The Pigeon Fly

BY F. C. BISHOPP

THIS PERSISTENT ENEMY of pigeons and their close relatives is not only a bloodsucker but a carrier of pigeon malaria. It can be effectively controlled by the simple methods here outlined.

THE PIGEON FLY (Pseudolynchia canariensis) is of sufficient importance as a parasite to warrant the attention of those who raise pigeons as messengers in the military service, for food, for the study of diseases or of genetics, or simply as a hobby.

These peculiar, bloodsucking flies feed only upon pigeons or closely related birds and breed in association with them. The flies attack squabs soon after the latter hatch and live and move about with ease among the closely set feathers of the adult pigeons. The loss of blood and the irritation caused by the flies are distinctly injurious to both squabs and adult birds. The flies also transmit the organism Haemoproteus columbae, which causes pigeon malaria, serving as its intermediate host.

THE INSECT AND ITS HABITS

The pigeon fly is slightly smaller than the common housefly, flat, and brownish. It has a rounded abdomen, rather long wings, and a stout beak (fig. 1). Its flight is quick and erratic and it does not usually leave the birds and take wing unless it is considerably disturbed. When driven off the host, it usually alights on some nearby object, especially a moving object, and in buildings it often goes toward the light at windows or open doors.

On grown pigeons the flies may be found on any part of the body. They crawl rapidly from place to place on or among the feathers, often moving backwards or sideways. Squabs often become heavily infested especially when they are partly feathered, the flies usually congregating at the base of the feathers of the tail and wings.

Both male and female flies suck blood. They leave no marked

1 F. C. Bishop is Assistant Chief, Bureau of Entomology and Plant Quarantine.
evidence of their bites on pigeons but evidently annoy them a great deal. They frequently bite human beings, especially where squabs are dressed for market, and are often very annoying to the workers. The points of attack may continue to show signs of irritation for 4 or 5 days.

The flies are active on the pigeons throughout the winter in the warmer parts of the country, though their numbers diminish markedly toward spring. The insect has the peculiar habit of retaining its larvae until they have pupated. The fly gives birth to the ovoid pupae one at a time. The pupae are about one-eighth of an inch long, at first pale yellowish in color but soon turning brownish, and within about 3 hours becoming shiny black (fig. 2). They are usually deposited while the flies are on the pigeons and may hang temporarily in the feathers, though they soon drop off among the nest material, where they usually fall through to the bottom of the nest boxes.

At an average temperature of 73° F. the pupal stage lasts 25 days during hot weather to 31 days or longer in cold weather.

The fly emerges by pushing open the front end of the hard pupa case, which splits along a definite line running around the case about one-third of its length from the head end. The fly is pale and soft at first, but it soon hardens, turns brown, and is ready to take a meal of blood.

FIGURE 1.—The pigeon fly as seen from above. Enlarged about 6 times.

METHODS OF CONTROL

Pigeons should be kept in confinement, and the loft should be so arranged as to make it easy to clean the nests and floors. Probably the simplest and most effective single step in the control of pigeon flies is to clean out the nests thoroughly every 25 days. The pupae are so smooth and round that, as already indicated, they usually drop to the bottom of the nest boxes. This makes it possible to pick up the nest, brush the dirt and pupae off the bottom of the box, and return the nest with little disturbance. Since the pupae roll freely, nest cleaning should proceed from the top downward, and care should be taken to brush the pupae out of the cracks. It is well to spread a piece of canvas on the floor beneath the boxes before cleaning to catch any pupae that may drop to the floor. The trash may then be burned
or, if used for fertilizer, stored in a screened pit or bin, preferably one in which there is a conical fly trap to catch the flies that emerge. Most of the pupae will be destroyed if the material is scattered on a field and promptly plowed under to a depth of 4 or 5 inches.

The pupae are rather resistant to insecticides, but they may be killed by being wetted thoroughly with a high-grade pyrethrum-kerosene fly spray.

A number of insecticides have been found to be effective in killing the flies on the birds. The main difficulty is to reach the insects and yet not burn the skin or stain the feathers of the pigeons. One of the most easily applied and effective treatments for squabs is fresh pyrethrum powder. From one to three pinches, depending on the size of the squab, dusted in the feather tufts, will kill all flies present. Grown pigeons are harder to treat and on them the powder is less effective, especially when the birds are flying about. Derris or cube powder, containing 3 to 5 percent rotenone, is nearly as effective as pyrethrum and should be used in the same way.

Kerosene extract of pyrethrum, prepared and sold as high-grade fly spray, is very effective in killing the flies either free in handling and killing rooms or on the birds. The material is applied lightly on the birds in a fine spray as the feathers are lifted. This must be done very carefully, however, since an excessive amount, especially on squabs, will burn the skin and make the eyes sore.

Many lofts are free of pigeon flies, and care should be taken to treat any new stock brought into a clean loft and to check closely on birds sent to races and shows. Special care should be taken to keep racing pigeons free from these flies and other parasites, which distinctly handicap the performance of the birds.

Cold weather apparently kills the pigeon flies in many lofts in the North, and when this occurs an effort should be made to keep them fly-free during the summer, when the parasite can breed rather rapidly.

The control measures used against the pigeon fly are very helpful in keeping down other insect enemies of the pigeon.