

Microarchitecture of the chitinozoan vesicles and its paleobiological significance

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Morphology and inner structure of vesicles were studied by SEM in several chitinozoan species. Ten distinct types of vesicle surface sculpture are defined. Vesicle surface sculpture is supposed to be promising for chitinozoan taxonomy. Wall ornamentation and structure are described in various chitinozoan species. These characteristics support the idea of a planktic mode of life of some chitinozoans. Mechanic and organogenic perforation is recognized in chitinozoan vesicles. Vesicle internal structures called as "opisthosome" and "mesosome" are recognized for artifacts. The structure and position of operculum indicate that this was a rigid and fixed element separating the vesicle central cavity from the external environment, aimed to be opened for once. Variation in the mode of aggregation of vesicles and in their wall structure is suggestive of a variability in wall formation among chitinozoans. Analysis of vesicle microarchitecture permits a conclusion that Chitinozoa are a heterogenous, unnatural group.

Key words: Problematica, Chitinozoa, Lower Paleozoic, morphology, inner structure, paleobiology, Baltic region, Poland.

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