First record to Brazil of one genus and seven species of Psychodidae (Diptera) with further new records for 10 countries on the Neotropics

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Abstract. With a big territory and variety of biomes, Brazil is one of the most diverse countries in the World, with insects massively contributing to this diversity. Although presenting impressive numbers, many groups are poorly known concerning their diversity and distribution. Also, the knowledge of the species diversity is very heterogeneous when comparing Brazilian states and regions. With a recent review of part of Lawrence Quate’s collection deposited at Natural History Museum of Los Angeles County, more than 70 new geographical records for Psychodidae species were found on the Neotropics, including one genus (Eurygarka) and seven species first recorded to Brazil. The complete known distribution of these species was compiled and is presented along with new records for other 11 countries of the Neotropical region. On the Brazilian territory, most of the new records are for the state of Rondônia, on the northern region, followed by Minas Gerais, on the southeastern region.

Key-Words. Moth flies; Neotropical Region; Psychodinae; Brazilian fauna.

INTRODUCTION

Considering insect diversity, Brazil has already been suggested as the most diverse country in the World, for its big territory and variety of biomes (Rafael et al., 2012). Diptera is the third most diverse order of Brazilian fauna, only behind Coleoptera and Lepidoptera. The current knowledge of the Brazilian Diptera fauna accounts 11,217 valid species in 1,950 genera and 99 families (Rafael, 2019; accessed 10/10/2019).

Psychodidae (moth flies and sand flies) is the fifth family in number of known species in Brazil, with 546 valid names, behind Phoridae (851), Tachinidae (777), Chironomidae (631) and Syrphidae (588) (Rafael, 2019; accessed 10/10/2019). Among the five subfamilies occurring in Brazil, Phlebotominae is the largest subfamily in number of known species, with more than 275 valid names. This subfamily has historically received more attention due to its medical importance: females are hematophagous, and many species are potential vectors of etiological agents of Leishmaniasis, arboviruses and Bartonellosis (Rangel & Lainson, 2009). Psychodinae is the second in number of known species in Brazil, and has the most varied biology, with larvae occupying a multitude of habitats (Wagner & Ibáñez-Bernal, 2009).

The geographic distribution of American sand flies has been being investigated by many studies, especially in the last three decades, with detailed distribution of sand flies in Brazilian territory (Aguiar & Vieira, 2018). On the opposite side the distribution of species of other subfamilies is still poorly known, and the knowledge of the diversity of Psychodidae (except of Phlebotominae) in Brazil is very heterogeneous when comparing states and regions (Bravo & Araújo, 2014). Knowing the diversity and distribution of species is fundamental to help studies on biogeography and conservation.

A recent visit to Los Angeles County Museum to collect information of Brazilian Psychodidae specimens deposited in their collection, allowed the study of the collection left by Lawrence Quate, which has many well-preserved Neotropical material. Herein, more than 70 new distributional records are made for Psychodidae species in the Neotropics, including one genus and seven species first recorded to Brazil.

MATERIAL AND METHODS

All specimens are slide mounted in Canada balsam and deposited at LACM Entomological collection. Images were taken on a Keyence VHX-5000 digital microscope.
The list of geographical records for the species treated here is organized by countries from north to south, west to east. Countries are given in Capital letters. The localities of the records are according to the original labels of specimens (transcribed literally in the text), including the coordinates, when available. Exception is data of altitude where ‘m’, meters, was replaced by ‘masl’, meters above sea level. Map with points of new records was produced on SimpleMappr tool (Shorthouse, 2010).

RESULTS AND DISCUSSION

Bellow it is listed the first record to Brazil of seven species and one genus. The complete known distribution of these species is presented along with new records of Psychodinae species for other 10 countries of the Neotropical region, namely Guatemala, Nicaragua, Bahamas, Puerto Rico, Colombia, Venezuela, Surinam, French Guiana, Ecuador and Peru (Table 1, Fig. 1). The distribution of 13 species already known from Brazilian territory is also updated, with new records for the states of Rondônia, Amapá, Pará, Mato Grosso and Minas Gerais (Table 2, Fig. 1).

Alepia ancyhis Quate & Brown

Alepia ancyhis Quate & Brown, 2004: 56, figs. 141-143 (Figs. 2A-2B).

