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RESEARCH PAPER

Taxonomic revision of *Pygodiscodon* (Coleoptera: Cantharidae)

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Abstract. The Neotropical genus *Pygodiscodon* Wittmer, 1966 (Coleoptera: Cantharidae: Silinae: Silini) is revised. Six species are recognized as valid, three of which are herein proposed as new: *Pygodiscodon apicicornis* (Pic, 1910), *P. gurupi* sp. nov., *P. monoceros* sp. nov., *P. obscurus* Wittmer, 1966, *P. similis* sp. nov., and *P. touroulti* Constantin, 2010. *Pygodiscodon obscurus*, currently synonymized with *P. apicicornis*, is herein revalidated. A lectotype is designated for *P. apicicornis*. *Pygodiscodon apicicornis* and *P. touroulti* are recorded for the first time in Guyana and Suriname, and Brazil respectively. An identification key and a distributional map for the species are provided.

Key words. Coleoptera, Cantharidae, Silini, *Discodon*, distribution, taxonomy, new species, lectotype designation, key to species, Neotropical Region

Zoobank: http://zoobank.org/urn:lsid:zoobank.org:pub:CA1ECED6-3669-4FB5-8BF9-734CBC551131

Introduction

The genus *Pygodiscodon* was proposed by Wittmer (1966) based on a new species, *P. obscurum* Wittmer, 1966, described from Belém, State of Pará, Brazil. It is similar to *Discodon* Gorham, 1881, but differs in male characters, such as the shape of the outer claws on the mid- and hind tarsi with a small, fine tooth protruding in an acute angle, and a long constricted last tergite with two juxtaposed glandular pores at the apex. In *Discodon*, the claws of the mid- and hind tarsi of males are split at the apex, and the last tergite is broad, not elongate, and has a single glandular pore on either side. This species was later reported to occur in French Guiana by Constantin (2010a).

Constantin (2010b) then transferred *Discodon apicicorne* Pic, 1910, from French Guiana, to *Pygodiscodon* and synonymized it with *P. obscurum*, whilst he separately described *P. touroulti* Constantin, 2010, also from French Guiana.

However, a detailed comparison of additional specimens from Brazil and French Guiana revealed morphological differences in the abdomens and aedeagi of the supposed synonyms, implying the necessity of reassessment of their identities.

Herein, *Pygodiscodon* is revised, the species are redescribed and illustrated, *P. obscurum* is revalidated, and three species are proposed as new: *Pygodiscodon monoceros* sp. nov. from French Guiana, *P. gurupi* sp. nov. from the Maranhão State, northeastern Brazil, and *P. similis* sp. nov. from the Amazonas State, northern Brazil and Guyana. An identification key and a distributional map for the members of the genus are provided.

Material and methods

Acronyms of the institutions where the examined specimens are deposited are as follows:

BMNH Natural History Museum, London, England;
CCO Collection Robert Constantin, Saint-Lô, France;
CBDG Centre for Biological Diversity, University of Guyana, Georgetown, Guyana;
CZMA Coleção Zoológica do Maranhão, Caxias, Brazil;
INPA Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil;
MNHN Muséum national d'Histoire naturelle, Paris, France;
MPEG Museu Paraense Emílio Goeldi, Belém, Brazil;
MZSP Museu de Zoologia da Universidade de São Paulo, São Paulo, Brazil;
NHMB Naturhistorisches Museum Basel, Basel, Switzerland;
RMNH Naturalis Biodiversity Center, Leiden, Netherlands;
ZSMC Zoologische Staatssammlung München, Munich, Germany.

Morphological nomenclature and dissection methods follow Brancucci (1980) and Constantin (2015, 2017).

Specimens of *Pygodiscodon gurupi* sp. nov. were collected at Reserva Biológica do Gurupi (Rebio Gurupi) during a large project to inventory insects of Maranhão State, northeastern Brazil. *Pygodiscodon monoceros* sp. nov. were collected during surveys commissioned by the National Parc 'Parc amazonien de Guyane' and conducted by the Société Entomologique Antilles – Guyane (SEAG) on Mount Itoupé, French Guiana. *Pygodiscodon apicicornis* and *P. touroulti* were collected in series thanks to the large-scale inventories missioned to SEAG by the Department of Environment, Planning and Housing of French Guiana (DEAL) and the Amazonian Parc of French Guiana.

Photographs were taken with a Canon EOS Rebel T3i camera, equipped with a Canon MP-E 65mm macro lens, attached to a StackShot macro-rail. Multi-focal images were processed with ZereneStacker version 1.04 and edited in Adobe Photoshop CS6. Illustrations were produced in Adobe Illustrator CS6.

The general distribution map was created with Quantum GIS version 2.18.7-1 (available at qgis.org). Localities were obtained from specimens' labels and published literature sources (Wittmer 1966, Constantin 2010a,b). The map of French Guiana was produced with Carto-Fauna-Flora and Data-Fauna-Flora (Y. Barbier & P. Rasmond, Mons University, Belgium) on a background map by Eric Gaba.

Taxonomy

Pygodiscodon Wittmer, 1966

(Figs 1–58)

Pygodiscodon Wittmer, 1966: 411 (original description). Delkeskamp (1977): 245 (catalogue); Brancucci (1980): 290 (classification); Constantin (2010a): 40 (key); Constantin (2010b): 12 (faunistics); Constantin (2015): 5 (faunistics); Constantin (2016): 5 (key); Constantin (2017): 63 (key).

Type species. *Pygodiscodon obscurum* Wittmer, 1966 by monotypy.

Comparative diagnosis. Males of *Pygodiscodon* differ from *Discodon* in the outer claws on the mid- and hind tarsi with a small, fine tooth protruding in an acute angle (in *Discodon*, the outer claw is apparently split at the apex), and in the last tergite variously shaped, with impressions, constrictions and prominences, and a pair of juxtaposed glandular pores at the apex (in *Discodon*, the last tergite is usually broad and flat with single posterior glandular pore on either side).

Description. Body length: 5.0–8.8 mm. Head dark brown to black, sometimes light brown behind eyes; frons, clypeus and base of mandibles pale yellow to orange; apex of mandibles and palpi light to dark brown; antennae dark brown to black, sometimes antennomeres yellowish-white; pronotum pale yellow to orange with dark brown to black medial patch; legs light brown to black; thorax, elytra and abdomen dark brown to black. Head, antennae, pronotum, and elytra densely covered with short and thin pubescence.

Males: Head, including eyes, nearly as wide as pronotum; frons flat; occipital region convex; clypeus emarginated, slightly prominent medially; mandibles falciform, acute, without accessory teeth. Last maxillary and labial palpomeres securiform. Antennae (Figs 7–12) long, surpassing middle of elytra; antennomeres conical to subserrate, slightly compressed dorso-ventrally, with longitudinal lines. Eyes small and slightly prominent to large and very prominent. Pronotum wider than long; anterior margin slightly to broadly arched; lateral margins slightly emarginated, distinctly notched in basal third. Elytra almost parallel, wider medially, around twice longer than wide. Wings (Fig. 14) 'Silis type': radial cell $2R_1$ open, vein r incomplete, r-m not coinciding with r, Cu and A not divided, cu-a barely visible. Legs slender; tarsomeres increasing in length from pro- to hind leg; forth tarsomeres with basal transverse split; inner prothoracic tarsal claws (Fig. 15) broadly lobed basally; outer claws on meso- and metathoracic tarsal claws (Fig. 16) with small, fine tooth protruding in acute angle. Abdomen (Figs 17–34) slightly sclerotized; last ventrite bilobed; last tergite variously shaped, with impressions, constrictions and prominences; pair of juxtaposed apical glandular pores. Aedeagus (Figs 41–58): tegmen very short dorsally and long and broad ventrally, completely covering median lobe; parameres slender; median lobe broad and membranous; internal sac partially exposed, bearing spine-like sclerites.

