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MICHIGAN SCIENTIST REPORTS
PROTOZOAN IS KILLING DUCKS

The numbers of wild ducks, greatly reduced by various adverse conditions, are being still further decreased by a disease caused by a little one-celled organism, a protozoan known as Leucocytozoon anatis Wickware, according to a report received by the Bureau of Biological Survey, U. S. Department of Agriculture, from Dr. Earl C. O'Roke of the School of Forestry and Conservation of the University of Michigan. Doctor O'Roke has just completed his second summer's study of this disease at the University Biological Station, Douglas Lake, and elsewhere in Michigan.

This organism has a complicated life cycle. In certain stages it occurs in the red blood cells, and in others in tissue cells of glandular organs. The parasite is transmitted from duck to duck by the bites of black flies or buffalo gnats. Adult ducks harboring the parasites are apparently little affected by them, but ducklings succumb in large numbers. Death of the duckling may occur at the time of the first appearance of symptoms, but usually it does not take place until the twelfth day after exposure.

The blood of a sick duckling is thin, pale, and watery, and contains numerous spindle-shaped parasites somewhat larger than normal blood cells. The most common lesion at autopsy is the greatly enlarged, blackened spleen.

Doctor O'Roke has found the parasite in wild mallards, black ducks, pintails, and widgeons, and in several varieties of domestic ducks. The distribution of the disease is spotty, many flocks being entirely free from it, while others are 100 per cent infected. Farmers raising domestic ducks and persons raising wild mallards and black ducks in captivity or on protected areas report losses of from 70 to 100 per cent. Among Doctor O'Roke's experimental ducks, losses in his first summer's study were 35 per cent and in the second summer 85 per cent.

It is of interest, says Doctor O'Roke, that in several cases where persons attributed the disappearance of ducklings to predatory birds or animals, a check-up disclosed the presence of diseased birds which later died while under observation. It is also significant, he says, that losses reported did not occur in ducks younger than 10 or 12 days, which accords with the incubation period of the disease, which is 10 days. Doctor O'Roke suggests that the small broods of young black ducks commonly reported in certain parts of Michigan may represent the survivors of larger broods, the others having succumbed to the disease.

When a shortage of ducks, caused by drought, drainage, and overshooting necessitates restriction of hunting, it is especially important that conservationists consider other factors that reduce the numbers of ducks, says Dr. J. E. Shillinger, in charge of the Biological Survey's disease investigations, in commenting on Doctor O'Roke's report. Various diseases, such as those caused by lead poisoning, botulism, water pollution, and intestinal parasites, play an important role in reducing the numbers of wild ducks, says Doctor Shillinger.

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