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New taxa of the subfamily Picobiinae (Cheyletoidea: Syringophilidae) parasitizing antbirds and gnateaters (Passeriformes: Thamnophilidae, Conopophagidae) in Guyana

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Abstract

A new genus and three new species of the picobiin quill mites (Cheyletoidea: Syringophilidae) are described from passeriform birds in Guyana, *Phipicobia pygiptilae* **gen. nov.** and **sp. nov.** parasitizing *Pygiptila stellaris* (Spix) (Thamnophilidae), *Rafapicobia thamnophili* **sp. nov.** from *Thamnophilus insignis* Salvin et Godman (type host), *Myrmoborus leucophrys* (Tschudi), *Myrmeciza ferruginea* (St. Müller), *Myrmotherula longipennis* Pelzeln, and *Hypocnemis cantator* (Boddaert) (Thamnophilidae), and *Rafapicobia milenskyi* **sp. nov.** from *Conopophaga aurita* (Gmelin) (Conopophagidae).

Key words: Quill mites, Syringophilidae, *Phipicobia*, *Rafapicobia*, antbirds, gnateaters, systematics

Introduction

Mites of the subfamily Picobiinae (Cheyletoidea: Syringophilidae) are permanent bird parasites living, feeding and reproducing inside the quills of body feathers in many avian groups. The subfamily is widespread throughout the world and as yet has included 10 genera represented by 69 species (with 3 species of *Picobia* Haller as *inquirrenda*) associated with 45 bird families belonging to 11 orders: Passeriformes (46 mite species recorded / from 33 bird families), Coraciiformes (1 / 2), Galliformes (3 / 2), Charadriiformes (2 / 1), Columbiformes (2 / 1), Cuculiformes (1 / 1), Galbuliformes (3 / 1), Gruiformes (1 / 1), Piciformes (6 / 1), Psittaciformes (3 / 1) and Pteroclidiformes (1 / 1) (Skoracki & Hromada 2013; Glowska & Schmidt 2014; Skoracki *et al.* 2014).

The avifauna of Guyana though great diversity with about 800 species known, so far has been extremely poorly explored for the presence of picobiin mites. Only three species of the genus *Picobia* have been recorded from this area until now (Glowska & Milensky 2014). The antbirds (Thamnophilidae) with about 200 species are large family of passerine birds, which are widespread in Central and South America. They are closely related to the gnateaters (Conopophagidae), bird family represented by only 10 species living in the Amazon and the Andean slopes. Quill mites have never been found in species of both families.

Here, a new genus and three new species of picobiin mites are described from passeriform birds in Guyana, *Phipicobia pygiptilae* **gen. nov.** and **sp. nov.** parasitizing the Spot-winged Antshrike *Pygiptila stellaris* (Spix) (Thamnophilidae), *Rafapicobia thamnophili* **sp. nov.** from the Streak-backed Antshrike *Thamnophilus insignis* Salvin et Godman (type host), the White-browed Antbird *Myrmoborus leucophrys* (Tschudi), the Ferruginous-backed Antbird *Myrmeciza ferruginea* (St. Müller), the Long-winged Antwren *Myrmotherula longipennis* Pelzeln, and the Guianan Warbling-Antbird *Hypocnemis cantator* (Boddaert) (Thamnophilidae), and *Rafapicobia milenskyi* **sp. nov.** from the Chestnut-belted Gnateater *Conopophaga aurita* (Gmelin) (Conopophagidae).

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fields strongly sclerotized, I–II apunctate, III–IV sparsely punctate. Setae *3c* 2.8–3 times longer than *3b*. Antaxial and paraxial members of claws pairs III–IV subequal in size and shape. Setae *tc"* of legs III–IV 1.8–2.2 times longer than *tc'*. *Lengths of setae*: *vi* 20 (20), *ve* 40 (30–45), *si* 45 (50–55), *c2* 115 (95–130), *se* 90 (90), *c1* 170 (175–180), *d2* 125 (115–130), *d1* 105 (135), *e2* 140 (140), *f1* 15 (10–20), *f2* 15 (10–15), *h1* 30 (35), *h2* 235–295, *ag1* 170 (150–165), *ag2* 15 (10–15), *ag3* 155 (130), *g* 10, *ps1*,*2* 10 (7), *tc'* 30 (20), *tc"* 50 (45), *l'RIII* 20 (20), *l'RIV* (20), *3b* 20 (25), *3c* 60 (70), *4b* 25, *4c* 55 (80).

PHYSOGASTRIC FEMALE: as non-physogastric form, body bulb-shaped in outline.

MALE. Unknown.

Etymology. This species is named in honor of the collector of the host specimen, C. M. Milensky.

Type material. Female holotype (non-physogastric form) and 2 female paratypes (1non-physogatric females and 1 physogastric forms) from quill of body feathers of *Conopophaga aurita* (Gmelin) (USNM 637100) (Passeriformes: Conopophagidae), **GUYANA:** Upper Takutu - Upper Essequibo, Upper Rewa River, August 2006, coll. C.M. Milensky.

Type deposition. Holotype female is deposited in USNM, 2 female paratypes (non-physogastric and physogastric forms) in AMU.

Differential diagnosis. This new species is most similar morphologically to *Rafapicobia dendrocolaptesi* Skoracki and Solarczyk, 2012. In females of both species, the propodonotal shield is shirt-shaped, bearing bases of setae *vi*, *ve*, *si* and *se* and punctate on whole surface, the hysteronotal shields are present and restricted to the small punctate areas bearing bases of setae *d1* and setae *ag2* are short (10–15). Females of *R. milenskyi* **sp. nov.** differ from *R. dendrocolaptesi* by the length of setae *si* 45–55, *c2* 95–130, *se* 90, *d2* 115–130, *f2* 10–15 and *h1* 30–35. In females of *R. dendrocaptesi* the lengths of these setae are *si* 75–80, *c2* 155–190, *se* 130–140, *d2* 165–190, *f2* 100–135 and *h1* 10.

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