

The logo for Biggar Archaeology Group is a square with a white border. Inside, there is a dark brown square with the text "Biggar Archaeology group" in white. Above the dark square is a horizontal brushstroke in shades of green and yellow. Below the dark square, the tagline "Bringing the past to the present" is written in a smaller white font.

Biggar
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Bringing the past to the present

The background of the top half of the page is a photograph of a river. The water is clear and flows over several large, smooth, greyish-brown rocks. The rocks are of various sizes and shapes, some with visible textures and small indentations. The lighting is natural, highlighting the wet surfaces of the rocks and the ripples in the water.

Natural mounds and cup marked stones

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Introduction

Throughout the course of various projects by Biggar Archaeology Group (BAG) in the areas of the upper Clyde and Tweed rivers (PI 1), a considerable amount of archaeological data has been gathered. During that work two aspects of the landscape have been found to be rather confusing; one is the presence of mounds which can easily be mistaken for burnt mounds and the other is a range of boulders with cup marks and even cup and ring markings, all of which are natural in origin. This paper deals only with the area of the Southern Uplands of Scotland.



Plate 1
Project area and
main Projects of
BAG in Clyde/
Tweed valleys

Burnt mounds

The first burnt mounds to be found in Lanarkshire (Ward 1992) and in Peeblesshire (Ward 2004) were in the early 1990's and since that time, in both areas a considerable number of them have been discovered by BAG, however in Peeblesshire the work of the Peeblesshire Archaeological Society has accounted for many examples. A forthcoming report by this writer on the burnt mounds in question will be published on BAG web site in 2013. Therefore it is not intended here to describe at length the story of burnt mounds in the area.

Suffice to say that burnt mounds are the product of heating water by using hot stones cooked in a bonfire, however the purpose of the process is still debated; whether the heating was used for cooking or cleansing seems to be the two favourable options.

They consist of mounds or deposits of heat cracked reddened stone lying in a matrix of charcoal soil (PI 2) and are mostly found as mounded structures of varying shape and size, sometimes in multiples of two or three (PI's 3 & 4). They are generally found beside a spring course and are often easily detected by the nature of vegetation covering them, which is generally different from the surrounding area, the mounds are free draining and often have short grass while the area around is boggy with rush growth and longer grasses.

Burnt mounds are found in a variety of locations, nearly all where there is a source of water from a spring or burn course. The methodology adopted by BAG for finding them is to walk the full length of burn and spring courses in the uplands.



Plate 2 Discoloured greywacke in a Bronze Age Burnt mound



Plate 3 Burnt mound at Talla reservoir, Borders Region (BR)



Plate 4 Burnt mounds high on a hill at Daer valley, South Lanarkshire (SL)



Plate 5 A massive burnt mound near Daer reservoir



Plate 6 Burnt mound exposure, note burnt and unburnt rocks

Some 'burnt mound activity' sites never developed enough to form actual mounds, the deposits being quite shallow and leaving no surface indicators of their presence, and only being found when the ground has been disturbed by some process or other.

As the name implies, most sites are mounds and these can vary from less than a 1m to over 2m high and by up to 25m in length (PI 5). The mounds are sometimes circular, linear or curved, the latter often described as 'kidney' shaped.

The only way to prove if a mound is indeed a burnt mound is to test it, and this can easily be done by hinging a small divot on the mound and checking to see if burnt stone and charcoal makes up the mound deposit. The writer usually leaves a small sample of burnt rock on the surface after replacing the divot by heeling it firmly down. Such samples will survive for several years and help future fieldworkers in their interpretation.

In the Southern Uplands of Scotland the principal solid geology is greywacke, a hard, fine to coarse grain sandstone which was laid down in a deep ocean environment between 400 – 450 M years ago, and as the name implies it is a distinct grey colour.

When greywacke is subject to severe heat, it changes in colour to reddish hues and which is an oxidising effect on the iron minerals within the rock (PI's 2 & 6). After several thousands of years of weathering in the mound, the stones become soft and haematized, the colour change sometimes grades to the inner core of the fragments where fresh greywacke may still exist.

Natural mounds (PI 7) often exist in the same area as burnt mounds and generally these form two distinct groups; mounds which are the result of raised bog and mounds which are the result of re-deposited gravels, in each case these are found beside spring or burn courses, hence the possibility of confusion.

