

Animal Associates on Coral Reefs: Introductory Remarks

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The organizers of the 1974, "International Symposium on Indo-Pacific Tropical Reef Biology," envisioned a comprehensive examination of problems relating to faunistics and floristics of coral reef communities. Special attention was to be directed toward summations of existing knowledge of the state of taxonomy of various groups. In connection with these reports was to be a series of symposia in which would be summarized biological information about major groups of reef associated organisms.

Contributors to the following symposium were asked to present papers on, "Animal Associates on Coral," each to stress the particular systematic group in which she or he specialized. It was originally planned that five major groups be surveyed: Cnidaria, Porifera, Echinodermata, Mollusca and Crustacea. Various program modifications necessitated by the inability of some specialists to attend the symposium and the fortuitous availability of outstanding specialists on other animal groups led to the assemblage of papers found here: three papers dealing with Crustacea (Drs. Newman, Bruce, and Castro); a paper on echinoderms (Dr. Clark); a contribution on Sipuncula (Dr. Rice); and, a paper on Mollusca (Dr. Hadfield).

As will be apparent, the somewhat diffuse title of the symposium led each author in a slightly different direction. Some papers are thus taxonomic resumés of all tropical members of the proscribed taxon, others deal very strictly with members of the taxon which are obligatorily commensal with only reef Scleractinia, and others fall in between these extremes. The important and exciting things to note in the accompanying papers are not, however, the divergences of approach, but rather the similar conclusions which were achieved with such diverse approaches. These are, in general, an emergence of similar problems in lack of information; notably, on zoogeography and our inability to explain discontinuities in distributions, and on the incompleteness of our knowledge of the kinds of interactions the discussed animals have with reef cnidarians. Also noted in several of these papers are: (1) modifications of reproductive habits and structures in diverse groups living in corals (echinoderms and Crustacea); (2) a possible dependence of symbionts on coral mucus for food (molluscs and Brachyura); and, (3) confusion over the mechanisms by which either boring or encasement occurs in forms living within the coral skeleton (molluscs, crustaceans and sipunculans).

The absence of a commonly defined set of terms in the following papers (*i.e.*,

parasite, commensal, symbiont, etc.) is not due to the authors' unwillingness to use one, but rather is a result of the poor condition of descriptions in the literature. We have all learned that citations of species "living with" other species tells us little more than a potential place to look for the former species. "Associated" is similarly vague. "Parasitism" cannot be assumed strictly because an animal may be living in a burrow in a coral skeleton. As we gain more knowledge of the biology of coral-associated invertebrates a uniform terminology will evolve.

It is hoped that the following surveys will serve their intended purpose of stimulating new researches aimed at clarifying the many problems which have been illuminated here. There are exciting research problems to be found in determining the position of coral-associated invertebrates in the complex tropical reef food webs.