

10. Preliminary Survey on the Smaller-Macrobenthos Fauna in the Habitat of *Nautilus pompilius* in the Environs of Suva, Fiji

by

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Most of the recent species of *Nautilus* (Cephalopoda) inhabit some restricted areas of the tropical Western Pacific both in northern and southern hemispheres (HAMADA 1964, 1980). Study of benthic community in their habitat is important to understand the organic environment supporting their life. The writer examined the smaller-macrobenthos fauna in the surface of bottom sediment in the habitat of *Nautilus pompilius* in the environs of Suva.

The sampling was carried out at 8 of 13 stations where the traps for *Nautilus* were set during

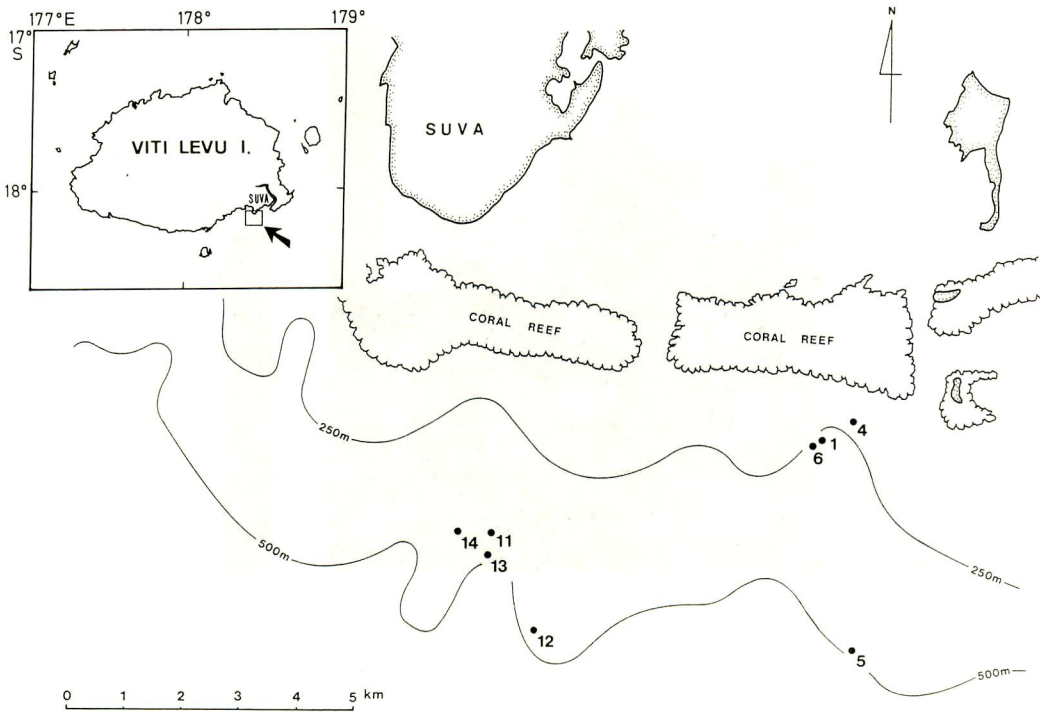


Fig. 1. Map showing the stations for benthos sampling in the environs of Suva, Fiji.

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Table 1. Depths of the stations.

Stn. No.	1	4	5	6	11	12	13	14
Depth (m)	275	180	460	240	420	460	420	385

the period from Aug. 29 through Sep. 16, 1983 in the environs of Suva (Fig. 1). Depths of the stations are shown in Table 1. At each station, one or two sediment samples were taken from the bottom surface using a metallic cylinder (about 10 cm in diameter of the mouth, about 30 cm in length, see Fig. 6 in Plate 1 in this volume), which was combined to the trap for *Nautilus* with thin rope. The trap was set on the sea bottom at each station. When it was pulled up next day, the metallic cylinder scooped up the sediment (150-600 cm³) from the bottom surface. The sediment was sieved through a 1-mm² sieve. The benthic animals retained on the sieve were fixed in 10 % formalin containing Rose Bengal stain. After the fixation for several weeks, the specimens were preserved in 80 % ethanol.

