Other Anthozoans

Octocorals

Acabaria bicolor
Anthelia edmondsoni
Sinularia molokaiensis

ʻŌkole or Anemones

Cladactella manni
Heteractis malu

Zoanthids

Palythoa psammophilia
Palythoa toxica
Parazoanthus sp.
Zoanthus kealakekuaensis

SPECIES STATUS:
IUCN Red List - Not considered
All Endemic except *Heteractis*

SPECIES INFORMATION: Bicolor gorgonian (*Acabaria bicolor*), blue octocoral (*Anthelia edmondsoni*), Molokaʻi leather coral (*Sinularia molokaiensis*), Mann's anemone or ʻōkole (*Cladactella manni*) are all endemic anthozoans with common names, and the Hawaiian sand anemone or ʻōkole (*Heteractis malu*) is not endemic. The zoanthids have no common names except for *Parazoanthus*, which is the commercially valuable deep water gold coral. The bicolor gorgonian, the blue octocoral, and the Molokaʻi leather coral have less stinging cells than other cnidarians, and they feed on planktonic plant cells or other types of small particles. The blue octocoral also harbors symbiotic zooxanthellae. Mann's anemone feeds on small bottom-dwelling organisms and plankton, and they also have symbiotic zooxanthellae. Like corals, zoanthids use their nematocysts to capture and sting prey, while also utilizing the sugars produced by zooxanthellae for nutrition. All of the anthozoan species lack a medusa life stage. The octocoral animals have eight-tentacled polyps with an internal skeleton. The bicolor gorgonian forms colonies that are five centimeters (two inches) across and three centimeters

(one and a half inches) high. Blue octocoral polyps grow to one centimeter (one quarter inch) and colonies are eight to 30 centimeters (three to 12 inches) across, while leather corals can grow to about the same size, and Mann's anemones are solitary. Mann's anemones can be either hermaphroditic or single-sexed. Sperm and eggs are released through the mouth. Asexual reproduction is achieved by fission or detaching pieces of tissue, most often from the foot, that regenerate into another organism. They grow to five centimeters (two inches) high and ten centimeters (four inches) across. *Palythoa psammophilia, Palythoa toxica*, and *Zoanthus kealakekuaensis* are colonial and lack a hard skeleton. *P. toxica* contains toxins that can affect people, but also have anti-cancer properties.

DISTRIBUTION: Moloka'i leather coral only occurs on the southeast side of Moloka'i. Hawaiian sand anemone is mostly found in Kāne'ohe Bay, Laie, and Kahuku, O'ahu, and Maalaea Bay, Maui. *Palythoa psammophilia* occurs in Kāne'ohe Bay only, *Palythoa toxica* is found only off Maui and O'ahu, *Parazoanthus* occurs off O'ahu, and *Zoanthus kealakekuaensis* only occurs in Kealakekua Bay on the island of Hawai'i. All other species are found throughout the Hawaiian Archipelago.

ABUNDANCE: Unknown.

LOCATION AND CONDITION OF KEY HABITAT: Bicolor gorgonians prefer rocky crevices in areas that are "surgy" or directly in the current. They occur from depths of two to 430 meters (six to 1,400 feet). The primary habitat of blue octocoral includes both hard and soft surfaces that are exposed. Moloka`i leather coral colonies encrust on limestone and volcanic rocks in waters approximately 35 meters (115 feet) or deeper; however, they also can be located in shallow water areas. Mann's anemones live in intertidal areas on rocky shores in crevices, pockets or ledges that are constantly washed by waves. Zoanthids usually prefer shallow waters.

THREATS:

- Use in the marine ornamental trade is the primary threat to *Heteractis* and *Cladectella* and for use in the precious coral trade (*Parazoanthus* sp.);
- Habitat degradation from shoreline development such as nutrient and freshwater runoff and sedimentation threatens these anthozoans;
- Introduced algae are also a threat. Hawaiian sand anemone is particularly susceptible, because its main population is in Kāne'ohe Bay, and it is out competed by introduced algae.

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. 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:

- Maintain healthy populations with appropriate fishing regulations, enforcement, and education;
- Work with partners to minimize nutrient loading and other pollution from land-based sources;
- Continue to remove alien species, specifically alien algae using established effective techniques;

- Prevent alien species from entering the ecosystem by preventative measures, education, and rapidly responding to new intruders.

MONITORING:

- Monitor alien macroalgae and removal operations to determine impacts on these species;
- Implement comprehensive disease monitoring statewide;
- Survey for populations and distribution in known and likely habitats.

RESEARCH PRIORITIES:

- Improve understanding of factors affecting the species population sizes and distributions.

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