

Note on Birds' Bones from Merlin's Cave.

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The Birds' bones received from Merlin's Cave number about 600, and nearly 500 of these have been identified with more or less certainty. The greater part of these were obtained from undisturbed Breccia, and the remainder from a trench that had been disturbed by previous explorers. The two series of specimens have been kept separate.

The Merlin's Cave birds' remains are very similar to those recorded from "Aveline's Hole" (Proc., Vol. I, No. 3, p. 119) and the remarks there made in reference to them might be repeated for those now under review.

The bones referable to Ptarmigan, or some closely allied form are more numerous (239) than those of any other of the species identified. The metatarsals and metacarpals are most conspicuous; and they differ much in size; those of a medium length agreeing with the corresponding bones of the Ptarmigan, and are referred to that species (*Lagopus mutus*). The bones which agree with these in form, but seem to me too small for Ptarmigan are included in the list given below as *Lagopus mutus* (small variety). It seemed possible that these lesser forms might represent the Hazel Grouse, which is a smaller bird; but on comparing them the fossil metatarsals were found to be proportionately shorter and stouter. The large Ptarmigan-like metatarsal bones agree fairly well with those of the Red Grouse and with some doubt are included in the list as *Lagopus scoticus*. There are many upper and lower beaks among these cave bones which are obviously of *Lagopus* type, and there can be little doubt that they are part of the Ptarmigan remains; but one is perplexed to find them too broad and robust to quite agree with either Red Grouse or Ptarmigan, and much too small for the Black Grouse. For the present these beaks are included with the Ptarmigan remains. There are also *Lagopus* bones belonging to other parts of the skeleton which on account of their size are included in one or other of the species above mentioned. Altogether the true Ptarmigan is represented by 163 bones; the smaller variety by 41; and there are 35 large bones provisionally called *Lagopus scoticus*. Another abundant species represented by 50 or 60 bones, is the Greenfinch, which at once attracts attention by the presence of 35 upper and lower beaks, the round nasal apertures giving a striking mask-like appearance to the upper mandibles. These beaks are large and robust compared with

the recent Greenfinch skeletons available for study, and the same may be said of a number of humeri believed to be of the same species. The Pine Grosbeak is a somewhat larger Finch, but unfortunately there is no skeleton available for comparison, and judging from stuffed specimens the beaks are too much curved to agree with these fossil forms.

Altogether about 34 species of birds have been identified from the undisturbed Breccia; but, with the exception of those mentioned above, they are each represented by only a few bones, sometimes by only one or two. They are all referred to recent species, but one is liable to be misled with imperfect material, especially in the case of small Passerine forms.

The birds' bones obtained from the disturbed main trench are for the most part species already represented in the undisturbed Breccia, but there are three additional species, an Owl (probably the short-eared Owl), the Common Coot, and a Green Sandpiper.

The occurrence of Ptarmigan in Merlin's Cave in such abundance is extremely interesting and important, in that it confirms the previous records of this bird in former times in the South West of England. The species has been found in Aveline's Hole, and also at Chudleigh in Devon, and the great abundance of the remains in the present instance is ample proof that the occurrence was no chance affair, for the bird must have been more abundant than any other Avian species with which it was found associated. Taken by itself the presence of Ptarmigan could not be held as a proof of a colder climate, for its extinction in England might have been due to other than climatic changes; but taken in conjunction with the presence of several arctic Mammals it is strong corroborative evidence.

BIRDS' BONES FROM MERLIN'S CAVE BRECCIA SPECIES FROM
UNDISTURBED BRECCIA.

Missel Thrush. *Turdus viscivorus*, Linn.

Song Thrush. *T. musicus*, Linn.

Black Bird. *T. merula*, Linn.

Wheatear? *Saxicola œnanthe*? Linn.

Whinchat? *Pratincola rubetra*? Linn.

Robin? *Erithacus rubecula*? Linn.

Hedge Sparrow. *Accentor modularis*, Linn.

Great Tit. *Parus major*, Linn.

Nuthatch. *Sitta cæsia*, Wolf.

Swallow. *Hirundo rustica*, Linn.

Greenfinch. *Ligurinus chloris*, Linn.

Hawfinch? *Coccothraustes vulgaris*? Pall.
 Chaffinch. *Fringilla cælebs*, Linn.
 Snow Bunting. *Plectrophanes nivalis*, Linn.
 Starling. *Sturnus vulgaris*, Linn.
 Jackdaw. *Corvus monedula*, Linn.
 Skylark? *Alauda arvensis*? Linn.
 Nightjar? *Caprimulgus europæus*? Linn.
 Kingfisher? *Alcedo ispida*? Linn.
 Kestrel. *Falco tinnunculus*, Linn.
 Common Scoter. *Edemia perspicillata*, Linn.
 Redbreasted Merganser. *Mergus serrator*, Linn.
 Smew. *Mergus albellus*, Linn.
 Stock Dove? *Columba ænas*? Linn.
 Ptarmigan. *Lagopus mutus*, Montin.
 Ptarmigan. *Lagopus mutus* (small variety).
 Red Grouse? *Lagopus scoticus*? Lath.
 Pheasant? *Phasianus colchicus*? Linn.
 Partridge. *Perdix cinerea*, Lath.
 Water Rail. *Rallus aquaticus*, Linn.
 Grey Plover? *Squatarola helvetica*? Linn.
 Lapwing. *Vanellus vulgaris*, Bechst.
 Knot. *Tringa canutus*, Linn.
 Common Tern. *Sterna fluviatilis*, Naum.
 Little Auk. *Mergulus alle*, Linn.

MAIN TRENCH—DISTURBED.

Blackbird.
 Greenfinch.
 Jackdaw.
 Owl. *Asio accipitrinus*? Pall.
 Kestrel.
 Ptarmigan. *Lagopus mutus*.
 Ptarmigan. Small variety.
 Red Grouse.
 Partridge.
 Knot.
 Common Coot. *Fulica atra*, Linn.
 Green Sandpiper. *Totanus ochropus*, Linn.