# Graptolites

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In the carbonate sequence of the outcrop area of Gotland graptolites are relatively rare. They were first described by Linnarsson (1879) and Holm (1890) and the knowledge was summarised by Hede (1918, 1942). The emphasis in these studies has been on graptoloids whereas dendroids have received very little attention.

The first record of graptoloids from Vattenfallet was published by Holm (1890). He mentioned the occurrence of *Monograptus priodon* from beds now classified as the Högklint Limestone, and figured (Holm 1890, Pl. 1:27–30) a large *Monograptus* sp. which according to him was from grey limestone of the "*Pterygotus*" Beds but from the nature of the rock it is probably from Högklint *c*. The specimen, 85 mm long, is the distal part of a *Pristiograptus* preserved in relief. Perner (1899) compared it with *Pristiograptus gotlandicus*, a species described from the Lower Ludlovian of Bohemia. Hede (1942) doubted Perner's identification and stated that the specimen did not agree with any species known to him. I find that it belongs to the *dubius* group. The width of the rhabdosome and the thecal spacing agree with those of *Pristiograptus dubius latus* Bouček.

Hedström (1910:1472) listed *Monograptus* sp. from Högklint *b–c* but the specimen cannot be traced. On a later occasion he recorded *Monograptus spiralis* var. *subconicus* Törnquist from the lowermost beds of the Upper Visby Marl at Vattenfallet (Hedström 1923:195, Fig. 2). Recently the specimen was re-examined by R.B. Rickards (Bassett & Cocks 1974:5) and found to be a part of a robust cyrtograptid. The specimen is entered in the log as *Cyrtograptus* sp.

Bulman (1932, Pl. 6:1) figured a specimen of *Monograptus priodon* from Vattenfallet, isolated by Holm. The specimen is lost and no information exists as to its level.

A few additional specimens were found during the present study. It should be noted that systematic acid digestion of rock samples for graptolites would almost certainly have produced additional material. For various reasons no such work was carried out at Vattenfallet.

## Annotated faunal list

Dendroidea (see Fig. 66)

*Dictyonema* sp. *a*, *D.* sp. *b*. An unusual dendroid, referred to by Lindström