The first test of a mound should be by probing, preferably with a metal tipped walking stick or a ranging rod. The genuine article presents a gravelly feel to the stabbing of the surface, unlike a cairn where the tip of the probe will hit solid stone immediately. Mounds which are the product of raised bog will be composed of vegetable matter and will be spongy to walk over, generally have boggy vegetation and when probed, the probe will sink easily into the feature, sometimes up to 1.5m in the writer's experience. Such mound can then easily be dismissed as natural.

Gravel mounds comprise of two types, those deposited by glacial activity and those created beside and within burn and spring courses by outwash gravel being formed into a small hillock. These are the most confusing as they will be free draining because of their stony content and therefore surface vegetation can be similar to actual burnt mounds, hence the need to probe. Depending on the formation of the deposit, such mounds may consist of rounded sands and gravels or small angular rocks. In each case they will feel like burnt mounds when probing, however, their true origin will easily be proved by testing the contents by a visual check. Natural mounds will be composed of their stone content, usually very fresh but lying in a matrix of parent soils or sands, and always a light brown colour, compared to the black charcoal enriched soil of burnt mounds.



Plate 7

Natural crescent shaped gravel mound near Crawfordjohn (SL)



Plate 8 Cup and ring stone found near Dunsyre (SL)



Plate 9 Pecked rings on stone at Woodend, Upper Tweed (BR)



Plate 10 Natural cup marked stone in Megget reservoir (BR)



Plate 11 Natural cup and ring stone from Megget reservoir (BR)



Plate 12 Natural cup with lozenge shaped groove at Daer reservoir (SL)



Plate 13 Natural cup with lozenge shaped groove at Daer reservoir (SL)



Plate 14 Natural cup marked rock near Crawfordjohn (SL)



Plate 15 Natural cup marked rock near Crawfordjohn (SL)



Plate 16 Bronze Age standing stone at Crookedstane farm near Elvanfoot (SL)

It will be helpful to record natural mounds as such in the data base to assist future fieldworkers.

Nearly all burnt mounds which have been radiocarbon dated in southern Scotland are Bronze Age and they cover the entire period from about 4500 to 3000 years ago.

Natural cup marked stones

The discovery of cup marks and rings on rocks is sometimes taken to mean pre historic rock art, which of course; in many instances it is, however, it can be shown that the numerous examples in the area of interest here – are naturally occurring features.

Greywacke lends itself to such rock art and is found in several locations in Galloway where extensive pre historic carving of cup and rings may be seen on rock outcrops.

Examples of genuine pre historic rock art in the Clyde/Tweed area are rare (RCAHMS Peeblesshire and Lanarkshire Inventories 1967 & 1978) (Ward 2010) however a few have been discovered and occasional new finds are made; for example recently at Dunsyre in South Lanarkshire where a fine cup and ring stone carved in sandstone was found in a dyke (PI 8), and on a Bronze Age burial cairn at Woodend in Upper Tweeddale, which is an even rarer example of concentric rings pecked into a slab of greywacke (Ward 2008) (PI 9).

However, in Clydesdale and Tweeddale specimens of cup marked stones, some even with rings are considered not to be the product of rock art in pre history, but rather they are the product of nature.

Many examples of this have been witnessed by BAG and especially in the Tweed area where more rock may be seen as surface scree and outcrop than in Clydesdale.

The features are caused by the erosion of softer minerals such as calcite which formed as balls within the sediment which makes up the greywacke. The same phenomenon may be seen in other geological sequences in other parts of the country, for example in the West Highlands (personal observation).

The Megget reservoir in Borders Region is a good place to see such features, and at first glance many are extremely convincing as rock art. Plate 9 is typical of many examples which may be seen, but in this instance the irregularity of the cup shapes and depths allows for a natural interpretation. However, at the same location Plate 11 is an example which has been smoothed in a burn course and with such uniformity, this rock could easily be mistaken for a cup and ring marked stone of pre historic origin.

The following are all in South Lanarkshire:

Examples of cups with surrounding grooves are seen at Daer reservoir (PI's 12 & 13) however these are perhaps less convincing as rock art, although in some instances the lozenge shaped features are extremely regular in shape.

In the vicinity of the Wildshaw Burn Stone Circle (Ward 2012) there is a massive rock (PI's 14 & 15), lying flat and covered in very convincing cup marks, however it can be seen that these are natural and have formed on the bedding plane of the greywacke slab. It is possible that such stones were adopted by pre historic people and erected as standing stones and this may have been the case at Crookedstane Farm near Elvanfoot (PI 15) (RCAHMS Lanarkshire) where the standing stone there has a few natural cup marks on it.

References

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