

The plant remains from Dubby Sike, Upper Teesdale (Co. Durham)

(grid ref. NY 795 311)

excavator:

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County Archaeologist  
The Bowes Museum

by: Marijke van der Veen

Introduction

The site at Dubby Sike lies below the high water mark (1603') of Cow Green reservoir and its existence was unknown until the drought of the summer of 1984 lowered the level of the water and exposed the stone foundations of several buildings. A rescue excavation was carried out by Mr. D. Coggins of the Bowes Museum. This revealed two groups of buildings each occupying a slight spur. The eastern group consisted of a boat-shaped building (ca. 2 x 4 m) and a ring cairn (ca. 5 m in diameter). The western group consisted of a large circular building (internal diameter ca 4 m) with a smaller structure and enclosure walls added onto it, and a similar complex immediately to the north of this. All structures were constructed of large whinstone boulders, and the floors were cobbled (Coggins 1984). The radiocarbon dates from the site suggest a date in the late Iron Age, i.e. late first millennium B.C. to early first millennium A.D. (see Table 2). It has, as yet, not been possible to interpret what the exact function of the structures were. There were virtually no finds (only six undiagnostic flints were recovered) and there are no known parallels for the structures elsewhere in the county (D. Coggins pers. comm). Soil samples were collected for the extraction of macro-plant remains and their analysis is the subject of this report.

The Samples

Fifteen small soil samples were collected for the analysis of plant remains. Due to the very difficult access to the site it was not possible to collect larger or more samples. Three samples were not suitable for analysis and have been excluded. The contexts, volume and dates of the samples are given in Table 2. After the samples were air-dried, manual flotation was applied, using an 0.5 mm mesh sieve. The flots were dried and sorted under the microscope. Magnifications varying from 12x to 80x were used for the identifications. The results of the analysis are presented in Table 1.

## Results

A relatively large number of plant remains were recovered, but most of them came out of just a few samples. The average number of fragments in one litre of soil was 15, but it varied from a minimum of 0 to a maximum of 121. All plant remains were preserved by charring.

The dominant species in the samples was Calluna vulgaris, heather. No seeds were found of this species, but instead large numbers of the flowers and many leaves were found, the leaves usually still attached to small segments of the short shoots. The second most common group of plant remains is that of the Gramineae, grasses. The identification of grass seeds is notoriously difficult, and the small-seeded varieties are usually not identified to species level, but referred to as a group, which is what has been done here. Many of them were, in fact, badly preserved. The third most common group of plant remains is that of the Cyperaceae, the sedges. All the other species only occur in small numbers and in less than 50% of the samples.

## Discussion

There were no crop plants or food plants present in the samples, although the berries of Rubus chamaemorus might have been collected and eaten by man. On the contrary, all plants present were herbaceous species commonly found in upland areas. Calluna vulgaris, Rubus chamaemorus, Carex spp, Juncus squarrosus and Empetrum nigrum are all typical moorland and blanket bog plants common in Teesdale today. The soil condition that most species in the samples represent is that of acid soils, poor in mineral nitrogen. Ranunculus repens, Ranunculus flammula, Montia fontana, Rubus chamaemorus, Juncus squarrosus, Isolepis setacea and Carex spp. indicate damp to wet soil conditions. In short, the vegetation reflected by the plant remains in the samples is that of an upland vegetation, very similar to that of today.

This agrees with the evidence available from pollen analysis. A large number of pollen cores have been analysed from the present Cow Green reservoir area, prior to the construction of the reservoir (Turner et al. 1973). The results from the pollen analysis indicate that the upper Teesdale area was covered by open woodland between ca 7000 - 1000 B.C. but that by ca 1000 B.C. major changes in the vegetation became apparent. The existing woodland was gradually replaced by grassland and blanket bog.

These changes were due to a combination of human and natural factors, i.e. grazing pressure, deforestation and the deterioration of the climate (increased wetness). Both factors lead to podsolization and waterlogging of the soils. As a result of this the woodland disappeared and by ca 500 B.C. the vegetation had become as open as that of today, and most of the present day blanket bog areas had come into existence (Turner et al. 1973, Turner 1978). The plant remains from Dubby Sike, dating to the last part of the first millennium B.C. are consistent with the local pollen zone G, the grass-plantain - heather assemblage (more or less equivalent with Godwin's zone VIII), and equally point to an open, moorland vegetation.

