
Excursion 8: Catacol, Loch Ranza and Creagan nan Caorach

((Figure 14), localities 1a to 4a and 14a to 16a) ((Figure 13), localities 5a to 13a)

This excursion continues the examination of the Dalradian schists, this time in the area south-west of Loch Ranza, and the further evidence they provide for the basin-shaped structure known as the Catacol Synform. The axis of this synform is indicated on (Figure 13) and (Figure 14), and it will be seen that while northwesterly dips prevail on its eastern or southeastern side, the dips on the western or northwestern side are steeply inclined to the southeast. Opportunities are also given on this excursion for examining some striking exposures of the junction of the schists with the Northern Granite.

The visitor should, in the first place, examine the shore-section (fig. 14, localities 1a-4a) to the southwest of Catacol Bay. The schists here are inclined in a general west-northwest direction at angles which range from 20° up to 60° or more. They are mostly hard, greenish-grey, gritty schists, with some bands of fine-grained bluish slaty schist. A good many quartz veins are present and a few thin basaltic dykes.

1a. [NR 9004 4867] Near this locality the axis of the Catacol Synform crosses the coast and passes out to sea. Much small-scale folding and crumpling is a feature of the schists at this point. Note carefully the different inclination of the schists on the two sides of the axis.

2a. [NR 9041 4880] Good examples of inverted bedding can be examined along this part of the coast.

3a. [NR 9078 4893] Note the occurrence of numerous crush-lines or small faults traversing the greenish, fine-grained chloritic schists at this locality in a northwesterly direction. The low raised beach platform with the old line of sea-worn cliffs behind is a striking feature here.

4a. [NR 9103 4937] Catacol Bay. Note the low level, recent, alluvial terraces of the Catacol Burn and the Abhainn Bheag, and the remains of a higher terrace thought to have been an outwash fan deposited by meltwater from the glacier which occupied Glen Catacol in Lateglacial times. Note also the shingle bar along the shore.

The coping of the walls at the roadside north of the bridge over the Catacol Burn, and elsewhere, contains a number of blocks of white sandstone and reddish fossiliferous limestone of Carboniferous age (see below).

5a. [NR 9114 4993] Just north of Catacol the shore section shows mainly hard gritty schists with some coarser bands, often sharply folded. The axis of the Catacol Synform is here close at hand.

About 1.2 km north of Catacol there is a bank of loose boulders only exposed at low water and separated from the beach by a shallow channel. Cowie described this in 1901 (Cowie 1905, pp. 156–158, and plate IV, fig. 1) as a shoal of blocks and shingle consisting mainly of fragments of a massive red limestone with *Productus* and other shells, pieces of red shaly limestone packed with shell debris (crinoids and polyzoa) together with pieces of red and grey sandstone, quartzite, conglomerate and dolerites of all sizes and generally angular. He suggested that the "shoal" forms part of a moraine lateral to ice moving down Kilbrannan Sound from the north. In the same paper he describes a shoal occurring on the north shore at Loch Ranza and containing in addition to pieces of granite and slate, boulders of limestone, sandstone and breccia similar to those at Catacol (Excursion 7, locality 2).

Gunn (1903, p. 52, and in Tyrrell 1928, pp. 69–70) described this bank or shoal under the name of "Catacol Cairn", and gave a list of the fossils obtained from the loose limestone blocks. This list includes corals, brachiopods, lamellibranchs and crinoid remains. He rejected the idea of a moraine as not very probable since the "nearest place where rocks of this kind occur *in situ* is more than 2 miles away to the east of North Newton", and suggested that the blocks may have been cast up by storms from an outcrop not far away, beneath the sea. B. N. Peach (in Gunn 1903, p. 138) accepted this view.

The reader should note that Gunn makes no mention of the similar "shoal" on the north side of Loch Ranza. Perhaps the source of the Carboniferous rocks of both localities is an undersea extension of the outcrops in the Allt Mòr (Excursion 7, localities 6 and 7), a view which appears to be supported by geophysical evidence (McLean and Deegan 1978, p. 97) for rocks of Lower Carboniferous and New Red Sandstone age, not far offshore.

