

LATE WENLOCK - LUDLOW GRAPTOLITE EXTINCTION AND EVOLUTION:
PERSPECTIVES FROM ARCTIC CANADA.

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An abrupt change in the composition of graptolite faunas just below, and at, the Wenlock-Ludlow boundary has recently been demonstrated in southeastern Germany and Kirgizistan. JAEGER (1991) terms that changeover the "Big Crisis".

On a global scale, throughout all but the uppermost Wenlock, *Monograptus* (s.s.), *Cyrtograptus*, and plectograptine retiolitids are moderately diverse and very abundant. This fauna is abruptly replaced in the uppermost Wenlock by an acme of simply thecate *Pristiograptus dubius* types and "pristiograptids", and a marked increase in the diversity of the plectograptines. The succeeding earliest Ludlow fauna, which too appears abruptly, is marked by a mostly new fauna of plectograptines and new forms of monograptids the earliest of which include *Lobograptus*, *Neodiversograptus* and *Bohemograptus*. Two "crises" are therefore manifest, the earlier one being more profound.

The Cape Phillips Formation of the Arctic Islands, Canada, yields a superb late Wenlock and early Ludlow graptolite, fauna. The late Wenlock *lundgreni-testis* Biozone has yielded isolated specimens of about 15 species of monograptids (including *Monograptus* (s.s.); especially *M. testis*), *Cyrtograptus* (several species), and at least seven species of plectograptines. About half of the fauna continues from the underlying zone. The overlying uppermost Wenlock *ludensis* Biozone is markedly different. *Pristiograptus* (of the *P. dubius* type) and "*Pristiograptus*" (*Pseudomonoclimacis*?) with novel thecal and sicular development (four or five species) are very abundant, and ten species plectograptines, only two of which continue from the underlying zone, appear abruptly. *Cyrtograptus* and *Monograptus* (s.s.) are totally absent.

The succeeding earliest Ludlow is also characterized by rather abrupt appearances, again of several or more species of plectograptines, most very small, as well as monograptids with new thecal/rhabdosomal styles; these include *Lobograptus*, *Neodiversograptus*, *Bohemograptus* and *Colonograptus*, and slightly later, *Saetograptus* and the reappearance of *Monograptus* (s.s.). Plectograptines apparently become totally extinct by about mid Ludlow.