New records (determined by L. Quate, confirmed by D. Cordeiro): VENEZUELA, Aragua, 17 km S of Choroní, 760 masl. ECUADOR, Napo, Yasuni Research Station Ríos Tivacunu & Tiputini, 250 masl, 00°38′S, 76°36′W. BRAZIL, Amazonas, Itacoatiara-Itapiranga 23 km, primary forest, <100 masl, 03°03.0′S, 58°43.5′W; Amazonas, Manacapura 74 km WSW of Manaus, 03°17′48.8″S, 60°37′38.0″W; Rondônia, Cacaulândia, 200 km SSE of Porto Velho, 140 masl, 10°18.0′S, 62°52.1′W.

Previous record (Quate & Brown, 2004): PERU, Cuzco Dept., Rio Madre de Dios, 28 km ESE of Boca Manu, 250 masl, 12°21′S, 70°42′W (type locality).

Remarks: This species was described by Quate & Brown (2004) but illustrations were restricted to male and female genitalia. Herein it is provided photographs of male head, palpus, antennae and wing.

Caenobrunettia sarculosa Quate

Caenobrunettia sarculosa Quate, 1999: 426-427, figs. 5A-G; Quate & Brown, 2004: 102, figs. 262-263.
New record (determined by D. Cordeiro): COLOMBIA, Cauca Prov., Gorgona, alta El Mirador, 180 masl.

Previous records (Quate, 1999; Quate & Brown, 2004):
PANAMA, Barro Colorado I. (type locality). COSTA RICA, Guanacaste, 3 km SE Río Naranjo; Puntarenas, Est. Biol. Las Alturas, 08°57.23′N, 82°50.22′W, 1,550 masl; Monteverde, 1,500 masl. SURINAM, Brownsberg Nature Park, 100 km S Paramaribo, 04°57′N, 55°11′W, 300-450 masl; Raleighvallen, 170 km SW Paramaribo, 04°43′N, 56°12′W, 70 masl. SURINAM, Brownsberg Nature Park, 100 km S Paramaribo, 04°57′N, 55°11′W, 300-450 masl; Raleighvallen, 170 km SW Paramaribo, 04°43′N, 56°12′W, 70 masl. BRAZIL, Amazonas, Manacapuru-Novo Airão, km 46-50, 02°59.3′S, 60°53.6′W, 50 masl. PERU, Cusco, Río Madre de Dios, 28 km ESSE Boca Manu, 12°21′S, 70°42′W, 25 masl.

Caenobrunettia subditicia Quate & Brown

Caenobrunettia subditicia Quate & Brown, 2004: 102-104, fig. 264.

New record (determined by L. Quate, confirmed by D. Cordeiro): BRAZIL, Pará, Belém.

Previous records (Quate & Brown, 2004): BRAZIL, Amazonas, Manacapuru-Novo Airão, 02°59.3′S, 60°53.6′W (type locality). SURINAM, Raleighvallen, 170 km SW of Paramaribo, 70 masl, 04°43′N, 56°12′W; SURINAM, Brownsberg Nature Park, 100 km S of Paramaribo, pri-

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**Figure 2.** Alepia ancyalis Quate & Brown, male paratype from Peru. (A) Head, palpus and complete antennae. (B) Wing.
mary forest, 300-450 masl, 04°57’N, 55°11’W. FRENCH GUIANA, Maripasoula.

*Eurygarka sp.*
(Figs. 3A-3F)

**New record for the genus (determined by D. Cordeiro):**
BRAZIL, Rondônia, Cacaülândia, 200 km SSE of Porto Velho, 22-31.x.97, 140 masl, 10°18.0’S, 62°52.1’W, col. W.J. Hanson (LACMENT 268194).

**Remarks:** This female specimen is undoubtfully an *Eurygarka* for the following characters: eye bridge with four rows of facets, divided by one facet diameter; palp segments two and three slightly swollen; palp segments 1-3 each with transverse, ovoid sensory organ placed mid-length on their lateral surface; first palp segment a little greater than ½ the length of second, distal three palp segments slightly increasing in length; female cerci short; hypovalvae with single median protuberance, digitiform (Curler & Mouton, 2008).

This is the first record of this genus to Brazil. This is possibly the female of *Eurygarka freyrei* Jezek et al., 2011 (described from Bolivia), but its morphology is also similar to the male of *E. cyphostylus* Curler, 2008 (from the USA), so the association is dubious. The characters that link this female to the males of these two species are: distance of eyes, number of facet rows, the shape of frons groups of setae, the shape of palpus, the shape of 5c vein on the wing and infuscation of costal cell.

*Platyplastinx culmosus* Quate & Brown

*Platyplastinx culmosus* Quate & Brown, 2004: 67, figs. 164-166.

**New record (determined by L. Quate, confirmed by D. Cordeiro):** BRAZIL, Rondônia, Cacaülândia, 200 km SSE of Porto Velho, 140 masl, 10°18.0’S, 62°52.1’W.

