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New species of the genus *Picobia* (Cheyletoidea: Syringophilidae) parasitizing tyrannid birds (Passeriformes: Tyrannidae)

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Abstract

Three new quill mite species of the genus *Picobia* Haller (Cheyletoidea: Syringophilidae) are described from 6 host species of the family Tyrannidae (Passeriformes), *P. ochoi* sp. nov. from *Tolmomyias sulphurescens* (Spix) (Guyana), *P. schmidti* sp. nov. from *Lophotriccus pileatus* (Tschudi) (type host) (Peru) and *Hemitriccus margaritaceiventer* (Orbigny & Lafresnaye) (Guyana), and *P. myiopagi* sp. nov. from *Myiopagis gaimardii* (Orbigny) (type host) (Guyana), *M. subplacens* (Sclater) (Peru) and *Elaenia ruficeps* Pelzeln (Guyana).

Key words: Quill mites, Syringophilidae, tyrannid birds, systematics, ectoparasites

Introduction

Quill mites of the family Syringophilidae (Cheyletoidea) are a group of obligatory bird ectoparasites including 318 species assigned to 60 genera. One of the most numerous among them is the genus *Picobia* Haller. It is represented by 28 species (with 3 species as *inquirrenda*) recorded from five host orders: Passeriformes (23 species), Piciformes (2), Psittaciformes (1), Charadriiformes (1) and Coraciiformes (1) (Skoracki and Hromada 2013; Glowska 2014; Glowska and Schmidt 2014).

The tyrant flycatchers (Passeriformes: Tyrannidae) with about 400 species widespread in both North and South America are considered to have the most species of any family of birds. Despite of such great diversity of this group it is still extremely poorly explored for the syringophilids. Only four mite species from 13 tyrannid hosts have been described so far from the USA, Canada and Peru: three from the genus *Syringophilopsis* Kethley and one from the genus *Picobia* Haller (Bochkov and Galloway 2004; Skoracki *et al.* 2008; Glowska 2014) (Tab. 1).

Here, three new species of the genus *Picobia* are described from six tyrannid hosts, *P. ochoi* sp. nov. from the Yellow-olive Flycatcher *Tolmomyias sulphurescens* (Spix) (Guyana), *P. schmidti* sp. nov. from the Scale-crested Pygmy-Tyrant *Lophotriccus pileatus* (Tschudi) (type host) (Peru) and the Pearly-vented Tody-Tyrant *Hemitriccus margaritaceiventer* (Orbigny & Lafresnaye) (Guyana), and *P. myiopagi* sp. nov. from the Forest Elaenia *Myiopagis gaimardii* (Orbigny) (type host) (Guyana), the Pacific Elaenia *M. subplacens* (Sclater) (Peru) and the Rufous-crowned Elaenia *Elaenia ruficeps* Pelzeln (Guyana).

Material and methods

Material used in the study was acquired by Eliza Glowska from the collection of feathers deposited in Smithsonian Institution, National Museum of Natural History, Department of Vertebrate Zoology, Division of Birds, Washington, DC, US (USNM). Bird specimens were collected by C. M. Milensky and B. K. Schmidt during expeditions to Guyana (2006, 2007) and Peru (2009). Drawings were made with an Olympus BH2 microscope with differential interference contrast (DIC) optics and a camera lucida. Photos were done by Olympus DP70 digital

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