

A Photo Guide to Deep-Sea Fishes of Coral, Canyon and Cold Seep Habitats along the U.S. Atlantic Margin



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Deep-Sea Fishes of the U.S. Atlantic Margin

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Deep-Sea Fishes of the U.S. Atlantic Margin

Background

Deep-sea fishes (> 200 m) are diverse along the U.S Atlantic margin, but few *in situ* photos are publicly available for many confirmed identifications. Recent cruises (*R/V Atlantis* AT41, *NOAA Ship Ron Brown* RB1903, and *NOAA Ship Okeanos Explorer* EX1806, EX1903L2, EX1907, EX2107) conducted off Delaware to Florida from 2018 to 2021 provided high-resolution images of many species inhabiting cold-water coral reefs, canyons, and cold seeps at depths ranging from 214-3650 m. Here, we include confirmed identifications of 99 species with several diagnostic characters. This guide can be used to help identify fishes in deep waters of the North Atlantic, particularly off the eastern U.S. seaboard.

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Myxinidae (hagfishes)

Eyes reduced; no paired fins; eel-shaped body



Rubicundus lopheliae
(Lophelia hagfish)

Bright pink to orange in color;
elongated tubular nostril

Eptatretus minor
(Gulf hagfish)

Body light brown;
dorsal midline whitish

Myxine glutinosa
(Atlantic hagfish)

Pale pink in color

Squalidae (dogfish sharks)

2 dorsal fins with spines; large spiracles; no anal fin



Cirrhigaleus asper (roughskin dogfish)

Snout & head very broad; 1st & 2nd dorsal fins equal in size; posterior margins of dorsal fins white



Squalus cubensis (Cuban dogfish)

Snout & head narrow; 2nd dorsal fin smaller than 1st; upper portion of dorsal fins black

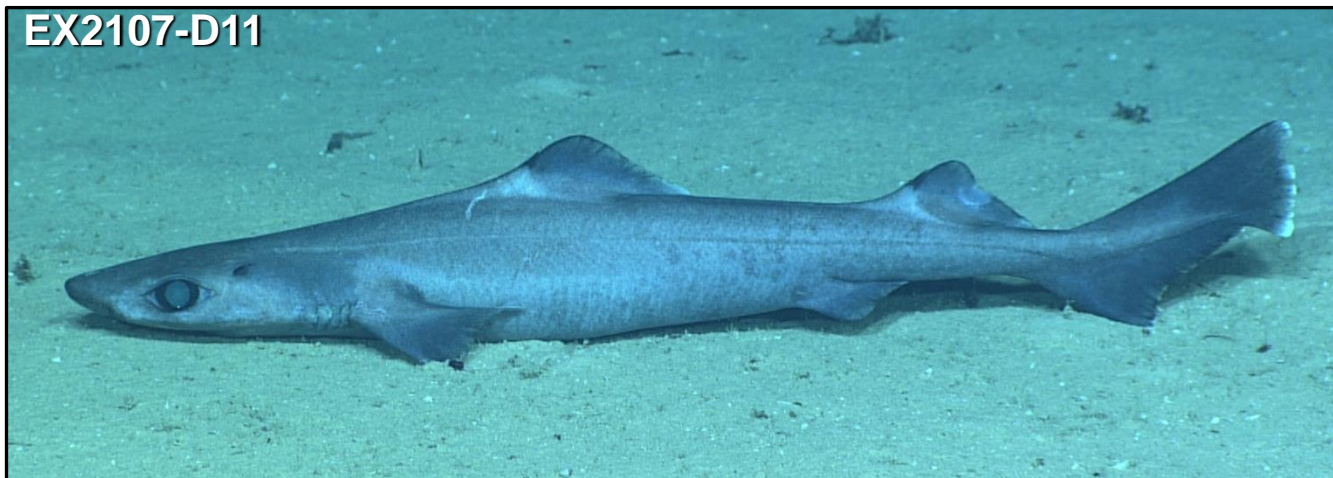
Centrophoridae (gulper sharks)

2 dorsal fins with grooved spines; no anal fin; caudal fin with subterminal notch



Deania profundorum (arrowhead dogfish)

Snout greatly elongated; 1st dorsal fin low; 2nd dorsal fin spine much larger than 1st; subcaudal keel present



Centrophorus cf. *granulosa* (gulper shark)

Snout short; body dark grey to grey-brown above, lighter below

Scyliorhinidae (cat sharks)

Small sharks; 1st dorsal originates over pelvic fin; usually with dark spots, blotches, bars or saddles



***Scyliorhinus hesperius* (whitesaddled catshark)**

2nd dorsal fin smaller than 1st; numerous white spots on back; dark saddle marks conspicuous

Scyliorhinidae (cat sharks)

Small sharks; 1st dorsal originates over pelvic fin; usually with dark spots, blotches, bars or saddles

EX1806-D10



EX1806-D10



***Scyliorhinus meadi* (blotched catshark)**

Head and body light grey with distinct dark saddles

Scyliorhinidae (cat sharks)

Small sharks; 1st dorsal originates over pelvic fin; usually with dark spots, blotches, bars or saddles

EX1806-D10



Scyliorhinus retifer (chain catshark)

Color pattern of dark lines in reticular pattern

Scyliorhinidae (cat sharks)

Small sharks; 1st dorsal originates over pelvic fin; usually with dark spots, blotches, bars or saddles



***Galeus arae* (rougtail catshark)**

2nd dorsal fin smaller than 1st; pectoral fins large; marbled pattern of spots and saddles

Narcinidae (electric rays)

Disc moderately thick; 2 equal sized dorsal fins; anterior contour of disc rounded

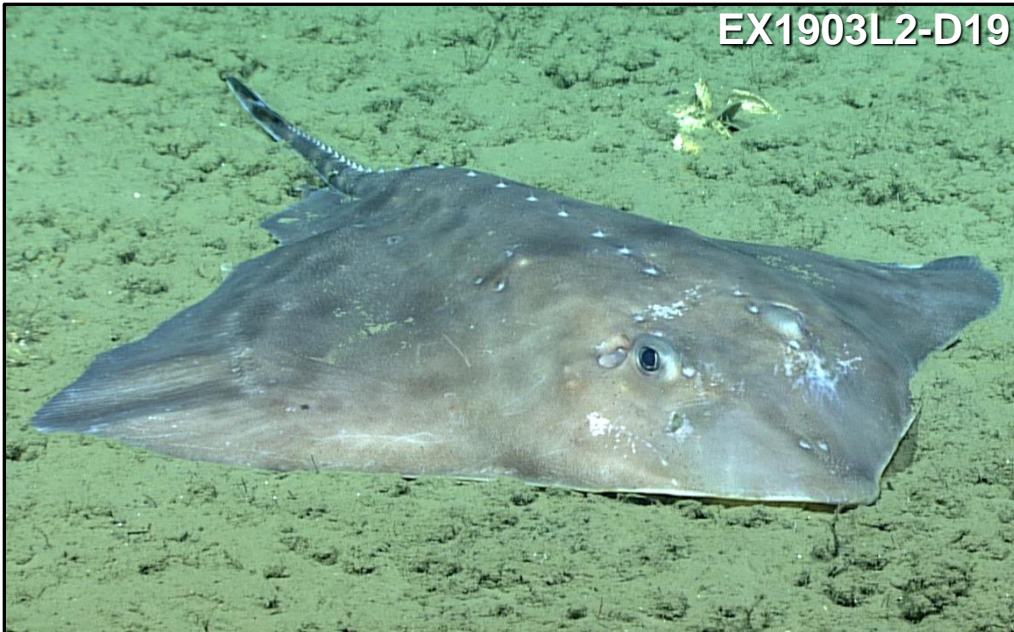


***Benthobatis marcida* (blind torpedo)**

Eyes minute, almost entirely concealed by skin; uniform in color

Rajidae (skates)

Rhombic or heart-shaped disc; tail slender; pelvic fins bilobed; 2 small dorsal fins



***Amblyraja radiata* (thorny skate)**

Dorsal surface of disc brown with darker mottling; tail short; center of disc with row of very large thorns



***Breviraja colesi* (lightnose skate)**

Dorsal surface of disc tan with scattered black blotches and whitish spots ringed with dark brown, covered with close set small denticles

Rajidae (skates)

Rhombic or heart-shaped disc; tail slender; pelvic fins bilobed; 2 small dorsal fins

J2-1130



EX1806-D05

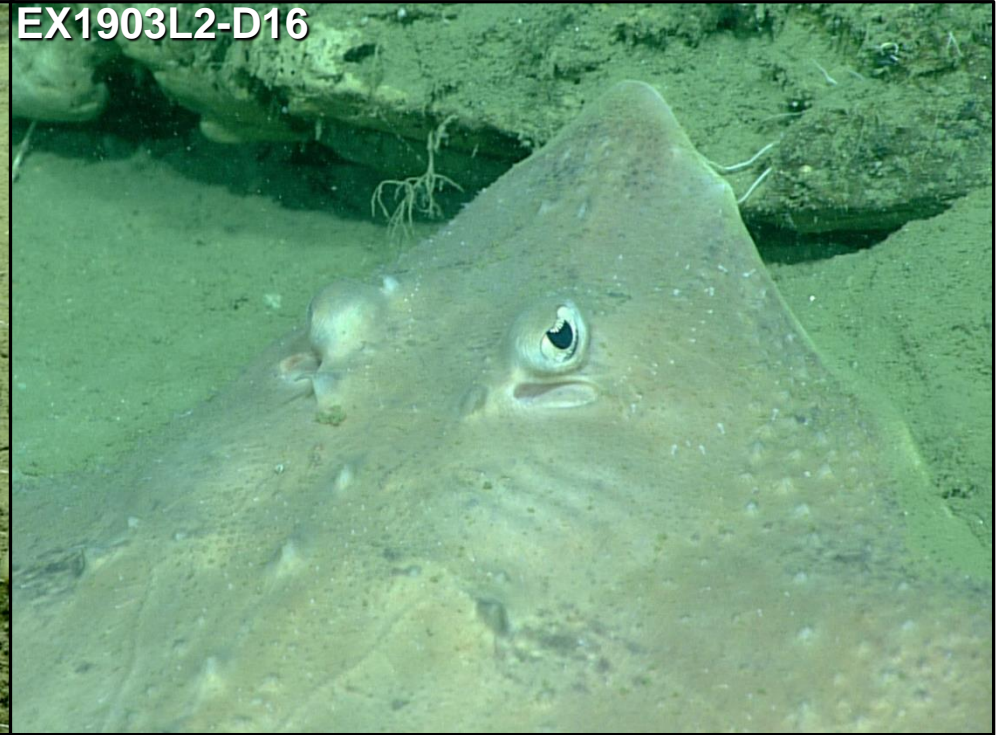
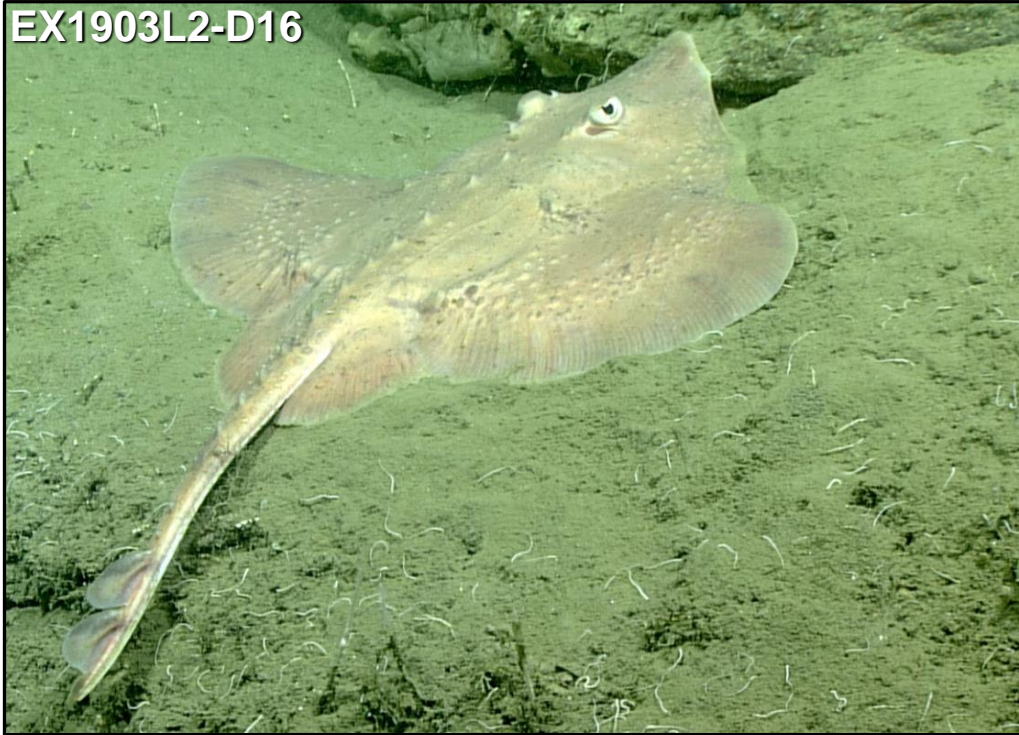


Cruriraja poeyi (Cuban legskate)

Disk diamond shaped; dorsal surface of disc pale brown with round darker spots; snout long with a simple sharp point

Rajidae (skates)

Rhombic or heart-shaped disc; tail slender; pelvic fins bilobed; 2 small dorsal fins

