
Cynwyd

[SJ 092 399]

Introduction

At this site (Figure 9.1) 19th century collectors found one of the most diverse and best-preserved Rawtheyan faunas in the Welsh Basin; it is the type locality for several species, especially trilobites. The site was effectively lost for almost a century, but recent excavations hold the prospect of both clarifying the stratigraphical setting of the highly diverse historical collections and providing new material of equally good preservation.

In the second half of the 19th century, various collectors, most notably Champernowne, Lee, Parrott and Ruddy, made large collections of well-preserved fossils from the Ddolhir Formation. Whittington (1962–1968, p. 123) noted that in the Natural History Museum and British Geological Survey these collections are variously labelled 'Cynwyd', 'Bwlch-y-Gaseg west of Moel Fena' and 'Cerrig Coedog, south base of Moel Fena', but it is likely that all represent the same locality. Some of the faunas were listed by Ruddy (1879, 1885) and include specimens that subsequently became the types of various species. Whittington (1962–1968) listed some 16 species of trilobite from Cynwyd, including two for which this is their type locality, to which can be added *Gravicalymene arcuata* Price, 1982 (Figure 9.21), which was partially based on material from the rediscovered Cynwyd site. Other elements of the fauna present in 19th century and more recent collections include cystoids (Paul, 1973–1997), crinoids (Donovan, 1986–1995), bryozoans, brachiopods (Cocks, 1978) (Figure 9.22)a, b, bivalves, cephalopods, conulariids, sponges and corals.

Description and interpretation

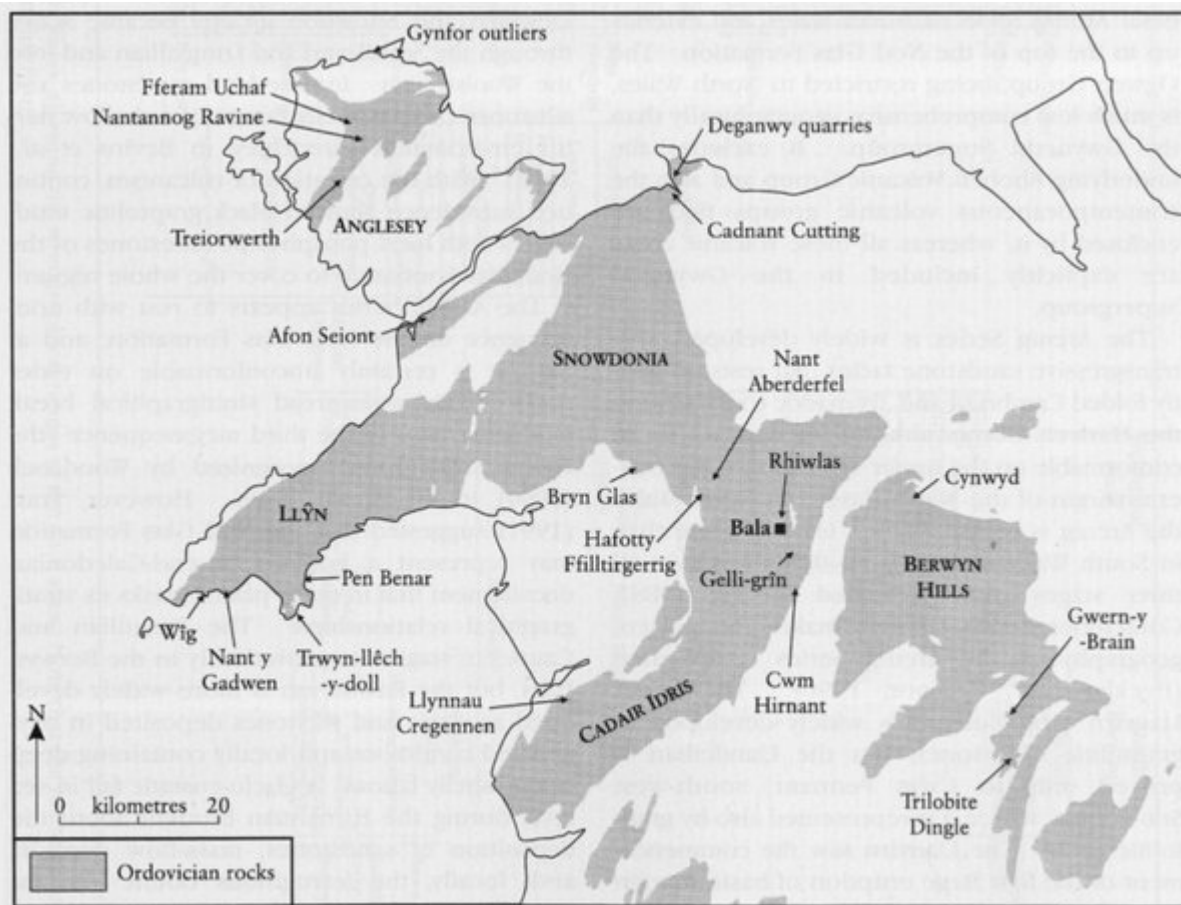
The site was re-excavated by Forest Enterprise in 1996. Dr R.J. Kennedy of Birmingham City Museum reports (pers. comm., 1997) that some 38 m of rock were cleared, approximately across strike and parallel to the existing forestry track. The beds are assigned to the Ddolhir Formation and dip (and young) to the north-east at 35–40° at the northern end of the section and a little more gently (30°) at the southern end. There are small-scale normal faults with slickensides and minor rotation of the bedding at various levels. The lithology does not vary greatly and is generally a hard, buff, grey or dark-blue mudrock, commonly with limonitic replacement of fossils, especially in the lower 12 m of the section. The fossil fauna was sampled both *in situ* and from loose material and includes complete trilobite exoskeletons, including juveniles. There are also beds composed almost entirely of branching and filamentous bryozoans and rarer sponges preserved in limonite. The detailed site report and analysis of the fauna are still awaited.

