

Marine Fishes

Eels

Muraenidae

Anarchias sp.

Enchelycore pardalis

Gymnothorax nuttingi

Gymnothorax polyspondylus

Gymnothorax steindachneri

Ophichthidae

Callechelys lutea

Ichthyapus platyrhynchus

Ophichthus fowleri

Ophichthus kunaloa

Scolecenchelys puhiolo

Congridae

Acromycter alcocki

Bathycongrus aequorea

Gorgasia hawaiiensis



SPECIES STATUS:

IUCN Red List - Not Considered
Endemic

SPECIES INFORMATION: Morays and snake eels (ophichthids) are carnivores of fishes and invertebrates. Morays are often nocturnal. Hawaiian garden eel (*Gorgasia*) is a planktivore. Other conger eels are largely nocturnal carnivores. Many moray eels are hermaphrodites of one form or another. The species common names and Hawaiian names are *Anarchias sp.* (no common name), *Enchelycore pardalis* (dragon eel, puhi-kauila), *Gymnothorax nuttingi* (Nutting's moray), *Gymnothorax polyspondylus* (many-vertebrate moray), *Gymnothorax steindachneri* (Steindachner's moray, puhi), *Callechelys lutea* (yellow-spotted snake eel, puhi), *Ichthyapus platyrhynchus* (no common name), *Ophichthus fowleri* (Fowler's snake eel), *Ophichthus kunaloa* (no common name), *Scolecenchelys puhiolo* (no common name), *Acromycter alcocki* (no common name), *Bathycongrus aequorea* (no common name), and *Gorgasia hawaiiensis* (Hawaiian garden eel, puhi).

DISTRIBUTION: The many-vertebrate moray has been found off O'ahu only. Steindachner's moray has been found from O'ahu through the Northwestern Hawaiian Islands (NWHI). Fowler's snake eel occurs off Maui, Lāna'i, and O'ahu. *Ophichthus kunaloa* is found from the island of Hawai'i to O'ahu. *Scolecenchelys puhiolo* is known from only two specimens from O'ahu and Maro Reef. *Acromycter alcocki* has been collected from Maui to O'ahu. *Bathycongrus* occurs from the island of Hawai'i to Kaua'i and maybe further northwest. Hawaiian garden eels occur from the island of Hawai'i to O'ahu. The other species occur throughout the Hawaiian Islands.

ABUNDANCE: The shallow water species are surveyed for in surveys of coral reef fishes in the Main and NWHI, both by the National Oceanic and Atmospheric Administration and the Division of Aquatic Resources and data are available online.

LOCATION AND CONDITION OF KEY HABITAT: All species except Nutting's moray, many-vertebrate moray, *Ophichthus kunaloa*, *Scolecenchelys*, *Acromycter*, and *Bathycongrus* are found in shallow water. Nutting's moray is found deeper than 110 meters (350 feet), the many-vertebrate moray was collected deeper than 180 meters (600 feet), and *Ophichthus kunaloa* and *Scolecenchelys puhiolo* are collected only greater than 210 meters (700 feet) deep. *Acromycter* and *Bathycongrus* have been collected only deeper than 300 meters (1,000 feet). Steindachner's moray is only found deeper than 30 meters (100 feet) in the main islands. Snake eels and Hawaiian garden eels occur in sandy habitat. The rest are found throughout coral reef habitats. Puhi-kauila (dragon eel) is more common in the NWHI.

THREATS:

- Puhi-kauila (dragon eel) and Hawaiian garden eels are prized by aquarists;
- Hawaiian garden eels may be threatened by habitat alteration.

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. Commercial licenses are required for aquarium collectors. In addition to common statewide and island conservation actions, specific actions include:

- Restoration of habitat;
- Maintain healthy populations with appropriate fishing regulations and education.

MONITORING:

- Continue to survey for populations and distribution in known and likely habitats.

RESEARCH PRIORITIES:

- Improve understanding of factors affecting the species population size;
- Support aquaculture research to develop captive breeding for species used in the aquarium trade.

References:

Gulko D. 2004. Hawaiian marine species for Endangered Species Act candidate listing, revised candidate list 2004. Honolulu, HI: Hawai'i Division of Aquatic Resources. 21 pp.

Gulko D. 2005. Hawaii Endemic Species Status Chart spreadsheet. Honolulu, HI: Hawai'i Division of

Aquatic Resources.

Hoover J. 1993. Hawaii's fishes. Honolulu, HI: Mutual Publishing. 183 pp.

Mundy B. In press. A checklist of the fishes of the Hawaiian Archipelago. Bishop Museum Bulletin of Zoology, B. P. Bishop Museum Press. 1340 ms. pages.

Randall JE. 1998. Shore fishes of Hawaii. Honolulu, HI: University of Hawaii Press. 216 pp.

Tinker S. 1978. Fishes of Hawaii. Honolulu HI: Hawaiian Service, Inc. 532 pp.