

New species of *Pseudoptilolepis* Snyder, 1949 (Diptera: Muscidae) from Brazil

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Abstract. *Pseudoptilolepis* Snyder, 1949 (Diptera: Muscidae) is a Neotropical genus with 10 known species. The present paper describes a new species from Parque Nacional do Itatiaia (PNI). Male and female terminalia were dissected and illustrated.

Key-Words. Atlantic Forest; Biodiversity; Morphology; Taxonomy.

INTRODUCTION

Pseudoptilolepis Snyder, 1949 (Diptera: Muscidae) has its distribution restricted to the Neotropics (Lopes & Carvalho, 1985) and was originally proposed to four species: *P. fulvapoda*, *P. nigripoda*, *P. nudapleura* and *P. confusa*. Albuquerque (1954) added a new species, *P. fluminensis*. Pont (1972) proposed, in the Neotropical catalog, the new combination of *Mydaea latipalpis* Stein, 1918 to *Pseudoptilolepis*, already supported by previous considerations of Snyder (1949) and Albuquerque (1954). Lopes & Carvalho (1985) described the male of *P. nudapleura* and illustrated, for the first time, the terminalia of the four species previously described by Snyder (1949). In addition, they recorded the occurrence of *P. fluminensis* and *P. fulvapoda* from Curitiba (Paraná, Brazil).

Schühli & Carvalho (2005) revised *Pseudoptilolepis* and described four new species – *P. centralis*, *P. chrysellia*, *P. crocina*, *P. elbida*. The authors also performed a cladistic analysis for eight species of *Pseudoptilolepis* (*P. latipalpis* and *P. confusa* were not included), based on 10 morphological characters. The genus was supported as monophyletic based on the forked aedeagus and the setulose calyptra.

Pseudoptilolepis belongs to the subfamily Cyrtoneurinae (Pont, 1972; Carvalho, 1993). A recent study by Haseyama *et al.* (2015) based on molecular analysis corroborated the traditional placement of the genus in Cyrtoneurinae.

The geographic distribution of *Pseudoptilolepis* covers Brazil, Costa Rica, Nicaragua, Panama, Paraguay and Venezuela. In Brazil, the species

were recorded from the states of Bahia, Espírito Santo, Mato Grosso, Mato Grosso da Sul, Minas Gerais, Rio de Janeiro, Santa Catarina, São Paulo, Pará and Paraná (Albuquerque, 1954; Lopes & Carvalho, 1985; Schühli & Carvalho, 2005). The present paper describes a new species of *Pseudoptilolepis*.

MATERIAL AND METHODS

The PNI (22°30'–22°33'S and 42°15'–42°19'W) was founded in 1937, being the first conservation unit with integral protection in Brazil. Located between the Rio de Janeiro and Minas Gerais states, in the Mountain range, comprising in Rio de Janeiro state, the cities of Itatiaia and Resende and in Minas Gerais state the cities of Itamonte and Bocaina de Minas (MMA, 2015).

The studied material was collected during expeditions of the “Dipterofauna of the PNI” project, coordinated by Valéria Cid Maia (Museu Nacional, UFRJ). Samples were collected monthly from March 2014 to April 2015, using Malaise, Van Somerem-Rydon with dog faeces and rotten sardines and CDC traps. The specimens were collected on the low part of PNI next to the trail “Ruy Braga” and “Casa do Pesquisador” road. The material was transported to the Diptera Laboratory at the Museu Nacional, Universidade Federal do Rio de Janeiro (MNRJ, UFRJ) where it was mounted and identified with the use of taxonomic keys present in Couri & Carvalho (2002) and Schühli & Carvalho (2005). The terminology and abbreviations used followed McAlpine (1981), ex-

cept for "postpedicel" for "antennal flagellomere" as in Stuckenberg (1999). The material was deposited at MNRJ Entomological collection.

The digital images of the adults were made using a Leica MZ16 stereomicroscope and the software AutoMontage Pro by Syncrosopy, version 5.03.0061.

