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**A new species of *Australopericoma* Vaillant (Diptera, Psychodidae)  
from the Brazilian semi-arid region**

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**Abstract**

Bravo, F. **A new species of *Australopericoma* Vaillant (Diptera, Psychodidae) from the Brazilian semi-arid region.** *Biota Neotrop.* May/Aug 2007 vol. 7, no. 2. <http://www.biotaneotropica.org.br/v7n2/pt/abstract?short-communication+bn04507022007>. ISSN 1676-0603.

A new species of *Australopericoma* Vaillant from Brazil is described and illustrated. It is the first record of *Australopericoma* from the semi-arid region of northeastern Brazil.

**Keywords:** *Diptera, Psychodidae, Australopericoma, new species, Caatinga, Brazil.*

**Resumo**

Bravo, F. **Espécie nova de *Australopericoma* Vaillant (Diptera, Psychodidae) do Semi-árido Brasileiro.** *Biota Neotrop.* May/Aug 2007 vol. 7, no. 2. <http://www.biotaneotropica.org.br/v7n2/pt/abstract?short-communication+bn04507022007>. ISSN 1676-0603.

Uma nova espécie de *Australopericoma* Vaillant do Brasil é descrita. Este trabalho apresenta o primeiro registro de *Australopericoma* do semi-árido do nordeste brasileiro.

**Palavras-chave:** *Diptera, Psychodidae, Australopericoma, espécie nova, Caatinga, Brasil.*

## Introduction

The genus *Australopericoma* Vaillant comprises 14 species from the Neotropics (Quate & Brown 2004): *Australopericoma caudata* (Satchell) occurs widely in the USA (Florida, Texas, Arizona) and in the Caribbean (Jamaica) (Quate 1955, Quate & Brown 2004); 2 species from Costa Rica (*A. sagitta* Quate & Brown and *A. cesticella* Quate & Brown); 1 species from Trinidad (*A. trinidadensis* Quate & Brown); 3 species from Venezuela (*A. abnormalis* Quate & Brown, *A. curvata* Quate & Brown and *A. falcata* Quate & Brown); 1 species from Colombia (*A. roessleri* (Wagner & Joost)); 2 species from Peru (*A. exilis* Quate & Brown and *A. bhati* Quate & Brown); 1 species from Argentina (*A. pallidula* (Tonnoir)). The other 3 species of *Australopericoma* are known from Brazil, all of them from the state of Rondônia in the Brazilian Amazon (Quate & Brown 2004): *A. pontilis* Quate & Brown, *A. multifida* Quate & Brown, and *A. bulbula* Quate & Brown. A new species of *Australopericoma* from the Brazilian semi-arid region is described here, based on specimens from two localities of Bahia State.

## Materials and Methods

All specimens examined were captured in a light trap, and were subsequently 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). The term "foramen" used by Quate & Brown (2004) is preferred over "pseudospiracular opening" as used by Duckhouse (1990). The term "sternite 10" of McAlpine (1981) is accepted for the large sclerite known as the "ventral epandrial plate" according to Duckhouse (1990), or as the "ventral epandrial sclerite" of Quate & Brown (2004). The specimens were deposited in the *Coleção Entomológica do Museu de Zoologia da Universidade Estadual de Feira de Santana, Feira de Santana, Bahia, Brazil* (MZUEFS), *Museu de Zoologia da Universidade de São Paulo* (MZUSP) and *Coleção de Invertebrados do Instituto Nacional de Pesquisas da Amazônia* (INPA).

## Results

### *I. Australopericoma dissimilis* Bravo, sp. nov.

Type material. Brazil, Bahia, Pilão Arcado municipality, Brejo do Zacarias (10° 07' S 42° 53' W, 390 m), 03.XII.2005, Vieira, R. & Alvim, E. col., holotype male (MZUEFS); 41 paratype males and 89 paratype females with same locality, date, and collectors as holotype (MZUEFS, MZUSP, INPA); Vitória da Conquista municipality, Dantilândia (15° 06' S and 41° 00' W, 760 m), 13.XI.2004, Chagas, C. & Vieira, R. col., 2 paratype males and 1 paratype female (MZUEFS).

