SHORT NOTES

British literature on European wildfowl — A correction.

Dr. J. M. Harrison has pointed out a misleading mistake in the list of British publications on wildfowl which appeared in the *Tenth Report*, pp. 162-175. The published entry: " J. M. Harrison and C. H. B. Grant (1953) *Turdus musicus* Linnaeus. The scientific names for the Bean and Pink-footed Geese. *Ibis* 95:152 " suggests that *Turdus musicus* is a possible name for a goose. This is not so. Harrison and Grant published consecutive but separate notes dealing with two of the most persistent and vexatious nomenclatorial disputes. It was not our intention to stimulate the fires by combining them. " *Turdus musicus* Linnaeus " should be deleted from the quoted entry.

Hæmorrhage from an œsophageal diverticulum causing death in a wild Mallard*

On 25th August, 1959, a freshly dead immature drake Mallard, *Anas platyrhynchos platyrhynchos* Linnaeus was found on the Kent Sand and Ballast Water wildfowl reserve at Sevenoaks. It was in good condition, but had free blood in its mouth. Post mortem examination showed that there was rather over an ounce of free blood in the oesophagus and on dissection an oesophageal diverticulum was found at the level of the bifurcation of the trachea. The diverticulum was full of food, being about the size of a walnut, and had become firmly adherent to the root of the lung by inflammatory adhesions. There was a marked apex to the diverticulum in the area of attachment and there is no doubt that it was a traction diverticulum being slowly enlarged with each movement of respiration as the adhesions tugged on the apex.

When the food contents of the diverticulum were removed for analysis, an ulcerated area of the lining was immediately apparent, in which a blood vessel had become eroded, resulting in a fatal haemorrhage.

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DIVERTICULUM CONTENTS

Species	Number	Volume	% Volume
PLANT MATERIAL			
Lolium multiflorum Lam. (Italian Ryegrass)	seeds 371	1.3 ml.	59.1%
Lolium perenne L. (Perennial Ryegrass)	seeds 57	0.3 ml.	13.6%
Bromus sterilis L. (Barren Brome Grass)	seeds 10	0.2 ml.	9.1%
Holcus lanatus L. (Yorkshire Fog)	seeds 12	0.1 ml.	4.6%
Juncas inflexus L. (Hard Rush)	capsule & seeds 22	trace	
Equisetum arvense L. (Common Horsetail)	stem and sheath	trace	
ANIMAL MATERIAL			
Hydropsychidae larvae (Caddis-fly)	3	0.3 ml.	13.6%

GIZZARD CONTENTS

PLANT MATERIAL			
Polygonum amphibium L. (Amphibious Bistort)	seeds *c.* 90	0.4 ml.	80%
Rumex conglomeratus Murr. (Clustered Dock)	seeds *c.* 43	0.1 ml.	20%

The contents of the diverticulum were completely different from those of the gizzard, indicating that the bird had been feeding in two separate habitats, and that once the diverticulum was full any further food ingested would pass normally into the gizzard. The state of the seeds in the gizzard would suggest this this meal had been taken only a short time before the bird succumbed. It is in the food contents of the diverticulum that the clue to the fatal haemorrhage is found. The spikelets of both the *Lolium* species are hard and sharply pointed, as are the narrower and longer seeds of *Bromus sterilis*. As the diverticulum and its contents are moved with each respiration, the consequent friction could easily result in these seeds causing the ulceration and haemorrhage. In this case the seeds of the *Bromus* and *Lolium* species must have been the direct cause of the bird's death.

Bromus sterilis seed.
Nat. size

Lolium multiflorum
spikelet, x3

It is interesting to note that this is the first time that the spikelets of either *Lolium* species have been found in any bird sent in to the Wildfowl Trust for food examination. Seeds of *Lolium perenne* L. have been found in duck gizzards before but not still as part of the spikelet. This particular Mallard could scarcely have taken a more unfortunate meal.

We are most grateful to Dr. C. E. Hubbard for help in identifying the grass seeds.

Jeffery G. Harrison and P. J. S. Olney.