RESULTS AND DISCUSSION

Pseudoptilolepis puri sp. nov. (Figs. 1-11)

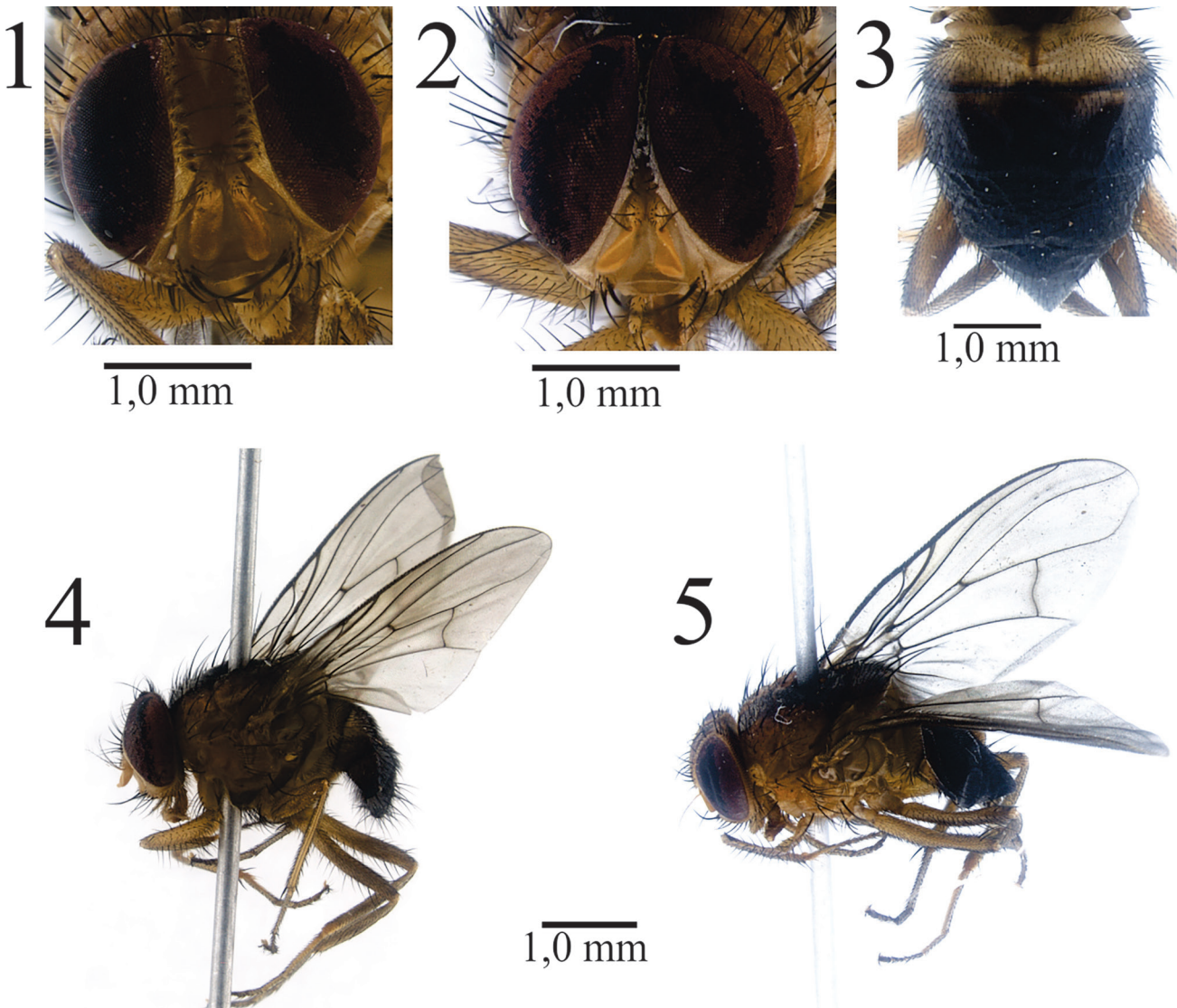
Diagnosis: Dorsocentrals setae 2+3, hind femur yellow, lower calypter with brownish border, syntergite 1+2 and side of tergite 3 light brown, other tergites dark brown, sternite 5 trapezoid, as high as wide, with posterior margin in a inverted "U" shape (Fig. 5), cercal plate with slight median constriction (Fig. 6).

General color: Brown and yellow; pleura and legs yellow (Figs. 1-5).

Male: Holotype body length 4.94 mm; wing length: 5.70 mm; Paratypes length body: 3.67-6.05 mm, wing: 4.55-6.38 mm.