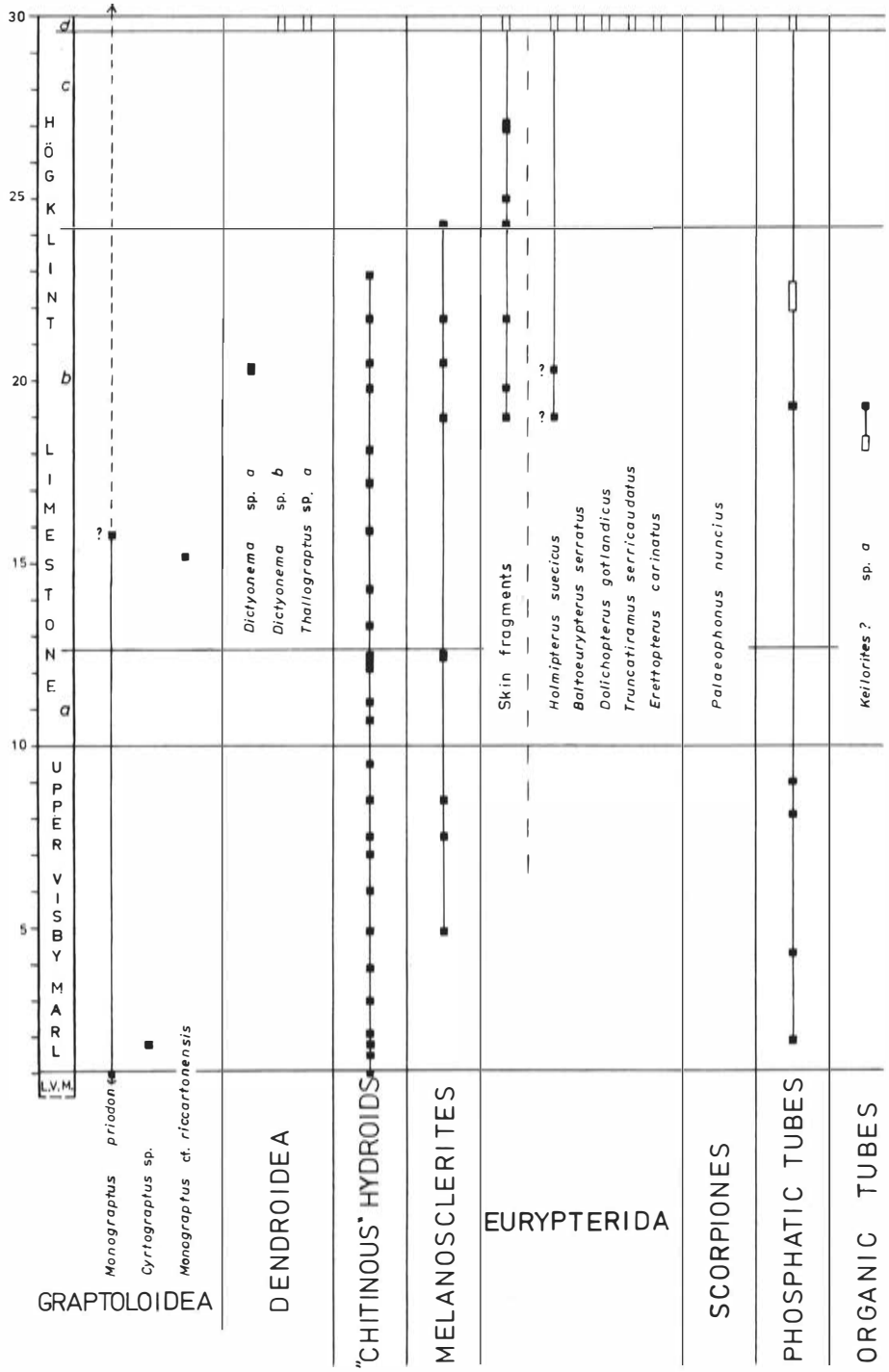
30
25
20
15
10
5
d
c
b
a
HÖGKLINT LIMESTONE
UPPER VISBY MARL
L.V.M.
Monograptus priodon
Cyrtograptus sp.
Monograptus cf. riccartonensis
GRAPTOLOIDEA
Dictyonema sp. a
Dictyonema sp. b
Thallograptus sp. a
DENDROIDEA
"CHITINOUS" HYDROIDS
MELANOSCLERITES
Skin fragments
Holmipterus suecicus
Baltoeurypterus serratus
Dolichopterus gotlandicus
Truncatiramus serricaudatus
Erettopterus carinatus
EURYPTERIDA
Palaeophonus nuncius
SCORPIONES
PHOSPHATIC TUBES
Keilorites? sp. a
ORGANIC TUBES

Fig. 66.

(1888) as *Inocaulis* (*bellae* Hall & Whitf. aff.) and mentioned by Holm (1890:4), is common in Högklint *d*. Selected specimens were examined by Dr. R.B. Rickards who found that it belongs to *Thallograptus*. The species is entered in the log as *T.* sp. *a.* Unidentifiable fragments of dendroids occur also at 0.75, 10.90, 15.20, 17.30, 18.70, 19.10, and 20.25 m.

Graptoloidea

*Monograptus priodon* Bronn, *M.* cf. *riccartonensis* Lapworth (a proximal end with two thecae and a distal fragment with three thecae), *Pristiograptus dubius latus* Bouček (Högklint *c*), *Cyrtograptus* sp.

## Remarks on correlation

The record of *Monograptus spiralis* from the base of the Vattenfallet section (Hedström 1923) for a long time confused the correlation of the Upper Visby Marl (Martinsson 1967:358–359). The specimen, found at 1.7–1.9 m, turned out to belong to *Cyrtograptus* and is indicative of an early Wenlock age for this level (Bassett & Cocks 1974:5), only 0.6–0.7 m above the boundary between the Lower and Upper Visby Marls. *Pristiograptus dubius latus* from Högklint *c* or *d* indicates a level not older than the *riccartonensis* Zone. Bassett & Cocks (1974:5) recorded *Monograptus* aff. *riccartonensis* from the Högklint Limestone, found in an exposure not far from Vattenfallet. The horizon possibly is lower Högklint *b* (Jeppsson, this volume). The occurrence of *M.* cf. *riccartonensis* in the lowermost Högklint *b* at Vattenfallet indicates that the base of the *riccartonensis* Zone extends downwards at least to the base of Högklint *b*. The correlation of other graptolite zones with the Vattenfallet sequence is uncertain because no distinctive species have been found.

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