Exploring the Caldew Valley near Hesket Newmarket

Leader: Susan Beale 12 May 2018

The first locality was the bridge at Haltcliff Bridge (NY 368364), from where the route of the upper reaches of the River Caldew can be seen as it flows across the glacial deposits of Mungrisdale Common after leaving the massif of the northern fells. The party then walked from the Bridge to Haltcliff Mill where the main focus of attention was the 5th Limestone, which is here exposed in the river bank. The entrance to Swilly Hole, a two mile long cave network, was pointed out, hidden by vegetation. The river was too deep and fast flowing to allow close examination.This is the beginning of the change in character of the river valley from upland stream and glacial deposit terrain to a river cutting through limestone.

The party then drove to Hesket Newmarket and took the footpath northwards to join the River Caldew. En route the grassed-over spoil tips from a small 18th century coal mine were noted (NY 342387). The river at NY 342391 was dry, having completely lost its flow in the 3km stretch over limestone from Haltcliff Bridge. The party was able to inspect the river bed which here is very fine grained limestone with exposed corals, (Figure 1) and speculate on the palaeoenvironment.



Figure 1 *Siphonodendron ?junceum* from the bed of the River Caldew at NY 344391

Members returned to the path and passed through to the end of the woodland to descend again to the river a few hundred yards downstream where a thickly bedded limestone overlies a more rubbly limestone, the two separated by a thin shale at NY342394. (Figure 2)



Figure 2 Thin shale (in shadow) separating a thickly bedded limestone (above) from a more rubbly limestone (below) NY 342394.

Downstream from this point the river flows in a loop. The party crossed a field to rejoin the river where it has cut into a 40’ sandstone cliff consisting of massive sandstone beds cutting out thinner sandstones, which in turn overlie soft shale, below which limestone forms the (on this day dry) river bed. Some of the beds of thin sandstone were rich in planispirally-coiled gastropods.

Returning to the path to follow the river downstream the party reached the point where the River Caldew and the Cald Beck almost meet (NY341397). At this point members scrambled down the bank of the Caldew to inspect the river cliff which here shows a sequence of limestone overlain by sandstone and then shale, Figure 3.

Some members then elected to walk along the dry river-bed (others took the bankside path through the woods) to a large bend in the river where black shale

is seen to underlie the limestone. The presence of the impervious shale was further indicated by a deep pool on the bend. Although the shale was very crumby some samples of bryozoa (? F*enestella*) were recovered.

The party continued downstream to Riversmeet,(NY 343399) the confluence of the Cald Beck and the River Caldew. The Cald Beck which flows over impervious sediments, including glacial deposit, was flowing well whereas the River Caldew was a series of pools separated by dry river bed.

Following the Cald Beck upstream where it cuts through a limestone gorge, (Figure 4) and then across fields the party made their way to Caldbeck village from whence they were ferried back to Hesket Newmarket. En route it was observed that a sandstone outcropped in the banks of the Cald Beck. This may be the Hensingham Grit which is mapped as being down faulted here. Near the village the Beck was once more flowing through limestone and the outlines of the brachiopod *Productus sp.* was noted in the limestone under the footbridge by Caldbeck church (NY 326399) .

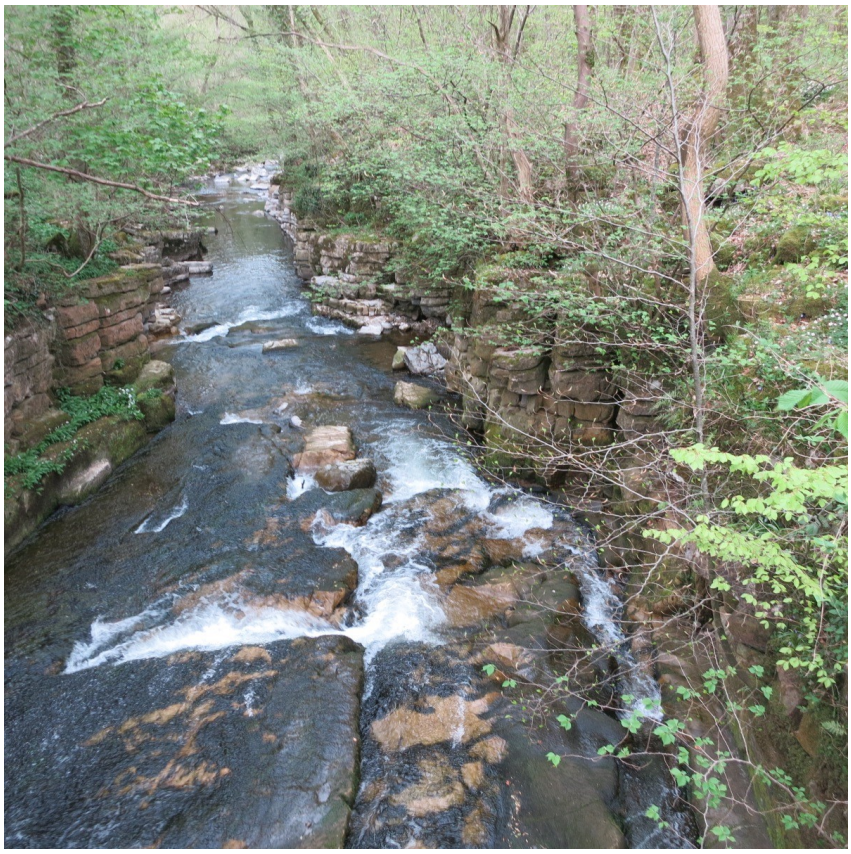


Figure 4 The Cald Beck flowing through a limestone gorge. View from the footbridge at NY 341398 looking downstream.



Figure 3 Section of bank of River Caldew at (NY 341397) (Light patches are sunlight)