Females: similar to males; eyes slightly smaller and less prominent; antennae shorter, without longitudinal lines; pronotum without lateral notches; tarsal claws simple; abdominal ventrite VII (Figs 35–40) entire, wider than long, lateral margins arched, distal margin with projecting tip; abdominal tergite VIII simple, without distinct impressions, constrictions or prominences.

Etymology. No etymology was given in the original description of *Pygodiscodon*. The name is derived from *Discodon* Gorham, 1881, established by this author on the notching in the sides of pronotum of males (*disco* refers to the centre of pronotum and *-odon* (m.) is the Greek word for tooth). Therefore, the name *Pygodiscodon* is a masculine (ICZN 1999, art. 30.1.2), and the mandatory changes in spellings of species names are henceforth made accordingly (ICZN 1999, art. 34.2).

Distribution. Guyana, Suriname, French Guiana, Brazil (Figs 59–60).

Key to species of *Pygodiscodon* Wittmer, 1966

1 Eyes large, prominent; anterior margin of pronotum broadly rounded, anterior angles indistinct; males: antennae strongly flattened; tergite VIII with a truncate apical border bearing a median, slender projection directed upwards (Figs 23–25). .... ***P. monoceros* sp. nov.**

– Eyes small, not prominent; pronotum subrectangular, anterior angles rounded; males: antennae slightly flattened; tergite VIII longer, with broader and stronger apical projections. 2

2 Antennae entirely black, sometimes with slightly lighter antennomeres X–XI; metathoracic coxae with unciform backwards-pointing projections (Fig. 13); males: straight longitudinal lines on antennomeres VI–XI (Fig. 8); abdominal tergite VIII with a short, broad and

Figs 1–6. Habitus of males of *Pygodiscodon* species. 1 – *Pygodiscodon apicicornis* (Pic, 1910); 2 – *P. gurupi* sp. nov.; 3 – *P. monoceros* sp. nov.; 4 – *P. obscurus* Wittmer, 1966; 5 – *P. similis* sp. nov.; 6 – *P. touroulti* Constantin, 2010. Scale bars = 2.0 mm.

truncate projection with glandular pores and a flap-like dorsal projection (Figs 20–22). ... ***P. gurupi* sp. nov.**

– Antennae black, except for pale yellow antennomeres XI, or IX and X; regularly shaped metathoracic coxae, without unciform projection; males: longitudinal lines not straight and not present on last two antennomeres; abdominal tergite VIII slender and prominent. 3

3 Antenommere X–XI yellowish white, legs brown; males: longitudinal lines from antennomeres VI–IX (Fig. 12); last abdominal ventrite with lobes long and acute on the apex (Fig. 32); abdominal tergite VIII with a short median projection without dorsal tooth (Figs 32–34). ..... ***P. touroulti*** Constantin, 2010

– Antennomeres IX–X yellowish white, legs mostly light brown to pale yellow; males: longitudinal lines from antennomeres III or IV to VI or VII, not straight, varying in length and width; last abdominal ventrite formed by a pair of lobes with rounded apex; abdominal

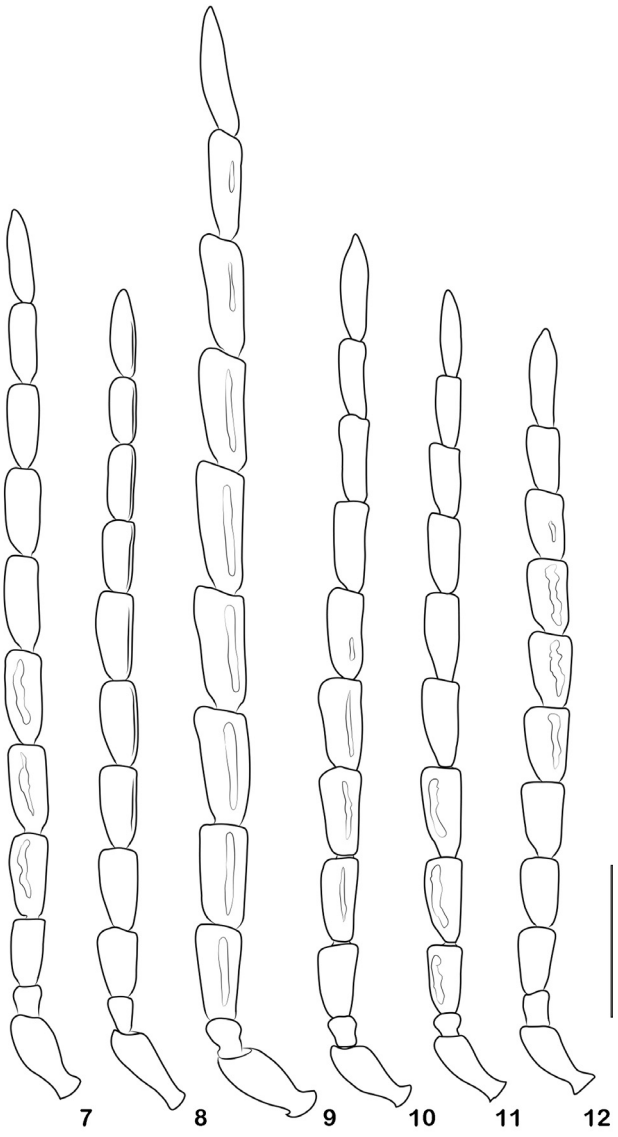
tergite VIII with a long median projection with a dorsal tooth (Figs 17–19, 26–31). 4

4 Males: longitudinal lines from antennomeres III to V (Fig. 11); abdominal tergite VIII (Figs 29–31) with a trapezoidal median projection with a pair of dorsal longitudinal ridges culminating in an acute, upwards--pointing tooth. ..... ***P. similis* sp. nov.**

– Males: longitudinal lines from antennomeres III or IV to VI or VII; abdominal tergite VIII with a parallel-sided median projection. 5

5 Males: abdominal tergite VIII (Figs 26–28) with a slender median projection; dorsal surface with a large, rounded, apical tooth. .... ***P. obscurus*** Wittmer, 1966

– Males: abdominal tergite VIII (Figs 17–19) with a broader median projection; dorsal surface with a pair of dorsal longitudinal ridges and a central apical tooth. ..... ***P. apicicornis*** (Pic, 1910)



Figs 7–12. Antennae of *Pygodiscodon* species (dorsal view). 7 – *Pygodiscodon apicicornis* (Pic, 1910); 8 – *P. gurupi* sp. nov.; 9 – *P. monoceros* sp. nov.; 10 – *P. obscurus* Wittmer, 1966; 11 – *P. similis* sp. nov.; 12 – *P. touroulti* Constantin, 2010. Scale bars = 1.0 mm.

Pygodiscodon apicicornis (Pic, 1910)

(Figs 1, 7, 17–19, 35, 41–43)

Discodon apicicorne Pic, 1910: 43 (original description). Delkeskamp (1939): 155 (catalogue); Blackwelder (1945): 364 (catalogue); Delkeskamp (1977): 246 (catalogue).

Pygodiscodon apicicorne: Constantin (2010b): 12 (faunistics), Constantin (2017): 64 (key).

Type locality. French Guiana, St Laurent du Maroni, fixed by the present lectotype designation.