The numerical composition of the benthic animals according to taxonomic group (Phylum) at each station is shown in Fig. 2. Annelida (mainly of Polychaeta) was dominant, accounting for its occurrence more than 50 % of the total benthos at all stations except for Stn.1. At the same time, many kinds of larger-macrobenthos including many shrimps were collected at each station by the

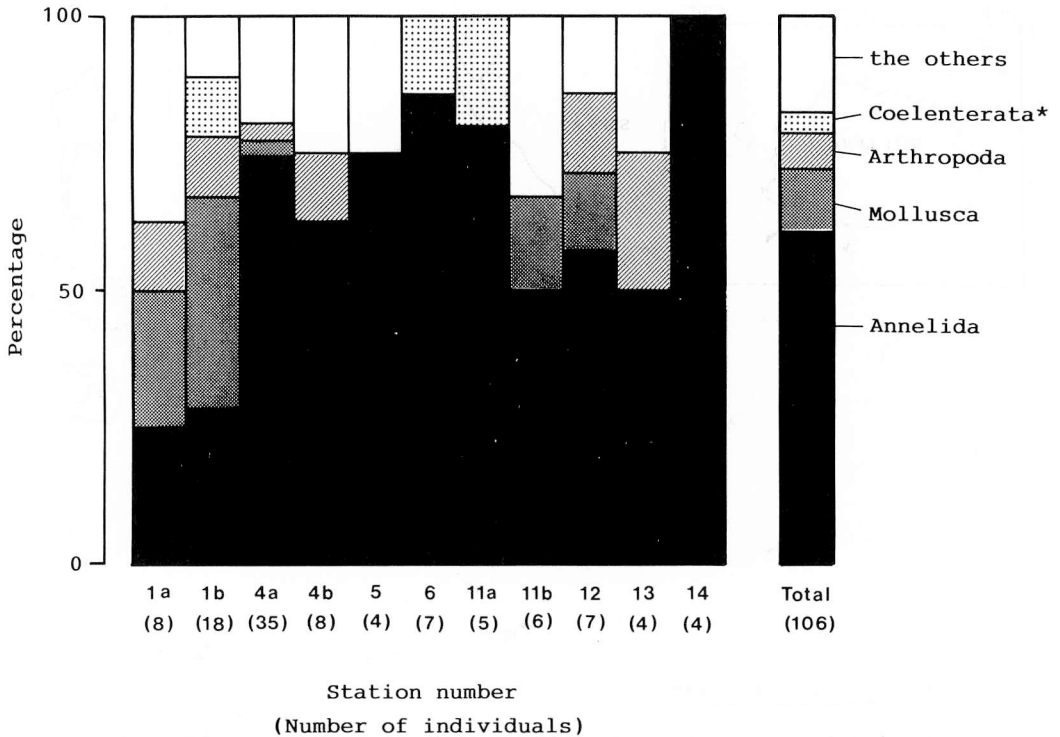


Fig. 2. Numerical compositions of the smaller-macrobenthos according to taxonomic group at 8 stations (11 samples). ★: A small colony of Coelenterata (Hydrozoa) is counted as one individual (two at Stn. 1b and one at Stn. 11a).

traps which were baited with fish, and various numbers of *N. pompilius* were also captured by these traps at all stations except for Stn. 4 (see SHINOMIYA *et al.*, 1985). The bottom sediments at all stations were muddy and the grain size composition was rather uniform throughout the area (see HAYASAKA *et al.*, 1985). Relationships between the smaller-macrobenthos, the larger-one and *N. pompilius* in the deep sea ecosystem seem to be an interesting problem for further investigations.

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