**Previous record (Quate & Brown, 2004):** ECUADOR, Napo, Yasuni Research Station, Rio Tivacunu & Tiputini, 250 masl, 00°38’S, 76°36’W (type locality).

*Psychoda amazonensis* Cordeiro & Bravo

*Psychoda amazonensis* Cordeiro & Bravo, 2008: 116, figs. 1-14; Cordeiro et al., 2011: 7 (Fig. 4).

**New record (determined by D. Cordeiro):** BRAZIL, Amapá (no locality).

**Previous records (Cordeiro & Bravo, 2008):** BRAZIL, Amazonas, Silves, Saracá (type locality).

**Remarks:** This species is known to be viviparous, as females are captured with many first instar larvae inside the abdômen (Fig. 4). It can be easily identified by the characteristic hypovalvae (indicated by an arrow on figure 4) and short cerci of the female.

*Psychoda atlantica* Cordeiro, Bravo & Carvalho

*Psychoda atlantica* Cordeiro, Bravo & Carvalho, 2011: 18-19, figs. 44-53.

**New record (determined by D. Cordeiro):** BRAZIL, Minas Gerais, Parque Est. do Rio Doce 240 km E of Belo Horizonte, 350 masl, 18°45.18’S, 42°38.00’W.

**Previous records (Cordeiro et al., 2011; Shimabukuro et al., 2016):** BRAZIL, Espríto Santo, 19°13’10.5’S, 40°46’23.8’W (type locality); Espríto Santo, 19°12’54.8’S, 40°47’52.5’W; São Paulo, Ilha do Cardoso; Paraná, Antonina, res. Sapitanduva.

*Psychoda buxoides* Quate

*Psychoda buxoides* Quate, 1996: 71, figs. 28a-e; Quate, 1999: 439; Cordeiro et al., 2011: 8, figs. 1-8.

**New records (determined by D. Cordeiro):** GUATEMALA, Izabal, Puerto Barrios, 10 masl. COSTA RICA, Heredia, Puerto Viejo de Sarapachi, Est. Biol. LaSelva, 50-100 masl, LN-268.000-535.600; Limon, Puerto Viejo de Talamanca, sea level, LS-401.000-600.000. VENEZUELA, Aragua, Maracay. SURINAM, Raleighvallen, 170 km SW of Paramaribo, 70 masl, 04°43’N, 56°12’W. PERU, Cuzco, Rio Madre de Dios, 28 km ESE of Boca Manu, 250 masl, 12°21’S, 70°42’W. BRAZIL, Rondônia, Cacaülândia, 200 km SSE of Porto Velho, 140 masl, 10°18.0’S, 62°52.1’W; Mato Grosso, Chapada dos Guimarães, 35 km ENE of Cuiaba, 15°27’10’S, 55°45’15’W.

**Previous records (Quate, 1996, 1999; Cordeiro et al., 2011):** COSTA RICA, Guanacaste, La Pacifica, 40 km SE of Liberia, 100 masl (type locality); Guanacaste, Parq. Nac. Santa Rosa, Rio Cuajiminquil, 280 masl, 313400(N) 358900(E); Guanacaste, Parque Nac. Santa Rosa, sea level; Guanacaste, Estacion Pitilla, 9 km S Santa Cecilia, 700 masl. PANAMA, Canal Zone, Barro Colorado Is., #984, 09°09’N, 79°51’W. BRAZIL, Amazonas, Manacapuru-Novo Airao km 46-50, 02°59.0’S, 60°53.6’W; Amazonas, Manacapura 74 km WSW of Manaus, 03°17’48.8’S, 60°37’38.0’W; Amazonas, Pitinga, 258 km N of Manaus, Bica, 00°45’21’S, 60°04.00’W; Amazonas, Silves, Saracá; Amazonas, Manaus, Res. Ducke; Pará, Estrada do Cariri km 4, 15 km SW of Belem; Pará, Chácara N.S. Nazaré; Mato Grosso, Barão de Melgaço, baia de Bracoruré.

*Psychoda dantilandensis* Bravo, Cordeiro & Chagas

*Psychoda dantilandensis* Bravo, Cordeiro & Chagas, 2006: 8-9, figs. 19-27; Cordeiro et al., 2011: 9-11, figs. 9-14.
Figure 3. *Eurygarka* sp., female. (A) Head, anterior view. (B) Head, posterior view. (C) Wing. (D) Thorax, lateral view. (E) Abdomen, ventral view, arrow indicating hypovalvae. (F) Terminalia in detail, dorsal view, arrows indicating ceci.
Psychoda flagellata Quate

Psychoda flagellata Quate, 1996: 79, fig. 31f; Quate, 1999: 440; Collantes & Martinez-Ortega, 1999: 21.