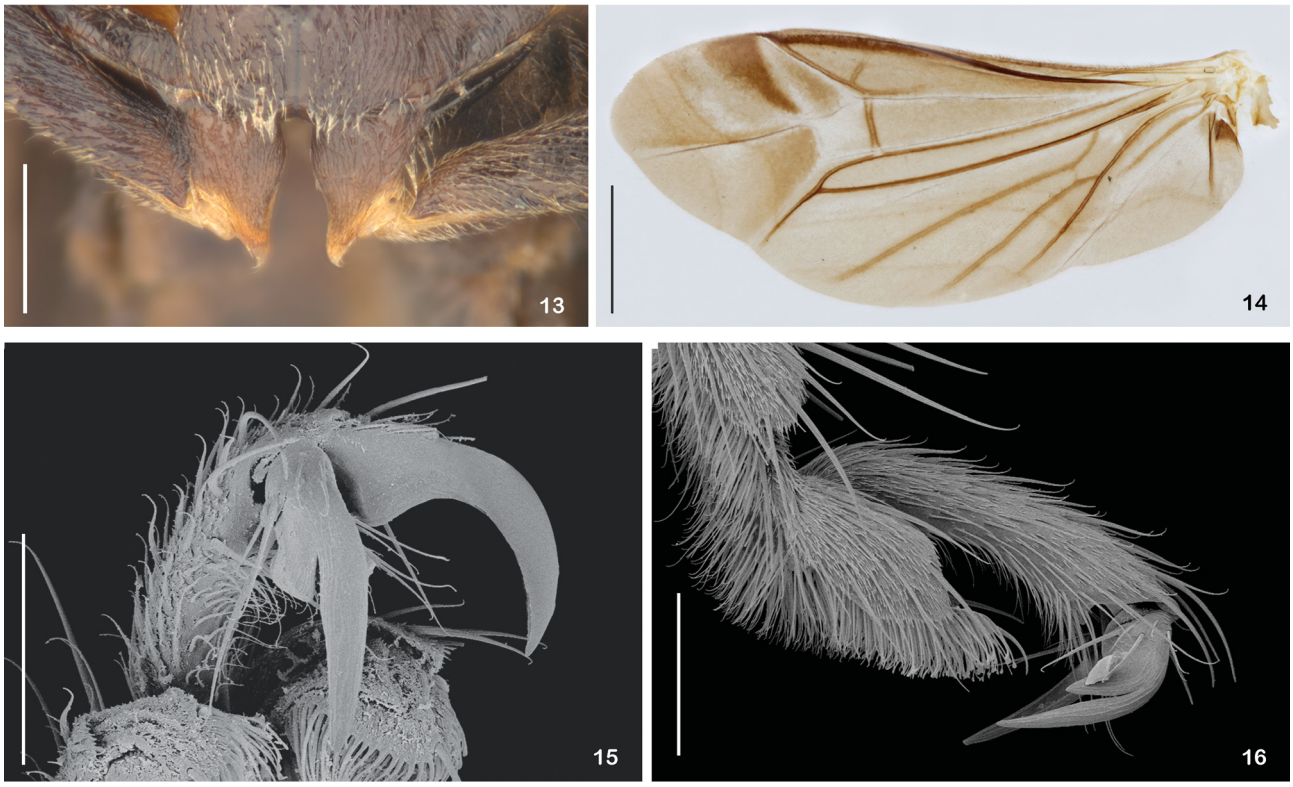
Type material examined. *Discodon apicicorne* Pic, 1910: Lectotype: ♂, present designation: 'Guyane Française | St Laurent | du Maroni || collection Le Moult || Discodon apicicorne n sp [handwritten] || type [handwritten]' (MNHN). Paralectotypes: 1 ♀, 'Guyane Française | Nouveau Chantier || collection Le Moult' (MNHN); 1 ♀, 'Charvein, Guyane Fr. [handwritten]' (MNHN).

Additional material examined. GUYANA: Mazaruni (Clearing), 23.viii.1937, 1 ♂; 28.viii.1937, 1 ♂; 20.ix.1937, 1 ♂, Richards & Smart leg. (BMNH, 1937-776); 2nd Growth (Low Forest), 19.viii.1937, 1 ♂, Richards & Smart leg. (BMNH, 1937-776); Kaieteur (Savannah), 5.ix.1937, 1 ♂, Richards & Smart leg. (BMNH, 1937-776); Essequibo River (1st Falls), 4.x.1929, 1 ♂, Oxf. Univ. Exped. leg. (BMNH, 1929-485); Kartabo, vi.1922, 1 ♂, M. D. Haviland leg., d.d. Collegium Newnhamense (BMNH, 2012-16). **SURINAME: Coronie:** Tottnes (nr airstrip) [5.883369, -56.314974], 9.vi.1963, 1 ♂, J & E v d Vecht-B leg. (RMNH); Moengo [5.607838, -54.399491], 10.iv.1939, 1 ♂, Geijskes leg. (RMNH); Onverwacht, Biliton [5.605469, -55.140245], 29.xi.1968, 1 ♂, 1.xii.1968, 1 ♂ P. H. v Doesburg Jr. leg. (RMNH); Republiek, 6.–11.v.1963, 1 ♂, P. H. v Doesburg Jr. leg. [5.494946, -55.206944] (RMNH), 6.–16.v.1963, 3 ♂♂ 2 ♀♀, J & E v d Vecht-B (RMNH); [5.495459, -55.206514] v.1963, 1 ♀ (Malaise-trap), J. v d Vecht leg. (RMNH); Copieweg, nr Lelydorp, 28.vii.1978, 1 ♂, A. van Assen [5.666669, -55.233331] (RMNH). **FRENCH GUIANA:** Réserve Trésor, 04°36′37.6″N, 52°16′44.5″W, cca 225 m, xii.2009 8 ♂♂ (window trap), S. Brûlé leg. (BMNH, 2010-62); Montagne des Chevaux, 6 km W of Roura, 4°43′N, 52°25′W, 93 m, 6.vi.2009, 1 ♂ (window trap), S. Brûlé, P. Dalens & E. Poirier leg. (MZSP, 5271); Station Nourages, saut Pararé, 4°01′N, 52°41′W, 120 m, 23.xi.2009, 1 ♀ (window trap), P. H. Dalens, S. Brûlé & E. Poirier leg. (MZSP, 5272); 4°02′16.1″N, 52°40′21.1″W, x.2009, 1 ♀ (window trap), S. Brûlé leg, (BMNH, 2010-62).

Additional published records. FRENCH GUIANA: Haute-Camopi, Mont Saint-Marcel 2°23′03″N, 53°00′37″W (CCO); Mana, Angoulême, 5°24′N, 53°39′W (CCO); Maripa-Soula-Massif de Mitaraka, camp de base, 2°14′1″N, 54°27′38″W, 300 m a.s.l. (MNHN, CCO); Maripa-Soula, Mont Tabulaire Itoupé, 3°01′20″N, 53°05′41″W, 600 m a.s.l., (CCO); Matoury, Mont Grand-Matoury, 4°51′N, 52°21′W (CCO); Saint-Elie, Réserve de la Trinité, savane-roche de la Haute-Koursibo, 4°19′N, 53°17′W (CCO); Saint-Laurent du Maroni, village Espérance, 5°25′N, 54°03′W (CCO); Saül, belvédère de la Montagne Pelée, 3°37′22″N, 53°12′57″W (CCO). All published by Constantin (2010b).

Description. Body length: 5.1–6.7 mm. Head black, dark brown behind eyes; frons, clypeus and base of mandibles light brown to testaceous, slightly translucent; apex of mandibles light brown; palpi dark brown. Antennae black; first antennomere slightly lighter ventrally and antennomeres IX–X and base of XI yellowish-white. Pronotum pale yellow with wide medial black patch stretching longitudinally from anterior to posterior margins. Elytra, thorax and abdomen dark brown; legs light brown, darker from middle of tibiae.

