

REPORT ON A COLLECTION OF BIRD BONES  
FROM THE 1929 EXCAVATIONS  
AT SOLDIER'S HOLE, CHEDDAR

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This important collection of bird remains, in the possession of Dr. J. W. Jackson, consists of material collected by the late R. F. Parry during the excavations he carried out at Soldier's Hole, Cheddar in 1929. The identification of this collection was begun by Dr. J. W. Jackson and preliminary findings were published, but the death of Miss D. M. A. Bate (Brit. Mus. Nat. Hist.) caused a postponement of the more difficult bones. It has now become possible, with help from various sources, to complete the list, but it should be remembered that bird bones present such slight differences amongst members of the same genus that specific identification is given with some reserve. The confusion is particularly marked in such families as the Ducks, Crows, Thrushes and smaller passerines.

The bones are in a good state of preservation and are mostly tinted a bright red colour, which is clearly derived from the silt in which they were embedded in the cave. The bones bear numbers which indicate the particular "working layer" in which they were found, but these six-inch working layers were later re-grouped by Parry into "natural layers", of which layers 2, 3 and 4 contained bird bones. The uppermost of these, layer 2, appears to represent a transition from Late Pleistocene to Holocene, but natural layer 3 is clearly demarcated by its flint industry of worked blades, which are of Creswellian type, whilst natural layer 4 contained seven flint tools of Solutrean derivation. Layer 4 is also demarcated by its fauna which includes a number of large forms such as Lion, Hyæna, Mammoth, Horse and Bison which are not present in layer 3. Both layer 3 and layer 4 contained Reindeer and Varying Hare and the fossil form of the Banded Lemming (*Dicrostonyx* sp.). Pika was present only in layer 3. There were also colour differences as follows: layer 2 was buff, layer 3 red and layer 4, which was a darker red than layer 3, also contained sub-angular pieces of limestone. The inference is that layer 4 represents an accumulation of mineral and animal remains during an interstadial phase of the Pleistocene, layer 3 represents a cold and more arid phase and layer 2 represents a

climatic amelioration, which witnessed the extinction of the characteristic Late Pleistocene fauna.

It might be supposed that the bird life would show changes in composition consistent with that of the mammals, but an examination of the list of fauna shows that such a change is not apparent. There is, however, a big increase in the actual quantity of birds' bones in layer 3 which could mean that predatory forms such as Eagles, Owls and Falcons were more common at Cheddar during the colder and drier phase.

Considering the list of birds as a whole it becomes possible to group the species under a limited number of natural habitats based, of course, on the present-day habits of those species. This grouping is shown below and it should be noted that some species range over several types of country according to food or nesting requirements: the Grey-lag Goose is a good example of this behaviour.

<i>Habitat</i>	<i>Characteristic Species</i>
Open water, lakes	..... Swan, Mallard, Teal, Geese.
Reedy pools, rivers	..... Moorhen and the Ducks.
Marshes, mud	..... Godwit, Gull.
Parkland	..... Magpie, Black Grouse, Thrushes, Finch or Bunting, Partridge, Stock Dove.
Moorland	..... Ring Ousel, Red Grouse, Short-eared Owl, Grey-lag Goose, Eagle.
Stony, lichenous moor	..... Ptarmigan.
Cliffs	..... Eagle, Kestrel, Raven, Jackdaw, Stock Dove.

The plentiful occurrence of Grouse and Ptarmigan is the significant feature of the Soldier's Hole list and this corresponds with the findings in Late Pleistocene deposits in many British and continental caves, the notable exception being the Ightham Fissures. The Ptarmigan in the British Isles today are mainly concentrated in the sub-arctic zones of the higher Scottish mountains, but it should be remembered that by descending a few hundred feet one is soon in the zone of such species as Grouse, Ousel, Pipit, Crow and Short-eared Owl. The inference is that the top of Mendip presented such sub-arctic conditions in Late Pleistocene times whilst the slopes provided moorland conditions. Finally the low plain at the base of

the hills fulfilled the other conditions of park country with patches of open water in the form of lakes and rivers. It can be assumed that the cliffs would stand much as they appear today.

The list of birds obtained at Soldier's Hole is very similar in composition to finds from other caves in the south-west, particularly at Chelm's Combe and Gough's Caves. Aveline's Hole and Merlin's Cave also produced many bird bones but a number of unexpected woodland forms occur. These could be due to the mixing of layers by burrowing animals such as Badgers, but the composition of the avifauna as a whole follows the pattern of Soldier's Hole and Gough's Caves, with Ptarmigan occurring at both sites.

#### NOTES ON SOME OF THE BONES

GREY-LAG GOOSE. The metatarsal bone has been snapped across, and as this is a very strong bone it may have been broken by man to extract the marrow.

WHOOPEE SWAN. This ulna is similarly snapped.

GROUSE (*Lagopus*). There is a small stout metatarsal bone which clearly belongs to this group and which is too small for a normal Ptarmigan. It does not fit any known European species as far as our rather inadequate reference material goes. It should be noted that E. T. Newton, reporting on the Merlin's Cave bird bones includes in his list a bird under the description: Ptarmigan, *Lagopus mutus* (small variety). I think our bone is again this small variety and it is clear that further study of fossil *Lagopus* bones is required to resolve this variety.

FIELDFARE. There are numerous bones belonging to the Thrush family (*Turdidae*), but most seem referable to the Fieldfare.

GREENFINCH (?). A fair number of the smallest bones belong to a Finch or Bunting, but tend to be a little too stout for the present-day form. This fact again was noted by Newton in the Merlin's Cave material.

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## FULL LIST OF SPECIES

		Layer(s)
<i>Anas crecca</i>	(Teal)	3 & 4.
<i>Anas platyrhynchos</i>	(Mallard)	2 & 3.
<i>Anser cf. anser</i>	(Grey-lag Goose)	2 & 4.
<i>Anser cf. erythropus</i>	(Lesser White-fronted Goose)	4.
<i>Aquila</i> sp.	(Eagle)	2.
<i>Asio flammeus</i>	(Short-eared Owl)	3.
<i>Columba cf. oenas</i>	(Stock Dove)	3.
<i>Corvus corax</i>	(Raven)	3.
<i>Corvus monedula</i>	(Jackdaw)	3.
<i>Cygnus cf. cygnus</i>	(Whooper Swan)	4.
<i>Falco tinnunculus</i>	(Kestrel)	2.
<i>Fringillidae</i> sp.	(Finch or Bunting)	3.
<i>Gallinula chloropus</i>	(Moorhen)	3.
<i>Garrulus glandarius</i>	(Jay)	3.
<i>Lagopus mutus</i>	(Ptarmigan)	2, 3 & 4.
<i>Lagopus cf. scoticus</i>	(Red Grouse)	3 & 4.
<i>Larus cf. canus</i>	(Common Gull)	3.
<i>Limosa limosa</i>	(Black-tailed Godwit)	3.
<i>Lyrurus tetrix</i>	(Black Grouse)	2, 3 & 4.
<i>Perdix perdix</i>	(Partridge)	3.
<i>Pica pica</i>	(Magpie)	3.
<i>Turdus pilaris</i>	(Fieldfare)	3.
<i>Turdus cf. torquatus</i>	(Ring Ousel)	3.
<i>Turdus viscivorus</i>	(Mistle Thrush)	3.

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