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## Excursion 9: Catacol, Loch Tanna, Pirnmill

((Figure 14), localities 1 to 17)

This excursion takes the visitor up Glen Catacol to Loch Tanna and thence by a traverse westwards across the granite ridge to Glas Choirein and the coast at Pirnmill. The main purposes of the excursion are to examine (1) sections in the steeply inclined Dalradian schists along the western edge of the Northern Granite; (2) contacts of the outer, coarse grained, granite and the inner, fine grained, granite exposed in Glen Catacol and on the high ground to the west. The two types of granite contrast not only in their texture but also in their joint systems and mode of weathering. The wide-spaced mural jointing in the coarse variety and the more compact close-set jointing in the fine are reflected in the topography.

1. [NR 9104 4855] To reach this locality ascend the little stream which joins the Catacol from the southwest at the first sharp bend above its mouth. The stream, the Allt nan Eireannach (the Irishman's Burn), for some distance follows a belt of "dark slaty schists" which Gunn (1903, p. 14) describes as "probably identical with that which appears near the foot of Abhainn Beag on the east side of Glen Catacol". He adds that "there is a strong probability that the same band continues southwards from Glen Catacol nearly parallel to the boundary of the granite, but at no great distance, as far as the Allt Gobhlach opposite Pirnmill". The sections of these rather dark, finely-schistose rocks exposed at locality 1 and upstream should be carefully examined and compared with the coarse gritty schists on either side. Boundaries, however, cannot be sharply defined.

A short distance upstream from the High Lateglacial Raised Beach terrace a dyke of spessartite, 2 m wide, crosses the burn. A hand lens shows dark prisms of hornblende in a pink feldspathic base. Unlike the dykes to be seen at localities 5 and 6, this spessartite has scarcely been affected by the intrusion of the granite. Careful examination will show the presence of yellow epidote.

2. [NR 9116 4836] Here steeply dipping grey or greenish-grey grits are followed westwards by the slaty beds of locality 1 and a traverse should be made across these to look for any evidence of transitional types. All the schists along the granite margin here form part of the upturned limb of the Catacol Synform produced during the emplacement of the granite (see p. 24).

3, 4 and 5. [NR 9068 4787], [NR 9116 4836] At these three localities the junction of the granite against the steeply inclined schists can be examined. Note that at locality 4 the latter are cut by veins of granite. The induration of the schists extends outwards for a distance of some 180m.

At locality 5 a dyke of diorite, some 3 m wide, occurs. At its eastern end it is cut off by the granite and traversed by narrow veins of aplite. It will be noted that the dark minerals of the diorite are dull, resulting from the replacement of the original amphibole and pyroxene by little crystals of randomly orientated biotite at the time of emplacement of the granite.

6. [NR 9167 4861] Here the Catacol has cut a gorge through the indurated schists at the contact, the line of which is continuous with the section exposed on the crags to the northwest at Madadh Lounie (Excursion 8, locality 15a).

The thermal metamorphic alteration of the schists has produced the minerals cordierite, biotite and corundum. A dyke of diorite, rather similar to that seen at locality 5, cuts the altered schists towards the upstream end of the gorge: it is about 5 m wide and runs in a north-northwest direction. It is seen again on the rough track which follows the bank of the Catacol Burn. The dyke rock exposed in the burn was only mildly affected by the intrusion of the granite and shows glistening prisms of amphibole and equant crystals of augite in a base of white feldspar. The rock seen on the track is metamorphosed but to a lesser degree than that suffered by the intrusion at locality 5. An unaltered dyke of tholeiite, with phenocrysts of feldspar and xenocrysts of feldspar and quartz, is exposed crossing the Catacol in a north-northwest direction just downstream from the diorite. This dyke is clearly younger than the granite.

7. [NR 9205 4800] Ascend Glen Catacol to locality 7, examining sections in the coarse granite at various points along the stream. On the hillside which rises steeply on the east to Creag na h'Iolaire there are numerous exposures illustrating its

variations in texture, its joint system and its rough craggy mode of weathering.

8. [NR 9239 4698] Here the contacts of the fine and coarse granites should be looked for in the Allt Diomhan, where, however, it is somewhat obscured by crushing, and again in the Catacol a little below the confluence of the two streams. Flett (1942, p. 188) notes that at the latter locality the contact is well seen in a dry gully where the outward-dipping relationship of the fine to coarse granite "is clearly shown by the V-ing of the junction line towards the coarse".

Note that between the lower and upper portions of the Diomhan glen there is a series of cascades over which the burn falls 60m to its junction with the Catacol. This discordance in level was interpreted by Mort (1914, p. 400) as evidence of glacial overdeepening of the latter. Scott (1918, p. 96) and Gregory (1920, p. 157) attribute it, on the other hand, to differential stream erosion, the older and larger Catacol following a zone of fractured and shattered granite.

9, 10 and 11. Follow the junction line to localities 9[NR 9218 4673] and 10[NR 9148 4630] , at both of which it is cut by basic dykes. Between 10 and 11 its position cannot be clearly defined owing to lack of exposure but it would appear to show an embayment to the west. At locality 11[NR 9083 4587] the inner granite is very fine-grained against the coarse and here again the evidence suggests a steep inclination towards the coarse outer granite. The visitor should note that in places veins of fine texture in the coarse granite sometimes stand out as ridges as a result of differential weathering.