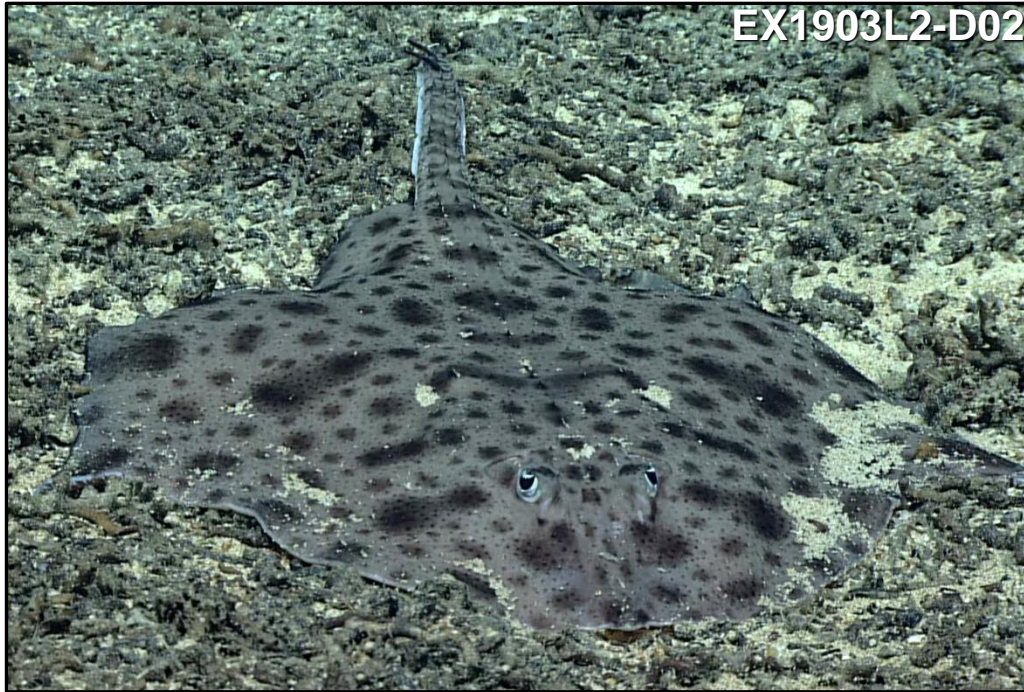


***Cruriraja rugosa* (rough legskate)**

Disk diamond shaped; dorsal surface of disc pale brown and uniformly covered with fine denticles and single row of thorns along mid-back; tail moderately long

Rajidae (skates)

Rhombic or heart-shaped disc; tail slender; pelvic fins bilobed; 2 small dorsal fins

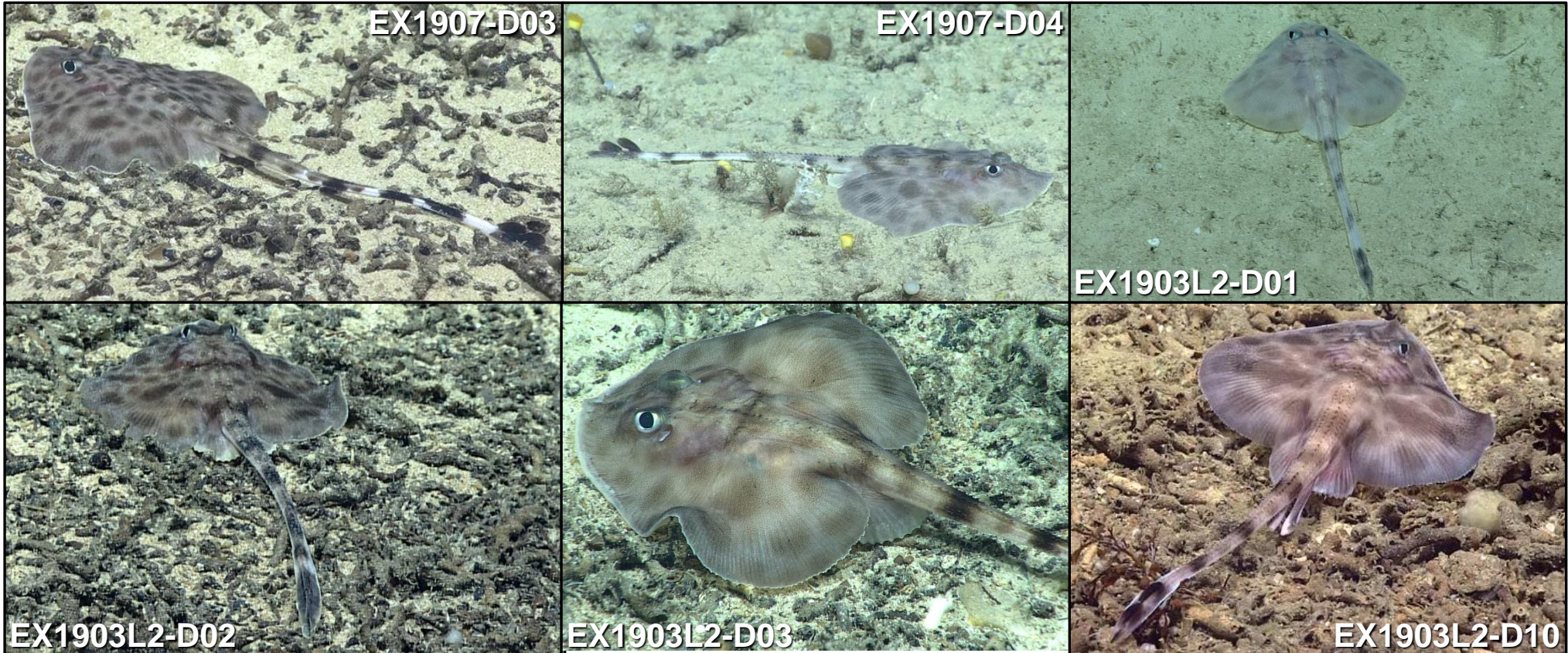


***Dactylobatus armatus* (skilletskate)**

Disk circular; dorsal surface of disc grey-brown with irregular darker blotches; 3 rows of thorns along center of disc and tail

Rajidae (skates)

Rhombic or heart-shaped disc; tail slender; pelvic fins bilobed; 2 small dorsal fins

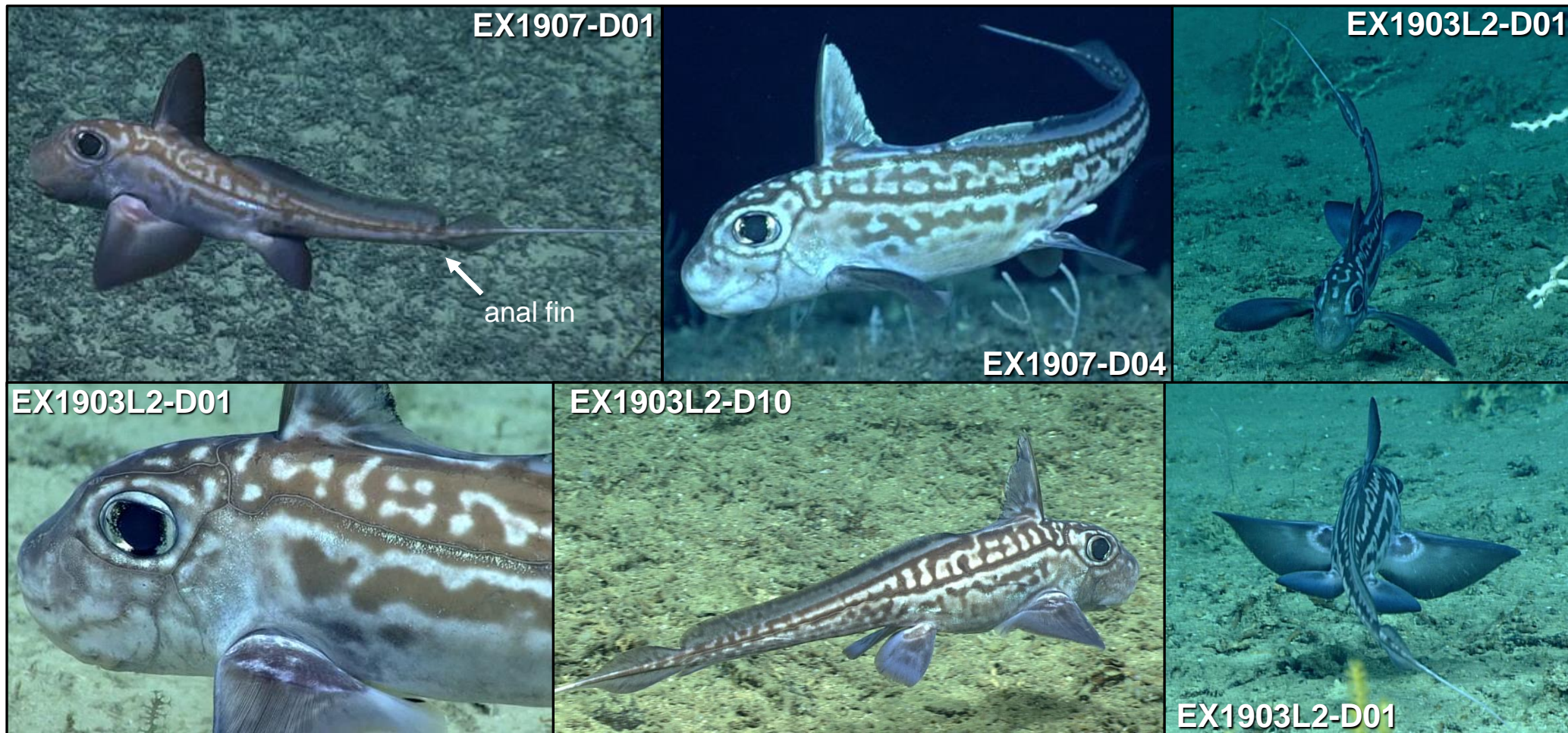


Fenestraja plutonia (Pluto skate)

Dorsal surface pale brown to purplish brown with irregular dark blotches over disc and cross-bands on tail

Chimaeridae (shortnose chimaeras)

Large head; blunt snout; tail tapering to filament; large eyes; large pectoral fins

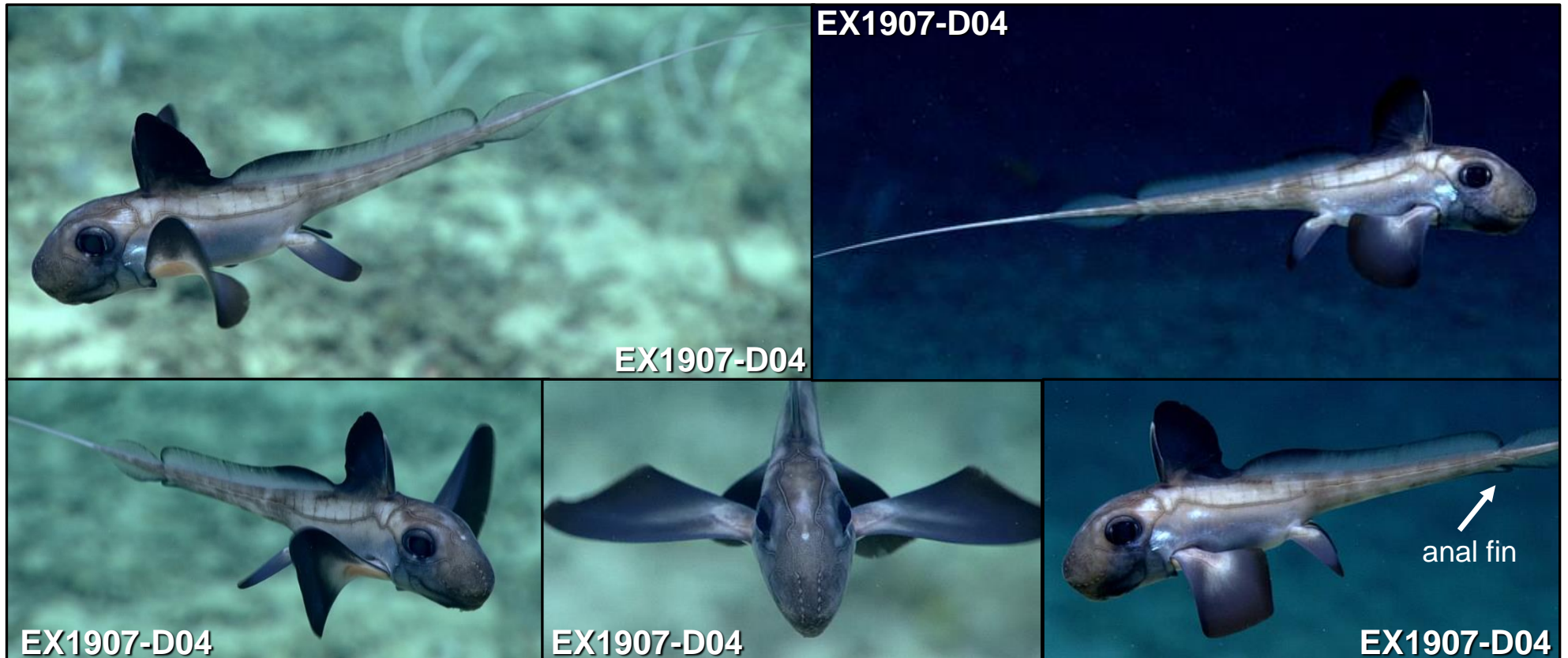


Chimaera cf. monstrosa (rabbit fish)

Mottled brown with white; 1st dorsal fin short-based with strong spine; long caudal filament; anal fin present