Tuberculosis in a wild Pochard and remarks on the recognition of disease by predators*

On 19th August, 1959 Major General C. B. Wainwright and Mr. Roy King found an eclipse drake Pochard *Aythya fuligula* (Linnaeus) on Abberton Reservoir, Essex, swimming weakly and with its neck badly lacerated by some predator, which judging by the tooth marks was most likely to have been a fox or an otter. It was also very wasted and the bird was killed and given to us on the same day.

On examination, apart from being very wasted, the belly was extremely distended. On opening the body, this distension was found to be due to a grossly thickened, yellowish-white thoraco-abdominal air-sac, containing about a quarter of a pint of straw-coloured fluid. The pericardium was similarly thickened and there was an advanced plastic pericarditis, the whole heart looking as if it was covered with soft butter. Lying behind the air-sac, the liver was enlarged and studded with many small, hard, whitish nodules, while other nodules were present on the visceral surfaces of the gall-bladder and intestines, which were matted together by adhesions. One nodule had eroded the eighth right rib. Many of these features can be seen in the picture of the specimen after dissection (see p. 189), in photographic section).

A direct film from a liver nodule showed that numerous pleomorphic acid-alcohol fast bacilli were present. Histologically, a section of the liver stained with haematoxylin and eosin presented a picture of miliary tuberculosis with multiple caseous areas largely destroying the central area of each liver lobule, with small round-celled infiltration and giant cell systems surrounding the caseation, as a prominent feature, leaving only a narrow zone of liver cells.

A slide stained by the Zeihl-Neelsen technique showed many acid-alcohol-fast bacilli in the affected parts. From a study of these slides it is apparent that as a blood-borne infection, the disease reaches the central artery of each lobule and that caseation develops from this point peripherally, ultimately destroying the whole lobule. A culture was set up on Finlayson's medium and growth of a typical avian strain appeared in three weeks. Unfortunately owing to a technical error on our part, Dr. A. McDiarmid, of the Agricultural Research Station at Compton, was subsequently unable to type the strain.

This is the first confirmed case in a wild Pochard and only the fourth confirmed case in a wild duck in Britain. These others were a Wigeon, *Anas*

*First published in Bull. B.O.C. 80, 40-2. 1960.

penelope Linnaeus, from Orkney (Randall and Harrison, 1956) a Shelduck, *Tadorna tadorna* (Linnaeus), from Kent (Harrison, 1957) and a Wigeon from Abberton (Wainwright, 1959), while a further Wigeon from the same place was almost certainly tuberculous, but the culture was lost. General Wainwright, in recording the second Wigeon, states that he believes tuberculosis will be found to be not uncommon in wildfowl in the wild state and the occurrence of yet another case from Abberton lends support to his views. In America, Quartrup and Shillinger (1941) have recorded the disease in two Redheads, *Aythya americana* (Vieillot).

The pathological features presented by this Pochard are rather unusual in the marked involvement of the air-sacs and pericardium with great distension by fluid. The route of infection would appear to have been by the alimentary tract, which is the most usual in birds. Skeletal tuberculosis is rare and the involvement of a rib by direct spread was similar to a case recorded in a Sparrow-Hawk, *Accipiter nisus* (Linnaeus) (Harrison, 1949).

We have now examined fifteen cases of tuberculosis in wild birds and of these, three had been found with gross lacerations and tooth marks, undoubtedly caused by some mammal predator. The first of these was a Short-eared Owl, *Asio flammeus* (Pontoppidan), from Cambridgeshire (Harrison, 1943), the second was the Kentish Shelduck and this Pochard is the third. The predator had made no attempt to eat any part of the owl; the Shelduck had had its head torn off and the Pochard had been badly wounded, but left alive. It would seem that these birds in their weakened state fall an easy prey, but that the predator is able in some way to detect that the victim is unpleasant and discards it. We have noticed that there is a faint but distinctive smell from such birds and we think that scent is the most likely way in which the predator is protected from eating something which might prove dangerous to it.

We are most grateful to Mr. J. Heather, Dr. K. Randall and Dr. A. McDiarmid for their help with this case.

James M. & Jeffery G. Harrison.

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Natural weld in a Mallard and a Pink-footed Goose

THE accompanying photograph (p. 188) shows the right and left humeral bones of a female Mallard *Anas p. platyrhynchos* shot in December, 1959.

