

## Drowning in wildfowl

OVER a period of four years 16 cases of drowning in wildfowl have been found on autopsy. Ten were in birds from the Trust's collections and represented about 1% of the post-mortems on birds of similar ages to those under discussion. The cases are detailed below:—

Head caught in obstacle just below surface of water		
Spotted Whistling Duck <i>Dendrocygna guttata</i>	1st winter ♀ (full-winged)	Healthy
Chilean Pintail <i>Anas georgica spinicauda</i>	Fledgling ♀ (pinioned)	Healthy
Mallard (wild) <i>A. p. platyrhynchos</i>	Adult ♀ Adult ♂ Full-grown ♂ Full-grown ♂	Healthy Healthy Healthy Healthy
Cinnamon Teal <i>A. cyanoptera</i>	Adult ♀ (pinioned)	Pneumonia
Common Shoveler <i>A. clypeata</i>	Fledgling ♀	Pulmonary congestion
Australian White-eye <i>Aythya a. australis</i>	Juvenile ♂ Fledgling	Healthy Healthy
Trapped under ice		
Spotted Whistling Duck <i>D. guttata</i>	Adult ♀ (pinioned)	Healthy
Fulvous Whistling Duck <i>D. bicolor</i>	Adult ♀ (pinioned)	Healthy
Salvadori's Duck <i>Anas waigiensis</i>	Adult ♂ Adult ♀ (pinioned)	Healthy Healthy
European Green-winged Teal (wild) <i>A. a. crecca</i>	Full-grown ♂	Pneumonia
Mallard (wild) <i>A. p. platyrhynchos</i>	Full-grown ♂	Healthy

Deposits of mud and dirty water were found in the respiratory tracts of the first group and the latter in the second group. In general the post-mortem findings were similar to those described by Harrison & Harrison (1963). It had been thought that drowning would have been the ultimate cause of death in more cases of diseased birds, through weakness and inability to keep the head out of the water. Only two birds showed macroscopic signs of disease and in each of the 16 birds the general condition was moderate to good, indicating an absence of chronic disease.

The circumstances leading to drowning involved either the bird being caught in some underwater obstacle or being trapped under ice. The birds were mainly Anatini with a few Dendrocygnini and Aythyini. Post-mortems on species in each of the other tribes in the Anatidae revealed no case of drowning. These cases, though small in number, indicate that the likelihood of drowning may to some extent be correlated with feeding habits, diving ability and experience of icy conditions.

The Anatini are surface- and shallow-water feeders and often search for food in small holes in banks just below the surface of the water. Occasionally the neck gets into a narrow part of the hole, trapping the bird which then drowns. The Mallard in particular seems to have a natural curiosity to search such holes, which may account for the four cases. The Spotted Whistling Duck is intermediate between the dabblers and the true diving ducks in that it feeds in shallow water but has considerable ability to dive in a coot-like manner in a search for food. The case detailed was trapped in a pipe just below the

water surface, presumably while searching for food. The two Australian White-eyes were in shallow water and were drowned in the same manner as the Anatini. Many of the diving species in the Aythyini, Mergini and Oxyurini can range freely under water in a search for food and are not likely to become trapped in normal circumstances. However drowning is known to occur regularly in the first two groups under artificial conditions where the birds are caught accidentally in deep-set fishing nets (Schorger, 1947; Gardarsson, 1961).

The liability to drowning by trapping under ice may be inversely correlated with diving ability and perhaps experience of icy conditions (Harrison & Harrison, 1963). The Anatini are not good divers and may be expected to have difficulty in getting back to the ice-free water, should the bird attempt a shallow dive and surface under the ice. The Teal and Mallard as species have experience of ice but possibly not as individuals. The Whistling Ducks, though good divers, do not range freely under water and should therefore normally surface away from the ice. However both they and the Salvadori's Ducks are tropical species and would not have experience of ice thus militating against their survival. Many of the Mergini are sea ducks and would seldom encounter ice except in the Arctic where a good ability to dive and experience of ice helps survival.

No case of drowning was found during the very cold weather in early 1963 even though some tropical species and poor divers were restricted to small areas of water on the Trust's ponds. This would suggest that the birds had gained experience from the 1961-62 cold spell and consequently escaped this particular cause of death.

#### References

GARDARSSON, A. 1961. Fugladaudi af voldum netja í Myvatni. (Birds killed in fishing nets in Lake Myvatn in July and August 1960) *Naturafræðingurinn* 31 : 145-68. (English summ.)  
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 SCHORGER, A. W. 1947. The deep diving of the Loon and Old Squaw and its mechanism. *Wilson Bull.* 59 : 151-59.

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### The rapid sexing of downy Anatidae by the structure of the syrinx

MANY species of the Anatidae show a marked sexual dimorphism of the syrinx due to the presence in males of an asymmetric or, in a few species symmetric, swelling or bulla; a structure which is a valuable taxonomic character (Johnsgard, 1961). During the routine post-mortem examination of downy young it soon became apparent that, with certain exceptions, this structure could be used for the rapid sexing of these birds even if decomposition or trauma had obliterated the gonads or reproductive tract. Similarly, the method could also be applied to well developed embryos and adult birds, and even to live day old ducklings (presumably domestic forms of *Anas platyrhynchos*) by palpation at the base of the neck (Kamar & Yamani, 1962).

Table I lists by genera, following the nomenclature and sequence used by Scott (1957), those birds that can and those that cannot be sexed by the presence or absence of a bulla. The list is based on the examination of a high proportion of the species as downy young and, where these have not been available, on the examination of adult birds. The latter appears to be valid