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## ARCHAEOLOGY IN NEW ZEALAND



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## THE REDISCOVERY OF EARNSCLEUGH CAVE

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In 1870 or 1871 a boy named Weir, the son of a goldminer, found a cave in the valley of Conroy's Creek on the lower slopes of the Old Man Range. The boy's father removed from the cave the neck of a moa still covered in skin which he subsequently sold to Dr. A. Thompson of Clyde (the neck is now held by the Otago Museum). The discovery of this specimen created a great deal of interest and the cave was subsequently visited, at different times, by Dr. Thompson, Capt. Fraser, who was part owner of Earnsclough Station on which the site was located, and F. W. Hutton of the Otago Museum all of whom collected material from the site (Hector 1872, Fraser 1873, Hutton 1875). The cave was eventually cleared out and all material deposited at the Otago Museum (Hutton 1875:140-141).

The cave was described as being at the back of a very large rock and was formed by the gradual slipping of the rocks into the valley of the creek. There were two entrances about 20 feet apart which gave access to the upper part of the cave, below which a narrow and steep incline descended to the bottom of the cave, which was estimated by Thompson to be 40 - 50 feet below the surface (for more detailed descriptions of the cave see Fraser 1873:103-104, Hector 1872:112 & Hutton 1875:138-139).

In addition to the moa neck numerous moa bones and pieces of eggshell were found. Many of the bones were charred and some still had muscular tissue adhering. Also found with the moa remains were the bones of the extinct South Island goose *Cnemiornis calcitrans*. The moa and goose bones were restricted to the upper levels of the cave. Large numbers of bones, some with feathers and tissue still present, of a previously unknown duck species *Euryanas finschi* (Finsch's duck) were found in lower levels of the cave along with the remains of its nests and eggs. Many of the duck bones had been gnawed by rats. A few bones of parrots, hawks and other small birds were found. Hutton also found the "jaw of a pluerodont lizard" (ibid.:139).

Despite the great deal of attention paid to the site in the 1870s the exact location of the site never seems to have been recorded. Because of this archaeologists have never been sure whether the site was a natural deposit or not (Anderson 1989:54). The presence of the charred bones and Fraser's description to Hector of chert knives and flakes being found at "the same place the moa's neck was recently obtained" (Hector 1871:185) left open the possibility that the deposit was at least partially cultural.

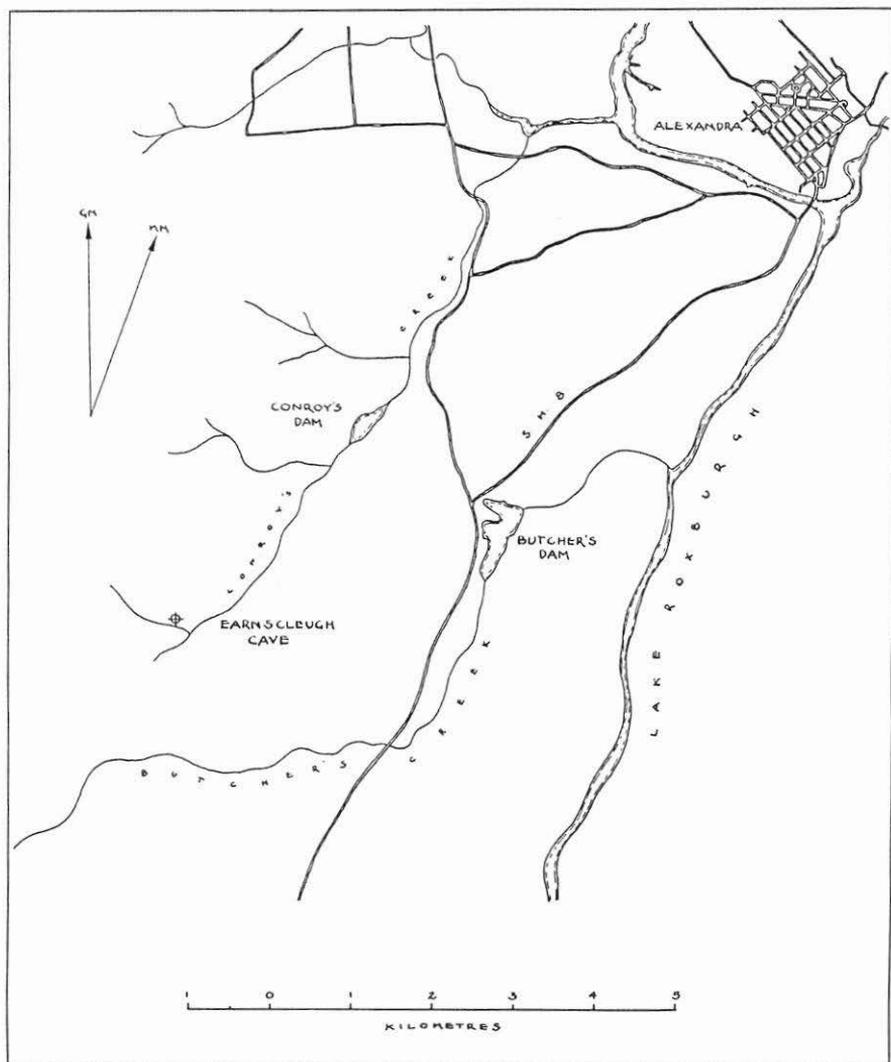


Figure 1. Location of Earnsclough Cave.

