A new species of *Telmatoscopus* Eaton (Diptera, Psychodidae) from Brazil

***Freddy Bravo*[1,2]*; Isys Souza*[1]**

[1]*Departamento de Ciências Biológicas, Universidade Estadual de Feira de Santana – UEFS, Av. Universitária s/n, CEP 44031-460, Feira de Santana, BA, Brazil*
[2]*Corresponding author: Freddy Bravo, e-mail: freddy11bravo@yahoo.com.br*

Bravo, F.; Souza, I. **A new species of *Telmatoscopus* Eaton (Diptera, Psychodidae) from Brazil.** *Biota Neotrop.,* vol. 8, no. 1, Jan./Mar. 2008. Available from: <http://www.biotaneotropica.org.br/v8n1/en/abstract?article+bn01408012008>.

Abstract: A new Brazilian species of *Telmatoscopus* Eaton (Diptera, Psychodidae) is described and illustrated. A key to males of Neotropical species of *Telmatoscopus* is provided.
Keywords: *Diptera, Psychodidae, Amazon, new species, Brazil.*

Bravo, F.; Souza, I. **Espécie nova de *Telmatoscopus* Eaton (Diptera, Psychodidae) do Brasil.** *Biota Neotrop.,* vol. 8, no. 1, jan./mar. 2008. Disponível em: <http://www.biotaneotropica.org.br/v8n1/pt/abstract?article+bn01408012008>.

Resumo: Neste trabalho é descrita e ilustrada uma espécie nova de *Telmatoscopus* Eaton (Diptera, Psychodidae) do Brasil. É fornecida uma chave para os machos das espécies Neotropicais de *Telmatoscopus*.
Palavras-chave: *Diptera, Psychodidae, Amazônia, espécie nova, Brasil.*

Introduction

The genus *Telmatoscopus* Eaton has worldwide distribution and comprises, according to The Diptera Site (Thomson 2007), approximately 109 species. The genus *Telmatoscopus* is poorly represented in the Neotropical region, having only 6 described species (Duckhouse 1968, Wagner 1993, 2000, Quate 1996). Only one species is known from Brazil, *Telmatoscopus calcaratus* Duckhouse, from Nova Teutônia, Santa Catarina State, in southern Brazil (Duckhouse 1968), and only from female specimens. A new species of *Tematoscopus* from the Brazilian Amazon region is described here.

Material and Methods

The specimens studied were treated with 10% KOH, dehydrated and mounted in Canada balsam. Morphological terminology follows that of McAlpine (1981). The specific morphological terminology for Psychodidae follows that of Duckhouse (1990) and Bravo (2006, 2007). The specimens were deposited in the Coleção de Invertebrados do Instituto Nacional de Pesquisas da Amazônia (INPA) and Coleção Entomológica Prof. Johann Becker do Museu de Zoologia da Universidade Estadual de Feira de Santana, Feira de Santana, Bahia, Brazil (MZUEFS).

