

Marine Invertebrates



‘ekaha kū moana or Black corals

Order Antipatharia

Antipathidae

Leiopathidae

Myriopathidae

Schizopathidae

SPECIES STATUS:

IUCN Red List - Not considered

Only *A. grandis* is Endemic

SPECIES INFORMATION: The whole taxonomic order of Black Corals is listed as a “Species of Greatest Conservation Need.” The common names of the species that occur in Hawai‘i are: branching black coral (*Antipathes dichotoma*), grand black coral (*Antipathes grandis*), small feathery black coral (*Antipathes intermedia*), *Antipathes punctata* (no common name), *Antipathes subpinnata* (no common name), *Antipathes undulata* (no common name), common wire coral (*Cirripathes anguina*), *Bathypathes patula* (no common name), *Cirripathes spiralis* (no common name), *Leiopathes glaberrima* (no common name), feathery black coral (*Myriopathes ulex*), *Parantipathes sp.* (no common name), and *Schizopathes conferta* (no common name). Dense feathery black coral (*Myriopathes cf. japonica*) and red wire coral (*Stichopathes cf. echinulata*) may also be present. Many symbiotic species of bryozoans, fishes, shrimps, and winged pearl oysters live on or in the branches of these corals. Black corals lack a polyp stage, but reproduce both sexually and asexually. Their group, the antipatharians, has flexible, horny skeletons, usually with six unbranched tentacles. They lack symbiotic zooxanthellae. Only their skeletons are black, the skin covering the skeleton can also be red, yellow, green, white, or brown. Growth is slow and they are long-lived. Fenner (2005) believes *A. dichotoma* is another *Antipathes* species. *M. japonica* is a tentative identification of a second form of what used to be called *A. ulex*. Fenner (2005) reports that there is a deeper water species that is definitely *S. echinulata*, and a shallow water form may also be this species.

DISTRIBUTION: *A. intermedia*, *A. punctata*, *A. subpinnata*, *A. undulata*, *Parantipathes*, and *Schizopathes* are known from off O‘ahu only. *C. spiralis*, and *Leiopathes* occurs from O‘ahu through Kaua‘i. Distribution of the other species is statewide. Black coral beds that are commercially harvested occur between Maui and Lāna‘i and other beds off Kaua‘i and the island of Hawai‘i have been harvested in the past.

ABUNDANCE: The precious black coral beds are monitored every few years by researchers working for the Western Pacific Fisheries Management Council, and the state has recently

conducted a survey with collaborators. There is concern of a possible decrease in recruitment and a decrease in size of harvested black corals.

LOCATION AND CONDITION OF KEY HABITAT: All species prefer deeper areas with current. *A. dichotoma* can be found as shallow as 18 meters (60 feet) and *C. anguina* can be found as shallow as nine meters (30 feet). *A. intermedia*, *A. punctata*, *A. subpinnata*, *A. undulata*, *C. spiralis*, *Leiopathes*, and *Schizopathes* only occur deeper than 185 meters (600 feet).

THREATS:

- Overharvesting is a significant threat to black corals. *A. dichotoma*, *A. grandis*, and *A. ulex* are sought after in the shallow water precious coral fishery that currently uses SCUBA. Black corals are protected under Appendix II of the Convention on International Trade in Endangered Species (CITES). The IUCN listed black corals as commercially threatened in 1983 under older listing criteria;
- Introduced species threaten black corals. Alien species such as snowflake coral (*Carijoa*) may dominate black coral habitat. Disease is a potential threat in all areas but has not yet caused serious mortality of corals in Hawaii.

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. Black corals are protected under Appendix II of the Convention on International Trade in Endangered Species (CITES). Precious coral harvesting in federal waters is managed under a Fisheries Management Plan of the Western Pacific Regional Fisheries Management Council. In addition to common state-wide and island conservation actions, specific actions include:

- Work to adopt fishing regulations that correspond to regulations enacted in federal waters and that ease and maximize enforceability;
- Prevent alien species from entering the ecosystem by preventative measures, education, and rapidly responding to new intruders;
- Participate in black coral workshop to develop actions and research needed to conserve these species;
- Collaborate with the Western Pacific Fisheries Management Council on a black coral workshop to continue successful management of this fishery including possible MPAs,
- Maintain healthy populations with appropriate fishing regulations, enforcement, and education.

MONITORING:

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

RESEARCH PRIORITIES:

- Cooperate with the Western Pacific Fisheries Management Council in understanding the relationship between colony height and basal diameter and the effect of *Carijoa*;
- Improve understanding of factors affecting the species population sizes and distributions.

References:

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Western Pacific Fisheries Management Council. Fishery Management Plan for the precious coral fisheries of the Western Pacific Region. Honolulu, HI: Western Pacific Fisheries Management Council.
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