Price (1977, pp. 785, 790) reassigned to *T. sortita* (Reed) trinucleid trilobite specimens that Whittington had ascribed to *Tretaspis* cf. *kiaeri* Störm, thus indicating a late Rawtheyan age for the Ddolhir Formation at Cynwyd (see also Ingham, 1970, p. 43). The whole formation probably has a much longer range, extending down into the middle Cautleyan (Williams *et al.*, 1972; Hiller, 1980, 1981).

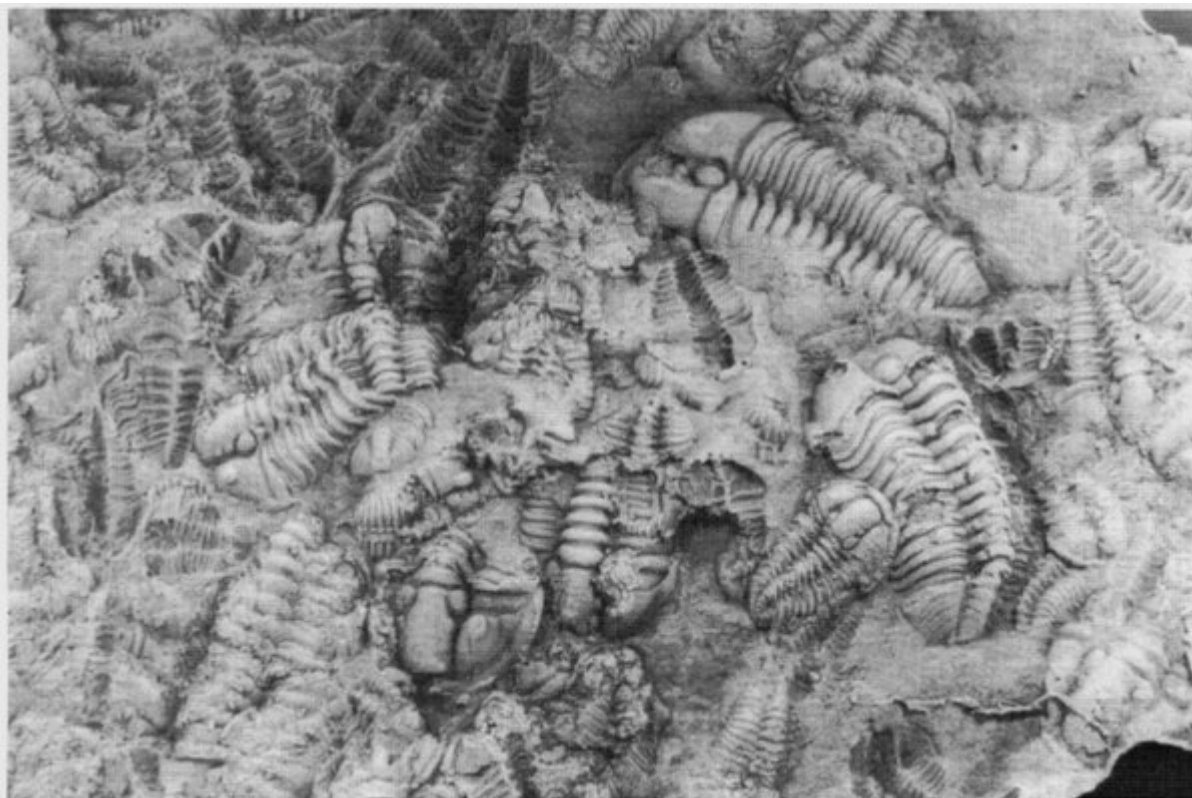
Conclusions

This site is palaeontologically significant, having in the past yielded one of the most diverse and best-preserved Rawtheyan (late Ashgill) fossil faunas in the Welsh Basin, and includes specimens subsequently included amongst the type material for several species. Recent excavations at the site will clarify the setting from which these faunas were collected and may provide further important material of high quality.

