

## TUBERCULOSIS IN WILDFOWL

### Tuberculosis in a Wigeon and a Shelduck from Britain

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IT is remarkable how little appears to be known about the natural causes of death in wildfowl in this country. Fortunately we do not see outbreaks of botulism or lead poisoning in this country, which might have focused attention on the general subject of disease, but that is the object of this article.

Any sick or dead duck found in the close season is sure to be interesting. They are not often found, but in the past two years I have obtained two. The first, an adult drake Wigeon (1), was swimming on a loch on South Ronaldsay in the Orkneys on 3 June 1955, a very wasted and sick bird, which was killed and found to be suffering from advanced avian tuberculosis in both lungs, both shoulder joints and the air sacs. The tubercule organism was cultured and found to be a typical smooth avian strain, sensitive to streptomycin.

On 20 April 1957 my dog found a freshly dead first-summer female Shelduck (2) on the fresh marsh on the Isle of Sheppey, Kent. It had been killed by having its head largely chewed off by some animal, but at the same time it was felt to be extremely thin. The possibility that it had been killed in its weakened state by some predator and then not eaten came to mind, as I had once found a Short-eared Owl, which had been killed by some animal and left, and this was found to have tuberculosis (3).

The same proved true of the Shelduck, which had a gross tuberculous peritonitis and the right lung heavily infected. The organism was cultured and proved to be a typical avian strain. While doing the post-mortem, a heavy infestation of intestinal worms was noted and the viscera were sent to Dr E. J. L. Soulsby at the School of Veterinary Medicine at Cambridge, who identified no fewer than four different species of Trematodes and two of Cestodes. He commented that this was the most varied parasitic fauna he had seen in any bird. It is interesting to speculate whether the bird's resistance was lowered by its heavy parasitic burden, so that it subsequently developed tuberculosis.

The lesions of tuberculosis in birds are characterised by being greyish-white or yellow nodules of varying size, ranging from a pin's head to a pigeon's egg, and are hard. Fortunately, humans are not susceptible to the avian type, so that there is probably little danger if an infected bird is overlooked and cooked for food.

These two appear to be the only proved cases in wild ducks in Europe. Tuberculosis has been recorded in an American Wigeon, shot in British Columbia; while a probable case in a Grey Teal has been reported from New South Wales. Major-General C. B. Wainwright found a dead Wigeon in Essex in 1950 which almost certainly had the disease, but unfortunately the culture became lost at the laboratory to which it was sent. So far no cases have been found in wild geese, but Dr E. Hindle has told me of an epidemic in Mute Swans on Possil Marsh near Glasgow in 1936. Large numbers died, and two were examined and found to be tuberculous. This is a remarkable outbreak, although the Mute Swan is perhaps more of a semi-domestic than a genuinely wild fowl, and it sounds as if there may well have been an over-populated marsh. In captivity a wide range of wildfowl have been infected, and probably no species is immune.

It is not difficult to speculate how both the Wigeon and the Shelduck could become infected. In my opinion this is most likely to occur when they are grazing the fresh marshes on infected ground. The most frequent site of infection is in the alimentary tract (4). The organisms are passed in the droppings of an infected bird and can remain alive for from two to six months in a sunless, damp climate such as Britain. Tuberculosis has been recorded in such marsh-loving species as the Green Plover (in Orkney) and Starling (in Kent), while Poulding has recently examined a series of 97 gulls found dead or dying in the west of England, and of these, one Herring Gull and nine Black-headed Gulls showed advanced tuberculosis (5).

It seems likely that avian tuberculosis will be found to be a far commoner disease than has been thought in the past. I doubt if these two cases in wild duck in this country give a true picture of the rarity of the disease, and it is to be hoped that all freshly dead wildfowl found in the close season will be submitted for examination, particularly those which are thin and wasted. It is perhaps noteworthy that the plumage of both of these was normal, for a darkening and an abnormal feather structure has been seen in tuberculous Wood Pigeon (6, 7), particularly when the adrenal glands are involved, a condition somewhat similar to Addison's Disease in humans. Plumage changes are therefore worth watching for.

#### REFERENCES

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