Male (Fig. 1): Head as long as wide, broadly rounded behind eyes, densely pubescent; occipital region and frons convex; clypeus wide, emarginated anteriorly. Eyes rounded, rather prominent. Maxillary palpi elongate, last palpomere slender and slightly securiform. Antennae (Fig. 7) long, slightly serrate and compressed dorso-ventrally; dorsal surface of antennomeres IV to VI with irregular



Figs 13–16. Legs and wing of *Pygodiscodon* species. 13 – Metathoracic coxae, *P. gurupi* sp. nov. 14–16 – *P. obscurus* Wittmer, 1966: 14 – Left wing (dorsal view); 15 – Prothoracic tarsal claws; 16 – Mesothoracic tarsal claws. Scale bars: 13 = 0.5 mm; 14 = 1.0 mm; 15–16 = 0.1 mm.

longitudinal line, not straight, varying in length and width. Pronotum densely pubescent, transverse, 1.6 times wider than long; lateral margins slightly emarginated, explanate upwards and shortly notched before basal angles. Elytra finely rugulose, densely covered with erect brownish setae; each elytron 4.5 times longer than wide. Legs slender; tarsomeres increasing in size from pro- to metathoracic legs; inner claw of prothoracic legs broadly lamellate at base; meso- and metathoracic tarsal claws with sharp protruding tooth. Last abdominal ventrite (Fig. 17) bilobed, broadly rounded posteriorly; abdominal tergite VIII (Figs 17–19) elongate, with shallow latero-posterior compressions and strongly constricted posteriorly, forming narrow apical projection bearing two contiguous glandular openings at apex; dorsal surface of apical projection with pair of parallel ridges and short median tooth. Aedeagus (Figs 41–43): ventral wall of tegmen long and broad, lateral sides slightly convergent, apical margin rounded; short setae along lateral and apical margins and in narrow longitudinal fringe ventrally; parameres long, surpassing dorsal margins of tegmen; apex obtuse, bearing a few long setae; median lobe broad and membranous; internal sac short, partially exposed beyond median lobe, with two pairs of sclerites; ventral sclerites laterally flattened, apex rounded with tip pointing dorso-laterally; dorsal sclerites long, slender, dorsally curved, apex rounded.

Female: similar to male but antennae lacking longitudinal lines; pronotum not notched laterally; tarsal claws simple; abdominal ventrite VII (Fig. 35) 1.9 times wider than long, not divided, lateral margins arched, distal margin with small projecting tip; abdominal tergite VIII broad and simple.

Differential diagnosis. Similar to *P. obscurus* and *P. similis* sp. nov. in colour pattern. Elytra and pronotal patch darker; last abdominal tergite of males narrower with pair of dorsal longitudinal ridges culminating in small, acute, upwards-pointing tooth.

Distribution. Guyana, Suriname and French Guiana (Figs 59–60).

Pygodiscodon gurupi sp. nov.

(Figs 2, 8, 13, 20–22, 36, 44–46)

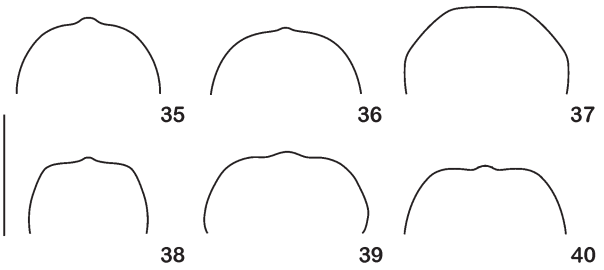
Type locality. Brazil, Maranhão, Bom Jardim, Reserva Biológica do Gurupi.

Type material. Holotype: ♂, 'Brasil (MA), Bom Jardim | REBIO–Res. Biol. Gurupi | Armad. Luminosa Suspensa || 17–27.I.2010, F. Limeira- | de-Oliveira, J. T. Câmara | & O.A. Silva cols. || HOLOTYPE | Pygodiscodon | gurupi | Biffi & Constantin' (CZMA). Paratypes: 'Brasil (MA), Bom Jardim | REBIO–Res. Biol. Gurupi | Armad. Luminosa Base || 17–27.I.2010, A. A. T. | Sousa, M. B. Aguiar Neto | & J. O. A. Silva cols. || MZSP 10251 || PARATYPE | Pygodiscodon | gurupi | Biffi & Constantin' (1 ♂ MZSP 10251, 1 ♂ CZMA); 'Brasil (MA), Bom Jardim | REBIO–Res. Biol. Gurupi | Armad. Luminosa Base ||, 01–05.I.2010, M.M. | Abreu, E. A. S. Barbosa & | A. A. Santos cols. || MZSP 10252 || PARATYPE | Pygodiscodon | gurupi | Biffi & Constantin' (1 ♀ MZSP 10252).

Description. Body length: 6.1–7.0 mm. Head black; frons, clypeus and base of mandibles light brown to testaceous, slightly translucent; apex of mandibles light brown; palpi dark brown. Antennae black; first antennomere slightly lighter at apex and antennomeres X–XI sometimes light brown to yellowish-brown. Pronotum orange-yellow with wide medial black patch stretching longitudinally from anterior to posterior margins. Elytra dark brown; thorax, legs and abdomen dark brown and apex of tergite VIII reddish-brown.

Figs 17–25. Abdominal apex of *Pygodiscodon* species (ventral, dorsal and lateral views). 17–19 – *P. apicicorne* (Pic, 1910); 20–22 – *P. gurupi* sp. nov.; 23–25 – *P. monoceros* sp. nov. Scale bar = 1.0 mm.

Figs 26–34. Abdominal apex of *Pygodiscodon* species (ventral, dorsal and lateral views). 26–28 – *P. obscurus* Wittmer, 1966; 29–31 – *P. similis* sp. nov.; 32–34 – *P. touroulti* Constantin, 2010. Scale bar = 1.0 mm.



Figs 35–40. Abdominal ventrite VII of females of *Pygodiscodon* species, ventral view. 35 – *Pygodiscodon apicicornis* (Pic, 1910); 36 – *P. gurupi* sp. nov.; 37 – *P. monoceros* sp. nov.; 38 – *P. obscurus* Wittmer, 1966; 39 – *P. similis* sp. nov.; 40 – *P. touroulti* Constantin, 2010. Scale bars = 0.5 mm.

Male (Fig. 2). Head as long as wide, broadly rounded behind eyes, densely pubescent; occipital region and frons convex; clypeus wide, emarginated anteriorly. Eyes rounded, rather prominent. Maxillary palpi elongate, last palpomere slender and slightly securiform. Antennae (Fig. 8) long, slightly serrate and compressed dorso-ventrally; dorsal surface of antennomeres V–XI with narrow, straight and smooth longitudinal line. Pronotum densely pubescent, transverse, 1.6 times wider than long; lateral margins slightly emarginated, explanate upwards and shortly notched before basal angles. Elytra finely rugulose, densely covered with erect greyish setae; each elytron 5.2 times longer than wide. Legs slender; metathoracic coxae (Fig. 13) with unciform backwards-pointing projections; mesothoracic femur arched; tarsomeres increasing in size from pro- to metathoracic legs; inner claw of prothoracic tarsus broadly lamellate at base; meso- and metathoracic tarsal claws with sharp protruding tooth. Last abdominal ventrite (Fig. 20) bilobed, broadly rounded posteriorly; abdominal tergite VIII (Figs 20–22) elongate, conical and strongly constricted posteriorly with broad, elliptical, truncate apical projection bearing two contiguous glandular openings at apex and further setose dorsal flap-like projection. Aedeagus (Figs 44–46): ventral wall of tegmen with two broad, rounded lobes pointing ventrally and centrally with tuft of long setae at apex; parameres dorsally, shorter than median lobe bearing long and thick apical setae; median lobe broad and membranous, shorter than internal sac; internal sac with two pairs of spine-like sclerites; ventral sclerites gradually acute and curved ventrally, protruding slightly beyond apex of tegmen; dorsal sclerites shorter than ventral sclerites, slightly curved dorsally and laterally and bearing preapical lateral tooth.

Female. Similar to male but antennae lacking longitudinal lines; pronotum not notched laterally; tarsal claws simple; abdominal ventrite VII (Fig. 36) 2.4 times wider than long, not divided, lateral margins broadly rounded, distal margin with short and broad projecting tip; abdominal tergite VIII broad and simple.

Differential diagnosis. Colour pattern similar to *P. monoceros* sp. nov. and *P. touroulti*. *Pygodiscodon gurupi* sp. nov. differs in the antennal lines narrow and straight, present on antennomeres VI–XI in males; metathoracic coxae with unciform backwards-pointing projections in males; last abdominal tergite of males with short, broad and truncate projection and flap-like dorsal projection.

