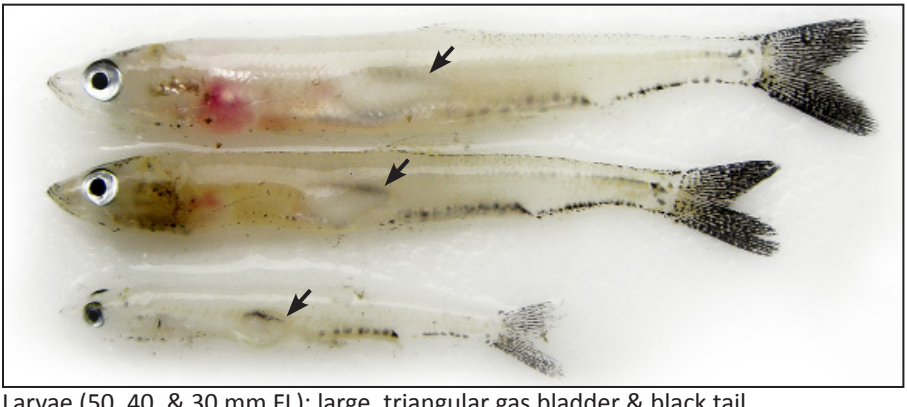
Adult (212 mm FL)

Large mouth & teeth



Juvenile (120 mm FL): individual scales becoming apparent

YOY (71 mm FL)



Larvae (50, 40, & 30 mm FL): large, triangular gas bladder & black tail

Pond smelt

Field ID: Mouth small, maxilla not reaching or barely reaching mideye; slender, silvery body; subtle silver band along lateral line; adipose fin base equal to or longer than eye diameter. Maximum length 200 mm TL.

Life stage: Only juveniles captured.
Size range 32-111 mm FL, mean FL = 77 mm (n = 202).

Habitat: Sand

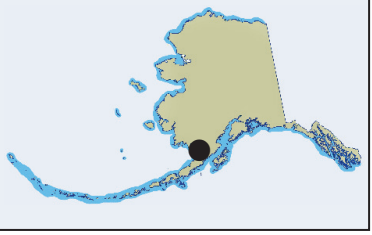
Comments: Only captured in Nushagak Bay (Bristol Bay), sometimes in large numbers. Larval and YOY pond smelt easily distinguished from Pacific herring by the presence of an adipose fin. A brackish water fish; very hardy.

Similar to: Other smelt species (p. 50-56, 60); Pacific herring (p. 44)

References: Mecklenburg et al. 2002 (p. 172); Johnson et al. 2012 (p. 107)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians		
Southcentral	✓	
PWS	✓	
Southeast		



Pond smelt

Osmeridae - *Hypomesus olidus*

Juvenile (100 mm FL)

Juvenile (80 mm FL)

Juvenile (69 mm FL): silver stripe along lateral line can be conspicuous

Juvenile (58 mm FL)

YOY (41 mm FL): adipose fin of even small fish readily evident in hand

Surf smelt

Field ID: Mouth small, maxilla not reaching mideye; slender, silvery body; conspicuous silver band along lateral line; pectoral fin short; rounded adipose fin. Maximum length 305 mm TL.

Life stage: Mostly juveniles captured.
Size range 39-183 mm FL, mean FL = 102 mm (n = 884).

Habitat: Eelgrass, kelp, sand

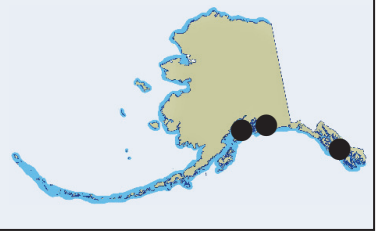
Comments: Most abundant in northern outside waters of Southeast. Silver band along side of body turns dark when fish is dead or preserved. An important forage fish for other fishes, seabirds, and marine mammals. Larval and YOY surf smelt easily distinguished from Pacific herring by the presence of an adipose fin. Surf smelt are not hardy; minimize handling and release as soon as possible. Sometimes referred to as cigarfish.

Similar to: Other smelt species (p. 50-58); Pacific herring (p. 44)

References: Mecklenburg et al. 2002 (p. 173); Lamb and Edgell 2010 (p. 51); Johnson et al. 2012 (p. 108)

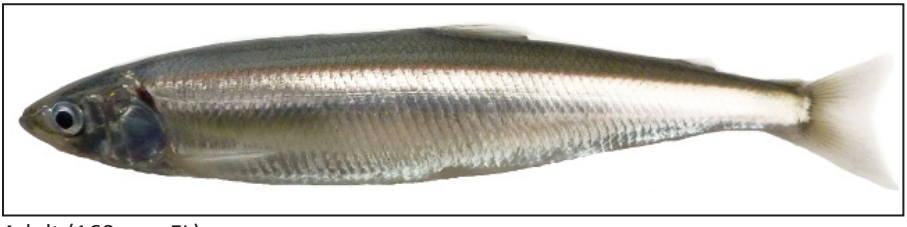
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral	✓	
PWS	✓	
Southeast	✓	

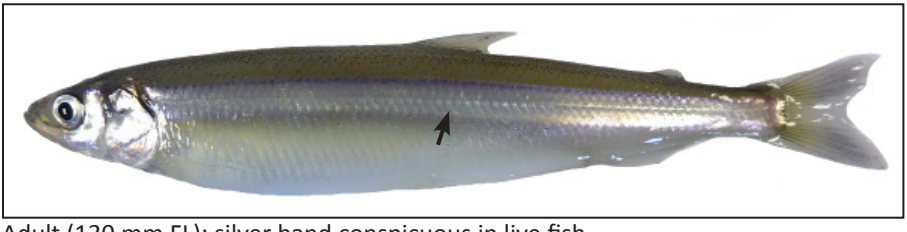


Surf smelt

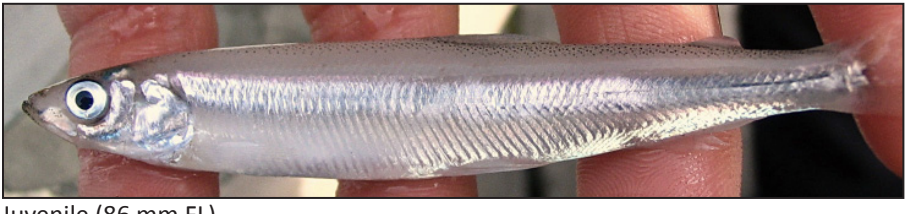
Osmeridae - *Hypomesus pretiosus*



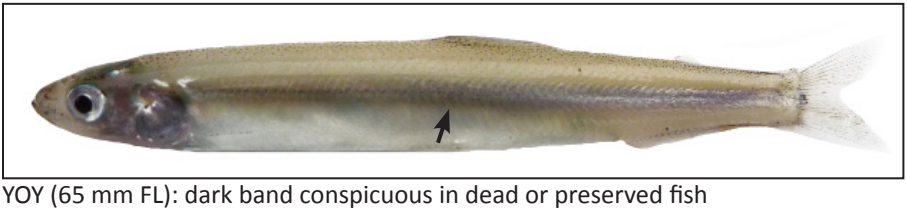
Adult (160 mm FL)



Adult (130 mm FL): silver band conspicuous in live fish



Juvenile (86 mm FL)



YOY (65 mm FL): dark band conspicuous in dead or preserved fish

Larva (55 mm FL)

Bay goby

Field ID: Slender body; dorsal fins separated by wide gap; tip of 1st dorsal fin black; small scales; pectoral fin not reaching anal fin. Maximum length 100 mm TL.

Life stage: Mostly adults captured.
Size range 52-100 mm TL, mean TL = 74 mm (n = 6).

Habitat: Kelp, eelgrass, sand

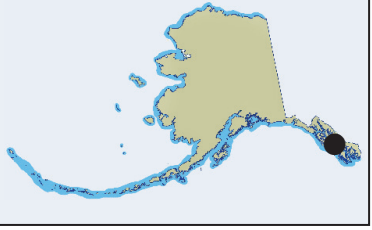
Comments: Only 16 fish captured in outside waters of Southeast.

Similar to: Blackeye goby (p. 64)

References: Mecklenburg et al. 2002 (p. 802); Lamb and Edgell 2010 (p. 104); Johnson et al. 2012 (p. 91)

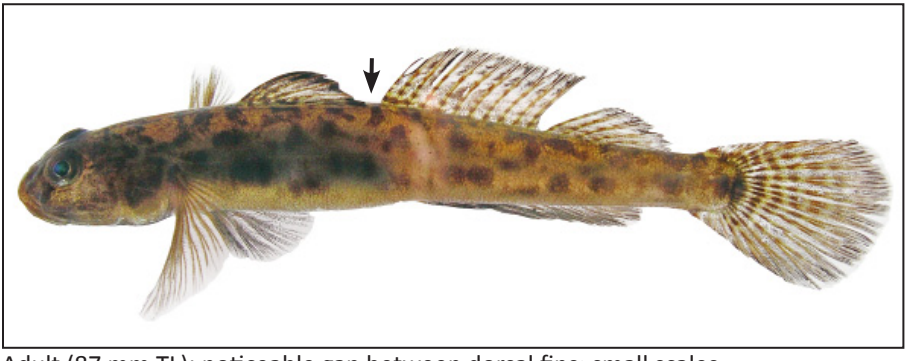
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral		
PWS		
Southeast	✓	



Bay goby

Gobiidae - *Lepidogobius lepidus*



Adult (87 mm TL): noticeable gap between dorsal fins; small scales

Blackeye goby

Field ID: Slender body with black eyes; dorsal fins just touching each other; tip of 1st dorsal fin black; large and conspicuous scales; pectoral fin reaching anal fin. Maximum length 150 mm TL.

Life stage: Mostly juveniles captured.
Size range 45-106 mm TL, mean TL = 80 mm (n = 22).

Habitat: Kelp, bedrock, eelgrass, sand

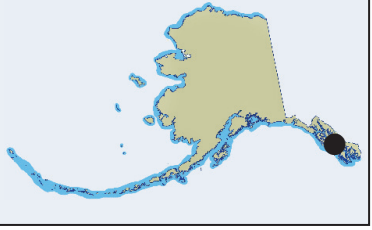
Comments: Captured only in Southeast, mostly in outside waters.

Similar to: Bay goby (p. 62)

References: Mecklenburg et al. 2002 (p. 801); Johnson et al. 2012 (p. 92)

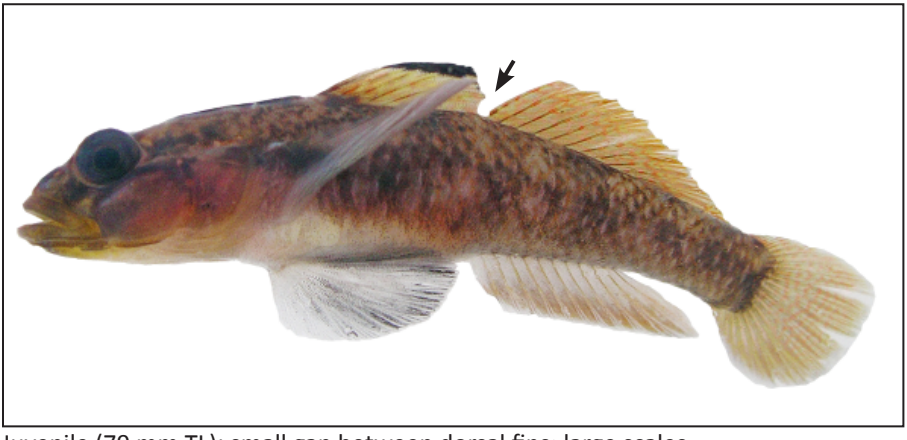
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral		
PWS		
Southeast	✓	



Blackeye goby

Gobiidae - *Rhinogobiops nicholsii*



Juvenile (79 mm TL): small gap between dorsal fins; large scales

Kelp greenling

Field ID: Eye yellow; two pairs of cirri on head; dorsal fin divided in middle by notch; 4th lateral line long, extending nearly to or past end of anal fin; adult coloration different between males (irregular blue spots on body) and females (speckled with reddish brown to gold spots on body); YOY fish less than about 80 mm TL are silvery. Maximum length 530 mm TL.

Life stage: Mostly juveniles captured.
Size range 47-500 mm TL, mean TL = 136 mm (n = 208).

Habitat: Eelgrass, kelp, bedrock, sand

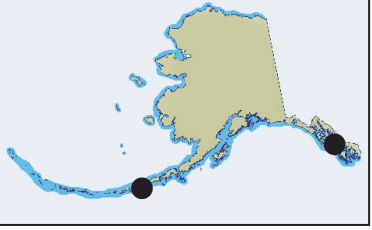
Comments: Most common in Southeast, especially in outside waters. When < 50 mm TL, the overall silvery appearance can make kelp greenling look similar to YOY salmon. Characteristic yellow eye can become orangish-red in stressed or dead specimens.

Similar to: Masked greenling (p. 70); rock greenling (p. 74)

References: Mecklenburg et al. 2002 (p. 394); Johnson et al. 2012 (p. 96)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

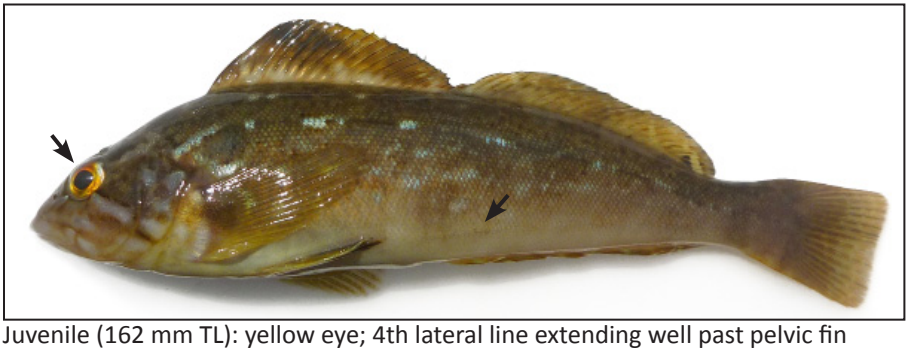


Kelp greenling

Hexagrammidae - *Hexagrammos decagrammus*

Adult male (506 mm TL): blue spots

Adult female (402 mm TL): red speckles



Juvenile (162 mm TL): yellow eye; 4th lateral line extending well past pelvic fin

YOY (80 mm TL): characteristic juvenile mottling develops around 80 mm TL

YOY (68 mm TL): silvery coloration persists to about 80 mm TL

Lingcod

Field ID: Mouth large with many teeth; one cirrus above each eye; slender body with dark mottling and yellow or orange spots; YOY fish less than about 90 mm TL are silvery with a greenish hue; moderately notched dorsal fin; one lateral line. Maximum length 152 cm TL.

Life stage: Only juveniles captured.
Size range 27-405 mm TL, mean TL = 118 mm (n = 215).

Habitat: Eelgrass, kelp, sand, bedrock

Comments: Most common in Prince William Sound; in Southeast, most captured in northern outside waters. An important commercial and sport fish in Alaska.

Similar to: Relatively easy to identify

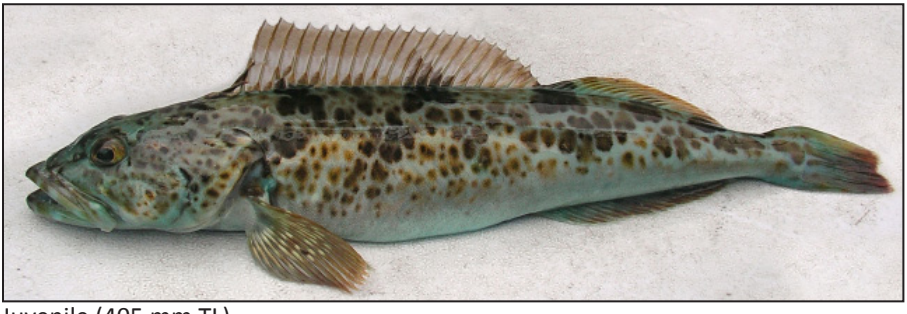
References: Mecklenburg et al. 2002 (p. 390); Lamb and Edgell 2010 (p. 194); Johnson et al. 2012 (p. 100)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral	✓	
PWS	✓	
Southeast	✓	

Lingcod

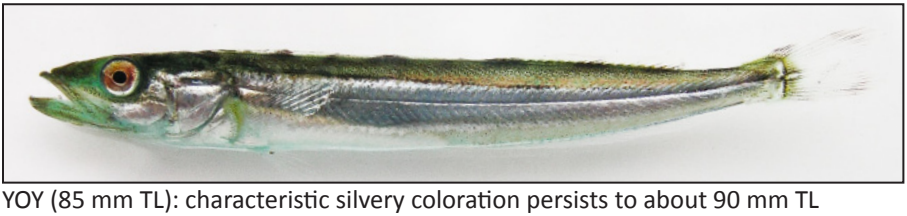
Hexagrammidae - *Ophiodon elongatus*



Juvenile (405 mm TL)

Juvenile (250 mm TL)

Juvenile (121 mm TL): characteristic juvenile mottling develops around 90 mm TL



YOY (85 mm TL): characteristic silvery coloration persists to about 90 mm TL

Larva (30 mm TL)

Masked greenling

Field ID: Eye red; one cirrus above each eye; 4th lateral line short, not extending past pelvic fin; caudal peduncle stout. Maximum length 300 mm TL.

Life stage: Mostly juveniles captured.
Size range 49-286 mm TL, mean TL = 124 mm (n = 459).

Habitat: Eelgrass, kelp, bedrock, sand

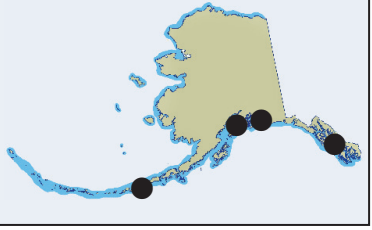
Comments: The second most abundant greenling captured overall; common in Prince William Sound. We sometimes refer to them as “chunkies” because of their stout body and caudal peduncle.

Similar to: Kelp greenling (p. 66); rock greenling (p. 74)

References: Mecklenburg et al. 2002 (p. 393); Johnson et al. 2012 (p. 98)

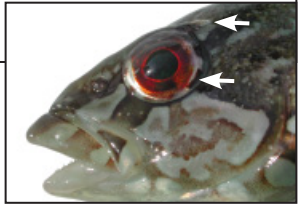
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

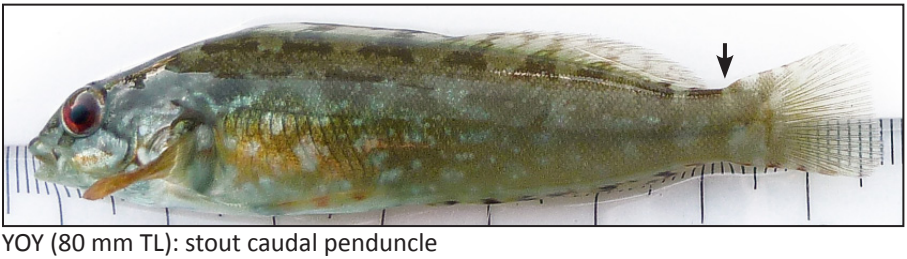


Masked greenling

Hexagrammidae - *Hexagrammos octogrammus*



Juvenile (147 mm TL): red eye & single cirrus above eye



YOY (80 mm TL): stout caudal penduncle

YOY (63 mm TL): red eye

YOY (54 mm TL): cirrus above eye

Painted greenling

Field ID: Head elongate and pointed with two pairs of cirri; 5 to 7 dark bands on body; one lateral line. Maximum length 250 mm TL.

Life stage: Mostly juveniles captured.
Size range 27-211 mm TL, mean TL = 85 mm (n = 25).

Habitat: Kelp, bedrock, eelgrass

Comments: Only 50 fish captured, most in southern outside waters of Southeast. An ornamental looking fish.

Similar to: Relatively easy to identify

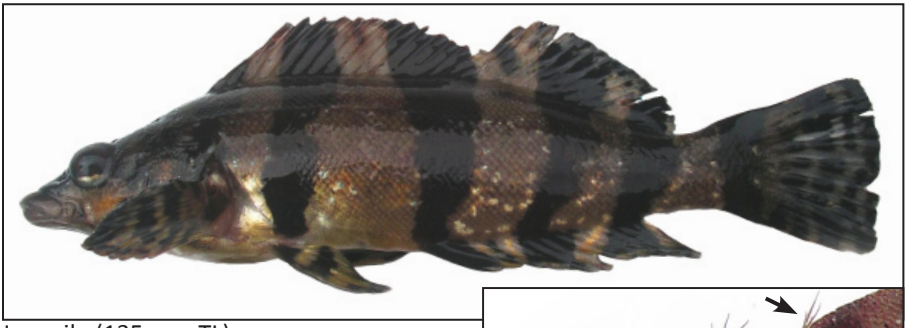
References: Mecklenburg et al. 2002 (p. 389); Lamb and Edgell 2010 (p. 196); Johnson et al. 2012 (p. 101)

Distribution:

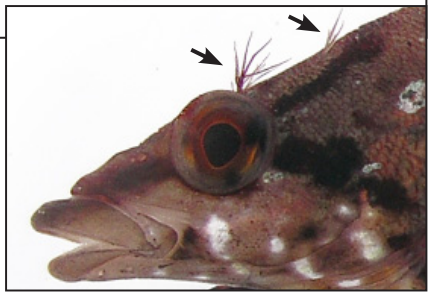
Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral		
PWS	✓	
Southeast	✓	

Painted greenling

Hexagrammidae - *Oxylebius pictus*



Juvenile (135 mm TL)



Long, branched cirri

YOY (64 mm TL): dark bands & cirri obvious even in small specimens

YOY (31 mm TL)

Rock greenling

Field ID: Eye red; large cirrus above each eye; mouth sometimes blue; 4th lateral line long, extending above posterior half of anal fin for a variable length; adult coloration different between males (red or orange on body) and females (irregular, light-colored spots on body); YOY fish are silvery with light vertical bars on sides. Maximum length 610 mm TL.

Life stage: Mostly juveniles captured.
Size range 44-495 mm TL, mean TL = 216 mm (n = 151).

Habitat: Kelp, eelgrass, bedrock, sand

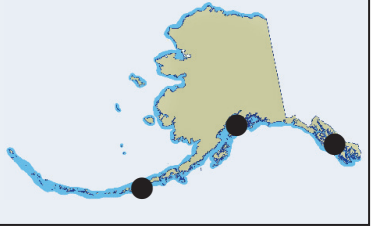
Comments: Common in the Aleutians; in Southeast, catches greatest in northern outside waters. Brilliant colors of males and females can be striking.

Similar to: Kelp greenling (p. 66); masked greenling (p. 70)

References: Mecklenburg et al. 2002 (p. 395); Johnson et al. 2012 (p. 97)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

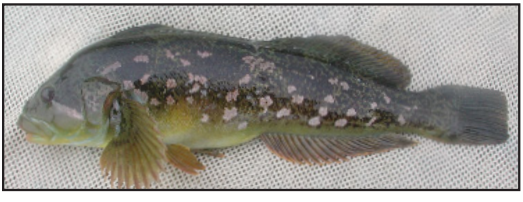


Rock greenling

Hexagrammidae - *Hexagrammos lagocephalus*

Adult male (368 mm TL): red body

Adult female (425 mm TL)



Adult female (385 mm TL): irregularly shaped, light-colored spots on body often conspicuous

Juvenile (193 mm TL)

Cirrus, red eye, & blue mouth coloration

YOY (72 mm TL): red eye can appear orangish in all life stages

Whitespotted greenling

Field ID: Eye yellow; cirrus above each eye; large black spot on anterior end of dorsal fin (very obvious in juveniles); white spots on head and body; YOY fish less than about 80 mm TL are silvery with light vertical bars on sides; 4th lateral line short, extending just past base of pelvic fin; caudal peduncle slender. Maximum length 480 mm TL.

Life stage: Mostly juveniles captured.
Size range 48-360 mm TL, mean TL = 114 mm (n = 784).

Habitat: Eelgrass, kelp, sand, bedrock

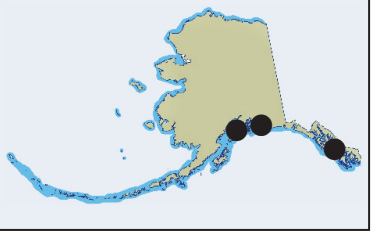
Comments: The most abundant greenling captured overall; most common in Prince William Sound. Body color in juveniles and adults can vary from yellow to orange. Characteristic yellow eye can become orangish-red in stressed or dead specimens.

Similar to: Relatively easy to identify

References: Mecklenburg et al. 2002 (p. 392); Johnson et al. 2012 (p. 99)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



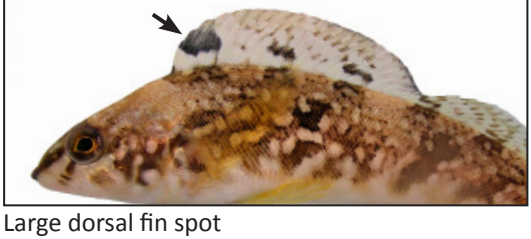
Whitespotted greenling

Hexagrammidae - *Hexagrammos stelleri*

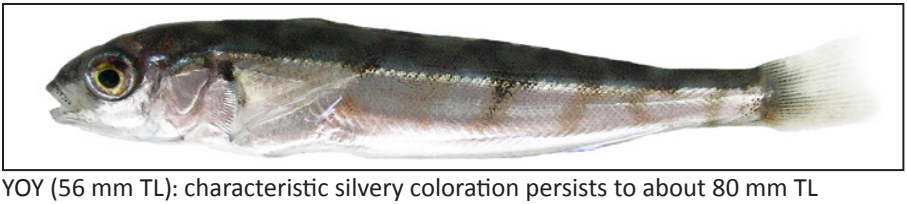
Juveniles (163 & 174 mm TL): color variability

YOY (85 mm TL): yellow eye

Body mottling &
dorsal fin spotting
develop around 80 mm TL



Large dorsal fin spot



YOY (56 mm TL): characteristic silvery coloration persists to about 80 mm TL

Crescent gunnel

Field ID: Compressed, eel-like body with single dorsal fin; dark bar through eye; body orangish-brown to red; series of crescent-shaped to nearly circular markings enclosing a yellow or orange area along back. Maximum length 280 mm TL.

Life stage: Mostly juveniles captured.
Size range 22-240 mm TL, mean TL = 123 mm (n = 283).

Habitat: Eelgrass, kelp, sand, bedrock

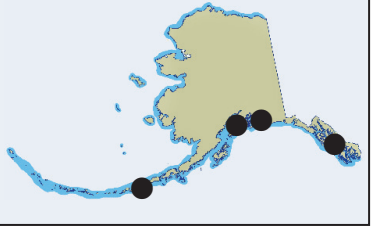
Comments: The most abundant gunnel captured and one of the most abundant species caught overall. Body color can vary widely. Can be difficult and time-consuming to measure because of their constant writhing motion. Often best to "estimate" length or categorize into broad length categories (e.g., < and > 100 mm TL).

