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# Three new species and new records of Heteroceridae from the Neotropical Region (Coleoptera: Heteroceridae)

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## Abstract

Three new species of Heteroceridae (Coleoptera) are described from the Neotropical Region: *Heterocerus minor* sp.n. (Mexico), *H. penai* sp.n. (Argentina) and *H. santiagensis* sp.n. (Chile). The following species represent new country records: *Heterocerus boliviensis* (PACHECO, 1964) from Brazil, *H. meridianus* (PACHECO, 1975) from Dominican Republic, *H. pachecoi* SKALICKÝ, 2002 from Argentina, *H. similis* GROUVELLE, 1896 from Bolivia and Venezuela, *H. spinifer* SHARP, 1882 from Nicaragua, *H. woodruffi* (PACHECO, 1975) from Brazil and Argentina, *Tropicus bilineatus* (CHEVROLAT, 1864) from Costa Rica, Mexico and Nicaragua, *T. davidsoni* MASCAGNI, 1993 from Paraguay, *T. milleri* MASCAGNI, 1993 from Argentina, *T. squamosus* PACHECO, 1964 from Paraguay, and *T. vicinus* MILLER, 1992 from Nicaragua.

**Key words:** Coleoptera, Heteroceridae, *Heterocerus*, *Tropicus*, taxonomy, new species, new records, Argentina, Bolivia, Brazil, Chile, Costa Rica, Dominican Republic, Mexico, Nicaragua, Paraguay, Venezuela.

## Introduction

The study of 1180 specimens of Heteroceridae from the Neotropical Region, deposited in the Museum für Naturkunde der Humboldt-Universität, Berlin (Germany), in the Staatliches Museum für Naturkunde, Stuttgart (Germany), in the Naturhistorisches Museum Wien (Austria), in the Institut royal des Sciences naturelles de Belgique, Bruxelles (Belgium), in the Museo Civico di Storia naturale, Genova (Italy) and in the Museo Entomologico, León (Nicaragua), has revealed three new species and 11 new country records.

Acronyms used in the text:

CMS	Coll. A. Mascagni, Scandicci (Firenze), Italy
CMF	Coll. C. Monte, Firenze, Italy
ISBN	Institut royal des Sciences naturelles de Belgique, Bruxelles, Belgium
MSNG	Museo Civico di Storia naturale “G. Doria”, Genova, Italy
NMW	Naturhistorisches Museum Wien, Austria
SEAN	Servicio Entomologico Autonomo, Museo Entomologico, León, Nicaragua
SMNS	Staatliches Museum für Naturkunde, Stuttgart, Germany
ZMHB	Museum für Naturkunde der Humboldt-Universität, Berlin, Germany

## *Heterocerus angustatus* CHEVROLAT, 1864

Material examined: JAMAICA: 48 exs. (ISBN), 2 exs. (CMS): Priority, Univ. Campus (at light), 3/12.vi.1990, leg. G. Haghebaert.

Distribution: United States, The Antilles (PACHECO 1964).

***Heterocerus boliviensis* (PACHECO, 1964)**

Material examined: BRAZIL: 1 ex. (ISBN), 1 ex. (CMS): Santarém, Amazonas, 8.xii.1963, leg. G. Marlier.

Distribution: Bolivia (PACHECO 1964). First record for Brazil.

***Heterocerus catamarcensis* SKALICKÝ, 2003**

Material examined: ARGENTINA: 2 exs. (ZMHB), 1 ex. (CMS): Fuerte Quemado, Catamarca Tucumán, 28.ii.1992, leg. L.E. Peña.

Distribution: Argentina (SKALICKÝ 2003).

***Heterocerus ciliaticollis* STEINHEIL, 1869**

Material examined: ARGENTINA: 4 exs. (ZMHB), 1 ex. (CMS), 1 ex. (CMF): Tucuman, El Cadillal, 6/8.xi.1991, leg. L.E. Peña.

Distribution: Argentina, Brazil (PACHECO 1964), Paraguay (SKALICKÝ 2002).

***Heterocerus cognatus* SHARP, 1887**

Material examined: MEXICO: 3 exs. (ZMHB), 1 ex. (CMS): Tepic, El Cora, leg. A. Lüdecke; 2 exs. (ZMHB): Tepic, Ixtapa, leg. E. Hildebrand.

