NOAA FISHERIES
Pacific Islands Region

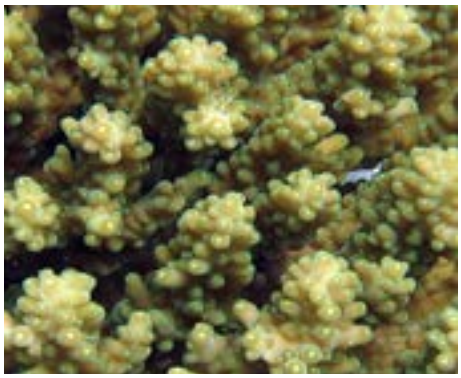
corals

Acropora retusa

:: Biological Information

MORPHOLOGY

Colonies of *Acropora retusa* are flat plates with short, thick finger-like branches. Branches look rough and spiky because radial corallites are variable in length. Colonies are typically brown or green in color.



REPRODUCTION

Acropora retusa is a hermaphroditic (having both male and female gametes) spawner with lecithotrophic (yolk-sac) larvae.

:: Spatial Information

GEOGRAPHIC RANGE

Based on confirmed observations and strong predictions of occurrence in areas that have not yet been surveyed sufficiently, *Acropora retusa* is likely distributed in the western Indian Ocean, the east coast of India, and from Vietnam east to the Pitcairn Islands.

For more information contact:

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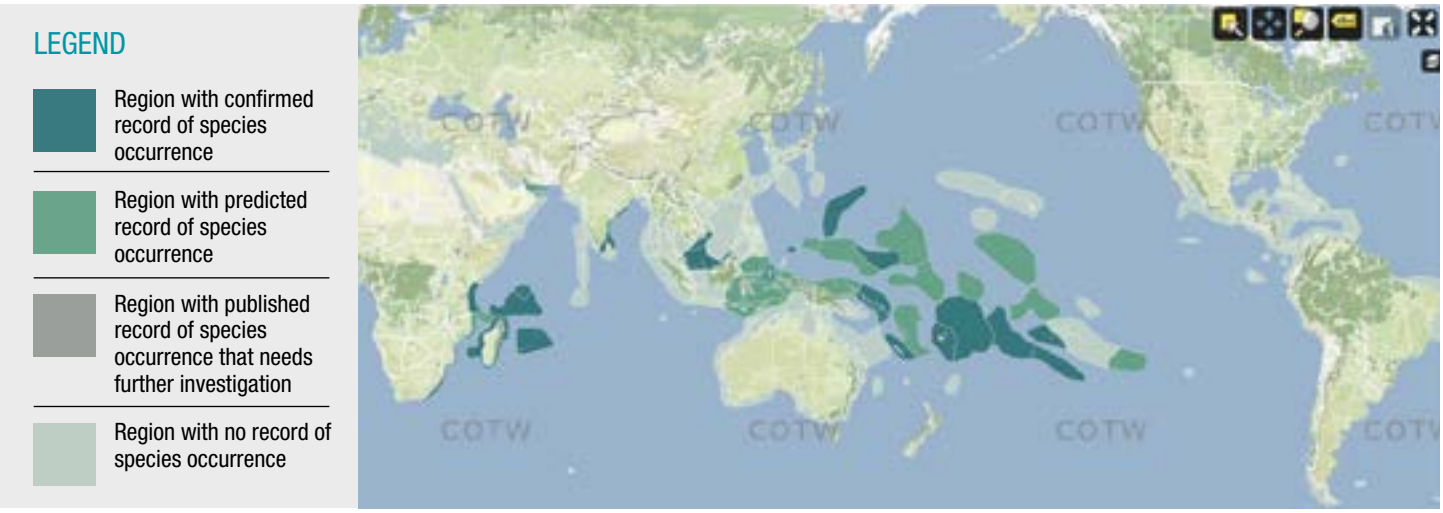

Veron JEN, Stafford-Smith MG, Turak E and DeVantier LM (in prep.) Corals of the World www.coralsoftheworld.com

OCCURRENCE IN U.S. JURISDICTIONS

Based on the information below we consider *Acropora retusa* to occur in Guam, American Samoa, and the Pacific Remote Island Areas (PRIA), but not the Commonwealth of the Northern Mariana Islands (CNMI).