6a. [NR 9141 5047] Here the axis of the Catacol Synform again crosses the coast at a point close to the house known as Achnamara and a little over 1.2 km from Loch Ranza Pier. Between localities 5a and 6a the shore-section shows hard, massive grits dipping a little west of north at angles of 45° up to 70°. Graded bedding. seen at a few points, again indicates inversion. Note the old sea cliffs and caves at the back of the Main Postglacial shoreline.

7a–8a. [NR 9174 5082], [NR 9248 5100] The axis of the synform has now been crossed and the inclination of the schists between here and the pier at Loch Ranza is to the southeast. The rocks are, in the main, coarse schistose-grits; the larger pebbles, occasionally up to 2cm in diameter, consist mainly of white quartz and are set in a finer-grained matrix of more or less crushed material. Graded bedding, showing inversion, occurs. A few crush-lines and some thin dykes traverse the schists; note the branching dyke a little west of the pier.

9a. [NR 9332 5066] Loch Ranza is a fjord-like inlet about 500m wide, which receives the united drainage of Glen Chalmadale and Gleann Easan Biorach. Loch Ranza Castle stands at the end of a sand and gravel spit which projects from the southwest side of the loch. This spit probably represents a portion of the old terrace of Postglacial times which has been cut up and largely eroded. The castle itself consists of an oblong main structure, 20m long and 10.7m wide, and has a small square tower projecting from the southwest corner. It was a three-storied building and originally the northeast corner was also carried up as a tower; this part, however, fell during a storm about 1897. Little is known of its history. The present structure, assigned to the latter part of the 16th century, occupies the site of earlier buildings (see Whitelaw 1910, pp. 246–249, fig. 2 and plates XLIII–XLIV).

Follow the road through Loch Ranza village to the junction of the Easan Biorach with the Chalmadale Water at Ballarie Bridge. A good section of sands and gravels belonging to one of the higher raised beaches is exposed above the junction and west of Ballarie. From a gravel pit here Cowie (1905, p. 158) obtained fragments of limestone with *Productus* and plant remains.

On a piece of level ground on the north side of the Chalmadale and almost opposite Ballarie Farm was the site of the chapel of St. Bride. In the *Lord of the Isles* Sir Walter Scott makes it the site of a convent in which the Maid of Lorne lived for a time, but while hardly a trace of foundations now remains, there is no historic evidence to show that anything more than a simple chapel existed.

10a. [NR 9455 4963] Ascend the Easan Biorach from the main road to this locality. The discordance in level between the Easan Biorach and the Chalmadale was explained by Gunn (1903, p. 14) as due to the presence of a belt of indurated and altered schist in which the tributary burn has cut a narrow gorge. This view was accepted by Scott (1918, p. 97) rather than the interpretation of Mort (1914) who attributed the discordance to glacial overdeepening of Glen Chalmadale (see p. 58).

11a. [NR 9317 4975] On Creag a'Mhadaidh (*circa* 230m) examine the massive, pebbly schistose grits exposed at a number of places, and note the generally northerly inclinations at high angles.

12a. [NR 9277 5012] It is suggested that the route taken from locality 11a should follow the strike of the schists in the direction of Torr an t-Sean Chaisteil (*circa* 180m). This is an old oblong enclosure some 70m long and 36m wide, with roughly constructed walls. It probably served as a shelter for cattle in times of raids, rather than as a fort. The rocks in the vicinity are mainly coarse-grained siliceous schists with pebbles of quartz or of quartz and feldspar up to 13mm in diameter.

13a. [NR 9276 4943] From locality 12a ascend the hillside to locality 13a and thence to the granite-schist boundary at Creagan nan Caoroch (284m) just beyond the southern margin of (Figure 13). During this traverse, at a level of between 240 and 290m, a broad plateau-like feature is crossed, its surface largely covered by peat with exposures of rock to be seen here and there. This plateau forms part of the 300m (1000 foot) Platform, a striking feature in the topography of the

ground around the Arran mountains (see p. 57). It is well seen, for example, at the 230 to 300m level, above Pirnmill and Thundergay (Excursion 10).