The only puzzling aspect of the plant assemblage from Dubby Sike is the total absence of crop plants. Most carbonised plant assemblages reflect human activities like crop processing, food consumption and storage. The Dubby Sike material does not contain evidence for any of these activities. The plant remains presumably became charred while being used as fuel. However, no domestic hearths were found in the stone structures. Most of the charcoal and other plant remains came out of the pits in the ring cairn and from below the paving in the buildings. It is not clear from the archaeological evidence whether these structures were, in fact, used as domestic buildings or not. The botanical evidence in the presence of the heather flowers suggests that there must have been occupation during August/September of the year. The total absence of material pointing to domestic activities on the site would seem to suggest that activities like crop processing and food consumption either did not take place on the site, or took place only on such a small scale that no evidence for it found its way into the archaeological record.

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References

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Table 1 Dubby Sike 1984 : Context, volume and dates of the samples

<u>Samples</u>	<u>Context</u>	<u>Volume</u>	<u>C14 Date</u>
1P	Rectangular Pit in ring cairn	7 litres	2040 <sup>+</sup> -100(HAR 6550)
2P	Bowl-shaped pit in ring cairn	11.5 litres	2110 <sup>+</sup> -90 (HAR 6551)
13P	Orange layer of ring cairn above pit containing charcoal	ca 1 litre	
14P	Top of compacted gravelly layer at western end of ring cairn	ca 1 litre	
8L0	Among cobbles of floor of western end of boat-shaped building	8 litres	1830 <sup>+</sup> -100 (HAR 6557)
9L0	Below cobbled floor of eastern end of boat-shaped building	8 litres	
6L2	Probable post position on western boundary wall	3.5 litres	
7L3	Earlier ditch or channel beneath the cobbling of western complex	5.5 litres	
5L1	Above and among cobbled floor of small hut to north of large western building	10 litres	
15L1	Among cobbles of small hut to north of large western building	ca 1 litre	
3GH	Beneath paving of south entrance to large western building	12 litres	2170 <sup>+</sup> -100(HAR 6552)
4GH	Beneath cobbled floor of large western building	2 litres	

Table 2 : Dubby Sike 1984 : Total number of plant remains for each sample

Contexts:	1P	2P	13P	14P	8LO	9LO	6L2	7L3	5L1	15L1	3GH	4GH	Total
<u>Species:</u>													
Ranunculus repens (creeping buttercup)	1												1
Ranunculus cf. flammula (lesser spearwort)									1				1
Stellaria sp. (stitchwort)	9												9
Montia fontana, spp. chondrosperma (blinks)	10		1							1	1		13
Rubus chamaemorus (cloudberry)	6												6
Potentilla sp. (cinquefoil)	4	2			1								7
cf. Euphorbia (spurge)	1												1
Rumex acetosella (sheep's sorrel)		1	1										2
Rumex spp. (dock)	5	1		1					1				8
Calluna vulgaris, leaves (heather)	93	9	2	2	2						16		124
Calluna vulgaris, flowers (heather)	456	38	27	4	1				1		16		543
Empetrum nigrum agg. (crowberry)						1							1
Veronica sp. (speedwell)		2											2
Plantago lanceolata (ribwort plantain)					1								1
Galium sp. (bedstraw)					1								1
Juncus squarrosus (heath rush)						1			1		1		3
Isolepis setacea (bristle scirpus)											1		1
Carex pilulifera (pill-headed sedge)	4		3								3		10
Carex cf pulicaris (flea sedge)	2												2
Carex nigra-group (sedge)	2												2
Carex spp. (sedge)	26	11		1				1			2		41
Small grasses indet	187	9	2		3	4			1		9		215
Gramineae indet, rhizomes	33												33
Indet	8		8	2	2	1				1	3		25
Total:	847	73	44	10	11	7	0	1	5	2	52	0	1,052