

The Occurrence of the Pigeon Fly, *Pseudolynchia canariensis* (Macquart)
in Indiana¹

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Abstract

During the early part of 1974, entomologists at the University of Notre Dame and Purdue University received requests for assistance in solving a problem of flies biting people in the Navarre Junior High School in South Bend, Indiana. It was determined that the flies in question were of the species commonly called the "pigeon fly", and Purdue University received requests for assistance in solving a problem of flies *Pseudolynchia canariensis* (Macquart). To the authors' knowledge, there are no previous published accounts of the occurrence of this species in Indiana. Based upon interviews of affected people, these flies apparently had been biting custodial staff and teachers on the upper floor of the school during the night or early morning hours for at least two years. The source of the flies was found to be pigeons roosting above a false ceiling and in connecting ventilator shafts opening onto the roof of the school building. Specimens collected are housed in the departmental museums of the respective authors.

Five species of the family Hippoboscidae (Diptera) have previously been recorded from Indiana (8). These are *Lynchia albipennis* (Say), *L. americana* (Leach), *L. angustifrons* (van der Wulp), *Melophagus ovinus* (L.) and *Ornithomyia fringillina* Curtis. The pigeon fly, *Pseudolynchia canariensis* (Macquart) is reported here for the first time in Indiana. This fly is an Old World immigrant to the New World (3). The earliest published record in North America was by Knab in 1916 (6) of specimens taken on pigeons at Savannah, Georgia in 1896. It has been recorded from any other locations in the U.S. since that time by various authors (1, 2, 4, 7, 8), the closest of these records to Indiana was in Chicago, Illinois by MacArthur (8).

The fact that pigeon flies occurred in Indiana came to the attention of entomologists in early 1974 when members of the custodial staff at Navarre Junior High School in South Bend Indiana collected specimens and sent them to the University of Notre Dame and to Purdue University for identification. Operating independently and later as a team the authors determined the flies to be the above reported species.

Personal interviews revealed that members of the custodial staff and several teachers had been bitten by the flies. There was no evidence that any students had been attacked. The flies were apparently most active at night and in the early morning before students arrived at the school. One custodial staff member reported being bitten intermittently over a two year period of time resulting in 12-15 total bites. One of these bites resulted in a severe swelling and pain of the arm that required emergency medical care. It was reported that the

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flies often crawled under the clothing or beneath the hair of the head before biting. This mode of attack appears to be in keeping with its habits on live pigeons (4).

Investigations of the school premises were conducted to collect the flies and determine their source. All reported bites of people occurred while these people were on the second floor of the two-story building. Most of the flies collected were found in the windows of rooms on the second floor. A rather large population of domestic pigeons had found access to a space above a false ceiling via ventilator shafts to the roof. The pigeons apparently had been roosting and nesting in this space above the ceiling as pigeon feathers droppings and nesting debris were found there.

Screening of the outside openings of the vents to prevent access of the pigeons and a general spraying of the infested area with an insecticide has apparently been successful in eliminating the problem. Over 6 months has now passed with no additional reports of flies or fly bites.

The act of the pigeon fly biting man is accidental and apparently common only of persons who regularly handle pigeons (5). The domestic pigeon is the only reported natural host for this species. It is a very irritating and debilitating parasite of pigeons and the proven biological vector of a serious disease of pigeons called pigeon malaria (4).

The majority of specimens collected are deposited in the University of Notre Dame Biology Department Collection and the remainder in the Purdue University Entomology Department Museum.

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