Similar to: Penpoint gunnel (p. 80); slender cockscomb (p. 96)

References: Mecklenburg et al. 2002 (p. 779); Johnson et al. 2012 (p. 117)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Crescent gunnel

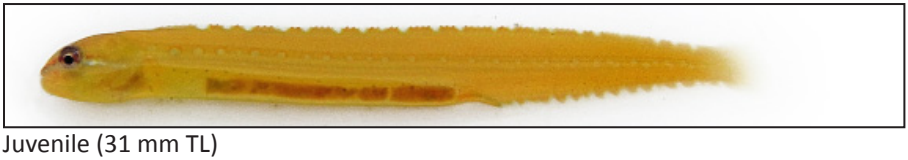
Pholidae - *Pholis laeta*

Adult (280 mm TL): large specimens are not common

Color and pattern variability

Adult (152 mm TL): namesake crescent patterns along dorsal fin

Juvenile (70 mm TL): crescents evident at early age



Juvenile (31 mm TL)

Penpoint gunnel

Field ID: Compressed, eel-like body with single dorsal fin; black bar through eye in adults; body often green with sometimes dark or light spots laterally. Maximum length 460 mm TL.

Life stage: Mostly juveniles captured.
Size range 32-310 mm TL, mean TL = 112 mm (n = 36).

Habitat: Eelgrass, kelp, sand, bedrock

Comments: Only 75 fish captured, most in northern outside waters of Southeast. Eye stripe horizontal and silver in YOY and juveniles.

Similar to: Crescent gunnel (p. 78); slender cockscomb (p. 96)

References: Mecklenburg et al. 2002 (p. 775); Lamb and Edgell 2010 (p. 127); Johnson et al. 2012 (p. 116)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral		
PWS	✓	
Southeast	✓	

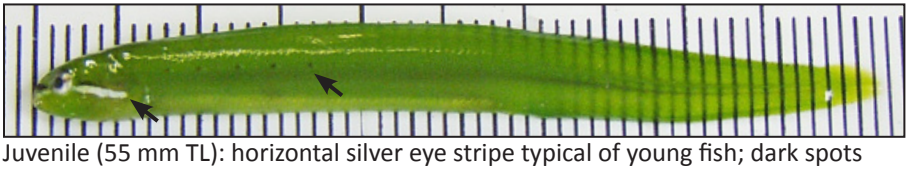
Penpoint gunnel

Pholidae - *Apodichthys flavidus*

Adult (292 mm TL): vertical black eye bar evident in adults

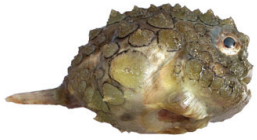
Adult (290 mm TL): large specimens common

Juvenile (114 mm TL)



Juvenile (55 mm TL): horizontal silver eye stripe typical of young fish; dark spots

YOY (43 mm TL): horizontal silver eye stripe



Pacific spiny lumpsucker

Field ID: Balloon-shaped body covered with spiny tubercles (i.e., modified scales); body color variable with brown, orange, and green common; ventral sucking disk. Maximum length 127 mm TL.

Life stage: Only juveniles captured.
Size range 10-47 mm TL, mean TL = 26 mm (n = 6).

Habitat: Kelp, eelgrass

Comments: Only 13 fish captured, most in northern inside waters of Southeast. Often attached to kelp fronds “collected” in the beach seine. Body color can indicate gender; brownish orange (males) or green (females).

Similar to: Relatively easy to identify

References: Mecklenburg et al. 2002 (p. 569); Johnson et al. 2012 (p. 80)

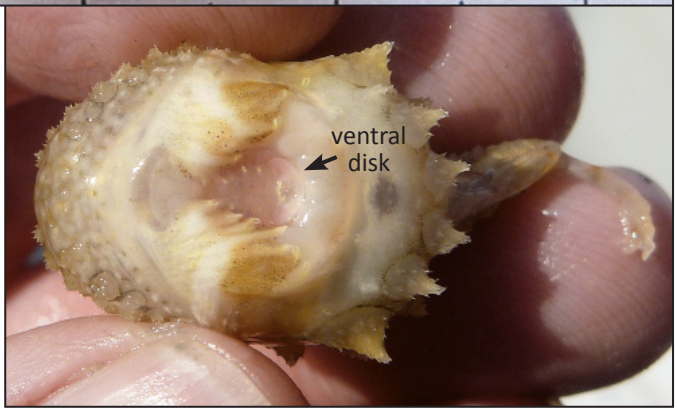
Distribution:

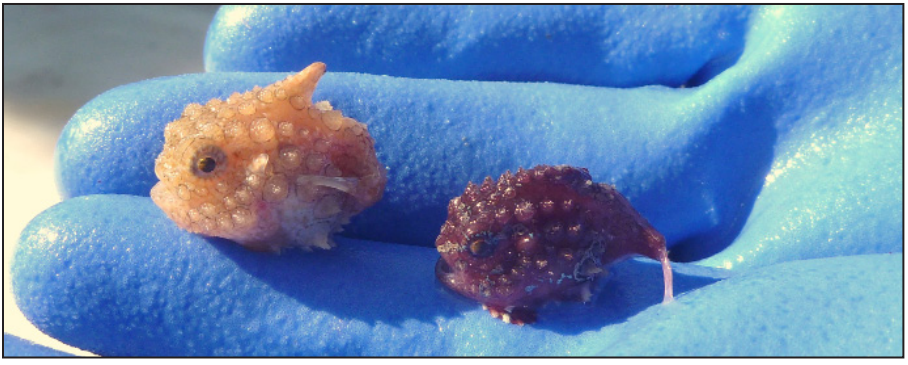
Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

Pacific spiny lumpsucker

Cyclopteridae - *Eumicrotremus orbis*

Juvenile (37 mm TL)





Juveniles (35 & 28 mm TL): color variability

Bay pipefish

Field ID: Small mouth at end of long, tube-like snout; green or brownish body long, narrow, and rigid; single dorsal fin and no pelvic fins; paddle-like caudal fin. Maximum length 385 mm TL.

Life stage: Adults and juveniles captured.
Size range 53-315 mm TL, mean TL = 173 mm (n = 611).

Habitat: Eelgrass, kelp, sand, bedrock

Comments: Very common in Prince William Sound and Southeast, especially in eelgrass. Body color can vary from brown to dark green. Like other members of the seahorse family (Syngnathidae), male bay pipefish carry developing young in brood pouch.

Similar to: Tubenose poacher (p. 88); tubesnout (p. 198)

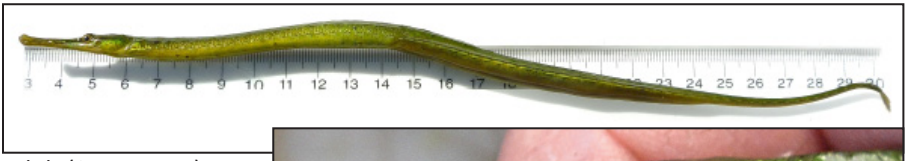
References: Mecklenburg et al. 2002 (p. 336); Lamb and Edgell 2010 (p. 88); Johnson et al. 2012 (p. 156)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral		
PWS	✓	
Southeast	✓	

Bay pipefish

Syngnathidae - *Syngnathus leptorhynchus*



Adult (275 mm TL)

Small mouth at end of long, tube-like snout

Adult (195 mm TL): long brood pouch evident in adult males

Juveniles (116 & 90 mm TL): variations of brown & green coloration common

Juvenile (65 mm TL)

Sturgeon poacher

Field ID: Alligator-like head and body; two pairs of sharp spines on snout; dense patches of long cirri under snout and at corners of mouth; 13 to 19 cirri in each snout patch. Maximum length 305 mm TL.

Life stage: Mostly juveniles captured.
Size range 25-196 mm TL, mean TL = 67 mm (n = 20).

Habitat: Eelgrass, sand, kelp

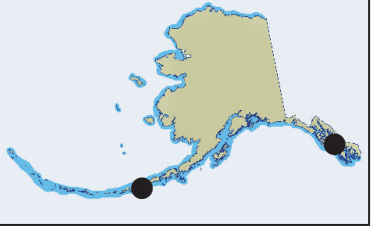
Comments: Only 228 fish captured; most in northern Southeast. Long white and yellow mouth cirri evident even in YOY fish. Fewer snout cirri (6 to 11) on veteran poacher help to distinguish from sturgeon poacher.

Similar to: Northern spearnose poacher (p. 90); veteran poacher (p. 91)

References: Mecklenburg et al. 2002 (p. 541); Lamb and Edgell 2010 (p. 265); Johnson et al. 2012 (p. 45)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Sturgeon poacher

Agonidae - *Podothecus accipenserinus*

Adult (196 mm TL)

Conspicuous cirri & spines on snout

Juvenile (153 mm TL)

Juvenile (104 mm TL): long, yellow & white cirri; forked snout

YOY (35 mm TL)

Tubenose poacher

Field ID: Alligator-like head and body; long, tube-like snout; prominent forward-directed barbel on protruding lower jaw; paddle-like caudal fin. Maximum length 208 mm TL.

Life stage: Mostly juveniles captured.
Size range 20-155 mm TL, mean TL = 58 mm (n = 448).

Habitat: Eelgrass, kelp, sand, bedrock

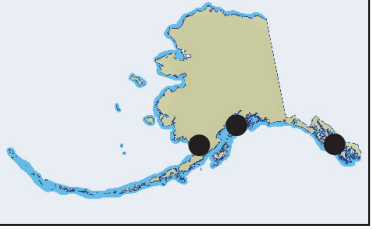
Comments: The most common and widely distributed poacher in our catches. Young tubenose poachers are not hardy; minimize handling and release as soon as possible.

Similar to: Bay pipefish (p. 84); tubesnout (p. 198)

References: Mecklenburg et al. 2002 (p. 533); Lamb and Edgell 2010 (p. 261); Johnson et al. 2012 (p. 44)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Tubenose poacher

Agonidae - *Pallasina barbata*

Adult (138 mm TL)

Protruding lower jaw

Chris Hoffman, USACE

Adult (95 mm TL)

Chin barbel can be very long

Juvenile (58 mm TL): protruding lower jaw apparent even in young fish

YOY (27 mm TL)

Atlantic poacher

Agonidae - *Leptagonus decagonus*

Juvenile (28 mm TL): no spines directed forward on snout

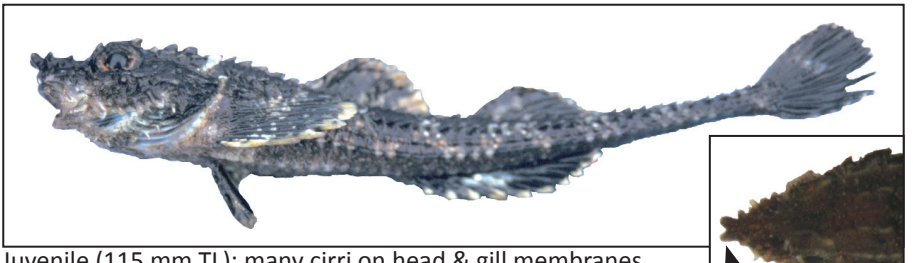
Bering poacher

Agonidae - *Occella dodecaedron*

Adult (145 mm TL): head depressed with upturned mouth

Northern spearnose poacher

Agonidae - *Agonopsis vulsa*

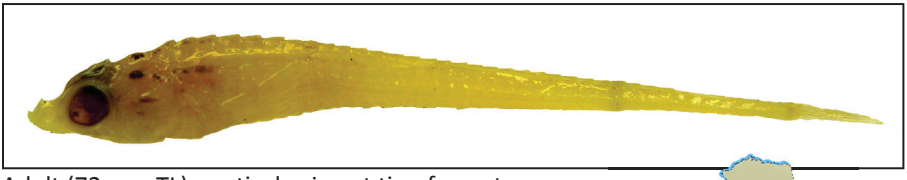


Juvenile (115 mm TL): many cirri on head & gill membranes

dorsal view

Pygmy poacher

Agonidae - *Odontopyxis trispinosa*

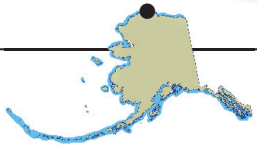


Adult (72 mm TL): vertical spine at tip of snout

Veteran poacher

Agonidae - *Podothecus veternus*

Juvenile (105 mm TL): 6 to 11 cirri in each snout patch



Arctic shanny

Field ID: Large, pointed head; continuous dorsal fin with 4 to 7 dark spots, each with a yellow band near posterior margin. Maximum length 220 mm TL.

Life stage: Adults and juveniles captured.
Size range 25-134 mm TL, mean TL = 88 mm (n = 162).

Habitat: Kelp, eelgrass, sand, bedrock

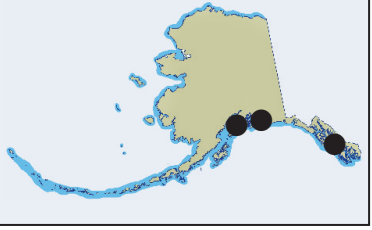
Comments: Common in Prince William Sound, especially in kelp and eelgrass.

Similar to: Relatively easy to identify

References: Mecklenburg et al. 2002 (p. 747); Johnson et al. 2012 (p. 154)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Arctic shanny

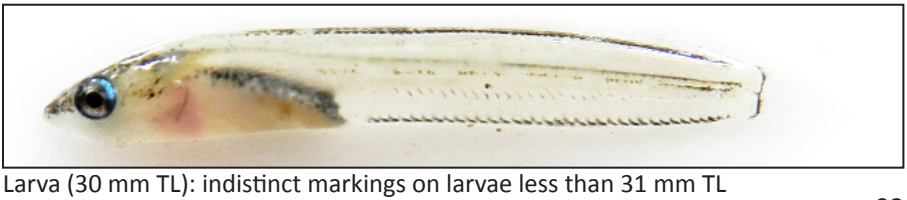
Stichaeidae - *Stichaeus punctatus*

Adult (105 mm TL)

Adult (92 mm TL): evenly spaced, dark spots along entire dorsal fin

YOY (35 mm TL): markings characteristic of adults apparent around 35 mm TL

Larva (33 mm TL): distinct markings begin developing around 31 mm TL



Larva (30 mm TL): indistinct markings on larvae less than 31 mm TL

Blackline prickleback

Field ID: Long, slender body; one dark line on back at base of dorsal fin and two dark broken lines below; black stripe from tip of snout to eye. Maximum length 700 mm TL.

Life stage: Only juveniles captured.
Size range 34-165 mm TL, mean TL = 62 mm (n = 32).

Habitat: Sand

Comments: Only captured in Nushagak Bay (Bristol Bay).

Similar to: Snake prickleback (p. 100)

References: Mecklenburg et al. 2002 (p. 761); Johnson et al. 2012 (p. 149)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral		
PWS		
Southeast	✓	

Blackline prickleback

Stichaeidae - *Acantholumpenus mackayi*

Juveniles (165 & 105 mm TL)

Juvenile (105 mm TL): black stripe from tip of snout to eye; 3 body stripes

Juvenile (76 mm TL)

YOY (45 mm TL): snout stripe & body stripes evident even in young fish

Slender cockscomb

Field ID: Crest from snout to top of head, low at snout region; many evenly spaced dark stripes on jaw; compressed, eel-like body; dorsal fin often with orange-margined, black spot on anterior end; white bar at base of caudal fin. Maximum length 118 mm TL.

Life stage: Mostly adults captured.
Size range 70-117 mm TL, mean TL = 95 mm (n = 6).

Habitat: Kelp, eelgrass, sand

Comments: Only 10 fish captured; 6 in Prince William Sound and 4 in Southeast. We never captured the similar looking high cockscomb (*A. purpurescens*), characterized by a head crest that is tall all the way from snout to top of head.

Similar to: Crescent gunnel (p. 78); penpoint gunnel (p. 80)

References: Mecklenburg et al. 2002 (p. 766); Lamb and Edgell 2010 (p. 121); Johnson et al. 2012 (p. 150)

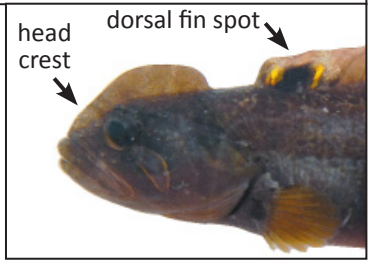
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

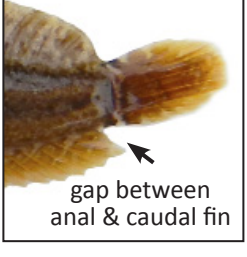
Slender cockscomb

Stichaeidae - *Anoplarchus insignis*

Adult (102 mm TL)



Juvenile (72 mm TL)



Juvenile (50 mm TL)

Slender eelblenny

Field ID: Long, slender body; irregular brown blotches or broken diagonal bars extending onto lower side; dorsal and anal fins not connected to caudal fin. Maximum length 365 mm TL.

Life stage: Mostly juveniles captured.
Size range 35-232 mm TL, mean TL = 48 mm (n = 81).

Habitat: Sand, eelgrass

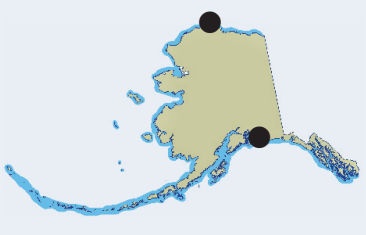
Comments: Captured almost exclusively in Beaufort and Chukchi seas (Arctic); 1 adult captured in western Prince William Sound.

Similar to: Snake prickleback (p. 100)

References: Mecklenburg et al. 2002 (p. 759); Johnson et al. 2012 (p. 152)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians		
Southcentral	✓	
PWS	✓	
Southeast	✓	



Slender eelblenny

Stichaeidae - *Lumpenus fabricii*

Adult (232 mm TL): dorsal fin not connected to caudal fin

Juveniles (90 & 88 mm TL): irregular brown blotches on side

YOY (52 mm TL)

YOY (46 mm TL)

Larva (41 mm TL)

Snake prickleback

Field ID: Long, slender body; line of dark, dash-like or oval marks along midbody; first few dorsal fin spines free; 4 to 5 irregular, narrow bands on caudal fin. Maximum length 510 mm TL.

Life stage: Mostly juveniles captured.
Size range 37-420 mm TL, mean TL = 160 mm (n = 760).

Habitat: Eelgrass, sand, kelp, bedrock

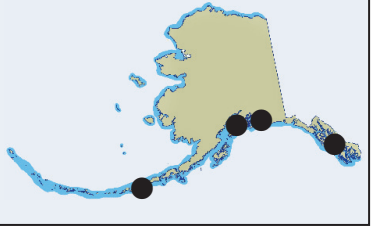
Comments: The most abundant and widely distributed prickleback caught.

Similar to: Slender eelblenny (p. 98)

References: Mecklenburg et al. 2002 (p. 760); Lamb and Edgell 2010 (p. 114); Johnson et al. 2012 (p. 153)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



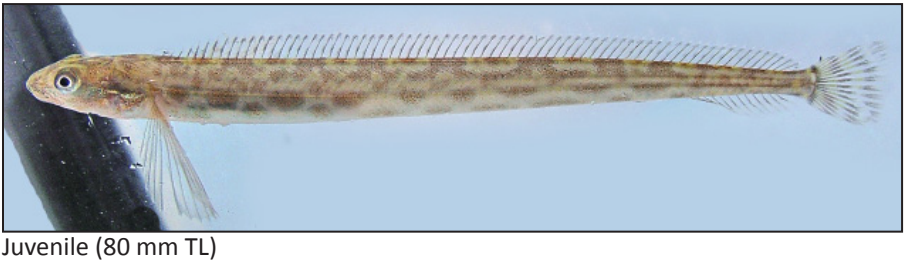
Snake prickleback

Stichaeidae - *Lumpenus sagitta*

Adult (350 mm TL): narrow bands on caudal fin

Adult (310 mm TL): dashed line along mid-body very prominent

Juvenile (109 mm TL)



Juvenile (80 mm TL)

YOY (47 mm TL)

Black rockfish

Field ID: Juveniles: elongate body, light reddish-brown with some speckling; conspicuous dark spot on dorsal fin. Maximum length 650 mm TL.

Life stage: Only juveniles captured.
Size range 42-329 mm TL, mean TL = 123 mm (n = 183).

Habitat: Eelgrass, bedrock, kelp

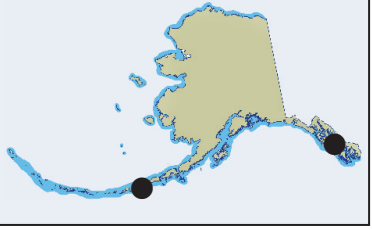
Comments: The second most abundant rockfish species caught; in Southeast, captured only in outside waters. As juveniles, very difficult to distinguish from yellowtail rockfish; best to count pectoral fin rays - usually 19 in black rockfish and 18 in yellowtail rockfish (Laroche and Richardson 1980). An important commercial fish in Alaska.

Similar to: Yellowtail rockfish (p. 113)

References: Matarese et al. 1989 (p. 282); Mecklenburg et al. 2002 (p. 361); Butler et al. 2012 (p. 20); Johnson et al. 2012 (p. 146)

Distribution:

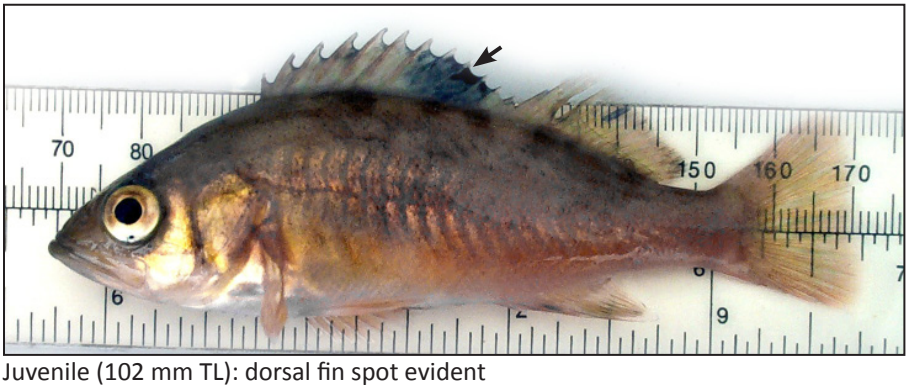
Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Black rockfish

Scorpaenidae - *Sebastes melanops*

Juvenile (184 mm TL)



Juvenile (102 mm TL): dorsal fin spot evident

Juvenile (88 mm TL): dorsal fin spot very distinct in small fish

Brown rockfish

Field ID: Juveniles: deep body; dark brown blotch on upper portion of operculum; eye often has an orange or reddish tinge; underside of lower jaw and throat pinkish; fins dusky and pink. Maximum length 560 mm TL.

Life stage: Only juveniles captured.
Size range 55-200 mm TL, mean TL = 111 mm (n = 53).

Habitat: Eelgrass, kelp

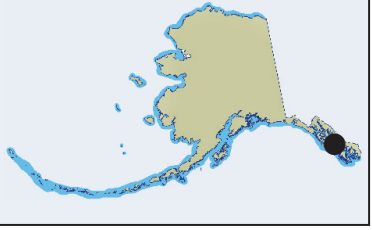
Comments: Captured only in southern outside waters of Southeast.

Similar to: Copper rockfish (p. 106)

References: Mecklenburg et al. 2002 (p. 354); Lamb and Edgell 2010 (p. 152); Butler et al. 2012 (p. 126); Johnson et al. 2012 (p. 141)

Distribution:

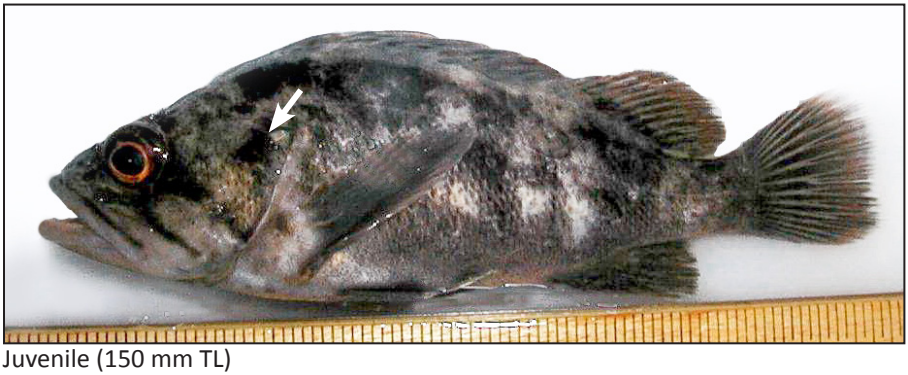
Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral		
PWS	✓	
Southeast	✓	



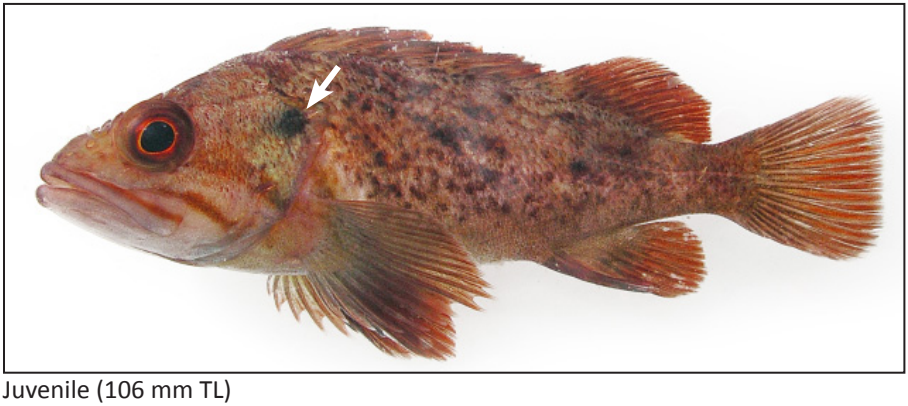
Brown rockfish

Scorpaenidae - *Sebastes auriculatus*

Juvenile (200 mm TL): dark brown blotch on edge of operculum



Juvenile (150 mm TL)



Juvenile (106 mm TL)

Copper rockfish

Field ID: Juveniles: deep body, coppery washed with pink and yellow blotches; white on lower sides and belly; lateral line clear or whitish. Maximum length 660 mm TL.

Life stage: Only juveniles captured.
Size range 19-235 mm TL, mean TL = 88 mm (n = 715).

Habitat: Eelgrass, kelp, bedrock, sand

Comments: The most abundant rockfish species caught; in Southeast, mostly captured in outside waters. Can be difficult to distinguish from quillback rockfish when small (< 50 mm FL).