The right humerus is a remarkable example of a natural weld, where the fractured bone has been re-united by the formation of a callus. The bird was shot as it flew up from a bed of rushes at Whire Moss near Kirkby-in-Furness, nine miles north of Barrow, Lancashire. The original injury had apparently been caused by a BB shot which was later found under the skin close to the bone. The bird at the time of death was in good condition and could obviously fly.

There had undoubtedly been a complete fracture of the humerus and the callus uniting the two bone segments had formed at the end of one piece and on the lower surface of the other. This left one end free and protruding, with a resultant shortening of the bone by 1.6 cm. The formation of a permanent callus anchoring the broken pieces would have taken some time and during this period the bird would have been particularly susceptible to predation. There must have been a time when the bird was flightless and even with the comparatively quick formation of a provisional callus it is highly desirable that the muscles over the fracture site are rested as much as possible. It is in fact amazing that this bird survived at all.

I am most grateful to Mr. Frank Taylor for sending me this bird and for details of his shot.

The lower photograph on p. 188 is of a rather similar healed fracture in the tarso-metatarsus of a Pink-footed Goose *Anser brachyrhynchus* shot in the winter of 1953-54. The leg was later sent to Slimbridge in the condition shown. The successful welding of this fracture is less remarkable than that of the Mallard humerus since geese are comparatively well able to look after themselves with one leg out of action.

P. J. S. Olney.

Mute Swans feeding on fallen Prunus blossom

IT is a custom for very large quantities of gathered *Prunus* blossom at the Parade Gardens, Bath, in spring, to be put into the River Avon at Pulteney Weir. The light material floating on the surface of the water is eagerly swallowed by the twenty to thirty non-breeding Mute Swans (*Cygnus olor*) which live there. With a thrustful and forward sieving movement of their bills the food is consumed with extreme rapidity. Equally large amounts of grass cuttings are more frequently and similarly distributed on the Avon but the swans take this much more at leisure.

Bernard King.

Grey Lag Geese feeding on the stalks of Dandelion

A PARTY of twenty feather-cut Grey Lags (*Anser anser*) which had the complete freedom of Chew Valley Reservoir, Somerset, were observed on 20th May, 1957, from a distance of only thirty yards. During the thirty minutes they were being watched they fed exclusively on the fresh and milky stalks of Dandelion (*Taraxacum officinale* agg.). Their method of feeding was to pluck the Dandelion stalks (the heads of which were or had been in full seed) very near to the base of the plant, and then 'chew' the trailing stalks until only the seed heads were visible. These were usually, though not always, discarded. Each bird acted in the same way a great many times. I am unable to trace similar records of Dandelion as a food for geese.

Bernard King.

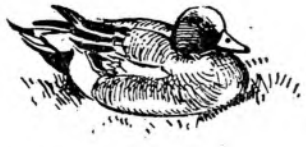
Wigeon feeding on moss

AT Cheddar Reservoir, Somerset, the embankment sometimes becomes heavily encrusted by moss, much of which grows in and around the concrete slabs. In early November, 1952, I watched a party of about twelve Wigeon (*Anas penelope*) eagerly feeding on this—they appeared to take only the surface of the material and seldom pulled up large quantities of the moss. At the time of observation it was just after dawn and very cold with heavy ground frost in the district, but in the area in which they were feeding comparative mildness prevailed, and this may have been the reason for the presence of the Wigeon.

When the birds departed I carefully examined the embankment. The moss showed considerable interference and loss of the surface greenness. No other distinguishable plant life was growing in the moss crevices.

James W. Campbell in his paper 'The food of Wigeon and Brent Goose,' *Brit. Birds* 39:194-200 (1946) mentions moss in small quantities found in the stomachs of four Wigeon taken in Lancashire, South Wales and Benbecula.

Bernard King.



Diving behaviour of Shelducks

In the summers of 1955 to 1958 inclusive, single broods of Shelducks (*Tadorna tadorna*) were discovered at Chew Valley Reservoir, Somerset, twelve miles from the coast. Two of the brood found in 1957 were present until they became full-winged and on the many occasions I had them under observation they were always accompanied by their parents. When the young birds were about three-quarters grown and becoming well feathered they were led frequently into some of the deepest water (15-20 ft.) to feed and I then witnessed some interesting feeding and submerging behaviour.

