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Antiquity of the scleractinian-sipunculan symbiosis

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Extant corals symbiotic with sipunculans, i.e., the caryophylliid *Heterocyathus* and the dendrophylliid *Heteropsammia*, develop corallum modifications (in comparison with 'ordinary' representatives of these families) that seem to meet the needs of the coral's worm partner. We distinguish two types of corallum modifications, designated the monoporous and the polyporous types. In the adult monoporous type, the shell inhabited by the sipunculan is usually overgrown only in part by the coral base. There are two orifices: the main one and a smaller pore in the upper part of the corallum. In the polyporous type the shell inhabited by the sipunculan is entirely overgrown and the coral produces a spiralled sipunculan housing. In addition to the main orifice there are several pores in the lower part of the corallum. *Heterocyathus priscus* sp. n. from the Early Cretaceous (Albian) of France is the oldest example of symbiosis, in which the monoporous-type corallum was modified in the same way as in extant monoporous *Heterocyathus*. We speculate that the monoporous type was ancestral, as only this type is known to occur among Cretaceous corals. Morphological similiarities between *Heteropsammia* and certain species of *Heterocyathus*, such as the Pourtalés plan of septal arrangement and skeleton porosity, may point to a close phylogenetic relationship.

Key words: Scleractinia, Sipuncula, Caryophylliina, symbiosis.

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