

FAUNA MALESIANA NEWSLETTER



AN INTERNATIONAL INITIATIVE TO ASSEMBLE AND DIFFUSE KNOWLEDGE OF ZOOLOGICAL DIVERSITY

MARINE FAUNA OF BALI ONE OF THE RICHEST IN THE WORLD

In April 2001, the National Museum of Natural History Naturalis, Leiden (The Netherlands), organised a coral reef expedition to Bali in cooperation with the Indonesian Institute of Sciences (LIPI), Jakarta, and the WWF office, Bali. The results of this expedition showed that the coral reef fauna of Bali is more diverse than previously known, ranking among the richest in the world.

A team of 12 marine scientists participated in a diving expedition to the eastern coast of Bali, Indonesia, which is situated at the border of the Indian Ocean. Aims were to investigate how much the underwater fauna of the Lombok Strait resembles that of neighbouring seas that

were surveyed previously and whether Bali is part of the centre of maximum marine diversity. Furthermore, the team wanted to observe how the various species live in symbiosis. This information is necessary to support nature conservation policies.

Despite the importance of diving tourism to Bali, the Balinese underwater life has not received much attention from the scientific community. The team was assisted by two divecentres, which were selected because of their experience in the area, Bali Blue Dive and Bali Hai Diving Adventures. The expedition focussed on three coastal areas: 1) Sanur and Nusa Dua, southeast of Bali 2) Tulamben, northeast of Bali, and 3) the



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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 consists of slowly declining reef slopes with extensive reef flats and beaches above and sandy reef bottoms underneath. Its 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, of which living populations were surveyed on the reef. Here, species were discovered that were previously only known from the Pacific Ocean. A soft coral species earlier discovered in North Sulawesi appeared to use a sponge as obligatory substratum, which is a unique kind of symbiosis. A mush-

room coral species was found that was only known from Taiwan and Ambon. In addition, a great variety of sea slugs, shrimps, sponges and other marine animals was encountered.

Tulamben is known to divers because of a WW-II shipwreck at snorkelling distance from the beach. The bottom of the reef slope consists of volcanic sand with some 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, which consist of high lime stone rocks, are frequently visited by divers. Strong currents and cold water up-welling due to large water masses transported from the Pacific to the Indian Ocean

as well as oceanic swell, create special conditions. A new species of coral was discovered here with a skeleton that shows various colours reminding of candy and therefore is called candy coral. Parasitic snails were found on this coral, which also appeared new to science.

In conclusion, the expedition proved successful with regard to results and international cooperation. In comparison with nearby areas, Bali is distinctly part of the centre of maximum marine diversity. Its coral reef fauna is richer than that of Java and Sumatra, as rich as that of Ambon and North Sulawesi, but poorer than South Sulawesi.

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