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## Five new species of the feather mite genus *Trouessartia* Canestrini from South America (Acari: Trouessartiidae)

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### Abstract

Five new feather mite species of the genus *Trouessartia* Canestrini are described from South American birds: *Trouessartia latiducta* **sp. nov.** from *Phylloscartes kronei* (Tyrannidae), *T. basileuteri* **sp. nov.** from *Basileuterus culicivorus* (Parulidae), *T. sicaliae* **sp. nov.** from *Sicalis flaveola* (Emberizidae), *T. savanae* **sp. nov.** from *Tyrannus savana* (Tyrannidae), and *T. picumni* from *Picumnus fulvescens* (Picidae). The latter species is the first representative of the genus described from a bird of the order Piciformes.

**Key words:** Acari, Trouessartiidae

### Introduction

*Trouessartia* Oudemans (Acari: Analgoidea) is one of the most species-rich genera of feather mites, including to this date 103 valid species. Nevertheless, the genus is certainly much more diverse, since most potential hosts remain unexplored. Santana (1976) revised most of the species of this genus known at that time and provided redescriptions for 71 species. He estimated that those species represent merely 10–15% of the extant diversity, which would mean the genus actually comprises about 500–700 species. Since then, 32 more species have been described, including five species described before his revision but not included in it (Mauri & De Alzuet 1968; Černý & Lukoschus 1975; Gaud 1977; Černý 1979; Mironov 1983; Gaud & Atyeo 1986, 1987; Mironov & Kopij 1996, 2000; Mironov & Galloway 2002; OConnor *et al.* 2005; Carleton & Proctor 2010; Burdejnaja & Kivganov 2011; Constantinescu *et al.* 2013; Mironov & González-Acuña 2013), which clearly means that the great majority of species of this genus remains unknown. Mironov & González-Acuña (2013) noted that one of the recently described species, *T. phylloscopi* Burdejnaja & Kivganov (2011), is actually a junior synonym of both *T. microcaudata* Mironov, 1983 (males) and *T. appendiculata* (Berlese, 1886) (females).

Only 15 named species of *Trouessartia* have been reported from the Neotropical region (Berla 1959a, b, 1960, 1962, OConnor *et al.* 2005, Santana 1976, Valim *et al.* 2011, Mironov & González-Acuña 2013), eight of them being from Brazil (Valim *et al.* 2011). Undetermined species of *Trouessartia* have been reported from at least 43 host species in Brazil (Roda & Farias 1999; Lyra-Neves *et al.* 2003; Kanegae *et al.* 2008; Enout *et al.* 2012), and from 22 species in Colombia (Barreto *et al.* 2012). Bird hosts of *Trouessartia* species are primarily from the order Passeriformes—both oscines and suboscines—although Santana (1976) also mentioned associations with the Alcedinidae (Coraciiformes), but he did not provide further details for these hosts. Barreto *et al.* (2012) mentioned undetermined *Trouessartia* species from three woodpeckers (Piciformes: Picidae) and 19 passerines (Passeriformes).

In this paper, I describe five new species of *Trouessartia* from two orders of South American birds of the orders Passeriformes and Piciformes.

copulatory tube absent. Spermatheca as in Fig. 15I. Distance between dorsal setae:  $h2:h3$  59–67,  $h2:h2$  71–77,  $h3:h3$  42–58,  $h1:h2$  8–13,  $h1:h1$  66–70,  $ps1:h3$  35:41.

Epimerites I free. Epigynum 41–51 in length, 82–98 in width (Fig. 14B). Epimerites IVa present, very thin. Setae  $sR$  of trochanters III setiform, thickened basally, 24–26 long. Legs IV extending by ambulacral disc to midlevel between setae  $h2$  and  $h3$ . Length of solenidia:  $\sigma 1$  of genu I 22–28,  $\sigma$  of genu II 11–14,  $\sigma$  of genu III 11–14,  $\varphi$  of tibia I 61–68,  $\varphi$  of tibia II 65–70,  $\varphi$  of tibia III 56–62,  $\varphi$  of tibia IV 11–14,  $\omega 1$  of tarsus I 16–20,  $\omega 3$  of tarsus I 28–35,  $\omega 1$  of tarsus II 18–21.

**Differential diagnosis.** *Trouessartia picumni* **sp. nov.** resembles *T. megadisca* Gaud, 1962 by having, in males, translobar apodemes present, terminal lamellae entire, dorsal hysterosomal apertures (DHA) absent, setae  $d2$  absent, and lateral margins of hysteronotal shield with incisions at level of trochanters III. The new species is clearly distinguishable from the latter, and also from all species of the genus by lacking dorsal setae  $d1$ ,  $d2$ , and  $e2$  in both sexes. It is also unique in having the anterior end of the prodorsal shield strongly narrowed.

## Discussion

This paper reports some rare and unprecedented findings. Species of the genus *Trouessartia* have been found almost exclusively on passerines (Aves: Passeriformes), and within that group, the great majority of hosts are from the oscines (+ 100 species); only three species have been recorded on the suboscines: *T. chaquensis* Mauri & De Alzuet from *Scytalopus speluncae* (Rhinocryptidae), *T. fissipina* Černý & Lukoschus on *Elaenia flavogaster*, and *T. eleniae* Mironov & González-Acuña on *E. albiceps* (Tyrannidae) (Mauri & De Alzuet 1968; Černý & Lukoschus 1975; Mironov & González-Acuña 1968). In this paper, two more *Trouessartia* species are reported from suboscines: *T. latiducta* **sp. nov.** from *Phylloscartes kronei*, and *T. savanae* from *Tyrannus savana* **sp. nov.**, both hosts from the family Tyrannidae.

Although Santana (1976) mentioned that *Trouessartia* spp. are known to occur with certainty only on passerines (Passeriformes) and kingfishers (Coraciiformes: Alcedinidae), he did not present specific data on associations with kingfishers. Several other bird orders were also mentioned as hosts in his revision (Apodiformes, Charadriiformes, Pelecaniformes, Psittaciformes), although he acknowledged those are likely questionable associations, or more accurately, represent contaminations from museum skins. Enout *et al.* (2012) mentioned an undetermined *Trouessartia* species on a nightjar, *Hydropsallis albicollis* (Caprimulgiformes: Caprimulgidae), but this also is likely a contamination—the material from Enout *et al.* (2012) was also examined during the present study, and it contained a single female of *Trouessartia* from *H. albicollis*.

In the present paper, the first *Trouessartia* species, *T. picumni* **sp. nov.**, is described from a non-passerine host, the Tawny Piculet, *Picumnus fulvescens* (Piciformes: Picidae). Many specimens were collected from several individuals of this host on different dates, and one couple was also retrieved from the Ochre-collared Piculet, *P. temnicki*, which indicates such association with piculets is indeed a true one. Barreto *et al.* (2002) also mention three undescribed *Trouessartia* species from three species of woodpeckers (Picidae) in Colombia: *Melanerpes pucherani* (Malherbe), *Picoides fumigatus* (D'Orbigny), and *Veniliornis chocoensis* Todd. These findings with non-passerine hosts suggest that the genus *Trouessartia* may be even more diverse than Santana (1976) estimated.

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