

Semporna may have richest marine biodiversity in the world

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The preliminary results of the Semporna Marine Ecological Expedition (December 2010) indicate that Semporna may have the world's highest marine biodiversity. The expedition yielded a record number of 43 species of mushroom corals. Furthermore, some new species were discovered, among which at least two shrimps and possibly a number of gall crabs. The health of the reefs was judged to be relatively poor: 36% of the transects had fair, another 36% had poor live coral cover. Eighteen scientists from Malaysia, the Netherlands and the USA spent three weeks examining the reefs of Semporna, Sabah, Malaysia, situated at the apex of the Coral Triangle. A biodiversity team documented the species richness for mushroom corals, reef fish, shrimps, gall crabs, ovulid snails, and algae. A reef status team documented the health of the coral reefs.

Mushroom corals are a family of corals of which most species live freely on the sea bed, from the shallow reef flat down to the sandy reef base. The expedition documented a record number of 43 species of mushroom corals in Semporna. The previous highest recorded richness of this family was 40 species at several sites in Indonesia and [Papua New Guinea](#). "Mushroom corals can be used as a proxy for other coral richness. Where we find high richness of mushroom corals, we usually find extremely high richness of other corals," says Dr Bert Hoeksema, Head of Department of Marine Zoology, NCB Naturalis. Hoeksema was leader of the biodiversity team. Team member Dr Charles Franssen discovered two new shrimp species and PhD student Sancia van der Meij found at least one gall crab species new to science.

The count of fish species clearly demonstrates that Semporna is one of the richest areas within the Coral Triangle. Dr Kent Carpenter, Professor at Department of Biological Sciences, Old Dominion University states, "At some of the more diverse reefs, [fish species](#) counts rivalled the highest counts that the fish team found in the Philippines and were greater than what they have encountered in Indonesia." The fish team encountered 844 species of fish in Semporna.

The coral reef status team used a modified ReefCheck methodology to assess the health of the reefs. 12 kilometres of transects were laid in the course of 60 dives. The preliminary results show that the reef status ranged from poor to excellent condition. 5% of the transects had "excellent" live coral cover, 23% had "good", 36% had "fair", and another 36% had "poor" live coral cover. Signs of coral bleaching and suspected coral disease were observed at various sites. While Semporna has several sites with good coral cover, nearly all sites showed significant human impacts including fish bombs, discarded fishing gear, and solid waste.

With the expedition's conclusions that the coral reef diversity is extremely high, while the health of the reefs is relatively poor, a good basis can be provided for sustainable management of the reefs of Semporna. Not only is Semporna a world class diving destination, it may well be one of the Coral Triangle's top hotspots for [marine biodiversity](#), and hence, the world's. Many thousands of local people also rely on these rich reefs for their livelihoods and income.

More information: Watch videos of the expedition team members conducting research and telling about discoveries, as well as stories of local communities in Semporna at: [blog.ncbnaturalis.nl/?tag=semp ... ecological-expedition](http://blog.ncbnaturalis.nl/?tag=semp-coral-reef-ecological-expedition)

Provided by NCB Naturalis

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