Similar to: Brown rockfish (p. 104); quillback rockfish (p. 110)

References: Mecklenburg et al. 2002 (p. 366); Lamb and Edgell 2010 (p. 148); Butler et al. 2012 (p. 124); Johnson et al. 2012 (p. 142)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral	✓	
PWS	✓	
Southeast	✓	

Copper rockfish

Scorpaenidae - *Sebastes caurinus*

Juvenile (160 mm TL): light band along lateral line

Juvenile (95 mm TL)

Juvenile (65 mm TL)

Dark rockfish

Field ID: Juveniles: elongate body, uniform orange-brown with light speckling. Maximum length 530 mm TL.

Life stage: Only juveniles captured.
Size range 58-280 mm TL, mean TL = 93 mm (n = 63).

Habitat: Kelp, bedrock, eelgrass, sand

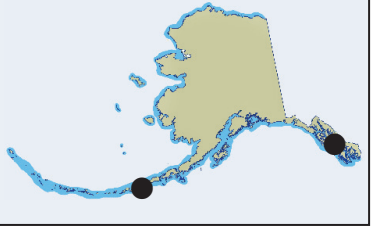
Comments: Formerly called dusky rockfish. Dark “dusky” rockfish occupy depths from 5 to 160 m; there is also a light “dusky” rockfish that is found in deeper, offshore waters (12 to 675 m; Orr and Blackburn 2004).

Similar to: Copper rockfish (p. 106); quillback rockfish (p. 110)

References: Mecklenburg et al. 2002 (p. 356); Butler et al. 2012 (p. 22); Johnson et al. 2012 (p. 143)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Dark rockfish

Scorpaenidae - *Sebastes ciliatus*

Juvenile (204 mm TL): speckled body markings

Juvenile (84 mm TL)

Juvenile (68 mm TL)

Quillback rockfish

Field ID: Juveniles: deep body, orange and brown often covered with brown to red spots; large white to yellow areas on dorsal fin. Maximum length 610 mm TL.

Life stage: Only juveniles captured.
Size range 17-195 mm TL, mean TL = 64 mm (n = 122).

Habitat: Eelgrass, kelp, bedrock

Comments: The third most abundant rockfish species caught. In Southeast, most captured in northern outside waters. Can be difficult to distinguish from copper rockfish when small (< 50 mm FL).

Similar to: Copper rockfish (p. 106)

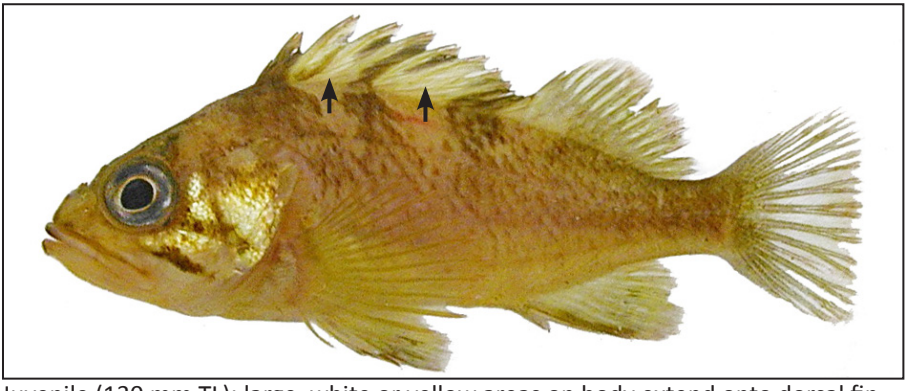
References: Mecklenburg et al. 2002 (p. 353); Butler et al. 2012 (p. 116); Johnson et al. 2012 (p. 145)

Distribution:

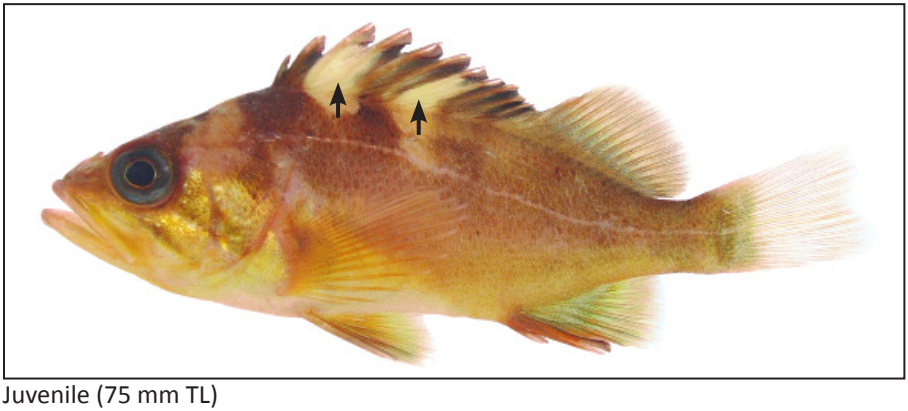
Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral		
PWS	✓	
Southeast	✓	

Quillback rockfish

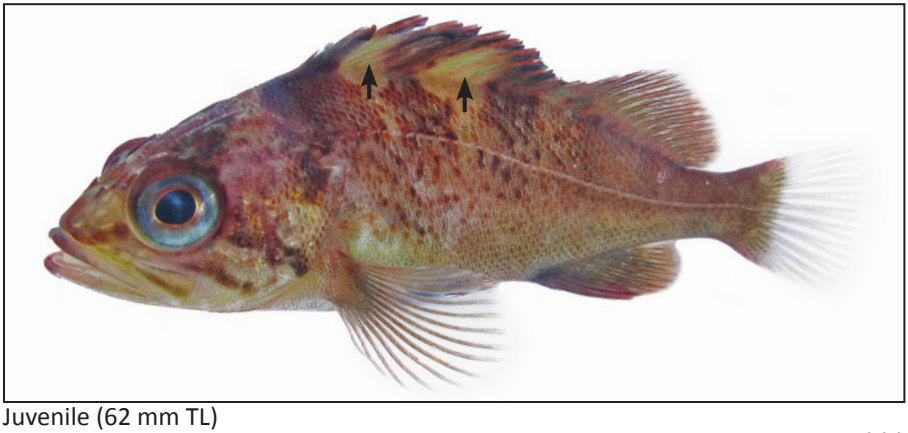
Scorpaenidae - *Sebastes maliger*



Juvenile (130 mm TL): large, white or yellow areas on body extend onto dorsal fin



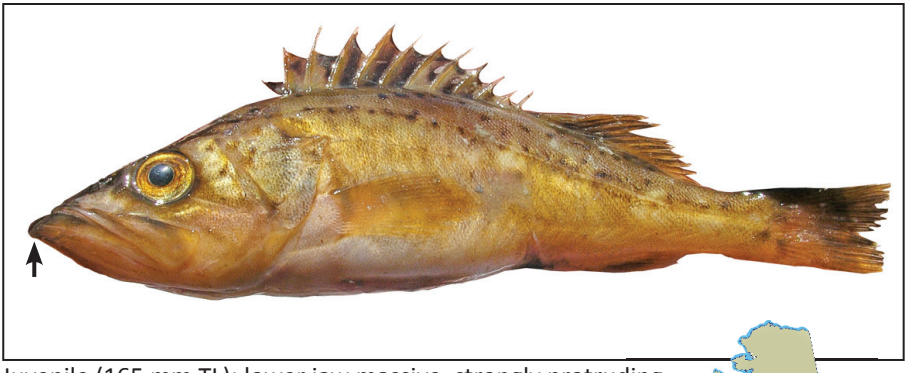
Juvenile (75 mm TL)



Juvenile (62 mm TL)

Bocaccio

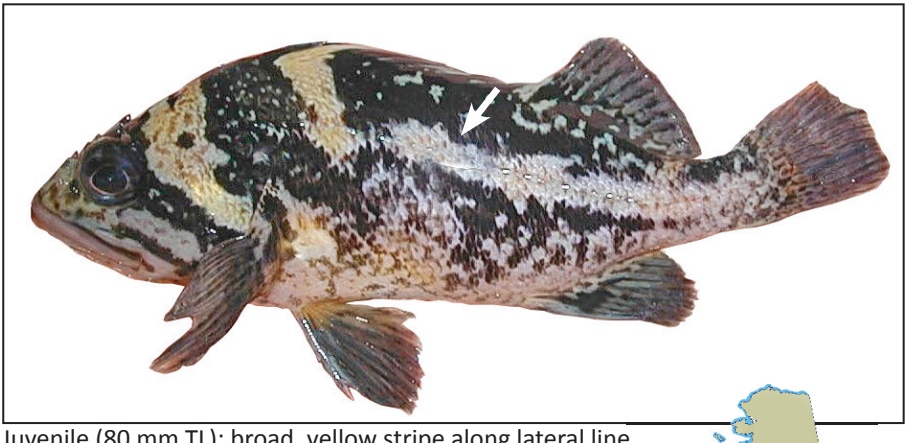
Scorpaenidae - *Sebastes paucispinis*



Juvenile (165 mm TL): lower jaw massive, strongly protruding

China rockfish

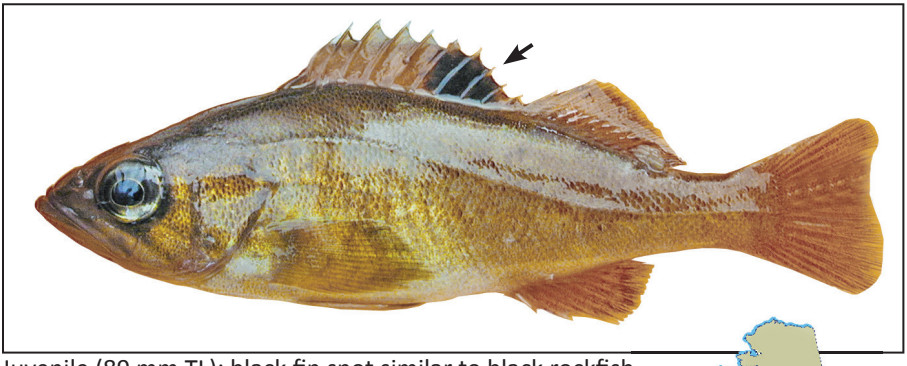
Scorpaenidae - *Sebastes nebulosus*



Juvenile (80 mm TL): broad, yellow stripe along lateral line

Yellowtail rockfish

Scorpaenidae - *Sebastes flavidus*



Juvenile (89 mm TL): black fin spot similar to black rockfish

Northern ronquil

Field ID: Slender, yellow or orange-colored body; dark patch on head between eyes and before dorsal fin; yellow spots or line below eye; pectoral fin extends well past origin of anal fin. Maximum length 200 mm TL.

Life stage: Only juveniles captured.
Size range 55-170 mm TL, mean TL = 116 mm (n = 6).

Habitat: Kelp

Comments: Rare in our catches; 5 fish captured in western Prince William Sound and 1 fish in northern inside waters of Southeast.

Similar to: Alaskan ronquil (p. 116); searcher (p. 116); smallmouth ronquil (p. 117)

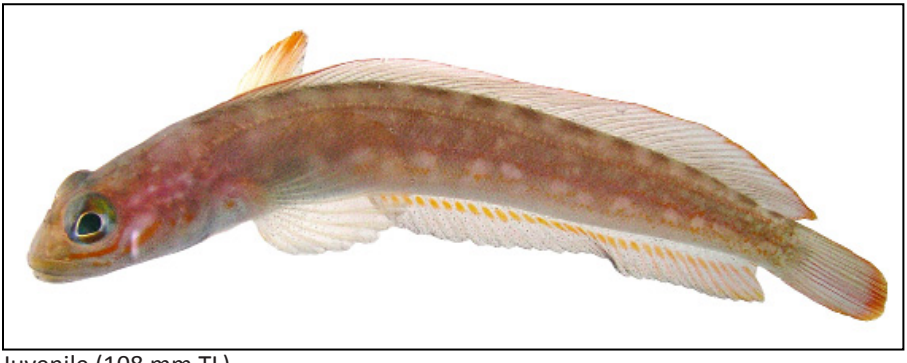
References: Mecklenburg et al. 2002 (p. 666); Lamb and Edgell 2010 (p. 106); Johnson et al. 2012 (p. 54)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

Northern ronquil

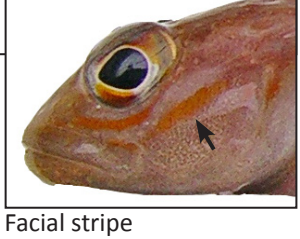
Bathymasteridae - *Ronquilus jordani*



Juvenile (108 mm TL)

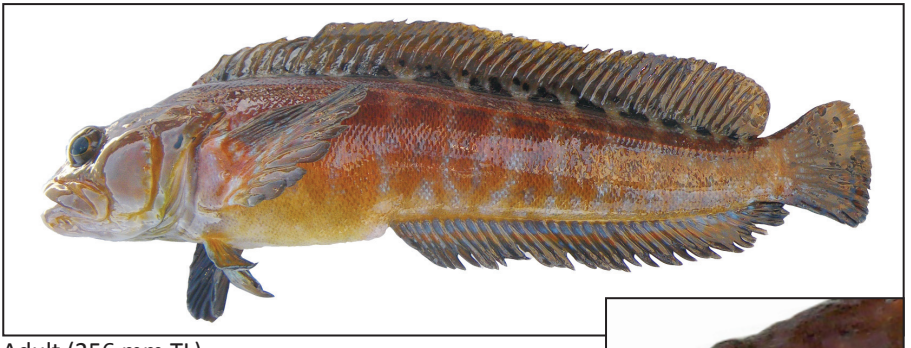
Juvenile (108 mm TL)

Juvenile (105 mm TL): long pectoral fin reaches anal fin



Facial stripe

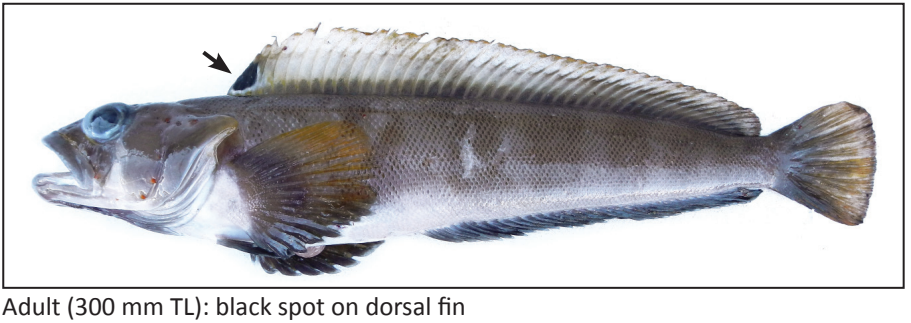
Alaskan ronquil Bathymasteridae - *Bathymaster caeruleofasciatus*



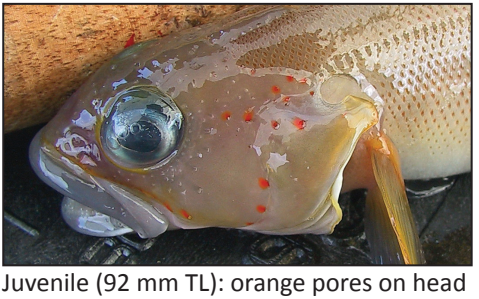
Adult (256 mm TL)

Maxilla extends past eye

Searcher Bathymasteridae - *Bathymaster signatus*



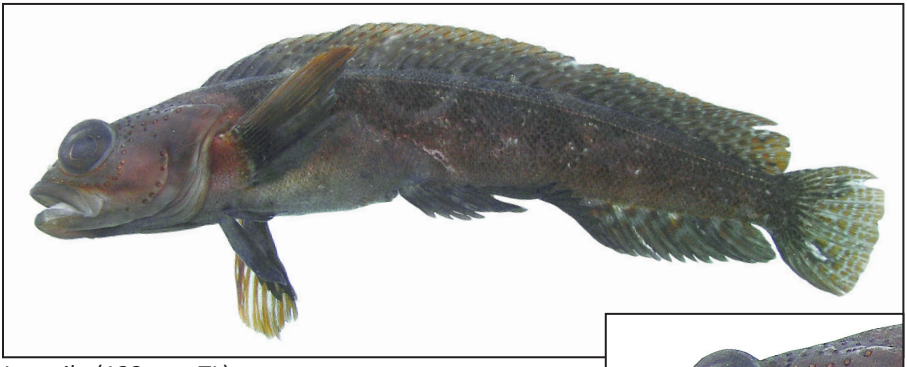
Adult (300 mm TL): black spot on dorsal fin



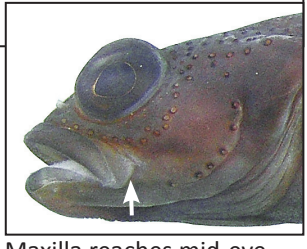
Juvenile (92 mm TL): orange pores on head

Smallmouth ronquil

Bathymasteridae - *Bathymaster leurolepis*



Juvenile (123 mm TL)



Maxilla reaches mid-eye

Chinook salmon

Field ID: Fish < 100 mm FL: parr marks dark, wide (usually wider than coho salmon); adipose fin outlined in black, center clear; fork in tail lightly pigmented, tips darker, pointed; general yellow to orange tinge to tail. Maximum length 160 cm TL.

Life stage: Only juveniles captured.
Size range 77-170 mm FL, mean FL = 132 mm (n = 7).

Habitat: Kelp, sand, bedrock, eelgrass

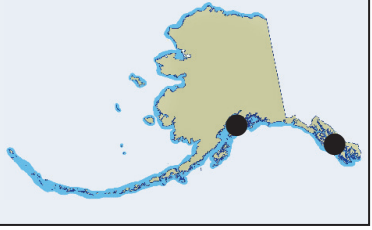
Comments: Rare in our catches; only 9 fish captured, most in Southeast. Can often be distinguished from coho salmon by angular-shaped anal fin. A very important commercial, subsistence, and sport fish in Alaska.

Similar to: Coho salmon < 100 mm FL (p. 122)

References: Phillips 1977; Pollard et al. 1997 (p. 26); Mecklenburg et al. 2002 (p. 207); Johnson et al. 2012 (p. 139)

Distribution:

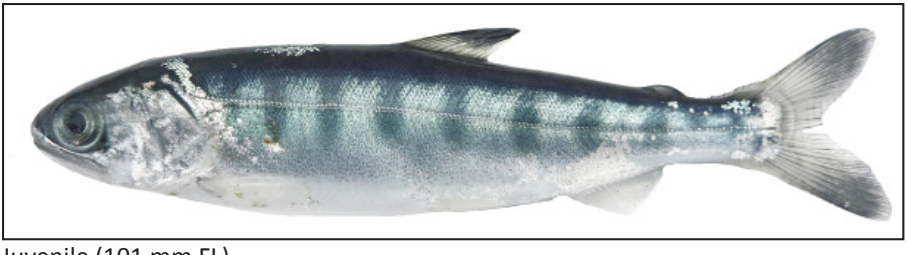
Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



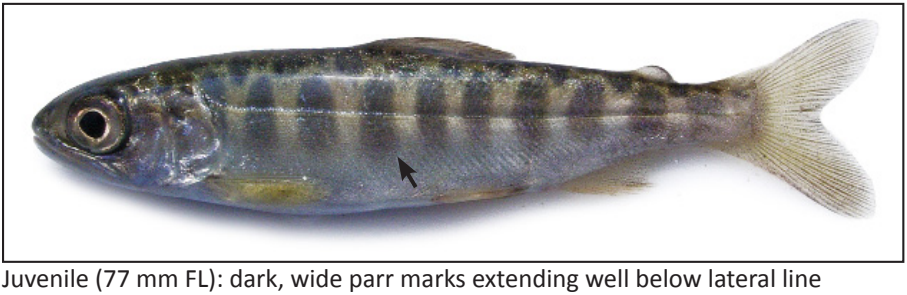
Chinook salmon

Salmonidae - *Oncorhynchus tshawytscha*

Juvenile (140 mm FL): parr marks faded



Juvenile (101 mm FL)



Juvenile (77 mm FL): dark, wide parr marks extending well below lateral line

Chum salmon

Field ID: Fish < 100 mm FL: eye small; narrow parr marks mostly above lateral line; large scales; fork in caudal fin dark; adipose fin present. Maximum length 109 cm TL.

Life stage: Only juveniles captured.
Size range 31-125 mm FL, mean FL = 64 mm (n = 3,909).

Habitat: Eelgrass, kelp, sand, bedrock

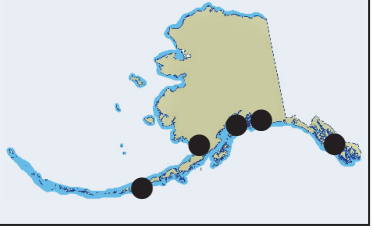
Comments: Second most abundant salmon species captured; often seen in large schools along the shore in spring and early summer. Once parr marks fade, distinguishing chum salmon from pink and sockeye salmon can be difficult; large, easily removed scales help distinguish from pink salmon, and stubby and sparse gill rakers help distinguish from sockeye salmon. A very important commercial, subsistence, and sport fish in Alaska.

Similar to: Pink salmon > 60 mm FL (p. 124)

References: Phillips 1977; Pollard et al. 1997 (p. 21); Mecklenburg et al. 2002 (p. 208); Johnson et al. 2012 (p. 135)

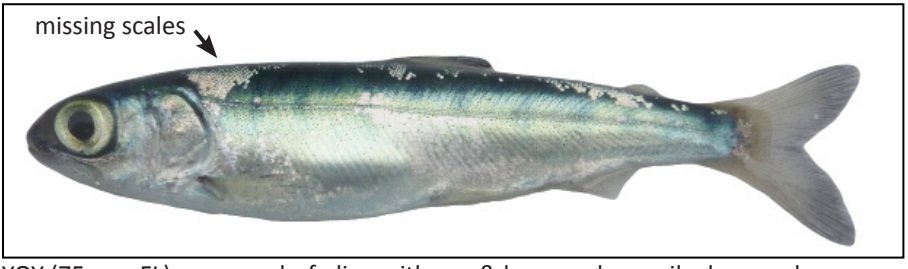
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

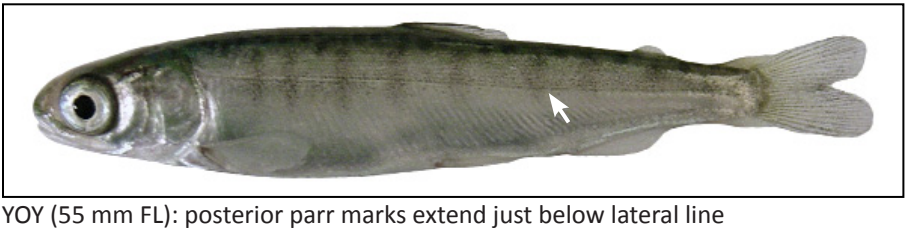


Chum salmon

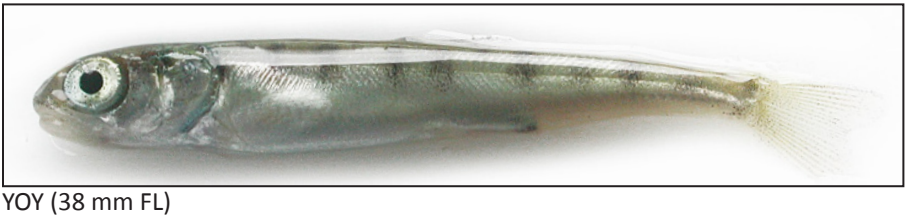
Salmonidae - *Oncorhynchus keta*



YOY (75 mm FL): parr marks fading with age & large scales easily damaged



YOY (55 mm FL): posterior parr marks extend just below lateral line



YOY (38 mm FL)

Coho salmon

Field ID: Fish < 100 mm FL: parr marks dark, wide, and equally above and below lateral line; anal fin sickle-shaped with leading edge long, curved, and white; adipose fin outlined in black, pigmented or opaque in center; caudal fin yellow to orange tinge. Fish > 100 mm FL: silvery color (parr marks may be hard to see); lower jaw rounded; tips of fins may be outlined in black. Maximum length 108 cm TL.

Life stage: Only juveniles captured.
Size range 30-209 mm FL, mean FL = 97 mm (n = 1,544).

Habitat: Eelgrass, kelp, sand, bedrock

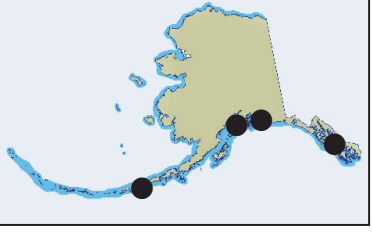
Comments: Often caught fish with "smolt" characteristics; silvery body with no parr marks and blackened fin tips. These fish have recently entered saltwater from freshwater. Can often be distinguished from chinook salmon by sickle-shaped anal fin. A very important commercial, subsistence, and sport fish in Alaska.

Similar to: Chinook salmon < 100 mm FL (p. 118)

References: Phillips 1977; Pollard et al. 1997 (p. 24); Mecklenburg et al. 2002 (p. 206); Johnson et al. 2012 (p. 136)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



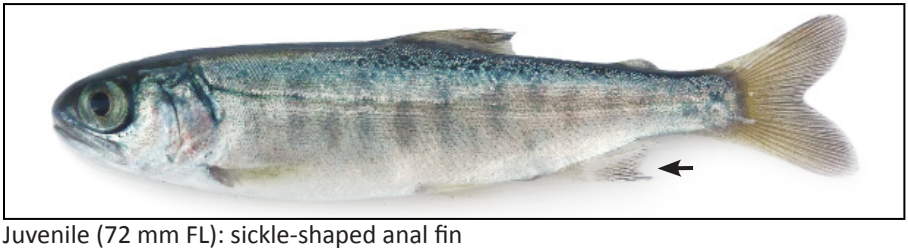
Coho salmon

Salmonidae - *Oncorhynchus kisutch*

Smolt (135 mm FL): parr marks barely visible

Juvenile (110 mm FL)

Juvenile (95 mm FL)



Juvenile (72 mm FL): sickle-shaped anal fin

YOY (51 mm FL): orange fins characteristic of YOY

Pink salmon

Field ID: Fish < 100 mm FL: dorsal surface green; eye small; no parr marks; scales small; fork in caudal fin transparent; adipose fin present. Maximum length 760 mm TL.

Life stage: Only juveniles captured.
Size range 23-142 mm FL, mean FL = 52 mm (n = 4,612).

Habitat: Eelgrass, kelp, sand, bedrock

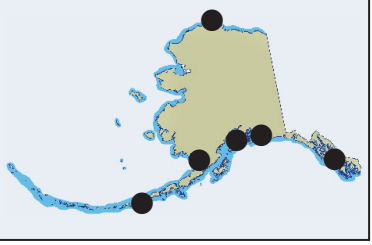
Comments: In the Arctic, we captured only a few adults, no juveniles. Once parr marks fade, distinguishing pink salmon from chum and sockeye salmon can be difficult; small scales help distinguish from chum and sockeye salmon. A very important commercial, subsistence, and sport fish in Alaska.

