
Excursion 10: Pirnmill to Catacol

((Figure 14), localities 18 to 29)

This excursion has for its main objects the study of the rock-types and structures shown by the Dalradian schists along the western margin of the Northern Granite. In traversing the suggested route attention should be directed in particular to the following features:

1. The rocks to be examined are for the most part altered schistose grits, representing very ancient coarse-grained arenaceous (sandy) sediments. Associated with these are a number of finer-grained phyllites, representing metamorphosed mudstones or sandy mudstones.
2. A mappable belt or zone of dark phyllites and fine-grained grits, associated at localities 21 and 24 with a thin band of impure schistose limestone, can be traced running in a general south-southwest direction midway between the granite margin and the coast.
3. The Dalradian schists along this tract lie almost entirely on the eastern flank of the Catacol Synform (see p. 24), the axis of which crosses the coast at localities 28 and 1a on (Figure 14).
4. Graded bedding should be carefully looked for in the various exposures. It indicates that the original succession of beds is inverted and that the schistose grits in the centre of the synform are *older* than the slaty rocks and grits rising from below them to the east. The implications of graded bedding and its bearing on the structural disposition of the Dalradian generally is discussed briefly on page 22.
5. A low raised beach is present along most of the coast-section covered by this excursion. Fragments of higher beaches may be seen at localities 28 and 29.

18. [NR 8724 4457] Examine the coastal section at this locality carefully. The rock types seen are mainly hard gritty schists with some pebbly bands and a number of ramifying quartz-veins. They are all much cleaved and folded, but it is possible in places to recognise that the cleavage or foliation planes are inclined at low angles to the planes of bedding.

19. [NR 8734 4524] At the headland known as Rudha Ban and immediately to the south of it the rocks are again nearly all coarse and gritty greenish-grey schists. Some crumpled and distorted bands of fine-grained greenish mica-schist are also present as well as pebbly bands of quartz (mainly) up to 12 cm in length. Note that the true dip is generally west-northwest, while that of the foliation is more westerly. Sometimes the two coincide.

A 12 to 15m dyke cuts the schists here, indurating them along both margins. It is a coarse-grained crinanite carrying a little analcime and can be traced to the east-southeast for about 1–2km. It does not, however, cut the granite. Some 200m south of the dyke there is a marked fault-line showing a crush-breccia made up of schist fragments. Other similar crush-lines occur along the coast here.

From locality 19 ascend the hillside to examine exposures in the belt of dark, slaty schists already referred to. The same slaty group of rocks can also be examined on excursion 8 (locality 16a) and on excursion 9 (locality 1).

20–21. [NR 8823 4535], [NR 8836 4575] The belt of dark, sometimes black, slaty rocks sometimes includes at these localities a thin bed of limestone, grey in colour with darker partings, inclined at steep angles to the west-northwest. It is poorly exposed now but was described by Gunn (1903, p. 14) as "a limestone 4 or 5 feet (1.2 or 1.5m) thick, which was formerly quarried and burnt".

22. [NR 8755 4587] Strong, gritty, grey schists, often much folded and broken by small-scale faulting and lines of crush, are seen along this part of the shore. Some of the crush-lines are accompanied by marked breccias. Note also the local abundance of quartz-veins.

Close to where the track from Auchmore (South Thundergay) Farm reaches the shore, there are several basalt dykes cutting the schists, one of them about 18m wide.

23. [NR 8835 4758] Between the last locality and locality 23 the coastal exposures show much folded grey and greenish-grey schists varying from coarse-grained to fine. Note the changing and sometimes undulating inclination of the foliation along this part of the coast, suggesting that the axis of the synform lies close to the land. Northwesterly basalt dykes traverse the schists at several points, indurating them along the lines of contact.

From locality 23 follow the burn rising in Coire an Lochan up to locality 24. The lower part of this burn is known as the Allt Mhòr.

24. [NR 8886 4687] Note here the transition from the coarse, gritty grey schists to the fine-grained, dark, slaty rocks of the central belt. It should also be noted that here again a thin band of impure limestone is present and that the slaty rocks show along their western edge a schistose conglomerate with quartz pebbles up to 10 or 12 cm in length.

25. [NR 8950 4638] At this locality examine the steeply inclined gritty schists indurated by proximity to the granite. Along the schist-granite junction veins of granite in places penetrate the schist. Exposures of the granite in the burn above locality 25 should also be examined and the character of the rock noted.

