Balinese Biodiversity

Bali is distinctly part of the centre of maximum marine diversity! A team of 12 marine scientists (three from Indonesia and nine from the Netherlands) recently investigated how much the underwater fauna of the Lombok Strait resembles that of neighbouring seas. Bali's coral reef fauna is richer than that of Java and Sumatra, as rich as that of Ambon and North Sulawesi, and although poorer than South Sulawesi, the coral reef fauna of Bali ranks among the richest in the world.

Despite the importance of diving tourism to Bali, the Balinese underwater life has not received much attention from the scientific community. The team focussed on three coastal areas: 1) Sanur and Nusa Dua, south-east of Bali, 2) Tulamben, at the north-east coast, and 3) the islands Nusa Lembongan and Nusa Penida in the Lombok Strait. Together, these areas showed a great variety of reef habitats.

The coast of Sanur and Nusa Dua consist of slowly declining reef slopes with extensive reef flats and

beaches above and sandy reef bottoms underneath. The coastline is exposed to the Indian Ocean swell, which has its impact on the reef profile and the reef fauna. The beaches consist almost entirely of dead, hard, calcareous skeletons of Foraminifera, and living populations of these were surveyed on the reef. Here, species were discovered that were previously only known from the Pacific Ocean. A soft coral species discovered earlier at North Sulawesi appeared to use a sponge as obligatory substratum, which is a unique kind of symbiosis. We found a mushroom coral species that was only known from Taiwan and Ambon. In addition, a great variety of sea slugs, shrimps, sponges and other marine animals were encountered.

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Tulamben is famous among divers because of a WW-II shipwreck at snorkelling distance from the beach. The base of the reef slope is volcanic sand with low coral cover. Since fishing is not allowed, fish are not shy. Here, the diversity of marine life appeared higher than at any other place around Bali.

The islands Nusa Lembongan and Nusa Penida consist of high limestone rocks. The large water masses transported from the Pacific to the Indian Ocean, together with the oceanic swell, create special conditions here such as strong currents and cold upwelling. We discovered a new species of coral with a coloured skeleton reminiscent of candy - and therefore called candy coral. Parasitic snails, probably new to science, were also found on this coral.

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