New records (determined by D. Cordeiro): COSTA RICA, Guanacaste, Estacion Pitilla, 9 km S Santa Cecilia, 700 masl; Guanacaste, Parq. Nac. Santa Rosa, evergreen forest, 280 masl, 313400(N) 358900(E); SURINAM, Brownsberg Nature Park, 100 km S of Paramaribo, 300-450 masl, 04°57’N, 55°11’W; FRENCH GUIANA, 37 km S of Cayenne, 50-100 masl; Maripasoula. BRAZIL, Rondônia, Cacaulândia, 200 km SSE of Porto Velho, 140 masl, 10°18.0’S, 62°52.1’W; Minas Gerais, Parque Est. do Rio Doce 240 km E of Belo Horizonte, 350 masl, 18°45.18’S, 42°38.00’W.

Previous records (Quate, 1996, 1999; Collantes & Martinez-Ortega, 1999): COSTA RICA, Heredia, Puerto Viejo de Sarapaqui Est. Biol LaSelva, 50-100 masl, LN-268.000-535.600 (type locality). Limon, Puerto Viejo de Talaman., sea level, LS-401.000-600.000; Limon, Puerto Viejo de Tal., sea level, 09°39.4’N, 85°45.9’W; Limon, Res. Biol. Hitoy Cerere, R.Cerere, shaded stream, 0-100 masl, 09°48.4’N, 83°01.5’W; N, 83°41.0’W; Limon, Puerto Viejo de Tal., mixed forest, 0-100 masl.

Psychoda laticaula Quate

Psychoda laticaula Quate, 1996: 67, fig. 26f; Collantes & Martinez-Ortega, 1999: 22; Cordeiro et al., 2011: 11-13, figs. 15-22.

New records (determined by D. Cordeiro): COSTA RICA, Puntarenas, 14 km SW of San Isidro, 880 masl, 09°19.0’N, 83°46.5’W; Puntarenas, 18 km N of San Isidro, 1,700 masl; Puntarenas, Estación Pittier, 20 km N of San Vito, streamside, 1,800 masl; Puntarenas, Estación Pittier, 22 km N of San Vito, 1,670 masl; Puntarenas, Estación Pittier, 20 km N of San Vito, 1,800 masl; Puntarenas, Est. Biol. Las Alturas Coto Brus, 1,550 masl, 08°57’14”N, 82°50’13”E; Puntarenas, 18 km N of San Isidro, 1,700 masl; Puntarenas, 13 km N of San Isidro, 1,500 masl; Puntarenas, Monteverde Est. Biol. Montevertede, 1,550 masl, LN-255700(N), 448700(E); Limón, Puerto Viejo de Tal., mixed forest, 0-100 masl.

Previous records (Quate, 1996): COSTA RICA, Puntarenas, 14 km SW of San Isidro, 880 masl, 09°19.0’N, 83°46.5’W; Puntarenas, Estación Pittier, 22 km N of San Vito, 1,670 masl, 09°01.4’N, 82°57.5’E; Puntarenas, Estación Pittier, 20 km N of San Vito, 1,800 masl; Puntarenas, Est. Biol. Las Alturas Coto Brus, 1,550 masl, 08°57’14”N, 82°50’13”E; Puntarenas, 18 km N of San Isidro, 1,700 masl; Puntarenas, 13 km N of San Isidro, 1,500 masl; Puntarenas, Monteverde Est. Biol. Montevertede, 1,550 masl, LN-255700(N), 448700(E); Limón, Puerto Viejo de Tal., mixed forest, 0-100 masl.
Rio Madre de Dios, 28 km ESE of Boca Manu, 250 masl, 12°21'S, 70°42'W; Madre de Dios, Manu Lodge, 300 masl; Amazonas, Chachapoyas, 2,150 masl, 06°15'S, 77°53'W; Amazonas, 20 km N of Pedro Ruiz, 2,150 masl, 05°51'S, 77°58'W. BRAZIL, Rondônia, Cacauândia, 200 km SSE of Porto Velho, 140 masl, 10°18.0'S, 62°52.1'W.

