

SIMILARITIES OF PACHYTHECALIINA AND RHIPIDOGYRINA (SCLERACTINIA): PHYLOGENETIC RELATIONSHIPS OR CONVERGENCE?

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Pachythealiina Eliašova, 1976 and Rhipidogyrina Roniewicz, 1976, two extinct scleractinian suborders are commonly believed to be phylogenetically unrelated, although some taxa from both suborders have been occasionally classified together. Some authors suggest that Pachythealiina (Late Triassic – Maastrichtian), including amphistreids (Roniewicz & Stolarski, 2001) and other families from the former suborders Amphistreina and Heterocoeniina (pachythealiinans *sensu lato* – Stolarski & Russo, 2001), are descendants of Rugosa. On the other hand, Rhipidogyrina (Late Jurassic – Maastrichtian) are usually linked with typical scleractinian groups like Stylinina or Meandrinina.

However, despite differences in microstructure and overall morphology, rhipidogyrinans share with pachythealiinans more common features than with other suborders. The following features will be discussed to show these similarities: (i) wall that is developed prior to septa, (ii) corallite bilateral symmetry (possibly better marked in juvenile blastogenic stage of rhipidogyrinans), (iii) marginarium, (iv) lonsdaleoid and apophysal septa, (v) distal margins of septa, (vi) neorhipidicanth-like microstructure of some pachythealiinan wall.

Recently, on account of neorhipidicanth microstructure, Aulastreaoporidae (the family morphologically close to heterocoeniids) has been placed among Rhipidogyrina (Morycowa & Kolodziej, 2001). Because of „mixed” rhipidogyrinan- pachythealiinan characters in members of this family, it is tempting to speculate about a phylogenetic link between these suborders. More studies are necessary to support this hypothesis and exclude possibility of convergence. Attention should be focused on studies of early blastogeny of rhipidogyrinans, and especially microstructure, including relations between pachythea and rhipidotheca. New evidences could cast light on possible evolutionary relationships of scleractinian suborders with different septal microstructure.

References

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