Results

1. Telmatoscopus brevicolis **Bravo & Souza, sp. nov.**

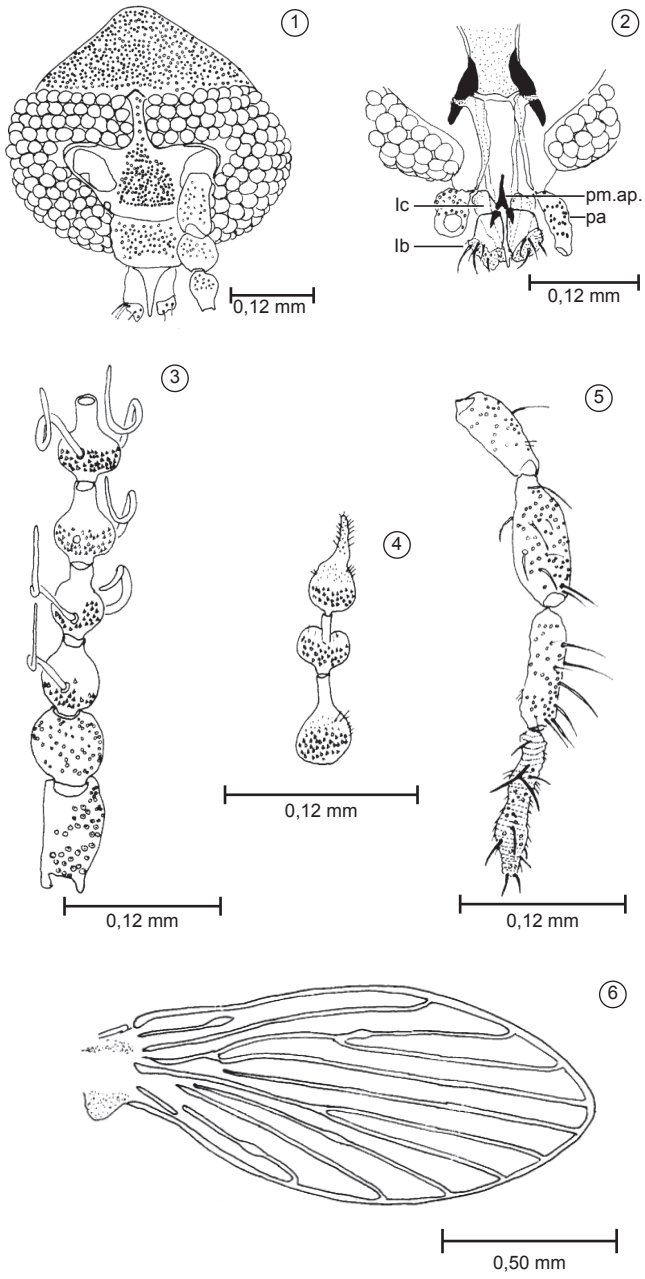
(Figures 1-10)

1. Diagnosis

Hair patch of frons undivided, with a single row of scars extending to upper eye margin nearly to suture; Sc enlarged apically, R_2 enlarged at base, CuA enlarged near center; hypandrium U-shaped, thickened medially; aedeagus symmetrical, subcircular; gonocoxal apodemes extended posteriorly, canal-like, longer than the length of aedeagus.

2. Description

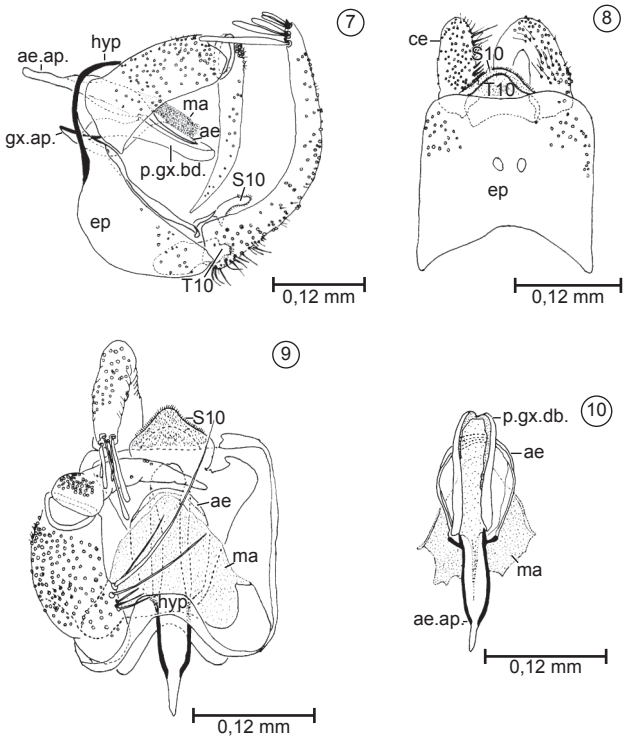
Male: Eye bridge with 4 facet rows, separated by 1 facet diameter. Interocular suture present, complete, V-shaped (Figure 1). Hair patch of frons undivided, with single row of scars extending to upper eye margin nearly to suture (Figure 1). Lacinia blade-like (Figure 2). Labela with apical bristles (Figure 2). Antenna: scape cylindrical 1.4x length of pedicel (Figure 3); pedicel spherical (Figure 3); 14 flagellomeres present; flagellomeres nodiform and asymmetrical (Figures 3, 4); 1st flagellomere with short internode (Figure 3); following internodes longer than first (Figures 3, 4); 14th with long apiculus (Figure 4); pair of ascoids curled (Figure 3); sensory organ of flagellomeres absent. Palpus formula = 1.0:1.2:1.1:1.6 (Figure 5); last palpomere striated (Figure 5). Wing (Figure 6): Sc enlarged apically, R_2 enlarged at base, M_3 and CuA enlarged near center; one paratype specimen without enlargement in M_3; medial fork and radial fork almost at the same level; R_3 fused to R_2, except in two paratype specimens with R_3 not fused to R_2; R_5 ending beyond rounded apex of the wing; CuA ending at the same level as the medial fork. Male terminalia: epandrium rectangular, with bristle patches in lateral posterior areas (Figures 7, 8); presence of two foramina (Figure 8). Cercus pilose, long, 1.5x length of gonostylus, slightly curved, with 5 apical tenacula (Figure 7). Tergite 10 with small bristles at apex; apex subtriangular (Figure 9). Hypandrium U-shaped, thickened medially (Figure 9). Gonocoxite pilose, same length as gonostyle (Figures 7, 9), with three long basal bristles at its base on the inner side (Figure 9). Gonostylus pilose, pointed at apex (Figures 7, 9). Gonocoxal apodemes joined on midline and forming a gonocoxal bridge (Figure 9), extended posteriorly to midline, canal-like, longer than length of aedeagus, attached at base of aedeagus (Figures 7, 9, 10). Sternite 10 micropilose, hemicircular. (Figures 7, 9). Aedeagus symmetrical, subcircular (Figures 9, 10); membranous area present above aedeagus (Figure 7), triangular dorsally (Figures 9). Aedeagal apodeme 0.8x length of aedeagus (Figures 9, 10). Parameres absent.



