

## Evolution of the retiolitid *Neogothograptus* (Graptolithina) and its new species from the upper Wenlock of Poland, Baltica

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*Neogothograptus reticulatus* sp. nov. from the upper Homeric *Colonograptus praedeubeli* Biozone, and *N. thor-*

*steinssoni* and *N. alatiformis* from the *Lobograptus progenitor* Biozone, are described for the first time from three localities: borehole, Baltic erratic boulder of East European Platform and Holy Cross Mountains of Poland. *N. reticulatus*, presently the oldest known species of *Neogothograptus*, is also tentatively identified from upper Homeric strata of south-eastern Australia.


The two other species are previously known only from Arctic Canada, and possibly China. The morphology of the *Neogothograptus reticulatus* rhabdosome, its appendix, thecal profile, densely reticulated rhabdosome and genicular hoods suggest a close relationship to *N. eximinassa* from *Colonograptus ludensis* Biozone. *N. reticulatus* and *N. eximinassa* are most similar to *Gothograptus nassa*, the earliest-known retiolitid to appear immediately following the *Cyrtograptus lundgreni* extinction event. The biostratigraphic position of *N. reticulatus* suggests it might be considered as a potential ancestor to all younger (Ludlow) species of *Neogothograptus*. Cladistic analysis, however, provides no direct support for such an interpretation and, instead, suggests that *Baculograptus batesi* may be the ancestor. The occurrences of *Neogothograptus*, as well as *G. nassa*, from a number of Silurian terranes mostly from low paleolatitude regions, but also from high paleolatitudes, demonstrate their tolerance to a broad range of paleoenvironments.

**Key words:** Retiolitidae, *Gothograptus*, *Neogothograptus*, evolution, biostratigraphy, ocean currents, paleolatitude, late Wenlock, Ludlow, Silurian.

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