Etymology. The specific epithet is a noun in apposition. It is derived from the name of the reserve where the species was collected, an area continuously threatened by land conflicts and illegal agriculture, livestock and timber trading.

Distribution. Brazil: Maranhão (Fig. 59).

Pygodiscodon monoceros sp. nov.

(Figs 3, 9, 23–25, 37, 47–49)

Type locality. French Guiana, Maripasoula, Mont Tabulaire Itoupé.

Type material: Holotype: ♂, 'Guyane | Mont Tabulaire-Itoupé | 3°01′19″N-53°05′03″W [provided in WGS84 geodesic system] | alt. 830 m, automatic light trap pink white LED | 1.XII.2014, SEAG, P. H. Dalens, S. Fernandez, E. Poirier leg || HOLOTYPE | *Pygodiscodon* | *monoceros* | Biffi & Constantin' (MNHN). Paratypes: 'Guyane | Mont Tabulaire-Itoupé | 3°01′19″N-53°05′03″W | alt. 800m, auto-LT Pink LED | 1.XII.2014, SEAG & Dalens || Paratype | Pygodiscodon | monoceros | Biffi & Constantin' (2 ♂♂ 3 ♀♀ MZSP, 5165–5170); [same locality and collector but] 25.XI.2014, 250W UV light trap, 1 ♂ 1 ♀ (CCO); *idem*, 25.XI.2014, automatic light trap with white LED, 5 ♂♂ 1 ♀ (1 MNHN, 5 CCO); *idem*, 26.XI.2014, automatic light trap with blue LED, 4 ♂♂ 1 ♀ (3 MNHN, 2 CCO); *idem*, 26.XI.2014, automatic light trap with white LED, 1 ♀ (CCO); *idem*, 1.XII.2014, automatic light trap with white LED, 3 ♂♂ (2 MNHN, 1 CCO); *idem*, 1.XII.2014, automatic light trap with blue LED, 1 ♂ 1 ♀ (BMNH); *idem*, 8.I.2016, conventional mercury vapor light trap, 1 ♂ (CCO); *idem*, 11.I.2016, automatic light trap with GemLight (one green, one UV) LED, 1 ♂ 1 ♀ (CCO); *idem*, 16.I.2016, automatic light trap with blue LED, 1 ♂ (CCO); *idem*, 16.I.2016, Malaise SLAM, 1 ♂ 1 ♀ (CCO); *idem*, 16.I.2016, Malaise trap #3, length 6 m, 1 ♂ 3 ♀♀ (CCO); *idem*, 16.I.2016, altitude 600m, automatic light trap with white LED, 1 ♂ (CCO); *idem*, 16.I.2016, altitude 600m, automatic light trap with GemLight LED, 1 ♂ (CCO).

Description. Body length: 6.8–8.2 mm. Head black; frons and clypeus yellow, mandibles brownish-yellow; palpi brown, apex of distal palpomere yellow. Antennae brown, antennomeres X–XI yellow, except base of X and tip of XI. Pronotum orange-yellow with wide medial black patch stretching longitudinally, not reaching posterior margin. Elytra dark brown; thorax, abdomen and legs brown, base of femora reddish-brown.

Male (Fig. 3). Head as long as wide, rounded behind eyes, densely pubescent; occipital region and frons convex; clypeus wide, emarginated anteriorly. Eyes rounded, very prominent. Maxillary palpi elongate, last palpomere slender and slightly securiform. Antennae (Fig. 9) long, serrate and compressed dorso-ventrally; dorsal surface of antennomeres III–X with broad, irregular longitudinal line. Pronotum densely pubescent, transverse, 1.5 times wider than long; lateral margins slightly emarginated, explanate upwards and shortly notched before basal angles. Elytra finely rugous, densely covered with erect greyish setae; each elytron 5.0 times longer than wide. Legs slender; tarsomeres increasing in size from pro- to metathoracic legs; inner claw of prothoracic tarsus broadly lamellate at base, meso- and metathoracic tarsal claws with sharp protruding tooth. Last abdominal ventrite (Fig. 23) bilobed, truncate posteriorly; last abdominal tergite (Figs 23–25) broadly rounded, with pair of lateral lobes directed posteriorly and apical hood-like projection bearing pair of juxtaposed glandular openings and single

terminal slender digitiform projection directed upwards. Aedeagus (Figs 47–49): ventral wall of tegmen long and broad, lateral sides slightly rounded, apical margin truncate with short median incision; parameres slender, longer than median lobe, arched internally, bearing long and thick internal setae; median lobe broad and membranous, much shorter than internal sac; internal sac with robust sclerite divided in spine-like sclerites; ventral sclerite very broad with divided, acute lateral apices; dorsal sclerites curved dorsally and laterally, divided in two strong spine-like projections.

Female. Similar to male but eyes much smaller, not prominent, antennae lacking longitudinal lines; pronotum not notched laterally; tarsal claws simple; abdominal ventrite VII (Fig. 37) 2.1 times wider than long, not divided, lateral margins arched, distal margin with short and broad projecting tip; abdominal tergite VIII broad and simple.

Differential diagnosis. Colour pattern similar to *P. gurupi* sp. nov. and *P. touroulti*. Eyes larger and more prominent; antennae longer, antennal lines from antennomeres III–X; last abdominal tergite of males rounded, with slender terminal digitiform projection directed upwards.

Etymology. The specific epithet is a noun in apposition. It recalls the singular character of the horn adorning the apex of the pygidium.

Distribution. French Guiana (Figs 59–60).

Pygodiscodon obscurus Wittmer, 1966 stat. restit.

(Figs 4, 10, 14–16, 26–28, 38, 50–52)

Pygodiscodon obscurum Wittmer, 1966: 411 (original description); Delkeskamp (1977): 245 (catalogue); Constantin (2010a): 40 (distribution), Constantin (2010b): 12 (as synonym of *P. apicicorne* (Pic, 1910)).

Type locality. Brazil, Pará, Belém ('Utinga bei Belém').

Type material examined. Holotype: ♂, 'Brasilien | Utinga bei | Belém/Pará | 17.X.1962 | C. Lindemann || 235 || Holotype || *Pygodiscodon obscurum* Wittm. | det. W. Wittmer' (ZSMC).

Additional material examined. Pará: Belém-Marituba, 10.vi.1961, 1 ♂, J. & B. Bechyné leg. (MPEG); same locality, 24.x.1961, 2 ♂♂ 1 ♀, J. & B. Bechyné leg. (1 ♂ 1 ♀ MZSP, 10253–10254, 1 ♂ MPEG); Belém-Instituto Agronômico do Norte, 10.xii.1960, 1 ♂, J. & B. Bechyné leg. (MPEG), 2.viii.1962, 1 ♂ 1 ♀, J. Bechyné leg. (MZSP, 10255–10256), 17.x.1962, 1 ♂, J. & B. Bechyné leg. (MZSP, 10257); Belém-Mocambo, 17.iii.1977, 1 ♂, N. Guimarães leg. (MPEG), 24.xi.1977, 1 ♂, 6.ix.1978, 1 ♂, 21.ix.1978, 1 ♂, M. F. Torres leg. (MPEG), 28.xi.1977, 1 ♂, M. F. Torres leg. (MZSP, 10258); Belém-Utinga, 30.xii.1960, 1 ♀, J. & B. Bechyné leg. (MPEG); Benevides, 15.vi.1961, 1 ♂, J. & B. Bechyné leg. (MPEG); Santa Isabel do Pará, 30.iii.1962, 1 ♂, J. Bechyné leg. (MZSP, 5173).

Description. Body length: 5.1–6.3 mm. Head black; frons, clypeus and base of mandibles light brown to testaceous, slightly translucent; apex of mandibles light brown; palpi dark brown. Antennae black; first antennomere slightly lighter ventrally and antennomeres IX–X yellowish-white. Pronotum pale yellow with wide medial black patch stretching longitudinally from anterior to posterior margins. Elytra dark brown; legs light brown, darker from middle of tibiae, thorax and abdomen dark brown.

