

## BIRD FLEAS IN NEW YORK STATE

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One of the more interesting aspects of bird biology is the occurrence of various ectoparasites on the bodies and in the nests of birds. It also happens to be one of the more neglected aspects of ornithology, so that relatively little is known about the occurrence, distribution and host relationships of these tiny creatures.

Probably the most abundant of bird parasites are mites, little eight-legged animals closely related to spiders and ticks. Among the insects, lice are the most common ectoparasites of birds, followed by fleas. The present paper reviews the occurrence and status of the bird fleas known from New York, and reports upon the relatively few collections which we have made at State University of New York College of Education at Albany.

All of the bird fleas which are known to exist in eastern United States are members of the genus *Ceratophyllus*, family Ceratophyllidae. Since related fleas are mostly rodent fleas, it is postulated that the transfer to birds occurred when birds occupied nest holes previously used by mice, or when mice used abandoned bird nests which were subsequently reused by birds. Whatever the mechanism of transfer, only a relatively small group of fleas has made this change of host.

Only five species of bird fleas are known from New York, and three of these five are known from only one or two previous collections, (Geary, 1959). It seems likely that other species of bird fleas remain to be discovered in the state, and certainly the species already known will be found to occur much more widely than present records indicate. Amateur bird students are in a peculiarly favorable position to help in securing such records. Anyone who puts up nest boxes, or who knows the whereabouts of a nest of any of the species listed below, can collect the nests as soon as possible after the young leave, place them in a plastic bag with a pencilled note indicating the locality, kind of nest, and date of collection, sprinkle the nest lightly with water, and seal the bag. Such nests can then be sent to the senior author, who will collect and identify any ectoparasites. Nests which are especially desired are those of the following birds:

- Any bird nesting in a bird house
- Any hole-nesting bird
- Any species of swallow
- Any species of woodpecker
- Chickadees, phoebes, wrens, catbirds

The following discussion includes all the species of bird fleas listed by Geary (1959) as occurring in New York. Additional species have been found on or in the nests of certain sea birds in Canada, and it is probable that they occur in nesting colonies of gulls and terns in New York. The species for which there are definite New York records are as follows:

### *Ceratophyllus celsus*

This flea appears to be associated with the Cliff Swallow, and should be sought wherever this bird nests. At present the only New York records are from Albany, Rensselaer and Oneida counties.

### *Ceratophyllus diffinis*

Fox (1940) listed this flea as occurring in New York, although we have been unable to determine the source of the record. There are no other collections as yet. It has been taken from the Catbird, Veery, Wood Thrush, Robin, Bluebird, Ovenbird and House Wren, so that it is probably not particularly host specific and might occur in almost any passerine nest.

### *Ceratophyllus gallinae*

This is the common poultry flea with which breeders of chickens and turkeys are all too familiar. It is not at all particular in its choice of a host, however, and has been taken from a variety of wild birds. It occurs throughout the state, and because of its association with domestic fowl it is the most commonly taken bird flea.

Fifty specimens of this species were collected during the summer of 1959. Forty-three were taken from the nest of a House Wren, *Troglodytes aedon*, at the Delmar Game Farm, Town of Bethlehem, Albany county, on July 7. So far as we can determine, this is the first time *C. gallinae* has been recorded from this host. Three specimens were taken from an unidentified nest (probably House Sparrow) at Delmar Game Farm, on July 7. Four specimens were taken from a nest of the House Sparrow, *Passer domesticus*, at the home of A. E. Hatch, Town of Guilderland, west of the village of Voorheesville, on July 21.

### *Ceratophyllus idius*

This flea is apparently restricted to the Tree Swallow for the most part, and has been recorded, in New York, only from Wellesley Island in the St. Lawrence River (Geary, 1959). It probably occurs throughout the state in nests of the Tree Swallow.

We collected 87 specimens of this species, 86 of which were from the nest of a Tree Swallow, *Iridoprocne bicolor*, collected at the Hatch home, west of Voorheesville, Town of Guilderland in Albany county, on July 9. A single specimen was recovered from the House Sparrow nest mentioned above, probably an accidental transfer from the Tree Swallow nest nearby.

### *Ceratophyllus riparius*

The Bank Swallow appears to be the most common host of this flea, which probably occurs throughout the state. We collected one hundred one specimens, distributed as follows: nests of Bank Swallow, *Riparia riparia*, New Scotland Road, Town of Slingerlands, Albany county, July 2, 1959, 90 specimens; nests of Starling, *Sturnus vulgaris*, in the bank of a gravel pit near Ira Station, Town of Ira, Cayuga county, June 25, 1959, 11 specimens.

The presence of this flea in Starling nests is probably accidental. The Starlings were using excavations which had probably been made, and quite possibly previously occupied, by Rough-winged Swallows.

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#### Literature Cited

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