

Marine Fishes

Active Reef Fishes



Chaetodon tinkeri
Courtesy Keoki Stender

Chaetodontidae

Chaetodon fremblii

Chaetodon tinkeri

Prognathodes sp.

Pomacanthidae

Apolemichthys arcuatus

Centropyge fisheri

Centropyge loricula

Genicanthus personatus

Pomacentridae

Chromis hanui

Chromis ovalis

Chromis struhsakeri

Plectroglyphidodon sindonis

Genicanthus personatus male
Courtesy Keoki Stender



Priacanthidae

Priacanthus meeki

Cheilodactylidae

Cheilodactylus vittatus

Ammodytidae

Ammodytoides pylei

Lepidammodytes macrophthalmus

Monacanthidae

Cantherhines verecundus

Thamnaconus garretti

Ostraciidae

Ostracion whitleyi

Tetraodontidae

Torquigener randalli

SPECIES STATUS:

IUCN Red List – Not considered

All Endemic except *Chaetodon tinkeri*, *Apolemichthys*, *Centropyge loricula*, and *Ostracion*

SPECIES INFORMATION: The Hawaiian rock damselfish (*Plectroglyphidodon*) is territorial. *Chaetodon* and *Centropyge* feed on invertebrates and algae. *Apolemichthys* prefers sponges. Masked Angelfish (*Genicanthus*) is a protogynous sex changer and primarily feeds on zooplankton and algae. The *Chromis* species and the ammodytids (sand lances) are also planktivores and often feed in groups. Hawaiian rock damselfish (*Plectroglyphidodon*) mostly feeds on algae and occasionally on invertebrates. 'Āweoweo (*Priacanthus*) is nocturnal and feed on larger zooplankton and may school on occasion. Hawaiian morwong (*Cheilodactylus*) and Randall's pufferfish (*Torquigener*) feed on invertebrates. The monacanthids (filefishes) are omnivorous. The eggs of damselfishes (Pomacentridae) are demersal and guarded by males until hatching. Male Whitley's boxfish are rare in Hawai'i. All of these fishes are 30 centimeters (one foot) or less in size except Hawaiian morwong (*Cheilodactylus*) which can reach 40 centimeters (16 inches). The species' common names and Hawaiian names are *Chaetodon fremblii* (bluestriped butterflyfish, kīkākāpu), *Chaetodon tinkeri* (Tinker's butterflyfish), *Prognathodes* sp. (orange-margin butterflyfish), *Apolemichthys arcuatus* (bandit angelfish), *Centropyge fisheri* (Fisher's angelfish), *Centropyge loricula* (Hawaiian flame angelfish), *Genicanthus personatus* (masked angelfish), *Chromis hanui* (chocolate-dip chromis), *Chromis ovalis* (oval chromis), *Chromis struhsakeri* (Struhsaker's chromis), *Plectroglyphidodon sindonis* (Hawaiian rock damselfish), *Priacanthus meeki* (Hawaiian bigeye, 'āweoweo), *Cheilodactylus vittatus* (Hawaiian morwong, kīkākāpu), *Ammodytoides pylei* (Pyle's sand lance), *Lepidammodytes macrophthalamus* (no common name), *Cantherhines verecundus* (shy filefish, 'o'ili), *Thamnaconus garretti* (no common name), *Ostracion whitleyi* (Whitley's boxfish), and *Torquigener randalli* (Randall's pufferfish).

DISTRIBUTION: Tinker's butterflyfish is found from Hawai'i Island through O'ahu. Orange-margin butterflyfish and Hawaiian flame angelfish occur from French Frigate Shoals southeast through the rest of the chain. Hawaiian morwong, ('o'ili), and Randall's pufferfish occur from O'ahu through Kure Atoll. Pyle's sand lance occurs from Maui through all of the NWHI and *Lepidammodytes* has been collected from Maui through Maro Reef. All 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 Northwestern Hawaiian Islands, both by the National Oceanic and Atmospheric Administration and the Division of Aquatic Resources and data are available online. Masked Angelfish were not found in the main islands WCRP survey. 'Āweoweo commercial catch has gone from over 2,270 kilograms (5,000 pounds) in the late 1990s to 950 kilograms (2,100 pounds) in 2003.

LOCATION AND CONDITION OF KEY HABITAT: All species except Tinker's butterflyfish, orange-margin butterflyfish and Struhsaker's chromis can be found in shallow water depths. Tinker's butterflyfish is found deeper than 30 meters (100 feet). Orange-margin butterflyfish and Struhsaker's chromis occurs at depths greater than 100 meters (300 feet). Hawaiian flame angelfish prefers finger coral at depths of 60 feet or more. The masked angelfish occurs only at 20 meters (60 feet) depth or greater and prefers drop offs. *Thamnaconus* occurs at least 60 meters (200 feet) deep. Chocolate-dip chromis prefer ledges, walls, or the sides of coral heads. Hawaiian rock damselfish is restricted to shallow surge zones. 'Āweoweo are often found in caves and under ledges during the day. The sand lances occur over sandy habitats. Randall's pufferfish is found over sandy habitats usually 15 meters (50 feet) or deeper. The rest are found throughout coral reef habitats.

THREATS:

- These species are almost all prized by aquarists except for Hawaiian rock damselfish, 'āweoweo, and Hawaiian morwong, and the ammodytids. Masked angelfish in particular command a very high price;
- 'Āweoweo is fished recreationally and commercially.

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 and distribution;
- 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. Hawai'i's fishes. Honolulu, HI: Mutual Publishing. 183 pp.

Howe JC. 1993. A comparative analysis of the feeding apparatus in pomacanthids, with special emphasis of oesophageal papillae in *Genicanthus personatus*. J. Fish Biology 43(4):593-602.

International Union for the Conservation of Nature and Natural Resources. [Internet] Threatened Red List. Available from: <http://www.redlist.org/search/search-expert.php> (Accessed May 2005).

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.