Distribution: Mexico (PACHECO 1964).

***Heterocerus guttatus* KIESENWETTER, 1851**

Material examined: CUBA: 1 ex. (ZMHB).

Distribution: Cuba (PACHECO 1964).

***Heterocerus meridianus* (PACHECO, 1975)**

Material examined: DOMINICAN REPUBLIC: 16 exs. (SMNS), 2 exs. (CMS): Azua, 18.xi.1973, leg. Klapperich.

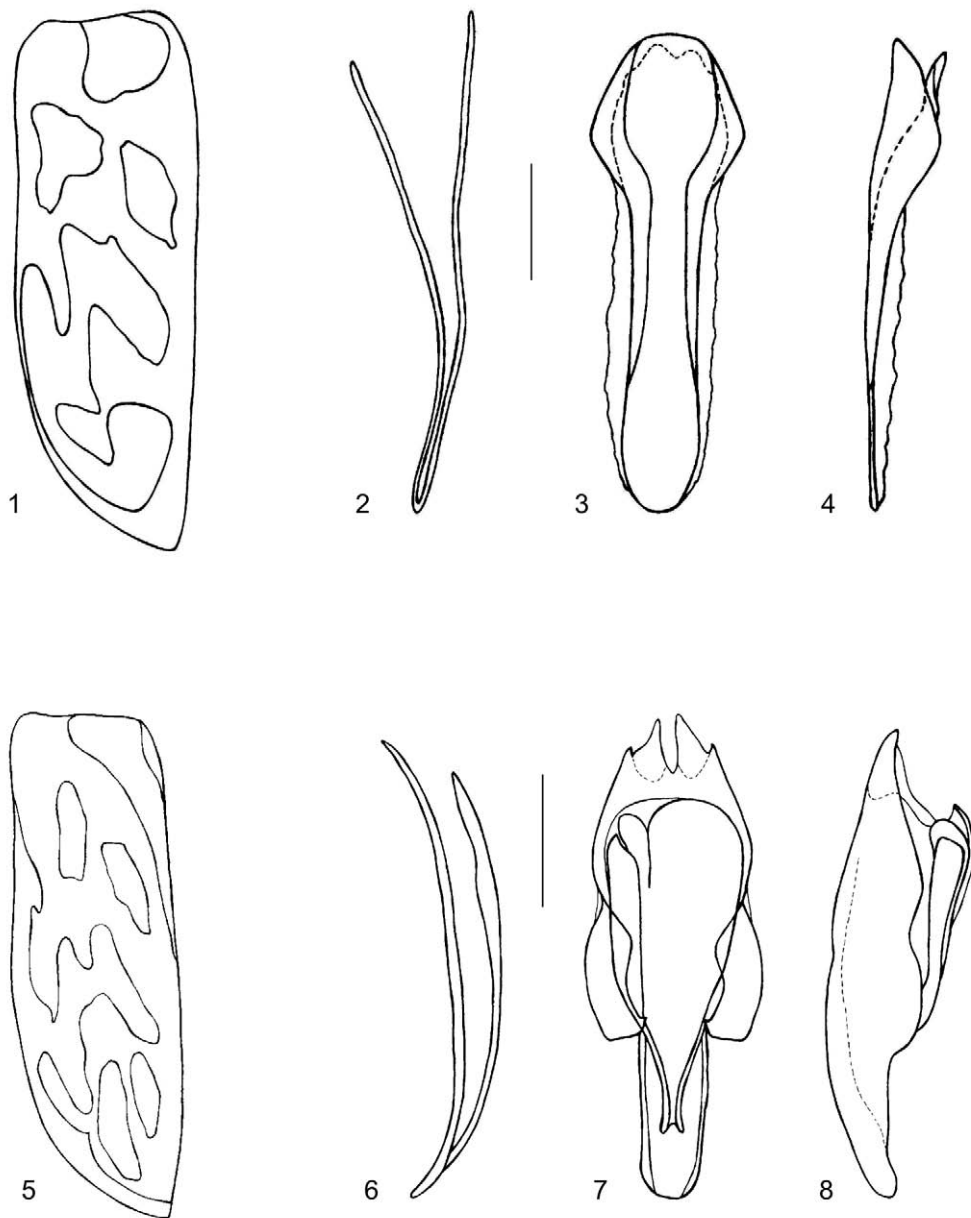
Distribution: Brazil, Bolivia (PACHECO 1975). First record for Dominican Republic.

