

IV.

REINDEER ANTLERS FROM ROUSAY, ORKNEY.

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Through the kind permission of Mr Walter G. Grant, F.S.A.Scot., of Trumland, I am able to record the occurrence of some remarkably fine antlers of the Reindeer found on the island of Rousay, situated north of Mainland in Orkney. They comprise a good pair of antlers attached to the frontal bones of the skull, and a single antler of great size, larger than any previously recorded from Scotland. They were dug out of the peat on Westness near the Muckle Water Loch, in an approximate position of $59^{\circ} 9' N.$, $3^{\circ} 4' W.$, all three antlers being found in close proximity. It is interesting to note that the only other Reindeer's antler of great size and Scottish origin was also discovered at a depth in the peat on the same island. These facts prove that in prehistoric times, when the recent peats were in process of formation, Reindeer of large size and good condition existed in the islands of Orkney when the race generally was retreating northwards in Europe, driven by a steadily increasing warmth of climate.

HISTORICAL.

Reindeer to-day have a more restricted range than in prehistoric times. Although variations have been distinguished in present forms of both the Old and the New Worlds, the remains found sub-fossil are essentially similar to those of living representatives. It has been averred that the Reindeer survived in Scotland (Caithness district) until the twelfth century, when it became extinct. Living European Reindeer range from Norwegian and Swedish Lapland to the wooded portions of Finland and Spitzbergen, where in the former localities they are now domesticated. The species is particularly suited to northern latitudes, and is the only deer which ever populated the icy floes and bare tundras. Chiefly because of their adaptation to persistent cold, their remains were found in British river gravels and sands of post-Glacial Age, at the end of which time they began to disappear. Their occurrence in later deposits in more northerly localities (Scottish peats and in association with man in brochs) indicates a retreat northwards with an amelioration of climate. Thus towards the end of the prehistoric period in

England their relics are few, whereas in Scotland evidence seems to point to their survival until the Middle Ages.

RECORDS OF THE REINDEER IN SCOTLAND.

The list of the localities where Reindeer remains have been found is not a very big one, and the actual finds considered individually are not very imposing. Such records as we have are distributed widely, including Dumbarton, Lanarkshire, Ayrshire, Midlothian, West Lothian, Stirlingshire, Perthshire, Sutherland, Caithness, Ross-shire.¹ Out of less than a score of records in all, only in Orkney do the antlers approximate 3 feet in length; those next in size are the pair found at Kilmaurs, Ayrshire, in the glacial drift; and still smaller than the latter, a single antler 2 feet long, obtained from the Broch of Keiss, Caithness. All the remainder are fragments, measuring 1 foot or less in length. The Reindeer bones discovered in a cave near Inchnadamph are unique because of their profusion, when "shed antlers of young reindeer . . . mostly broken," numbering about 400 individuals were recorded.² In the absence, however, of more details of the size of the latter they cannot, unfortunately, be taken into consideration. It will be seen in the measurements given below that the single antler now recorded from Rousay attains a length of 98.1 cms. ($38\frac{5}{8}$ inches), and exceeds that recorded in 1869 from Rousay by Dr J. A. Smith by $1\frac{5}{8}$ inch, thus establishing a new record in size of antler for Scottish sub-fossil Reindeer.

DESIGNATION OF THE KIND OF REINDEER.

In most cases it is impossible to compare sub-fossil Reindeer relics with actual present-day varieties of Western Europe (which depend, among other data, upon the length of skull measurements for their distinction),³ for the reason that skulls as a rule are not found sufficiently complete. Two races distinguished by their shape of antlers were at one time recorded as distinct. These were a Barren Ground variety found typically in America and Greenland, and a Woodland variety most common in Northern Asia. The first is characterised by rounded and branched, slender antlers with brow tines little developed; the second by more flattened, palmated, and stout antlers having either one or both brow tines developed and often palmated. The Rousay specimens at present under consideration appear to be intermediate between these

¹ *Proc. Soc. Ant. Scot.*, vol. viii. (1871) p. 186.

² *Proc. Soc. Ant. Scot.*, vol. lxi. (1926-7) p. 169.

³ G. S. Miller, *Catalogue of the Mammals of Western Europe* (British Museum) (1912), p. 981.

two races, possessing characteristics of each. The brow and bez tines are well developed and palmated like those of the Woodland race, whilst the extensive beams are slender and approach being rounded in section as in the Barren Ground type. In this "mixed" character they resemble their living relatives in Norway, Sweden, and Lapland. At the present day the distinction into two definite races has lost much of its significance, probably due to interbreeding in prehistoric times.

MEASUREMENTS.

The three antlers have been measured in detail and the data recorded below. The first two sets of measurements refer to the pair, with spans given at the end. The third group belong to the single antler, which is a left one.

Left Antler (of pair).

Total length of beam (posterior aspect)	84	cm.	(33 $\frac{1}{8}$ ")
Length of brow tine	39.4	"	(15 $\frac{1}{8}$ ")
" " bez "	42.2	"	(16 $\frac{7}{8}$ ")
Distance along beam (between brow and bez tines)	9.5	"	(3 $\frac{3}{4}$ ")
Circumference of burr	16	"	(6 $\frac{5}{16}$ ")
" " beam above brow tine	12	"	(4 $\frac{3}{4}$ ")
" " " " bez "	11	"	(4 $\frac{5}{16}$ ")
Length of 3rd tine	3.9	"	(1 $\frac{9}{16}$ ")

Right Antler (of pair).

