

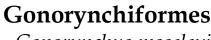
## **Marine Fishes**

# **Deep Fishes Ateleopodiformes** *Ijimaia plicatellus*

**Beryciformes**Aulotrachichthys heptalepis

# **Gadiformes**

Caelorinchus doryssus
Caelorinchus gladius
Hymenocephalus antraeus
Hymenocephalus tenuis
Kumba hebetate
Malacocephalus hawaiiensis
Nezumia ectenes
Nezumia holocentra
Sphagemacrurus gibber
Ventrifossa ctenomelas
Gadella molokaiensis
Physiculus sterops
Bathygadus bowersi



Gonorynchus moseleyi

# Lophiiformes

Halieutaea retifera Linophryne escaramosa Lophiodes bruchius Solocisquama erythrina



## **Ophidiiformes**

Luciobrotula lineata
Pycnocraspedum armatum
Cataetyx hawaiiensis
Grammonus Waikīkī
Microbrotula rubra
Saccogaster hawaii

### **Osmeriformes**

Glossanodon struhsakeri

## **Perciformes**

Champsodon fimbriatus Epigonus devaneyi Epigonus glossodontus Osopsaron incisum Synagrops argyreus

# **Squaliformes**

Etmopterus villosus

## **Stomiiformes**

Araiophos gracilis Argyripnus brocki Eustomias albibulbus Eustomias bulbiramis Eustomias magnificus

#### **SPECIES STATUS:**

IUCN Red List - Not Considered Endemic

**SPECIES INFORMATION:** Deep fishes usually live on soft sediment substrates and feed on fishes and invertebrates in or above those sediments. The grenadiers (gadiformes) are elongate fishes with tails that end in a point. The lophiiformes use a modified dorsal fin spine as a lure to catch prey. Males are permanent parasites of females in *Linophryne*. The bythitids (last four

Ophidiiformes) are live-bearers. Struhsaker's deep-sea smelt (Glossanodon) is a midwater pelagic planktivore. Champsodon is also a vertically migrating and schooling predator. The stomiiformes have bioluminescent organs. The Eustomias species are mesopelagic and vertically migrate diurnally. None of the species have Hawaiian names and only some have common names. The species with common names are: Ijimaia plicatellus (deep water ateleopid), Caelorinchus doryssus (spear-nosed grenadier), Caelorinchus gladius (sharp-snouted grenadier), Hymenocephalus antraeus (common big-eyed grenadier), Hymenocephalus tenuis (slender grenadier), Kumba hebetate (dull grenadier), Malacocephalus hawaiiensis (Hawaiian softhead grenadier), Nezumia ectenes (elongated grenadier), Nezumia holocentra (Cramer's grenadier), Sphagemacrurus gibber (humped grenadier), Ventrifossa ctenomelas (Hawaiian grenadier), Bathygadus bowersi (Bower's grenadier), Gonorynchus moseleyi (beaked salmon), Halieutaea retifera (net bat fish), Solocisquama (red bat fish), Glossanodon (Struhsaker's deep-sea smelt), Champsodon fimbriatus (fringed champsodontid), Etmopterus (Hawaiian lanternshark), and Argyripnus brocki (Brock's bristlemouth).

**DISTRIBUTION:** *Ijimaia*, common big-eyed grenadier, *Physiculus*, *Pycnocraspedum*, *Epigoinus* glossodontus and Argyripnus have been found from the island of Hawai'i to O'ahu. Aulotrachichthys has been found from Maui to Maro Reef. The spear-nosed grenadier has been found from Maui through the Northwestern Hawaiian Islands (NWHI). The sharp-snouted grenadier and Ventrifossa are found in the Main Hawaiian Islands (MHI). The slender grenadier, dull grenadier, elongated grenadier, and Linophryne are known only from holotypes collected off O'ahu; and Cramer's grenadier, Grammonus, Microbrotula, Saccogaster, and the Eustomias species have also only been collected off O'ahu. The Hawaiian softhead grenadier and the humped grenadier are found from the island of Hawai'i to French Frigate Shoals. Bower's grenadier is found from Kaua'i to French Frigate Shoals. Beaked salmon have been collected from Maui to O'ahu. Lophiodes is found from Maui to Necker Island. Red bat fish are found from Maui to Kaua'i. Luciobrotula and Cataetyx are known only from the island of Hawai'i. Epigonius devaneyi has been found from Necker Island to Maro Reef. Osopsaron occurs from Maui to Laysan Island. Synagrops occurs from the island of Hawai'i to Laysan Island. Araiophos is known from the island of Hawai'i to St. Rogatien Bank. All the other species occur throughout the Hawaiian Islands.

**ABUNDANCE:** Little abundance data appears to exist for these species and trends are unknown. The common big-eyed grenadier is the most common macrourid.

LOCATION AND CONDITION OF KEY HABITAT: All species except Aulotrachichthys, Physiculus, beaked salmon, Net bat fish, Grammonus, Microbrotula, Epigonius devaneyi, Araiophos, and Brock's bristlemouth can be found in water depths greater than 300 meters (1,000 feet). Aulotrachichthys is found from 45 to 275 meters (150 to 900 feet) deep. Physiculus, net bat fish and Epigonius devaneyi are found from about 100 to 300 meters (300 to 1,000 feet) deep. Beaked salmon are found from 110 to 180 meters (350 to 600 feet) deep. Grammonus and Microbrotula are known from a few specimens caught in shallow reef habitat. Araiophos, Eustomias albibulbus and Eustmoais bulbiramis have been collected from the surface to 400 meters (1,300 feet) deep. Eustomias magnificus has been collected from the surface to 1,800 meters (6,000 feet). Brock's bristlemouth has been collected from 180 to 300 meters (600 to 1,000 feet) deep. Ijimaia can be found as shallow as 240 meters (800 feet) as well as deeper than 300 meters (1,000 feet). Gadella and Struhsaker's deep-sea smelt can also be found as shallow as 75 meters (250 feet) deep.

**THREATS:** Deep offshore aquaculture may become a threat in the future.

**CONSERVATION ACTIONS:** The goals of conservation actions are to not only protect current populations, but to also establish further populations to reduce the risk of extinction. In addition to common statewide and island conservation actions, specific actions include:

Maintenance of habitat.

#### **MONITORING:**

Survey for populations and distribution in known and likely habitats.

#### **RESEARCH PRIORITIES:**

Improve understanding of factors affecting the species population size.

#### **References:**

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