Chimaeridae (shortnose chimaeras)

Large head; blunt snout; tail tapering to filament; large eyes; large pectoral fins



Chimaera cubana (Cuban chimaera)

Pink with silvery grey with faint stripes on trunk and tail; 1st dorsal fin short-based with strong spine; long caudal filament; anal fin present

Chimaeridae (shortnose chimaeras)

Large head; blunt snout; tail tapering to filament; large eyes; large pectoral fins



Hydrolagus affinis (smalleyed rabbit fish)

Dark brown in color; 1st dorsal fin short-based with strong spine; short caudal filament; anal fin absent

Halosauridae (halosaurs)

Mouth inferior; single, short-based dorsal fin; long, tapering tail; no caudal fin

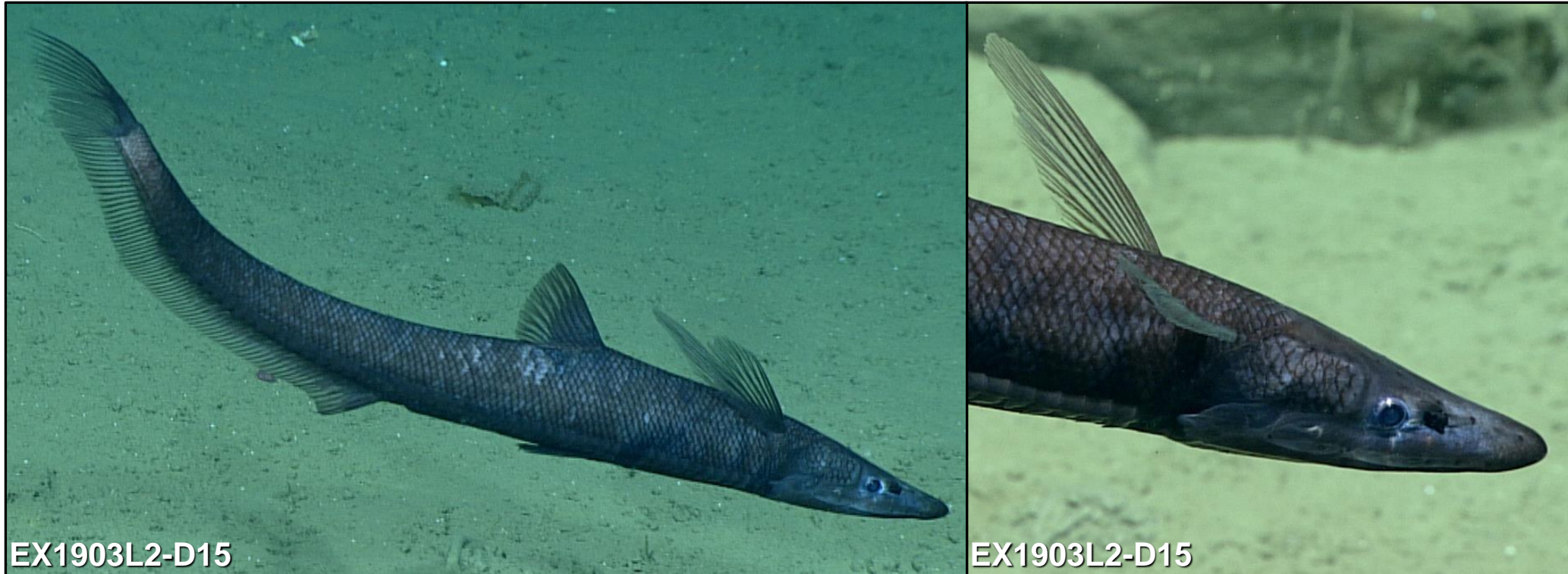


***Aldrovandia affinis* (Gilbert's halosaurid fish)**

Body white to grey-brown in color; insertion of the pelvic fin only slightly anterior to the origin of the dorsal fin; no scales on the opercle

Halosauridae (halosaurs)

Mouth inferior; single, short-based dorsal fin; long, tapering tail; no caudal fin



***Halosauropsis macrochir* (abyssal halosaur)**

Body greyish-black to bluish black in color; top of head black; absence of scales on top of head

Halosauridae (halosaurs)

Mouth inferior; single, short-based dorsal fin; long, tapering tail; no caudal fin



Halosaurus cf. guentheri (Gunther's halosaur)

Scales on top of head and opercle; grayish-white to pale tan in color

Synaphobranchidae (cutthroat eels)

Small to medium size; mouth extends beyond eyes; dorsal and anal fins well developed; eyes well developed

EX1903L2-D14



EX1903L2-D14



Dysommima rugosa

Body light brownish in color, paler ventrally; dorsal, anal and caudal fins white in color

Synphobranchidae (cutthroat eels)

Small to medium size; mouth extends beyond eyes; dorsal and anal fins well developed; eyes well developed

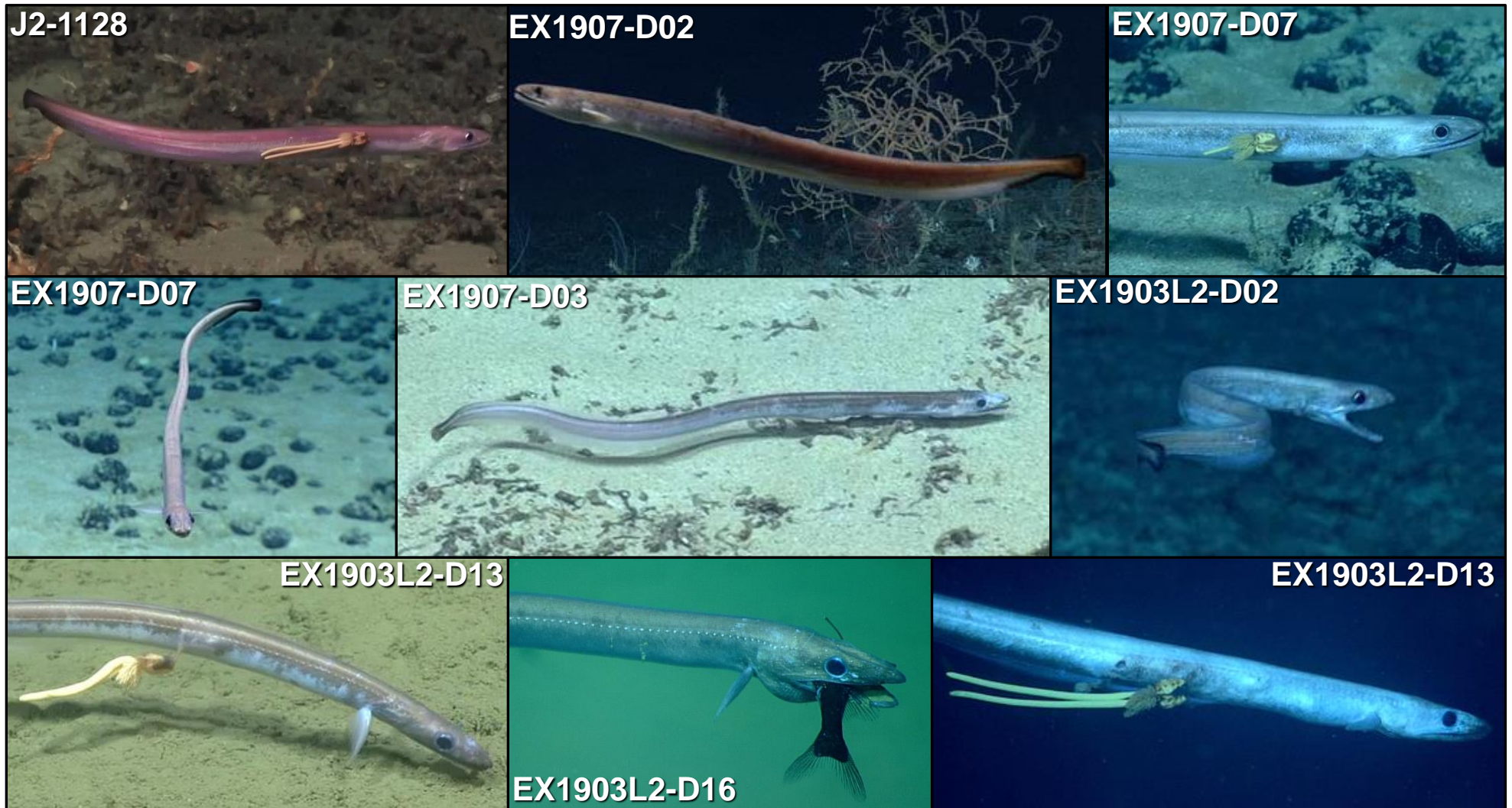


***Ilyophis brunneus* (muddy arrowtooth eel)**

Dark brown tinged with violet on snout; pores in lateral line white; pectoral fins minute

Synphobranchidae (cutthroat eels)

Small to medium size; mouth extends beyond eyes; dorsal and anal fins well developed; eyes well developed



Synphobranchus cf. kaupii (Kaup's arrowtooth eel)

Head elongate; dorsal-fin origin well behind level of anus; dark purplish-grey in color

Congridae (conger eels)

Medium to large size; round in cross-section; eyes well developed; dorsal, anal and caudal fins present

EX2107-D01



EX1806-D10



***Conger oceanicus* (conger eel)**

Eyes large; pectoral fins present; dorsal fin begins behind base of pectoral; vertical fins with black edges

Nettastomatidae (duckbill eels)

Small to medium size; head slender; snout elongate; eyes well developed; tail slender, attenuate; dorsal & anal fins edged in black especially posteriorly



***Venefica* cf. *procera* (short-snout sorcerer)**

Eyes small; snout very long; tip of snout with a fleshy pointed proboscis; top jaw overhanging

Chlorophthalmidae (greeneyes)

Eyes green with teardrop-shaped pupil; dorsal fin large; lower jaw terminal with bony tip



Chlorophthalmus agassizi (shortnose greeneye)

Eyes large; head small; color is yellow-fawn with irregular oblique brown blotches on sides

Ipnopidae (tripod fishes)

Eyes very small; caudal fin forked with lower lobe longer than upper; pectoral fin modified often with elongate rays; pelvic fin may possess elongate rays anteriorly

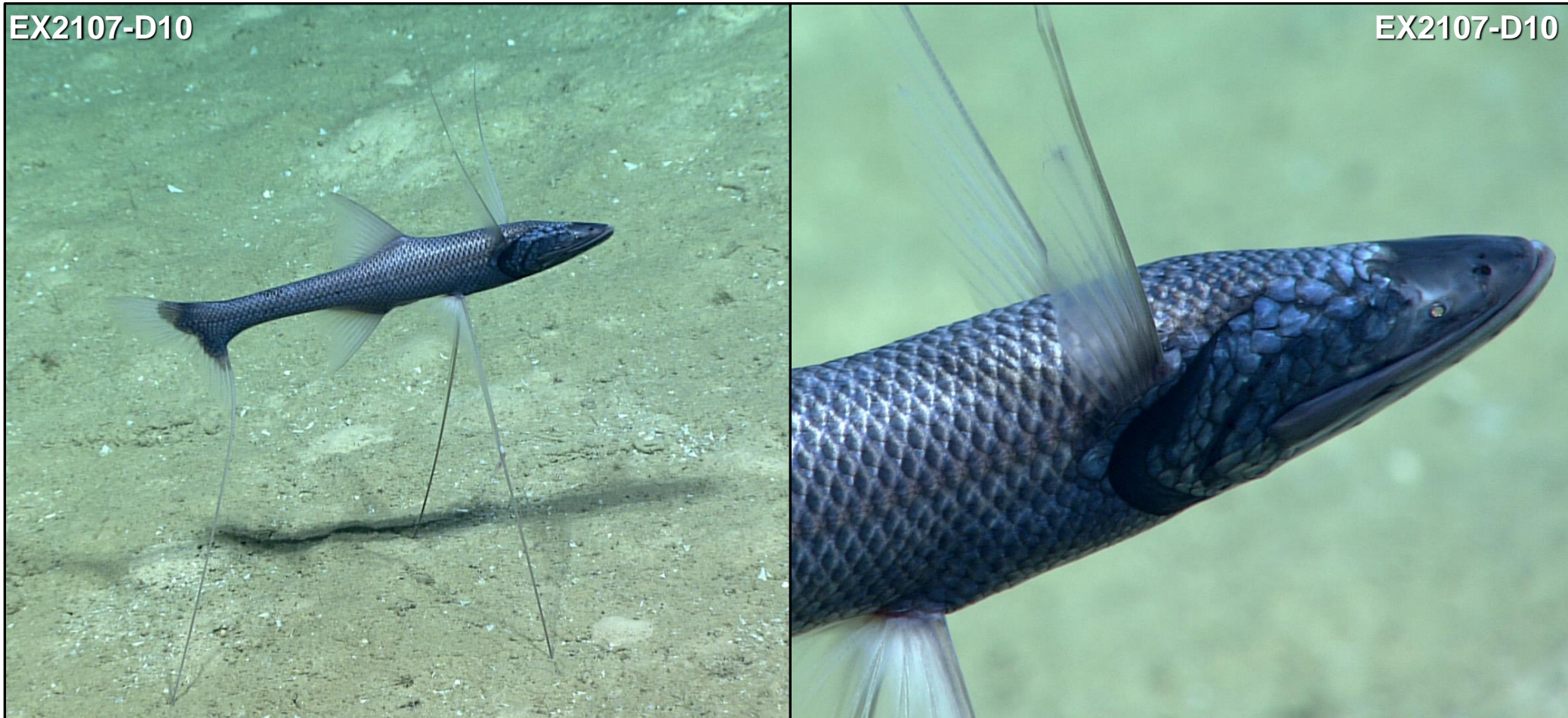


***Bathypterois bigelowi* (Bigelow's tripodfish)**

Body white, with irregular bands of reddish-purple, yellowish, or dark blue; 2 dark spots on caudal fin base

