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Contrasting modes of construction of retiolite-type rhabdosomes

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Investigation of retiolite-type rhabdosomes has so far revealed two contrasting types of construction:

1. In a morphological series including *Reteograptus geinitzianus*, *Gothograptus nass*a, *Holoretiolites* spp. and '*Retiolies*' sp. it is possible to demonstrate that sclerotization of the periderm secreted between the zooid and its mantle evagination became progressively localized, culminating in the formation of the highly specialized and sparse framework of *Holoretiolites* and '*Retiolites*' sp.

2. In *Retiolites geinitzianus* (Barrande) the same kind of peridermal secretion combined with localized sclerotization to produce a superficially similar type of rhabdosome to some of those in the above morphological series, but with a quite different relationship to the secretary tissues of the zooids.

Secretion and sclerotization of fibrous strips or 'bandages' seems to have occurred in many normal graptoloids, but resulting in the formation of a continuous cortex. The restriction of the sc1erotized 'bandages' in the retiolites, so as to produce a sparse but resilient framework, suggests that their function was mechanical rather than protective.

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