***Heterocerus minor* sp.n.**

TYPE MATERIAL: **Holotype** ♂ (ZMHB): "MEXICO, Tepic, Ixtapa, leg. E. Hildebrand".

DESCRIPTION: Holotype ♂: Total length 2.50 mm (to apex of labrum); elytra 1.50 mm long, 0.92 mm wide across shoulders. Head bright brown, thick pubescence whitish; small mandibles with acute apex; antennae with 11 segments, apical seven clubbed; clypeus without pair of anterior horns, with dense and short setae (longer on the sides). Pronotum bright brown, with ochra border, wider than the base of the elytra, trapezoidal, narrowing strongly anteriorly and bordered posteriorly; dense whitish pubescence with setae longer on the sides; irregularly and densely punctate with intermixed micropunctures; dense whitish pubescence with setae longer; elytral markings as in Fig. 1. Legs bright brown, densely setose; tibiae with numerous spines. Abdomen ochra; stridulatory arch marked, with striae; post-metacoxal line absent; spiculum gastrale (Fig. 2) V-shaped. Aedeagus 0.43 mm long, shape as in Figs. 3–4.

DIFFERENTIAL DIAGNOSIS: The shape of the aedeagus of *Heterocerus minor* differs greatly from all known American species.



Figs. 1–4: *Heterocerus minor*, holotype, 1) elytral markings, 2) spiculum gastrale, 3) aedeagus, dorsal view, 4) aedeagus, lateral view. Scale: 0.1 mm.

Figs. 5–8: *Heterocerus penai*, holotype, 5) elytral markings, 6) spiculum gastrale, 7) aedeagus, dorsal view, 8) aedeagus, lateral view. Scale: 0.3 mm.

DISTRIBUTION: Known only from the type locality.

ETYMOLOGY: The name of the new species refers to its small size.

***Heterocerus pachecoi* SKALICKÝ, 2002**

Material examined: ARGENTINA: 1 ex. (ZMHB): Santiago del Estero, Telares, 3.iii.1992.

Distribution: Paraguay (SKALICKÝ 2002), Bolivia (SKALICKÝ 2006). First record for Argentina.

***Heterocerus penai* sp.n.**

TYPE MATERIAL: **Holotype** ♂ (ZMHB): "ARGENTINA, prov. Tucuman, El Cadillal, 6/8.xi.1991, leg. L. E. Peña". **Allotype** ♀ (ZMHB), same data as holotype.

DESCRIPTION: Holotype ♂: Total length 5.00 mm (to apex of labrum); elytra 3.07 mm long, 1.85 mm wide across shoulders. Head dark brown, thick pubescence whitish; rather great mandibles with acute apex; antennae with 11 segments, apical seven clubbed; clypeus with pair of anterior horns, with dense and short setae with setae longer on the sides. Pronotum dark brown, as wide as the base of elytra, oval, pronotal base completely rimmed; dense whitish pubescence with setae longer on the sides; densely and finely dotted. Elytra with dense whitish pubescence with setae longer on the sides; irregularly and densely punctate with intermixed micropunctures; dense whitish pubescence with setae longer; elytral markings as in Fig. 5.

Legs ochre with brown border densely pubescent; tibiae with numerous spines. Abdomen ochre; stridulatory arch marked, with striae; post-metacoxal line absent; spiculum gastrale (Fig. 6) V-shaped. Aedeagus 1.07 mm long, shape as in Figs. 7–8.

Allotype ♀: Total length 4.57 mm (to apex of labrum); elytra 2.85 mm long, 1.71 mm wide across shoulders. Mandibles smaller, clypeus without pair of anterior horns. Habitus similar to male.

DIFFERENTIAL DIAGNOSIS: The aedeagus of *H. penai* is similar to the *H. brunneus* group sensu PACHECO (1964). It differs from the species of the latter in the structure of the male genitalia (Fig. 7), see PACHECO (1964: Figs. 132–162 and pp. 44–54).

DISTRIBUTION: Known only from the type locality.

ETYMOLOGY: Named after L.E. Peña, who collected the holotype and allotype.

