



**NOAA
FISHERIES**

Pacific Islands Region

corals

Isopora crateriformis

:: Biological Information

MORPHOLOGY

Isopora crateriformis forms flattened solid encrusting plates. Colonies are brown in color and can sometimes be over 1 meter in diameter. When a colony occurs on a slope, the lower edge is usually lifted as a plate.



Photos copyright: Douglas Fenner

REPRODUCTION

The reproductive characteristics of *Isopora crateriformis* have not been determined, but other similar species of *Isopora* are simultaneous hermaphroditic (having both male and female gametes) brooders. Brooding species release sperm cells but fertilization of eggs occurs internally.

:: Spatial Information

GEOGRAPHIC RANGE

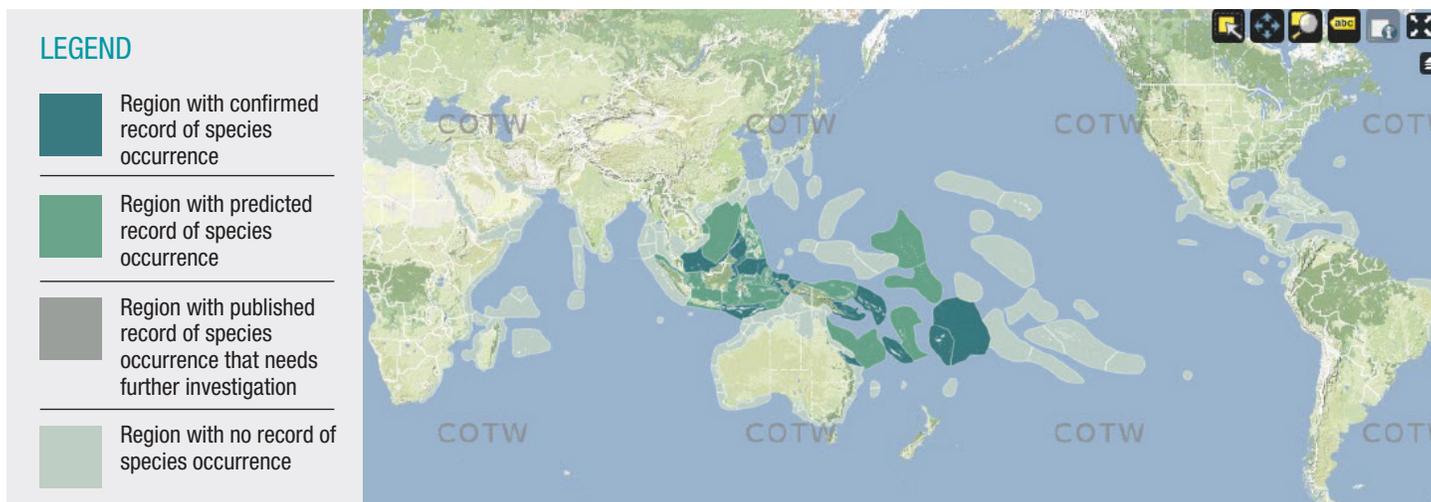
Based on confirmed observations and strong predictions of occurrence in areas that have not yet been surveyed sufficiently, *Isopora crateriformis* is likely distributed within the Coral Triangle area (the Philippines to Timor Leste and east to the Solomon Islands), plus some of the western Pacific too, including New Caledonia, the Samoas, and the Marshall 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

Isopora crateriformis has not yet been reported from Guam, the Commonwealth of the Northern Mariana Islands (CNMI), and the Pacific Remote Island Areas (PRIA). Based on the information below we consider *Isopora crateriformis* to occur in American Samoa.

American Samoa: Brainard *et al.* (2011) report that this species has been reported in American Samoa by a variety of sources. Veron (2014) reports it from “Samoa” which implies it is in American Samoa, since he writes that all species found in the Tuvalu-Samoa-Tonga ecoregion are in American Samoa. It is also reported from “Samoa” by Wallace (1999) and Wallace *et al.* (2012), but the exact location for the samples in the Museum of North Queensland that this is based on is almost certainly American Samoa. It was also reported by Craig *et al.* (2001), Maragos and Kenyon (2004), and Green *et al.* (2005), as well as Fenner (2013). It appears that in parts of Tutuila, American Samoa, it may be the most abundant of anywhere in its range.

HABITAT TYPES AND DEPTH

Isopora crateriformis's predominant habitat is shallow, high-wave energy environments, including reef flats and lower reef crests, and it also occurs in adjacent habitats such as upper reef slopes. It has been reported from low tide to at least 12 meters deep, and may occur in mesophotic depths (<50 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 *Isopora crateriformis* occupied 0.3 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. *Isopora crateriformis* had a mean abundance rating of 1.4. Based on this semi-quantitative system, the species' abundance was characterized as “rare.” However, this rating could be an underestimate, as most coral abundance surveys are mostly carried out on reef slopes, which can significantly underestimate the abundance of species such as *Isopora crateriformis* that are more common on reef flats than reef slopes. *Isopora crateriformis* also is more abundant in American Samoa than in other parts of its range.

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 *Isopora crateriformis* is likely at least millions of colonies.

:: Why is this Species Threatened?

Isopora crateriformis 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. A significant proportion of its current known geographic range is within the Coral Triangle area. This area is projected to have the most rapid and severe impacts from climate change and localized human impacts for coral reefs over the 21st century. Multiple ocean warming events have already occurred within the western equatorial Pacific (which includes the Coral Triangle area) that suggest future ocean warming events may be more severe than average in this part of the world. A range constrained mostly to this particular geographic area that is likely to experience severe and increasing threats, combined with local occurrence categorized as rare, indicates that a high proportion of the population of this species is likely to be exposed to those threats over the foreseeable future. This, in combination with its other biological, demographic, and spatial characteristics, contributes to a risk of extinction within the foreseeable future for *Isopora crateriformis*.

Literature Cited

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