**Etymology.** The species specific name *dissimilis* is Latin, and refers to the asymmetric format of the hypandrium.

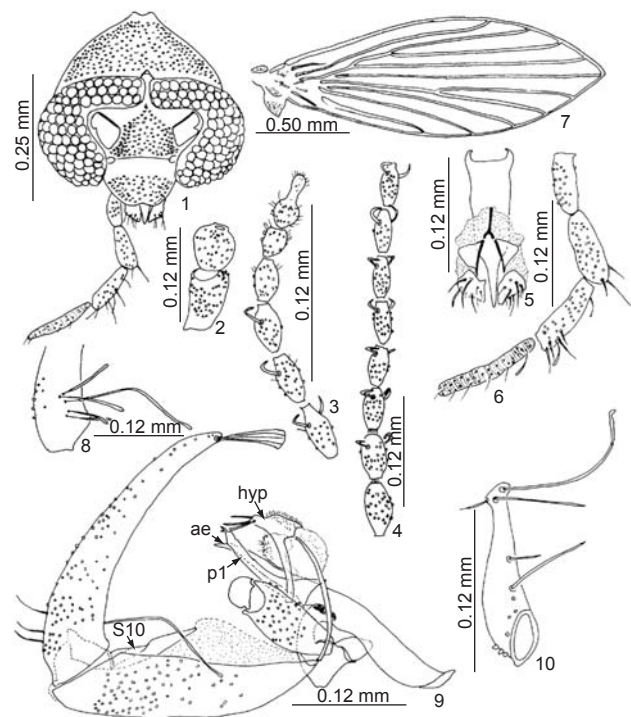
**Diagnosis.** Male with asymmetrical hypandrium, H-shape; the dorsal surface of hipandrium with micropilosity and ventral surface with long bristles in the apex of the arms. Apical lobes of subgenital plate of female with sides divergent and separated by a shallow apical concavity.

## Description

### *I. Male*

Eye bridge with 3 facet rows, separated by 0.5 facet diameters (Figure 1). Interocular suture present, without spur (Figure 1). An-

tenna shorter than wing; scape cylindrical, 1.4X length of pedicel (Figure 2); pedicel spherical (Figure 2); 14 flagellomeres present (Figures 3, 4); basal flagellomeres fusiform (Figure 4); 3 last flagellomeres reduced, 14<sup>th</sup> with long apiculus (Figure 3); 1<sup>st</sup> flagellomere without ascoids (Figure 4), 2<sup>nd</sup> to 11<sup>th</sup> with pair of C-shaped ascoids, shorter than the segment bearing them (Figures 3, 4). Labellum with bristles on apex (Figure 5). Palpus formula = 1.0:1.2:1.2:1.7 (Figures 1, 6); last palpomere striated (Figure 6). Wing (Figure 7) with short Sc; medial fork apical to radial fork; R<sub>5</sub> ending at wing tip. Male terminalia: epandrium pilose, rectangular, distal margin concave (Figures 9, 11); presence of two foramina near the proximal margin (Figure 11). Cercus long, 1.2X length of epandrium, with 1 apical tenaculum on the apex (Figure 9); internal surface of the cercus with 5 long bristles near the base (Figure 8). Tergite 10 semicircular with small bristles in the apex (Figure 11). Hypandrium: asymmetrical, H-shape (Figures 13, 14, 15); ventral surface with semicircular membranous area and with long bristles on the apices of the arms (Figure 14); dorsal surface with distal micropilosity (Figure 15); in the short distal arm is observed a little lobe that is an extension of the ventral surface of the same arm. Gonocoxite pilose, 1.7X length of gonostyle (Figure 13). Gonostylus pilose, with two long apical bristles and one long basal bristle (Figure 10). Gonocoxal apodeme with anterior surface triangular, bifurcated and with a dorsal membranous area (Figure 16); posterior surface of gonocoxal apodeme with two dorsal hemispheric



**Figures 1-10.** *Australopericoma dissimilis* Bravo, sp. nov. Male. 1. Head. 2. Antenna: scape and pedicel. 3. Antenna, flagellomeres 9-14. 4. Antenna, flagellomeres 1-8. 5. Labella. 6. Palpus. 7. Wing. 8. Cercus, base with five bristles. 9. Male terminalia, lateral. 10. Gonostyle. ae = aedeagus; hyp = hypandrium; p1 = paramere with 3 arms; S10 = sternite 10.

**Figuras 1-10.** *Australopericoma dissimilis* Bravo, sp. nov. Macho. 1. Cabeça. 2. Antena: escapo e pedicelo. 3. Antena, flagelômeros 9-14. 4. Antena, flagelômeros 1-8. 5. Labela. 6. Palpo. 7. Asa. 8. Cerco, base com 5 cerdas. 9. Terminália masculina, lateral. 10. Gonóstilo. Ae = edeago; hyp = hipândrio; p1 = parâmero com 3 braços; S10 = esternito 10.

lobes, the left one with small sclerotized area (Figure 16). Sternite 10 with two sclerites, a basal one, less sclerotized, triangular and with a pair of lateral sclerites, and the apical one, sub-rectangular with an apical protuberance (Figures 11, 12). Aedeagus asymmetric, curved apically (Figure 13). Aedeagal apodeme subrectangular, longer than the aedeagus, with anterior keel (Figure 13). Paramere pairs asymmetrical: p1 complex, with 3 arms (Figure 13): external arm small (Figure 13: ex), medial arm digitiform with small projections at the apex (Figure 13: md), internal arm triangular and curved (Figure 13: in); p2 simple, triangular, with small projection at the apex.

