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Research note

Myiasis by *Philornis* spp. (Diptera: Muscidae) in *Dendroica castanea* (Aves: Parulidae) in Panama

Miasis ocasionada por *Philornis* spp. (Diptera: Muscidae) in *Dendroica castanea* (Aves: Parulidae) en Panamá

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Abstract. We report the parasitism of an unidentified species of *Philornis*, extracted from a juvenile *Dendroica castanea* that was collected from Pipeline Road of the Soberania National Park of Panama. This finding is unusual since *Philornis* spp. parasitizes nested chicks. On the other hand, this is the first time that this parasite is reported in *D. castanea*.

Key words: myiasis, Panama, *Dendroica castanea*, *Philornis*.

Resumen. Registramos el parasitismo de una especie no identificada de *Philornis* extraída de un juvenil de *Dendroica castanea*, capturada en el Sendero del Oleoducto del Parque Nacional Soberanía. Este hallazgo es inusual ya que *Philornis* spp. parasita principalmente polluelos en nidos. Del mismo modo, el presente constituye el primer registro del parásito en *D. castanea*.

Palabras clave: miasis, Panamá, *Dendroica castanea*, *Philornis*.

The genus *Philornis* Meinert, 1890 is composed of about 50 species, which are mainly distributed in the Neotropics (Fessl et al., 2001). Like most of the Muscidae, adults feed upon plant fluids and decomposing animals; while the females lay their eggs in nests of birds, depending on the species. Maggots can develop in stools and cause varying degrees of parasitism (from hematophagy to myiasis) in chicks (Couri, 1985). This genera has been associated with about 100 species of birds (Teixeira, 1999), exhibiting a wide range depending on the species specificity (Löwenberg-Neto, 2008).

In Panama, there are reports of *Philornis zeteki* Dodge, 1963 and *P. rettenmeyeri* Dodge, 1963, parasitizing *Psarocolius wagleri* (Gray, 1845) and *Cacicus cela* (L., 1758) (Smith, 1968, 1979). Recently, Bermúdez et al. (2010) reported a case of mixed myiasis provoked by *Philornis glaucinis* Dodge and Aitken, 1968, *Lucilia eximia* (Wiedemann, 1817) (Calliphoridae) and *Sarcodexia lambens* (Wiedemann, 1830) (Sarcophagidae) in 2 nestlings of *Ramphocelus dimidiatus* Lafresnaye, 1837. This first report is the first for *P. glaucinis* in Panama and the first description of its relationship with *R. dimidiatus*.

In this paper, we report the parasitism of an unidentified species of *Philornis*, extracted from a juvenile *Dendroica castanea* (Wilson 1810) collected from Pipeline Road of the Soberania National Park of Panama, during a study on the winter survival of migratory birds (MoSI) on December 11th, 2008. The bird was removed from the nest and was transported to the Smithsonian Tropical Research Institute (STRI), where 5 maggots were extracted. Later, the fly larvae were transferred to the Medical Entomology Branch of Gorgas Memorial Institute (ICGES), and were identified using diagnostic characters proposed by Couri et al. (2005, 2007), and Franz and Couri (2008). The specimens were deposited in "Dr. Eustorio Méndez" Zoological Collection of the ICGES (CoZEM).

Dendroica castanea breeds in the Nearctic region, migrating to the Neotropics in autumn, from late September to middle November (Stiles and Skutch, 2003). According to Ridgely and Gwyne (2005), the time of residency in Panama is approximately 4 months, from the

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middle of November to the middle of April. It is important to mention, there are no resident populations of *D. castanea* in Panama, nor nesting birds. At the moment of the capture, it was possible to verify that the bird was approximately 1 year old, based upon the characteristics proposed by Pyle (1997).

So far, parasitism caused by *Philornis* on non-nesting birds is a rare event. In this case, the nesting birds seem to be more susceptible than mature birds, as they stay longer time in the nest and have less mobility. In addition, juveniles and adults of *D. castanea* are insectivorous, suggesting that they may be able catch flies. Perhaps the most developed bird parasitism is a less casual event, passing unnoticed; however, more observations to corroborate this fact are needed.

Our knowledge of the frequencies of myiasis among wild birds is scarce; nevertheless, it is known that some species of Calliphoridae and Sarcophagidae can cause myiasis in wounded birds. Similarly, there is a report of *Dermatobia hominis* L. 1781 (Oestridae) causing myiasis foruncular in wild birds. Our observation, thus, is the first report of larvae of *Philornis* spp. parasitizing a sub-adult, migratory bird in Panama.

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