Figures 1-6. *Telmatoscopus brevicolis* Bravo & Souza, sp. nov. Male. 1) Head. 2) Head, posterior view. 3) Antenna: scape, pedicel and basal flagellomeres. 4) Antenna, flagelomeres 12-14. 5) Palpus. and 6) Wing. (cd = cardo; lb = labella; lc = lacinia; pa = palpus; pm.ap.= premental apodeme; st = stipes)

Figuras 1-6. *Telmatoscopus brevicolis* Bravo & Souza, sp. nov. Macho. 1) Cabeça. 2) Cabeça, vista posterior. 3) Antena: escapo, pedicelo e flagelômeros basais. 4) Antena, flagelômeros 12-14. 5) Palpo. 6) Asa. cd = cardo; lb = labela; lc = lacinia; pa = palpo maxilar; pm.ap. = apódema pré-mental; st = estipes.

Type Material: BRAZIL, Pará, Santarém, Est. do Aeroporto Km 13, Comunidade Santa Maria, Chácara N. Sra. Nazaré (Mata



Figures 7-10. *Telmatoscopus brevicolis* Bravo & Souza, sp. nov. Male terminalia. 7) Lateral. 8) Ventral. 9) dorsal. and 10) Aedeagus. (ae = aedeagus; ae.ap. = aedeagal apodeme; ce = cercus; ep = epandrium; hyp = hypandrium; gx.ap. = gonocoxal apodeme; ma = membranous área; p.gx.bd. = posterior prolongation of gonogoxal bridge; S10 = sternite 10; T10 = tergite 10).

Figuras 7-10. *Telmatoscopus brevicolis* Bravo & Souza, sp. nov. Terminália masculina. 7) Vista lateral. 8) Vista ventral. 9) Vista dorsal. e 10) Edeago. (ae = edeago; ae.ap. = apódema edeagal; ep = epândrio; ce = cerco; hyp = hipândrio; gx.ap. = apódema gonocoxal; ma = área membranosa; p.gx.bd. = prolongamento posterior da ponte gonocoxal; S10 = esternito 10; T10 = tergito 10)

Alterada), 25.XI.1998, RF/RDN/FLS col., holotype male (INPA); 1 paratype male, same locality, date, and collectors as holotype (INPA); 7 paratype males, same locality and collectors, 27.XI.1998 (INPA, MZUEFS).

