ON THE AVIAN HIPPOBOSCIDAE (DIPTERA) OF CUBA

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Abstract. Nine species of Hippoboscidae are reported from Cuban birds, Ornithoica confuenta being new for the fauna of Cuba.

From November 1964 to December 1965 during the field expeditions of workers of the Institute of Parasitology, Czechoslovak Academy of Sciences and the Institute of Biology, Cuban Academy of Sciences, 187 specimens of hippoboscid flies were collected from various bird species. The results of the determination of this material are presented in this paper.

The findings of Hippoboscidae from Cuba and Isle of Pines are summarized by Bequaert (1940). He reports from this territory 11 species: Ornithoctona erythrocephala (Leach, 1817), Stilbometopa fulvifrons (Walker, 1849), S. rampastonis Ferris, 1930, Olfersia fumipennis (Sahlberg, 1886), O. sordida Bigot, 1895, O. spinifera (Leach, 1817), Pseudolynchia canariensis (Macquart, 1840), P. brunnea (Latreille, 1812), Microlychnia pusilla (Speiser, 1902), Lychnia albipennis (Say, 1823) and Ornithoica vicina (Walker, 1849). In our material 9 species were found. The taxonomic division follows that of Maa (1969c). The distribution and ecological data are given after Maa (1963, 1966, 1969 a, b, d). The following abbreviations are used for the provinces of Cuba: C = Camagüey, H = Habana, L.V. = Las Villas, O = Oriente, P.R. = Pinar del Río.

We wish to express our sincere thanks to Dr. F. Dusbábek and Doc. Dr. B. Ryšavý who collected a considerable part of the material during the expeditions.

SURVEY OF SPECIES

Hippoboscidae

Ornithomyinae — Ornithomyini

1. Ornithoctona erythrocephala (Leach, 1817)

Recorded from Cuba and Isle of Pines on various birds belonging to 5 orders. *X. percussus* is a new host species. Widely spread over Nearctic and Neotropic region. Polyxenous species known from 14 bird orders but Accipitriformes, Falconiformes, Columbiformes and Psittaciformes are probably the true hosts for breeding.

2. *Ornithoica (Ornithoica) confluenta* (Say, 1823)

**Material examined.** Ardeoza ibis: 1♀, Playa Baracoa, H., 2. 12. 1964; 2♀, the same data; 1♂, 1♀, Santo Tomás, Ciénaga de Zapata, L.V., 6. 1. 1965; 14♀, 3♀, Chiririco, O., 21. 1. 1965; 2♀, Tranquera, Bayamo, O., 22. 1. 1965; 1♀, Santo Tomás, Ciénaga de Zapata, L.V., 2. 8. 1965; 1♀, 7♀, Sabaniya, Baracoa, O., 13. 9. 1965; 2♀, 1♀, Canal de Vijil, La Gloria, C., 28. 10. 1965; 5♀, 1♂, the same data; 2♀, Laguna de Ariguanabo, H., 24. 11. 1965—*Casmerodius albus*: 2♀, Sierra Cubitas, Cairije, C., 26. 10. 1965; 2♀, the same data—*Egretta thula*: 4♀, La Bajada, Quanajacabibes, P.R., 24. 8. 1965—*Florida caerulea*: 1♂, 6♀, Sierra Cubitas, Cairije, C., 26. 10. 1965.

New for Cuba. Known from Florida, Bahama Is., Venezuela and Brazil. Polyxenous species, confined to Ardeidae. Although considered as a rare species (Maa 1966), this parasite occurs rather frequently on Cuban herons.

3. *Ornithoica (Ornithoica) vicina* (Walker, 1849)

**Material examined.** Amazona leucocephala: 1♀, Cabañas, P.R., 26. 12. 1964.

Known from Cuba from Tyto alba. Distributed throughout the New World, introduced and established in Hawaiian Is. Polyxenous species, recorded from many genera of 10 bird orders, but Strigiformes and Passeriformes represent most probably the true hosts for breeding.

4. *Stilbomeropa fulvifrons* (Walker, 1849)

**Material examined.** Geotrygon chrysia: 1♂, Carapachibey, Isla de Pinos, 18. 4. 1965.

Recorded from Cuba and Isle of Pines on a pigeon. *Holoquisalis jamaicensis* (= *Quiscalus niger*) and *Columba leucocephala*. Distributed in Antilles, reported also from Costa Rica and USA (New Jersey). Polyxenous species, known from 4 bird orders. Columbiformes and Passeriformes seem to be preferred.

5. *Stilbomeropa ramphastonis* Ferris, 1930

**Material examined.** Columba leucocephala: 1♂, Santo Tomás, Ciénaga de Zapata, L.V., 26. 2. 1965; 1♀, Los Indios, Isla de Pinos, 16. 4. 1965—*Buteogallus anthracinus*: 1♂, Carapachibey, Isla de Pinos, 18. 4. 1965.

Recorded from Cuba without host data. Distributed in Neotropical region. Host preference uncertain, known from 5 bird orders. *B. anthracinus* represents a new host species and host order.