Guam: Randall and Myers (1983), Randall (1995; 2003), Wallace (1999), Brainard *et al.* (2011) and Burdick (2014) do not report it from Guam. Veron (2014) reports it from the "Marianas" but does not distinguish Guam from CNMI. Wallace *et al.* (2012) report a sample from Guam in the Museum of Tropical Queensland collection. The Final Coral Supplemental Information Report indicates that there are other tentative records from Guam.

PRIA: Kenyon et al. (2010) report *Acropora retusa* from Johnston Atoll, Howland Island, and Kingman Reef in the PRIA. Williams *et al.* (2008) do not report it from Palmyra Atoll.

American Samoa: Brainard *et al.* (2011) reports *Acropora retusa* from American Samoa, which appears to derive from data collected by Fenner. Veron (2014) reports *Acropora retusa* from "Samoa" which likely means American Samoa, since in his notes he comments that all species he reports from the Tuvalu-Samoa-Tonga ecoregion are found in American Samoa. Wallace (1999) and Wallace *et al.* (2012) do not report it from American Samoa. Fenner (2013) reports it from American Samoa based on photographs and samples.

CNMI: Randall and Myers (1983), Randall (1995; 2003), Wallace (1999), Brainard *et al.* (2011), and Wallace *et al.* (2012) do not report it from CNMI. While Veron (2014) reports it from the "Marianas," he does not distinguish Guam from CNMI, and with no confirmed records of occurrence from CNMI we currently do not consider that *A. retusa* occurs there. However, as survey effort increases it is possible *A. retusa* may be observed within CNMI in the future.

HABITAT TYPES AND DEPTH

Acropora retusa occurs in shallow reef slope and back-reef areas, such as upper reef slopes, reef flats, and shallow lagoons, and its depth range is 0 to 5 meters.

:: Demographic Information

RELATIVE LOCALIZED ABUNDANCE

Relative localized abundance refers to how commonly a species is observed on surveys in a localized area. Veron (2014) reports that *Acropora retusa* occupied 0.5 percent of 2,984 dive sites sampled in 30 ecoregions of the Indo-Pacific. It was given an abundance rating on a scale of 1 (low) to 5 (high) at each site where it occurred, based on how common it was at that site. *Acropora retusa* had a mean abundance rating of 1.21. Based on this semi-quantitative system, the species' abundance was characterized as "rare."

ABSOLUTE OVERALL ABUNDANCE

Absolute overall abundance refers to a rough qualitative minimum estimate of the total number of colonies of a species that currently exist throughout its range. These estimates were calculated based on results from Richards *et al.* (2008) and Veron (2014). The absolute abundance of *Acropora retusa* is likely at least millions of colonies.

:: Why is this Species Threatened?

Acropora retusa is susceptible to the three major threats identified for corals including ocean warming, disease, and ocean acidification, as well as many of the other threats to corals. Despite its distribution from parts of the western Indian Ocean to much of the central Pacific, *Acropora retusa* occurs primarily in a limited depth range of 0 to 5 meters. Shallow reef areas can be physically diverse and complex, but are often subjected to frequent changes in environmental conditions, extremes, high irradiance, and simultaneous effects from multiple stressors, both local and global in nature. *Acropora retusa* is also characterized as rare where it is found. Future projections of climate change impacts to coral reef environments indicate that a shallow depth range, in combination with its other biological, demographic, and spatial characteristics, contributes to a risk of extinction within the foreseeable future for *Acropora retusa*.

Literature Cited

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