Ord

[NG 618 124], [NG 615 132]–[NG 625 142]

Introduction

This site, situated in the Sleat Peninsula, southern Skye, demonstrates the remarkable lateral consistency of the Hebridean Foreland succession. It covers part of the area of the Ord Window, which includes the coastal section from Rubha Dubh Ard to the hamlet of Ord, and an area of hillside to the south of Ord. Despite structural complications, successions are exposed through the Eriboll and An t-Sròn formations, up into the Ghrudaidh, Eilean Dubh and Sailmhor formations of the Durness Group, all of which show features typical of their development nearly 200 km to the north, at Durness and An t-Sròn (see site reports).

The Sleat Peninsula is made up mainly of thrust sheets of Precambrian rocks, but around Ord, where the Torridonian rocks of the Kishorn Thrust Sheet are eroded, the 'Ord Window' reveals an area of the foreland succession. The area was investigated by early workers, such as Macculloch (Peach *et al.,* 1907, p. 420) and Geikie (Oldroyd, 1990, p. 116), but the complications of the thrust tectonics in the area were only fully dealt with by the Geological Survey (Clough, in Peach *et al.,* 1907, p. 417). Much of the present site is described in Excursion 2 of the field guide by Bell and Harris (1986, p. 159). Farther north, near Broadford, there are further outcrops of the Durness Group. These are fragmentary successions associated with the Kishorn Thrust, and are not considered in the present account.

Description

The coastal section north-east of Ord and the hillside south of Ord together expose examples of all the Cambrian and Tremadoc strata represented on Skye. In the coastal section (Figure 12.13) the oldest rocks, occurring on the eastern side of the headland Rubha Dubh Ard [NG 625 142], consist of white quartzites of the False Bedded Quartzite, dipping west at about 60°. Cross-bedding is accentuated by pink staining. Although the basal conglomerate of the unit is not exposed at this locality Peach *et al.* (1907) described such a conglomerate about 2 km to the south, on the east of Sgaith-bheinn Chrossavaig.

On the western side of Rubha Dubh Ard, the rocks exposed at low tide show the Pipe Rock Member. In the lowest beds, again dipping west at 60°, the *Skolithos* burrows are 1–3 mm across and densely packed. This is the least disturbed section through the Pipe Rock in the area, and Peach *et al.* (1907, p. 418) described the 'zonal' subdivisions of the Pipe Rock there. In the bay, to the southern end of the outcrop of the Pipe Rock, thinly bedded quartzites 5–10 cm thick give way upwards to 10–30 cm thick beds, then finally to massive, 50–80 cm thick units. These beds are stained pink and the pipes stand out in white.

The Pipe Rock quartzites are followed immediately by the Fucoid Beds. These are brown-weathering sandy shales with thin, yellow calcareous flags, overlain by variegated grey shales with thin, brown sandstone beds. Near the base are beds of dolomitic limestone. *Olenellus* has been found in these beds near Ord but not in the present shore-section. To the south of the house situated on the bay [NG 622 138] is a quartzite that represents the Salterella Grit. A break in exposure where the section is faulted conceals a disturbed repetition of the Fucoid Beds (Peach *et al.,* 1907, p. 419), followed by Salterella Grit.

The beds west of the house consist of a continuation of the Salterella Grit overlain by brown-weathered sandy dolomites that are referred to the Ghrudaidh Formation. These beds are affected by thrusting and are closely followed above by flaggy dolomites of the Eilean Dubh Formation, which are exposed in the headland at the west of the bay, where they are folded. They generally dip south-west at 75° and consist of colour-banded and finely laminated limestones and dolomites, the layers being cream, white, yellow, pink and red. Some layers are coarser-grained and contain clastic grains of quartz. Chert horizons and nodules are common at the base and top of the sequence. The Sailmhor Formation, consisting of massive, granular, dark-grey dolomites with extensive chert development, is exposed in the cliffs and on the foreshore

towards Ord. On the foreshore at Ord there are thrust repetitions of inverted Torridonian and basal Cambrian, and on the south-west side of Ord Bay a major fault introduces Torridonian sandstones.