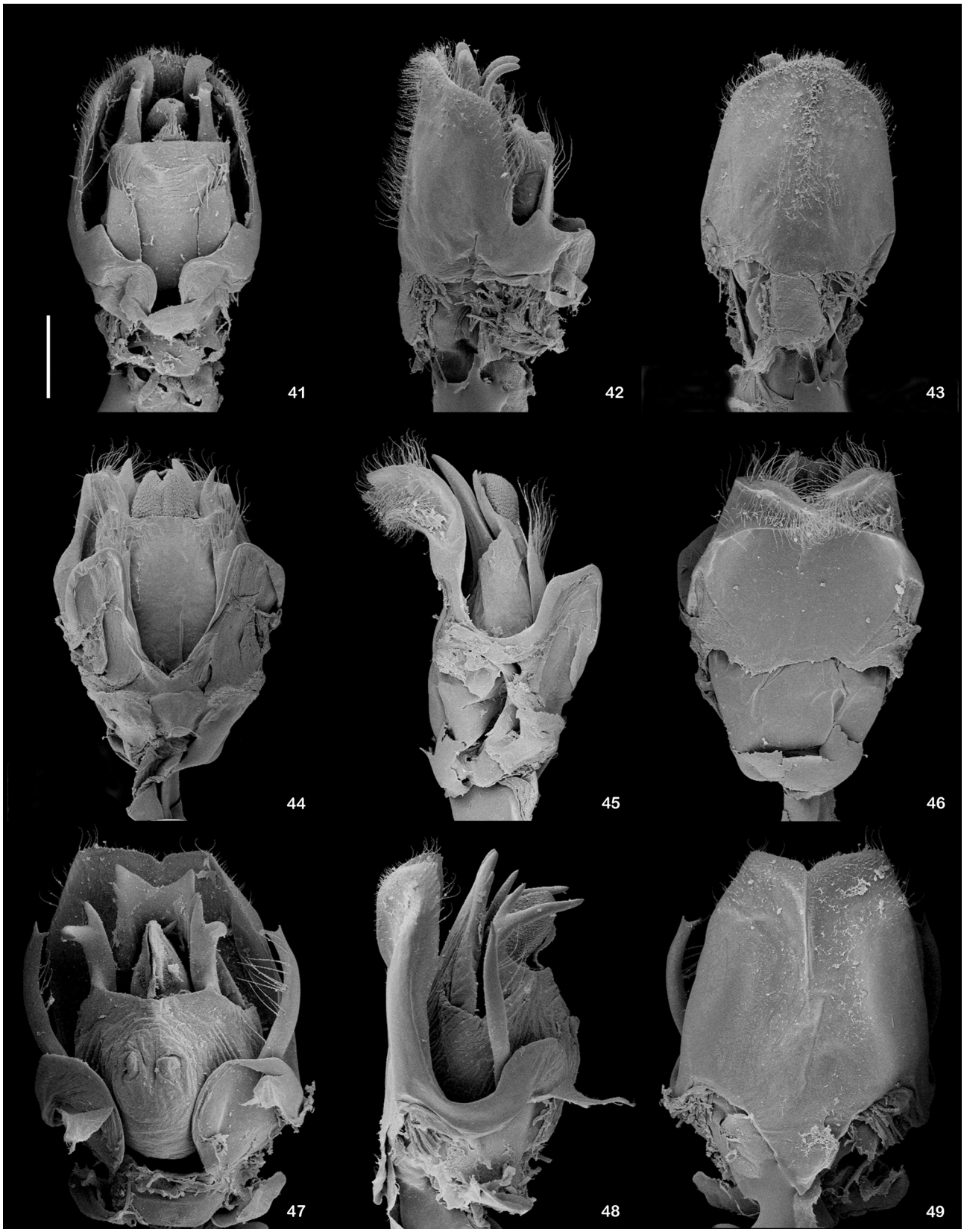
Male (Fig. 4). Head as long as wide, broadly rounded behind eyes, densely pubescent; occipital region and frons convex; clypeus wide, emarginated anteriorly. Eyes rounded, rather prominent. Maxillary palpi elongate, last palpomere slender and slightly securiform. Antennae (Fig. 10) long, serrate and compressed dorso-ventrally; dorsal surface of antennomeres IV to VI (sometimes also III and VII) with irregular longitudinal line, not straight, varying in length and width. Pronotum densely pubescent, transverse, 1.6 times wider than long; lateral margins slightly emarginated, explanate upwards and shortly notched before basal angles. Elytra finely rugous, densely covered with erect brownish setae; each elytron 4.5 times longer than wide. Legs slender; tarsomeres increasing in size from pro- to metathoracic legs; inner claw of prothoracic legs (Fig. 15) broadly lamellate at base; meso- and metathoracic tarsal claws with sharp protruding tooth (Fig. 16). Last abdominal ventrite (Fig. 26) bilobed, broadly rounded posteriorly; abdominal tergite VIII (Figs 26–28) elongate, with shallow latero-posterior compressions and strongly constricted posteriorly forming narrow apical projection bearing two contiguous glandular openings at apex; dorsal surface of apical projection with short protuberance. Aedeagus (Figs 50–52): ventral wall of tegmen long and broad, lateral sides slightly convergent, apical margin rounded with short median incision; short setae along lateral and apical margins and in narrow longitudinal fringe ventrally; parameres very short, slightly surpassing dorsal margins of tegmen; apex obtuse, bearing a few long setae; median lobe broad and membranous, longer than internal sac; internal sac short, hidden inside median lobe, except for pair of sclerites; dorsal sclerites strongly flattened laterally, apex truncate, projecting dorso-laterally; ventral sclerites longer, flattened laterally, tips pointing laterally.

Female. Similar to male but antennae lacking longitudinal lines; pronotum not notched laterally; tarsal claws simple; abdominal ventrite VII (Fig. 38) 1.6 times wider than long, not divided, lateral margins arched, distal margin with small projecting tip; abdominal tergite VIII broad and simple.