## 2. Female

Similar to male except as follows: Apical lobes of subgenital plate of female (S8) with sides divergent and separated by a shallow apical concavity. Chitinous arch ends well before apical margin.

## 3. Habitat

The new taxa, *A. dissimilis* sp. nov., is the first species described for this genus from the Brazilian semi-arid caatinga biome. This biome is characterized by a long dry season (6-11 months) and low precipitation levels (300-1000 mm/year), with rainfall usually occurring between November and March (Behling et al. 2000; Queiroz, 2006). The caatinga vegetation may be described as a dry forest of

mostly small trees and shrubs, usually with twisted trunks and thorns, with small leaves that are deciduous in the dry season. Cactaceae are common in the caatinga, while an ephemeral herbaceous layer is observed only during the short rainy season (Queiroz, 2006).

The localities where the new species were collected (Pilão Arcado and Dantilândia) are separated by 600 km. Pilão Arcado is located on the sand dunes of the middle São Francisco River, in northern Bahia State, in a region of hyperxerophytic caatinga (Barreto et al. 1999) that is flooded during the rainy station. Dantilândia is located in southern Bahia, and the collection was made in a mountainous semideciduous forest area (SEI, 2006).

## Discussion

*Australopericoma dissimilis* sp. nov. can be distinguished from the other species of *Australopericoma* by the characteristics of the hypandrium and the parameres: 1) the hypandrium shows two asymmetrical arms as well as distinct patterns of pilosity on the dorsal and ventral surfaces; and 2) the paramere p1 (Figures 13, 14, 15) has three arms while the paramere p2 has one arm (Figures 13, 14, 15).

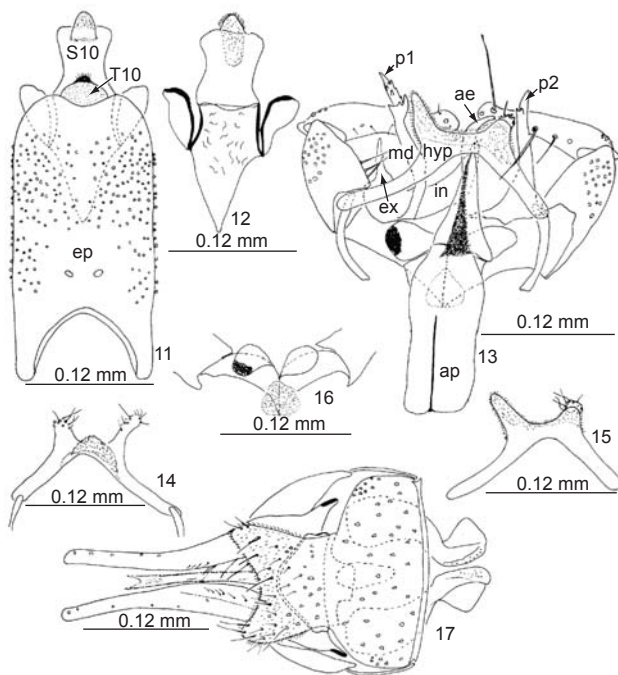
*Australopericoma dissimilis* sp. nov. is the fifth species described from the Caatinga biome. The other four species are all belong to the genus *Psychoda* (Latreille) (Bravo et al. 2006): *P. divaricata* Duckhouse and *P. zetoscota* Quate from Senhor do Bonfim (12° 23' S and 40° 12' W), *P. serraarobonensis* Bravo, Cordeiro & Chagas from Rui Barbosa (12° 18' S 40° 29' W) and *P. dantilandensis* Bravo, Cordeiro & Chagas from Dantilândia.

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**Figures 11-17.** *Australopericoma dissimilis* Bravo, sp. nov. Male, 1-16. Female, 17. 11. Male terminalia, ventral. 12. Sternite 10. 13. Male terminalia, dorsal. 14. Hipandrium, ventral. 15. Hipandrium, dorsal. 16. Gonocoxal apodeme. 17. Female terminalia. ae = aedeagus; ep = epandrium; ap+ Aedeagal apodeme; hyp = hipandrium; p1 and p2 = parameres (ex = external arm, md = medial arm, in = internal arm); S10 = sternite 10; T10 = tergite 10.

**Figuras 11-17.** *Australopericoma dissimilis* Bravo, sp. nov. Macho, 1-16. Fêmea, 17. 11. Terminália masculina, ventral. 12. Esternito 10. 13. Terminália masculina, dorsal. 14. Hipândrio, ventral. 15. Hipândrio, dorsal. 16. Apódema gonocoxal. 17 Terminália feminina. ae = eedeago; ep = epândrio; ap = apódema eedeagal; hyp = hipândrio; p1 e p2 = parâmeros (ex = braço externo; md = braço médio; in = braço interno); S10 = esternito 10; T10 = tergito 10.

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