More recently the exact location of the cave has become of some importance to herpetologists. Hutton's pleurodont lizard jaw and one other bone found at the same time (Hutton 1899:485) have been identified as belonging to an extinct giant gecko possibly related to *Hoplodactylus delcourti*, a giant gecko presumed to have once inhabited the North Island, the only known specimen being a mounted skin in the Marseille Natural History Museum (Bauer & Russell 1988).

The description of the cave's location given by Fraser (1873:103) indicated that it was on the true left or the northern side of Conroys Creek high above the creek bed in an area of "huge castellated looking dark rocks" (ibid.), a reference to the large schist tors of the area. In January 1993 I approached Alistair Campbell, the current owner of Earnsclough Station, for permission to search in the general area of the upper Conroys Creek for the cave site. He had previously looked for the cave and took me to a site which he presumed to be the cave.

The location of this cave (Figure 1) conformed with the rather general descriptions given by the investigators of last century. It is apparent that a huge block of land along the northern edge of the creek is slowly slumping towards the creek. Numerous "sink holes" are present in the general area of the cave, one of which was entered and a moa fibula recovered. The cave has two entrances (Figure 2) at the back of a large schist tor which is located on the edge of a steep drop into the Conroys Creek. Immediately to the north of the tor is a small flat plateau.

The two entrances were about 6 - 7 metres apart; the eastern entrance is very narrow and access is difficult but the western entrance is quite open. On descending through this entrance it was clear that extensive talus deposits of fine loose sand had accumulated beneath both entrances. The initial floor of the cave is about 4 - 5 metres below the ground surface and is almost entirely covered by the recent talus deposits which contained numerous rabbit and sheep bones. This part of the cave is essentially a massive crack, running roughly east - west, formed by the tor slipping into the gully. To proceed further into the cave one has to crawl on the stomach for about 2 metres under a rock face. Beyond this another massive crack, approximately at right angles to the first, opens up. This crack is about 1.5 metres wide and high enough to allow a person to stand erect. This crack descends at angle of 45 - 50 degrees to the cave floor which was approximately 7 metres below the initial floor. A further fissure connects the main body of the cave with the front of the tor on the edge of the gully.

On closer examination the initial floor of the cave originally extended under the rock face (adjacent to the crawl space) with enough space for an adult to crouch in. Access is now almost impossible due to a rock fall from the roof. If this is the Earnsclough cave of the early investigators (which I think is almost certain) then it was the initial floor under the entrance and this extension under the rock which yielded the bulk of the moa and goose remains and was presumably cleared out for the Otago Museum. Because of the rockfall and the thick talus deposits this area was not further investigated, but two test pits were dug in the lower cave. The first pit was placed midway down the slope and the second at the bottom. Both pits were dug with hand trowels to a depth of about 0.8 metres.

A loose deposit of grey sand containing numerous rabbit bones covered



Figure 2. Earnsclough Cave, with people standing at the two entrances.

the entire floor of the cave. This is almost certainly derived from infilling of the cave over the last 120 years as the original reports mention sheep bones but not rabbit (it was in the 1870s that the rabbit first became a significant agricultural pest). Once this layer was removed a layer of more compact brown sandy material free of rabbit bones was exposed in both test pits.

In the upper test pit this brown layer contained numerous bones of small birds as well feathers, eggshell and dung. Moa remains were less common and consisted of long bone fragments (some burnt), tracheal rings and eggshell. Below this brown layer was a compact blue grey silt which may have washed in. It contained what appeared to be the disarticulated skeleton of a single bird (later identified as a Finsch's duck). However only the upper part of this compact layer was excavated.

The brown layer in the lower pit contained no moa remains. Here faunal remains were less common than the upper pit and consisted entirely of small bird bones and eggshell and some rat bones (cf *Rattus rattus* or *R. exulans*). Some of the bird bones were heavily gnawed. This layer also contained many well preserved leaves, twigs, small branches and grass. Below this there was a layer of grey sandy silt which contained the occasional bone. The bottom of

this layer was not reached.

Analysis of the bones recovered showed that in addition to moa there were five Finsch's ducks, one kea, one robin, one unidentified small passerine and one rat.

The location of this cave, the general layout, the species recovered and their relative locations within the cave lead me to believe that this is the Earnsclough cave of the 1870s. While Hutton described it as being cleared out, this may only refer to the upper part of the cave as the brief excavations outlined here clearly show that much faunal and floral material remains to be excavated.

Nothing was found to indicate that these deposits were even partially derived from cultural activities. The nature of the cave, a deep narrow fissure as opposed to a large rock over-hang, precludes its use as a rock shelter. The presence of burnt moa bones is probably due to the detritus below the cave entrances being ignited by the occasional fires that would have swept through this area, both prehistorically and historically. This hypothesis was originally proposed by Fraser (1873:103). No chert knives or flakes were found in the immediate area of the cave. It is possible that Fraser meant that such artefacts had been found in the vicinity rather than at the cave itself. The reference in Hector mentions "a cave formed by overhanging rocks" (Hector 1871:185). This does not describe the Earnsclough cave but there are many large tors in the general area which may conceal such a rock shelter.

## ACKNOWLEDGEMENTS

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