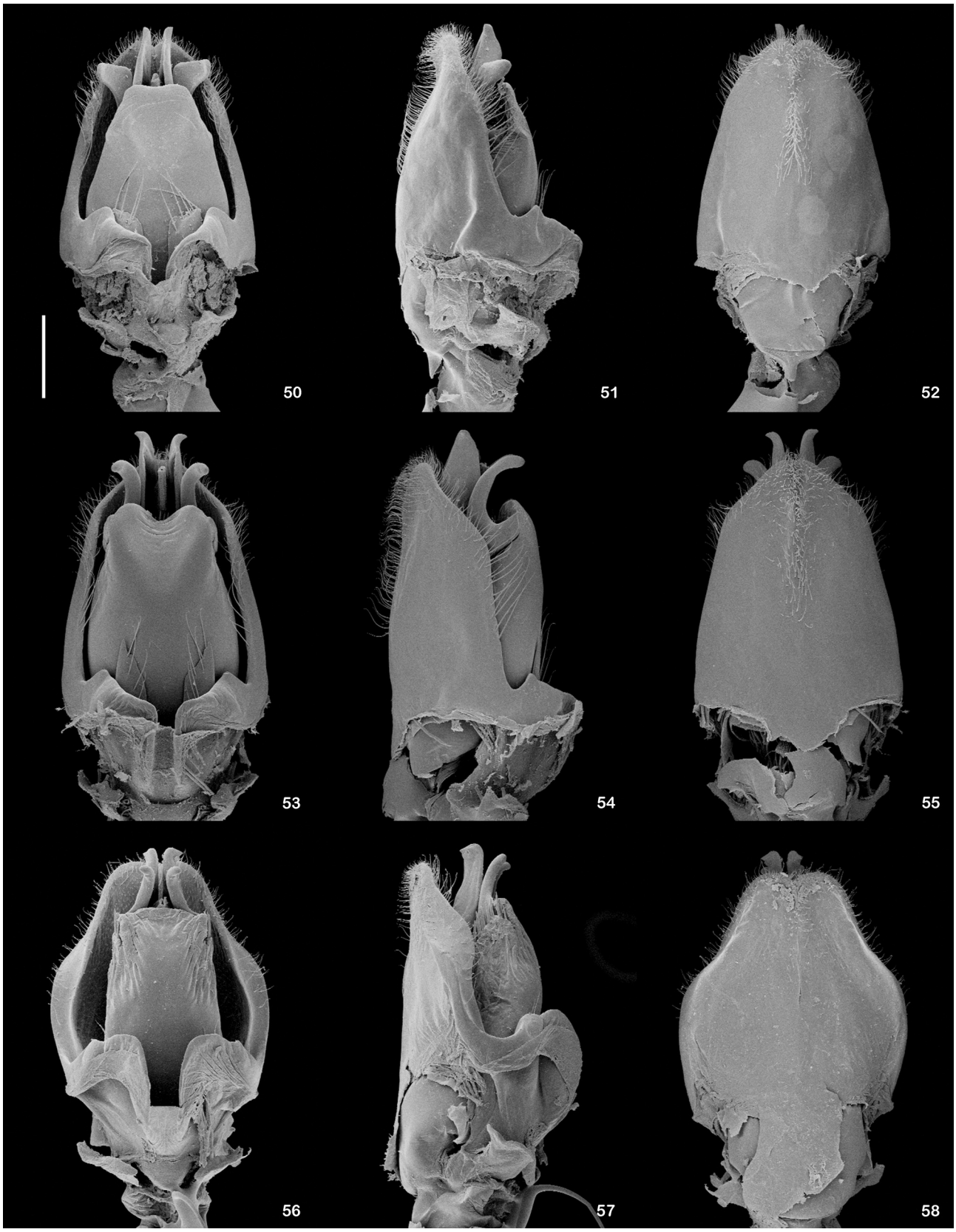
Differential diagnosis. Similar to *P. apicicornis* and *P. similis* sp. nov. Last abdominal ventrite of males bilobed, with rounded apex; last abdominal tergite of males similar to *P. apicicornis*, with shallow latero-posterior compressions and strongly constricted posteriorly, forming longer and narrower apical projection; dorsal surface without ridges, apical tooth shorter and rounded.

Distribution. Brazil, Pará state. All examined specimens were collected in the type locality or its surroundings (Fig. 59).

Remarks. Constantin (2010b) compared the syntypes of *P. apicicornis* (Pic, 1910) with the holotype of *P. obscurus* Wittmer, 1966 and found no significant differences between them, thus proposed the synonymy. Here the holotype of *P. obscurus* was re-examined and a greater quantity of specimens from the type locality was dissected and compared with specimens of *P. apicicornis*, showing constant morphological differences in the aedeagus and abdominal tergite VIII of males and abdominal ventrite VII of males and females. Such differences support the revalidation of *P. obscurus* as a valid species.



Figs 41–49. Aedeagi of *Pygodiscodon* species (ventral, lateral and dorsal views). 41–43 – *Pygodiscodon apicicornis* (Pic, 1910); 44–46 – *P. gurupi* sp. nov.; 47–49 – *P. monoceros* sp. nov. Scale bar = 0.2 mm.



Figs 50–58. Aedeagi of *Pygodiscodon* species (ventral, lateral and dorsal views). 50–52 – *P. obscurus* Wittmer, 1966; 53–55 – *P. similis* sp. nov.; 56–58 – *P. touroulti* Constantin, 2010. Scale bar = 0.2 mm.

Pygodiscodon similis sp. nov.

(Figs 5, 11, 29–31, 39, 53–55)

Type locality. Brazil, Amazonas, Manaus, Reserva Ducke.

Type material. Holotype: ♂, 'BRASIL. *Amazonas*, Manaus | Reserva Ducke | i.1996 | Armadilha malaise | MGV Barbosa Col. || HOLOTYPE | Pygodiscodon | similis | Biffi & Constantin' (INPA). Paratypes: 'BRASIL. *Amazonas*, Manaus | Reserva Ducke | iv.1995 | Armadilha malaise | MGV Barbosa Col. || PARATYPE | Pygodiscodon | similis | Biffi & Constantin' (1 ♂ MZSP, 5195); 'BRASIL. *Amazonas*, Manaus | Reserva Ducke, Igarapé Tinga | Arm. suspensa, 20m | 17–27.I.2005 Henriques A. leg || PARATYPE | Pygodiscodon | similis | Biffi & Constantin' (1 ♂ INPA)'; 'Manaos | ~~Aug.~~ 74 || 18. || Amazons. | (Trail.) | 97-71 || *Pygodiscodon* | *apicicorne* | (Pic, 1910) ♀ | det. M. Geiser 2014 || PARATYPE | Pygodiscodon | similis | Biffi & Constantin' (1 ♀ BMNH); 'GUYANA, Region 8 | Iwokrama Research Centre, | N4°40′ W58°41′, ca 60m | 17-21.VI.2014, general collecting | Michael Geiser & Roy Canty leg || BMNH {E} 2014-131 | Biodiversity Initiative || BMNH(E) | 1499483 || *Pygodiscodon* | *apicicorne* | (Pic, 1910) ♂ | det. M. Geiser 2014 || PARATYPE | Pygodiscodon | similis | Biffi & Constantin' (1 ♂ BMNH); 'GUYANA, Region 8 | Iwokrama Research Centre, | N4°40′ W58°41′, ca 60m | 17-21.VI.2014, general collecting | Michael Geiser & Roy Canty leg || BMNH {E} 2014-131 | Biodiversity Initiative || BMNH(E) | 1499401 || *Pygodiscodon* | *apicicorne* | (Pic, 1910) ♂ | det. M. Geiser 2014 || PARATYPE | Pygodiscodon | similis | Biffi & Constantin' (1 ♂ CBDG); 'GUYANA, Region 8 | Iwokrama Research Centre, | N4°40′ W58°41′, ca 60m | 17-21.VI.2014, general collecting | Michael Geiser & Roy Canty leg || BMNH {E} 2014-131 | Biodiversity Initiative || BMNH(E) | 1499402 || *Pygodiscodon* | *apicicorne* | (Pic, 1910) ♂ | det. M. Geiser 2014 || PARATYPE | Pygodiscodon | similis | Biffi & Constantin' (1 ♂ BMNH); 'GUYANA, Region 8 | Iwokrama Research Centre, | N4°40′ W58°41′, ca 60m | 6.VII.2014, general collecting | Michael Geiser leg || BMNH {E} 2014-131 | Biodiversity Initiative || BMNH(E) | 1499552 || *Pygodiscodon* | *apicicorne* | (Pic, 1910) ♂ | det. M. Geiser 2014 || NHMB-ENT | 2017-008 | PARATYPE | Pygodiscodon | similis | Biffi & Constantin' (1 ♂ NHMB); 'GUYANA, Region 8 | Iwokrama Research Centre, | N4°40′ W58°41′, ca 60m | 6.VII.2014, general collecting | Michael Geiser leg || BMNH {E} 2014-131 | Biodiversity Initiative || BMNH(E) | 1499553 || *Pygodiscodon* | *apicicorne* | (Pic, 1910) ♂ | det. M. Geiser 2014 || PARATYPE | Pygodiscodon | similis | Biffi & Constantin' (1 ♂ BMNH).

Description. Body length: 5.8–6.1 mm. Head dark brown to black; frons, clypeus and base of mandibles light brown to testaceous, slightly translucent; apex of mandibles light brown; palpi light brown. Antennae brown; first antennomere slightly lighter ventrally and antennomeres IX–X and base of XI yellowish-white. Pronotum predominantly dark brown to black, pale yellow around the borders. Elytra, thorax and abdomen brown; legs light brown, darker at base of femora, apex of tibiae and tarsi.

