
Cwm Crymlyn

[SN 3477 1735]

Introduction

The quarry at Cwm Crymlyn is the best exposure of Tremadoc rocks in South Wales and is important as a record of the presence of Tremadoc rocks in the Llangynog area (Figure 7.2). It yields a rich and well-preserved fauna of the *Adelograptus tenellus* Zone. Some trilobites from here are not recorded elsewhere in Britain but are comparable with forms found in South America and indicate continuity of a distal detrital biofacies from Avalonia to western Gondwana.

Until relatively recently the oldest rocks in the Llangynog area of South Wales were thought to be of Arenig age, following Strahan *et al.* (1909). However, detailed mapping of the area southwest of Carmarthen revealed several localities with Tremadoc rocks (Cope *et al.*, 1978), notably the site at Cwm Crymlyn, which was described in detail. Further sites for Tremadoc rocks were reported by Owens *et al.* (1982), and faunas were described from many localities. The stratigraphy of Upper Cambrian and Tremadoc rocks in the area was summarized by Cope and Rushton (1992), and sedimentological details are contained in Prigmore (1994).

Description

The roadside quarry at Cwm Crymlyn exposes a few metres of north-dipping, dark greyish-blue mottled mudstones with occasional thin, silty bands. They contain phosphate nodules. Lithologically they are typical of Tremadoc mudstones that have been slightly metamorphosed, and they show a marked metamorphic lineation, seen as fine striae on the bedding planes.

A rich fauna was listed by Owens *et al.* (1982, fig. 2, locality 1), some of the fossils being well preserved; they include brachiopods, notably *Palaeobolus quadratus* (Bulman), along with hyolithids and sponge spicules and anchorage-spines. Graptolites recorded include *Adelograptus tenellus* (Linnarsson) (Figure 7.9)a, and the trilobites include *Parabolinella argentinensis* Kobayashi and species of *Platypeltoides*, *Dichelepyge*, *Leiagnostus* and *Niobella*.

Interpretation

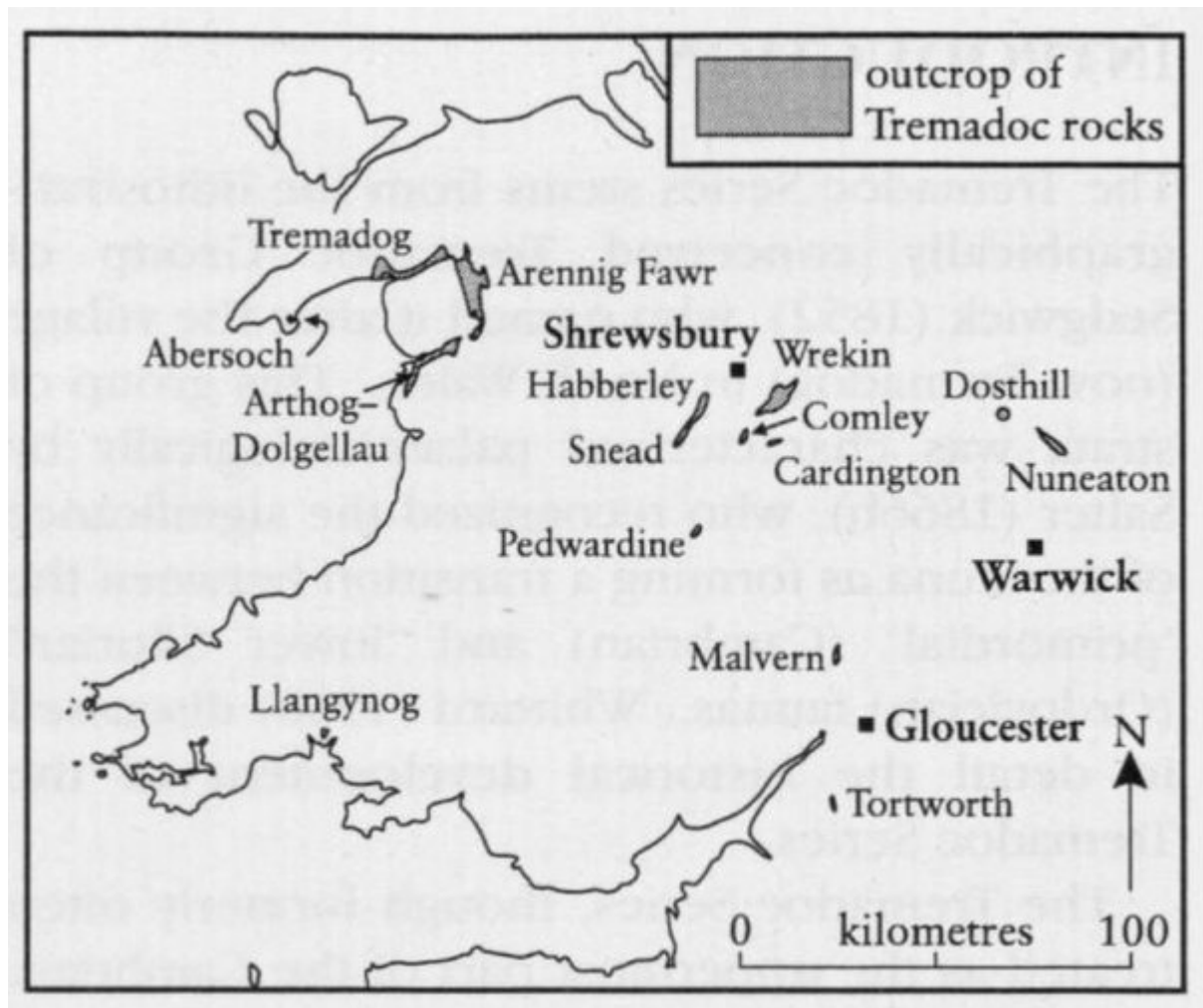
The dark greyish-blue colour of the mudstones at Cwm Crymlyn contrasts with the grey or grey-green of other mudstone exposures in the district. The dark colour appears to be due to metamorphic alteration, and the hardness this confers on the rocks explains the presence of this, the only quarry in the area.

