Caving Expedition to Sligo, August, 1967.
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Caving Expedition to Sligo, August 1967

By

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After a preliminary survey in 1966 a small expedition of five people explored caves in the Benbulben range in the counties of Sligo and Leitrim in Ireland. The project was sponsored by Bovril Ltd., Nestlé Company Ltd., Tate and Lyle Refineries, A. Wander Ltd. and Vitamins Ltd. to whom we express our thanks. Camp was set up in a corrie on the north side of Benbulben. During the 5 weeks' duration of the enterprise we had plenty of rain.

As there is a largish number of caves in the area between Lough Gill and Lough Melvin we limited our investigations to the following groups of caves:

1. Caves in or near Gleniff, Benbulben Plateau.
2. Cave fragments as remainders of very old cave systems.
3. Rift caves on the eastern Benbulben Plateau.

1. *Caves in or near Gleniff*

Apart from Dermot and Grania's Cave there are a number of cave entrances visible in the cliffs. As Dermot and Grania's Cave shows very old phreatic features we investigated it in the hope of finding more remnants of this system. However, the entrances we managed to reach in Gleniff only led to small rift caves of no particular merit.

The little-known higher corrie (G 72 45) above the end of Gleniff contains several truncated fragments of small phreatic passages as well as a large entrance. However, the phreatic features of the entrance immediately give way to a maze of intersecting rifts with scalloped walls. The latter features indicate a phreatic phase which was probably short-lived as the overall shape of the passages was not affected. The scallops appear reasonably fresh, so that they certainly do not go back to a phreatic phase before the formation of the valleys below the cave. They were probably formed when glacial meltwaters broke into the rifts and caused a short-lived pseudo-phreatic phase. Glacial boulders washed in from above were left in precarious positions as the water sank and should be treated with great respect as we found out.

2. *Cave fragments*

A number of openings in the cliffs south of Glenade Lough remain inaccessible. Similarly entrances at the back wall of Ardnaglass Corrie (G 72 45) remain untouched. Two small entrances in the cliffs of Glencar (G 71 43) lead into cave fragments some 30 ft. long that show features of considerable antiquity. Cross-profiles of the passages point to phreatic origin. Scallops are recognizable on some of the walls, but they are not well preserved and appear to be fairly old. In places they can be noticed under the clay coating of the walls which clay bears witness to a lengthy period of weathering. This clay coating however is younger than the flowstone that covers the walls and forms a false floor in the caves. Obviously these deposits have been undisturbed for a long time. The clay coating may be fairly recent, but the flowstone formation cannot be explained by current processes. The caves are at the very edge of the plateau and are perfectly dry. The flowstone must have been deposited when the topography allowed some seepage of water from above; it is likely that this was before the valley glaciers of the last glaciation widened the valley.

Calcite deposition is generally more active during temperate or warm periods and it is reasonable to assume that the flowstone in these cave fragments was deposited during an interglacial period.

There are breccia deposits under the false floor in both caves, but they have been thoroughly disturbed by foxes and other burrowing animals so that we found it impossible to date them. The nature of these breccias makes it clear that they owe their origin to a cold period. This was followed by a warm period which saw the deposition of the flowstone on the walls, the formation of the calcite false floor and the growth of a few formations. The clay coating on the flowstone features makes it sufficiently clear that they are of considerable age and we suggest that they were laid down during the Last Interglacial. The breccia under the false floor may be of Riss origin. As the backs of these caves are effectively sealed by flowstone it is not surprising that there are no traces that could be attributed to meltwaters of the Last Glaciation. The passages themselves probably date back to a time when there were no deeply incised valleys in the area and phreatic passages could develop in locations that are now high above the valley floor. For reasons of geomorphology this was probably before the Great Interglacial; more cannot be said on the evidence. Dermot and Grania's Cave in Gleniff shows similar features. We found another fragment of this type south of Leean Mt. and one within Polldownin Cave near O'Rourke's Table (north of Lough Gill). The last-named cave led to the find of a bear's skeleton (*Ursus arctos*) with

