Mixed myiasis by Philornis glaucinis (Diptera: Muscidae), Sarcodexia lambens (Diptera: Sarcophagidae) and Lucilia eximia (Diptera: Calliphoridae) in Ramphocelus dimidiatus (Aves: Thraupidae) chicks in Panama

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Abstract: Philornis glaucinus is reported from Panama for the first time, parasitizing two chicks of Ramphocelus dimidiatus. Additionally, we present a secondary myiasis by Sarcodexia lambens and Lucilia eximia in these chicks.

Key words: Diptera, Muscidae, Sarcophagidae, Calliphoridae, Philornis glaucinus, Sarcodexia lambens, Lucilia eximia, myiasis, Ramphocelus dimidiatus, Panama.

Miasis mixta a cargo de Philornis glaucinus (Diptera: Muscidae), Sarcodexia lambens (Diptera: Sarcophagidae) y Lucilia eximia (Diptera: Calliphoridae) en polluelos de Ramphocelus dimidiatus (Aves: Thraupidae) en Panamá

Resumen: Se reporta por primera vez para Panamá a Philornis glaucinus, parasitando dos polluelos de Ramphocelus dimidiatus. Adicionalmente, se presenta información sobre la miasis mixta causada de forma secundaria por Sarcodexia lambens y Lucilia eximia.

Palabras clave: Diptera, Muscidae, Sarcophagidae, Calliphoridae, Philornis glaucinus, Sarcodexia lambens, Lucilia eximia, miasis, Ramphocelus dimidiatus, Panamá.

Introduction

The genus Philornis Meinert, 1890 (Muscidae) includes near 50 species, distributed in different zones of America, especially in the Neotopic (Fessl et al., 2001; Coui & Carvalho, 2002). The species of this genus have a strong relationship with birds, particularly the nestlings. It has been suggested that the females can ovipose in the nests or can lay the eggs on the skin of the nestlings. The larvae, according to the species, can be free on the nests with coprophagous habits, or can penetrate the skin, living on subcutaneous tissues and blood (Couri, 1999; Teixeira, 1999; Fessl et al., 2001; Amat et al., 2007).

According to theoretical patterns, Löwen-Rust (2008) affirmed that some species of Philornis could be generalist, while other are specialists. Atkinson et al. (2008), affirmed that the Passeiformes, Stringiformes, Psittaciformes and Falconiformes are the most affected birds. The effect over the bird health is little known, although the infestation by subcutaneous larvae can seriously affect the nestlings, depending on their age and size, intensity of parasitism and species (flies and birds) involved. It has been speculated in literature, that the possible increase of mortality can also be affected by other environmental factors (Teixeira, 1999). Uñáez & Arendt (1986) described the damages caused by P. deceptivus Dodge and Aitken, 1968 on Margarops fuscatus (Vieillot, 1808), being one of more complete descriptions of the parasitism.

This communication presents the myiasis of Philornis glaucinis Dodge & Aitken, 1968 on Ramphocelus dimidiatus Lafresnaye, 1837 chicks, and additionally secondary myiasis by Sarcodexia lambens (Wiedemann, 1830) and Lucilia eximia (Wiedemann, 1819), in suburban environment of Panama.

Results and discussion

The occurrence was in August 5th 2009, in a Nuevo Emperador suburban community, near 20 Km to west to Panama City (8º 56´ 40.2” N, 79º 41´00.8” W). Two live chicks were identified as P. deceptivus and the adults emerged 10-12 days later. The Sarcophagidae started the pupation between three to six days after being extracted, and the adults emerged 10-12 days later. The Calliphoridae adults were identified as Sarcodexia lambens (Wiedemann, 1830), using the key of Carvalho & Mello-Patlu (2008) and Buenaventura et al. (2009), and the Calliphoridae as Lucilia eximia (Wiedemann, 1819), using the key of Vargas (1999). We found that the myiasis produced by P. glaucinis did not cause damages in internal organs, as it is known to develop a furuncular sub-cutaneous myiasis; while, the larvae of S. lambens and L. eximia penetrated into the thoracic cavity. It is possible that the wounds produced by P. glaucinis, allowed the secondary myiasis of S. lambens and L. eximia, and consequently the death.

Sarcodexia lambens has been reported from different substrates; such as scorpions, snails, vertebrate’s carcasses and caus- sing myiasis in poison frogs of Epipedobates spp. (Hagman et al., 2005; Buenaventura et al., 2009). Fessl et al. (2001), found this species breeding on live chicks and carcasses of at least six species of Galapagos Islands birds, where the primary myiasis was caused by P. downsi Dodge & Aitken, 1968. On the other hand, L. eximia myiasis is reported in cats (Madeira et al., 1989), dogs (Aze- redo-Espin & Madeira, 1996) and humans (Oliva, 2002). Lucilia eximia has a wide distribution in America (Madeira et al., 1989) and in Panama it has been reported specially in urban, suburban and forest localities (Bermúdez, 2007).

The distribution of R. dimidiatus includes Central and West Panama, Colombia and Venezuela, nesting in gardens and eventu- ally boundary of forest (Ridgley & Gwynne, 2005). The nest of this species is built with roots, little branch and other materials. Despite P. glaucinis has been reported causing myiasis in other bird of this genre: R. carbo (Ferris, 1766) Teixeira, 1999; this is the first record on R. dimidiatus. This is also the first record of P. glaucinis in Panama, previously recorded from Trinidad Tobago, Brazil and Uruguay (Carvalho et al., 2005). Additionally, the paper gives new information of the secondary myiasis for S. lambens and L. eximia.
First Portuguese record of the family Opetiidae

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The Opetiidae is a small family of flies of uncertain affinity within the Lower Cyclorrhapha, for which the biology is not very well known, though there is a record of it being reared from birch logs from Ireland (Speight et al., 1990). The only European Opetiidae species, Opetia nigra Meigen, 1830, is recorded here for the first time from Portugal. The two specimens collected are deposited in R. Andrade’s personal collection, preserved in 70% ethanol.

Opetia nigra Meigen, 1830
Portugal: Parque Municipal da Lavandeira – Oliveira do Douro – Vila Nova de Gaia, 41º7’19.25”N, 8º35’43.33”W, 8.IX.2009 1 male, 29.IX.2009 1 male. Both specimens were collected by the first author with a vial while running on leaves of a bush.

The specimens were identified using Chandler (2001). Parque Municipal da Lavandeira is a small public garden, and the specimens were found on the edge of a patch of trees and bushes (including the species Salix atrocinerea Brot., Alnus glutinosa L., Sambucus nigra L., Rubus sp. and Laurus nobilis L.) near a small stream, in a well lit area.

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References:

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