Similar to: Chum salmon > 60 mm FL (p. 120)

References: Phillips 1977; Pollard et al. 1997 (p. 20); Mecklenburg et al. 2002 (p. 205); Johnson et al. 2012 (p. 134)

Distribution:

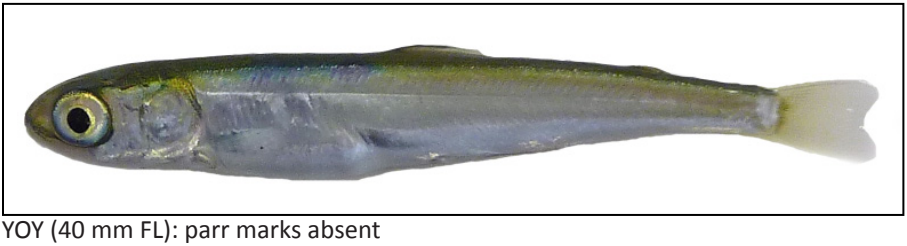
Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



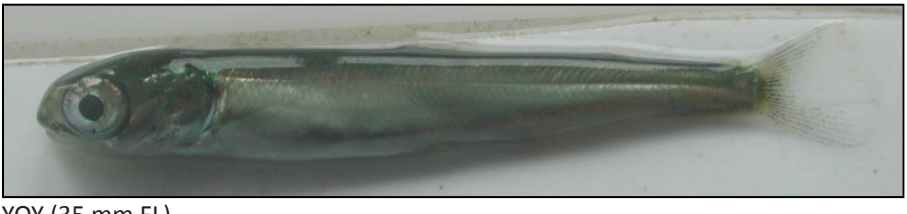
Pink salmon

Salmonidae - *Oncorhynchus gorbuscha*

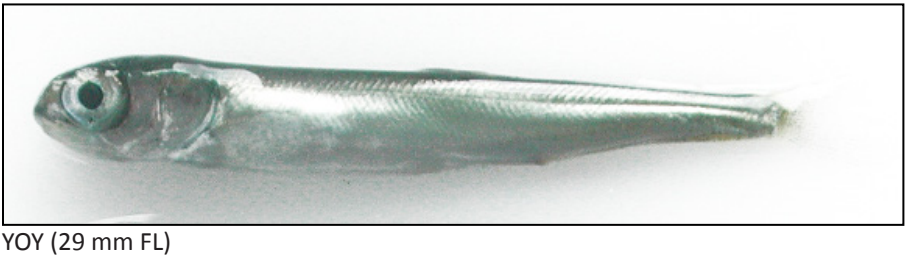
YOY (75 mm FL): small scales remain intact during handling



YOY (40 mm FL): parr marks absent



YOY (35 mm FL)



YOY (29 mm FL)

Sockeye salmon

Field ID: Fish < 100 mm FL: eye large; narrow oval or diamond-shaped parr marks, mostly on or above lateral line with a few sometimes entirely below; scales large; fork in caudal fin unpigmented or lightly pigmented; adipose fin present. Maximum length 840 mm TL.

Life stage: Mostly juveniles captured.
Size range 29-511 mm FL, mean FL = 90 mm (n = 54).

Habitat: Sand, eelgrass, kelp, bedrock

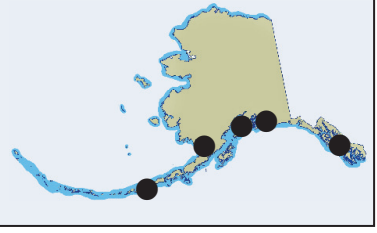
Comments: Only 67 fish captured, most in northern outside waters of Southeast. Once parr marks fade, distinguishing sockeye salmon from chum and pink salmon can be difficult; large, easily removed scales help distinguish from pink salmon, and long and abundant gill rakers help distinguish from chum salmon. Young sockeye salmon are not hardy; minimize handling and release as soon as possible. A very important commercial, subsistence, and sport fish in Alaska.

Similar to: Chum salmon > 60 mm FL (p. 120)

References: Phillips 1977; Pollard et al. 1997 (p. 22); Mecklenburg et al. 2002 (p. 209); Johnson et al. 2012 (p. 138)

Distribution:

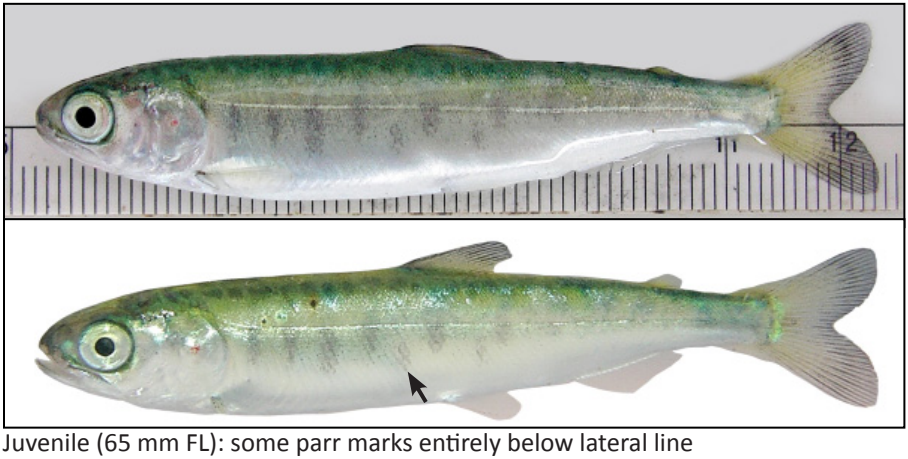
Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Sockeye salmon

Salmonidae - *Oncorhynchus nerka*

Juvenile (71 mm FL): small, diamond-shaped parr marks



Juvenile (65 mm FL): some parr marks entirely below lateral line

Antlered sculpin

Field ID: First preopercular spine very long with 2 to 8 spinules; forked flange with sharp points extending far over maxilla; bulging head bones; large scale plates along high lateral line; pale spots on side with cirri. Maximum length 280 mm TL.

Life stage: Only juveniles captured.
Size range 88-169 mm TL, mean TL = 113 mm (n = 7).

Habitat: Kelp, sand

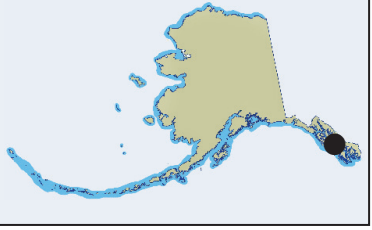
Comments: Rare in our catches; only 7 fish captured in northern inside waters of Southeast.

Similar to: Buffalo sculpin (p. 140); leister sculpin (p. 148)

References: Mecklenburg et al. 2002 (p. 472); Johnson et al. 2012 (p. 61)

Distribution:

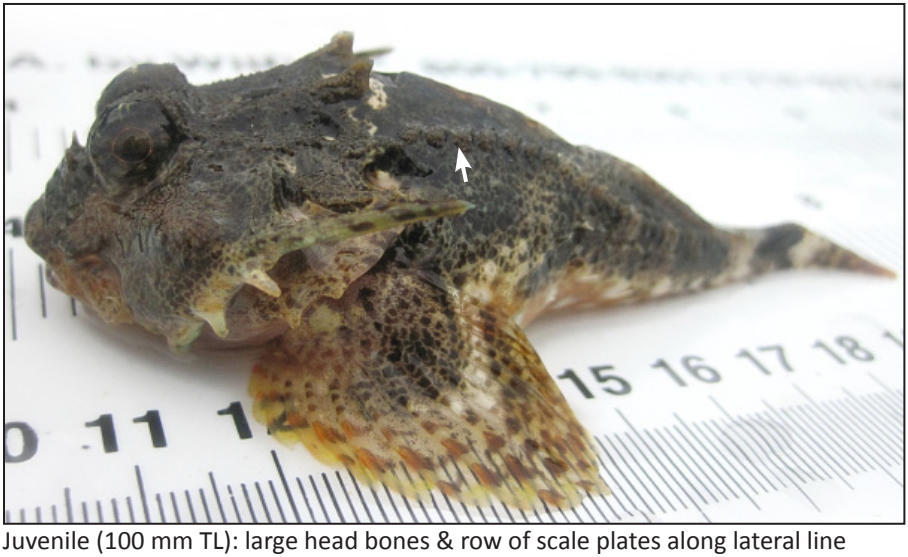
Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Antlered sculpin

Cottidae - *Enophrys diceraus*

Juvenile (100 mm TL): forked flange & long 1st preopercular spine with spinules



Juvenile (100 mm TL): large head bones & row of scale plates along lateral line

Arctic sculpin

Field ID: Top of head covered with numerous hard, sharp-tipped warty bumps; bright white spots often seen on sides of larger fish; fins spotted and barred; spine-covered plates above lateral line with raised centers. Maximum length 238 mm TL.

Life stage: Mostly juveniles captured.
Size range 18-221 mm TL, mean TL = 92 mm (n = 49).

Habitat: Sand

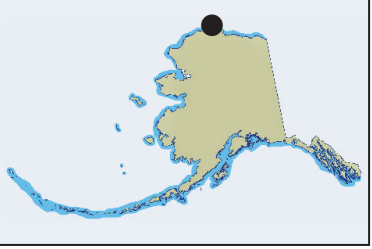
Comments: Captured only in the Arctic (Beaufort and Chukchi seas). Arctic sculpin have 14 to 16 pectoral fin rays, whereas plain sculpin and shorthorn sculpin typically have 17 to 18.

Similar to: Shorthorn sculpin (p. 166); plain sculpin (p. 178)

References: Mecklenburg et al. 2002 (p. 479); Johnson et al. 2012 (p. 73)

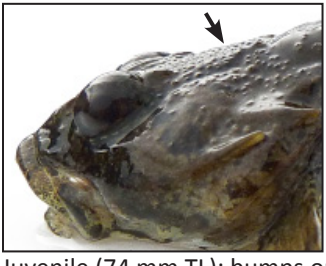
Distribution:

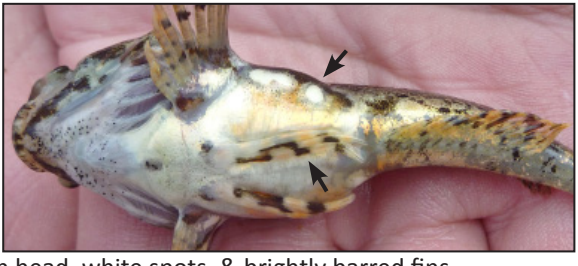
Region	Known	Abundance & location of beach seined fish
Arctic	✓	●●●
Bristol Bay		
Aleutians		
Southcentral		
PWS		
Southeast		



Arctic sculpin

Cottidae - *Myoxocephalus scorpioides*





Juvenile (74 mm TL): bumps on head, white spots, & brightly barred fins

Juveniles (67 & 30 mm TL)

Juvenile (35 mm TL)

Arctic staghorn sculpin

Field ID: First preopercular spine antler-like; dark bars on dorsal and pectoral fins; no cirri on head or body. Maximum length 299 mm TL.

Life stage: Only juveniles captured.
Size range 25-117 mm TL, mean TL = 50 mm (n = 8).

Habitat: Sand

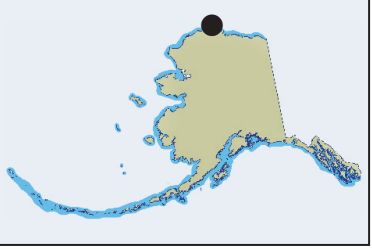
Comments: Only 49 fish captured in the Arctic (Beaufort and Chukchi seas).

Similar to: Relatively easy to identify

References: Mecklenburg et al. 2002 (p. 464); Johnson et al. 2012 (p. 64)

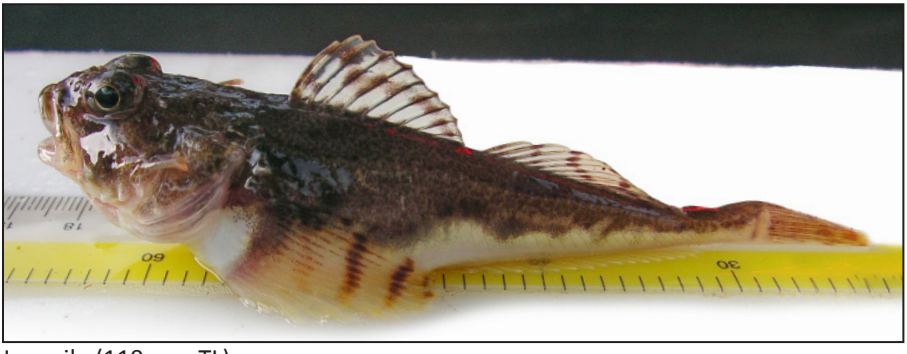
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay		
Aleutians		
Southcentral		
PWS		
Southeast		

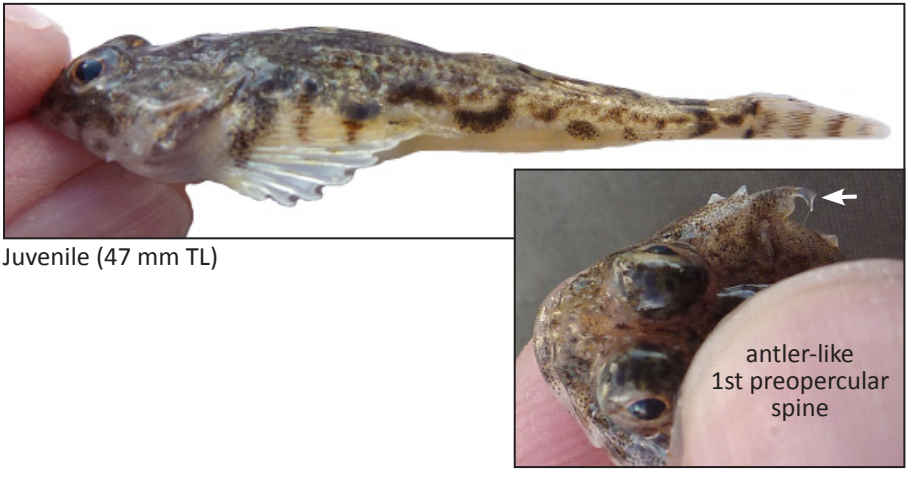


Arctic staghorn sculpin

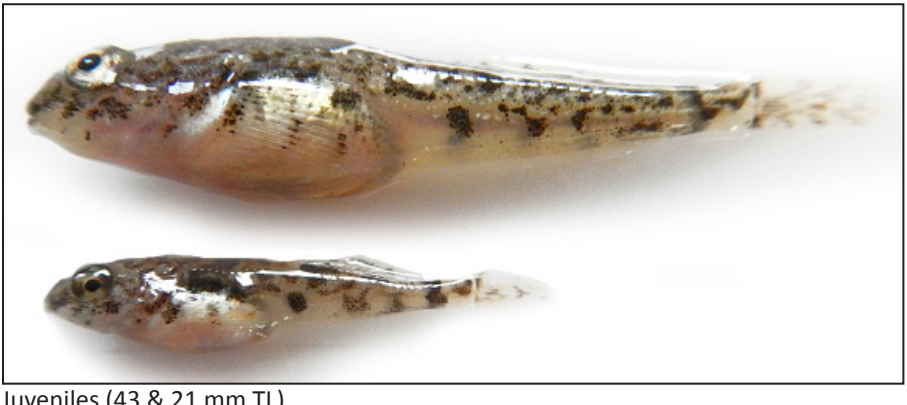
Cottidae - *Gymnocanthus tricuspis*



Juvenile (110 mm TL)



Juvenile (47 mm TL)



Juveniles (43 & 21 mm TL)

Armorhead sculpin

Field ID: First preopercular spine antler-like; head slightly compressed; rough plates covering top of head; dark area along leading edge of dorsal fin; 4 to 5 blackish bars extend below lateral line; dorsal, caudal, and pectoral fins barred. Maximum length 360 mm TL.

Life stage: Only juveniles captured.
Size range 48-151 mm TL, mean TL = 82 mm (n = 47).

Habitat: Sand, kelp, eelgrass

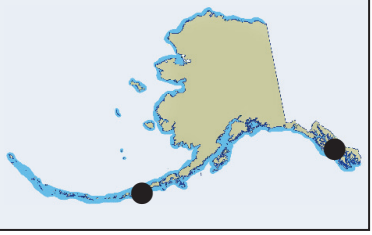
Comments: In Southeast, captured only in northern inside waters.

Similar to: Pacific staghorn sculpin (p. 154)

References: Mecklenburg et al. 2002 (p. 466); Johnson et al. 2012 (p. 63)

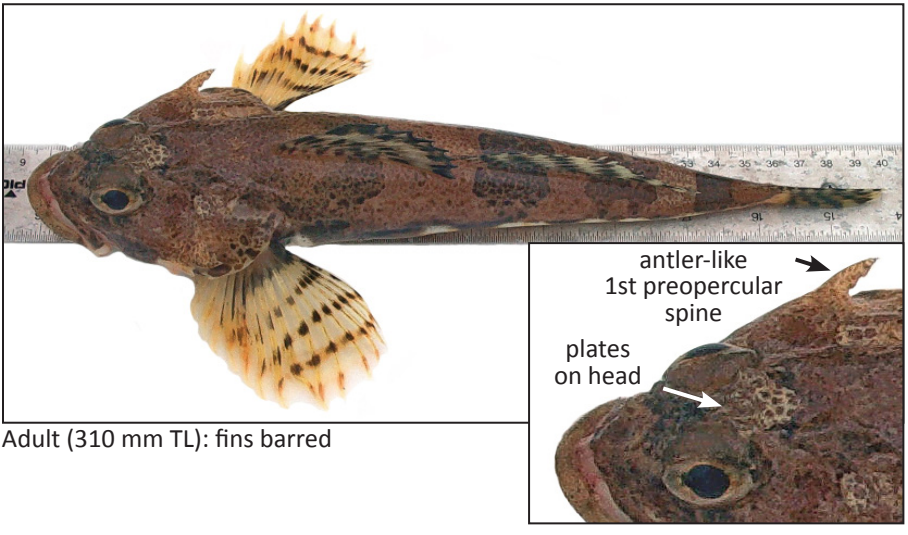
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

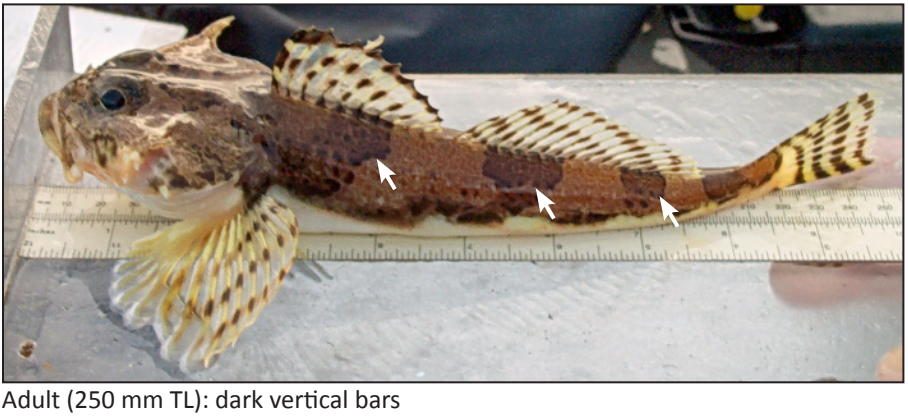


Armorhead sculpin

Cottidae - *Gymnocanthus galeatus*



Adult (310 mm TL): fins barred



Adult (250 mm TL): dark vertical bars

Juvenile (190 mm TL): dark area on dorsal fin

Belligerent sculpin

Field ID: First preopercular spine long and sometimes curved; head wide with protruding lower jaw; large distinct bumps on head; spots on belly and side; all fins barred. Maximum length 350 mm TL.

Life stage: Only juveniles captured.
Size range 118-247 mm TL, mean TL = 210 mm (n = 6).

Habitat: Sand

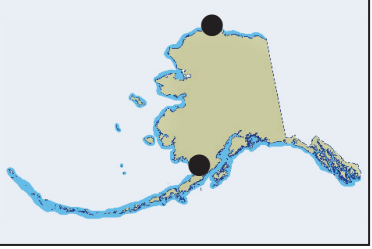
Comments: Captured in Arctic (Chukchi Sea) and Bristol Bay (Nushagak Bay). Pectoral fins conspicuously bright and colorful in small specimens.

Similar to: Brightbelly sculpin (p. 178)

References: Mecklenburg et al. 2002 (p. 475); Johnson et al. 2012 (p. 69)

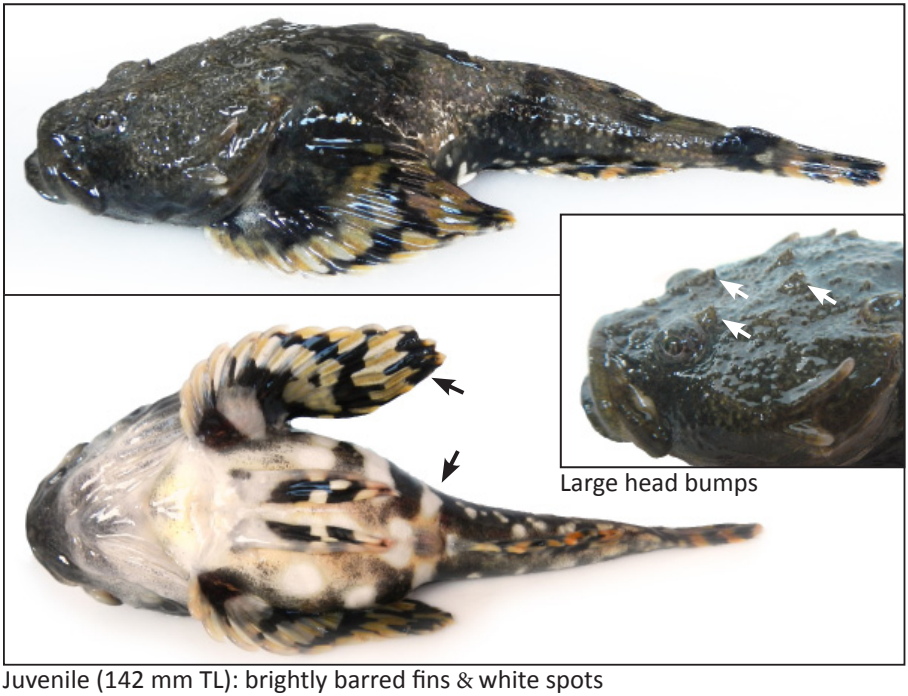
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians		
Southcentral		
PWS		
Southeast		

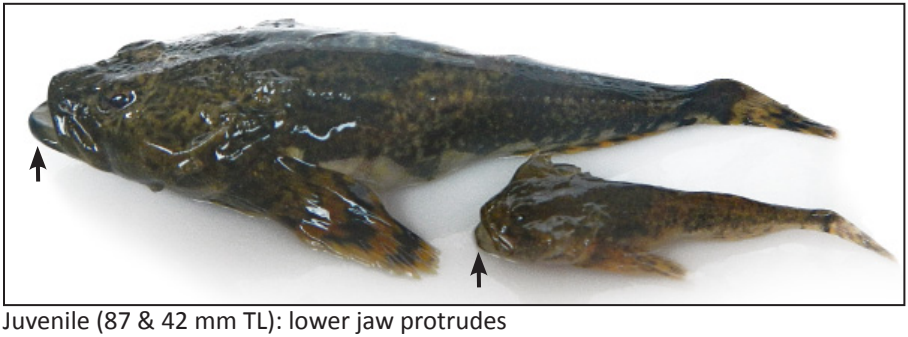


Belligerent sculpin

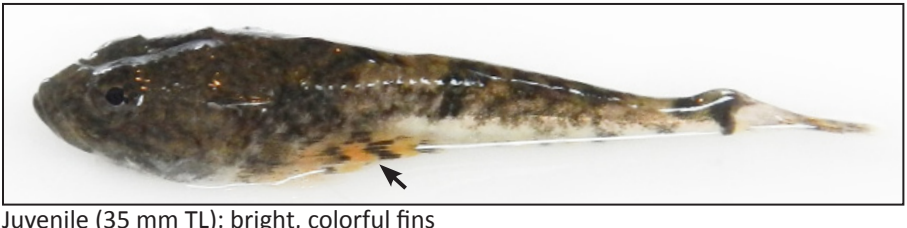
Cottidae - *Megalocottus platycephalus*



Juvenile (142 mm TL): brightly barred fins & white spots



Juvenile (87 & 42 mm TL): lower jaw protrudes



Juvenile (35 mm TL): bright, colorful fins

Brown Irish lord

Field ID: Single dorsal fin deeply notched to form three sections or steps; 3rd dorsal spine shorter than 2nd and 4th; nostrils with flaps; body brown with dark mottling; dorsal scale band (6 to 8 rows) below dorsal fin. Maximum length 290 mm TL.

Life stage: Mostly juveniles captured.
Size range 35-199 mm TL, mean TL = 101 mm (n = 22).

Habitat: Kelp, eelgrass

Comments: Only 22 fish captured, most in Southeast. Dorsal fin notches usually deeper in brown Irish lord than in red Irish lord. Rays of 3rd step of dorsal fin single in brown Irish lord and forked in red Irish lord.

Similar to: Red Irish lord (p. 158)

References: Mecklenburg et al. 2002 (p. 432); Lamb and Edgell 2010 (p. 250); Johnson et al. 2012 (p. 66)

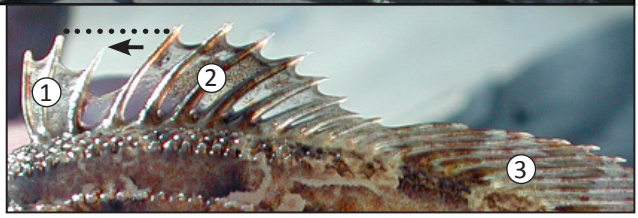
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral	✓	
PWS	✓	
Southeast	✓	

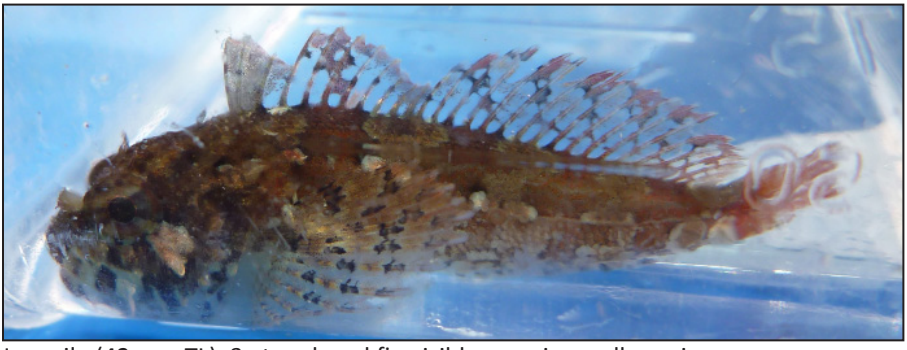
Brown Irish lord

Cottidae - *Hemilepidotus spinosus*

Juvenile (81 mm TL)



3-step dorsal fin; 3rd dorsal spine shorter than 2nd & 4th



Juvenile (42 mm TL): 3-step dorsal fin visible even in small specimens

Buffalo sculpin

Field ID: First preopercular spine long, without spinules and sometimes blue; large head with short, steep snout; high lateral line with raised plates. Maximum length 371 mm TL.