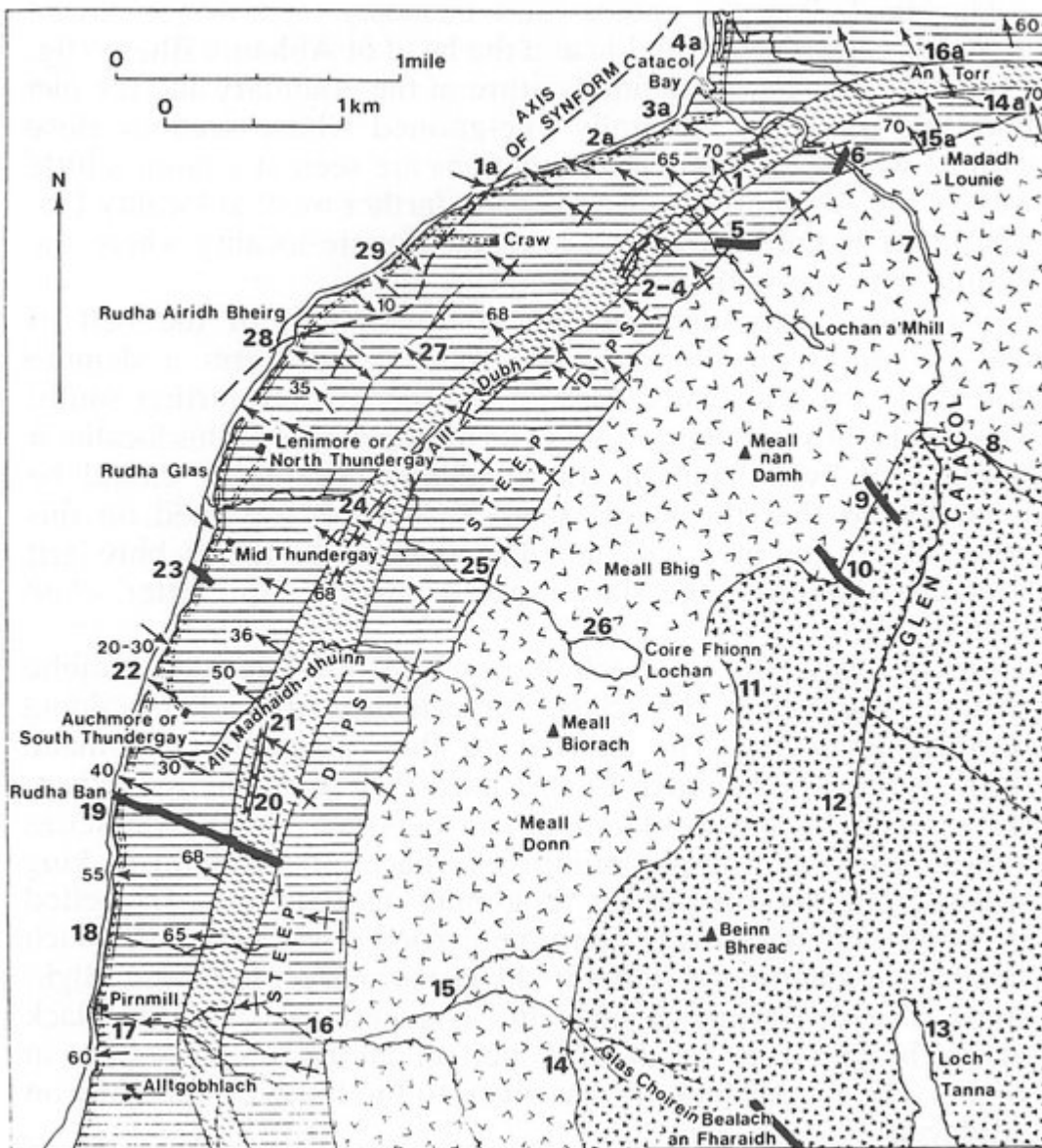
As the granite margin is approached the gritty or pebbly schists become indurated and the finer slaty bands show intense crumpling and puckering, while the inclination steepens until in places it is almost vertical. This belt of indurated schist extends westwards to a distance of some 225 or 275 m from the granite and forms a striking ridge-like feature on the hillside, which is actually higher than the adjoining granite.

