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Scanning electron microscopy of sessile graptolites

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The surfaces of rhabdosomes in dendroid and tuboid graptolites and in *Mastigograptus were investigated with SEM. In general the surfaces are remarkably smooth and essentially featureless, even around the apertures. The only exception are subparallel rollers recognized on one specimen of Dictyonema sp., which pass at places into accumulations producing a reticulated network. The evidence available indicates a foreign nature these structures which cannot be considered units of secretion of graptolite cortex. The opinion is advanced that the recent data are suggestive of collagen fibrillogenesis occuring immediately adjacent to the surface coat of epithelial cells. The lack of bandages in sessile graptolites and the lack of foreign agglutinated material on their rhabdosomes. the intimate control of fibrillogenesis by epithelial cells in extracellular secretion of collagen are all presented as evidence in favour of the membrane model of graptolite periderm secretion.*

Key words: Graptolites, scanning electron microscopy, rhabdosome surface, bandages, inclusions, collagen fibrillogenesis, models of secretion.

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