Previous records (Quate, 1996; Collantes & Martinez-Ortega, 1999; Cordeiro et al., 2011): COSTA RICA, Limon, Puerto Viejo de Talaman, sea level, LS-401.000-600.000 (type locality). Limon, Res.Biol. Hitoy Cerere, Rio Cerere, 100-200 masl, 09°48.4'N, 83°01.5'W; Limon, Puerto Viejo de Tal, sea level, 09°39.4'N, 85°45.9'W; Heredia, S Rafael de Vara Blanca Rio Santo Domingo; Heredia, Puerto Viejo de Sarapiqui, Est. Biol. LaSelva, 50-100 masl. BRAZIL, Mato Grosso, Chapada dos Guimarães 35 km ENE of Cuiaba, 15°27’0’’S, 55°45’15’’W.

Previous records (Quate, 1996; Collantes & Martinez-Ortega, 1999; Cordeiro et al., 2011): COSTA RICA, Heredia, Puerto Viejo de Sarapiqui Est. Biol LaSelva, 50-100 masl, LN-268.000-535.600 (type locality). NICARAGUA, Carazo; Chinandega; Rio San Juan.

Psychoda litotes Quate

Psychoda litotes Quate, 1996: 64-65, figs. 25d-f; Collantes & Martinez-Ortega, 1999: 22; Cordeiro et al., 2011: 13, figs. 23-31.

New records (determined by D. Cordeiro): VENEZUELA, Barinas, La Azulita, 1,350 masl, 08°42’N, 71°28’W. FRENCH GUIANA, Maripasoula; 37 km S of Cayenne, 50-100 masl; near St. Laurent de Maroni, 13 km W of Mara Coastal Woods, 50-100 masl. BRAZIL, Mato Grosso, Chapada dos Guimarães 35 km ENE of Cuiaba, 15°27’0’’S, 55°45’15’’W.

Previous records (Quate, 1996; Collantes & Martinez-Ortega, 1999; Cordeiro et al., 2011): COSTA RICA, Limon, Puerto Viejo de Tal, sea level, 09°39.4’N, 82°45.9’W (type locality); Limon, Res.Biol. Hitoy Cerere, primary forest, 100-200 masl, 09°48.4’N, 83°01.5’W; Heredia, Puerto Viejo de Sarapiqui Est. Biol. LaSelva, 50-100 masl, LN-268.000-535.600; Guanacaste, Estacion Pitilla, 9 km S Santa Cecillia, 700 masl; San José, 2 km W of Empalme, 2,300 masl. NICARAGUA, Carazo; Rio San Juan, Se of San Carlos, lowland rain forest, 30 masl, 10°58’N, 84°20’W. AMAZONAS, Silves, saracá; AMAZONAS, Manacapuru, Cajutaba.

Psychoda obelisks Quate, 1996

Psychoda obelisks Quate, 1996: 65, figs. 25g-h; Collantes & Martinez-Ortega, 1999: 22.

New records (determined by D. Cordeiro): GUATEMALA, Izabal, Puerto S Tomas Castillo, 10 masl. PUERTO RICO, Luquillo, Caribbean National Forest, El Verde Exp. Station, 350 masl, 18°19’3’’N, 65°49’6’’W. VENEZUELA, Barinas, La Azulita, 1,350 masl, 08°42’N, 71°28’W. SURINAM, Brownsberg Nature Park, 100 km S of Paramaribo, 450 masl, 04°57’N, 55°11’W; 170 km SW of Paramaribo, 70 masl, 04°43’N, 56°12’W. FRENCH GUIANA, 65 km S of Cayenne, 50-100 masl; 17 km E of St. Laaurent de Maroni, sea level; 37 km S of Cayenne, 50-100 masl. PERU, Cuzco, Rio Madre de Dso, 28 km ESE of Boca Manu, 250 masl, 12°21’S, 70°42’W; Cuzco, 26 km W of Pilcopata, forest edge, 1,500 masl, 13°03’S, 71°32’W. BRAZIL, Pará, Serra do Cachorro, 395 km NW of Manaus, 00°49.8’0’’N, 57°07.0’0’’W; Rondônia, Cacauândia, 200 km SSE of Porto Velho, 140 masl, 10°18.0’S, 62°52.1’W.

Previous records (Quate, 1996; Collantes & Martinez-Ortega, 1999; Cordeiro et al., 2011): COSTA RICA, Heredia, Puerto Viejo de Sarapiqui Est. Biol LaSelva, 50-100 masl, LN-268.000-535.600 (type locality). NICARAGUA, Carazo; Chinandega; Rio San Juan. Previous records (Quate, 1996; Collantes & Martinez-Ortega, 1999; Cordeiro et al., 2011): COSTA RICA, Heredia, Puerto Viejo de Sarapiqui Est. Biol LaSelva, 50-100 masl, LN-268.000-535.600 (type locality). NICARAGUA, Carazo; Chinandega; Rio San Juan.

