

Gardineria - a scleractinian living fossil

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Acta Palaeontologica Polonica 41 (4), 1996: 339-367

The basic architecture (Bauplan) and microstructure of the skeleton of Recent *Gardineria* are noticeably different from those of most other modern scleractinians. The wall of the *Gardineria* skeleton is entirely epithecate (non-trabecular), while in the majority of modern Scleractinia the epitheca is either absent or added to the main wall which usually is of trabecular nature. These different patterns of theca formation reflect significant anatomical differences in the peripheral parts of the polyp. The Bauplan of *Gardineria* pattern, exceptional in the modern scleractinian fauna, was widespread among early Mesozoic corals, particularly among the Triassic protoheterastraeids. Similar skeletons also occur in some late Palaeozoic rugosans (e.g., polycoeliids). *Zardinophyllurn zardini*, an aberrant Triassic scleractinian coral, with a supposed rugosan septal insertion, supports the hypothesis of the rugosan origin of the Scleractinia.

Key words: Anthozoa, Scleractinia, Rugosa, microstructure, biomineralization, taxonomy, phylogeny.

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