New records of feather mites (Sarcoptiformes: Proctophyllodidae) on tanagers (Passeriformes: Thraupidae) from Brazil

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Abstract. Herein, three feather mite species (Analoidea: Proctophyllodidae) are reported from tanagers (Passeriformes: Thraupidae) in Brazil: Proctophyllodes thraupis Atyeo & Braasch, 1966 on Thraupis ornata (Sparmann, 1789), Thraupis palmarum (Wied, 1821), and Stilpnia peruviana (Desmarest, 1806); Amerodectes thraupicola (Černý, 1974) and Amerodectes bilineatus (Berla, 1958) on T. ornata. Proctophyllodes thraupis is herein reported for the first time on the hosts mentioned above. Amerodectes thraupicola is reported in synoxenism with A. bilineatus on the same bird specimen of T. ornata, a new host for both mites. Despite being described from a Cardinalidae (Passeriformes) host, this latter mite species was subsequently recovered only from tanagers, which reinforces the suggestion that non-thraupid hosts might be accidental records.

Keywords: Acari, new records, pluriloculicid mites.

Feather mites (Sarcoptiformes: Astigmata) are permanent, obligate ectosymbionts (Doña et al. 2019) associated with all major groups of birds (Gaud & Atyeo 1996). About 2600 species have been described worldwide (Mironov 2016; Dabert et al. 2021). Gaud & Atyeo (1996) classified the feather mites in three superamilies of Astigmata (Analoidea Trouessart & Méglin, 1884, Freyanoidea Dubinin, 1953, and Pterolichoidea Trouessart & Méglin, 1884), but other authors have demonstrated that Freyanoidea is a taxon included within the Pterolichoidea (O’Connor 1982; Ehmsberger et al. 2001; Klimov & O’Connor 2008) and therefore does not deserve a superfamilial status. Thraupidae Cabanis, 1947 (Passeriformes: Oscines) currently includes 386 species exclusively in the Neotropical region (Gill et al. 2021; Burns et al. 2016) and is one of the most diverse passerine families of Brazil, with 156 species (Pacheco et al. 2021). Feather mites were reported in Brazil from 32 tanager species (Thraupidae), mostly belonging to the families Proctophyllodidae Trouessart & Méglin, 1884, Trouessarttidae Gaud, 1957, Analgoidea Trouessart & Méglin, 1884, Psoroptoididae Gaud, 1958, and Dermationidae Gaud, 1958, and Derminationidae Fain, 1965. From 14 of these birds, 13 mite species have been nominally described or reported in Brazil (Valim et al. 2011; Enout et al. 2012; Hernandes 2014; Hernandes & Valim 2014; Daud et al. 2015; Silva et al. 2015; Hernandes et al. 2016; Hernandes & Flechtmann 2020).

Herein, three new records of feather mites are presented from tanagers (Thraupidae) in Brazil. The feather mites were collected either from birds found dead or captured for banding and released afterward. The mites were removed from the feathers under a dissecting microscope with a fine brush or a teaser. Mite specimens were at the mite collection of the Department of Ecology and Zoology of the Universidade Federal de Santa Catarina (ECZ - UFSC).
Figure 1. Feather mites of the family Proctophyllodidae Trouessart & Mégnin, 1884, recorded on tanagers (Thraupidae) in Brazil: Proctophyllodes thraupis Atyeo & Braasch, 1966, male (left) and female (right) (A), ventral view of idiosoma of male (B), and female (C); Amerodectes thraupicola (Černý, 1974), male (left) and female (right) (D), ventral view of idiosoma of male (E), and female (F; detail of spermatheca with elongated primary duct); Amerodectes bilineatus (Berla, 1958), male (left) and female (right) (G), dorsal view of propodosoma of male (H; black arrows = enlarged setae cG on genua I and II; white arrow = dorsal groove on hysteronotal shield of male), and dorsal view of female lobar region (I). Scale bars: = 100μm.
in other species, it is commonly around 100-150µm or less.

**Amerodectes bilineatus** (Berla, 1958) (Figs. G-I)

Material examined: 4 males and 4 females; ex. *T. ornata*; July 2021; Florianópolis, Santa Catarina State, Brazil; 27°36’S, 48°31’W; F.A. Hernandes col.

Remarks: This species was described from a cardinalid, *Caryothraustes canadensis* (Linnaeus, 1766) (Passeriformes: Cardinalidae), but was subsequently reported only on tanagers (Thraupidae): *T. episopus*, *T. sayaca* (see Valim & Hernandes 2010), and *T. palmarum* (see Enout et al. 2012). *Thraupis ornata* is a new host for *A. bilineatus*, and the finding of this mite on another tanager reinforces the suspicion that the original host probably resulted from accidental contamination (Valim & Hernandes 2010).

This species is very similar to *Amerodectes storkani* (Černý, 1974) described from *Rhamphocelus carbo* (Pallas, 1764) and also reported on *Rhamphocelus breasilia* (Linnaeus, 1766) in having remarkably enlarged setae cG on genua I and II (Fig. 1H, black arrows) in both males and females. In males of both these species, there is a dorsal median groove on the hysteronotal shield, which in *A. bilineatus* reaches the anterior margin of this shield (Fig. 1H, white arrow), whereas in *A. storkani* it reaches slightly anterior to that level - approximately at the level of seta c3 (Valim & Hernandes 2010).

Since the publication of the first checklist of feather mites from Brazil (Valim et al. 2011), when 185 nominal feather mite species were accounted for, substantial advances have been made (e.g., Pedroso & Hernandes 2016; Hernandes 2020). About 320 nominal species are currently recorded from Brazil, but that number is still dwarfed by the estimated diversity of 900-5300 species associated with birds in that country (Valim et al. 2011).

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**References**


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