

First record of *Philornis glaucinis* Dodge & Aitken, 1968 (Diptera: Muscidae) in *Thalurania glaucopsis* Gmelin, 1788 (Aves: Trochilidae)

Hermes Ribeiro Luz^{1*}

Rafaela Dias Antonini^{2,3}

Michele Silva Rodrigues³

André Felipe Nunes-Freitas²

Renata da Silva Mello^{3,4}

¹PPG em Parasitologia Veterinária, Universidade Federal Rural do Rio de Janeiro
km 47, CEP 23890-000, Seropédica – RJ, Brazil

²Laboratório de Ecologia Florestal e Biologia Vegetal, DCA, Instituto de Florestas
Universidade Federal Rural do Rio de Janeiro

³PPG em Biologia Animal, Instituto de Biologia
Universidade Federal Rural do Rio de Janeiro

⁴Laboratório de Transmissores de Leishmaniose, Setor de Entomologia Médica e Forense
IOC/ FIOCRUZ, Rio de Janeiro – RJ, Brazil

*Corresponding author
hermes@ufrj.br

Submetido em 30/11/2009
Aceito para publicação em 23/04/2010

Resumo

Primeiro registro de *Philornis glaucinis* Dodge & Aitken, 1968 (Diptera: Muscidae) em *Thalurania glaucopsis* Gmelin, 1788 (Aves: Trochilidae). Dos grupos causadores de miíases o gênero *Philornis* Meinert, 1890 aparece como o único representante da família Muscidae, obrigatoriamente associado a aves. Assim, o objetivo deste estudo foi relatar a ocorrência de *Philornis* em *Thalurania glaucopsis* (Trochilidae). Foram encontrados dois ninhegos de *T. glaucopsis* parasitados em maio de 2008, em uma área de elevado grau de degradação, no município de Petrópolis, Rio de Janeiro. Um total de 11 larvas foi localizado intra-dermicamente nas regiões da cabeça e pescoço. As larvas foram retiradas com auxílio de pinça e colocadas em um pote de plástico com pó de serragem, com objetivo de aguardar a emergência do adulto. Apenas sete larvas completaram a metamorfose e chegaram ao estágio adulto sendo identificadas como *Philornis glaucinis*. Este estudo apresentou o primeiro registro de *P. glaucinis* no Estado do Rio de Janeiro e também a primeira ocorrência deste parasita em ninhegos de *T. glaucopsis*.

Unitermos: Diptera, Miíases, Muscidae, *Philornis*, Trochilidae

Abstract

From the groups causing myiasis, the genus *Philornis* Meinert, 1890 appears as the only representative of the family Muscidae, obligatorily associated with birds. Thus, the aim of this work was to report the occurrence

of *Philornis* in *Thalurania glaucopis* (Trochilidae). Two parasitized nestlings of *T. glaucopis* were encountered in May of 2008, in an area with a high degree of degradation in the municipal district of Petrópolis, Rio de Janeiro. A total of 11 larvae were located intradermally in the regions of the head and neck. The larvae were removed using tweezers and placed in a plastic container with sawdust, in order to await the emergence of the adult. Only seven larvae completed metamorphosis and reached the adult stage, being identified as *Philornis glaucinis*. This study presented the first record of *P. glaucinis* in the state of Rio de Janeiro and also the first occurrence of this parasite in nestlings of *T. glaucopis*.

Key words: Diptera, Muscidae, Myiasis *Philornis*, Trochilidae

Introduction

The genus *Philornis* Meinert, 1890 (Diptera, Muscidae) is predominantly Neotropical. Within groups causing myiasis, this genus appears as the only representative of the family Muscidae, obligatorily associated with birds. The adults pertaining to the genus *Philornis* behave like the majority of the non-parasite muscids, and they can also be captured in decomposing organic matter, flowers, and other substrates. The larvae can live intradermally or in the nests (Couri, 1985). Thus, the larvae of *Philornis* may present three types of association with birds: coprophagous or semi-hematophagous, free in nests and hematophagous, or as subcutaneous endoparasites (Couri, 1999).

Pont (1972) catalogued 32 species of *Philornis* in the Neotropical Region, to which 14 were added by Couri (1983a; 1983b). The genus currently includes 50 described species, 39 of which are found in Brazil (Carvalho, 2002). This work aimed to study the parasitic association between *Philornis* larvae and birds.

Two parasitized nestlings of *Thalurania glaucopis* (Gmelin, 1788) (Aves: Trochilidae) were encountered in May 2008 in the district of Posse, municipal district of Petrópolis (RJ), in an area located 33.5km away from the Piabanha river's confluence with the river Paraíba do Sul, between the coordinates 22°17'08.57" and 22°16'17.95"S and 43°06'42.37" and 43°05'07.41"O. The area presents heterogeneous vegetation of 6.2ha and is characterized by a high degree of degradation, with large areas of abandoned pasture and scrub vegetation. It is a fairly anthropogenically disturbed area, where residences existed previously, but have now been demolished.