Psychoda savaiiensis Edwards, 1928

Psychoda savaiiensis Edwards, 1928: 74; Quate, 1962: 63; Duckhouse, 1973: 13; Quate, 1996: 71; Quate, 1999: 439; Collantes & Martinez-Ortega, 1999: 23; Cordeiro et al., 2011: 14-15. Psychoda rarotongensis Satchell, 1953: 183; Quate, 1955: 208; Quate, 1959: 213-214. Psychoda lucia Quate, 1954: 349-350, figs. 28-31.

New records (determined by D. Cordeiro): GUATEMALA, Izabal, Puerto Barrios, 10 masl. BAHAMAS, Abaco Is., Treasure Cay, broadleaf forest, sea level, 26°49.8’N, 77°17.3’W. VENEZUELA, Aragua, 12 km NW El Limon, 1,020 masl; Aragua, Henri Pittier National Park, Rancho Grande, 1,100 masl, 10°20’N, 67°41’W; Aragua, 25 km NW of Maracay Aponte, 50 masl, 10°25’N, 67°46’W; Barinas, El Tao, La Azulita, 1,350 masl, 08°41.7’N, 71°27.8’W. SURINAM, Raleighvallen, 170 km SW of Paramaribo, 70 masl, 04°43’N, 56°12’W; Brownsberg Nature Park, 100 km S of Paramaribo, 450 masl, 04°57’N, 55°11’W. FRENCH GUIANA, 30 km S of St. Laurent de Maroni, 0-100 masl; near St. Laurent de Maroni, 13 km W of Mara Costal Woods, 50-100 masl; Maripasoula; 37 km S of Cayenne, 50-100 masl; 65 km S of Cayenne, 50-100 masl. PERU, Madre de Dios, 5 km E of Puerto Maldonado, L Sandoval, 300 masl, 12°36’S, 69°02’W. BRAZIL, Rondônia, Cacauândia, 200 km SSE of Porto Velho, 140 masl, 10°18.0’S, 62°52.1’W; Minas Gerais, Parque Est. do Rio Doce 240 km E of Belo Horizonte, 350 masl, 18°45.18’S, 42°38.00’W.

Previous records on the Neotropics (this species has a pantropical distribution) (Quate, 1959, 1996, 1999; Collantes & Martinez-Ortega, 1999; Cordeiro et al., 2011): NICARAGUA, Granada, Volcán Mombacho El Progresso; Granada, Volcan Mombacho San Joaquin, 1,100 masl, 11°50’N, 85°51’W; Rio San Juan, SE of San Carlos, lowland rain forest, 30 masl, 10°58’N, 84°20’W; Zelaya, Las Americas; Carazo; Chinandega; Matagalpa. COSTA RICA, Guanacaste, La Pacifica, 40 km SE of Liberia, 100 masl; Guanacaste, Parque Nac. Santa Rosa, sea level; Guanacaste, Estacion Pitilla, 9 km S Santa Cecilia, 700 masl; Heredia, Puerto Viejo de Sarapaqui Est Biol LaSelva, 50-100 masl, LN-268.000-535.600; Limon,
Puerto Viejo de Talaman, sea level, LS-401.000-600.000; Puntarenas, 14 km SW of San Isidro, 880 msl; Hiquito, San Mateo; San Pedro de Montes de Oca. PANAMA, Canal Zone, Barro Colorado Is., 09°09’N, 79°51’W. PUERTO RICO, Luquillo, Caribbean National Forest, El Verde Exp. Station, 350 msl, 18°19.3’N, 65°49.6’W; El Semill, Villalba. BRAZIL, Amazonas, Manacapuru 74 km WSW of Manaus, 03°17’48.5”S, 60°37’38”W; Amazonas, Pitinga, 258 km N of Manaus, 00°45’21’’S, 60°04’00’’W; Amazonas, Itacoiatari-Itapiranga km 23, < 100 msl; 03°03’0.5”, 58°43.5’’W; Pará, Estrada do Cariri km 4, 15 km SW of Belem; Pará, Serra do Cachorro 395 km NW of Manaus, 00°49.8’’N, 57°07’9”W; Pará, Santarém, Ch. N.S. Nazaré; Mato Grosso, Chapada dos Guimarães 35 km ENE of Cuiaba, 15°27’10’’S, 55°45’15’’W; Mato Grosso, Barão de Melgaço, baía de Brocórurê; Bahia, Saipeú; Bahia, Cacheoeira, Faz. Villa Rial; Bahia, Ituberá, Res. Michellin; Espírito Santo, Pancas, Faz. Juiiliberto Stur; Espírito Santo, Santa Maria de Jetibá; Paraná, Jundial.