12. [NR 9151 4509] From locality 11 cross to locality 12 at the head of the Catacol and thence continue southwards to Loch Tanna. This part of the route lies wholly within the finer-grained inner granite.

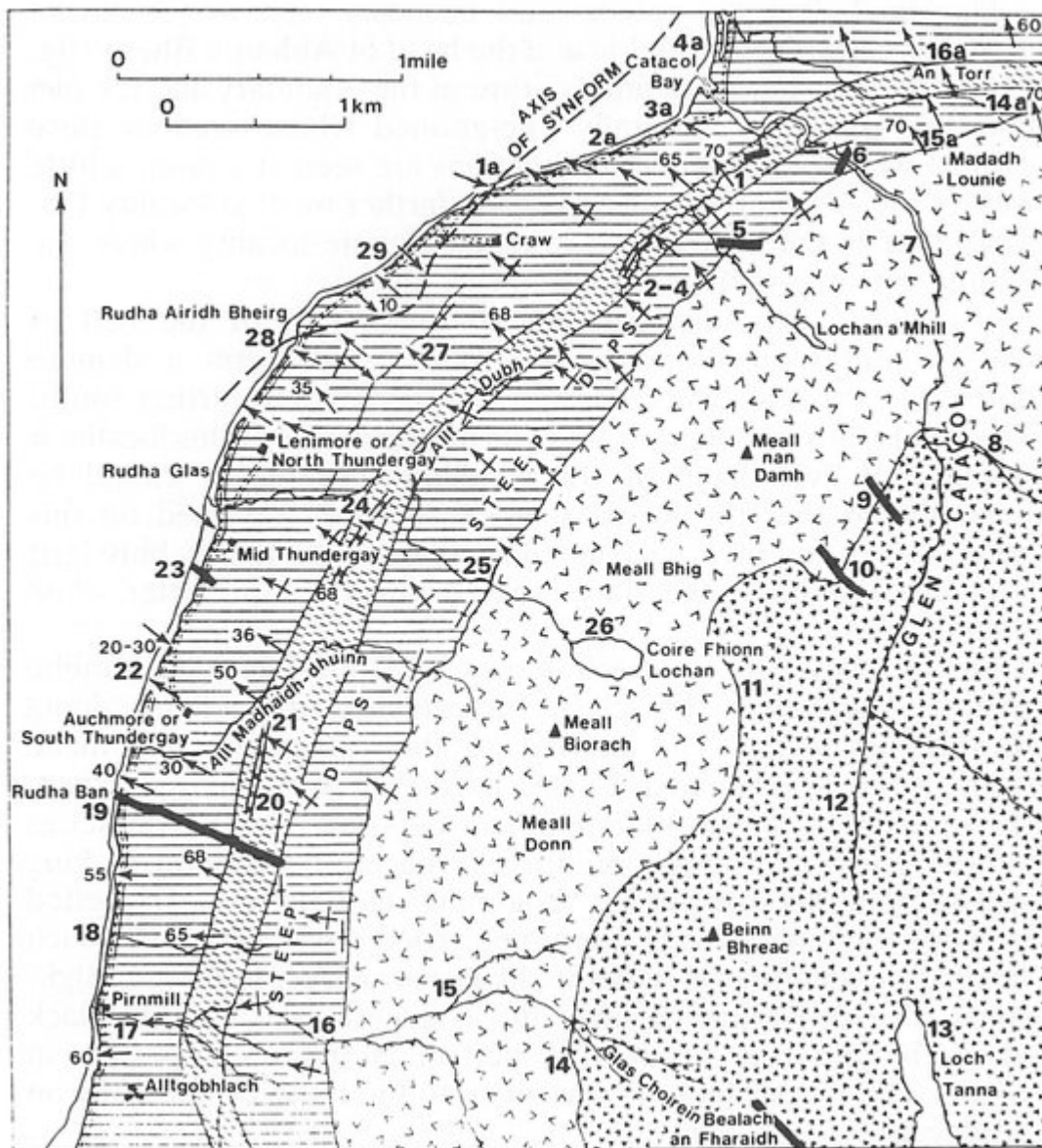
13. [NR 9188 4381] Loch Tanna, about 1.6 km in length, is the largest freshwater loch on the island. It lies in a peaty drift-covered hollow at an elevation of 320m and drains southwards towards the Iorsa Water. The route now lies westwards across the granite hill by the pass known as Bealach an Fharaidh, between Beinn Bhreac and Beinn Bharrain. This traverse takes the visitor across both varieties of the granite and provides many opportunities for examining and comparing them.

14. [NR 8980 4371] In the long wide hollow known as Glas Choirein the contact can be seen at locality 14 where it is sharply defined in places and where the evidence suggests a steep inclination of the fine towards the coarse.

15–16. [NR 8915 4409], [NR 8855 4384] The route between these localities crosses the outcrop of the coarse granite (locality 15) and at locality 16 the intrusive junction of the granite with steeply dipping, indurated Dalradian schists. is seen. It should be noted also that between these localities the 300m (1000 foot) Platform has been crossed. roughly between the 275m and 290m levels. Some 600m up from the mouth of the Allt Gobhlach the stream cuts through a zone of fine-grained greenish-grey mica schists with thin dark slaty bands corresponding in position to the belt of similar rocks encountered at locality 1 (see also Excursion 10, localities 20, 21 and 24).

17. [NR 8739 4409] Here there are good sections in steeply inclined (up to 56°) grey gritty schists.

## References



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