

cluded a Ruddy Quail-Dove (*Geotrygon montana*) and a Sharp-shinned Hawk (*Accipiter striatus venator*), each hosting a single fly. The Ruddy Quail-Dove measured 140 mm in wing length and weighed 140 g, which is within the range of nine adults captured in the same location during July and August 1998. The Sharp-shinned Hawk was not measured but it also seemed healthy.

Ornithoctona erythrocephala ranges from Canada to Argentina and has been reported from raptors of the genus *Accipiter* and columbids of the genus *Geotrygon* (Bequaert, 1953; Maa, 1969). The species parasitizes birds belonging to 76 genera, 25 families and 14 orders (Maa, 1969). In Puerto Rico, Wolcott (1936) reported this ectoparasite from an American Kestrel (*Falco sparverius*) and a Red-tailed Hawk (*Buteo jamaicensis*). Arendt (pers. comm.) found it in two Ruddy Quail-Doves from Río Abajo Forest. The fly was also mentioned as the probable hippoboscid found in the Bridled Quail-Dove (*Geotrygon mystaceae*) in St. Croix, Virgin Islands (Seaman, 1954). In Maricao Forest, only 2 of 386 birds captured from 1998-2000 were infested.

Louse flies can be detrimental to the host's health. Heavy infestations of *Ornithomyia biloba* Dufour in the Barn Swallow (*Hirundo rustica*) cause a response of the immune system, decrease breeding success, and may select for rapid growth rates of nestlings to minimize the time exposed to parasites (Saino et al., 1998). The presence of the hippoboscids *Ornithoica turdi* Latreille and *Ornithomyia avicularia* Linnaeus have been related to a 3 % decrease in body condition (mass/wing length³) in cardueline finches (*Serinus serinus*) (Senar et al., 1994).

Ornithoctona erythrocephala does not appear to be a threat to most birds in the Maricao Forest. However, the Puerto Rican Sharp-shinned Hawk, an endangered species with extremely low populations (Delannoy, 1997), could be susceptible to the negative effects of these parasites. A high mortality in nestlings of this species has been related to parasitism by the botfly *Philornis* sp. (Delannoy and Cruz, 1988).

Acknowledgments.—I am grateful to Robert V. Peterson, Monte L. Bean Museum, Brigham Young University, Utah, for the identification of the hippoboscids and to J. M. Wunderle, Jr., W. J. Arendt, and C. A. Delannoy for reviewing the manuscript.

Caribbean Journal of Science, Vol. 37, No. 1-2, 115-116, 2001
Copyright 2001 College of Arts and Sciences
University of Puerto Rico, Mayagüez

Two New Avian Host Records for *Ornithoctona erythrocephala* (Diptera: Hippoboscidae) in Puerto Rico

ADRIANNE G. TOSSAS *Department of Biology, University of Puerto Rico, P.O. Box 23360, Río Piedras, Puerto Rico 00931-3360*

Louse flies are obligate ectoparasites that feed on the blood of birds and mammals. In birds, they have been associated with colonial species and with species that have a limited ability to preen (Saino et al., 1998; Tella et al., 1995). Hippoboscids show moderate to high levels of host selection and the most specific species lack wings (Hicks, 1959). I report for the first time the presence of the hippoboscid *Ornithoctona erythrocephala* Leach on two bird species in Puerto Rico.

In July and August 1998, I collected louse flies from birds captured in mist nets in Maricao Forest. This forest occupies 4150 ha in the westernmost part of the Cordillera Central of Puerto Rico, with elevations ranging from 150 to 875 m above sea level. Hosts in-

LITERATURE CITED

- Bequaert, J. C. 1953. The Hippoboscidae or louse-flies (Diptera) of mammals and birds. Part I. Structure, Physiology and Natural History. *Entomol. Am.* 32: 211-442.
- Delannoy, C. A. 1997. Status of the Broad-winged Hawk and Sharp-shinned Hawk in Puerto Rico. *Carib. J. Sci.* 33:21-33.
- Delannoy, C. A. and A. Cruz. 1988. Breeding biology of the Puerto Rican Sharp-shinned Hawk (*Accipiter striatus venator*). *Auk* 105:649-662.
- Hicks, E. A. 1959. Check-list and bibliography on the occurrence of insects in birds' nests. Iowa State College Press, Ames, Iowa, 681 pp.

- Maa, T. C. 1969. A revised checklist and concise host index of Hippoboscidae (Diptera). *Pacif. Ins. Monogr.* 20:261-299.
- Saino, N., S. Calza and A. P. Møller. 1998. Effects of a dipteran ectoparasite on immune response and growth trade-offs in barn swallow, *Hirundo rustica*, nestlings. *Oikos* 81:217-228.
- Seaman, G. A. 1954. Wildlife resources survey of the Virgin Islands. *Pittman-Robertson Quarterly* 14: 205.
- Senar, J. C., J. L. Copete, J. Domenech and G. Von Walter. 1994. Prevalence of louse-flies *Diptera, Hippoboscidae* parasiting a cardueline finch and its effect on body condition. *Ardea* 82:157-160.
- Tella, J. L., C. Cortázar, A. Gajón and J. J. Osácar. 1995. Apparent lack of effects of a high louse-fly infestation (Diptera, Hippoboscidae) on adult colonial Alpine Swifts. *Ardea* 83:435-439.
- Wolcott, G. N. 1936. *Insectae Borinquensis*. A revised annotated check-list of the insects of Puerto Rico. *J. Agric. Univ. Puerto Rico* 20:1-627.