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Shell structure of the entomozoaceans: allegedly planktonic ostracodes of the Palaeozoic

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The prominent external ornamentation of the entomozoacean shells arises from the thin outer layer. The much thicker and structurally complicated inner layer is rarely well preserved. Three microstructural types of the inner layer are recognized: (1) poorly calcified with residual remnants of the original organic matter, (2) better calcified with oval in transverse section cavities that possibly were originally empty, or filled with an organic matter, longitudinal canals, (3) heavily calcified, in some specimens with sparite-filled remnants of cavities, which may represent only artifacts of recrystallization. The outer layer may correspond to the epicuticle and the inner layer to the endocuticle of Recent ostracodes. A hinge, slight left over right valve overlap, and marginal sculpture are identified for the first time in Famennian entomozoaceans. The mode of life remain unknown. *Richterina* (*Fossirichterina*) *uffenordeae* sp. n. and *R*. (*R*.) *goodayi* sp. n. are proposed.

Key words: Ostracoda, Entomozoacea, Late Devonian, shell structure, morphology, mode of life.