Life stage: Only juveniles captured.
Size range 13-220 mm TL, mean TL = 68 mm (n = 124).

Habitat: Eelgrass, sand, kelp, bedrock

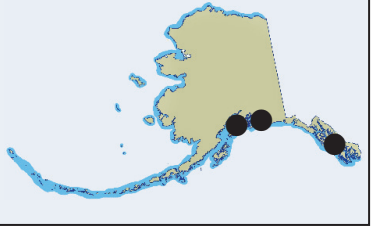
Comments: Greatest total catch in northern inside waters of Southeast. Often grunt or croak when handling.

Similar to: Antlered sculpin (p. 128); leister sculpin (p. 148)

References: Mecklenburg et al. 2002 (p. 471); Lamb and Edgell 2010 (p. 245); Johnson et al. 2012 (p. 60)

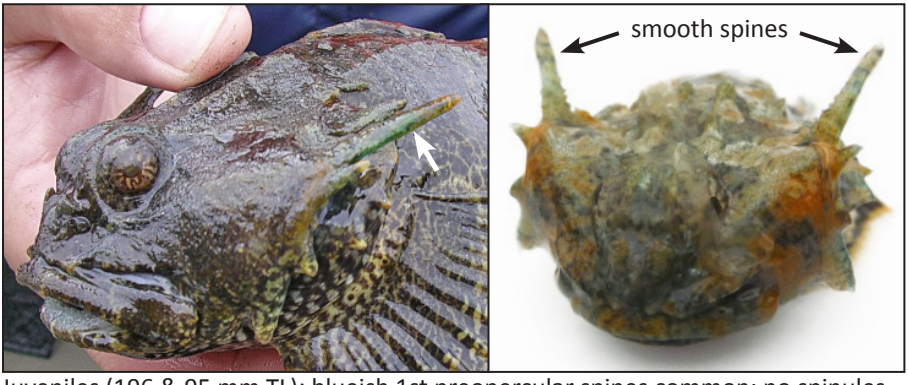
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral	✓	
PWS	✓	
Southeast	✓	

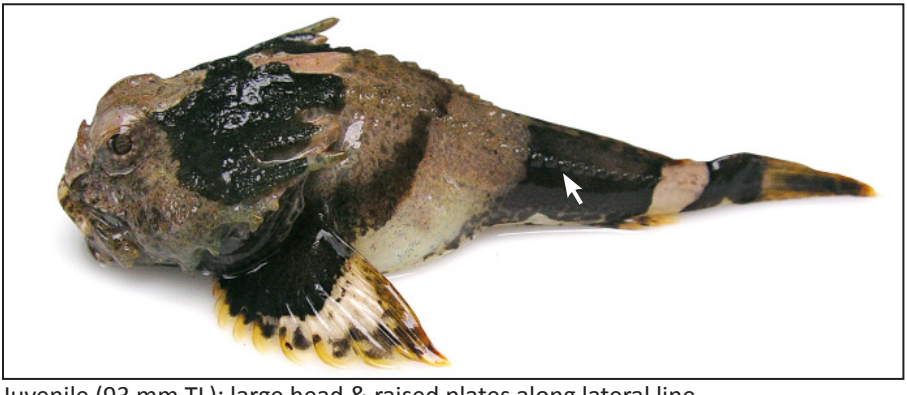


Buffalo sculpin

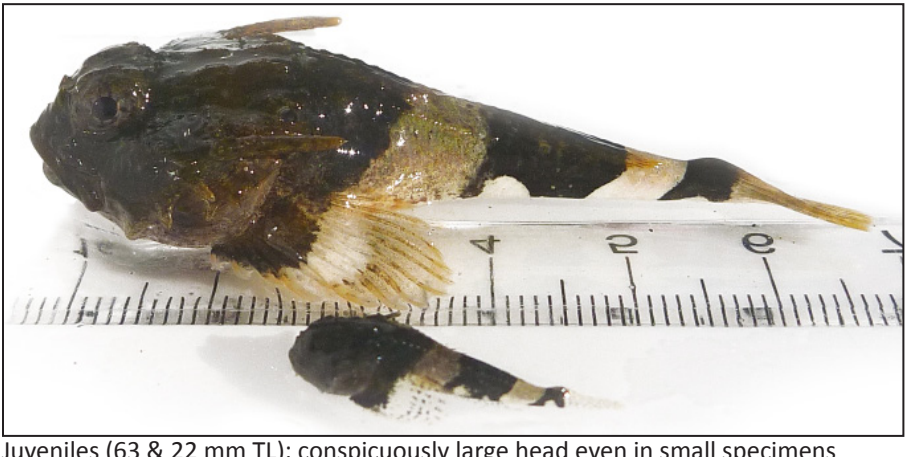
Cottidae - *Enophrys bison*



Juveniles (196 & 95 mm TL): blueish 1st preopercular spines common; no spinules



Juvenile (93 mm TL): large head & raised plates along lateral line



Juveniles (63 & 22 mm TL): conspicuously large head even in small specimens

Cabezon

Field ID: Fleshy flap on snout; large cirrus above each eye; skin smooth, without scales; 1st dorsal fin usually notched at 3rd or 4th spine. Maximum length 990 mm TL.

Life stage: Only juveniles captured.
Size range 127 mm TL (n=1).

Habitat: Kelp

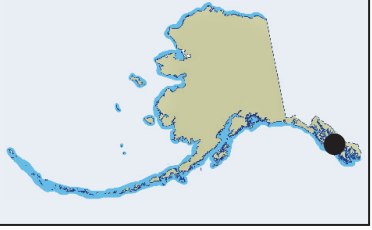
Comments: Rare in our catches; only 9 fish captured in Southeast. Can be easily distinguished from Irish lords due to smooth, scaleless skin. Recent catches in northern Southeast (Yakutat Bay) suggest a northern range extension.

Similar to: Brown Irish lord (p. 138); red Irish lord (p. 158)

References: Mecklenburg et al. 2002 (p. 430); Lamb and Edgell 2010 (p. 241); Johnson et al. 2012 (p. 78)

Distribution:

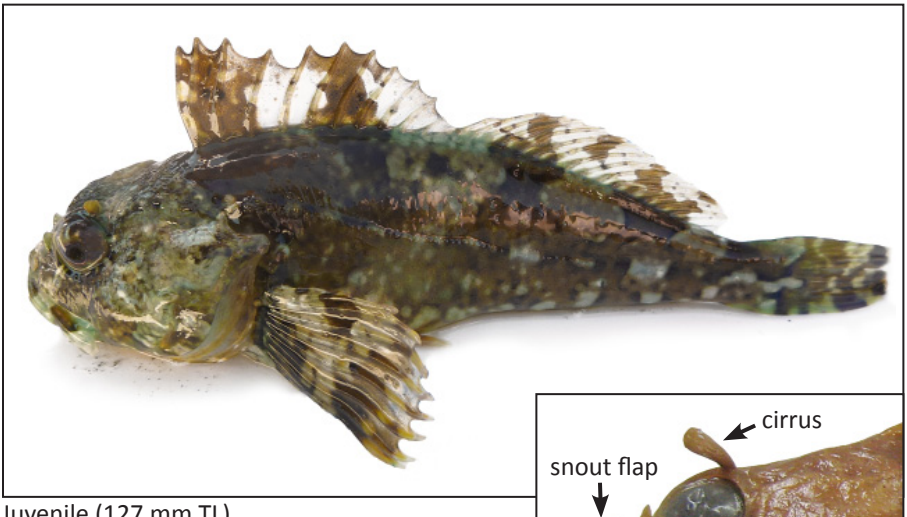
Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral		
PWS		
Southeast	✓	



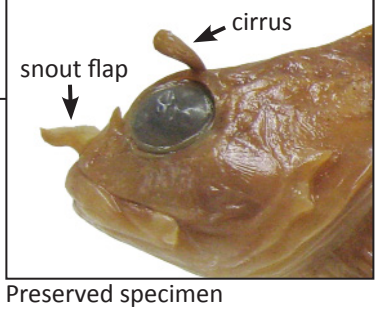
Cabezon

Cottidae - *Scorpaenichthys marmoratus*

Juvenile (320 mm TL): smooth, scaleless body



Juvenile (127 mm TL)



Preserved specimen

Fourhorn sculpin

Field ID: First preopercular spine long and sometimes curved; head compressed with four fleshy knobs; orange colored body and fins common; 2nd dorsal fin long and wavy. Maximum length 365 mm TL.

Life stage: Only juveniles captured.
Size range 31-237 mm TL, mean TL = 55 mm (n = 98).

Habitat: Sand

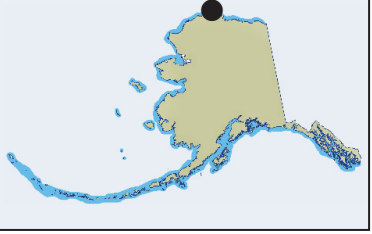
Comments: Captured only in the Arctic (Beaufort and Chukchi seas). Coloration and size of head knobs can vary among regions and habitat. Orange fins and flesh most common in adults and large juveniles, but seen frequently in individuals as small as 50 mm TL near Barrow.

Similar to: Relatively easy to identify

References: Mecklenburg et al. 2002 (p. 477); Johnson et al. 2012 (p. 72)

Distribution:

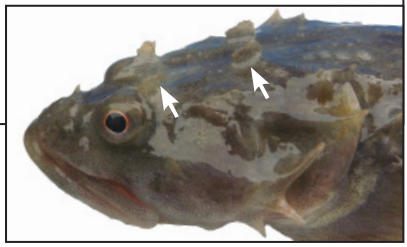
Region	Known	Abundance & location of beach seined fish
Arctic	✓	●●●○○
Bristol Bay		○○○○○
Aleutians		○○○○○
Southcentral		○○○○○
PWS		○○○○○
Southeast		○○○○○



Fourhorn sculpin

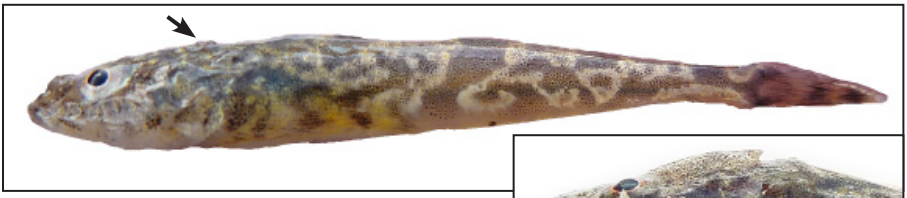
Cottidae - *Myoxocephalus quadricornis*

Adult (190 mm TL)

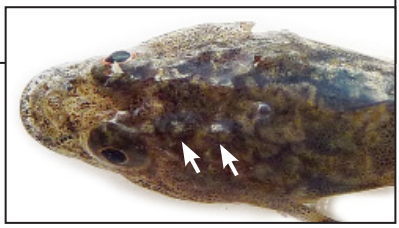


Large, fleshy head knobs

Juvenile (135 mm TL): orange fins and skin



Juvenile (40 mm TL): head knobs visible at a young age



Great sculpin

Field ID: First preopercular spine long; large head and mouth; long ridges on head behind eyes; brown dorsally with usually 3 or 4 dark bars; fins barred and spotted; scales absent; no cirri on head or body; white or mottled chin. Maximum length 760 mm TL.

Life stage: Mostly juveniles captured.
Size range 70-415 mm TL, mean TL = 154 mm (n = 45).

Habitat: Eelgrass, kelp, sand, bedrock

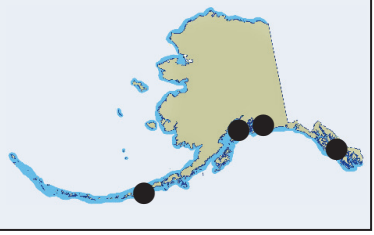
Comments: Can be difficult to distinguish from shorthorn sculpin and plain sculpin. Great sculpin do not have distinct scales, whereas large shorthorn sculpin and plain sculpin often have platelike scales above lateral line. Note that it has been determined that the similar looking frog sculpin (*M. stelleri*) described in Mecklenburg et al. (2002) does not occur in Alaska (Mecklenburg et al. 2011; Mecklenburg, personal communication 2014).

Similar to: Shorthorn sculpin (p. 166); plain sculpin (p. 178)

References: Mecklenburg et al. 2002 (p. 482); Johnson et al. 2012 (p. 74)

Distribution:

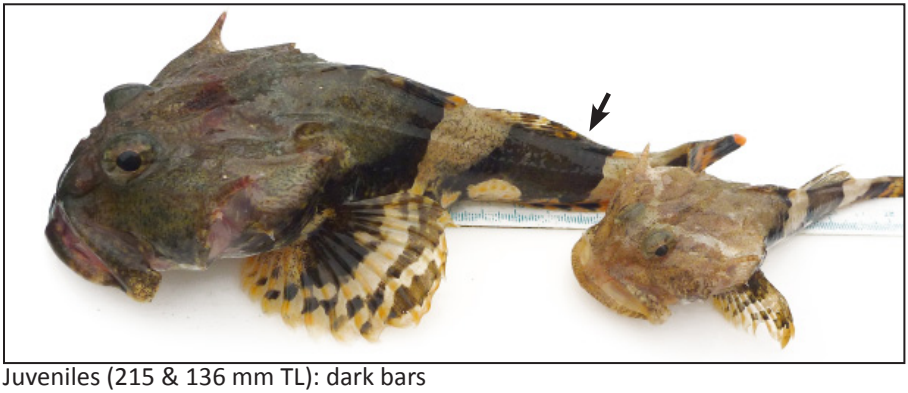
Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



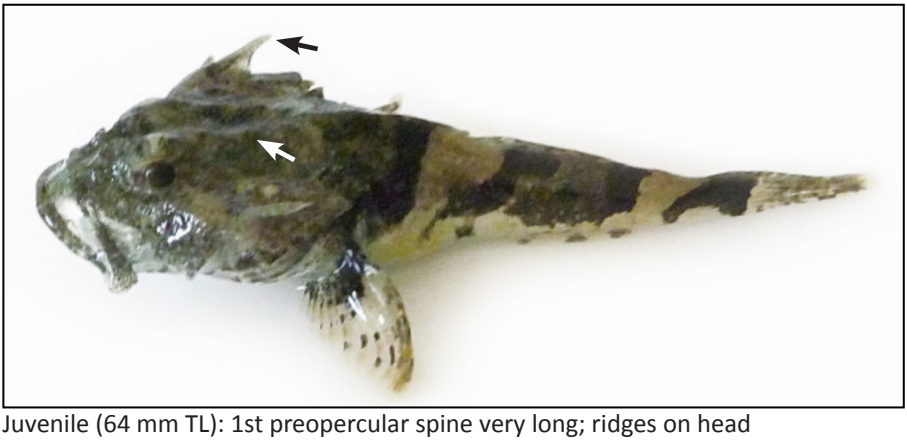
Great sculpin

Cottidae - *Myoxocephalus polyacanthocephalus*

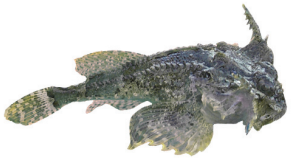
Adult (425 mm TL)



Juveniles (215 & 136 mm TL): dark bars



Juvenile (64 mm TL): 1st preopercular spine very long; ridges on head



Leister sculpin

Field ID: First preopercular spine long with 1 to 4 spinules; rounded flange extending over maxilla; large head bones; fins with pale yellow bars and dark spots; anal and pelvic fins with dark spots along rays; pale spots on side with cirri. Maximum length 250 mm TL.

Life stage: Juveniles and adults captured.
Size range 56-235 mm TL, mean TL = 130 mm (n = 22).

Habitat: Kelp, sand, bedrock, eelgrass

Comments: Only 41 fish captured, most in northern inside waters of Southeast.

Similar to: Antlered sculpin (p. 128); buffalo sculpin (p. 140)

References: Mecklenburg et al. 2002 (p. 473); Lamb and Edgell 2010 (p. 247); Johnson et al. 2012 (p. 62)

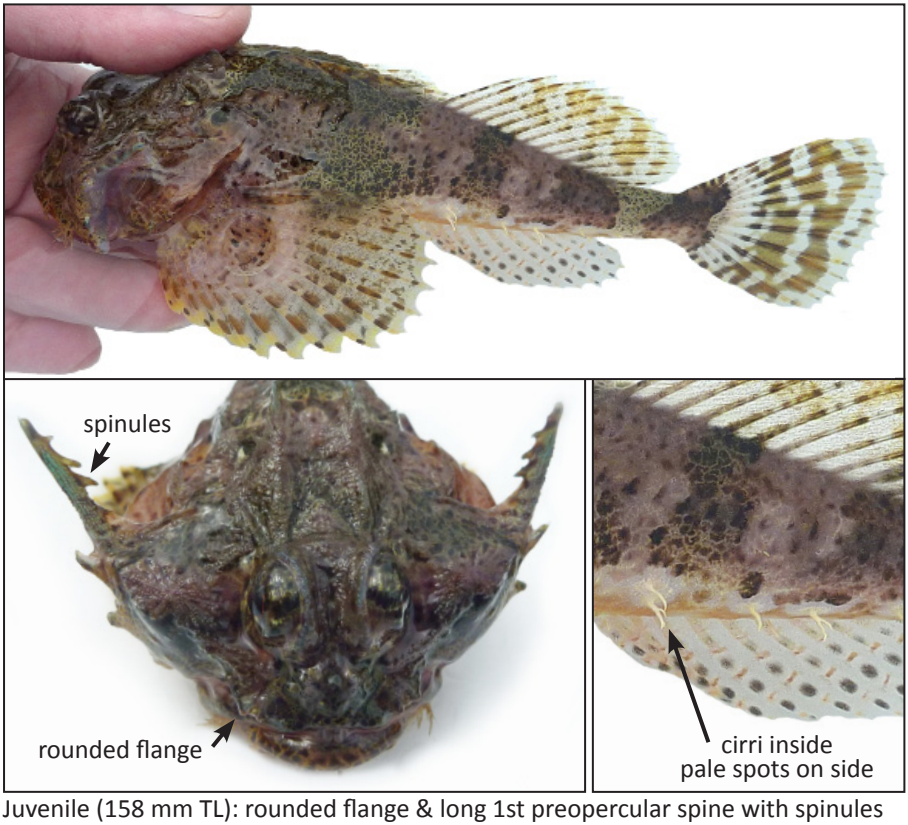
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians		
Southcentral	✓	
PWS	✓	
Southeast	✓	

Leister sculpin

Cottidae - *Enophrys lucasi*

Adult (235 mm TL): breeding male with striking fin markings



Juvenile (158 mm TL): rounded flange & long 1st preopercular spine with spinules

Manacled sculpin

Field ID: Pointed snout; long, slender olive-green to brown colored body; males have silver spots along side; pectoral fins united ventrally to form single fin. Maximum length 69 mm TL.

Life stage: Mostly juveniles captured.
Size range 7-55 mm TL, mean TL = 31 mm (n = 70).

Habitat: Kelp, eelgrass, bedrock, sand

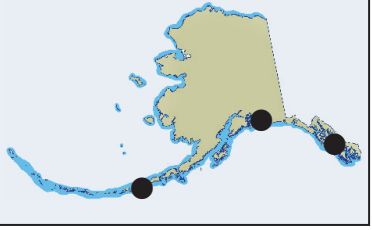
Comments: In Southeast, most captured in northern outside waters. Unusual looking fish.

Similar to: Relatively easy to identify

References: Mecklenburg et al. 2002 (p. 418); Lamb and Edgell 2010 (p. 215); Johnson et al. 2012 (p. 79)

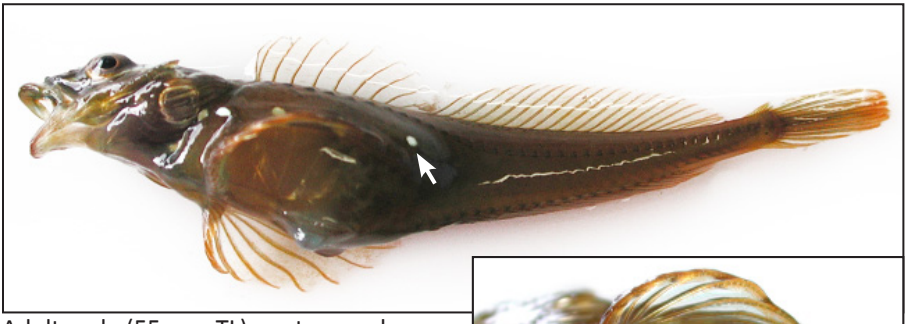
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

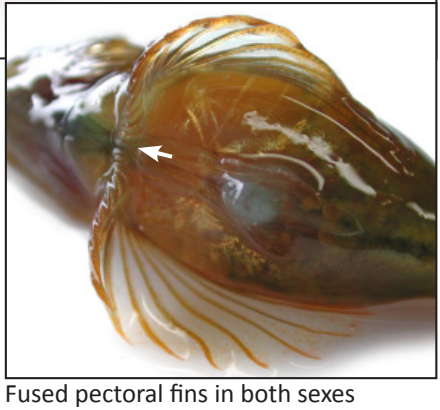


Manacled sculpin

Cottidae - *Synchirus gilli*



Adult male (55 mm TL): mature males have silver spots



Fused pectoral fins in both sexes

Adult female (51 mm TL)

Northern sculpin

Field ID: First preopercular spine antler-like; body often with dark bars; straight outline of 1st dorsal fin; two rows of scales below dorsal fins. Maximum length 101 mm TL.

Life stage: Mostly adults captured.
Size range 26-179 mm TL, mean TL = 85 mm (n = 63).

Habitat: Eelgrass, kelp, sand, bedrock

Comments: Antler-like spines often get stuck in the net.

Similar to: Relatively easy to identify

References: Mecklenburg et al. 2002 (p. 441); Lamb and Edgell 2010 (p. 220); Johnson et al. 2012 (p. 67)

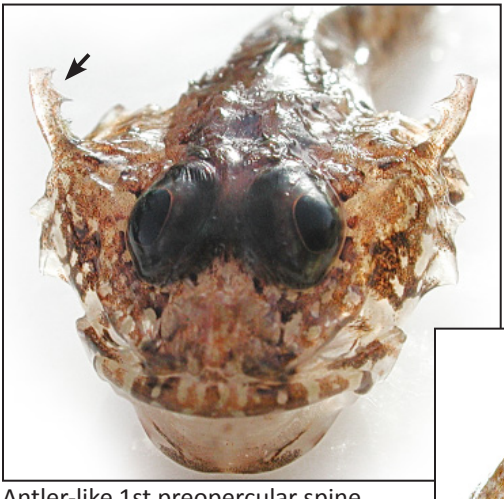
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

Northern sculpin

Cottidae - *Icelinus borealis*

Juvenile (57 mm TL)



Antler-like 1st preopercular spine

Scale rows prominent

Pacific staghorn sculpin

Field ID: First preopercular spine antler-like; head compressed; smooth, scaleless body; greenish-brown with some yellow dorsally; black spot near posterior margin of 1st dorsal fin. Maximum length 480 mm TL.

Life stage: Mostly juveniles captured.
Size range 64-349 mm TL, mean TL = 193 mm (n = 256).

Habitat: Eelgrass, sand, kelp, bedrock

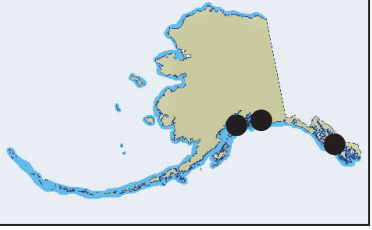
Comments: The most abundant sculpin captured based on total catch. Antler-like spines often get stuck in the net or on gloves when handling. Voracious feeders; it's a good idea to isolate large specimens from the rest of your catch while processing.

Similar to: Armorhead sculpin (p. 134)

References: Mecklenburg et al. 2002 (p. 467); Lamb and Edgell 2010 (p. 251); Johnson et al. 2012 (p. 68)

Distribution:

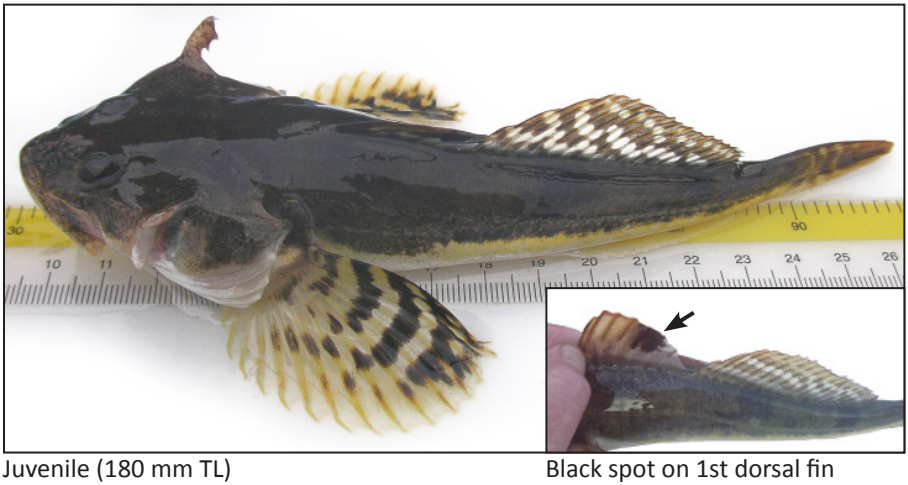
Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral	✓	
PWS	✓	
Southeast	✓	



Pacific staghorn sculpin

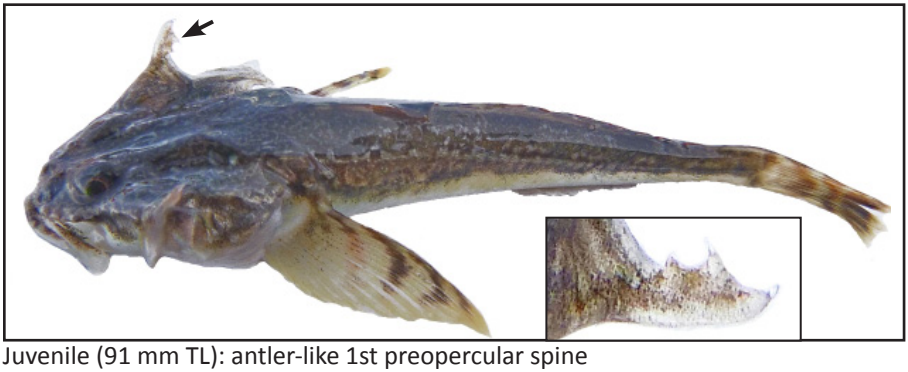
Cottidae - *Leptocottus armatus*

Juvenile (235 mm TL): smooth, scaleless body



Juvenile (180 mm TL)

Black spot on 1st dorsal fin



Juvenile (91 mm TL): antler-like 1st preopercular spine

Padded sculpin

Field ID: First preopercular spine forked; sometimes colorful, black-red-yellow "false-eye" spot on anterior and posterior end of 1st dorsal fin; scales present on top of head and below eyes; maxilla extends to rear edge of pupil; dorsal scale band (9 to 11 rows) below dorsal fin; lateral line scales entirely embeded; scales on caudal peduncle; irregularly shaped, pale circles on lower sides. Maximum length 140 mm TL.

