

A NEW SYRINGOPHILID MITE (ACARIFORMES: SYRINGOPHILIDAE) FROM MANAKINS (PASSERIFORMES: PIPRIDAE) IN PANAMA

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ABSTRACT: A new quill mite species, *Syringophilopsis bochkovi* sp. n. (Acariformes: Syringophilidae), is described from two species of manakins (Passeriformes: Pipridae), *Corapipo altera* (type host) and *Manacus vitellinus* collected in Panama. Females of the new species differ from those of morphologically similar *S. nitens* Skoracki et Dabert, 2001 by the following features: the total body length is 960–1,010 µm (vs. 1,265–1,285 µm in *S. nitens*); the dorsal shields (propodonal, hysteronotal and pygidial) and coxal fields I–IV are apunctate (vs. all these sclerites are punctate); each lateral branch of the peritremes has 11 chambers (vs. 13 chambers); and the lengths of dorsal idiosomal setae *d*2 and *e*2 are 330–350 and 330–370 µm, respectively (vs. 390–400 and 420–460 µm). *Syringophilopsis bochkovi* represents the first record of the family Syringophilidae on passerines of the family Pipridae.

KEY WORDS: Acari, quill mites, *Syringophilopsis*, ectoparasites, Pipridae, Panama.

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INTRODUCTION

The quill mite genus *Syringophilopsis* Kethley, 1970 (Acariformes: Prostigmata) is one of the most species-rich clades in the family Syringophilidae and currently includes 48 species, arranged in three species groups: *elongatus*, *turdi* and *fringillae* (Skoracki 2011). Representatives of this genus are large-sized syringophilids inhabiting quills of wing feathers (primaries and secondaries). Most species of this genus are associated with passerines and, to date, they have been recorded from hosts of 27 families (as classified by Clements *et al.* 2018). Only three species of the genus *Syringophilopsis* have been described from non-passeriform birds: *Syringophilopsis albicollisi* Skoracki et Dabert, 2000 and *S. melittophagi* Skoracki et Dabert, 2001 from bee-eaters (Coraciiformes: Meropidae); and *S. trogoni* Skoracki, Mironov et Unsoeld, 2013 from trogons (Trogoniformes: Trogonidae) (Kethley 1970; Skoracki and Dabert 2000, 2001; Skoracki *et al.* 2013; Glowska *et al.* 2015; Zmudzinski and Skoracki 2018).

In this paper, we describe a new species of the genus *Syringophilopsis* collected from two manakin hosts (Passeriformes: Pipridae), the white-ruffed Manakin *Corapipo altera* Hellmayr and the golden-collared Manakin *Manacus vitellinus* (Gould) in Panama. This is the first record of the family Syringophilidae on passerines of the family Pipridae.

MATERIALS AND METHODS

The mite material used in the present study was collected by junior coauthors (SVM and SB) during parasitological surveys in Panama in 2016 and 2017. Identifications and drawings of mite specimens were carried out with a ZEISS Axioscope light microscope (Carl-Zeiss AG, Germany), equipped with DIC optics and a camera lucida. In the descriptions below, the idiosomal chaetotaxy follows Grandjean (1939) as adapted for Prostigmata by Kethley (1990). The nomenclature of leg setae follows that proposed by Grandjean (1944). Morphological terminology follows Skoracki (2011). All measurements are in micrometers (µm). Measurement ranges for paratypes are given in brackets following the data for the holotype. The scientific names and systematics of the birds follow Clements *et al.* (2018).

Abbreviations used in collection numbers and type material depositories are as follows: AMU—Adam Mickiewicz University (Poznań, Poland); BMOC—Museum of Zoology of the University of Michigan (Ann Arbor, USA); ZISP—Zoological Institute of the Russian Academy of Sciences (Saint Petersburg, Russia).

SYSTEMATICS

Family Syringophilidae Lavoipierre, 1953
Subfamily Syringophilinae Lavoipierre, 1953
Genus *Syringophilopsis* Kethley, 1970