Head (Figs. 1, 2): Light brown; head height about eight times the frons width; distance between eyes equal to the anterior ocellus diameter; fronto-orbital plate, parafacial, face and gena yellow; ocellar triangle black, with few weak setae behind; ocellar seta forward directed; postocellar seta about half the length of the ocellar seta; complete row of black postocular setae, progressively longer in length in ventral direction; row of brownish setae between the postocular row and the eye, from the ventral margin of the gena until it meets the postocular row on the middle of the eye height; other head setae black; antenna yellow, postpedicel about 2.5 times the length of pedicel; palpus yellow and very slender with setae; vibrissa long and strong.

Thorax (Figs. 4, 5): Scutum with median brown vitta between dorsocentral row of setae; scutellum brown;



Figures 1-5. *Pseudoptilolepis puri* sp. nov. (1) Head of female, frontal view; (2) Head of male, frontal view; (3) Abdomen of female, dorsal view; (4) Lateral habitus of male; (5) Lateral habitus of female.

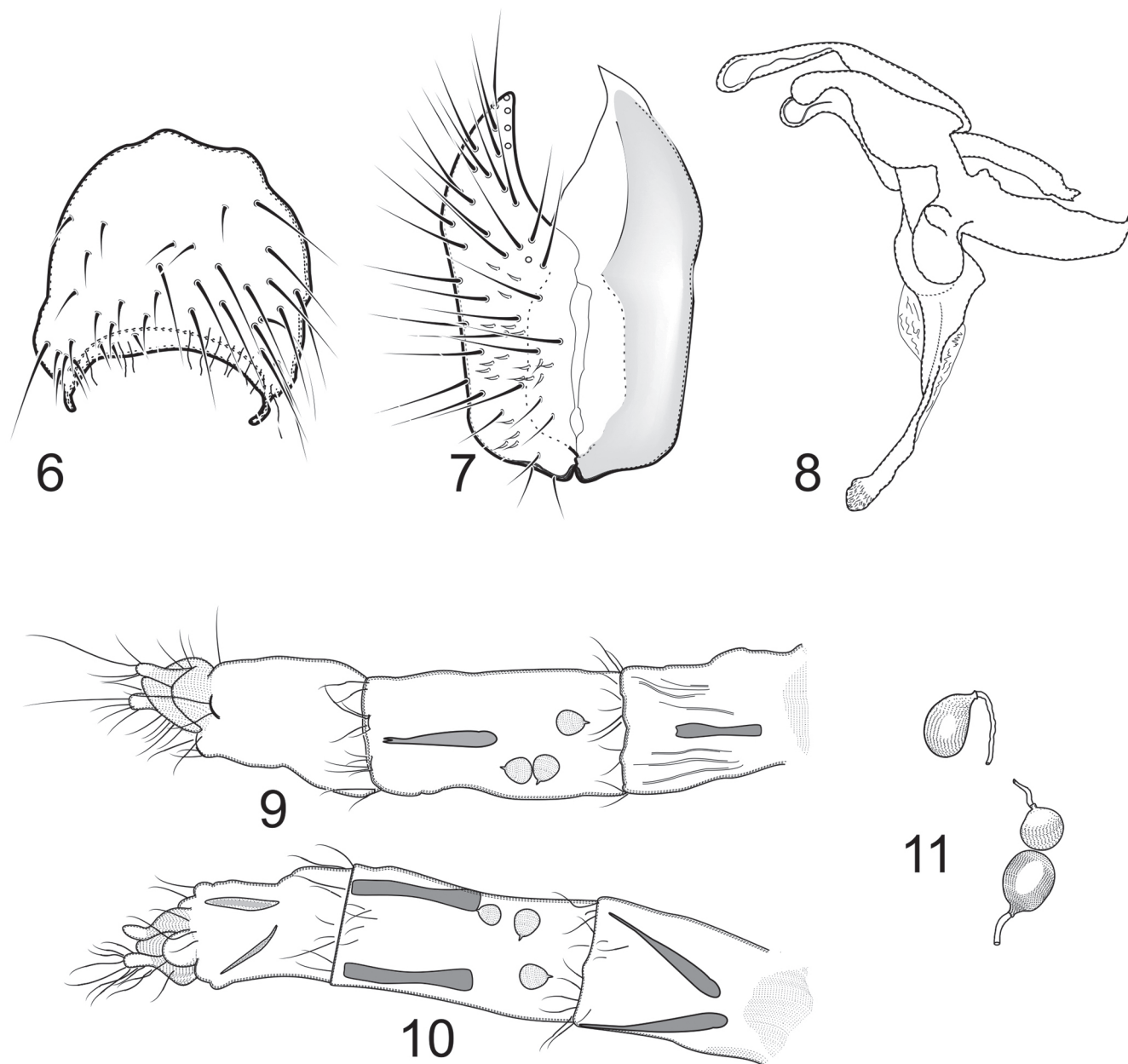
dorsocentral setae 2+3; prealar seta medium sized; three postpronotal setae; two notopleural setae, similar in size; two proepisternal setae, one strong; proepimeron with two setae, one strong; anepisternum with one anterior seta near to the anterior notopleural seta and a posterior row of setae; proepisternum without discal setulae. Wing clear. Legs: general color yellow, fore femur with a posterodorsal and a posteroventral row of setae; fore tibia with one posterior seta and two apical setae, one posteroventral and the other posterodorsal; mid femur with two posterior preapical setae; mid tibia with row of very short posterior setae on apical half, one submedian posteroventral seta, and one strong apical ventral seta; hind femur with complete rows of anterodorsal and anteroventral setae and one posterior preapical seta; hind tibia with three or four anterodorsal setae on middle third, two