Life stage: Mostly juveniles captured.
Size range 18-133 mm TL, mean TL = 74 mm (n = 454).

Habitat: Eelgrass, kelp, sand, bedrock

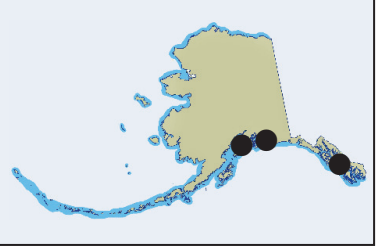
Comments: In Southeast, most captured in northern inside and outside waters. Lots of color variability in appearance. Use of a hand lens and placing live specimens in water can help identify diagnostic characteristics. Also, rub bare finger anteriorly along lateral line; it should feel smooth on a padded sculpin.

Similar to: Scalyhead sculpin (p. 162); smoothhead sculpin (p. 168)

References: Mecklenburg et al. 2002 (p. 460); Lamb and Edgell 2010 (p. 201); Johnson et al. 2012 (p. 56)

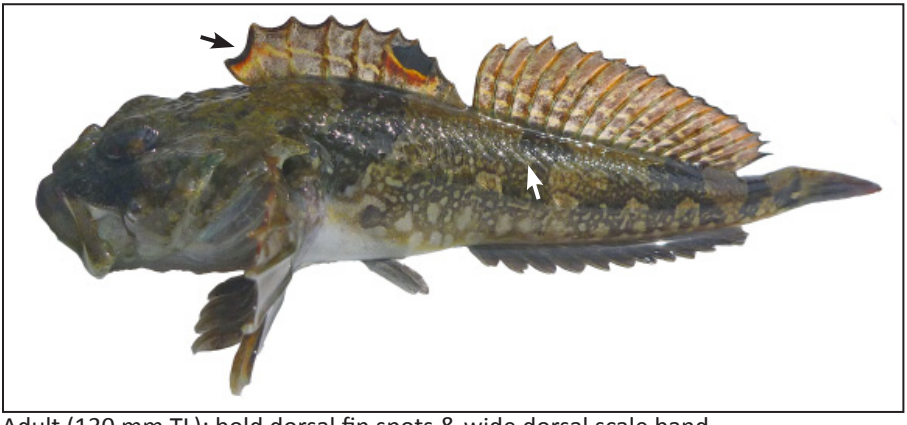
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

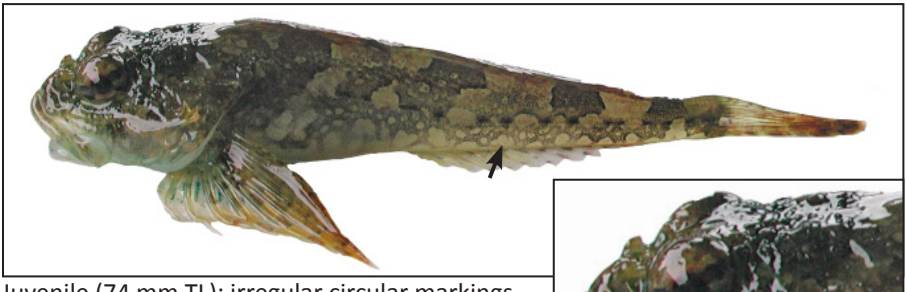


Padded sculpin

Cottidae - *Artedius fenestralis*

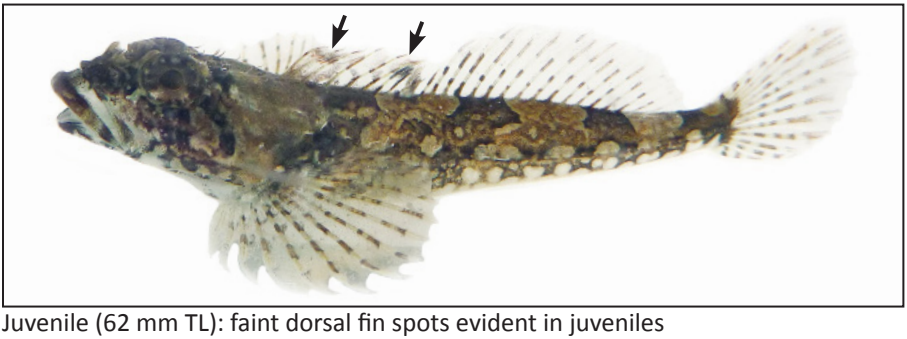


Adult (130 mm TL): bold dorsal fin spots & wide dorsal scale band



Juvenile (74 mm TL): irregular circular markings

Head scales extend to below eye



Juvenile (62 mm TL): faint dorsal fin spots evident in juveniles

Red Irish lord

Field ID: Single dorsal fin notched to form three sections or steps; 1st, 2nd, and 3rd dorsal spines shorter than 4th; 3rd step of dorsal fin has forked fin rays; nostrils without flaps; body reddish often with dark speckling; dorsal scale band (4 to 5 rows) below dorsal fin. Maximum length 510 mm TL.

Life stage: Mostly juveniles captured.
Size range 31-378 mm TL, mean TL = 133 mm (n = 52).

Habitat: Eelgrass, kelp, sand, bedrock

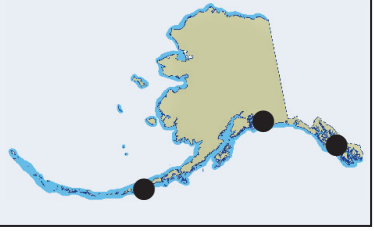
Comments: In Southeast, most captured in southern outside waters. Dorsal fin notches usually shallower in red Irish lord than in brown Irish lord. Rays of 3rd step of dorsal fin forked in red Irish lord and single in brown Irish lord. Strikingly beautiful fish.

Similar to: Brown Irish lord (p. 138)

References: Mecklenburg et al. 2002 (p. 435); Lamb and Edgell 2010 (p. 248); Johnson et al. 2012 (p. 65)

Distribution:

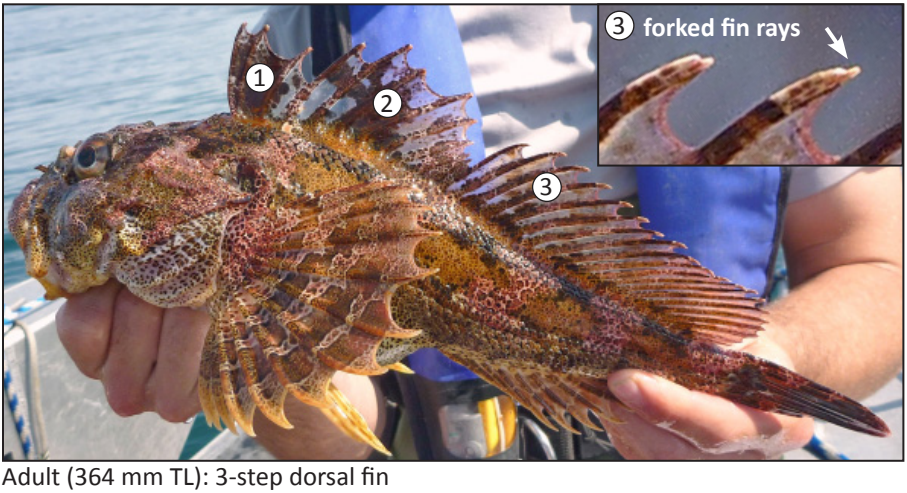
Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Red Irish lord

Cottidae - *Hemilepidotus hemilepidotus*

Adult (378 mm TL): conspicuous dorsal scale band



Adult (364 mm TL): 3-step dorsal fin

Juvenile (163 mm TL)

Roughback sculpin

Field ID: First dorsal spine very long; deep notch between 3rd and 4th spines of 1st dorsal fin, giving the overall appearance of three dorsal fins; dark brown bars on body; upper part of head and body covered with rough scales. Maximum length 230 mm TL.

Life stage: Only juveniles captured.
Size range 60-123 mm TL, mean TL = 85 mm (n = 13).

Habitat: Eelgrass

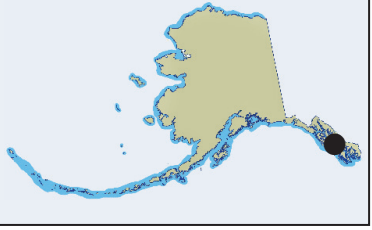
Comments: Only 13 fish captured in southern outside waters of Southeast near Ketchikan.

Similar to: Relatively easy to identify

References: Mecklenburg et al. 2002 (p. 437); Lamb and Edgell 2010 (p. 230); Johnson et al. 2012 (p. 59)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral		
PWS		
Southeast	✓	

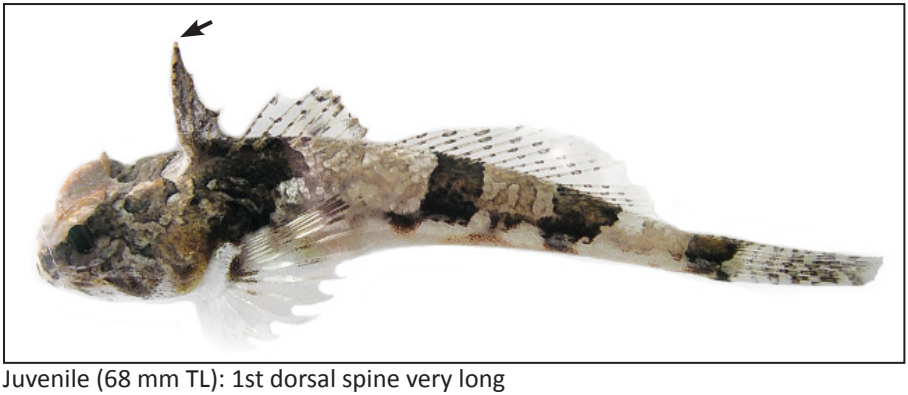


Roughback sculpin

Cottidae - *Chitonotus pugetensis*

Juvenile (72 mm TL)

Deep notch between 3rd & 4th spines of 1st dorsal fin



Juvenile (68 mm TL): 1st dorsal spine very long

Scalyhead sculpin

Field ID: First preopercular spine forked; sometimes black spot on anterior or posterior end of 1st dorsal fin; cirrus in front of each eye (bushy and large in males) and various other cirri on head; mouth extends only to pupil; scales on head but not below eye; orange gill membranes occasionally; dorsal scale band (9 to 16 rows) usually separated from dorsal fin and lateral line; lateral line scales partially exposed; scales on caudal peduncle; well-defined, pale circles on lower sides. Maximum length 108 mm TL.

Life stage: Mostly juveniles captured.
Size range 33-108 mm TL, mean TL = 69 mm (n = 61).

Habitat: Eelgrass, kelp, sand, bedrock

Comments: Only 66 fish captured; in Southeast, most caught in northern outside waters. Lots of color variability in appearance. Use of a hand lens and placing live specimens in water can help identify diagnostic characteristics. Relatively small mouth and rough lateral line (when stroked anteriorily) help distinguish from padded sculpin and smoothhead sculpin.

Similar to: Padded sculpin (p. 156); smoothhead sculpin (p. 168)

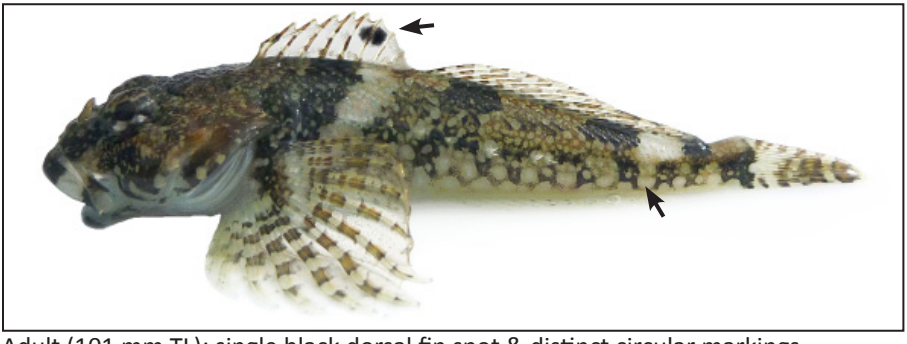
References: Mecklenburg et al. 2002 (p. 461); Lamb and Edgell 2010 (p. 204); Johnson et al. 2012 (p. 57)

Distribution:

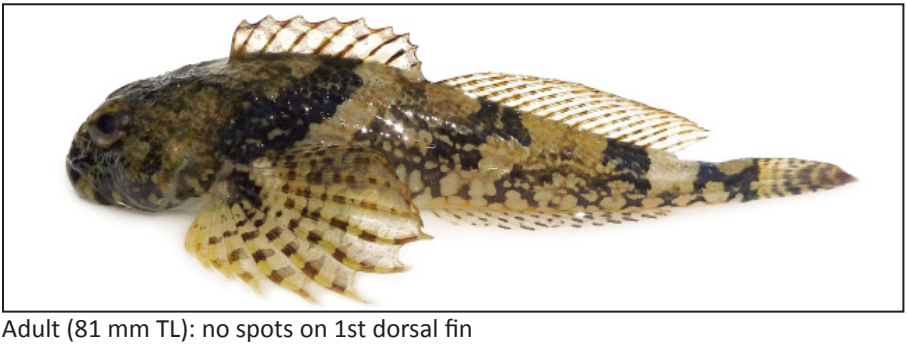
Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

Scalyhead sculpin

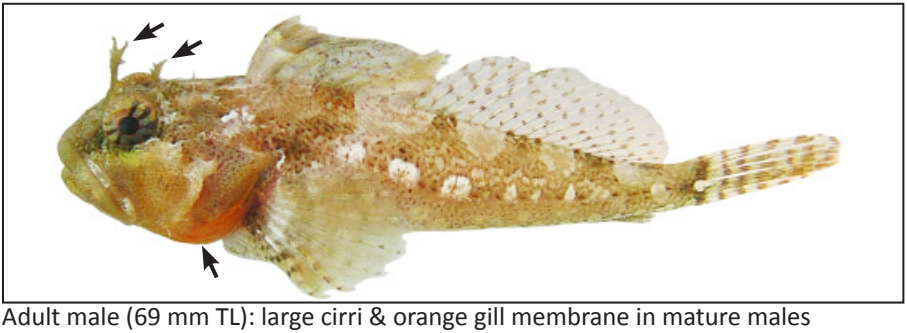
Cottidae - *Artedius harringtoni*



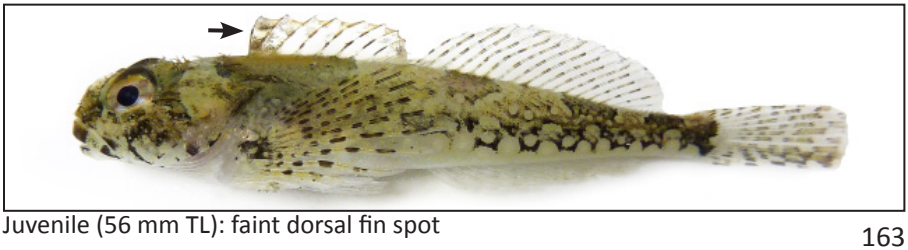
Adult (101 mm TL): single black dorsal fin spot & distinct circular markings



Adult (81 mm TL): no spots on 1st dorsal fin



Adult male (69 mm TL): large cirri & orange gill membrane in mature males



Juvenile (56 mm TL): faint dorsal fin spot

Sharpnose sculpin

Field ID: First preopercular spine single; smooth, scaleless body can be grey, pink, or greenish; several saddles present; fins barred; dark area at anterior end of 1st dorsal fin; pointed snout; cirri present on tips of 1st dorsal fin, along lateral line, and atop each eye; 1 or 2 maxillary cirri present. Maximum length 60 mm TL.

Life stage: Mostly juveniles captured.
Size range 32-56 mm TL, mean TL = 46 mm (n = 6).

Habitat: Sand, eelgrass, kelp

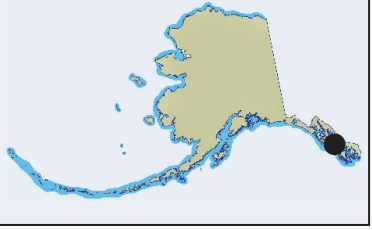
Comments: Rare in our catches; only 6 fish captured in northern outside waters of Southeast. Body very smooth to the touch. Single 1st preopercular spine helps distinguish from tidepool sculpin.

Similar to: Tidepool sculpin (p. 170); saddleback sculpin (p. 179)

References: Mecklenburg et al. 2002 (p. 502); Lamb and Edgell 2010 (p. 210)

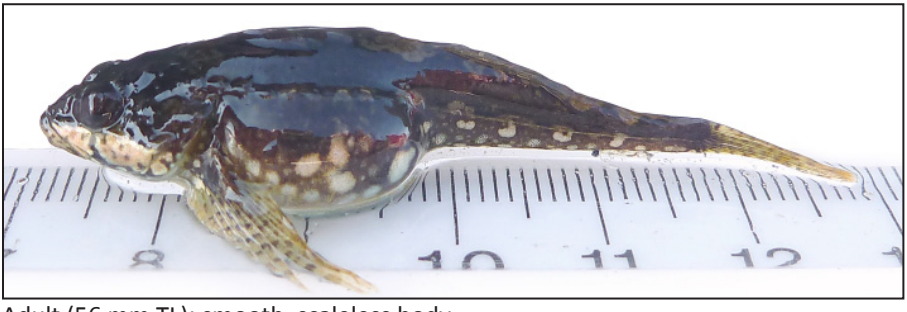
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

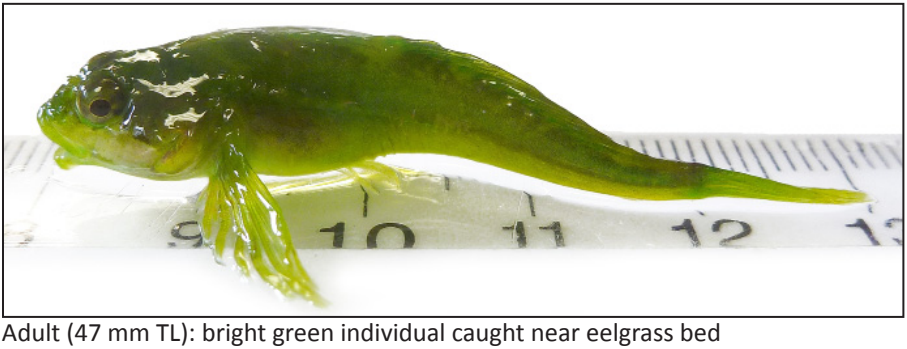


Sharpnose sculpin

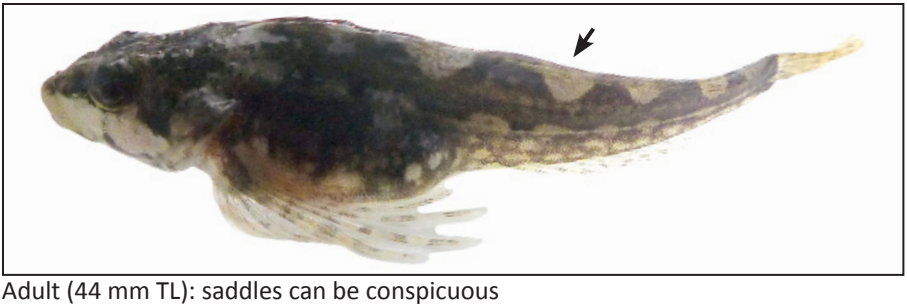
Cottidae - *Clinocottus acuticeps*



Adult (56 mm TL): smooth, scaleless body



Adult (47 mm TL): bright green individual caught near eelgrass bed



Adult (44 mm TL): saddles can be conspicuous

Juvenile (32 mm TL)

Shorthorn sculpin

Field ID: First preopercular spine long; dark colored body; belly white, orange, red, or brown with white spots in males; fins brown, green, or yellow with paler spots and bars; large, spine-covered plates above lateral line with depressed centers; bony knobs on head. Maximum length 600 mm TL.

Life stage: Mostly juveniles captured.
Size range 20-400 mm TL, mean TL = 110 mm (n = 50).

Habitat: Sand, eelgrass, kelp

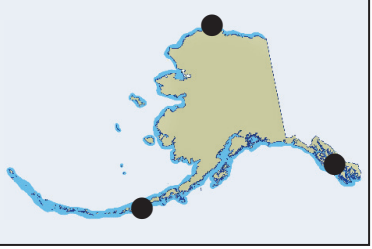
Comments: Can be difficult to distinguish from Arctic sculpin, great sculpin, and plain sculpin. Shorthorn sculpin typically have 17 to 18 pectoral fin rays, whereas Arctic sculpin have 14 to 16. Great sculpin do not have distinct scales. Plain sculpin have numerous small black spots on body.

Similar to: Great sculpin (p. 146)

References: Mecklenburg et al. 2002 (p. 478); Johnson et al. 2012 (p. 74)

Distribution:

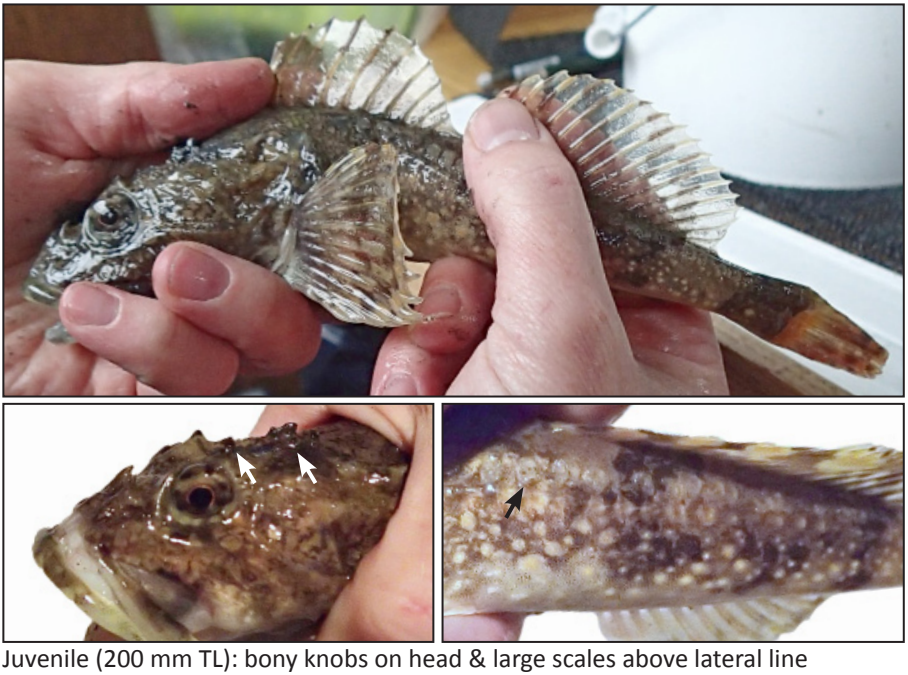
Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Shorthorn sculpin

Cottidae - *Myoxocephalus scorpius*

Juvenile (221 mm TL)



Juvenile (200 mm TL): bony knobs on head & large scales above lateral line

Smoothhead sculpin

Field ID: First preopercular spine forked; body with two or more dark bars; no scales on head; large mouth with maxilla extending nearly to end of eye; bones and flesh sometimes blue; spots or dark areas sometimes on 1st dorsal fin; dorsal scale band (6 to 11 rows) separated from dorsal fin and lateral line; lateral line scales embedded; no scales on caudal peduncle; densely packed, pale circles on lower sides. Maximum length 140 mm TL.

Life stage: Juveniles and adults captured.
Size range 72-133 mm TL, mean TL = 96 mm (n = 15).

Habitat: Kelp, bedrock, eelgrass

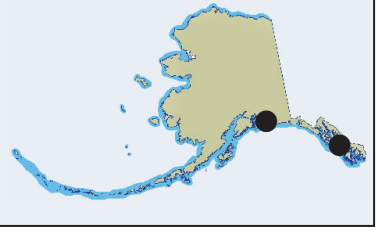
Comments: Only 18 fish captured; most in Southeast. Relatively large mouth and blue flesh typically help distinguish from padded sculpin and scalyhead sculpin. Also, rub bare finger anteriorly along lateral line; it should feel smooth on a smoothhead sculpin. Further, the area below lateral line is typically packed with tiny round spots; ventral spots are larger, more dispersed, and not as uniform on padded sculpin and scalyhead sculpin.