Ipnopidae (tripod fishes)

Eyes very small; caudal fin forked with lower lobe longer than upper; pectoral fin modified often with elongate rays; pelvic fin may possess elongate rays anteriorly

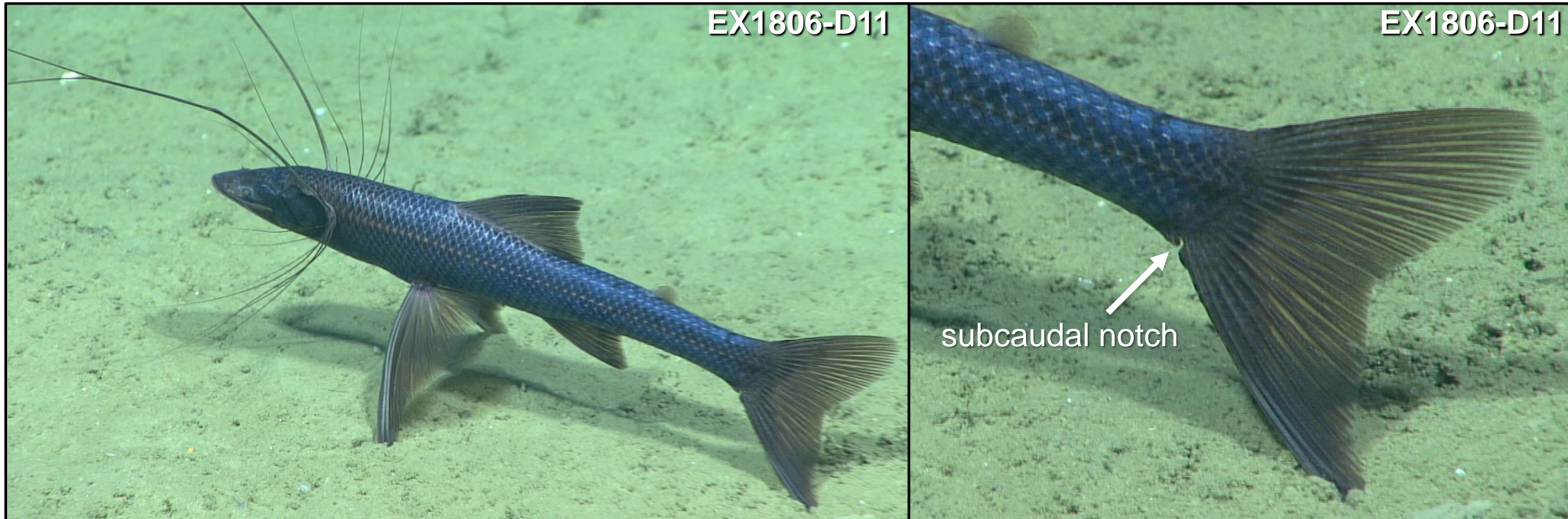


***Bathypterois grallator* (tripodfish)**

Extremely long caudal and pelvic-fin rays; no adipose fin; color uniform black

Ipnopidae (tripod fishes)

Eyes very small; caudal fin forked with lower lobe longer than upper; pectoral fin modified often with elongate rays; pelvic fin may possess elongate rays anteriorly



***Bathypterois phenax* (blackfin tripodfish)**

Presence of subcaudal notch; adipose fin present; head and body black; fins black

Ipnopidae (tripod fishes)

Eyes very small; caudal fin forked with lower lobe longer than upper; pectoral fin modified often with elongate rays; pelvic fin may possess elongate rays anteriorly



***Bathypterois quadrifilis* (fourfinger tripodfish)**

Outer 2 pelvic rays prolonged to reach anal fin; subcaudal notch present; adipose fin present; body black with paler scale pocket margins

Ipnopidae (tripod fishes)

Eyes very small; caudal fin forked with lower lobe longer than upper; pectoral fin modified often with elongate rays; pelvic fin may possess elongate rays anteriorly

EX1907-D12



EX1903L2-D08



***Bathypterois viridensis* (darkheaded tripodfish)**

Body white with three dark bands; caudal fin is pale with a dark base

Ipnopidae (tripod fishes)

Eyes very small; caudal fin forked with lower lobe longer than upper; pectoral fin modified often with elongate rays; pelvic fin may possess elongate rays anteriorly



***Ipnops murrayi* (Murray's grideye fish)**

Eye is flat, plate-like grid of light sensitive tissue on top of head; head and body black, eye patch pale; no adipose fin

Bathysauridae (deepsea lizardfishes)

Head very depressed; eyes small; upper jaw extending far beyond eye; whitish, grey or brown in color



***Bathysaurus ferox* (deepsea lizardfish)**

Head depressed and bony; mouth large; teeth conical, recurved and mostly depressible

Ophidiidae (cusk eels)

Spine on opercle; scales present; dorsal-fin rays equal to or longer than anal-fin rays



Dicrolene introniger (digitate cusk eel)

Snout blunt; eye large; lower 5-11 pectoral fin rays free and longer than upper ones; opercular spine strong and straight

Ophidiidae (cusk eels)

Spine on opercle; scales present; dorsal-fin rays equal to or longer than anal-fin rays



Monomitopus sp.

Opercle with 1 straight, rounded, strong spine with a single point; pelvic fins with 1 ray; head covered with scales; body color pale

Ophidiidae (cusk eels)

Spine on opercle; scales present; dorsal-fin rays equal to or longer than anal-fin rays



Luciobrotula corethromycter

Lateral line ends below dorsal fin rays; head and body of same color

Bythitidae (viviparous brotulas)

Spine on opercle; scales usually present; anterior nostril immediately above upper lip



***Bythites gerdae* (deep reef brotula)**

Body short and robust; head very large, without scales; upper jaws end well behind eye; opercular spine strong, covered with skin; head and body color dark brown to blackish

Bythitidae (viviparous brotulas)

Spine on opercle; scales usually present; anterior nostril immediately above upper lip



Diplacanthopoma cf. brachysoma

Body tapers to slender tail; scales present on body; opercular spine strong

Macrouridae (grenadiers)

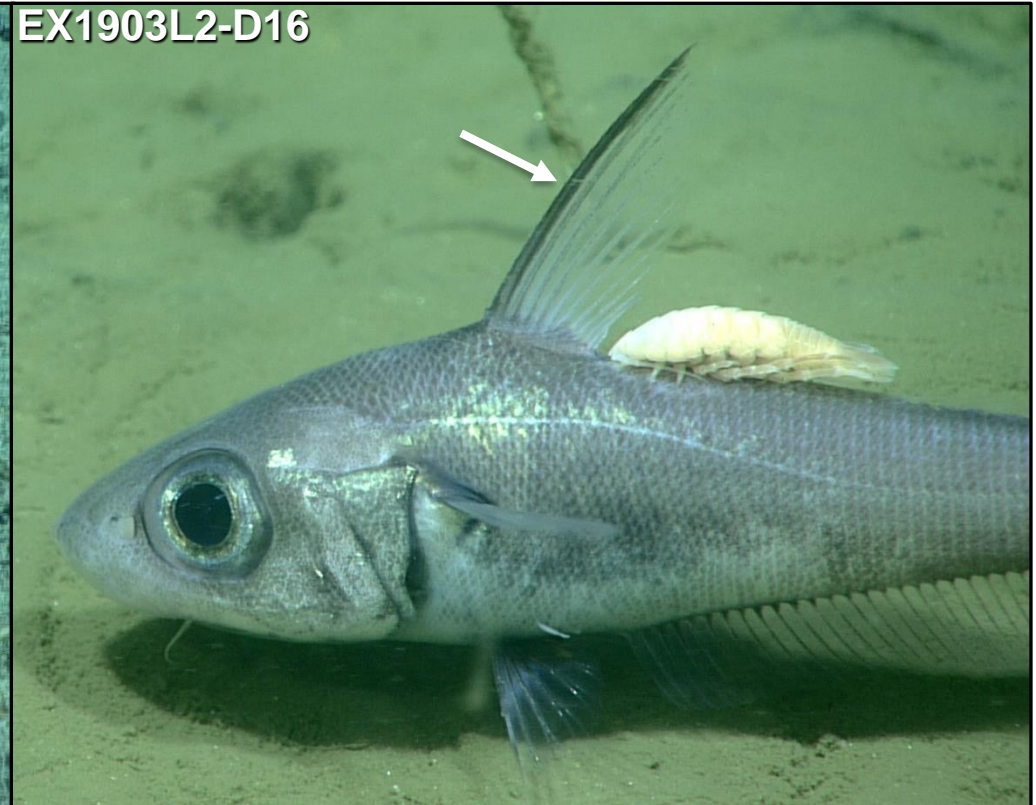
Tail tapers to slender point; eyes large; 1st dorsal high, 2nd dorsal long-based; silvery along sides of head and body



Nezumia aequalis

(common Atlantic grenadier)

1st dorsal fin with prominent black tip



Nezumia bardii

(marlin-spike grenadier)

1st dorsal fin with black membrane
between 1st dorsal spine and 1st
dorsal ray

Macrouridae (grenadiers)

Tail tapers to slender point; eyes large; 1st dorsal high, 2nd dorsal long-based; silvery along sides of head and body



Nezumia sclerorhynchus (rougtip grenadier)

Tip of 1st dorsal spine white

Macrouridae (grenadiers)

Tail tapers to slender point; eyes large; 1st dorsal high, 2nd dorsal long-based; silvery along sides of head and body

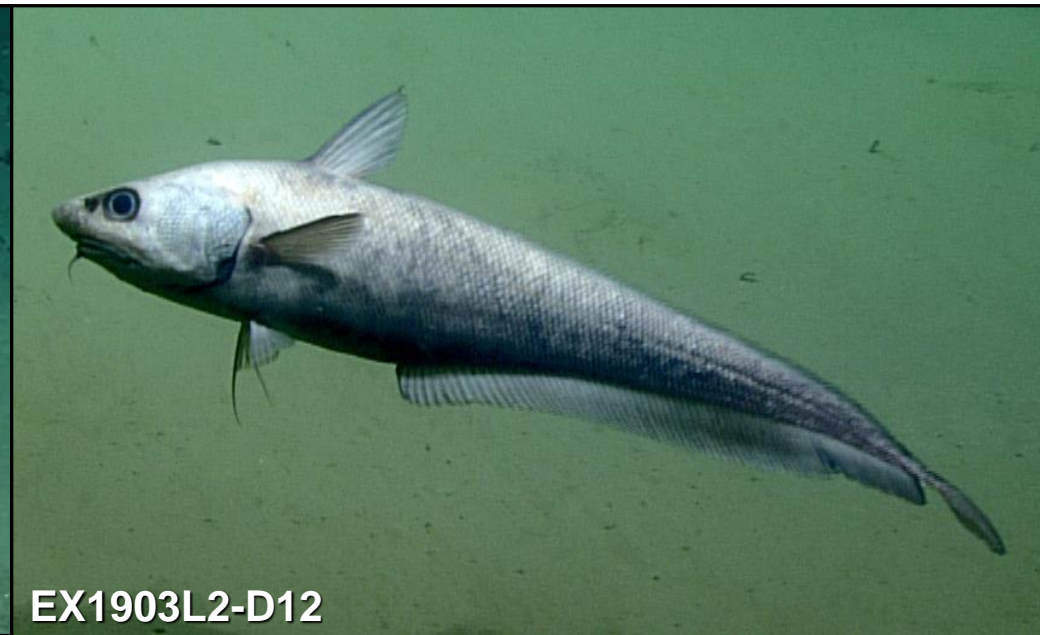


Nezumia longebarbata (bluntnose grenadier)

Blunt nosed; body medium brown and blackish ventrally

Macrouridae (grenadiers)

Tail tapers to slender point; eyes large; 1st dorsal high, 2nd dorsal long-based; silvery along sides of head and body



Coryphaenoides armatus (abyssal grenadier)

Head and eyes large; color is uniformly brownish except abdomen is bluish

Macrouridae (grenadiers)

Tail tapers to slender point; eyes large; 1st dorsal high, 2nd dorsal long-based; silvery along sides of head and body



Coelorinchus caelorhinchus (hollowsnout grenadier)

Snout short, head ridges strong; color is pale greyish brown with a series of broad saddle marks

Macrouridae (grenadiers)

Tail tapers to slender point; eyes large; 1st dorsal high, 2nd dorsal long-based; silvery along sides of head and body

