

Spore-like bodies in some early Paleozoic acritarchs: Clues to chlorococcalean affinities

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We present discoveries of internal bodies in problematic Silurian and Devonian organic-walled microfossils classified traditionally as polygonomorph, acanthomorph, sphaeromorph, and herkomorph acritarchs. These bodies are comparable with reproductive structures (auto- and/or aplanospores) of modern unicellular green algae (Chlorococcales). Our findings suggest that many of these microfossils may represent asexually reproducing (sporulating) vegetative cells of chlorococcalean algae. The presence of spore-like bodies in the studied acritarchs supports earlier suggestions, based on ultrastructural and biomarker studies, that some acritarchs can be affined with green algae.

Key words: Acritarchs, microfossils, Chlorococcales, phytoplankton evolution, Paleozoic.

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