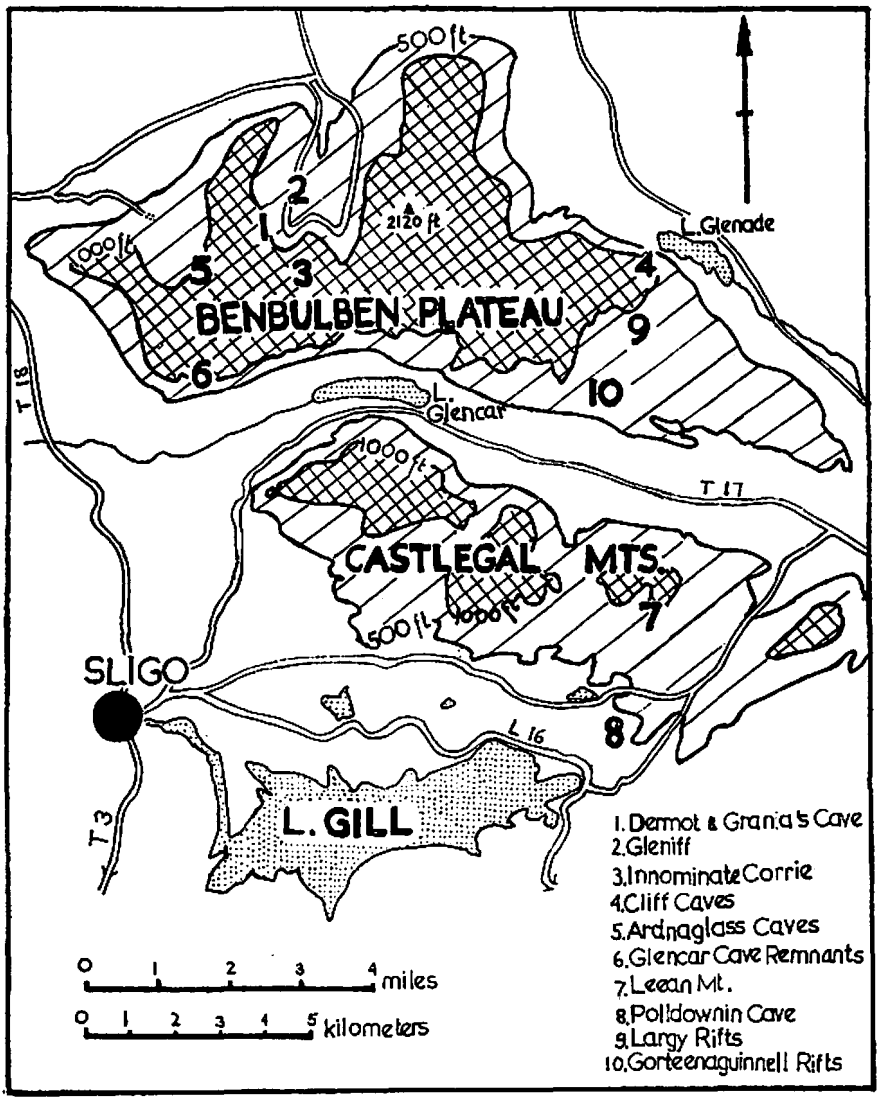

Fig. 17. Based on the Ordnance Survey by permission of the Government. (Permit No. 1163).

the original lair and well-preserved clawmarks on the clay-coated walls. A detailed account of this find is forthcoming in the Irish Naturalist 1968.

3. *Rift caves*

Both Largy Rifts and the rifts in Gorteenaguinnell do not as a rule "go" very far. However this seems to be due to the infilling of narrow

passages by breccia deposits. Digging cannot be recommended because of the acute danger of rockfalls from the rift walls as well as from seemingly consolidated breccia. The latter material is of great interest for the development of the rifts as it occurs in 2 types: the older breccia is well consolidated but may crumble under weight (e.g. a caving ladder!); the angular fragments of the younger breccia are embedded in a calcarous matrix which appears to be subject to internal decalcification so that this younger rift filling can be particularly treacherous. As both breccias probably originated during cold periods and are noticeably of different generations it is likely that the rifts have been in existence even before the Older Drift.

One pot (G 80 43) developed in the rifts should be especially mentioned: Colour Pot, as we named it. Here the depositions from iron-rich waters together with deposits derived from humic acids has created coloured formations of great beauty. The colours vary from ochre-yellow over reddish hues to black. Like with many pots in the rifts, there is a marked danger of rockfalls and in this particular passage the ventilation is very bad.

The detailed findings of the expedition and their interpretation in connection with the morphology of the area are to be included in a degree thesis to be presented to the Department of Geography at the University of Freiburg (Germany).