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Preliminary Report on the Soils of Holyhead Mountain Circle

by Helen C M Keeley

Introduction

Holyhead Mountain Hut Circles are situated 2¼ miles west of Holyhead on the south-west slope of Holyhead Mountain (N.G.R. 212820). They comprise the remains of a very extensive settlement occupied from the second to the fourth century A.D. There are two main hut types: circular huts and small rectangular chambers. Some of the circular huts have central hearths and upright slabs marking the positions of beds and seats. One of the small rectangular buildings contained copper slag (Craster, 1953). An excavation was carried out during August, 1978, by Dr C Smith (IAM, Wales) of part of a group of huts, and the site was visited by the author at this time. A more extensive area will be excavated by Dr Smith next year.

Geology and Soils

A detailed account of the geology and soils of Anglesey can be found in the Soil Survey Memoir (Roberts, 1958). The Mona Complex dominates the solid geology of Anglesey, occupying approximately two-thirds of the Island's surface. It has been divided into three major groups:

1) The Gneisses
2) The Bedded Series
3) The Plutonic Intrusions.

The area in which the hut circles are sited is on South Stack series - a succession of grits, sandstones and shales forming part of the Bedded series, immediately adjacent to the Holyhead Quartzite.

Anglesey has also been affected by glaciation and extensive areas of post-glacial deposits occur, but these do not appear to be important in the area of interest.

According to the soil survey map of Anglesey (Roberts, 1958) the soils of the area where the hut circles are sited belong to the Cybi series. These are podzolised, consisting mainly of shallow, stony soils derived from rocks or drift of the Mona Complex. Most of the areas covered by the soils are heathlands with an open Calluna-Ulex association.

Soils associated with the archaeological excavation

Site (1) - a natural profile in a cutting to the east of the main excavation.

The site was flat, situated at the base of the slope, and was freely drained. Vegetation included Ivy, Bracken, Brambles and various grasses. The presence of strong brown mottles in the B horizon suggested that this may be a receiving site for water.

0 to 5 cms. was a brown fibrous root mat.

5 to 9 cms. was black (10YR2/1) friable organic silty loan with weak medium granular structure. Roots were abundant, coarse to fine fibrous and stones absent.

9 to 20 cms. was dark brown (7.5YR3/2) moderately friable quite organic silty loam with weak medium subangular blocky structure. Roots were abundant coarse to fine fibrous and woody. Stones were few, gravel to medium. This may be a colluvial horizon.

20 to 40 cms. was brown/dark brown (7.5YR4/4) moderately friable fine sandy loam with moderate medium subangular blocky structure, containing fragments of weathering sandstone and shale. Stones were many (about 50%), gravel to large (mainly large) and roots common, coarse to fine fibrous.

Below 40 cms. was moderately friable strong brown (7.5YR4/6) fine sandy loam with many distinct medium mottles (7.5YR5/8). Structure was moderate medium subangular blocky. Stones were abundant (about 60%), gravel to large and roots few fine fibrous plus some large woody bracken roots.

Samples were taken from the 9-20cm. (I), 20-40cm. (II) and below 40cm. (III) horizons for subsequent laboratory work - in particular, confirmation of podzolisation in this profile.

Site 1A - a natural profile in the hillside at the top of the site.

This profile was very similar to that at Site 1 except that it was somewhat deeper. Slope was 5^{o} and the profile was located at a slight break in slope - possibly where soil had built up over rocks. Mottles were absent from the subsoil in this profile, which was yellowish brown (10YR5/6) in colour.

Site 2 - buried soil below field wall.

Slope was about 5^{o} and the soil was examined under a large stone. Samples were taken from the 10-20cm. (I), 20-30cm. (II) and below 30cm. (III) layers. 0 to 10 cms. was a disturbed layer immediately below the stone, containing many large bracken roots.

10-20 cms. was brown/dark brown (7.5YR4/4) friable fairly organic fine sandy loam with weak medium subangular blocky structure. Roots were abundant, coarse to fine fibrous and woody. Stones were common (about 10%) gravel to medium. Charcoal fragments were noted.

20 to 30 cms. was dark yellowish brown (10YR4/6) with 20% distinct medium strong brown mottles. The soil was friable fine sandy loam with moderate medium angular blocky structure. Stones were many (20%), gravel to medium, and roots common, coarse to fine fibrous. Occasional charcoal fragments were present.

Below 30 cms. was light brownish grey (2.5Y6/2) moderately friable fine sandy loam with 10% distinct medium strong brown mottles. Structure was weak medium subangular blocky. Roots were few fine fibrous; stones abundant (70%) gravel to large. As well as the distinct mottles about 30% coarse strong brown patches were present.

Site 3 - buried soil below field wall, also sampled for pollen.

Another buried soil profile was examined and this was found to be particularly stoney. 20 cms. of buried topsoil were found below the wall; this contained occasional charcoal fragments. The bAp (Sample I) was dark brown (10YR3/3) friable fine sandy loam with weak medium angular blocky structure. Roots were common, coarse to fine fibrous and woody; stones 10% (large) although the soil matrix was relatively stone-free. A few fine rusty mottles were noted.

The subsoil (Sample II) was pale brown (10YR6/3) friable fine sandy loam, containing 10% distinct medium strong brown mottles, with weak medium subangular blocky structure. Roots were few, fine fibrous and stones extremely abundant (80%), mainly large.

Drain fills

A drain fill was examined in Structure 1. A thin layer, about 1cm. deep, was found immediately below the stones. This was brown/dark brown (10YR4/3) stone-free silty clay loam which resulted from the activity of insects, etc. beneath the stones. Immediately below this was a dark yellowish brown (10YR4/6) silty clay loam containing charcoal fragments and few stones. The drain fill on the east side of Structure 1 was also examined and found to be similar to that examined on the other side, ie a stone-free silty loam, differing only in that the base of the deposit was gleyed, being similar in colour to the material at the base of the profile at Site 2. Apart from charcoal, no organic remains were visible.

Comment

The natural profile at Site 1 appeared to contain hillwash and is probably podzolised. Site 2 appeared to be fairly similar to 1, although there was less evidence of podzolisation. The upper layers of the buried soils indicated a degree of human disturbance had occurred prior to building the field walls.

Further work

Follow-up laboratory work will be carried out on soil samples coll ected this year. Next year it is hoped to carry out extensive sampling of buried soils and more detailed examination of present-day soils. In particular a section across the site, from top to bottom, will allow the terraces to be studied. It is hoped that pollen analysis may be carried out so that, in combination with soil studies, it will be possible to find out about the landscape at the time the site was occupied.

References

Craster, O.E. (1953). Ancient Monuments of Anglesey H.M.S.O. London.

Roberts, E. (1958). The County of Anglesey - Soils and Agriculture. Memoirs of the Soil Survey of England and Wales. H.M.S.O. London.