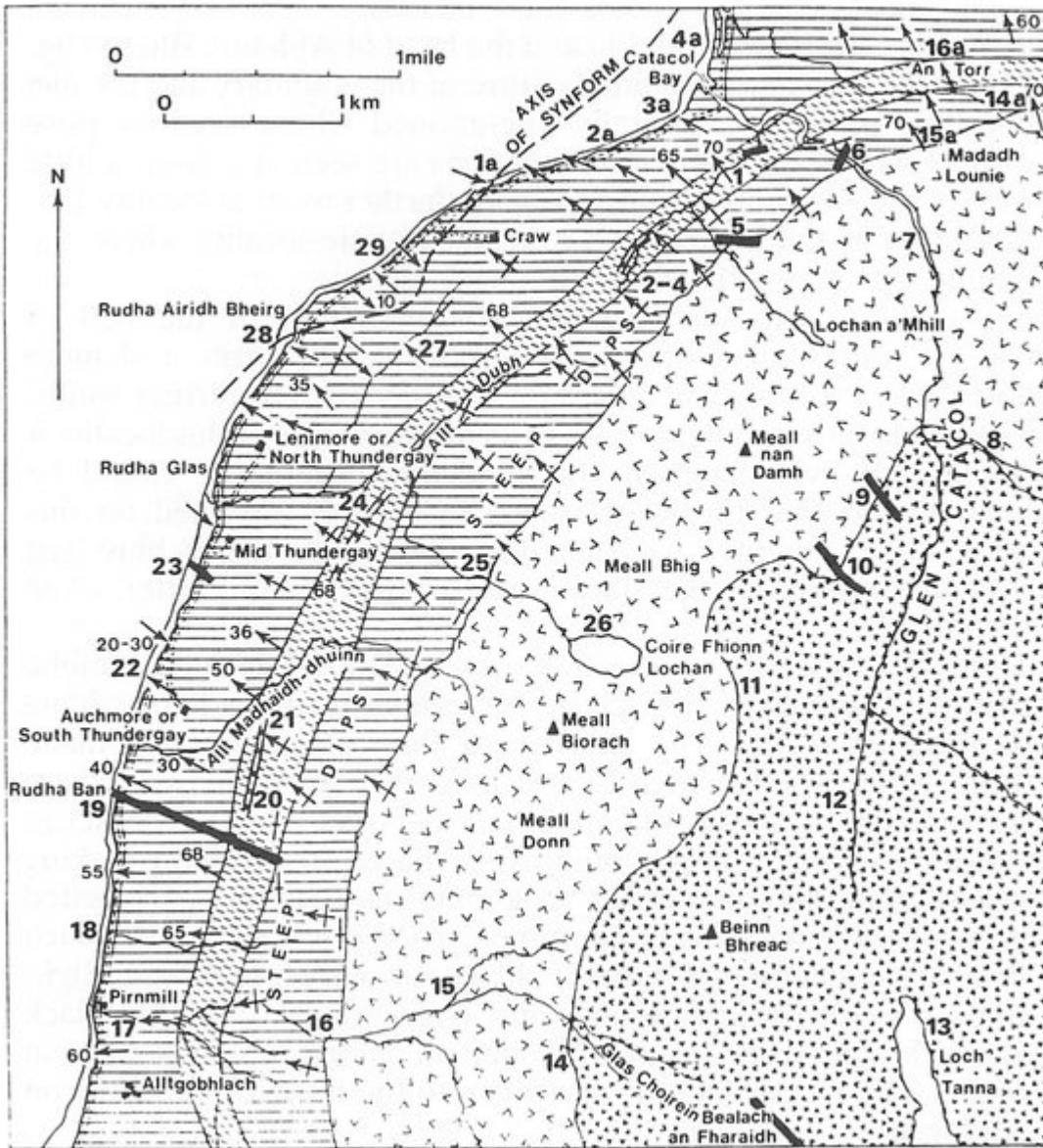
26. [NR 9006 4607] Coire Fhionn Lochan is a rock basin lying at an elevation of 329 m and surrounded by a granite rampart formed by Meall Biorach (549m) to the south, the ridge of high ground overlooking upper Glen Catacol to the east and Meall Bhig (435 m) to the northeast. The loch, with a little beach of granite sand at its outlet, is certainly the most picturesque in Arran.

27. [NR 8914 4768] On the hillside known as Cnoc Moine nan Cuile (194m) examine the exposures of massive, grey, gritty and often pebbly schist. Here, and in neighbouring outcrops the foliation dip varies a good deal in direction and amount. This locality is not far from the axis of the Catacol Synform.

28. [NR 8848 4782] South of this locality as far as Rudha Glas the coast shows good sections in much folded and faulted greenish-grey mica-schists often carrying veins and nodular masses of quartz. At locality 28 itself the axis of the synform crosses the coast and runs inland for about 800m before reaching the shore again at locality 1a (see Excursion 8).

29. [NR 8905 4819] Between localities 28 and 29, the grey and greenish-grey gritty schists all lie close to the axis of the synform and on its western flank. Dips are now generally southeasterly but there is much folding and contortion.

References



(Figure 14) Geological sketch-map of the Catacol-Pirnmill area to illustrate Excursions 9 and 10. For key to map, see p. 78.