Similar to: Padded sculpin (p. 156); scalyhead sculpin (p. 162)

References: Mecklenburg et al. 2002 (p. 459); Lamb and Edgell 2010 (p. 202); Johnson et al. 2012 (p. 58)

Distribution:

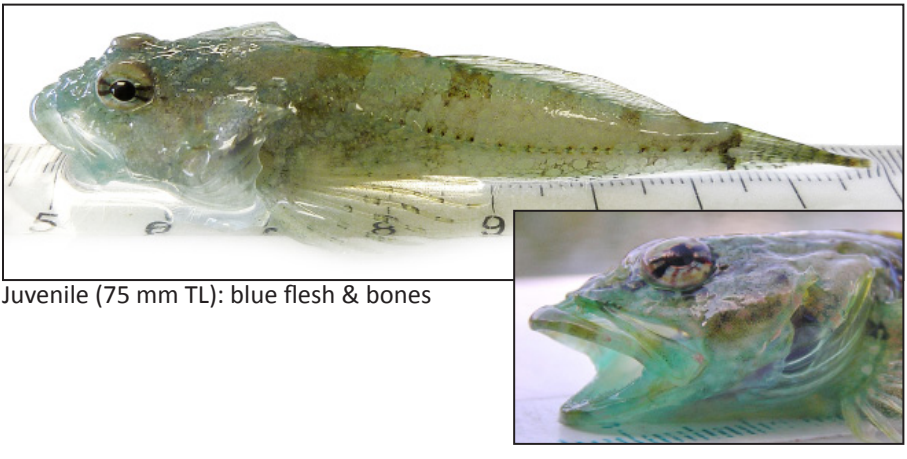
Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral	✓	
PWS	✓	
Southeast	✓	



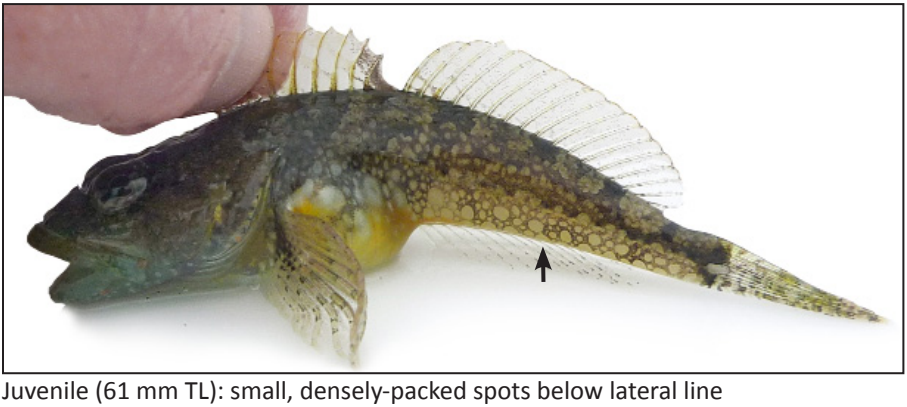
Smoothhead sculpin

Cottidae - *Artedius lateralis*

Adult (116 mm TL)



Juvenile (75 mm TL): blue flesh & bones



Juvenile (61 mm TL): small, densely-packed spots below lateral line

Tidepool sculpin

Field ID: First preopercular spine forked; smooth, scaleless body can be grey or greenish; dark bars usually present; cirri on top of head and along first half of lateral line; cirri on tips of 1st dorsal fin; 1st dorsal fin often with an orange anterior margin. Maximum length 96 mm TL.

Life stage: Mostly juveniles captured.
Size range 24-96 mm TL, mean TL = 53 mm (n = 137).

Habitat: Eelgrass, kelp, bedrock, sand

Comments: Body very smooth to the touch. Forked 1st preopercular spine helps distinguish from sharpnose sculpin.

Similar to: Sharpnose sculpin (p. 164)

References: Mecklenburg et al. 2002 (p. 500); Lamb and Edgell 2010 (p. 207); Johnson et al. 2012 (p. 75)

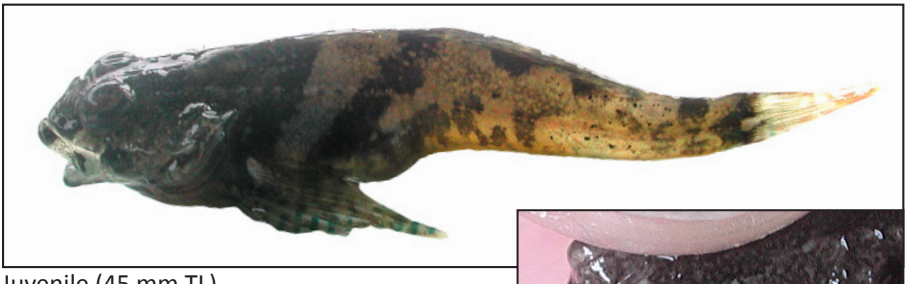
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral	✓	
PWS	✓	
Southeast	✓	

Tidepool sculpin

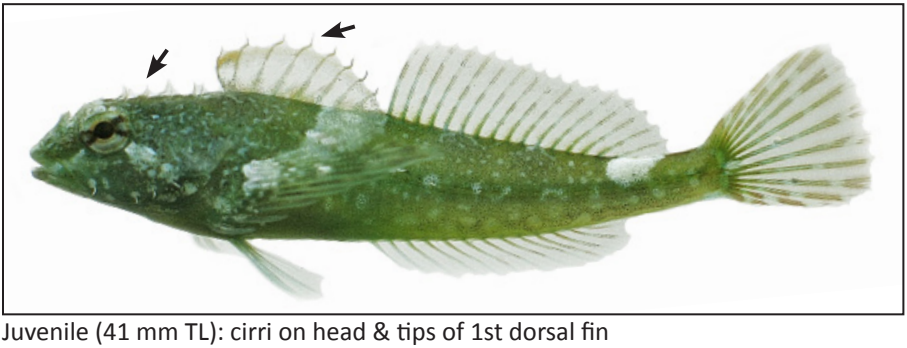
Cottidae - *Oligocottus maculosus*

Adult (96 mm TL): smooth, scaleless body



Juvenile (45 mm TL)

1st preopercular spine forked



Juvenile (41 mm TL): cirri on head & tips of 1st dorsal fin

Crested sculpin

Field ID: Cirri on snout and lower jaw; robust, rounded body covered with prickly scales. Maximum length 270 mm TL.

Life stage: Mostly juveniles captured.
Size range 55-190 mm TL, mean TL = 136 mm (n = 14).

Habitat: Kelp, eelgrass, bedrock, sand

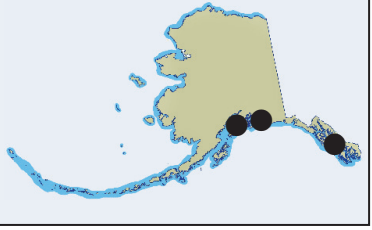
Comments: Only 32 fish captured, most in northern inside waters of Southeast. Prickly scales feel similar to sandpaper. Ornamental looking fish.

Similar to: Silverspotted sculpin (p. 176)

References: Mecklenburg et al. 2002 (p. 509); Lamb and Edgell 2010 (p. 236); Johnson et al. 2012 (p. 93)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Crested sculpin

Hemitripteridae - *Blepsias bilobus*

Juvenile (106 mm TL)

Facial cirri & prickly scales

Sailfin sculpin

Field ID: First dorsal fin very long; slender body; cirrus above eye; dark band through eye and across cheek. Maximum length 203 mm TL.

Life stage: Juveniles and adults captured.
Size range 28-138 mm TL, mean TL = 101 mm (n = 7).

Habitat: Kelp, eelgrass, bedrock

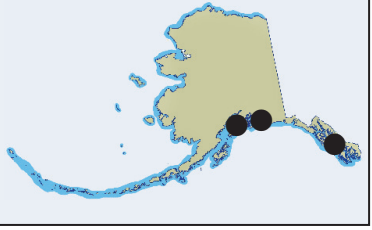
Comments: Only 21 fish captured, most in Southeast. Ornamental looking fish.

Similar to: Relatively easy to identify

References: Mecklenburg et al. 2002 (p. 511); Lamb and Edgell 2010 (p. 237); Johnson et al. 2012 (p. 95)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral	✓	
PWS	✓	
Southeast	✓	



Sailfin sculpin

Hemitripteridae - *Nautichthys oculofasciatus*

Adult (150 mm TL): 1st dorsal fin very long & dark band through eye

YOY (28 mm TL): diagnostic characteristics develop very early

Silverspotted sculpin

Field ID: Deeply notched 1st dorsal fin; long cirri on snout and lower jaw; row of silver-whitish spots along side of body. Maximum length 200 mm TL.

Life stage: Mostly juveniles captured.
Size range 19-165 mm TL, mean TL = 55 mm (n = 293).

Habitat: Eelgrass, kelp, bedrock, sand

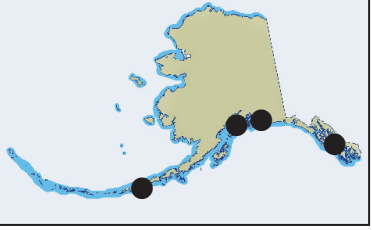
Comments: In Southeast, most captured in northern inside waters. Ornamental looking fish.

Similar to: Crested sculpin (p. 172)

References: Mecklenburg et al. 2002 (p. 510); Lamb and Edgell 2010 (p. 235); Johnson et al. 2012 (p. 94)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Silverspotted sculpin

Hemitripteridae - *Blepsias cirrhosus*

Adult (140 mm TL): 1st dorsal fin long

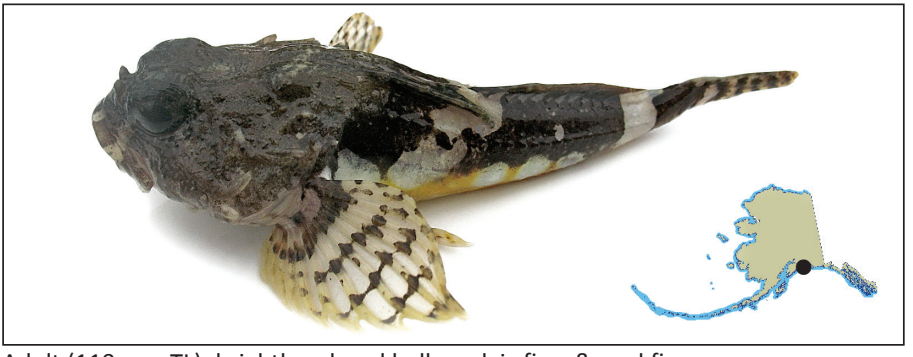
Juvenile (110 mm TL): silver spots along side

Juvenile (56 mm TL): facial cirri

YOY (27 mm TL)

Brightbelly sculpin

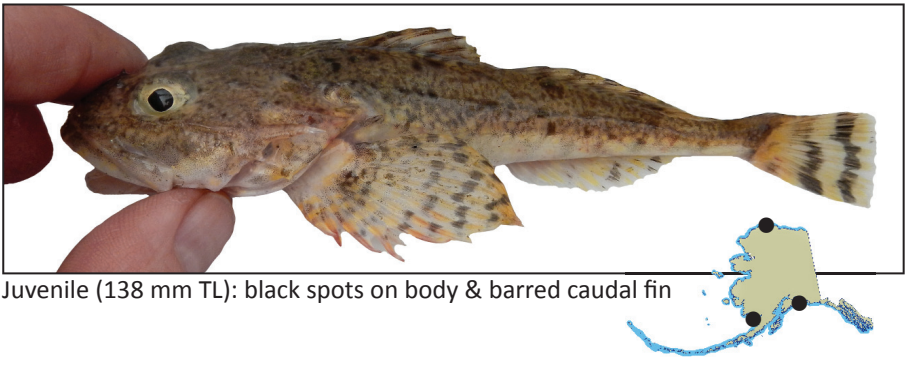
Cottidae - *Microcottus sellaris*



Adult (110 mm TL): brightly colored belly, pelvic fins, & anal fin

Plain sculpin

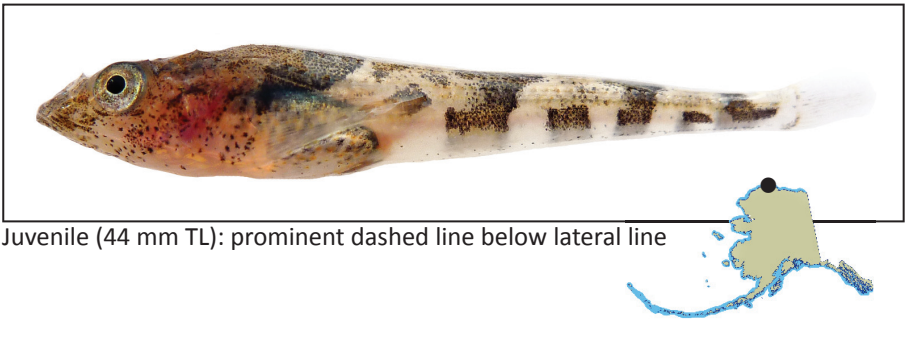
Cottidae - *Myoxocephalus jaok*



Juvenile (138 mm TL): black spots on body & barred caudal fin

Ribbed sculpin

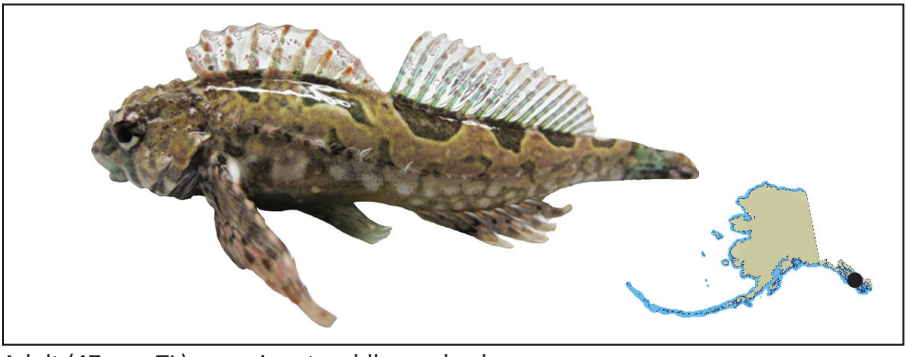
Cottidae - *Triglops pingelii*



Juvenile (44 mm TL): prominent dashed line below lateral line

Saddleback sculpin

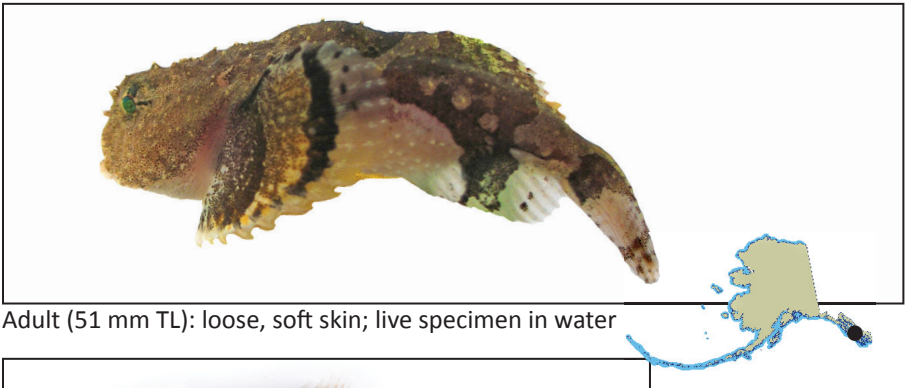
Cottidae - *Oligocottus rimensis*



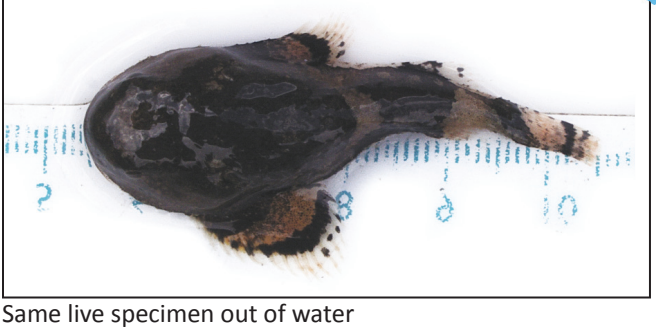
Adult (47 mm TL): prominent saddles on back

Tadpole sculpin

Psychrolutidae - *Psychrolutes paradoxus*



Adult (51 mm TL): loose, soft skin; live specimen in water



Same live specimen out of water

Showy snailfish

Field ID: Tadpole-shaped, soft body; dorsal and anal fins extend onto caudal fin for nearly its whole length; wavy lines on body; widely spaced eyes on broad head; pelvic disk. Maximum length 254 mm TL.

Life stage: Only juveniles captured; none were measured.

Habitat: Eelgrass

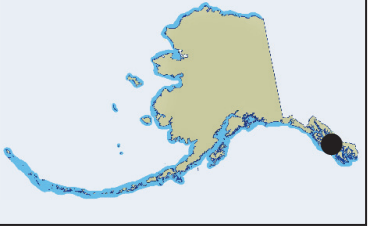
Comments: Rare in our catches; only 7 fish captured in northern inside waters of Southeast. Very difficult to identify small snailfishes to species. We often identify snailfishes to family only.

Similar to: Variegated snailfish (p. 183)

References: Mecklenburg et al. 2002 (p. 583); Lamb and Edgell 2010 (p. 278); Johnson et al. 2012 (p. 106)

Distribution:

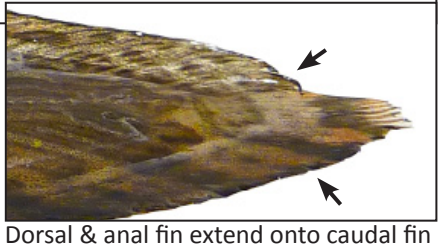
Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Showy snailfish

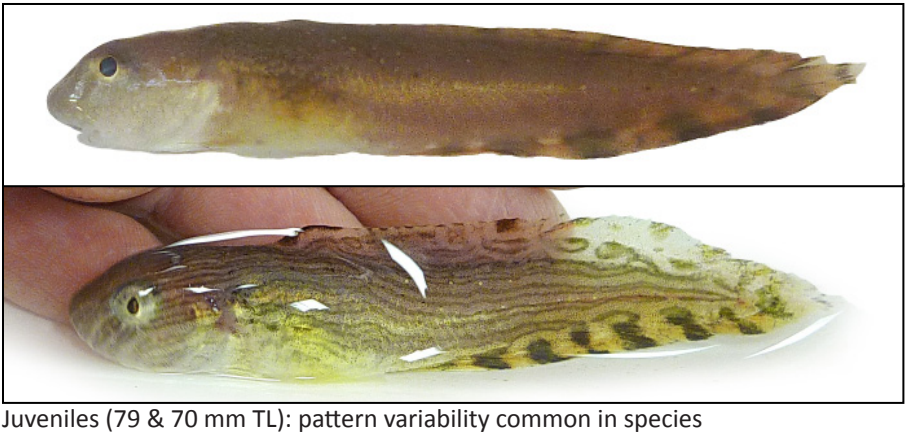
Liparidae - *Liparis pulchellus*

Adult (159 mm TL)



Dorsal & anal fin extend onto caudal fin

Juvenile (110 mm TL)



Juveniles (79 & 70 mm TL): pattern variability common in species

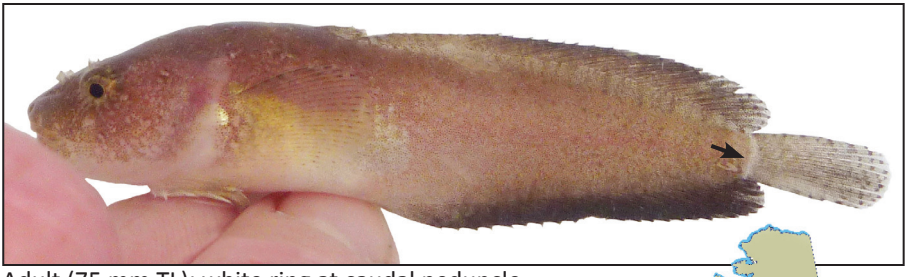
Ribbon snailfish

Liparidae - *Liparis cyclopus*

Adult (103 mm TL): dorsal & anal fin barely reach caudal fin

Ringtail snailfish

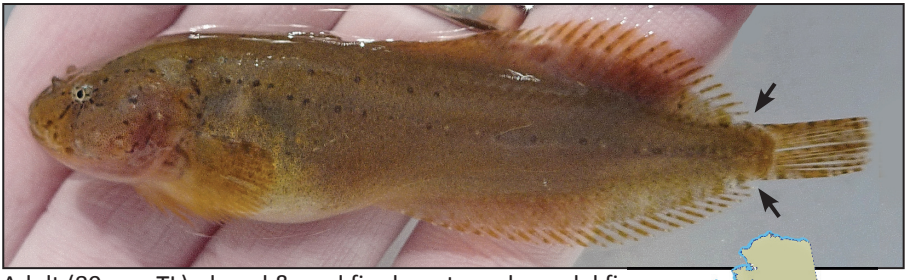
Liparidae - *Liparis rutteri*



Adult (75 mm TL): white ring at caudal peduncle

Spotted snailfish

Liparidae - *Liparis callyodon*



Adult (89 mm TL): dorsal & anal fin do not reach caudal fin

Variegated snailfish

Liparidae - *Liparis gibbus*

Juvenile (61 mm TL): preserved specimen

Ninespine stickleback

Field ID: Silvery, armor-like body; usually 9 isolated dorsal spines; body slender; long and narrow caudal peduncle. Maximum length 90 mm TL.

Life stage: Mostly juveniles captured.
Size range 24-78 mm TL, mean TL = 40 mm (n = 70).

Habitat: Sand

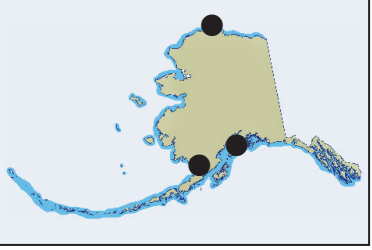
Comments: Only 71 fish captured; common in turbid waters.

Similar to: Threespine stickleback (p. 186)

References: Mecklenburg et al. 2002 (p. 334); Johnson et al. 2012 (p. 89)

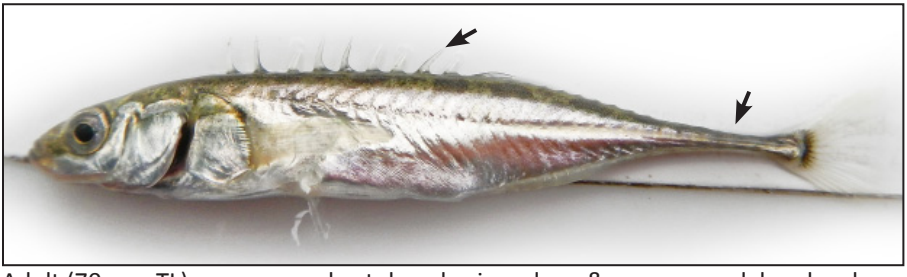
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS		
Southeast		



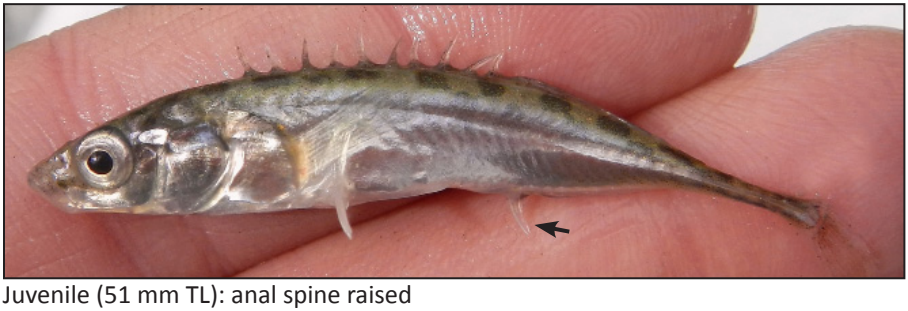
Ninespine stickleback

Gasterosteidae - *Pungitius pungitius*

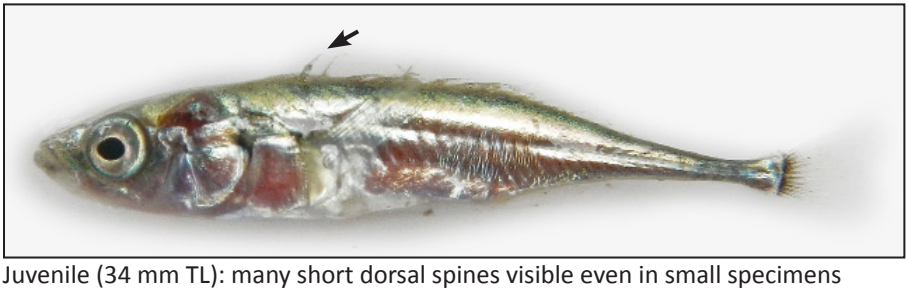


Adult (70 mm TL): numerous short dorsal spines; long & narrow caudal peduncle

Adult (60 mm TL): only 1st dorsal spine raised; note that it is short



Juvenile (51 mm TL): anal spine raised



Juvenile (34 mm TL): many short dorsal spines visible even in small specimens

Threespine stickleback

Field ID: Silvery, armor-like body; usually 3 isolated dorsal spines, the last very short; breeding males may have red or orange on belly or throat and blue eyes; body stout; short and wide caudal peduncle. Body is a golden color when coming out of freshwater. Maximum length 102 mm TL.

Life stage: Adults and juveniles captured.
Size range 11-93 mm TL, mean TL = 41 mm (n = 583).

Habitat: Eelgrass, kelp, sand, bedrock

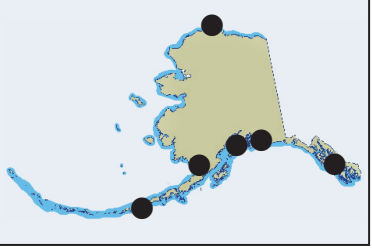
Comments: One of the few species captured in all regions.