14a–15a. [NR 9241 4872], [NR 9230 4871] Follow the granite-schist boundary in a west-southwest direction towards locality 14a and the head of Abhainn Bheag (fig. 14) noting the sharply defined nature of the boundary and the fact that the granite is generally fine-grained where seen in close contact with the schist. Good junctions are seen at a point a little west of the Abhainn Bheag and again, farther west, at locality 15a. The latter is the well-known Madadh Lounie locality where the granite cuts across the schists in a cliff face.

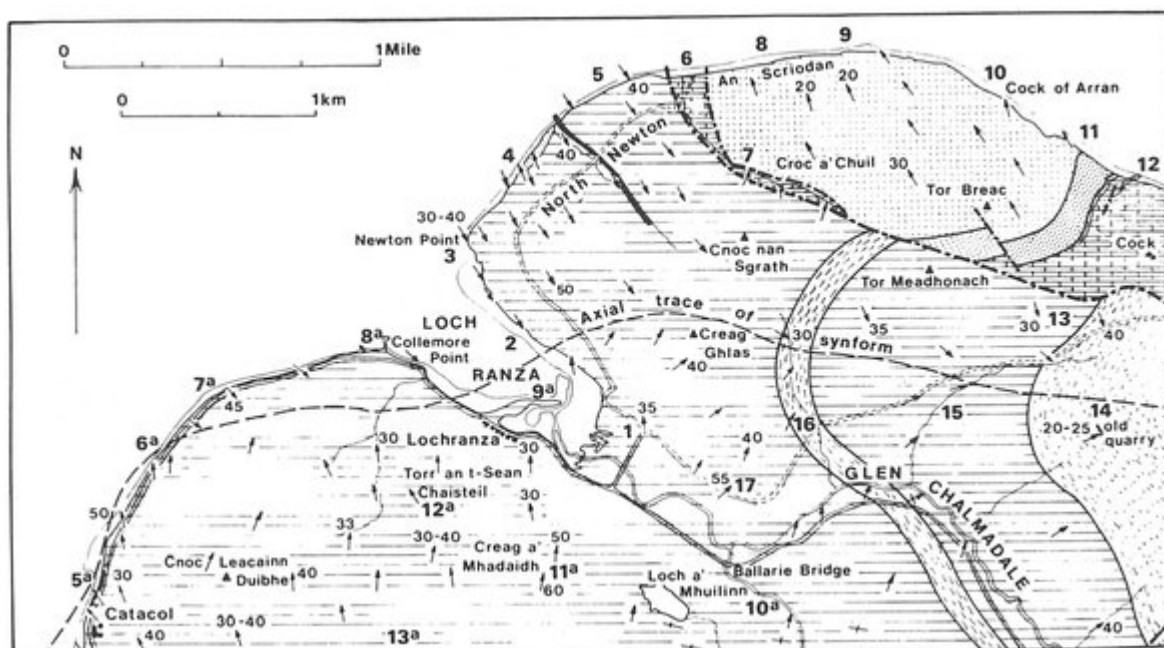
16a. [NR 9226 4921] Good exposures can be obtained here of the belt of fine-grained, blue-coloured slaty rocks which form a definite horizon in the schist succession at this locality and farther south. The belt is shown in (Figure 14). On its northern side at this locality it is followed by a band of coarse pebbly grit but it should be remembered that the whole schist succession traversed on this excursion is an inverted one and that while the pebbly grit *structurally* overlies the slaty rocks it underlies the latter *stratigraphically*.

On the way back to Loch Ranza by Cnoc Leacainn Duibhe examine sections in the schists for evidence of graded bedding showing inversion. The descent to the village may be made through the woods above Loch Ranza Pier (Coillemore), where the remains of an old bloomery can be seen. These bloomeries indicate the site of simple, primitive furnaces, in which the making of iron from bog-iron ore (or "bog-mine" as it was called) smelted by wood charcoal, was at one time carried out. Evidence of such small-scale smelting is widespread in various parts of the Highlands. The slag found at such sites is generally of a dense black iron-rich type as a result of imperfect methods of smelting in vogue. The name "bloom" was given to the lump or mass of iron produced.

[References](#)



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



(Figure 13) Geological sketch-map of the Loch Ranza–Cock of Arran area to illustrate Excursions 8 and 9. For key see Figure 5.