

A revision of the Devonian rugosan phillipsastreid genus *Smithicyathus*

Tomasz Wrzolek

Acta Palaeontologica Polonica 52 (3), 2007: 609-632

The rugose coral genus *Smithicyathus* is diagnosed in this paper as massive to phaceloid phillipsastreid, with common horseshoe dissepiments and major septa that are very short in the tabularium. Revised taxonomy of this genus is based on analysis of over 20 numerical characters measured in sections and/or extracted from the literature data. Species are distinguished either by morphometric non-overlap in at least one, key feature or by geographic-stratigraphic isolation. The earliest possible representatives of the genus are known from the Eifelian of Angara (*S.?* *emendatus* and *S.?* *russakovi*). In the Upper Frasnian *Smithicyathus* is represented by seven species; in western Euramerica occur *S. cinctus* and *S. mcleani* sp. nov.; south-eastern Euramerican shelf area is with *S. lacunosus*, *S. cf. lacunosus*, *S. smithi*, *S. cf. smithi*, and *S. lubliniensis*; one probable species is recorded in Angara: *S.?* *belkovskiense*. The genus did not survive the Frasnian- Famennian crisis. *Smithicyathus* lived in tropical and sub-tropical shallow-marine carbonate environments, with the possible exception of the northern mid-latitudes species from Siberia. In the Holy Cross Mountains, *S. lacunosus* and *S. smithi* show a preference for restricted-marine facies. They may make up over 90% of all rugosan colonies collected in such locations, whereas in the more open-marine settings they are rare both in numbers and in proportion to other rugosan species.

Key words: Rugosa, Phillipsastreidae, *Smithicyathus*, variability, Devonian, Frasnian.

Tomasz Wrzolek wrzolek@us.edu.pl, Department of Earth Sciences, University of Silesia, Będzińska 60, PL-41-200 Sosnowiec, Poland.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see creativecommons.org), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

[Full text \(3,708.1 kB\)](#)