The same general sequence of strata can be seen on the hillside 1.3 km SSE of Ord. The rocks dip NNW at 80°, such that the lowest units occur at the top of the hill [NG 619 121] and successively younger strata are crossed on descent. At the top of the hill, the False Bedded Quartzite occurs as medium to thickly bedded massive quartzites, with few sedimentary structures apart from occasional cross-bedding. To the northwest, the Pipe Rock shows typical *Skolithos* burrows and forms prominent crags at the hilltop. The Fucoid Beds tend to be concealed by gently sloping boggy ground, but farther down the hillside the Salterella Grit forms a prominent ridge of pink-stained massive quartzite. Within a few metres, the Ghrudaidh Formation forms another ridge consisting of dark-grey coarsely crystalline dolomites. Downhill, exposure is sporadic, but the Ghrudaidh Formation gives way up-dip to the cream-coloured, fine-grained limestones of the Eilean Dubh Formation. Finally, the Sailmhor Formation crops out, composed of massive dark-coloured dolomites with chert nodules and layers and with burrow-mottling at some levels.

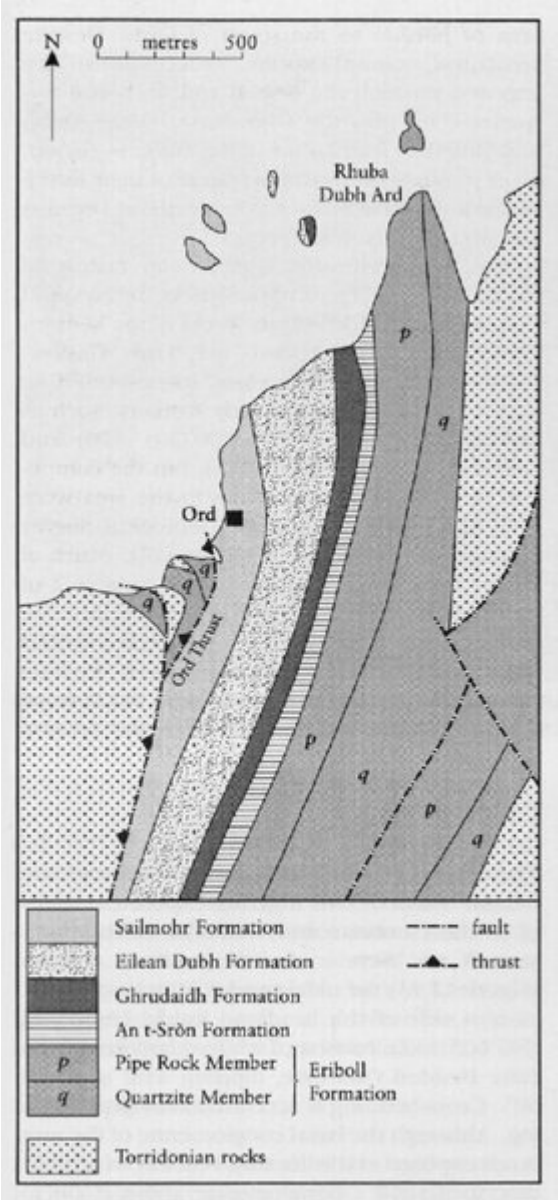
Interpretation

Despite the tectonic disruption of the Cambrian rocks of southern Skye, it is possible to recognize many of the features that characterize each of the units of the Eriboll and An t-Sròn formations and the lower formations of the Durness Group. From Eriboll in the NNE to Skye in the SSW, the thickness and sedimentological features of the Eriboll and An t-Sròn formations remain remarkably constant. McKie (1993, p. 253) gave a schematic section indicating relative deepening of the shelf to the SSW Minor lithological changes include a southward increase in the proportion of micaceous shale interbeds in the Eriboll Sandstone Formation (Peach *et al.,* 1907, p. 369) and a southward increase in the proportion of the mudrock component of the Fucoid Beds (McKie, 1993). Likewise, the Ghrudaidh, Eilean Dubh and Sailmhor formations retain such features as their colour and the chert beds, which characterize their development in the Durness–Balnakeil area (see site report).

Conclusions

The site at Ord together with the sites nearly 200 km away on the north Scottish coast, demonstrates the uniformity of the shallow-water Lower Cambrian strata deposited on the edge of the fragment of the Laurentian continent known as the Hebridean Terrane. This uniformity indicates that during the Cambrian the continental margin lay nearly parallel to the present NNE–SSW trend of the Cambrian outcrop.

References



(Figure 12.13) Simplified sketch-map of the area of Ord, southern Skye, after Bell and Harris (1986, fig. 16a).