Etymology: "brevis" Latin, short; "colis", Latin, penis; referring to the short aedeagus in comparison to the posterior expansion of the gonocoxal bridge.

Comments

The genus *Telmatoscopus* was defined by Quate (1996). All of the characters mentioned by Quate (1996) to distinguish *Telmatoscopus* are recognized in the new species *Telmatoscopus brevicolis*.

The Brazilian species *Telmatoscopus calcaratus*, known only from females, differs from other Neotropical species of the genus in demonstrating a fusion of the 13th and 14th flagellomeres (Duckhouse 1968), a characteristic not observed in other *Telmatoscopus* species from this biogeographical region. It is important to note that the enlargement of some veins, as observed in the new species *T. brevicolis*, was also observed in the three Costa Rican species: *T. clavatus* Quate, *T. congruus* Quate, and *T. mergacolis* Quate (see descriptions in Quate 1996). The difference between these species resides in the enlargement of veins Sc, R_2, and CuA in the new species (in some specimens, R_3 also demonstrates enlargement), while only the Sc and CuA veins are enlarged in Costa Rican species.

Duckhouse (1968) recorded another species of *Telmatoscopus* from Brazil (Nova Teutônia, Santa Catarina State): *T. furcatus* (Kincaid). This species was first described from the United States, and Duckhouse (1968) presumes that *T. furcatus* was introduced into Brazil. The generic status of this species is controversial. The Diptera Site (Thomson 2007) recorded this species as *T. furcatus*. Quate (1996) transferred *T. furcatus* to the genus *Duckhousiella* Vaillant, because of its similarity to *D. ustulatus* (Walker), and he presented a new record of this species from Costa Rica.

Duckhouse (1978) synonymized *Duckhousiella* with *Paramormia* Enderlein. This synonymy was accepted by The Diptera Site (Thompson 2007) and by the Fauna Europaea Web Service (2004). Ježek (2004a, b), on the other hand, recognizes *Duckhousiella* as one of the three subgenera of the genus *Paramormia*. The Brazilian species is recorded as *Paramormia furcata* in the ZooBank (2007). Ježek (2004a, b) accepted the presence of one species of *Paramormia* from the Nearctic and Neotropical regions. The ascoids of males of *P. furcata* are typical of the genus *Paramormia* and, as Quate (1996) noted, the male terminalia of *P. furcata* is similar to male terminalia of *P. ustulata* (Walker), a Palaearctic species. Until new taxonomic studies can be undertaken, the name *P. furcata* is accepted in this paper.

Key to males of Neotropical *Telmatoscopus*

1. Cercus with 4-5 tenacula 2

   - Cercus with more than 5 tenacula 5

2. Sc enlarged apically and CuA enlarged near center 3

   - Sc and CuA not enlarged, uniformly wide .... *T. caribicus* Wagner (Saint Vincent, Caribbean)

3. Gonocoxal apodemes extended posteriorly to midline with cluster of 4 non-deciduous spines on metabasal angle and additional 2 further distad ..... *T. clavatus* (Costa Rica)

   - Gonocoxal apodemes without posterior extension or, if extended posteriorly, never with spines 4

4. R_2 enlarged at base; eye bridge separated by 1 facet diameter ..... *T. brevicolis* sp. nov. (Brazil, Amazonian)

   - R_2 not enlarged; eye bridge separated by 2 facet diameters .... *T. mergacolis* (Costa Rica)

5. Cercus with 15 tenacula; eye bridge separated by 1.5 facet diameters, aedeagal apodeme narrow in dorsal view .... *T. congruus* Costa Rica

   - Cercus with 7-9 tenacula; eye bridge separated by 3.5 facet diameters, aedeagal apodeme wide in dorsal view .... *T. thompsoni* Wagner Dominican Republic

Acknowledgments

The authors would like to thank to Dr. Augusto Loureiro Henriques from INPA who loaned the specimens. FB received financial support from CNPq (470754/2003-6) and FAPESB (PPP) and has a research grant from CNPq (306426/2006-4).

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Data Received 14/10/07
Revised 12/01/08
Published 21/01/08