
Nantannog Ravine

[SH 375 838]–[SH 381 833]

Introduction

This locality shows the Arenig rocks in a graptolitic facies and allows the dating of the Nantannog Formation as of Fennian age.

Nantannog Ravine is the type locality for the Nantannog Formation, of which a continuous thickness of 450 m is exposed here, comprising gritty shales, sandstones, pebbly grits and a slide-conglomerate. These beds are the lateral equivalents of the Treiorwerth Formation seen at the Treiorwerth site (see site report), which they overlie farther west, for example at Rhosneigr. At localities to the east of the ravine the Nantannog Formation can be seen immediately overlying the Carmel Formation, or its lateral equivalent, the Foel Formation. Fossiliferous horizons within the Nantannog Formation show that it has an age ranging from late Arenig (Fennian) to mid-Llanvirn (Aberieiddian). At Nantannog Ravine the succession is of Arenig age, whereas examples of younger horizons in this facies can be seen at Fferam-uchaf (see site report).

Description

Mentioned briefly by Greenly (1919, p. 441), this locality was described more fully by Bates (1972, p. 38), who provided a map (Bates, 1972, p. 38, fig. 5). The section is almost 1 km long, and the beds dip at 45–75° to the north-west or NNW. The oldest horizons crop out south of the road bridge [SH 3797 8344], where slightly gritty shales have yielded the only fauna reported from this locality at [SH 3808 8332], a cyclopygid trilobite and *Expansograptus hirundo* (Salter). Similar gritty shales crop out over a distance of 360 m downstream from the bridge. At this point, at a sharp bend in the stream, a 20-m-thick slide-conglomerate is exposed, well seen on the north bank of the ravine [SH 3779 8376]. It contains blocks reaching 0.6 m in size that are generally subangular and comprise predominantly phyllites and schists together with quartzite, granites, jaspers, gneiss and sandstones set in gritty pelite. The clasts are derived from the Monian Supergroup, and possibly also from the Lower Palaeozoic. Downstream from the slide-conglomerate the succeeding beds are sandstones and pebbly grit showing grading and alternating with shales. Upwards in the succession, the thickness and grain size of the sandstones and grits gradually decrease, so that only seams of grit are present in the shales in the topmost beds exposed at the mouth of the ravine.

Interpretation

This site shows to advantage the typical lithologies of the Nantannog Formation and, together with Fferam-uchaf, an indication of the range of faunas. At Nantannog the presence of *Expansograptus hirundo* indicates the Fennian Stage. Taken with the shallow-water Treiorwerth Formation (see site report) it shows an example of the rapid lateral facies change in the Arenig of the 'Principal Area' of the Ordovician outcrop on Anglesey. Bates (1972, p. 56) suggested that the nature of the Nantannog Formation, with clasts scattered in a mud matrix, implied redistribution of an already deposited sediment, probably by slumping into deeper water of material from the area of deposition of the Treiorwerth Formation. The clasts of Monian Supergroup rocks within the Nantannog Formation were believed by Bates (1972, p. 56) to be derived from the west.

Conclusions

The Nantannog Ravine is an important locality at which to observe deeper-water facies of the Arenig rocks in Anglesey. Taken with Treiorwerth, Gynfor and other localities, it exemplifies the complicated palaeogeography of the late Arenig transgression in north-west Wales.

[References](#)