**Psychoda serraorobonensis Bravo, Cordeiro & Chagas**

*Psychoda serraorobonensis* Bravo, Cordeiro & Chagas, 2006: 10-11, figs. 28-34; Cordeiro *et al.*, 2011: 15-16, figs. 32-33.

**New records (determined by D. Cordeiro):** BRAZIL, Pará, Serra do Cachorro 395 km NW of Manaus, 395 msl, 00°59.43’’S, 57°07’9”W; Pará, Serra do Cachorro, 395 km NW of Manaus, 395 msl, 00°49.8’’S, 57°07’9”W; Minas Gerais, Parque Est. do Rio Doce 240 km E of Belo Horizonte, 350 msl, 18°45.18’’S, 42°38.00’’W.

**Previous records (Bravo *et al.*, 2006; Cordeiro *et al.*, 2011):** BRAZIL, Bahia, Serra do Orobó (type locality); Amazonas, Itacoiatari-Itapiranga km 23, < 100 msl, 03°03’0.5”, 58°43.5’’W; Amazonas, Manacapuru-Novo Airao km 46-50, 02°59.0’’S, 60°53.6’’W; Amazonas, Pitinga; Amazonas, Silves, Sacará; Bahia, Senhor do Bonfim, Serra de Santana; Bahia, Cacheoeira, Faz. Villa Rial; São Paulo, Ilha do Cardoso; Paraná, Antonina, res. Sapitanduva.

**Psychoda setigera Tonnoir**

*Psychoda setigera* Tonnoir, 1922: 84; Quate, 1955: 202, fig. 63; Quate, 1996: 65-67, figs. 26a-d; Collantes & Martínez-Ortega, 1999: 23.

**New records (determined by D. Cordeiro):** VENEZUELA, Aragua, Henri Pittier National Park Rancho Grande, 1,100 msl, 10°20’’N, 67°41’’W; Barinas, la Azulita, 2,200 msl, 08°42’’N, 71°28’’W. FRENCH GUIANA, St. Jean, 15 km S of St. Laurent de Maroni, sea level; 37 km S of Cayenne, 50-100 msl. BRAZIL, Pará, Serra do Cachorro, 395 km NW of Manaus, 00°49.8’’00’’N, 57°07’0.09”W.

**Previous records on the Neotropics (Quate, 1996; Collantes & Martínez-Ortega, 1999):** NICARAGUA, Granada, Volcan Mombacho, cloud forest, 1,100 msl, 11°50’’N, 85°51’’W; Madriz. COSTA RICA, Heredia, S Rafael de Vara Blanca, Rio Santo Domingo, 1,700 msl; Heredia, Vara Blanca, 1,800 msl, LN-239.500-519.000; Heredia, Puerto Viejo de Sarapaqui Est Biol LaSelva, 50-100 msl, LN-268.000-535.600; Guanacaste, Estacion Pitilla, 9 km S Santa Cecillia, 700 msl; Guanacaste, La Pacifica, 40 km SE of Liberia, 100 msl; Guanacaste, Volcan Cacao, E of SR, 1,000-1,100 msl, 323200N, 375600E; Limon, Puerto Viejo de Talaman., sea level, LS-401.000-600.000; San José, 2 km W of Empalme, 2,300 msl; Cartago, 44 km S of Cartago, 2,350 msl, 09°40.7’’N, 83°57.7’’W; Cartago, 30 km N of San Isidro, 2,640 msl, 09°32.7’’N, 83°42.8’’W; San José, 2 km W of Empalme.

**Psychoda silvensis Cordeiro, Bravo & Carvalho**

*Psychoda silvensis* Cordeiro, Bravo & Carvalho, 2011: 31-32, figs. 132-139.

**New record (determined by D. Cordeiro):** BRAZIL, Minas Gerais, University Biol. Reserve Belo Horizonte, 19°55’’S, 43°56’’W.

**Previous records (Cordeiro *et al.*, 2011):** BRAZIL, Amazonas, Silves, Saracá (type locality); Amazonas, Itacoiatari-Itapiranga km 23, < 100 msl, 03°03’0.5”, 58°43.5’’W.

**Psychoda talamanca Quate**

*Psychoda talamanca* Quate, 1996: 77, fig. 31a; Cordeiro *et al.*, 2011: 16-17, figs. 36-43.