The graptolites found at Cwm Crymlyn were assigned by Owens *et al.* (1982) to four taxa, all of which Maletz and Erdtmann (1987) considered conspecific with *Adelograptus tenellus* (Linnarsson). This species is characteristic of the *tenellus* Zone. The trilobites show links with South American faunas (Owens *et al.*, 1982): *Dichelepyge phylax*, originally described from the Shineton Shales at Cardington (Hutchison and Ingham, 1967), is related to *D. pascuali* Harrington from the *Kainella meridionalis* Zone, a similar horizon of the lower Tremadoc in Salta Province, Argentina (Harrington and Leanza, 1957). The genus *Pseudohysterolenus* was recorded for the first time outside its type locality in Argentina. *Parabolinella argentinensis* is also known from Argentina, and the forms of *Leiagnostus* and *Pharostomina* are comparable to South American forms. These faunal similarities indicate that during the earlier part of the Tremadoc, trilobites were able to migrate far along latitudinal facies-belts on the outer margins of Gondwana and Avalonia (Whittington and Hughes, 1974, fig. 4). However, the small differences in the faunas of the *tenellus* Zone as represented at Cwm Crymlyn and in Sheinton Brook (see site report, and see Stubblefield and Bulman, 1927, p. 111) may indicate that slightly different horizons or biofacies are present in the two areas.

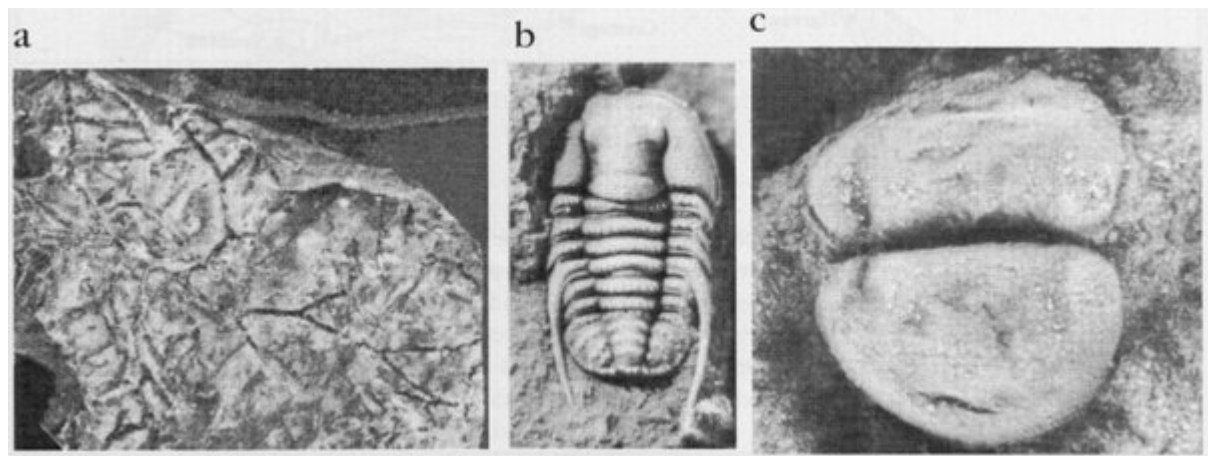
Conclusions

The quarry at Cwm Crymlyn is the best outcrop of Tremadoc rocks in South Wales and has the richest representative of the *tenellus* Zone in the Welsh Basin. Its international importance is highlighted by the presence of certain fossils, namely some trilobites that have not been found elsewhere in Britain but which closely resemble forms found in South America.

References



(Figure 7.1) Generalized sequences of Tremadoc rocks in North Wales and Shropshire, showing stratigraphical ranges of individual GCR sites. For locations of sites see (Figure 3.2), (Figure 7.9), (Figure 9.1) and (Figure 10.1).



(Figure 7.9) Fossils from Tremadoc sites. (a) *Adelograptus tenellus* (Linnarsson), x 3, Cwm Crymlyn. (b) *Shumardia* (*Conophrys*) *salopiensis* Callaway, x12, Sheinton Brook. (c) *Beyrichona triceps* Matthew, x 25, Coundmoor Brook, Evenwood.