***Heterocerus rivularis* GERMAIN, 1854**

Material examined: CHILE: 2 exs. (ZMHB), 1 ex. (CMS): Reloca, Maule, xii.1990.

Distribution: Chile (PACHECO 1964).

***Heterocerus santiagensis* sp.n.**

TYPE MATERIAL: **Holotype** ♂ (ZMHB): "CHILE, Santjago, Puelma". **Paratype** ♂ (ZMHB), same data as holotype.

DESCRIPTION: Holotype ♂: Total length 4.28 mm (to apex of labrum); elytra 2.71 mm long, 1.64 mm wide across shoulders. Head dark brown, thick pubescence whitish; rather great mandibles with acute apex; antennae with 11 segments, apical seven clubbed; clypeus without pair of anterior horns, with dense and short setae. Pronotum dark brown, with ochra border, as wide as the base of elytra, trapezoidal, narrowing strongly anteriorly and bordered posteriorly;

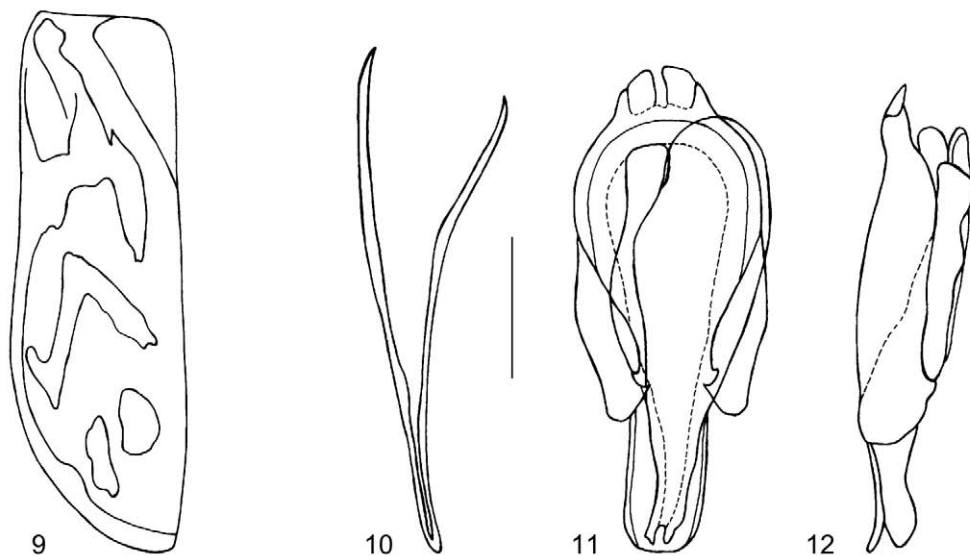
dense whitish pubescence with setae longer on the sides; densely dotted. Elytra with dense whitish pubescence with setae longer on the sides; irregularly and densely punctate with intermixed micropunctures; dense whitish pubescence with setae longer; elytral markings as in Fig. 9. Legs bright brown, densely pubescent; tibiae with numerous spines. Abdomen ochra; stridulatory arch marked, with striae; post-metacoxal line absent; spiculum gastrale (Fig. 10) V-shaped. Aedeagus 1.00 mm long, shape as in Figs. 11–12.

Paratype ♂: Total length 4.07 mm (to apex of labrum); elytra 2.64 mm long, 1.57 mm wide across shoulders. Habitus similar to holotype.

DIFFERENTIAL DIAGNOSIS: Due to the shape of the aedeagus, *H. santiagensis* is similar to the *H. brunneus* group sensu PACHECO (1964). It differs from the species of the latter in the structure of the male genitalia (Fig. 11), see PACHECO (1964: Figs. 132–162 and pp. 44–54).

DISTRIBUTION: Known only from the type locality.

ETYMOLOGY: The name of the new species refers to its type locality.



Figs. 9–12: *Heterocerus santiagensis*, holotype, 9) elytral markings, 10) spiculum gastrale, 11) aedeagus, dorsal view, 12) aedeagus, lateral view. Scale: 0.3 mm.