**New records (determined by D. Cordeiro):** VENEZUELA, Barinas, la Azulita, 1,400-1,900 msl, 08°42’’N, 71°28’’W; Aragua, 12 km NW El Limon, 1,020 msl; Aragua, 10 km N El Limon; Aragua, 17 km S of Chorofon, 760 msl; Aragua, Maracay, wooded hillside; Aragua, 19 km N of Maracay, 1,280 msl. SURINAM, Brownsberg Nature Park, 100 km S of Paramaribo, 450 msl, 04°57’’N, 55°11’’W. FRENCH GUIANA, 37 km S of Cayenne, 50-100 msl; 17 km E of St. Laurent de Maroni, sea level. PERU, Cuzco, Rio Madre de Dios, 28 km ESE of Boca Manu, 250 msl, 02°21’’S, 70°42’’W. BRAZIL, Rondônia, Cacauândia, 200 km SSE of Porto Velho, 140 msl, 10°18.0’’S, 62°52.1’’W.

**Psychoda trilobatula Cordeiro, Bravo & Carvalho**

*Psychoda trilobatula* Cordeiro, Bravo & Carvalho, 2011: 34-35, figs. 150-158.
New record (determined by D. Cordeiro): BRAZIL, Rondônia, Cacaulândia, 200 km SSE of Porto Velho, 140 masl, 10°18.0′S, 62°52.1′W.

Previous records (Cordeiro et al., 2011): BRASIL, Amazonas, Silves, Saracá (type locality); Amazonas, Manacapuru, 74 km WSW of Manaus, 03°17′48″S, 60°37′38″W; Amazonas, Itacoatiara-Itapiranga km 23, <100 masl, 03°03′0.5″S, 58°43.5′W; Pará, Santarém, Chac. N.S. Nazaré.

**Psychoda varablanca** Quate

*Psychoda varablanca* Quate, 1996: 77, figs. 31b-c.

New records (determined by D. Cordeiro): GUATEMALA, Izabal, Puerto S. Tomas Castillo, 10 masl. COSTA RICA, Limon, Puerto Viejo de Talaman, sea level, LS-401.000-600.000; Cartago, 30 km N of San Isidro, 2,640 masl, 09°32.7′N, 83°42.8′W; Guanacaste, Monteverde, St. Elena, 1,500 masl, 10°19.1′N, 84°48.5′W. VENEZUELA, Barinas, la Azulita, 1,400-1,900 masl, 08°42′N, 71°28′W; Aragua, 17 km S of Choronf, 760 masl; Aragua, 22 km S of Choronf, 1,000 masl; Aragua, 10 km N El Limon. PERÚ, Cuzco, Rio Madre de Dios, 28 km ESE of Boca Manu, 250 masl, 12°21′S, 70°42′W. BRAZIL, Rondônia, Cacaulândia, 200 km SSE of Porto Velho, 140 masl, 10°18.0′S, 62°52.1′W; Mato Grosso, Chapada dos Guimarães, 35 km ENE of Cuiaba, 15°27′10″S, 55°45′15″W.

Previous records (Quate, 1996): COSTA RICA, Heredia, Vara Blanca (type locality); Heredia, Puerto Viejo de Sarapaqü Est. Biol LaSelva, 50-100 masl, LN-268.000-535.600; San José, San Gerardo de Dota Alba. Savegre, 2.250 masl, 09°33′07″N, 83°48′30″W.

**Psychoda zetoscota** Quate, 1959

*Psychoda zetoscota* Quate, 1959: 214, figs. 1-2; Duckhouse, 1973: 13; Bravo et al., 2006: 7-8, figs. 9-18; Cordeiro et al., 2011: 18, figs. 34-35.

New record (determined by D. Cordeiro): BRAZIL, Rondônia, Cacaulândia, 200 km SSE of Porto Velho, 140 masl, 10°18.0′S, 62°52.1′W.

Previous records (Quate, 1959; Bravo et al., 2006; Cordeiro et al., 2011): PANAMA, Zona do Canal (type locality). TRINIDAD, Tucker valley, US Naval Station. BRAZIL, Pará, Santarém, Ch. N.S. Nazaré; Bahia, Senhor do Bonfim, serra da Maravilha; Bahia, Cacheirinha, faz. Villa Rial; Bahia, Ituberá, Pacangê; Paraná, Antonina, res. Sapitanduva.

**CONCLUSIONS**

This study of a well preserved and curated collection provided more than 70 new geographic records, which can be very helpful in future efforts of rapid assessments, as well as may contribute to studies on biogeography and conservation. The number of known species of Brazilian Psychodidae was also increased to 553, including one genus first time reported, also increasing to 46 the number of Psychodidae genera in Brazil.

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