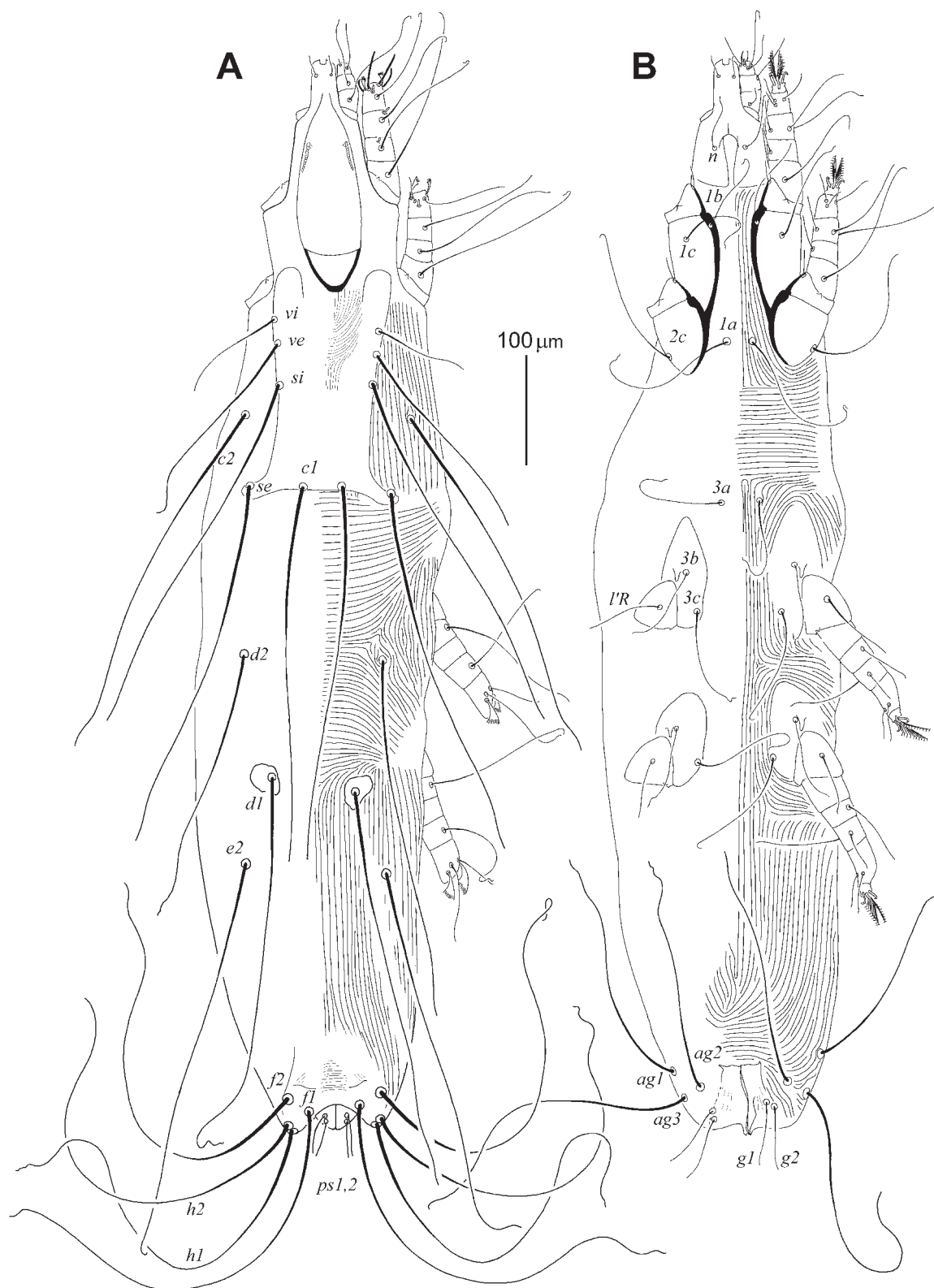


Fig. 1. *Syringophilopsis bochkovi* sp. n., female. A—dorsal view; B—ventral view.

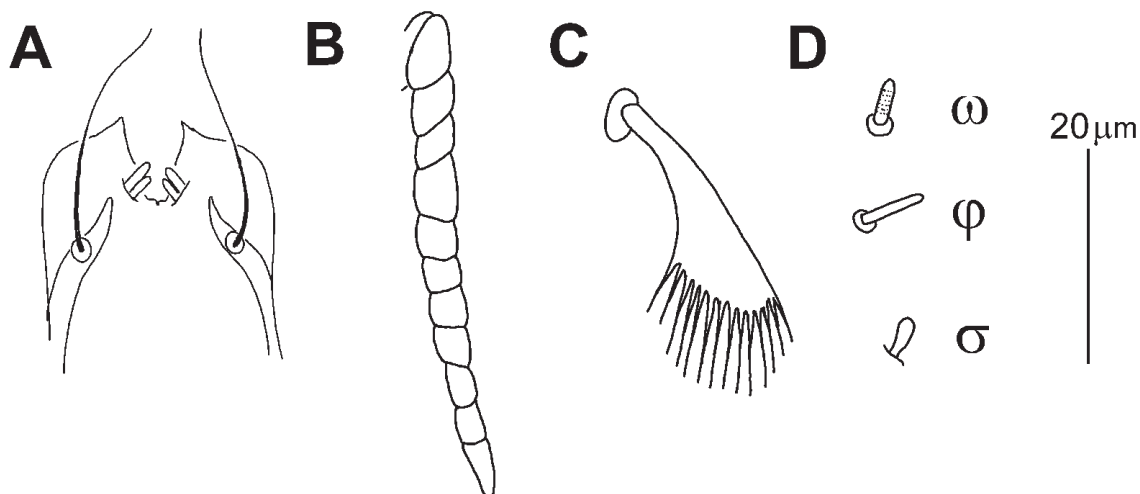


Fig. 2. *Syringophilopsis bochkovi* sp. n., female. A—hypostomal apex, B—lateral branch of peritreme, C—fan-like seta $p'III$, D—solenidia of leg I.