### *Heterocerus similis* GROUVELLE, 1896

Material examined: ARGENTINA: 2 exs. (ZMHB): Córdoba, leg. J. Frenzel; 5 exs. (ZMHB), 1 ex. (CMS), 1 ex. (CMF): Fuerte Quemado, Catamarca Tucumán, 28.ii.1992, leg. L.E. Peña; 128 exs. (ZMHB), 6 exs. (CMS), 6 exs. (CMF): El Cadillal, Tucumán, 6/8.xi.1991, leg. L.E. Peña; 267 exs. (ZMHB), 16 exs. (CMS), 16 exs. (CMF): Beltrán, Santiago del Estero, 28/29.ii.1992, leg. L.E. Peña; 7 exs. (ZMHB), 1 ex. (CMS), 1 ex. (CMF): Telares, Santiago del Estero, 3.iii.1992, leg. L.E. Peña; 3 exs. (ZMHB): Quimili, Santiago del Estero, 1.ii.1992, leg. L.E. Peña; 1 ex. (MSNG): La Viña, Salta, 24.xi.1983, leg. L.E. Peña; 61 exs. (ZMHB), 3 exs. (CMS), 3 exs. (CMF): Las Mandaras, Jujuy, 21.ii.1992; 2 exs. (ZMHB): Sancho Corral, leg. S.V. Steinbach; 1 ex. (MSNG), 1 ex. (CMS): Salta Tolloche, xi.1982, leg. A. Bolle; 20 exs. (MSNG), 1 ex. (CMS): Chaco de Santiago, leg. Le Moulton; 231 exs. (MSNG), 13 exs. (CMS): Entre Rios, Pronunciamento, iv.1987, leg. Martinez; 1 ex. (MSNG): Entre Rios, Liebig, Colón, 15.iii.1988; 1 ex. (NMW): Prov. Misiones, Iguazu, at light, 10.xii.1988, leg. Foerster.

BOLIVIA: 1 ex. (ZMHB): Guanay, N of La Paz, 19/25.viii.1989. CHILE: 15 exs. (ZMHB), 2 exs. (CMS), 2 exs. (CMF): Reloca, Maule, xii.1990. PARAGUAY: 1 ex. (MSNG): Rio Confuso, 1/16.ii.1937, leg. Vinogradoff; 3 exs. (NMW), 1 ex. (CMS): Dep. Guaira, Calle Florida, 11.iv.1992, leg. U. Drechsel; 9 exs. (NMW), 1 ex. (CMS): Dep. Boquerón, M. Estigarribia, 24.ii.1992, 5/9.v.1992, leg. U. Drechsel; 1 ex. (NMW): Dep. San Pedro, Nueva Germania, 19/22.xi.1991, leg. U. Drechsel; 1 ex. (NMW): Dep. Cordillera, Altos, 6.iv.1992, leg. U. Drechsel. VENEZUELA: 1 ex. (SEAN): Pto. Aguaoondo, T.F. Amazonas, vii.1982.

Distribution: Argentina, Brazil, Chile, Paraguay (SKALICKÝ 2002), Uruguay (PACHECO 1964). First record for Bolivia and Venezuela.

### *Heterocerus spinifer* SHARP, 1882

Material examined: NICARAGUA: 1 ex. (SEAN): Posoltega, UV light, 19.iii.1984, leg. Algodon; 6 exs. (SEAN), 3 exs. (CMS): Las Flores, Masaya, UV light, vi.1993, leg. C. Lecocq & I. Cantamessa.

Distribution: Guatemala (PACHECO 1964). First record for Nicaragua.

### *Heterocerus unicus* MILLER, 1988

Material examined: MEXICO: 4 exs. (ZMHB), 1 ex. (CMS): Canelas.

Distribution: Canada, United States, Mexico (MILLER 1988).

### *Heterocerus woodruffi* (PACHECO, 1975)

Material examined: ARGENTINA: 1 ex. (ZMHB): Las Manderas, Jujuy, 21.ii.1992. BRAZIL: 1 ex. (ISBN): Santarém, Amazonas, 8.xii.1963, leg. G. Marlier; 2 exs. (ISBN), 1 ex. (CMS): Manaus, Amazonas, 20.x.1963, leg. G. Marlier; 1 ex. (CMS): Ceara, artificial pond, 13.x.1997, leg. W. Rossi. PARAGUAY: 1 ex. (NMW), 1 ex. (CMS): Dep. Boquerón, M. Estigarribia, 24.ii.1992, leg. U. Drechsel.