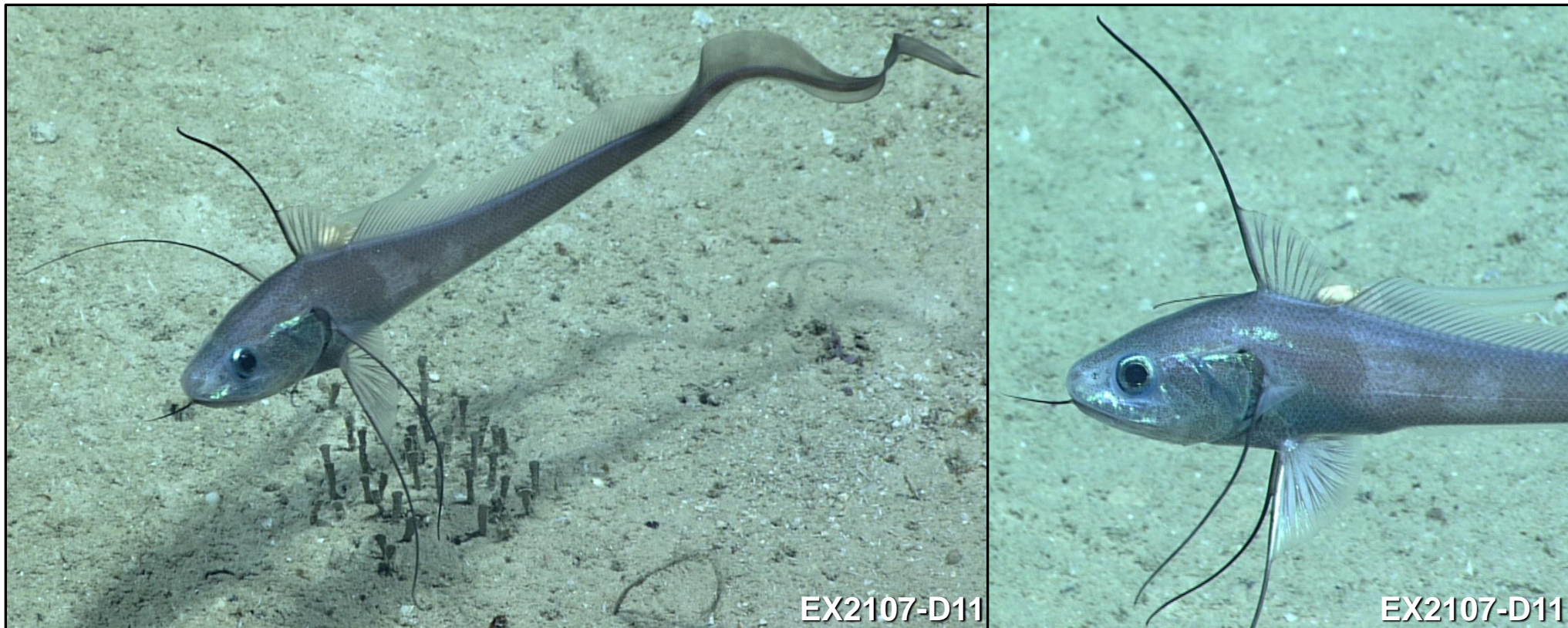


Gadomus arcuatus (doublethread grenadier)

Chin barbels long and prominent; 1st fin rays of dorsal, pectoral and pelvic fins are elongated; body color is brownish; fin membranes and mouth blackish

Macrouridae (grenadiers)

Tail tapers to slender point; eyes large; 1st dorsal high, 2nd dorsal long-based; silvery along sides of head and body



***Gadomus longifilis* (threadfin grenadier)**

Brownish in color; chin barbel longer than eye diameter; 1st finray of pectoral and pelvic fins elongated; 2nd finray of 1st dorsal fin elongated

Macrouridae (grenadiers)

Tail tapers to slender point; eyes large; 1st dorsal high, 2nd dorsal long-based; silvery along sides of head and body



***Bathygadus favosus* (bighead grenadier)**

Head large; eyes large; chin barbel absent; body grey-brown

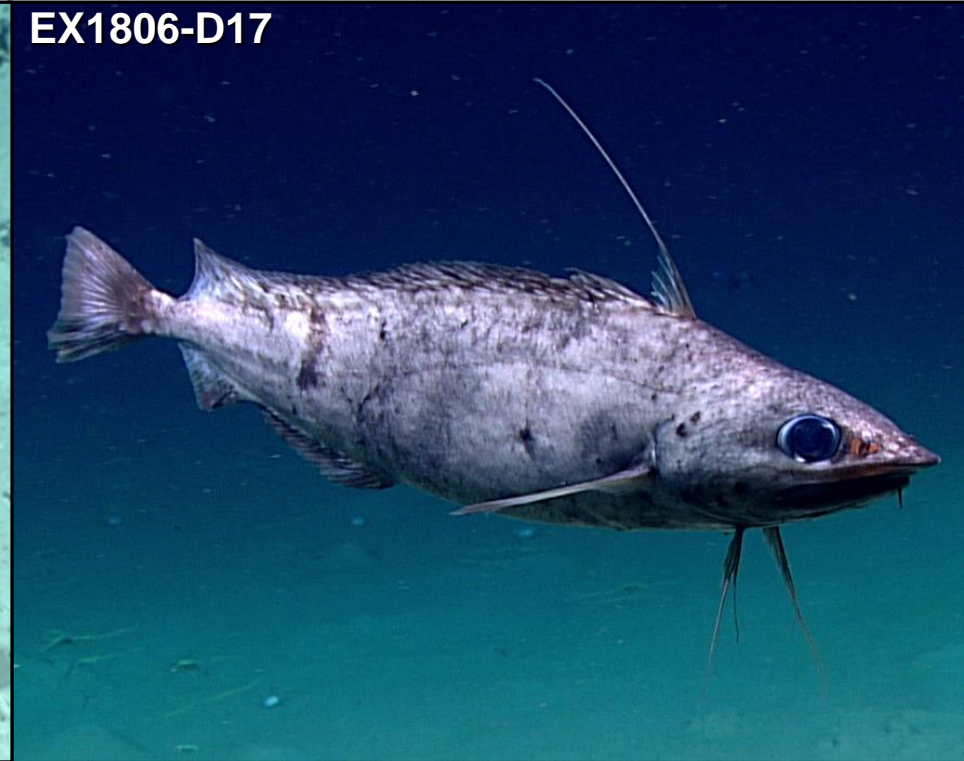
Moridae (codlings)

Large eyes; 1st dorsal triangular, 2nd dorsal long-based; anal fin long-based; pelvic fins thoracic; narrow caudal peduncle; small caudal fin

EX2107-D05



EX1806-D17



Antimora rostrata (violet cod)

Snout depressed to form a broadly pointed plate; chin barbel present; 1st dorsal fin with an elongate filament; color blue-grey to blackish

Moridae (codlings)

Large eyes; 1st dorsal triangular, 2nd dorsal long-based; anal fin long-based; pelvic fins thoracic; narrow caudal peduncle; small caudal fin

EX1806-D01



EX1806-D08



***Gadella imberbis* (shortbeard codling)**

Head short; snout blunt, rounded; chin barbel absent; pectoral fins extending far beyond anal fin origin; color is dark

Moridae (codlings)

Large eyes; 1st dorsal triangular, 2nd dorsal long-based; anal fin long-based; pelvic fins thoracic; narrow caudal peduncle; small caudal fin

EX1907-D10



EX1806-D10

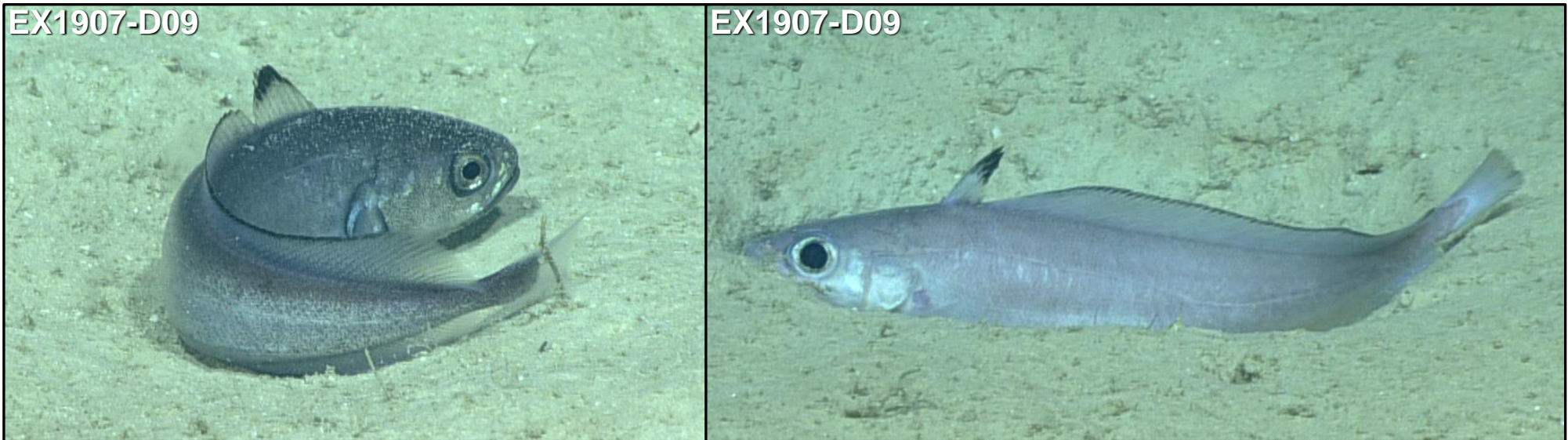


Laemonema barbatulum (shortbeard codling)

Distal end of caudal fin black; prolonged black spine on 1st dorsal fin

Moridae (codlings)

Large eyes; 1st dorsal triangular, 2nd dorsal long-based; anal fin long-based; pelvic fins thoracic; narrow caudal peduncle; small caudal fin



Laemonema goodebeanorum

Distal $\frac{2}{3}$ of 1st dorsal fin and posterior edge of 2nd dorsal fin black

Moridae (codlings)

Large eyes; 1st dorsal triangular, 2nd dorsal long-based; anal fin long-based; pelvic fins thoracic; narrow caudal peduncle; small caudal fin



Laemonema melanurum (coral hake)

Distal $\frac{2}{3}$ of caudal fin and triangular shaped areas at posterior end of 2nd dorsal and anal fins black with white margins

Phycidae (Phycid hakes)

Short chin barbel; 2 dorsal fins; caudal fin rounded, well developed; pelvic fin has 2 long, slender rays

EX1806-D16



EX1903L2-D16



Phycis chasteri (longfin hake)

1st dorsal ray very long; pelvic fins with 2 very long rays reaching to or beyond anal fin base; olive on sides, belly pale; edges of fins dark

Phycidae (Phycid hakes)

Short chin barbel; 2 dorsal fins; caudal fin rounded, well developed; pelvic fin has 2 long, slender rays



***Urophycis regia* (spotted hake)**

1st dorsal fin short, triangular, upper half black; pelvic fins with 2 rays forming long feelers; body brownish; lateral line dark with a series of pale spots

Gaidropsaridae (rocklings)

Body elongate, cylindrical; dorsal fin in 3 parts; barbels on snout

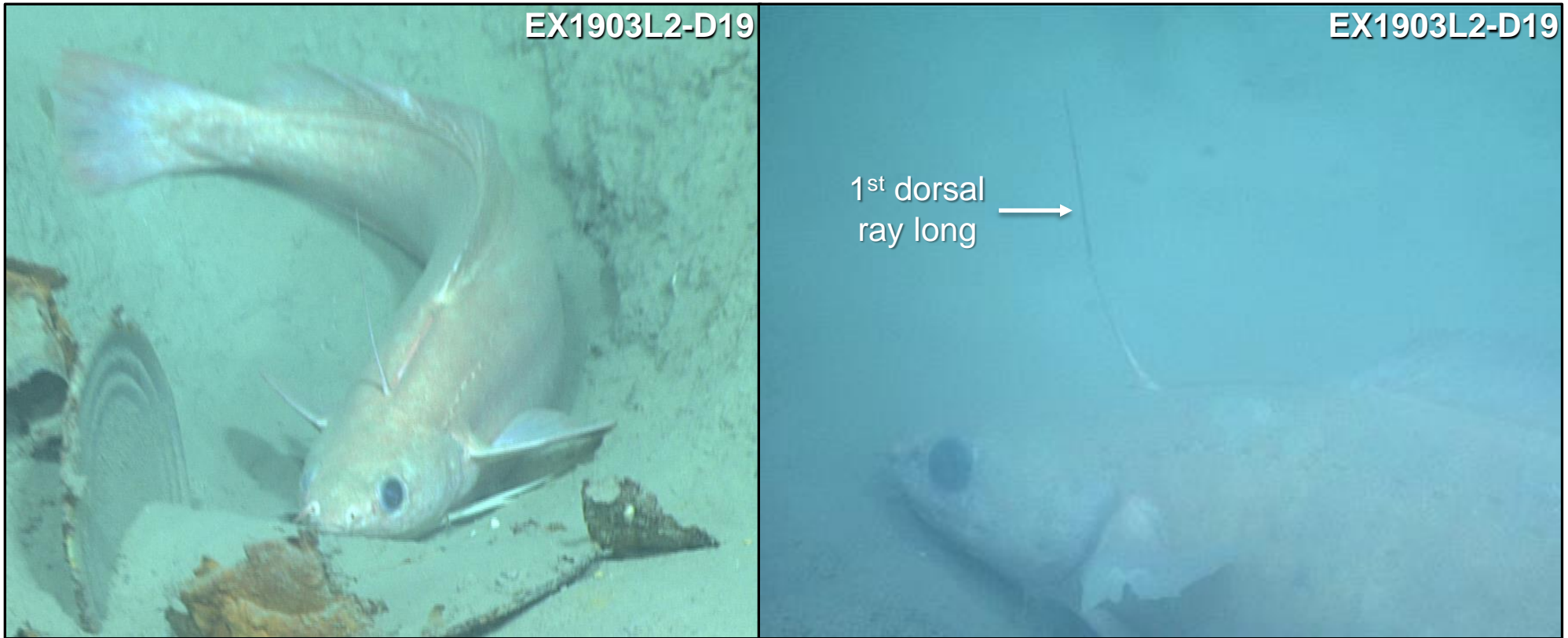


Gaidropsarus argentatus (Arctic rockling)