They began by feeding normally on the surface of the water, quickly moving their heads from side to side, but seeking food at greater depths the juveniles gradually submerged and completely disappeared below the surface for periods timed up to fifteen seconds. On the few occasions I was able to discern them below the surface they were still performing the scythe-like movements of their heads.

The adults were never seen acting in a similar manner. That adult Shelducks will dive readily too was well illustrated when D. H. Perrett, D. E. Slocombe and the writer discovered Bridgwater Bay, Somerset, as a moulting ground for the species in 1950. There large ' rafts ' of moulting and flightless Shelducks in July and August dived readily if approached too rapidly by boat, having endeavoured to get away by swimming quickly.

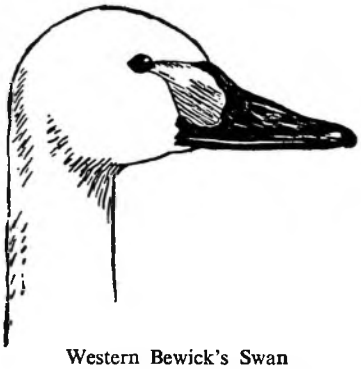
Bernard King.

Large-Billed Bewick's Swans in Somerset

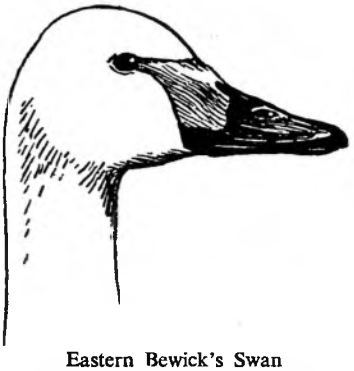
A party of fourteen swans at Durleigh Reservoir, Somerset, on 20th February, 1956 included twelve typical Bewick's Swans *Cygnus columbianus bewickii* and two which, from a distance, appeared to be a little larger and to have decidedly larger bills. I was able to come unseen to within fifty yards of the party, most of them resting on a flat and muddy piece of ground. At this range the two unusual swans still looked larger than the others and their bills seemed not only heavier but had more yellow on them. The yellow areas on the upper mandible were rather truncated in shape and extended up to and just beyond the nostrils. The bills immediately reminded me of the Jankowski's Swan *C.c. jankowskii* in the Wildfowl Trust Collection at Slimbridge. By loudly clapping my hands I was able to induce most of the swans to call, including the two unusual ones. Their voices were similar to those of the remainder, confirming that they were Bewick's rather than Whooper Swans *C.c. cygnus*. Mrs. C. D. Palmer and Miss E. M. Palmer, who were with me, agreed with my field description.

There is still some uncertainty about the validity of the difference between Bewick's Swans breeding in western Siberia (*bewickii*) and those in the far east (*jankowskii*). Delacour (*Waterfowl of the World*, vol. I, 1954) believes that the two are separable, though noting that their ranges overlap in the region of the River Lena. Russian authors on the other hand maintain that some birds taken in the east are indistinguishable from *bewickii*, while some from Novaya Zemlya near the western limit of the range of the species

have bills of the large eastern type. Thus it is not possible to be sure that the two large-billed swans at Durleigh were from an eastern breeding area, but, since such birds are apparently rare in England, it seems desirable to draw attention to their occurrence.



Western Bewick's Swan
Cygnus columbianus bewickii



Eastern Bewick's Swan
Cygnus columbianus jankowskii

It is not thought that the distribution of black on the culmen which varies widely in different individuals has any significance in distinguishing the two races.

February, 1956, was a time at which unusually large numbers of Bewick's Swans (some 3000 individuals) were seen in England and Wales (I.C.T. Nisbet, *British Birds,* vol. 52, pp. 393-416). Nisbet considers that 5% to 10% of the Bewick's Swans that reached Great Britain at that time were misidentified as Whoopers. The difficulty of distinguishing large-billed Bewick's from Whoopers when typical *bewickii* or *cygnus* are not present cannot be ignored, but thorough scrutiny of flocks of Bewick's at close range, when this is possible, should establish whether large-billed birds occur regularly, even if only in very small numbers.

Bernard King.