

Ultrastructure of microfuselli and the evolution of graptolite skeletal tissues

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Ultrastructure of microfusellar tissues has been studied in *Neocucullograptus kozłowskii*, and compared with that in normal fuselli. Microfusellar tissue is composed of both fully developed and reduced microfuselli. The former consists of the fusellar and the cortical components and may pass into reduced microfuselli due to skipping the fusellar phase of secretion. This demonstrates a possible mechanism of the transition from the fusellar to the cortical tissue and sheds some light on principles governing the morphogenesis of graptolite skeletal tissues. Formation of particular fabrics and patterns was determined by control of a certain innate potential of secretory cells. Modes of changes in this control are identified and a working hypothesis concerning the evolution of graptolite skeletal tissues is advanced.

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