

Supplementary information on the graptolite fauna

The most stratigraphically significant of the graptolites from Bellewstown Quarry are those that are discussed and illustrated in the paper. They are represented by relatively numerous examples. However, the fauna also includes several other forms that are represented by only one or two more or less recognisable examples. Some of these are illustrated and briefly discussed here. In addition, the collection from Bellewstown Quarry contains many fragments that have not so far been identified; some of these suggest that additional species would be revealed by detailed preparatory work or by future collecting of additional material.

Supplementary figures

All specimens are in the collections of the National Museum of Ireland, prefix NMING: F. The scale bars all represent 1 mm. The parallel lines on some figures show the trend of the cleavage-trace in the plane of bedding.

A *Acrograptus* aff. *euodus* (Lapworth), see Skevington 1970, p. 430, fig. 11 a-c. This fragment is a little wider than Skevington's "near-proximal" fragment, fig. 11c. Part of NMI F27526, which is >25 mm long but shows only very slight widening distally. The distinctive proximal end has not been found at Bellewstown.

B, C *Didymograptus artus* Elles & Wood is generally a small species, with narrow stipes that are barely 1 mm wide at 5 mm from the base of the sicula. The thecae closely set, about 9 in 5 mm. NMI F 27527 and F27528. Scale bar at C represents 1 mm for both specimens.

D *Didymograptus* sp., showing stipes widening more rapidly than those of *D. artus*, NMI F27529. Scale as for fig C.

E, F *Pseudophyllograptus glossograptoides* (Ekström 1937, pl. 6, figs 26-33)? The two fragmentary specimens show a longitudinal groove (stippled) where one of the four stipes has broken off (compare Ekström 1937, pl. 6, fig 27). Compared with other species of *Pseudophyllograptus*, the thecal overlap is low and the apertures are relatively protrusive. Specimens NMI F27530, 27531.

G *Cryptograptus* sp. is known from two flattened specimens, both preserved as rather uninformative scalariform views. The illustrated specimen, no. NMI F27532, is mainly an external mould. The thecal apertures show as round lacunae, about 11 in 10 mm.

Diplograptina. Besides the climacograptid *Haddingograptus* illustrated in the main part of this paper, there are fragments of other *Pseudoclimacograptus*-like specimens that are mostly not adequate for illustration.

H shows a pyritised climacograptid in oblique view, no. NMI F27533. The median septum appears to be wavy, in contrast to the zig-zag septum in *Haddingograptus*.

I-K. Three forms, each represented by one specimen, may be diplograptines or orthograptines: I, NMI F27534, is flattened; it resembles *Hustedograptus* sp. nov., as illustrated by Maletz (1997, fig. 19) in dimensions and in the lack of spines on the

basal thecae. J, no. NMI F27535, is flattened and badly preserved (the broken outline distally represents external mould and the shaded areas are where the specimen is broken off). The narrow proximal end and the absence of definite thecal spines recall *Oelandograptus*, though it differs from *O. oelandicus* as figured by Maletz (1997, fig. 21) in widening less strongly distally and in having more widely spaced thecae. K, no. NMI F27536, is pyritised and in full relief, though the shaded parts are broken away, The specimen appears to lack a median septum, suggesting that it may be related to the Orthograptidae.