Syringophilopsis bochkovi sp. n.

(Figs. 1, 2)

Type material. Female holotype and 7 female paratypes from *Corapipo altera* Hellmayr (Passeriformes: Pipridae) (field No. SVM 17-0612-3), Panama, Darién Province, Parque Nacional Darién, Rancho Frío (Pirre Station), 08°01'11"N, 77°43'57"W, 12 June 2017, coll. S.V. Mironov.

Depository. Holotype, 2 paratypes—BMOC, remaining paratypes—AMU, ZISP.

Additional material. 2 females from *Manacus vitellinus* (Gould) (Passeriformes: Pipridae), (field No SVM 16-0421-6), Panama, Colón Province, Gamboa, Soberanía National Park, 09°07'13"N, 79°41'40"W, 21 April 2016, coll. S.V. Mironov.

Depository. AMU, BMOC.

Description. *Female* (holotype, range for 7 paratypes in parentheses). Total body length 1,010 (960–995). *Gnathosoma*. Infracapitulum apunctate. Stylophore apunctate, 220 (200–230) long. Hypostomal apex with 1 pair of small protuberances. Each lateral branch of peritremes with 11 chambers. *Idiosoma*. Propodonal shield apunctate, deeply concave on anterior margin, bearing bases of setae vi , ve , si , se , and $c1$. Bases of setae se and $c1$ situated at same transverse level; $c2$ situated posterior to level of setae si . Length ratio of setae $vi:ve:si$ 1:2.1–2.2:3.5–3.8. Hysteronotal shield reduced to 2 small and apunctate sclerites surrounding bases of setae $d1$. Pygidial shield weakly sclerotized, with indistinct anterior margin, apunctate. Setae $f1$, $f2$, $h1$ and $h2$ long (380–470).

Setae $ag3$ slightly (1.1–1.3 times) longer than setae $ag1$ and $ag2$. Setae $ag2$ 3.3–4.5 times longer than genital setae $g1$ and $g2$. Coxal fields I–IV apunctate. *Legs*. Fan-like setae p' and p'' of legs III and IV with 12–14 tines. Setae tc'' of legs III and IV 1.5–1.6 times longer than $tc'III-IV$. Posterior tips of apodemes I fused with anterior halves of corresponding apodemes II. *Lengths of setae*: vi 90 (90–100), ve 200 (200–220), si 345 (345–350), se 325 (320–340), $c1$ 330 (330–350), $c2$ 330 (330–350), $d1$ 365 (360–385), $d2$ (330–350), $e2$ 365 (330–370), $f1$ 420 (380–435), $f2$ (385–400), $h1$ 420 (410–440), $h2$ 400 (400–470), $ps1$ 40 (40–50), $ps2$ 35 (35–40), $g1$ and $g2$ 55 (50–65), $ag1$ 230 (220–230), $ag2$ (200–235), $ag3$ (270–280), $l'RIII$ 55 (45–55), $l'RIV$ 55 (50–60), $tc'III-IV$ 50 (50–55), $tc''III-IV$ (75–90), $3b$ 90 (90–100), $3c$ (145–170).

Male. Not found.

Differential diagnosis. *Syringophilopsis bochkovi* sp. n. belongs to the *elongatus* species group. Among the members of this group, this species looks morphologically most similar to *S. nitens* Skoracki et Dabert, 2001 known from various plocoid hosts (Plocoidae) from Togo and Kenya (Skoracki and Dabert 2001). In females of both species, the hypostomal apex is provided with one pair of protuberances; the hysteronotal shields are present; and genital setae are distinctly shorter (4–5 times) than agenital setae $ag2$. The new species differs from *S. nitens* by the following features: in females of *S. bochkovi*, the total body length is 960–1,010, the dorsal idiosomal shields (propodonal, hysteronotal, and pygidial) and coxal fields

I–IV are apunctate, each lateral branch of the peritremes has 11 chambers, and the lengths of setae *d2* and *e2* are 330–350 and 330–370, respectively. In females of *S. nitens*, the total body length is 1,265–1,285, the dorsal shields (propodonal, hysteronotal, and pygidial) and coxal fields I–IV are punctate, each lateral branch of the peritremes has 13 chambers, and the lengths of setae *d2* and *e2* are 390–400 and 420–460, respectively.

Etymology. This species is named in honor of the Russian acarologist, Andrei V. Bochkov (1968–2018), our too soon deceased friend.

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