Barbels well developed, nasal pair longer than eye diameter; 1st dorsal ray shorter than head length; color is reddish-brown to light brick red

Gaidropsaridae (rocklings)

Body elongate, cylindrical; dorsal fin in 3 parts; barbels on snout



***Gaidropsarus ensis* (threadfin rockling)**

Barbels well developed, nasal pair longer than eye diameter; 1st dorsal ray longer than head length; head, back and sides light brick red

Lotidae (hakes and burbot)

One to three dorsal fins and one anal fin; chin barbel always present; caudal fin rounded



***Brosme brosme* (cusk)**

Color is variable; dorsally dark red-brown or green brown to yellow shading into pale color on belly; vertical fins with dark margin rimmed with white

Merlucciidae (merlucciid hakes)

Mouth large; 1st dorsal short, triangular; 2nd dorsal & anal fin long-based & notched near midlength; caudal fin well developed, weakly forked; silver in color with dark blotches

EX1903L2-D08

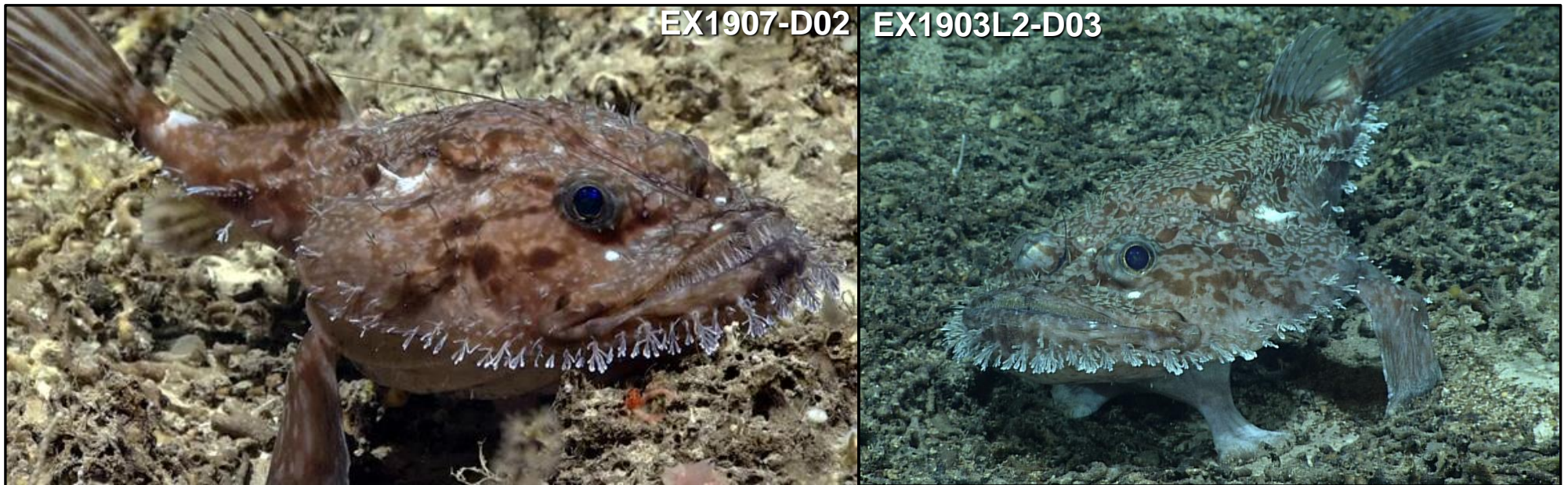


***Merluccius cf. albidus* (offshore silver hake)**

Head long (27-32% of SL); color grey-brown above, remainder silvery white

Lophiidae (goosefishes)

Mouth very large & wide; lower jaw projecting, numerous sharp teeth; head & anterior part of body depressed & very broad; skin often with fleshy flaps on head &/or body; pelvic fins on ventral surface of head anterior to pectoral fins; 1st cephalic spine modified into angling apparatus with esca

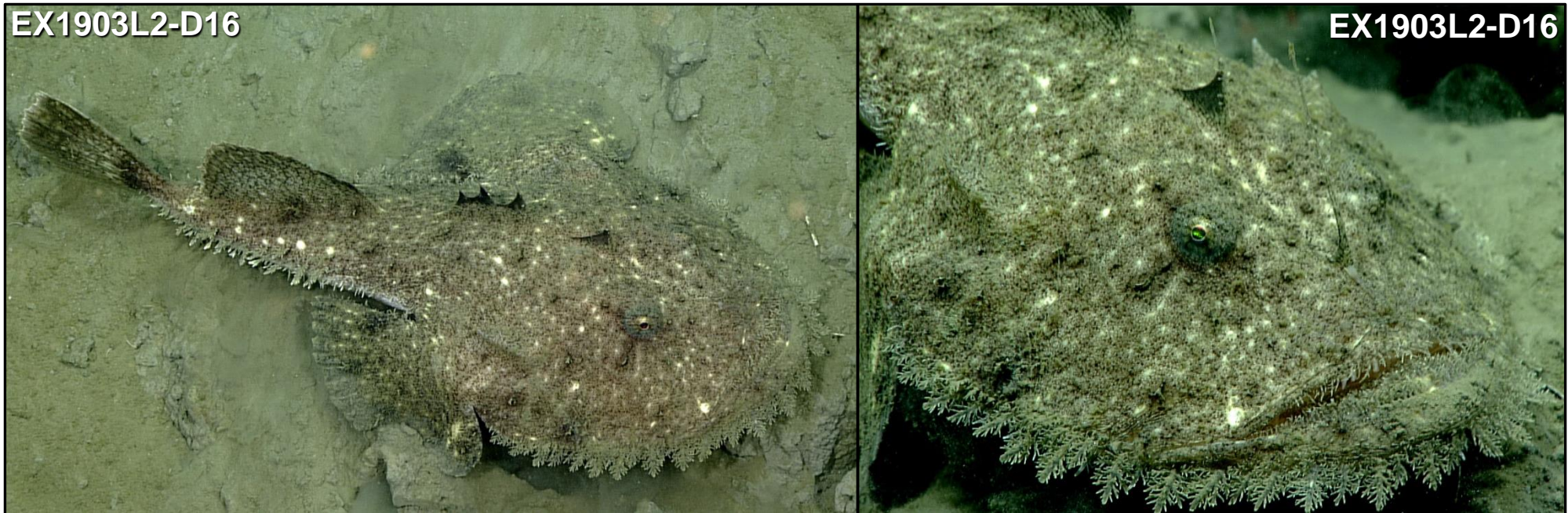


***Lophiodes beroe* (white anglerfish)**

Reddish to reddish brown background pigmentation with pale or white blotches; black illicium with pale esca

Lophiidae (goosefishes)

Mouth very large & wide; lower jaw projecting, numerous sharp teeth; head & anterior part of body depressed & very broad; skin often with fleshy flaps on head &/or body; pelvic fins on ventral surface of head anterior to pectoral fins; 1st cephalic spine modified into angling apparatus with esca



***Lophius americanus* (American goosefish/monkfish)**

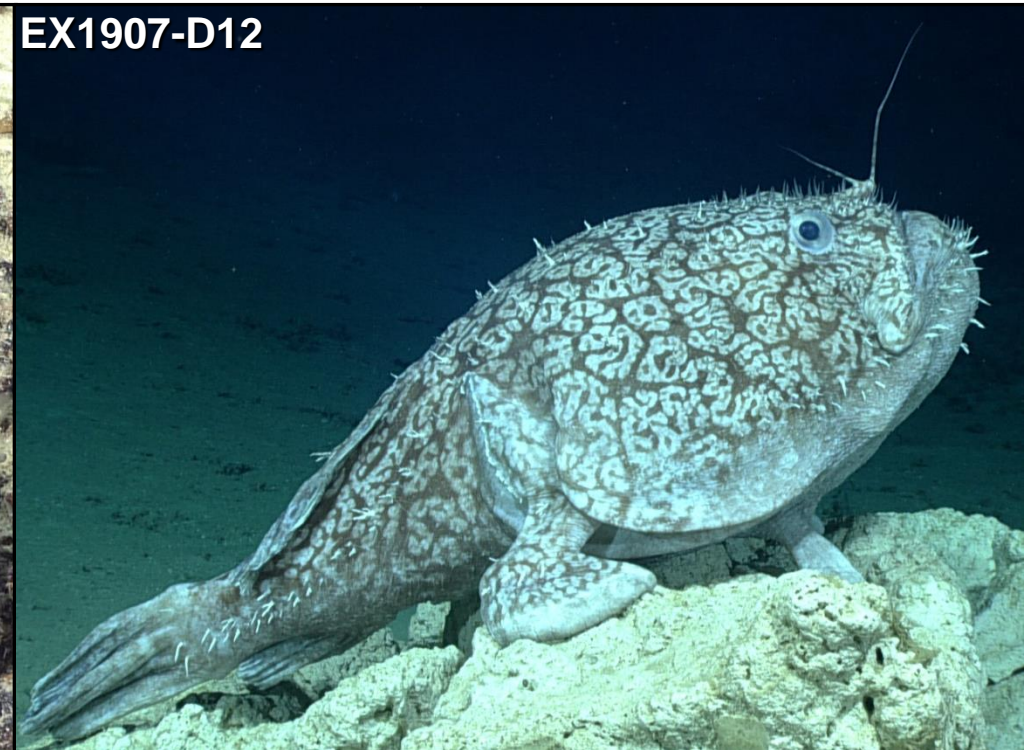
Tan to chocolate brown above, fading to a white shaded underbody

Lophiidae (goosefishes)

Mouth very large & wide; lower jaw projecting, numerous sharp teeth; head & anterior part of body depressed & very broad; skin often with fleshy flaps on head &/or body; pelvic fins on ventral surface of head anterior to pectoral fins; 1st cephalic spine modified into angling apparatus with esca



EX1903L2-D01



EX1907-D12

Sladenia shaeferi (Shaefer's anglerfish)

Head, body and fins mid-grey; head and body with numerous pale irregular rosettes and small patches of reticulating pale lines

Chaunacidae (gapers)

Body rounded with very loose, flaccid skin; head very large & bearing open lateral-line canals; single short spine modified as angling apparatus located just behind snout; mouth large; generally pink, reddish, orange or rose-colored



***Chaunacops roseus* (rosy coffin-fish)**

Top of head and chin rosy red; belly and lower side violet; pectoral and pelvic fins red; skin very loose, densely covered with minute denticles

Chaunacidae (gapers)

Body rounded with very loose, flaccid skin; head very large & bearing open lateral-line canals; single short spine modified as angling apparatus located just behind snout; mouth large; generally pink, reddish, orange or rose-colored



***Chaunax pictus* (pink gaper)**

Rose or reddish-orange pigment; back with yellow spots; thread cluster blue-black at front

Chaunacidae (gapers)

Body rounded with very loose, flaccid skin; head very large & bearing open lateral-line canals; single short spine modified as angling apparatus located just behind snout; mouth large; generally pink, reddish, orange or rose-colored



***Chaunax suttkusi* (spotted gaper)**

Head and body pale to rosy pink; fins red; upper body with yellow spots; lure uniformly pale with dark threads

Ogcocephalidae (batfishes)

Head strongly depressed into a circular or triangular disk; pectoral fins behind disc, elongate and leg-like; lure very short



Dibranchius atlanticus (Atlantic batfish)

Tail long; spine at corner of operculum large; body and tail pale yellowish brown, spines paler; dorsal, tail and pectoral fins reddish

Trachichthyidae (roughies)

Body oval, laterally compressed; head, eyes & mouth large; extensive sensory canals; flat, triangular spine on preopercle; reddish orange, pinkish or dusky silver in color

EX1907-D10



EX1907-D10



***Gephyroberyx darwinii* (big roughy)**

Lateral line scales slightly larger than body scales; prominent spine on opercle; dark spot at base of pectoral fins

Trachichthyidae (roughies)

Body oval, laterally compressed; head, eyes & mouth large; extensive sensory canals; flat, triangular spine on preopercle; reddish orange, pinkish or dusky silver in color



Hoplostethus occidentalis (western roughy)

Lateral line scales much larger than body scales; no prominent spine on opercle; pinkish in color



Hoplostethus mediterraneus (Mediterranean slimehead)

Lateral line scales much larger than body scales; pink above, silvery pink below

Berycidae (alfonsinos)

Body oval, laterally compressed; head, eyes & mouth large; no spines on preopercle; bright red on head, back & fins, silvery pink on lower sides & belly

EX1907-D02



EX1907-D02



***Beryx decadactylus* (red bream)**

Head, body and fins bright red in color; body very deep

Oreosomatidae (oreos)

Body deep, laterally compressed; eyes large; dorsal fin with 5-8 spines; anal fin with 1-3 spines



***Neocyttus helgae* (false boarfish)**

Body high, diamond shape and expanded laterally; dark gray in color; protruding small mouth; large spiny rays present at anterior edges of dorsal and anal fins

Psychrolutidae (fatheads)

Tadpole-shaped fishes with a flabby body enclosed in smooth naked skin; a broad rounded head; short 1st dorsal fin; small pelvic fin with 1 spine, 3 soft rays



***Cottunculus microps* (polar sculpin)**

4 bony knobs between and behind eyes; skin very rough; body with 3-4 broad, dark vertical bands

Psychrolutidae (fatheads)

