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Revista Mexicana de Biodiversidad, vol. 86, núm. 3, septiembre, 2015, pp. 829-831

Universidad Nacional Autónoma de México
Distrito Federal, México

Available in: http://www.redalyc.org/articulo.oa?id=42542746032
Research note

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Ereynetidae (Acari: Prostigmata) en Chrysomus ruficapillus (Passeriformes: Icteridae) de Brasil

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Received 21 November 2014; accepted 9 April 2015
Available online 29 July 2015

Abstract

During nasal mite research, a total of 122 Chrysomus ruficapillus (Vieillot, 1819) were examined. The mite Boydaia agelaii occurred in 47.5% of the hosts. This record represents the first report of the mite in a bird in Brazil’s natural wild environment.

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Keywords: Boydaia agelaii; Speleognathinae; Chestnut-capped Blackbird

Resumen

Un total de 122 Chrysomus ruficapillus (Vieillot, 1819) fueron examinados para la obtención de ácaros nasales. Boydaia agelaii se presentó en el 47.5% de los huéspedes. Este trabajo registra por primera vez a esta especie de ácaro en asociación con un ave silvestre en Brasil.

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Palabras clave: Boydaia agelaii; Speleognathinae; Varillero Congo

Birds can be parasitized by nasal mites (consumers of blood) belonging to Rhinonyssidae Trouessart, 1895 and by tissue feeders that compose Ereynetidae Oudemans, 1931 (Pence, 1975; Skoracki, Zabludovskaya, & Bochkov, 2012). These endoparasites inhabit the respiratory system of birds, and are found preferentially in the membrane lining the nasal turbinates. They can also be found in the anterior portion of the nostrils, larynx, trachea, lungs, air sacs, and conjunctival (Amaral & Rebouças, 1974).

In particular, the family Icteridae originates in the Americas and is restricted to the New World. In Brazil the family consists of 40 species, of which 19 occur in Rio Grande do Sul (Bencke et al., 2010; CBRO, 2014). Chrysomus ruficapillus (Vieillot, 1819) occurs in Brazil, Uruguay, Argentina, Bolivia, Paraguay and French Guiana (IUCN, 2014; Narosky & Yzurieta, 2003). According to Belton (1994), the species is one of the most abundant in Rio Grande do Sul, being found in flocks ranging from a just a few to thousands of birds. They inhabit almost all parts of the state where there are wetlands, or rice paddies (Fallavena, 1988).

The aim of the study was to investigate the presence of nasal mites in C. ruficapillus (Icteridae) in Brazil, contributing to the knowledge of biodiversity in the country.

One hundred and twenty-two specimens of Chrysomus ruficapillus from the municipality of Rio Grande, Rio Grande do Sul, Brazil (32°24.36′ S, 52°49.38′ W) were examined. The capture, transport and euthanasia of these birds was licensed by the Instituto Chico Mendes de Conservação da Biodiversidade (ICMBio n°41095-3) and approved by the Comitê de Ética e

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Peer Review under the responsibility of Universidad Nacional Autónoma de México.

http://dx.doi.org/10.1016/j.rmb.2015.05.010
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Experimentação Animal da UFPeL (CEEA/UFPeL n°147). The capture took place on private property Granjas 4 Irmãos S. A., where a trap (2.5 m × 2.5 m × 2.5 m) was installed with water and food available for birds.

After euthanasia, the birds were placed individually in labeled plastic bags, transported to the Laboratório de Parasitologia de Animais Silvestres (LAPASIL/UFPeL), and frozen until processing.

In order to collect the mites, a cut was made from one of the nostrils which reached the external orifice of the corresponding ear, this process was repeated on the opposite side. Next, the nasal turbinates were cut lengthwise and the top of the head was bent backwards to form a right angle with the lower part (Fain, 1956, apud Amaral & Rebouças, 1974). Afterwards, the cavity was washed with a water jet through a 150 μm sieve, and the resulting content, as well as the nasal cavity, was examined under a stereomicroscope Olympus SZ61.

The mites were fixed in 70% ethanol and mounted between slide and coverslip with Hoyer’s medium, and photographed on an Olympus BX 41 microscope with a connected camera system. Identification was based on morphological characteristics according to Pence (1975). The parameters calculated were prevalence, mean abundance, and mean intensity of infection according to Bush, Lafferty, Lotz, and Shostak (1997). The photomicrographs were prepared with Adobe Microsoft Photoshop CS5. Vouchers were deposited in the Coleção de Artrópodes at (LAPASIL/UFPeL) (n°468-477).

Of the 122 specimens of C. ruficapillus examined, 58 (47.5%) were positive for the nasal mite Boydaia agelaii Fain and Aitken, 1968 (Ereynetidae: Speleognathinae) (Fig. 1). Two hundred and twenty-one specimens of mites were collected, of which 188 were adults (females), and 33 larvae. The mean abundance of infection was 1.81, and mean intensity of infection was 3.81. We also collected Rhinonyssidae mites that are in the process of identification and will be presented in another specific paper. There are few studies on nasal mites in the parasitological indices, since the character of most of the studies is taxonomic. In North America, Pence (1973a) reported the number of birds parasitized by Boydaia quiscali Brooks and Strandmann 1960 and the number of mites found allowed for the calculation of the mean intensity of infection of 3 mites per host for 4 species of Icteridae. Pence (1973b) presented a list of host-parasites for nasal mites of various species of birds, in which he reported 82 birds individuals of Icteridae, distributed in 10 species; of these 10 hosts (12.2%) were parasitized by B. quiscali. Spicer (1987) examined 13 Icteridae hosts belonging to 4 species and found only Boydaia sternellae Clark, 1960 (=Coboydaia sternellae), with a prevalence of 7.7%.

Skoracki et al. (2012) presented a review of Prostigmata associated with birds, which listed several species of Boydaia and their respective hosts. Boydaia agelaii was reported parasitizing Icteridae birds in the Western Hemisphere. The hosts recorded in association with the nasal mite were Chrysosoma icteroccephalus (Linnaeus, 1766), Agelaius humeralis (Vigers, 1827), and Dives atrovilaceus (Orbigny, 1839) in South America; Agelaius phoeniceus (Linnaeus, 1766), Molothrus ater (Boddaert, 1783), and Quiscalus mexicanus (Gmelin, 1788), in North America. Other Boydaia species have been reported in Icteridae in North America, such as Boydaia loxiae (Fain, 1963) in Icterus galbula (Linnaeus, 1758), and B. quiscali in Quiscalus

![Figure 1](image-url)
Aguia agelaii was reported in C. ruficapillus from a zoo in Europe by Fain and Aitken (1968) (Skoracki et al., 2012), differing from this study in which the parasites were collected in free-living hosts in southern Brazil.

In this context, Chrysomus ruficapillus as a new host for Boydaia agelaii in Brazil is reported, and for the first time the species is found parasitizing this species in the wild.

We thank the Instituto Chico Mendes de Conservação da Biodiversidade (ICMBio) for authorizing the collection of hosts; the Coordenação de Aperfeiçoamento do Pessoal de Nível Superior (CAPES) for scholarships, and the first author’s doctoral and financial support through the edict 2010/039; and also especially to Granjas 4 Irmãos S. A., for their assistance throughout the project, and for authorization of bird collections on their property.

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Skoracki et al., 2012 (retrieved 03.03.15)