Similar to: Ninespine stickleback (p. 184)

References: Mecklenburg et al. 2002 (p. 333); Johnson et al. 2012 (p. 88)

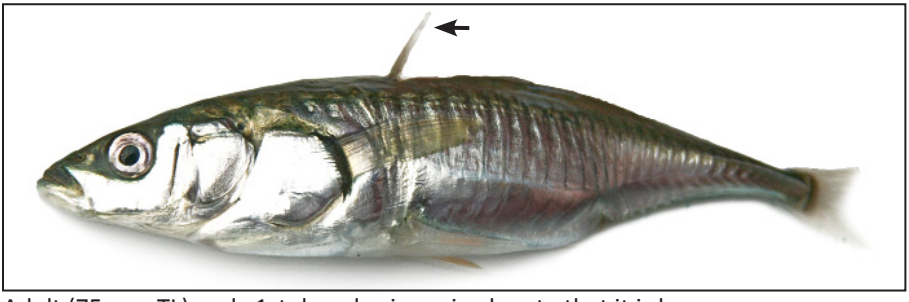
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

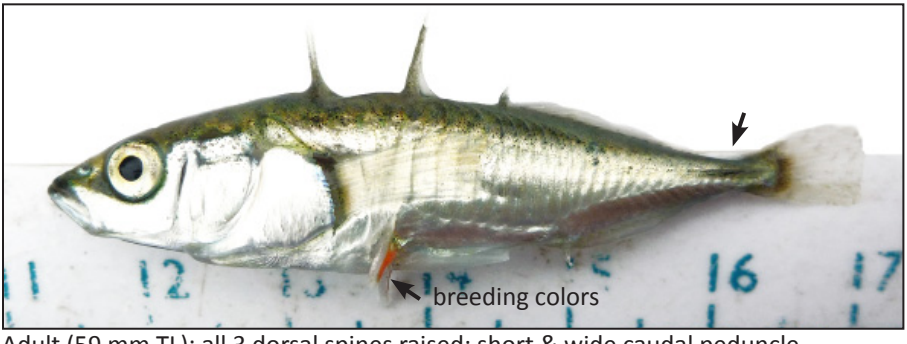


Threespine stickleback

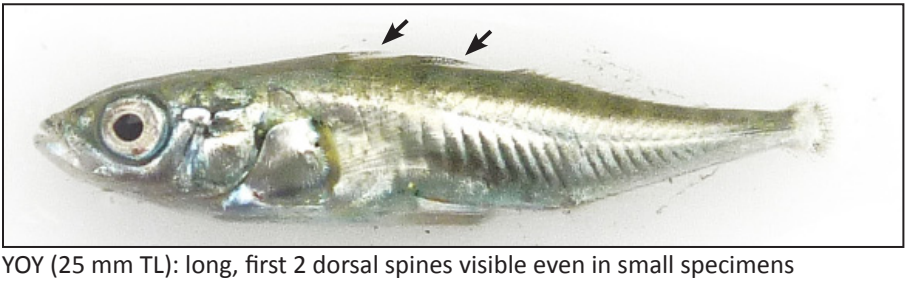
Gasterosteidae - *Gasterosteus aculeatus*



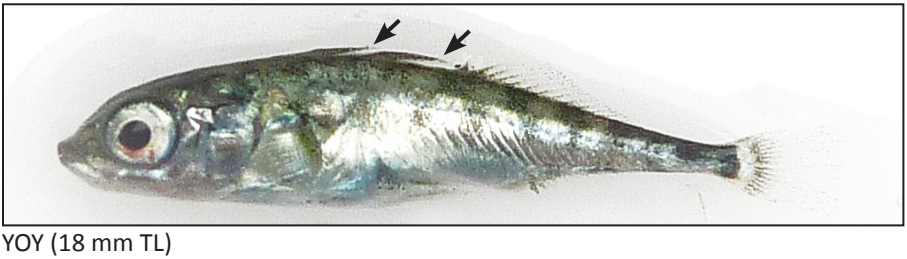
Adult (75 mm TL): only 1st dorsal spine raised; note that it is long



Adult (59 mm TL): all 3 dorsal spines raised; short & wide caudal peduncle



YOY (25 mm TL): long, first 2 dorsal spines visible even in small specimens



YOY (18 mm TL)

Kelp perch

Field ID: Copper-brown color; deep-bodied with small mouth; large scales; maxilla ends well short of eye. Maximum length 220 mm TL.

Life stage: Mostly juveniles captured.
Size range 43-181 mm FL, mean FL = 94 mm (n = 78).

Habitat: Kelp, eelgrass, bedrock, sand

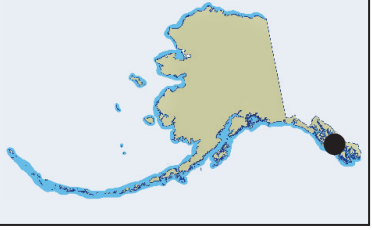
Comments: Most captured in southern outside waters of Southeast; northernmost catch of ours was in Redoubt Bay near Sitka. Ornamental looking fish.

Similar to: Shiner perch (p. 190)

References: Mecklenburg et al. 2002 (p. 661); Lamb and Edgell 2010 (p. 96); Johnson et al. 2012 (p. 81)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral		
PWS		
Southeast	✓	



Kelp perch

Embiotocidae - *Brachyistius frenatus*

Adult (181 mm FL)

Maxilla stops well before eye

Juvenile (80 mm FL)

Shiner perch

Field ID: Silverish body with 2 or 3 vertical yellow bars on side; deep-bodied with small mouth; large scales, each with a dark spot; maxilla almost reaches eye. Maximum length 203 mm TL.

Life stage: Mostly juveniles captured.
Size range 39-179 mm FL, mean FL = 90 mm (n = 3,240).

Habitat: Eelgrass, kelp, bedrock, sand

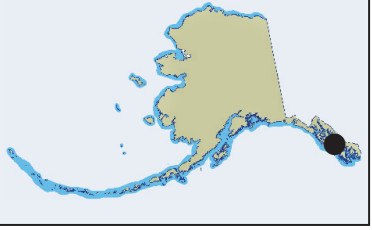
Comments: Catches quite large sometimes, especially in outside waters of Southeast. Often observed in large schools in eelgrass. Males can become dark during breeding. Surfperches bear live young, so you won't ever see larval shiner perch. Recent catches of adult, juvenile, and YOY shiner perch in Yakutat Bay (Southeast) indicate a northern range expansion.

Similar to: Kelp perch (p. 188)

References: Mecklenburg et al. 2002 (p. 662); Lamb and Edgell 2010 (p. 97); Johnson et al. 2012 (p. 82)

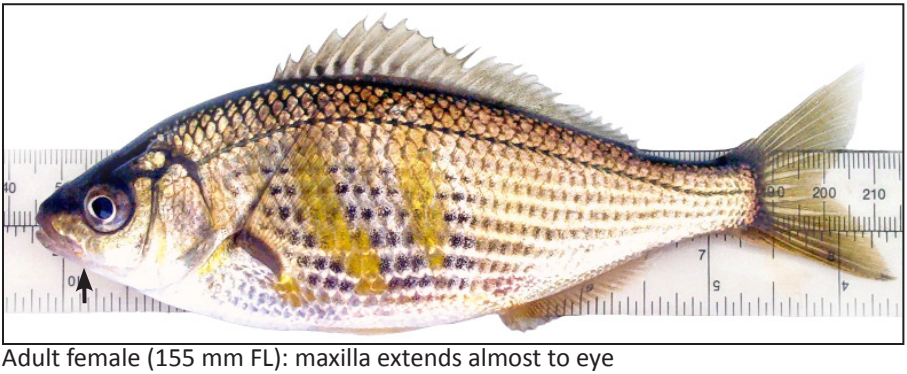
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral		
PWS		
Southeast	✓	

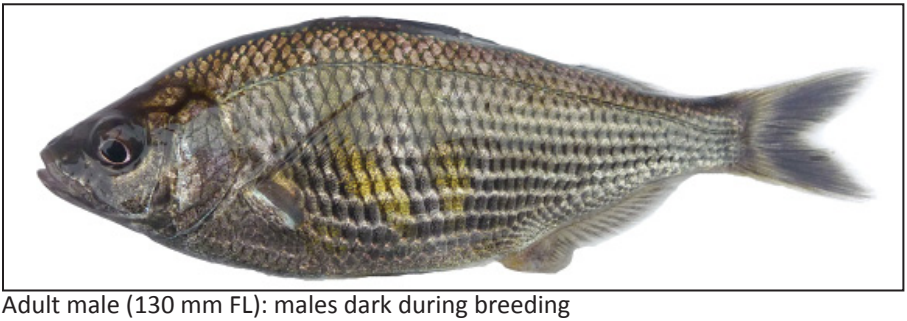


Shiner perch

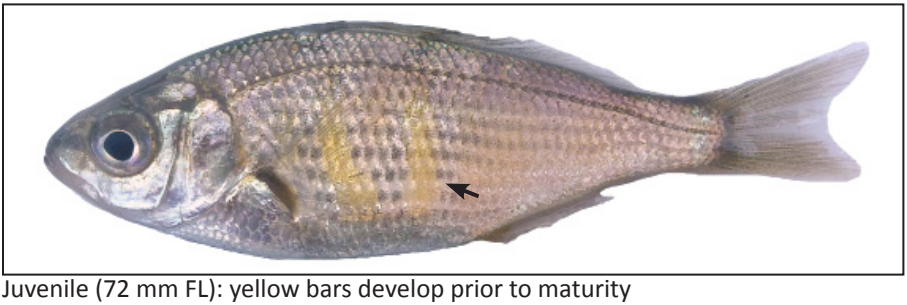
Embiotocidae - *Cymatogaster aggregata*



Adult female (155 mm FL): maxilla extends almost to eye



Adult male (130 mm FL): males dark during breeding



Juvenile (72 mm FL): yellow bars develop prior to maturity

YOY (42 mm FL): one of the smallest specimens we ever caught

Cutthroat trout

Field ID: Dark spots on body, fins, and head; maxilla extends past rear margin of eye on fish > 80 mm FL; red or orange slash on underside of lower jaw; adipose fin present. Maximum length 990 mm TL.

Life stage: Only Juveniles captured.
Size range 139-306 mm FL, mean FL = 207 mm (n = 25).

Habitat: Eelgrass, kelp, bedrock, sand

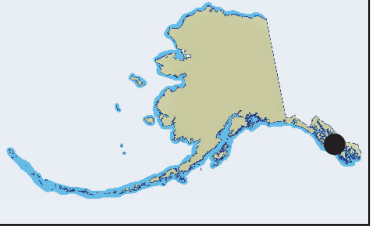
Comments: Only 28 fish captured in Southeast. Trout have 13 or fewer anal fin rays, differentiating them from salmon. An important sport fish in Alaska.

Similar to: Steelhead trout (p. 196)

References: Pollard et al. 1997 (p. 14); Mecklenburg et al. 2002 (p. 203); Johnson et al. 2012 (p. 133)

Distribution:

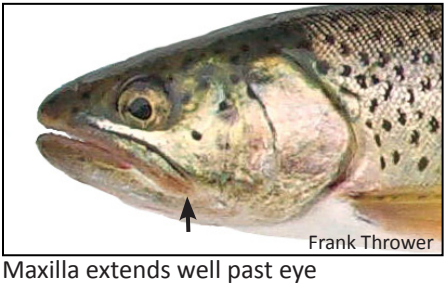
Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians		
Southcentral		
PWS	✓	
Southeast	✓	



Cutthroat trout

Salmonidae - *Oncorhynchus clarkii*

Juvenile (255 mm FL): spots on dorsal, adipose, & caudal fins



Maxilla extends well past eye

Red slash under jaw

Juvenile (250 mm FL)

Juvenile (75 mm FL): spots on dorsal fin conspicuous in young fish

Dolly Varden

Field ID: Blunt, roundish head; yellow, orange, or red spots on sides; no black spots on back, fins, or sides; parr marks irregular in shape and location; adipose fin present. Maximum length 100 cm TL.

Life stage: Mostly juveniles captured.
Size range 100-535 mm FL, mean FL = 223 mm (n = 489).

Habitat: Sand, kelp, eelgrass, bedrock

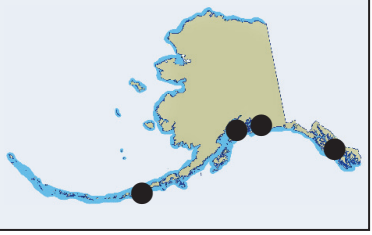
Comments: In Southeast, most caught in northern inside waters. An important sport fish in Alaska.

Similar to: Relatively easy to identify

References: Pollard et al. 1997 (p. 12); Mecklenburg et al. 2002 (p. 200); Johnson et al. 2012 (p. 140)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	

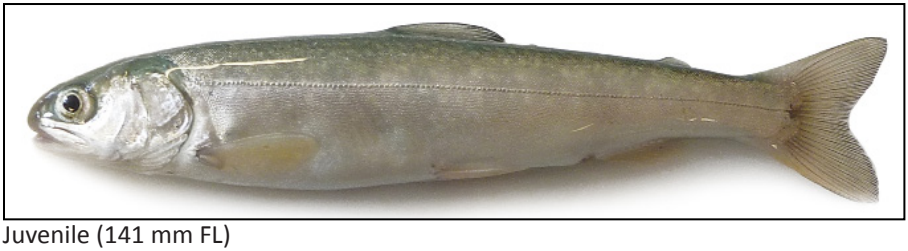


Dolly Varden

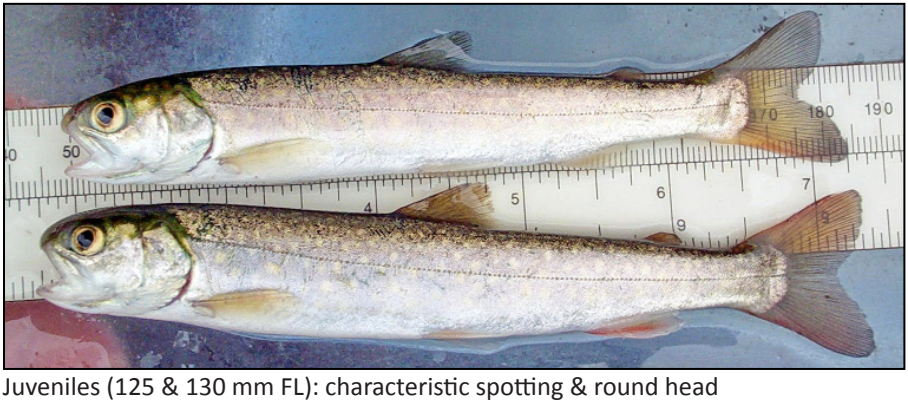
Salmonidae - *Salvelinus malma*

Adult (440 mm FL)

Juvenile (157 mm FL)



Juvenile (141 mm FL)



Juveniles (125 & 130 mm FL): characteristic spotting & round head

Steelhead trout

Field ID: Dark spots on back, dorsal fin, caudal fin, and sides; reddish stripe along sides; parr marks nearly round, centered on lateral line; maxilla does not extend past back margin of eye in juveniles; no red slash on jaw; adipose fin present. Maximum length 122 cm TL.

Life stage: Only juveniles captured.
Size range 129-603 mm FL, mean FL = 215 mm (n = 13).

Habitat: Eelgrass, kelp, sand

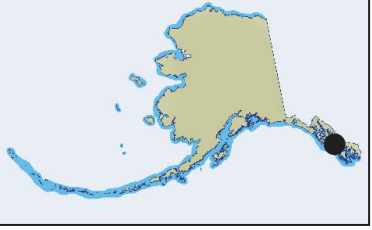
Comments: Only 13 fish captured, most in northern waters of Southeast. Trout have 13 or fewer anal fin rays, differentiating them from salmon. An important sport fish in Alaska.

Similar to: Cutthroat trout (p. 192)

References: Pollard et al. 1997 (p. 16); Mecklenburg et al. 2002 (p. 204); Johnson et al. 2012 (p. 137)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay	✓	
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



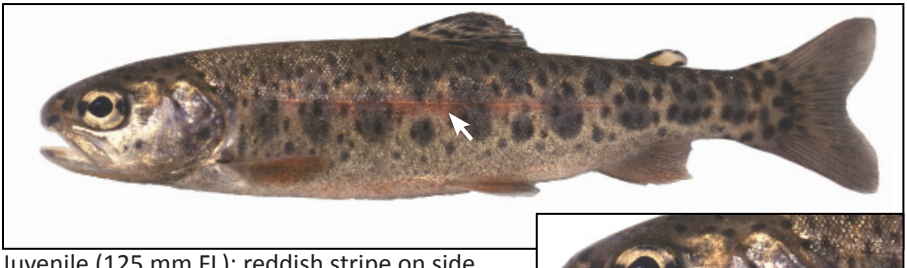
Steelhead trout

Salmonidae - *Oncorhynchus mykiss*

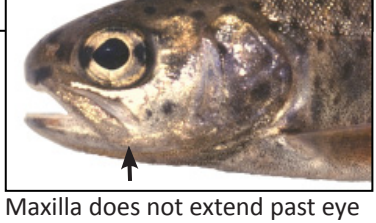
Smolt (171 mm FL): no parr marks, but spots on dorsal, adipose, & caudal fins

Juvenile (145 mm FL)

Juvenile (129 mm FL)



Juvenile (125 mm FL): reddish stripe on side



Maxilla does not extend past eye

Tubesnout

Field ID: Long tubular snout; narrow, cylindrical body; single dorsal fin set well back on body; anal fin opposite and about same size as dorsal fin; breeding males have bright orange pelvic fins. Maximum length 188 mm TL.

Life stage: Mostly juveniles captured.
Size range 13-179 mm TL, mean TL = 100 mm (n = 1,267).

Habitat: Eelgrass, kelp, bedrock, sand

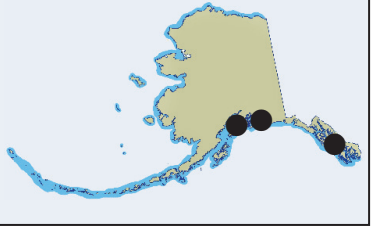
Comments: In Southeast, most abundant in northern inside waters. Tubesnouts are not hardy; minimize handling and release as soon as possible.

Similar to: Bay pipefish (p. 84); tubenose poacher (p. 88)

References: Mecklenburg et al. 2002 (p. 331); Lamb and Edgell 2010 (p. 87); Johnson et al. 2012 (p. 50)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic		
Bristol Bay		
Aleutians	✓	
Southcentral	✓	
PWS	✓	
Southeast	✓	



Tubesnout

Aulorhynchidae - *Aulorhynchus flavidus*

Adult (179 mm TL)

Largest specimen we ever caught

Adult (125 mm TL)

Long, tubular snout

Adult (117 mm TL): breeding male with bright orange pelvic fins

Juvenile (99 mm TL)

YOY (52 mm TL)

Arctic cisco

Field ID: Silvery green body with no black spots; conspicuous scales; lower jaw not protruding beyond upper jaw; pelvic fins pale; adipose fin present. Maximum length 640 mm TL.

Life stage: Only juveniles captured.
Size range 79-86 mm FL, mean FL = 83 mm (n = 3).

Habitat: Sand

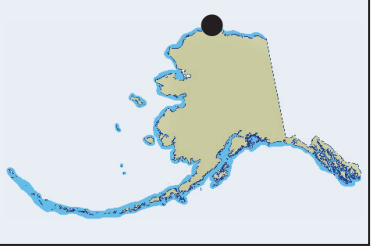
Comments: Rare in our catches; only 3 fish captured in the Arctic (Beaufort and Chukchi seas). A member of the whitefish subfamily Coregoninae. Pale pelvic fins help distinguish from least cisco. The adult shown was not captured in our surveys. An important commercial and subsistence fish in the Arctic.

Similar to: Least cisco (p. 202)

References: Mecklenburg et al. 2002 (p. 183); Johnson et al. 2012 (p. 171)

Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay		
Aleutians		
Southcentral		
PWS		
Southeast		

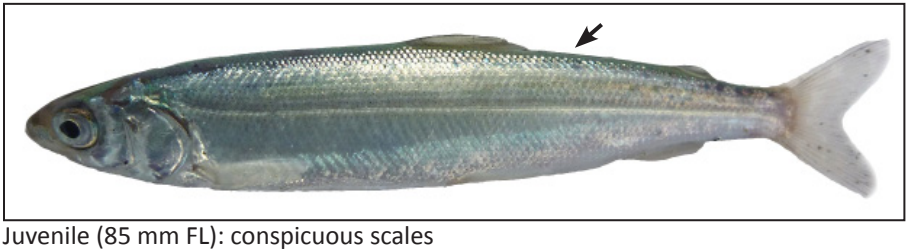


Arctic cisco

Salmonidae - *Coregonus autumnalis*

Adult (275 mm FL)

Pale pelvic fins



Juvenile (85 mm FL): conspicuous scales

Least cisco

Field ID: Silvery green body with dark spots sometimes present on back and dorsal fin; conspicuous scales; lower jaw protrudes slightly; pelvic fins dusky to black; adipose fin present. Maximum length 470 mm TL.

Life stage: Only adults captured.
Size range 229-341 mm FL, mean FL = 289 mm (n = 39).

Habitat: Sand

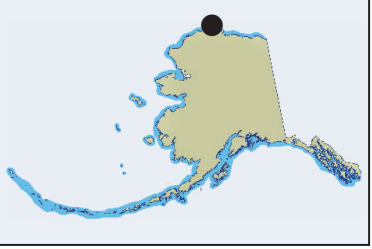
Comments: Only 39 fish captured in the Arctic (Beaufort Sea), mostly in brackish waters of Elson Lagoon. A member of the whitefish subfamily Coregoninae. Dark pelvic fins help distinguish from Arctic cisco. The juvenile shown was not captured in our surveys.

Similar to: Arctic cisco (p. 200)

References: Mecklenburg et al. 2002 (p. 182); Johnson et al. 2012 (p. 132)

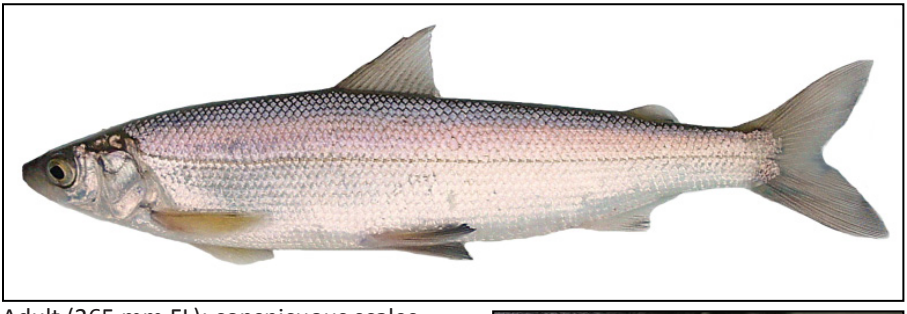
Distribution:

Region	Known	Abundance & location of beach seined fish
Arctic	✓	
Bristol Bay	✓	
Aleutians		
Southcentral		
PWS		
Southeast		

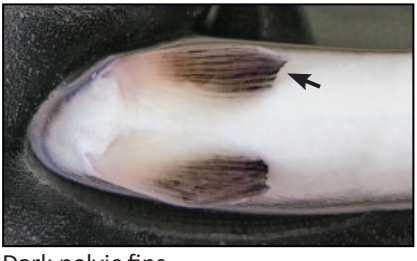


Least cisco

Salmonidae - *Coregonus sardinella*

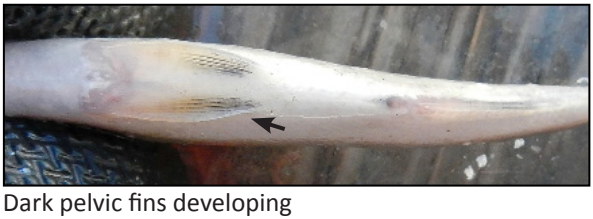


Adult (265 mm FL): conspicuous scales



Dark pelvic fins

Juvenile (125 mm FL)



Dark pelvic fins developing

Acknowledgments

Over the years, many individuals working in the field and in the laboratory have helped make this guide possible. There are too many to thank individually. We are grateful to them all, whether they helped pull a seine, operate a boat, process fish, preserve specimens, identify fish to species, or clean up gear.

We would especially like to recognize John Thedinga for his boating and logistical expertise during countless research cruises and day trips. Special thanks also go to Mandi Johnson for the fish illustrations and to Chris Hoffman, Mark Lisac, Sarah Schoen, and Frank Thrower for providing some fish photos. Aaron Baldwin, Andy Lamb, Catherine Mecklenburg, and Joe Orsi made valuable suggestions on an earlier draft of the manuscript. Funding for much of our field work and the production of this guide was provided by NOAA's Essential Fish Habitat Program.

Citations

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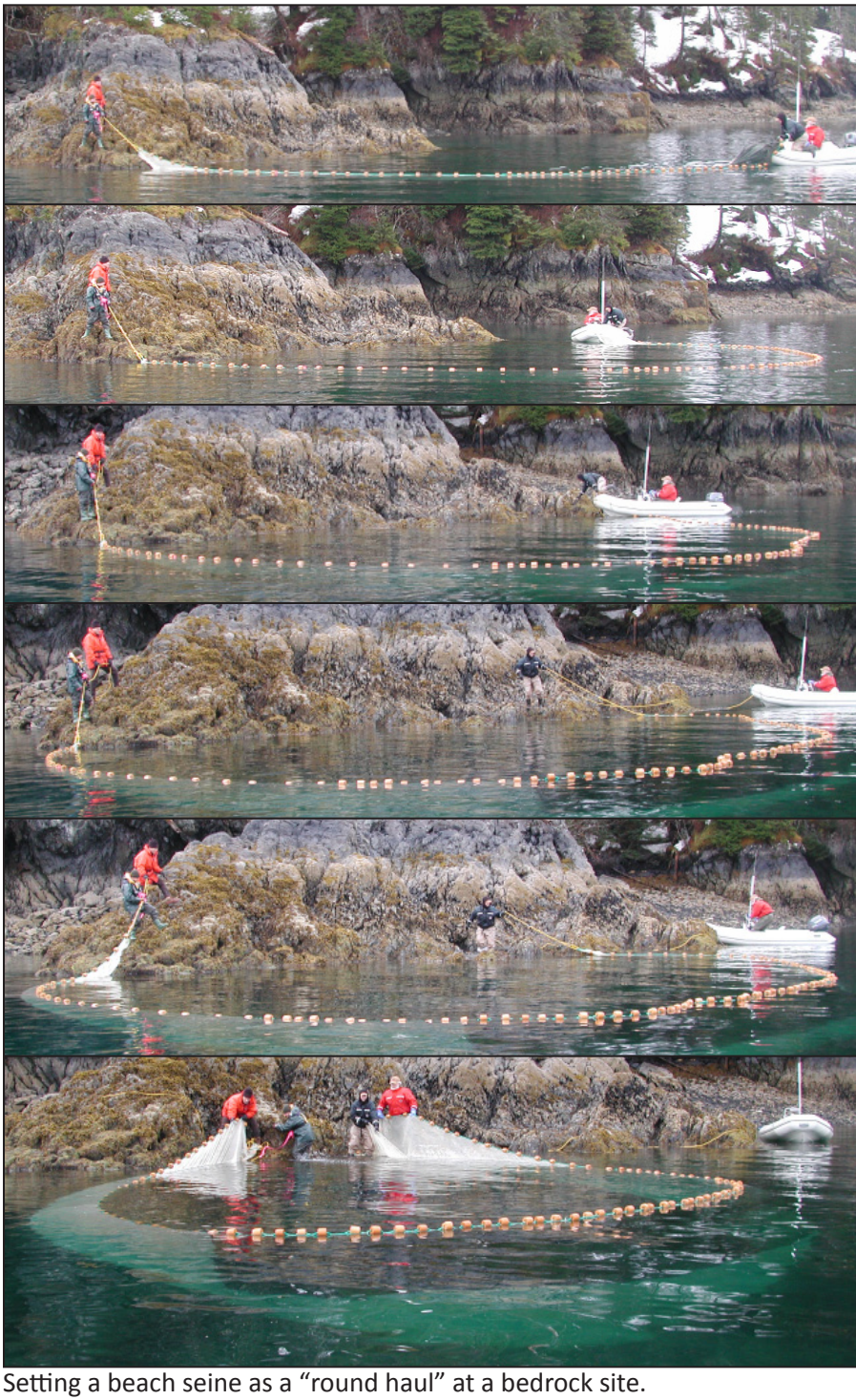

Setting a beach seine as a “round haul” at a bedrock site.

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