
Coed-mawr

[SO 045 548]

Introduction

Coed-mawr is located within the Builth district of central Wales. Murchison (1839, 1854) commented on this district in both the *Silurian System* and *Siluria*, and it also featured in the pioneering work for the Geological Survey of De la Beche (1846) and Phillips (1848). Later in the 19th century Lapworth (1880a, b) made use of the graptolite fauna from the Wenlock of the Builth area in his classic work on the stratigraphical distribution of these fossils in the Lower Palaeozoic. This was followed by the very important studies of Elles (1900) and Wood (1900) who, respectively, determined the sequence of graptolite zones in the Wenlock and in the Ludlow rocks of the Builth area. Though the work of Wood was overwhelmingly concerned with the Ludlow, it also included what is now regarded as the last zone of the Wenlock Series, the *ludensis* (= *vulgaris*) Biozone. Subsequently, the Builth district attracted the attention of Straw (1937), who investigated Ludlow strata south of Builth Wells, and Jones (1947) who tackled the Silurian in the country north and west of the town. In more recent times Harris (1987) has reinvestigated the Wenlock geology and graptolite faunas of the area, and currently these topics are also being researched anew by the British Geological Survey. When published, the conclusions of these two studies may have important consequences for presently-held ideas relating to the Silurian geology of Builth and thus for the significance attached in this JNCC volume to Coed-mawr, and to the four other Builth Wenlock sites.

More detailed comments on the work in the Builth area of Elles (1900) and Jones (1947) are given in the introduction to the Trecoed–Castle Crab site and this should be referred to also in connection with Coed-mawr. As a consequence of Elles' (1900) research, the Builth area came to be regarded as the type area in the UK for the Wenlock graptolite biozonal sequence. The Coed-mawr site is reported to contain rocks of the *rigidus* Biozone (= *symmetricus* Biozone of Elles) and the *linnarssoni* Biozone (= *flexilis* Biozone of some authors).

Description

This site is that of an old quarry, located 3.7 km north of Builth Wells where the minor road to Castle Crab meets the A470 to Llandrindod Wells.

The quarry was excavated across the strike of beds of Wenlock age that dip at about 25° to the north-west. These beds form part of the Wenlock Shales' (= Coalbrookdale Formation of the type Wenlock area), a unit for which, in this part of the Welsh Basin, a new formational name is needed. The relatively soft shales on the floor of the quarry belong to the *rigidus* Biozone; they yielded to Elles (1900) the eponymous biozone fossil together with *Pristiograptus dubius*. These are succeeded by harder, more calcareous horizons with carbonate concretions, which belong to the *linnarssoni* Biozone. Together with *Cyrtograptus linnarssoni*, Elles (1900) listed *Pristiograptus dubius* and *Monograptus flemingii* from this biozone at Coed-mawr.

Interpretation

Elles (1900) noted several localities in the Builth area that expose rocks of the *rigidus* Biozone, though her species occurrence table makes use for this biozone of just two: Coed-mawr and Castle Crab. Additionally, Coed-mawr is one of two localities used by Elles in her account of the *linnarssoni* Biozone, the other being the section on the road to Rhayader north-east of Builth Road Station. Lapworth (1880a, 1880b) originally used the *linnarssoni* Zone for the fauna comprising the bulk of the 'Wenlock Shales' at Builth, but Elles used it in a more restricted sense, for the fauna lying between the *rigidus* and the *ellesae* (= *rigidus* Zone *sensu* Elles) biozones (Rickards, 1976). Both the *rigidus* and the *linnarssoni* biozones, then, have the Builth region as their type locality (Lapworth, 1880a, 1880b; Elles, 1900; Rickards, 1976).

Throughout Wenlock times the Builth area was situated offshore, occupying an intermediate, slope position between the shelf to the east and the basin to the west (Bassett, 1974a; Hurst *et al.*, 1978; Holland, 1992). Most of the Wenlock sediments at Builth are deepish water shales and mudrocks, though the latter are often carbonate rich, and there are also occasional horizons with trilobites and brachiopods which give the faunal composition overall a mixed graptolitic–shelly aspect.

In the Wenlock of the Builth area there are five closely linked sites which in combination demonstrate the sequence of graptolite biozones and the distinctive nature of the facies in the region: Trecoed–Castle Crab, Pen-cerig,

Coed-mawr, Dulas Brook and the River Irfon section. Stratigraphically, the strata at Coed-mawr fall in between those at the Trecoed–Castle Crab and those at Dulas Brook. To the north-east of the Builth region is the Long Mountain, which palaeogeographically also occupied a slope position during the Wenlock, and is networked to the Builth sites by the Buttington Brickworks and Trewern Brook sections. The Buttington site comprises slightly older rocks than those at Coed-mawr, but *linnarssoni* Biozone strata have been recorded (Elles, 1900) at Trewern Brook.

Conclusions

Coed-mawr is an important site for biostratigraphy in the Builth district, which from the turn of the 20th century has been regarded as the type area in the UK for the Wenlock graptolite biozonal sequence. The quarry exposes 'Wenlock Shales' strata belonging to two middle Wenlock graptolite biozones. The palaeoenvironmental setting is that of a deepish water, offshore, slope area between shelf and basin. Research workers, particularly those involved with graptolite biostratigraphy, will have most interest in the site.

[References](#)