Tadpole-shaped fishes with a flabby body enclosed in smooth naked skin; a broad rounded head; short 1st dorsal fin; small pelvic fin with 1 spine, 3 soft rays



***Cottunculus thomsonii* (pallid sculpin)**

Skin smooth; bony plates on skin inconspicuous; head in dorsal view straight to roundish; body greyish-brown

Liparidae (snailfishes)

Body elongate, scaleless (small prickles in some) and skin jellylike; dorsal fin and anal fin long, confluent, or nearly so, with caudal fin; pelvic fin disc or absent

EX1903L2-D16



EX1903L2-D17



EX1903L2-D13



EX1806-D15



EX1903L2-D13



EX1903L2-D13

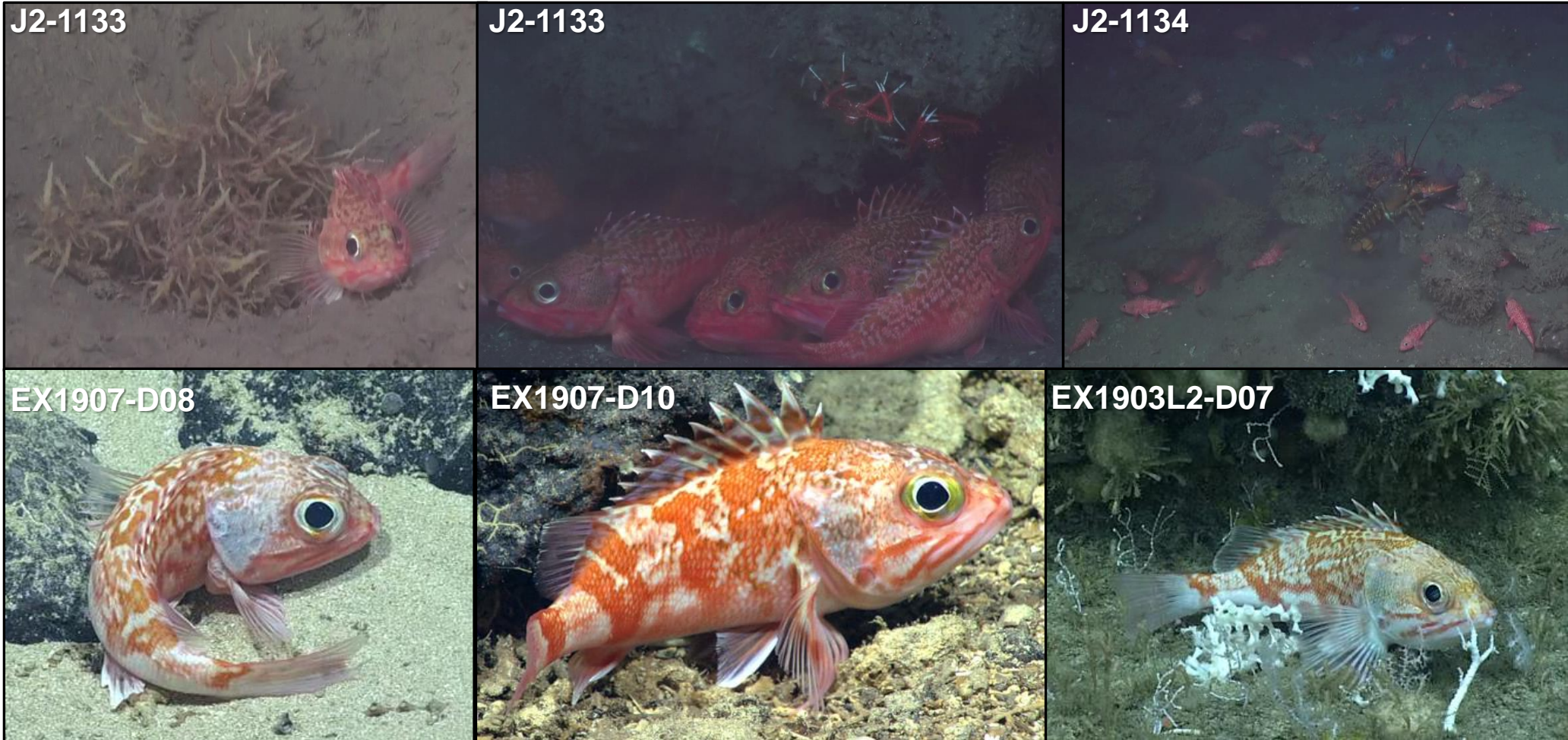


Liparidae spp.

Body elongate, scaleless (small prickles in some) and skin jellylike; dorsal fin and anal fin long, confluent, or nearly so, with caudal fin

Scorpaenidae (scorpionfishes)

Mouth large; numerous head spines; dorsal fin with strong spines; large pectoral fins; strongly camouflaged, red or reddish brown in color with mottled color patterns



Helicolenus dactylopterus (blackbelly rosefish)

Dark red and white bars on body; small specimens have black spot on dorsal fin

Scorpaenidae (scorpionfishes)

Mouth large; numerous head spines; dorsal fin with strong spines; large pectoral fins; strongly camouflaged, red or reddish brown in color with mottled color patterns

EX1903L2-D10



EX1806-D10

EX1903L2-D10



Idiastion kyphos

Mostly red; strong head spines; juveniles have white blotch on upper back and caudal peduncle

Scorpaenidae (scorpionfishes)

Mouth large; numerous head spines; dorsal fin with strong spines; large pectoral fins; strongly camouflaged, red or reddish brown in color with mottled color patterns

EX1907-D01



EX1907-D03



EX1907-D06



EX1903L2-D02



EX1903L2-D04



EX1903L2-D10



Trachyscorpia cristulata (Atlantic thornyhead)

Pectoral fin square-cut with longest rays near upper edge of fin; head large; reddish with brown blotches and small white spots

Peristediidae (armored searobins)

Prolonged rostrum; lip and chin barbels present; 2 lower rays of pectoral fins free; external shell consisting of 4 rows of spinous scutes on each side



***Peristedion greyae* (alligator armored searobin)**

Rostral plates moderately long and narrow; head and body pink; fins with dark red edges; pectorals with dark red to blackish bars, white borders

Peristediidae (armored searobins)

Prolonged rostrum; lip and chin barbels present; 2 lower rays of pectoral fins free; external shell consisting of 4 rows of spinous scutes on each side



***Peristedion truncatum* (black armored searobin)**

Snout long, depressed; rostral plates moderately long; head and body reddish; outer edge of 1st dorsal dark red

Polyprionidae (wreckfishes)

Large, deep-bodied and grouper-like; mouth terminal, lower jaw projecting; dorsal with strong spines

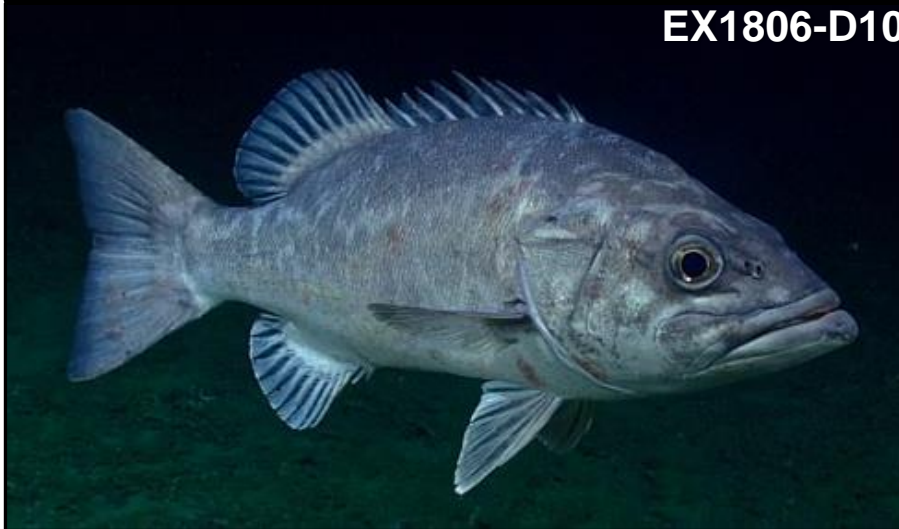
EX1907-D10



EX1903L2-D07



EX1806-D10



EX1806-D10

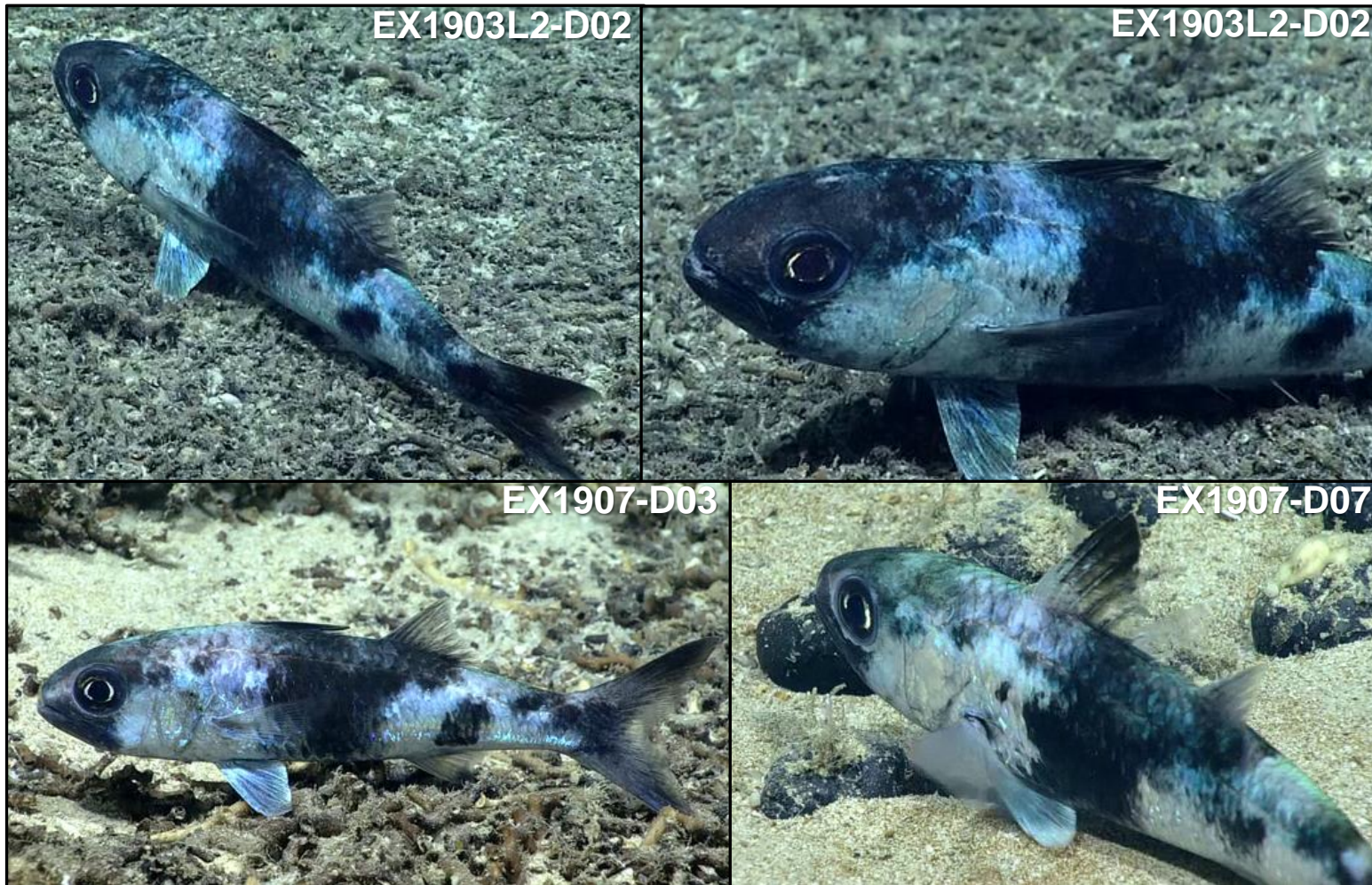


***Polyprion americanus* (wreckfish)**

Adults dark grey above, lighter below; juveniles mottled light & dark grey

Acropomatidae (lanternbellies)

Oblong body; mouth large; caudal fin forked; dusky silver with black blotches



***Synagrops bellus* (blackmouth bass)**

Snout very short; eye large; head, body and fins sooty black; sides with dark chevron marks

Zoarcidae (eelpouts)

Eel-like body shape; snout short and blunt; single nostril on either side; pelvic fins absent or vestigial

