

Tentaculitoids

KENT LARSSON

The tentaculitoid fauna of Gotland is fairly rich and diverse but has not previously been described. I have recently completed a study of the whole fauna, and the names used here (referred to as Larsson MS) will be published in a forthcoming monograph. The material from Vattenfallet comprises about 100 specimens. For ranges in the section see Fig. 65.

Annotated faunal list

Tentaculites limatulus Larsson MS, *Seretites? exilis* Larsson MS, *S.? cataractae* Larsson MS, *Gotlandellites areolatus* Larsson MS, *G. visbyensis* Larsson MS, *Alternatus? spp.*

Tentaculitidae gen. et sp. indet. have also been recorded at 17.9 and 28.60–28.80 m. The genus *Alternatus?* is represented by fragmentary specimens which are difficult to identify at species level, but appear to comprise at least two different species.

Remarks

Tentaculitoids are best preserved and easiest to collect in marls and on bedding surfaces of argillaceous limestones. The low species diversity in uppermost Högklint *b* and in Högklint *c* of the section is probably due to the nature of the hard rock rather than to the rarity of the group in these beds. This is also indicated by the fact that the greatest number of indeterminate specimens, mostly preserved as internal moulds, is from Högklint *c*.

The mode of life of tentaculitoids remains a matter of discussion. All representatives of this group from Gotland are thick-walled and it is therefore very unlikely that any were planktic or nectoplanktic. For benthic forms Blind (1969, 1970) suggested a twofold mode of life: a larval, free-living stage followed by an adult, sessile stage in which the conch was in a vertical position largely embedded in the sediment, apex downward. My studies on morphology and microstructure of the conch support Blind's hypothesis. Thus adult tentaculitoids most probably had a semi-infaunal mode of life, although their posture was not always necessarily vertical, and they were probably suspension feeders, possibly by means of some kind of tentacle apparatus.

REFERENCES

- BLIND, W., 1969: Die systematische Stellung der Tentaculiten. – *Palaeontographica A* 133:101–145.
 – 1970: Epizoen als Anzeiger der Lebensstellung. – *Neues Jahrb. Palaeontol. Abh.* 136:(3):243–261.

Cornulitids

KENT LARSSON

It is difficult to make a satisfactory assessment of the cornulitid fauna of Vattenfallet because it is completely undescribed. Cornulitids are poorly known, and not only the material from Gotland but also the group as a whole is badly in need of monographic study. There are many cases of misinterpretation. For example, it is doubtful if *Cornulites serpularius*, the type species of the genus, has ever been identified correctly since Schlotheim (1820) described the species. It has become mostly associated with a very stout, unattached conical conch with a characteristic cellular wall structure, similar to the species figured as *C. serpularius* by Sowerby (in Murchison 1839, Pl. 26:6–9), but there is very little agreement between this conch and the specimen figured by Schlotheim (1820, Pl. 29:7). This taxonomic disorder is difficult to resolve because Schlotheim's type specimen cannot be located (Hermann Jaeger, personal communication).

The material from Vattenfallet comprises about 40 specimens. For ranges in the section see Fig. 65.

Annotated faunal list

Cornulites? cf. *scalariformis* Vine, *C.?* sp. *a*, *Conchiolites* sp. *a*, Cornulitidae gen. *a*, sp. *a*, Cornulitidae gen. *b*, sp. *a*, Cornulitidae gen. *c*, sp. *a*, Cornulitidae gen. *d*, sp. *a* (3.0 m). Unidentifiable cornulitids have been recorded also at 0.75, 1.0, 1.75, and 4.9 m.

A conch which is very similar to *Cornulites?* *scalariformis* occurs in Höglint *d*, and a specimen has also been found in the road-cut at Palisadvägen (Höglint *c*, c. 26.5–27.5 m, not entered in the log). Before a definite identification of the specimens can be made, examination of Vine's (1882) type specimen is necessary. *Cornulites?* sp. *a* resembles *C.?* *scalariformis* but differs in having a clearly curved conch.