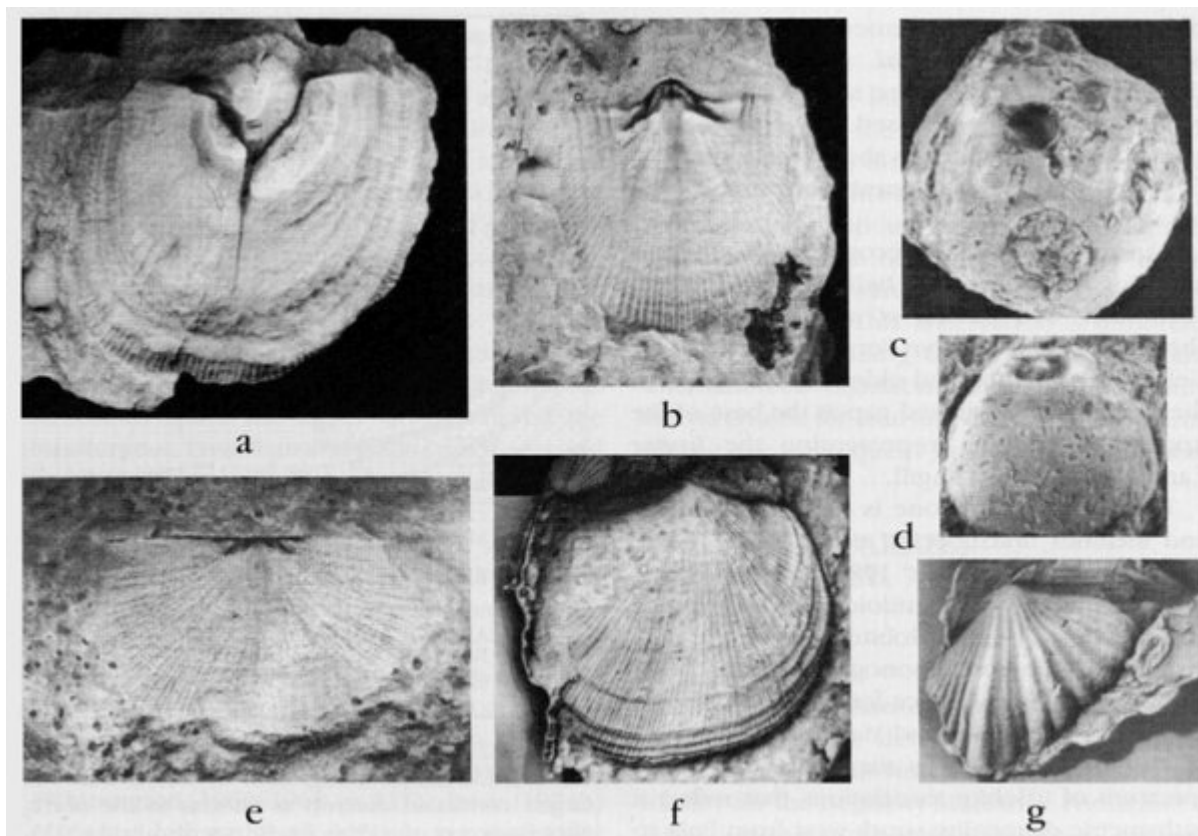
[References](#)



(Figure 9.1) Distribution of Ordovician (Arenig to Ashgill) rocks in North Wales, after British Geological Survey (1994c), showing the location of GCR sites. For the Tremadoc site at Pen Benar, see Chapter 7.



(Figure 9.21) 'Graveyard' of *Gravicalymene arcuata* Price, x 5, Cynwyd.



(Figure 9.22) Ashgill fossils from sites in North Wales. (a, b) Ventral and dorsal valves of *Vellamo* sp., x1.5, Cynwyd. (c, d) *Tetraeucystis munita* (Forbes), x4, Rhiwlas. (e-g) Brachiopods of the Hirnantia Fauna, Hirnant Limestone of Aber Hirnant: (e) Dorsal valve of *Eostropheodonta hirnantensis* (M'Coy), x1.5; (f) Dorsal valve of *Hirnantia sagittifera* (M'Coy), x1.5; (g) Ventral valve of *Plectothyrella crassicostis* (Dalman), x2.