EX1907-D09

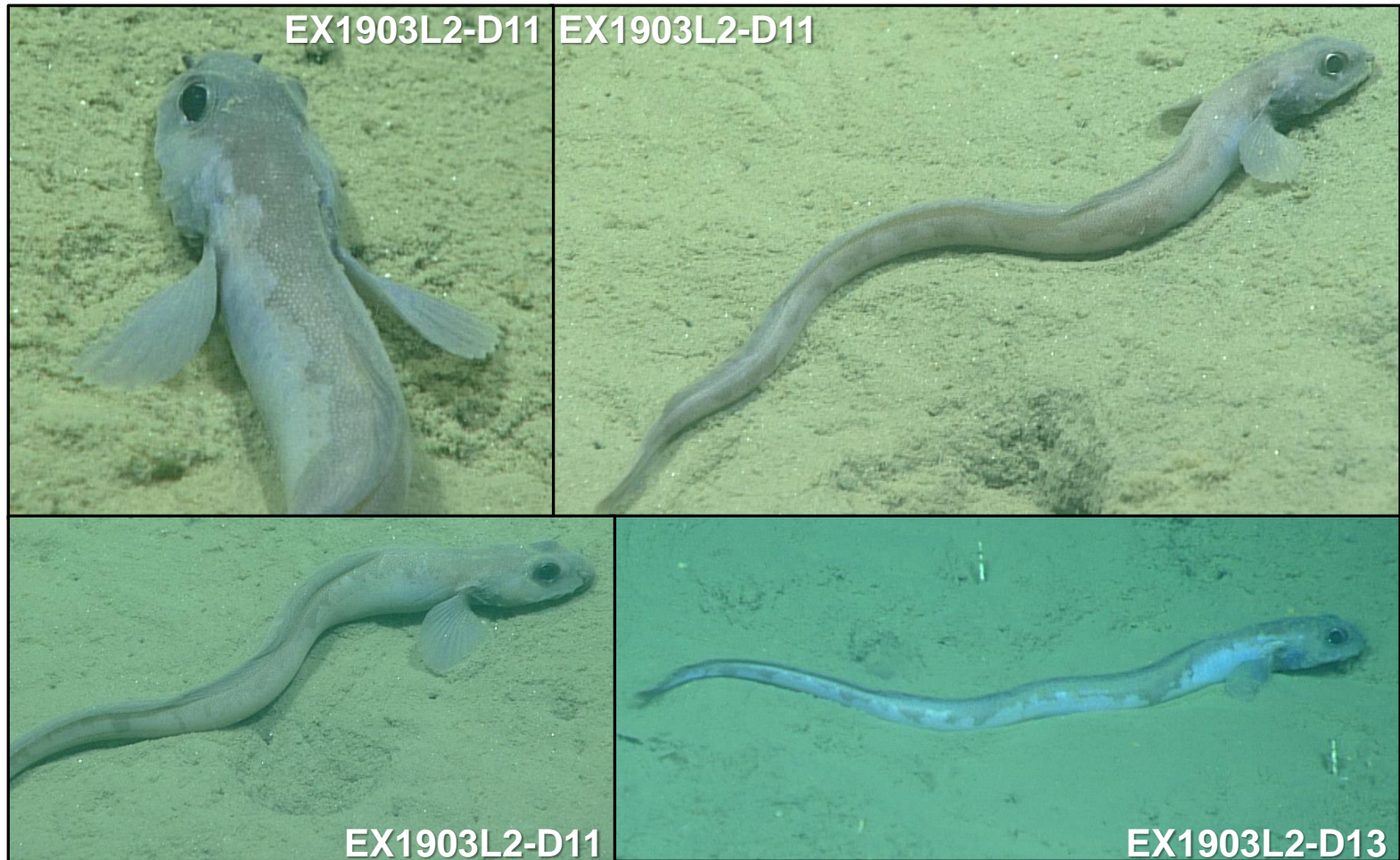


Exechodontes daidaleus (outwardtoothed eelpout)

Pelvic fins present; head short; scales absent; lateral line reduced; pale with irregularly shaped and placed brown spots

Zoarcidae (eelpouts)

Eel-like body shape; snout short and blunt; single nostril on either side; pelvic fins absent or vestigial



Lycenchelys paxillus (common wolf eel)

Pelvic fins present; scales small; eyes large; body uniformly light with darker brown

Zoarcidae (eelpouts)

Eel-like body shape; snout short and blunt; single nostril on either side; pelvic fins absent or vestigial



Lycenchelys verrillii (wolf eelpout)

Snout long; greyish brown above, pale below; dark round patches on sides; pelvic fins very small

Zoarcidae (eelpouts)

Eel-like body shape; snout short and blunt; single nostril on either side; pelvic fins absent or vestigial



Lycodes esmarkii (greater eelpout)

Pelvic fins very small; lateral line is double; upper body is dark brown with 5-9 whitish marks, lighter below

Zoarcidae (eelpouts)

Eel-like body shape; snout short and blunt; single nostril on either side; pelvic fins absent or vestigial

EX1903L2-D11



EX1903L2-D11



EX1903L2-D11



EX1903L2-D15

Lycodes terraenovae (Atlantic eelpout)

Body uniformly dark brown-purple with dark fins; body scales present; double lateral line

Zoarcidae (eelpouts)

Eel-like body shape; snout short and blunt; single nostril on either side; pelvic fins absent or vestigial

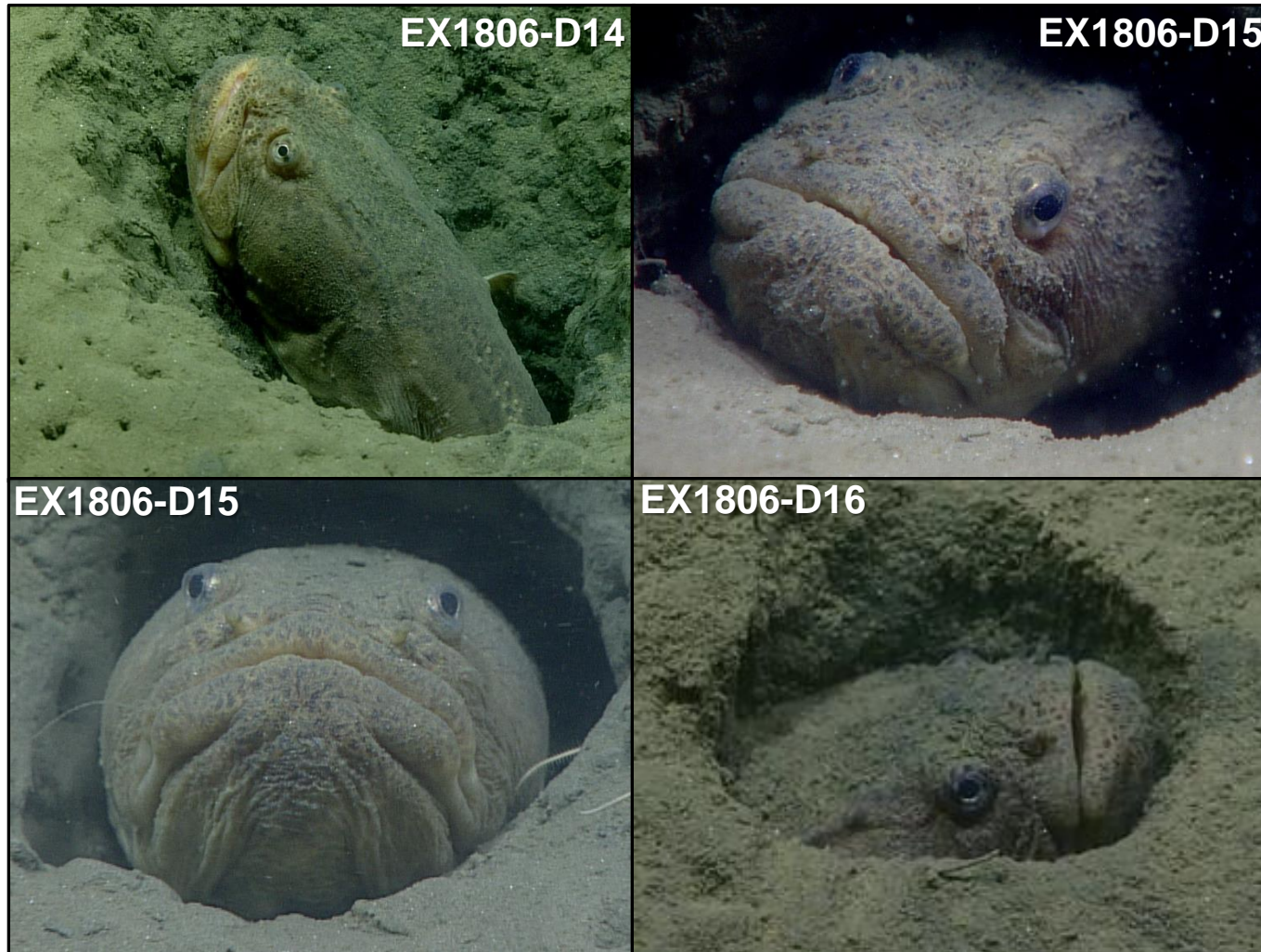


Melanostigma atlanticum (Atlantic soft pout)

Body covered by mucus-coated loose skin; pelvic fins absent; body purplish-grey; snout, nostrils and chin dark

Cryptacanthodidae (wrymouths)

Body elongate; mouth large; dorsal & anal fins long; pectoral fins very small; pelvic fins absent; pale brown above, cream-colored below, with or without spots, or uniformly pink or red; burrows in soft substrate



***Cryptacanthodes maculatus* (wrymouth)**

Pronounced upward pointing mouth; small eyes near top of head; upper sides reddish brown and several irregular rows of small dark spots

Draconettidae (deepwater draconetts)

Dorsal fin with 3 strong spines; strong opercle and subopercle spines

EX1907-D08



EX1907-D10



***Centrodraco acanthopoma* (north-Atlantic draconett)**

Head large; snout pointed; eyes very large; pinkish with 3 broad irregular whitish bars; top of eyeball white; fins mainly white

Serranidae (sea basses & groupers)

Caudal fin forked, lunate, emarginate, truncate, or rounded; mouth moderate to large, terminal; dorsal fin single; color is variable; many species capable of rapid color changes

J2-1134



Anthias nicholsi **(yellowfin bass)**

Body rosy above with yellow cast;
side of head with 2 yellow stripes;
fins yellow

EX1907-D10



Anthias woodsi **(swallowtail bass)**

Caudal fin deeply forked, upper and
lower lobes filamentous & long;
mostly rose with broad yellow band;
dorsal fin yellow in color

Bramidae (Pomfrets)

Caudal fin forked; single long-based dorsal fin; anal fin similar in size and shape to dorsal fin; pectoral fins long and wing-like; eyes large; scales large



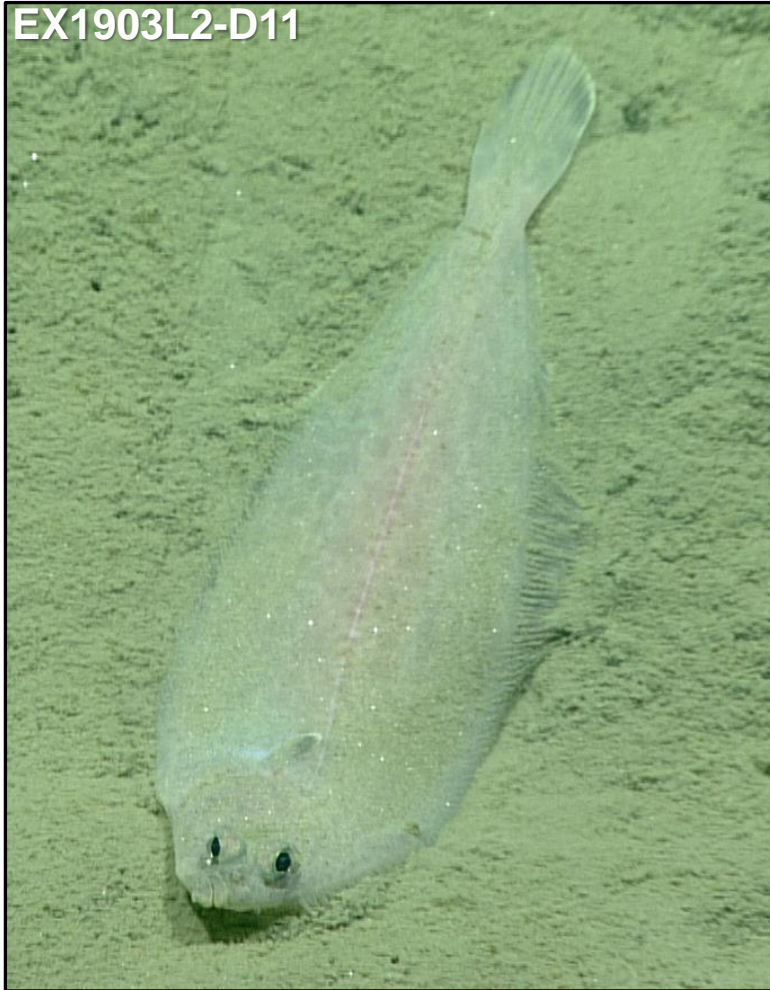
***Brama* sp.**

Note: Species of *Brama* can't be distinguished visually

Pleuronectidae (righteye flounders)

Eyes on right side; margin of preopercle free

EX1903L2-D11



EX1903L2-D13



***Glyptocephalus cynoglossus* (witch flounder)**

Pectoral fin of eyed side shorter than head; distal part of pectoral fin blackish; body elongated with complete straight lateral line

Cynoglossidae (tongue soles)

Eyes on left side; eyes and mouth small; pectoral fins absent; dorsal and anal fins joined to caudal fin



***Symphurus billykrietei* (Kriete's tonguefish)**

Top side pale brown, 5-8 irregular dark crossbars; no lateral line

Cynoglossidae (tongue soles)

Eyes on left side; eyes and mouth small; pectoral fins absent; dorsal and anal fins joined to caudal fin



***Symphurus marginatus* (margined tonguefish)**

Top side uniformly brown with a dark blotch covering tail and tail base; no lateral line

Cynoglossidae (tongue soles)

Eyes on left side; eyes and mouth small; pectoral fins absent; dorsal and anal fins joined to caudal fin

EX1907-D07



***Symphurus nebulosa* (nebulous tonguefish)**

No lateral line; top side uniformly pale with black lines; dorsal, anal and caudal fins brown