median anteroventral setae, and one strong apical ventral seta.

Abdomen: Syntergite 1+2 and sides of tergite 3 light brown, other tergites dark brown (Fig. 3), sternite 5 trapezoid, as high as wide, with posterior margin in a inverted "U" shape (Fig. 5) and cercal plate with slight median constriction (Fig. 6).

Terminalia: Cercal plate in dorsal view, narrowed with apical end acute, with the narrowest area of the median constriction occupying the basal two thirds (Fig. 7); surstylus discoid and concave; distiphallus forked with short and numerous setulae (Fig. 8).

Female body length: 4.35-7.59 mm, wing length: 5.65-7.65 mm. Differs from male as follows: one pair of



Figures 6-11. *Pseudoptilolepis puri* sp. nov. (6) Sternite 5; (7) Cercal plate; (8) Aedeagus, lateral right view; (9) Ovipositor, ventral view; (10) Ovipositor, dorsal view; (11) Spermatheca.

interfrontal seta, facial ridge with short, thin and pale setae directed upwardly opposite the median portion of the postpedicel; presutural acrostichal setae strong (Figs. 1, 2).

Ovipositor (Figs. 9, 10): Tergites and sternites slender, with microtrichia on the base of segment 6, cercus, epiproct and hypoproct. Tergite 6 with basal part rounded and the apical pointed. Sternites 6 and 7 slender, and sternite 8 composed of two small plates each with two setae. Cercus setulose and rounded at apex, longer than the epiproct and somewhat larger than hypoproct. Three pear-shaped spermathecae (Fig. 11).

Etymology: The specific epithet “puri”, noun in apposition, is named to the indigenous tribe that inhabited the area, the Indians Puri.

Type Locality: Parque Nacional de Itatiaia, Itatiaia, Rio de Janeiro state, Brazil.

Material examined: Holotype: male, Brasil, Rio de Janeiro, Itatiaia, PNI [Parque Nacional de Itatiaia], Trilha Ruy Braga, 24-26.x.2014, Van Someren-Rydon. Paratypes: same locality of holotype. 2 females, 30.iii-13.iv.2014, Malaise; 2 females, Trilha Casa do Pesquisador, 23-26.v.2014, Van Someren-Rydon; 1 female, Trilha Ruy Braga, 13.iv-23.v.2014, Malaise; 2 females, Trilha Ruy Braga, 19.ix-24.x.2014, Malaise; 1 female, Trilha Casa do Pesquisador, 20.ix.2014, CDC verde; 1 female, Trilha Ruy Braga, 29.viii-24.ix.2014, Malaise; 5 males and 6 females, Trilha Ruy Braga, 19-22.ix.2014, Van Someren-Rydon; 1 male and 4 females, Trilha Ruy Braga, 24-26.x.2014, Van Someren-Rydon.

Remarks: The new species can be distinguished from all other known *Pseudoptilolepis* species by the shapes of sternite 5 and cercal plate. It runs to *P. fluminensis* in Couri & Carvalho (2002) key but differs by the abdomen color pattern (Fig. 3), by the trapezoidal sternite 5 (Fig. 6), as high as wide, with hind margin as an inverted “U” and the shape of the cercal plate (Fig. 7). In the other hand, the new species runs to *P. nigripoda* in key of Schühli & Carvalho (2005) although differs by the hind femur yellow and terminalia morphology, especially the cercal plate.

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