

CAVE RESEARCH IN LITTONDALE

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Work continues on a small group of caves in Lower Littondale (see Brook *et al.*, 1988) covering new exploration, biology, geology and geomorphology. There is still a large amount of work to do and with access now to Boreham cave, it is allowing us to do work on the hydrology of the area. This short article provides an update on recent fieldwork in the area.

MOTHS AND CADDIS AT SCOSKA CAVE

Herald moths (*Scoliopteryx libatrix*) are still being studied and it is unusual at Scoska how the large proportion of the moths are on the roof at the north side of the passage and also that the majority face north. When numbers in the cave are high some moths tend to cluster together in groups of five or six and we wonder if this is a way of sorting out a mate for when they leave the cave. Once a pair was seen mating in the cave and caterpillars have been seen on the willows outside the cave.

Tissue moths (*Triphosa dubitata*) still mate in all zones of the cave covering the period from August to late October and do group up as pairs and trios until late December. The ones moving into Zones 6, 7 and 8 (Fig. 1) early in the season are possibly females getting out of the way of over-amorous males until mating has quietened down as all moths do move about all winter. Pie charts of moth positions show that in the back end period, few settle on the cave roof but in the spring as the moths become more active many more settle on the cave roof. It is amazing how well the tissues are camouflaged in some parts of the cave. There is still work needed on the nutritional values of the condensation water and, although one university has moved the project to the half-way stage, a second one is required to finish the work.

The caddis *Stenophylax permistus* is breeding for a large part of the year in the cave whereas in 1975 no evidence was found of caddis breeding in another local cave.

Other sites in Littondale and Wharfedale have tissue moths but none in the number found in Scoska. By 2012 numbers had dropped to very low levels, 27 were recorded in Scoska; however, due possibly to the very good summer in 2013 a high of 401 was recorded.

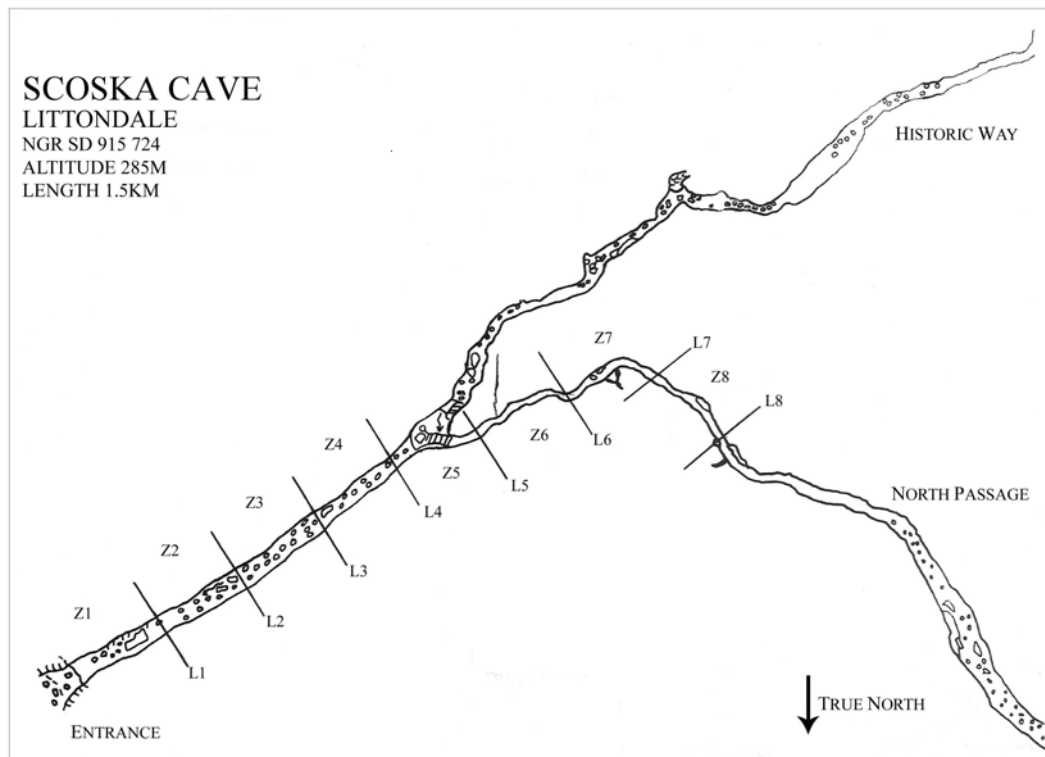


FIGURE 1. Scoska Cave, Littondale.

GLACIATION AND GEOLOGY

Visits to other sites have been about the past glaciations and geology. Permission has been granted from *Natural England* to take a speleothem sample from Sleets Gill Cave; however, due the nature of the cave we will have to find a long period of dry and settled weather. A sample has been taken from a bed of diamicton in Stonelands and is nearly at the stage of being sent away for dating. A sample removed from the rock bridge collapse area in Boreham main stream way has been dated to 8250 years BP; further work could be done on this sample but funding is a major problem (see Murphy *et al.*, 2013). On the last dive at this site, a passage was noted trending upwards beyond a tight squeeze between Sump 1 and Sump 2; this will be investigated in due course as it is possible that it may be another phreatic lift. The temperature loggers in Boreham show some interesting results in how the rainfall outside affects the air temperature and water temperature in some parts of the cave. Our next plan is to place underwater loggers at the start and end of Sump 2, one in the downstream sump and, if finances allow, one in the first sump and one in the rising pool. This would give us a complete picture of cave temperatures above and below water, something that has not been done anywhere else in the Dales. As we have a record of rainfall from Arncliffe and a full weather station at Malham Tarn Field Centre, this would give us a complete picture of weather effects underground and how things can change with external variations.

REFERENCE

Brook, D., Davies, G.M., Long, M.H. and Ryder, P.F. (1988). *Northern Caves, Volume 1. Wharfedale and the North-East*. Dalesman Books, Skipton.