Distribution: Bolivia (PACHECO 1975), Paraguay (SKALICKÝ 2002). First record for Argentina and Brazil.

### *Tropicus alcornis* MASCAGNI, 1989

Material examined: PARAGUAY: 6 exs. (SMNS), 1 ex. (CMS): Dep. San Pedro, W Vacajhù, Est. Triangulo, 24°35–40' S / 56°35–45' W, 180 m, 1/6.xi.1995, leg. F. Bretzendorfer & C. Häuser; 2 exs. (SMNS): Dep. San Pedro, Vacajhù, Est. Triangulo, 21/28.iii.1998, leg. K.F. Hohenstein; 5 exs. (NMW), 1 ex. (CMS): Dep. Boquerón, M. Estigarribia, 24.ii.1992, 5/9.v.1992, leg. U. Drechsel; 1 ex. (NMW), 1 ex. (CMS): Dep. Central, Aregua, 20.xii.1991, leg. U. Drechsel; 6 exs. (NMW), 1 ex. (CMS): Dep. San Pedro, Nueva Germania, 19/22.xi.1991, leg. U. Drechsel; 10 exs. (NMW), 2 exs. (CMS): Dep. Guaira, Calle Florida, 11.iv.1992, leg. U. Drechsel.

Distribution: Paraguay, Venezuela (MASCAGNI 1989), Bolivia (SKALICKÝ 2006).

### *Tropicus bilineatus* (CHEVROLAT, 1864)

Material examined: COSTA RICA: 1 ex. (SMNS): Puerto Viejo, Talamanca, 1/16.ii.1986, leg. M. & V. Gajek; 5 exs. (SMNS), 2 exs. (CMS): Puerto Viejo, 3.iv.1987, leg. M. & V. Gajek. MEXICO: 1 ex. (CMS): Guerrero, 7 km N Milpillas, 700 m, scrub on river, 13.viii.1986, leg. J. Rawlins & R. Davidson. NICARAGUA: 13 exs. (SEAN): León, UV light, 19.xi.1988, leg. J.M. Maes; 1 ex. (SEAN): León, UV light, 8.xi.1989, leg. J.M. Maes; 3 exs. (SEAN), 1 ex. (CMS): León, UV light, 11.ii.1993, leg. J.M. Maes; 1 ex. (SEAN), 1 ex. (CMS): Finca V. Hernandez, León, UV light, 6.xi.1989, leg. J.M. Maes; 1 ex. (SEAN), 1 ex. (CMS): Posoltega, UV light, 21.iii.1984, leg. Algodon; 2 exs. (SEAN), 1 ex. (CMS): Las Flores, Masaya, UV light, vi.1993, leg. C. Lecocq & I. Cantamessa; 16 exs. (SEAN), 3 exs. (CMS): Bio. Chococente, Carazo 11°30' N / 86°10' W, UV light (bosque tropical seco), 11/13.ix.1992, leg. Maes, Martinez & Lopez.

Distribution: Cuba (IVIE & STRIBLING 1984). First record for Costa Rica, Mexico and Nicaragua.

***Tropicus davidsoni* MASCAGNI, 1993**

Material examined: PARAGUAY: 8 exs. (NMW), 1 ex. (CMS): Dep. Boquerón, M. Estigarribia, 24.ii.1992, leg. U. Drechsel; 1 ex. (NMW), 1 ex. (CMS): Dep. Boquerón, M. Estigarribia, 5/9.v.1992, leg. U. Drechsel; 1 ex. (NMW): Dep. Guaira, Calle Florida, 11.iv.1992, leg. U. Drechsel; 1 ex. (CMS): Dep. San Pedro, Nueva Germania, 19/22.xi.1991, leg. U. Drechsel.

Distribution: Brazil (MASCAGNI 1993). First record for Paraguay.

***Tropicus imperator* PACHECO, 1964**

Material examined: PARAGUAY: 1 ex. (CMS): Rio Confuso, 1/16.ii.1937, leg. Vinogradoff.

Distribution: Argentina, Bolivia, Brazil (PACHECO 1964), Paraguay (SKALICKÝ 2002).

