ACTA PALAEONTOLOGICA POLONICA

# Ontogenetic development of the thecal structures in caryophylliine scleractinian corals

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*Acta Palaeontologica Polonica* 40 (1), 1995: 19-44

At the initial stage of ontogeny, in Caryophylliidae (Miocene *Canryophyllia salinario*, *C. depauperata*, Recent *C. berteriana*) and Flabellidae (Miocene *Flabellum roissyanum,* Recent *Javania cailleti*), wall and septa are formed simultaneously, and their trabecular structure is coalesced (marginothecal wall). At subsequent juvenile stage in Caryophylliidae the presence of the extensive exosarc enables formation of costo-septa and, in consequence, formation of trabeculotheca. Trabeculotheca consists of fragments of primordial wall located between the costosepta.
The trabeculothecal segments vanish in the adult stage in the majority of corals when the septothecal wall is formed by thickening of the costo-septa. In others, however, marginotheca can be present throughout the whole ontogenetic
sequence (*C. salinaria*). Most Flabellidae are characterized by limited expression of exosarc and the presence of marginothecal wall up to the adult stage. The origin of 'flabellid' organization in Caryophylliina may result from a simple modification of ontogeny - extention of initial morphology to later ontogenetic stages. Such corals could develop several times, and the Flabellidae may be polyphyletic.

**Key words:** Scleractinia, wall structure, ontogeny, phylogeny