



## *Millepora platyphylla* (Cnidaria, Hydrozoa) range extended back to the Eastern Pacific, thanks to a new record from Clipperton Atoll

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The fire coral *Millepora platyphylla* Hemprich & Ehrenberg, 1834 (Cnidaria, Hydrozoa) has a widespread Indo-Pacific distribution observed from the surface to 40 m (Razak & Hoeksema 2003). However, its extirpation from the East Pacific (Gulf of Chiriqui, Panama) was documented after the 1982-1983 bleaching event (Glynn & Weerdt 1991). Here, we report the discovery of 5 colonies of *M. platyphylla* from the eastern Pacific, specifically at Clipperton Atoll, during the TARA Pacific expedition ([www.taraexpeditions.org](http://www.taraexpeditions.org)).

These 5 colonies were found on a reef site off the North shore of the island (10-11/08/2018; GPS coordinates: 10°18.857 North and 109°18.857 West) at depths ranging from 28m to 31m. No colonies were found on the West coast at similar depths. Similarly, no colony was found in shallower waters all around the island during a total of 12 dives of 90 min each performed with 4 divers on the 4 sides of the island from 2-3m down to a depth of fifteen meters. This suggests that *M. platyphylla* is likely unable to compete for space with the locally abundant reef-building corals *Porites* spp. and *Pocillopora* spp. in shallower parts of the reef. Two colonies of the related species *Millepora exaesa* Forsskål, 1775 were also encountered at 4m depth. This species had already been reported from Clipperton (Glynn *et al.* 1996).

These 5 colonies were not recently settled as their surface was about 1 m<sup>2</sup>. Their columnar shape is a common morphology for the species. Similarly, a colony was found in 2015 by another French expedition, on the same North shore, but of small size (~20 cm<sup>2</sup>). Both observations are complementary as the previous team investigated 13 sites around the island from 0 to 2m depth. This new record extends the currently known distribution range of the species back to the Eastern Pacific, the closest populations being French Polynesia in the Central Pacific. The possible recovery in Panama reefs should also be considered. The marine fauna from Clipperton is suggested to be closely related to the one of French Polynesia (4 000 km away; Glynn *et al.* 1996). For fire corals, the medusoid and larval stages are short-lived and dispersal is likely occurring through rafting, as observed in many marine invertebrates. For instance, rafting of *Millepora* on pumice has been documented (Jokiel 1989). We are sequencing and genotyping >1000 specimens of *M. platyphylla* collected over its entire Indo-Pacific range, which should help unravel the provenance of these Clipperton colonies.

### Acknowledgement

This project has been funded through the Tara consortium, France Genomique grant number ANR-10-INBS-09, and the Genoscope/CEA. Tara Pacific consortium acknowledgement: We are keen to thank the commitment of the people and the following institutions and sponsors who made this singular expedition possible: CNRS, CSM, PSL, KAUST, Genoscope/CEA, ANR-CORALGENE, France Genomique (specifically grant number ANR-10-INBS-09), agnès b., the Veolia Environment Foundation, Region Bretagne, Serge Ferrari, Billerudkorsnas, AmerisourceBergen Company, Lorient Agglomération, Oceans by Disney, the Prince Albert II de Monaco Foundation, L'Oreal, Biotherm, France Collectivites, Kankyo Station, Fonds Français pour l'Environnement Mondial (FFEM), Etienne Bourgois, UNESCO-IOC, the Tara Foundation teams and crew. Tara Pacific would not exist without the continuous support of the participating institutes. This work is contribution number 6 of Tara Pacific.



**FIGURE 1.** Colony of *Millepora platyphylla* at Clipperton Atoll with an endemic angelfish *Holacanthus limbaughi*, depth: 28m. Hammer size: 25cm.

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