Ornithomyinae — Olfersiini

6. *Icosta (Ardmoeca) albipennis* (Say, 1823)

**Material examined.** Ardeoza ibis: 1♀, Playa Baracoa, H., 2. 12. 1964; 1♀, Chiririco, O., 21. 1. 1965—*Butorides virescens*: 1♀, Soledad, L.V., 17. 11. 1964; 1♂, Cayo Win, Baracoa, O., 27. 1. 1965; 1♀, Salinas, Ciénaga de Zapata, L.V., 27. 2. 1965—*Casmerodius albus*: 2♂, Sierra Cubitas, Cairije, C., 26. 10. 1965—*Dichromanassa rufescens*: 1♂,

Known from Cuba (without host) and from Isle of Pines (as *Lynchia albipennis*) from *Guara alba* (= *Eudocimus albus*). Distributed over Neotropical region and spreading northward to Nearctic region. Oligoxenous species, breeding on Ardeidae. The findings on *Ajaia ajaja* (Threskiornithidae) and *Aramus guarauna* (Aramidae) must be considered as accidental. Such an accidental occurrence was observed on members of Pelecanidae, Threskiornithidae, Ciconiidae, Anatidae, Falconidae and Charadriidae. Other not verified records exist from further 6 families.

7. *Microlychnia pusilla* (Speiser, 1902)

*Material examined.* *Geotrygon chrysia*: 1♂, Carapachibe, Isla de Pinos, 18. 4. 1965; 1♂, the same data—*Mimocichla plumbea*: 1♀, Melean, Isla de Pinos, 18. 4. 1965.

Described from Cuba without host and locality data. Distributed in Neotropical region and extending to the southern USA. Polyoxenous species, recorded from 8 bird orders. Columbidae are very often parasitized. Muscicapidae, Fringillidae and lcteridae are known hosts of this species among Passeriformes.

8. *Olfersia sordida* Bigot, 1885


Recorded from Cuba and Isle of Pines on both bird species. Distributed in Neotropical region and southern USA. Pleoxenous species parasitizing on *Pelecanus* and *Phalacrocorax*, in Galapagos collected also from *Ardea herodias*.

9. *Pseudolychnia canariensis* (Macquart, 1840)

*Material examined.* *Columba domestica*: 7♀, La Habana, 10. 2. 1965.

Known from Cuba. A world-wide parasite of domestic pigeon, introduced into the Americas from the Old World where it is a polyoxenous species known from 8 bird orders. In the New World, there was only one published record from wild host (*Columbiogallina*).

Ecological notes. From the results obtained it is evident that members of 12 families of birds were found to be infested with Hippobosidae (Tab. 1). Four species were collected on Columbidae, two species on Ardeidae and Accipitridae, and one species on hosts from each of the remaining families. Various species of herons are relatively frequently parasitized by two species of hippoboscid. The intensity of infestation is sometimes very high (34♀, 14♂ of *Ornithoica confluenta* in one case). In two species collected in greater numbers the females prevail in the material (114♀, 24♂ in *Ornithoica confluenta*, 18♀, 8♂ in *Icosta albipennis*). A mixed infestation was observed three times: *Ornithoica confluenta* and *Icosta albipennis*.
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on Casmerodius albus and Egretta thula (♀, O.c. 2♂ I.a. and 4♀ O.c. 1♂ I.a., respectively),
Microlychnia pusilla (1♂) and Sittametapia fulvifrons (1♂) on Geotrygon chrysia.
The fauna of avian Hippoboscidae of Cuba and Isle of Pines is so far represented
by 12 species.

К ИЗУЧЕНИЮ МУХ-КРОВОСОСОК (HIPPOBOSCIDAE) ПТИЦ КУБЫ

Φ. Грегор, В. Черны и Х. де ла Круз

Резюме. Девять видов мух-кровососок (Hippoboscidae) зарегистрировано от кубинских
птиц; в том числе Ornithoeca confluenta являются новым видом для фауны Кубы.

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Damage and losses inflicted annually by
insects and other pests to human and animal
health as well as to plant production and includ-
ing the cost of their control on the global scale
represent an astronomical sum. In most cases
the pesticides still serve as main control measures
against important pests. Their wide application
poses some difficult problems which are import-
ant from public health and environmental
aspects. Of no less importance are problems
connected with the development of new pre-
parations, studies of their properties, effects on
organisms, resistance etc. Between February 22
and 26, 1971 the Second International Congress
of Pesticide Chemistry was held in Israel,
attended by over 700 scientists from 35
countries. Within its framework 18 symposia and 14
workshop-sessions on various aspects of the
chemistry of insecticides, herbicides and fungi-
cides were organized. Papers submitted at this
Congress have been published in six volumes.
Volume I, entitled "Insecticides" (496 pp.),
opens with an introductory paper dealing
with the use of insecticides in future. The
following symposia and workshop-sessions cover
particular ranges of topics. The volume includes
five of them: 1) Mode of action and selectivity
of insecticides, 2) Chemistry and activity of
insecticides of plant origin, 3) Relation of
chemical structure to biological activity and
translocation of plant systemic insecticides,
4) Relation of chemical structure to biological
activity, mode of action and selectivity of
insecticides and acaricides, 5) Chemical induction
of sterility of insects. The relevant papers are
dedicated to problems such as metabolism and
action of carbamate insecticides, toxicity of
diazinon and other non-systemic insecticides,