

BULLETIN
OF THE
NORTHEASTERN BIRD-BANDING ASSOCIATION

INSECTS THAT INFEST BIRDS

BY CHARLES W. JOHNSON

BOSTON SOCIETY OF NATURAL HISTORY

IN the process of bird banding and in collecting birds for museums, many interesting insects can be obtained. There are four groups of insects that frequent birds. Two belong to the Diptera, or flies, one to the Hemiptera, or true bugs, and the other is the order Mallophaga, or bird lice. Among the flies most frequently observed are several species belonging to the family Hippoboscidae and popularly known as bird flies or forest flies. Species of the genus *Lipoptena* have wings at first and live on birds, but later they migrate to deer and lose their wings. A wingless species (*Melophagus ovinus*) infests sheep and is known as the "sheep tick". This family represents a highly specialized group known as Pupipara, so named on account of their remarkable method of reproduction. The single egg hatches in the body of the parent and there develops into a peculiar larva, nourished not on the imbibed blood, but on a milky secretion from the mother. This method of reproduction admits of no great increase, and with the decrease in the number of birds, these flies will also diminish in numbers. The flies live by sucking blood from their hosts, and, if abundant, might prove a serious menace. There is also a danger of their carrying diseases that might be prevalent among certain species of birds. The occurrence of the same species of fly upon non-migratory birds confined both to the tropical and boreal regions would indicate that they are transmitted from one to the other by the migratory species.

The habit of these flies of darting quickly from a bird after it is shot and the warmth begins to leave the body, added to the difficulty of catching them owing to their rapid flight, accounts for so few being taken by ornithologists and taxidermists. Since a number of ornithologists have taken up bird banding, the species frequenting song-birds have been more generally taken, and from a number of birds not previously known as the hosts of these flies. Mr. Charles L. Whittle has adopted an excellent plan of banding his birds in

an inclosure behind a window, against which the flies would fly when they happen to leave the bird. In this way he has captured a great many from the Song and Chipping Sparrows.

The common bird fly (*Ornithomyia anchineuria*, Speiser), (*O. pallida*, Say), is closely allied to the European (*O. avicularia*, Linn) in fact some authors have united the two. It was first recorded by Thomas Say from the Bluebird in 1823. Since that time it has been taken on the Bobolink, Red-winged Blackbird, Hermit Thrush, Catbird, Canada Jay, American Crossbill, Slate-colored Junco, Savannah Sparrow, Song Sparrow, Chipping Sparrow, Towhee, Downy Woodpecker, and Brown Thrasher. There are probably other birds that serve as the host of this fly.

The little bird fly (*Ornithoica confluenta*, Say), (original spelling, emended by some authors to *confluens*), is widely distributed but less common than the preceding species. Say recorded it from the Snowy Heron in 1823. In New England it has been taken on the Canada Jay, Crow, and Song Sparrow.

The owl fly (*Ornithoponus americanus*, Leach) infests the following species of owls and hawks: Great Horned Owl, Barn Owl, Long-eared Owl, Barred Owl, Screech Owl, Red-shouldered Hawk, Red-tailed Hawk, Broad-winged Hawk, and Pigeon Hawk. It has also been taken on the Ruffed Grouse. Its occurrence on the grouse seems to me accidental, but the possibility of its carrying disease from the Raptores to the grouse is credible, as pointed out by Dr. Alfred O. Gross in *The Auk*, Vol. 42 (n. ser.) p. 431, 1925.

The Heron fly (*Ornithoponus albipennis*, Say) has been recorded from the Great Blue Heron, Little Blue Heron, Black-crowned Night Heron, White Heron, American Bittern, and Least Bittern. There is but one New England record.

The osprey fly (*Olfersia fumipennis*, Sahlberg) is quite common on the Fish Hawk, or Osprey. It has also been recorded from the Bald Eagle and Loon.

(*Ornithoetona erythrocephala*, Leach) has been taken only on the migratory hawks and herons. Most of the records for this fly are from tropical America, but it has been taken at Metis, Quebec, on the Pigeon Hawk and near Montreal on the American Bittern.

The second group of flies consists of those having blood-sucking larvæ—*Protocalliphora*, formerly in the family Muscidae, but now placed with the blue-bottle flies in the family Calliphoridae. There are two (perhaps three) species in New England infesting nestling birds. In one species

(*Protocalliphora splendida*, Macq.) the flies represent a remarkable case of sexual dichromatism, some of the forms having been confused with the European species (*P. azurea* and *chrysorrhea*). *P. splendida* has three marked color varieties. The species is based on the blackish female with the apical segment of the abdomen brassy; the dark shining blue female represents the variety *sialia*; and those of a bronzy color, the variety *aenea*. The larvæ usually hide in the nest during the day, coming forth at night to suck blood from the nestling birds. They are known to infest the following species of birds in the eastern United States: Bluebird, Robin, Brown Thrasher, Crow, and Tree Swallow, the Bluebird apparently being the most commonly infested. The writer would be very glad to receive the maggots of this species. They should be sent in a tin or wooden box, packed in damp moss.

The second species, *P. hirudo* var. *cuprea*, S. & D., was raised from maggots taken from the neck of a sparrow near Middleboro, Mass., by J. S. Pfeil; the maggots pupated August 3d, the imago appearing August 12, 1924. This is the only New England record for this species. The type was reared from pupa in a nest of the Western Robin, Seattle, Washington.

The third group is represented by the chimney-swift bug (*Oeciacus vicarius*, Horv.) closely allied to the bed-bug, and infests the nests of Chimney Swifts. It is not apparently common, but this may be due to lack of special search. Changes in the way of building chimneys, which will undoubtedly lessen the number of Swifts, will also diminish this insect. There are but three records for the species in New England.

The fourth group comprises the bird lice, *Mallophaga*. These differ from the true lice in having biting mouth-parts, feeding on feathers, epidermal scales, or excretions on the body of their hosts. It is to free themselves from those insects that birds take "dust baths." There are probably about one hundred species of bird lice in New England, infesting nearly all of the species of birds. Several genera and species often frequent one species or family of birds. About ten species are found on the Plovers and Sandpipers, and from four to six each on the Gulls, Ducks, Owls, Hawks, Quail, Blackbirds, and Flycatchers. The best method of preserving these is in vials of alcohol, keeping each species in a separate vial labelled with the name of the bird from which it was taken.