Total length of beam (posterior aspect) broken distally	69.5	cm.	(27 $\frac{3}{8}$ ")
Length of brow tine	31.5	"	(12 $\frac{3}{8}$ ")
" " bez "	45.8	"	(18 $\frac{1}{16}$ ")
Distance along beam (between brow and bez tines)	8	"	(3 $\frac{1}{8}$ ")
Circumference of burr	16.2	"	(6 $\frac{3}{8}$ ")
" " beam above brow tine	13.8	"	(5 $\frac{7}{16}$ ")
" " " " bez "	11	"	(4 $\frac{5}{16}$ ")
Length of 3rd tine	4	"	(1 $\frac{9}{16}$ ")
Least width of frontals, between bases of antlers	6	"	(2 $\frac{3}{8}$ ")
Span of bez tines	36	"	(14 $\frac{3}{8}$ ")
" " terminal palmate areas	64.7	"	(25 $\frac{1}{2}$ ")

Single Antler (left).

Total length of beam (inner aspect) broken distally	98.1	cm.	(38 $\frac{5}{8}$ ")
Length of brow tine	25.8	"	(10 $\frac{3}{8}$ ")
" " bez "	37.2	"	(14 $\frac{5}{8}$ ")
Distance along beam (between brow and bez tines)	6	"	(2 $\frac{3}{8}$ ")
Circumference of beam above brow tine	11.8	"	(4 $\frac{5}{8}$ ")
" " " " bez "	11	"	(4 $\frac{5}{16}$ ")

DESCRIPTION.

The paired antlers are now separate, the frontals which united them having been broken (fig. 1). When the cleavage faces are put together, the frontal area is narrow, and the pedicels bearing the antlers are slight,



Fig. 1. Paired Reindeer Antlers from Rousay.

both characters being typical for the Reindeer as distinct from the Red Deer. When mounted in their natural positions the antlers are of imposing appearance. Seen separately from the side, each antler possesses the rather ungainly and angular trend usual to this species. Seen from

the front, the main beam is at first convex, and then at the level of the back tine, which is well developed, becomes concave. The left antler terminates in three points arising from a palmate area; the right is, unfortunately, incomplete, the distal tines having been broken off. The bez tine on the right is distinctly palmate, splaying out into four points. The corresponding tine of the left antler has been broken, there being but one point remaining. The left brow tine is stronger and better developed and has one more point than the right brow tine; this variation is, however, not so pronounced as in some instances where the right brow tine may be a single prong or even be absent entirely. The beam



Fig. 2. Left unpaired Reindeer Antler from Rousay.

of both antlers is unevenly rounded, or elliptical in section, in places suggesting a more flattened surface, particularly on the anterior inner side, which expands into the various palmate areas on the tines. The general surface is smooth. Two superficial grooves, originating at the burr and roughly continuous, traverse the anterior inner surface of the antlers. One continues up the bez tine for a certain distance, the other up the main beam; each becoming obsolete at the approach of a definite palmate area. From the anterior surface the grooves of the right antler are more pronounced than those of the left, and disappear as a simple venation on the flattened face of the beam.

Similar grooves are seen on the posterior external aspect of the antlers. In this view, those of the right are more intermittent and indistinct, those of the left even more marked than on the anterior surface.

The single left antler has the same general proportions as the left antler of the pair (fig. 2). The beam is much longer proportionally

between the origin of the bez tine and the angle where the back tine is always situated if present. The latter is absent, however, in this case. Another essential difference lies in the lengthened terminal palmate area, from which four stout subsidiary tines arise at varying intervals; all these are, unfortunately, broken. The beam is rounded in section, except where tines branch off, or on expansion into palmate areas. The bez and brow tines are especially palmate, the former having six digitations and the latter five incipient points. The surface is smooth and particularly weathered, resulting in a peeling of the outer layers in places. Faint grooves (appearing as radiating veins) are seen on both the anterior and posterior aspects of the bez tine. A primary groove on the main beam is apparent at one side of the slightly flattened surface. There is a remaining peculiarity in the unusual boss which occurs on the posterior aspect of the antler between brow and bez tines.

ARTIFICIAL MARKINGS.

In the case of the paired antlers many fine striations are seen over most of their surface, running lengthwise along the beam or tines



Fig. 3. Sections of cut, unpaired Reindeer Antler, No. 2 showing two views of the same cuts.

respectively. Exceptionally a few short transverse scratches occur. The unpaired antler, on the contrary, shows few scratches, although the peeling surface may cloak such as may have been present at one time. In contrast to the paired antlers, it has been cut in various places, and the cuts are not all of the same age. Some on the bez tine and on the beam where it bends sharply (fig. 3, No. 1) seem to have been cut more recently with a sharp knife. The remaining cuts are much older and of different character (fig. 3, No. 2).

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