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6. ACTINIANS OF THE RUMPHIUS EXPEDITION II

by

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Forty five lots (consisting usually of one but of as many as three individuals) of Actiniaria were collected during the Rumphius Expedition II. My interest was centered on the families Stoichactidae, many species of which harbor symbiotic pomacentrid fish, and Actinodendronidae, some members of which have been implicated in injuries to humans (HANSEN and HALSTEAD 1971). Fortuitously, Dr. Gerald R. Allen, an authority on anemone fish, also participated in the expedition, although he remained at Ambon the entire time. He made positive identifications of the anemone fish I caught, and collected anemones for me in Ambon Island, providing the names he has been using (ALLEN 1972, 1973) for those species with which he was familiar.

Both of these actinian families are strictly tropical in distribution, are not abundant, and are taxonomically poorly known. Most species have been described from few, sometimes badly preserved specimens, during the last century. Therefore I made particular note of the characteristics of living animals, their ecology (including fish and crustacean associates) behaviour, size, and nematocysts. Most species also photographed *in situ* whenever possible. Anemones were then relaxed with chloral hydrate and preserved in 10% sea water formalin.

Specific identification must wait histological examination. On the basis of cnidom and gross anatomical characters, however, most animals could be unequivocally assigned to a genus. Based on ecology, appearance and gross anatomy, the *Radianthus* could be separated into five species (one of ALLEN's specimens may represent a sixth), and the *Stoichactis* into four species (another of ALLEN's specimens is certainly specifically distinct from these but may not be a *Stoichactis*). What appeared, when alive, to be three different species of *Actinodendron* greatly resemble one another anatomically, and may, upon more detailed analysis, prove to be identical.

Additional collections include hermit crab shells bearing at least two species of sea anemones, a small actinian taken from a piece of floating pumice, another species removed from inside dead coral, and one specimen of the colorful and distinctive *Cryptodendrum adhesivum* KLUNZINGER 1877 (family Thalassianthidae).

Actinodendron species occur with the column buried in sand, usually among sea grass. When expanded they resemble a bushy alcynocean. Frequently small school of the fish *Apogon hoeveni* hover these anemones. Six individuals of Actinodendronidae were collected.

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I found Stoichactidae on coral reefs and reef flats of coral rubble and sand. Four of the five species of *Radianthus* that I collected were associated with fish of five species (*Amphiprion clarkii, A. melanopus, A. ocellaris, A. perideraion,* and *Premnas biaculeatus*), and Allen observed *A. polymnus* with *Radianthus* in deeper water (8 - 15 m). Three of the species of *Stoichactis* that I collected had four species of fish associates (*A. clarkii, A. ocellaris, A. sandaracinos,* and *Dascyllus trimaculatus*). Up to four species of fish were seen with one species of anemone, but no more than three species were with a single individual anemone. Four species of actinians harbored only one species of fish (based on very few observations in two cases), and *A. sandaracinos* and *P. biaculeatus* were restricted to a single species of anemone each. I collected 18 individuals of *Radianthus* (in 16 lots), and six of *Stoichactis*; Allen added 11 individuals of the former (in nine lots), and three of the latter.

Of the five localities visited on the Rumphius Expediton II, Marsegu Island was the richest in Stoichactidae and Actinodendronidae with four species collected and two more seen. Banda was poorest, with two species collected and another seen. Four species were collected on Gorong and in Seleman Bay, where another was seen. In Lilinta Bay, three species were collected and two others were seen.

References

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