The nestlings seemed to have ages between 12 and 16 days of life, approximately. The larvae were found

in intradermal regions of the head and neck. A total of 11 larvae were collected using tweezers, and they were placed in a plastic container with sawdust in order to await the emergence of the adult. Only seven larvae completed metamorphosis and reached the adult stage. They were identified as *Philornis glaucinis* (Dodge and Aitken, 1968).

According to Couri and Carvalho (2005), the state of Rio de Janeiro has 10 described species belonging to the genus *Philornis*: *P. cinnamomina* (Stein 1918), *P. downsi* (Dodge and Aitken, 1968), *P. grandis* (Couri 1984), *P. insularis* (Couri 1983), *P. lopesi* (Couri 1983), *P. sabroskyi* (Albuquerque 1957), *P. setinervis* (Dodge 1963), *P. torquans* (Nielsen 1913), *P. univittata* (Dodge 1968) and *P. vulgaris* (Couri 1984). Couri and Carvalho (2005) described the parasitism of *Philornis* on nestlings of *T. glaucopis* in Rio de Janeiro, but did not mention the species of the parasite. Nevertheless, the authors, after examining morphologically the puparia found in their study, reported that the parasite was probably the species *P. insularis*.

In the table presented by Guimarães et al. (1983), only one species of bird host for *P. glaucinis* belonging to the family Trochilidae was registered: *Glaucis hirsutus* (Gmelin, 1788). Teixeira (1999) presented a list of nine families of birds parasitized by *P. Glaucinis* and included the Trochilidae family, which also included the species *Glaucis hirsutus* as host and added three species of Trochilidae, among them the genus *Thalurania* (but without mentioning the species).

Therefore, this current study was the first record of *P. glaucinis* for the State of Rio de Janeiro, and also the first occurrence of this species parasitizing nestlings of *T. glaucopis*.

Acknowledgments

We thank André César Lopes da Silva and Rodrigo Rocha Barbosa for helping to identify *Philornis glaucinis*. We also thank Ursula Brazil for helping us with the translation, and Janeska Xavier Pellim for her support and suggestions.

References

- Carvalho, C. J. B. (Ed.) 2002. **Muscidae (Diptera) of the Neotropical Region: Taxonomy**. Editora UFPR, Curitiba, Brazil, 287pp.
- Couri, M. S. 1983a. Descrição de 6 espécies novas de *Philornis* Meinert, 1890 (Diptera, Muscidae, Cyrtoneurinae). **Revista Brasileira de Biologia**, **43** (3): 297-310.
- Couri, M. S. 1983b. Notes and descriptions of *Philornis* flies. **Revista Brasileira de Entomologia**, **28** (4): 473-490.
- Couri, M. S. 1984. Notes and description of *Philornis* flies (Diptera: Muscidae). Cyrtoneurinae. **Revista Brasileira de Entomologia**, **28** (4): 473-490.
- Couri, M. S. 1985. Considerações sobre as relações ecológicas das larvas de *Philornis* Meinert, 1890 (Diptera: Muscidae) com aves. **Revista Brasileira de Entomologia**, **29** (1): 17-20.
- Couri, M. S. 1999. Myiasis caused by obligatory parasites. *Philornis* Meinert (Muscidae). In: Guimarães, J. H. & Papavero, N. (Ed.). **Myiasis in man and animals in the neotropical region – Bibliographic database**. FAPESP, Editora Plêiade, São Paulo, Brazil, p.51-70.
- Couri, M. S.; Carvalho, C. J. B. 2005. Diptera muscidae do estado do Rio de Janeiro (Brasil). **Biota Neotropica**, **5** (2): 205-222.
- Dodge, H. R.; Aitken, T. H. G. 1968. *Philornis* flies from Trinidad (Diptera: Muscidae). **Ibid**, **41**: 134-154.
- Guimarães, J. H.; Papavero, N.; Prado, A. P. 1983. As miíases na Região Neotropical (Identificação, biologia, bibliografia). **Revista Brasileira de Zoologia**, **1** (4): 261-267.
- Pont, A. C. 1972. Family Muscidae. A catalogue of the Diptera of the Americas South of the United States. **Museu de Zoologia da Universidade de São Paulo**, **97**:1-111.
- Teixeira, D. M. 1999. Myiasis caused by obligatory parasites. General observations on the biology of species of the genus *Philornis* Meinert, 1890 (Diptera Muscidae) In: Guimarães, J. H. & Papavero, N. (Ed.). **Myiasis in man and animals in the neotropical region – Bibliographic database**. FAPESP, Editora Plêiade, São Paulo, Brazil, p.71-96.