***Tropicus insidiosus* (GROUVELLE, 1896)**

Material examined: BRAZIL: 17 exs. (ISBN), 1 ex. (CMS): Santarém, Amazonas, 8.xii.1963, leg. G. Marlier; 1 ex. (ISBN): Santarém, Igarape Mapiri, Amazonas, 30.xi.1963, leg. G. Marlier; 2 exs. (ISBN), 1 ex. (CMS): Careiro, 7.x.1963, leg. G. Marlier.

Distribution: Brazil (PACHECO 1964).

***Tropicus lituratus* (KIESENWETTER, 1843)**

Material examined: DOMINICAN REPUBLIC: 1 ex. (ISBN): Puerto Plata, 5/18.vii.1992, leg. G. Haghebaert; 1 ex. (ISBN), 1 ex. (CMS): near Sosua, 5/18.vii.1992, leg. G. Haghebaert.

Distribution: St. Thomas (KIESENWETTER 1843), Virgin Islands (PACHECO 1964, sub *T. cithara* PACHECO), Dominica, Puerto Rico, St. John, St. Croix (IVIE & STRIBLING 1984).

***Tropicus milleri* MASCAGNI, 1993**

Material examined: ARGENTINA: 1 ex. (NMW), 1 ex. (CMS): Prov. Misiones, Iguacu, at light, 13.ii.1986, leg. Foerster. PARAGUAY: 7 exs. (NMW), 2 exs. (CMS): Dep. San Pedro, Nueva Germania, 19/22.xi.1991, leg. U. Drechsel; 1 ex. (NMW): Dep. Guaira, Calle Florida, 11.iv.1992, leg. U. Drechsel; 19 exs. (NMW), 2 exs. (CMS): Dep. Boquerón, M. Estigarribia, 24.ii.1992, 5/9.v.1992, leg. U. Drechsel.

Distribution: Paraguay (MASCAGNI 1993). First record for Argentina.

***Tropicus sanisidroensis* SKALICKÝ, 2002**

Material examined: PARAGUAY: 1 ex. (ZMHB): Asunción, viii.1988, leg. L.E. Peña.

Distribution: Paraguay (SKALICKÝ 2002).

***Tropicus squamosus* PACHECO, 1964**

Material examined: ARGENTINA: 2 exs. (ZMHB), 1 ex. (CMS), 1 ex. (CMF): Quimili, Santiago del Estero, 1.ii.1992, leg. L.E. Peña; 14 exs. (ZMHB), 1 ex. (CMS), 1 ex. (CMF): Beltrán, Santiago del Estero, 28/29.ii.1992, leg. L.E. Peña; 11 exs. (ZMHB), 1 ex. (CMS), 1 ex. (CMF): Beltrán, Santiago del Estero, 28/29.iii.1992, leg. L.E. Peña; 6 exs. (ZMHB), 1 ex. (CMS), 1 ex. (CMF): Telares, Santiago del Estero, 3.iii.1992, leg. L.E. Peña; 1 ex. (ZMHB): Ojo de Agua, Santiago del Estero, 4.iii.1992, leg. L.E. Peña; 2 exs. (ZMHB): Córdoba, leg. J. Frenzel. PARAGUAY: 3 exs. (ZMHB): Cobecionados en Asunción, 1912, leg. A. Barbero.

Distribution: Argentina, Bolivia (PACHECO 1964). First record for Paraguay.

***Tropicus vicinus* MILLER, 1992**

Material examined: BRAZIL: 1 ex. (ISBN): Santarém, Amazonas, 15.xii.1963, leg. G. Marlier; 1 ex. (CMS): Manaus, Amazonas, 20.x.1963, leg. G. Marlier; 1 ex. (ISBN): Lac Redondo, Amazonas, 7.x.1963, leg. G. Marlier. NICARAGUA: 1 ex. (SEAN): Las Flores, Masaya, UV light, vi.1987, leg. J.M. Maes; 1 ex. (SEAN): Las Flores, Masaya, UV light, 30.vi.1993, leg. C. Lecocq & I. Cantamessa; 1 ex. (CMS): Las Flores, Masaya, UV light, 30.v.1994, leg. Maes & Johnson; 7 exs. (SEAN), 3 exs. (CMS): Bio. Chococente, Carazo 11°30' N / 86°10' W, UV light, dry tropical forest, 11/13.ix.1992, leg. Maes, Martínez & López.

Distribution: Brazil (MILLER 1992). First record for Nicaragua.

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