Male (Fig. 5). Head as long as wide, broadly rounded behind eyes, densely pubescent; occipital region and frons convex; clypeus wide, emarginated anteriorly. Eyes rounded, rather prominent. Maxillary palpi elongate, last palpomere slender and slightly securiform. Antennae (Fig. 11) long, slightly serrate and slightly compressed dorso-ventrally; dorsal surface of antennomeres IV to VI with irregular longitudinal line, not straight, varying in length and width. Pronotum densely pubescent, transverse, 1.5–1.6 times wider than long; lateral margins slightly emarginated, explanate upwards and shortly notched near middle. Elytra finely rugous, densely covered with erect brownish setae; each elytron 4.9 times longer than wide. Legs slender; tarsomeres increasing in size from pro- to metathoracic legs; inner claw of prothoracic legs broadly lamellate at base; meso- and metathoracic tarsal claws with sharp protruding tooth. Last abdominal ventrite (Fig. 29) bilobed, rounded posteriorly and emarginated internally; abdominal tergite VIII (Figs 29–34) elongate and broad, with shallow latero-posterior compressions and strongly constricted posteriorly, forming rather trapezoidal apical projection bearing two contiguous glandular openings at apex; dorsal surface of apical projection with pair of parallel narrow ridges culminating in strong apical tooth. Aedeagus (Figs 53–55): ventral wall of tegmen long and broad, lateral sides slightly convergent, apical margin rounded; short setae along lateral and apical margins and in narrow longitudinal fringe ventrally; parameres very short, slightly surpassing dorsal margins of tegmen; apex obtuse, bearing few long setae; median lobe broad and membranous; internal sac long, apex exposed beyond median lobe, with two pairs of sclerites; ventral sclerites flattened dorso-ventrally, tip acuminate, curved laterally; dorsal sclerites broadly curved dorsally, apex rounded.

Female. Similar to male but antennae lacking longitudinal lines; pronotum not notched laterally; tarsal claws simple; abdominal ventrite VII (Fig. 39) 2.1 times wider than long, not divided, lateral margins arched, distal margin with short and broad projecting tip; abdominal tergite VIII broad and simple.

Differential diagnosis. Similar to *P. apicicornis* and *P. obscurus*. Elytra and pronotal patch lighter in colour; antennal lines not straight, varying in length and width, present from antennomeres III to IV; last abdominal ventrite of males bilobed, with apex sinuated internally; last abdominal tergite of males with broader, trapezoidal median projection with pair of dorsal longitudinal ridges culminating in acute, upwards-pointing tooth.

Etymology. The specific epithet, latin adjective *similis* (similar), refers to the similarity of this species with *P. apicicornis* and *P. obscurus*.

Distribution. Guyana and Brazil (Amazonas state) (Fig. 59).

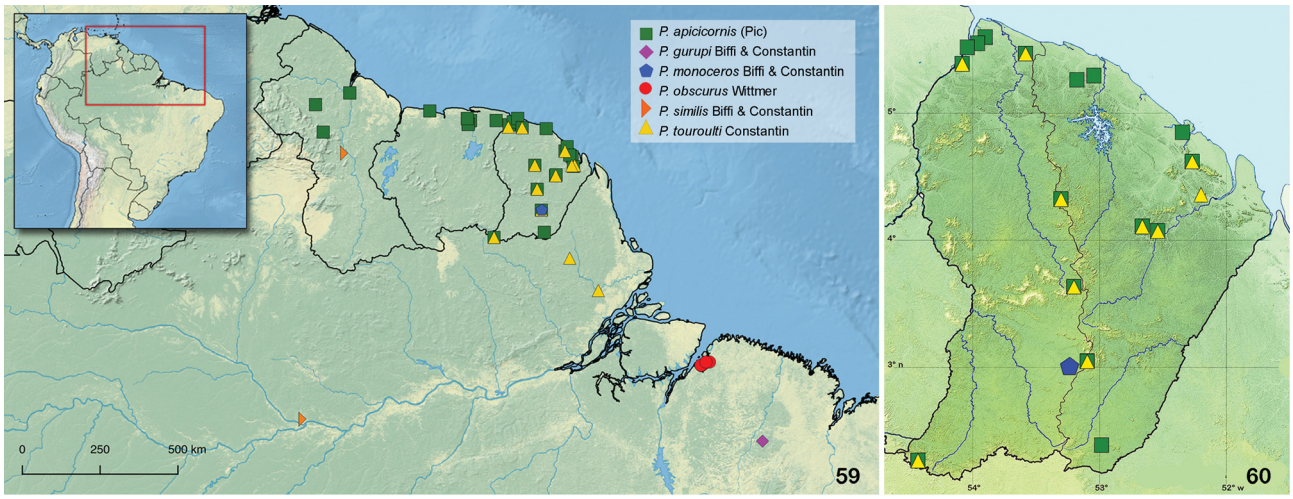
Pygodiscodon touroulti Constantin, 2010

(Figs 6, 12, 32–34, 40, 56–58)

Pygodiscodon touroulti Constantin 2010b: 12 (original description). Constantin (2017): 64 (key).

Type locality. French Guiana, Regina, Réserve naturelle des Nouragues, camp de Saut Pararé.

Type material examined. Holotype: ♂, 'Guyane, [Régina] station [scientifique des] Nourages | Saut Pararé | 4°01′N, 52°41′W, 120m | 18.VII.2009, piège lum.[ineux] | P.H. Dalens, S. Brûlé, J. Touroult' (MNHN). Paratypes: 'Guyane, station Nourages | saut Pararé | 4º01′N, 52º41′W, 120m | 17.VII.2009, piège lum. | P. Dalens, S. Brûlé, Touroult || PARATYPE | Pygodiscodon | touroulti | Constantin n. sp | R. Constantin des. 2010 || NHMB-ENT | 2012-028' (1 ♂ NHMB); 'Guyane, station Nourages | saut Pararé | 4º01′N, 52º41′W, 120m | 20.IV.2010, piège vitre | P. Dalens, S. Brûlé, E. Poirier || PARATYPE | Pygodiscodon | touroulti | Constantin n. sp | R. Constantin des. 2010 || NHMB-ENT | 2012-028' (1 ♀ NHMB); 'Guyane, station Nourages | saut Pararé | 4º01′N, 52º41′W, 120m | 23.XI.2009, piège vitre | P. Dalens, S. Brûlé, E. Poirie || PARATYPE | Pygodiscodon | touroulti | Constantin n. sp | R. Constantin des. 2010 || MZSP 5171' (1 ♂ MZSP); 'Guyane, station Nourages | saut Pararé | 4º01′N, 52º41′W, 120m | 03.VI.2009, piège vitre | P. Dalens, S. Brûlé, E. Poirier || PARATYPE | Pygodiscodon | touroulti | Constantin n. sp | R. Constantin des. 2010 || MZSP 5172' (1 ♀ MZSP); 'Guyane, station Nourages | saut Pararé | 4º01′N, 52º41′W, 120m | 16.V.2010, piège vitre | P. Dalens, S. Brûlé, E. Poirier || PARATYPE | Pygodiscodon | touroulti | Constantin n. sp | R. Constantin des. 2010 || BMNH{E} | 2015-166 | R. Constantin' (1 ♂ BMNH).



Figs 59–60. Distribution map of *Pygodiscodon* Wittmer, 1966. 59 – Distribution of *Pygodiscodon* species in South America; 60 – Distribution of *Pygodiscodon* species in French Guiana.

Additional material examined: BRAZIL: Amapá: Porto Platon, 22.vii.1961, 1 ♂, J. & B. Bechyné leg. (MZSP, 10259); Serra do Navio, 19.vii.1961, 1 ♂, J. & B. Bechyné leg. (MPEG).
Additional published records: FRENCH GUIANA: Mana, Angoulême, 5°24′N, 53°39′W (CCO); Maripa-Soula-Massif de Mitaraka, camp de base, altitude 300 m, 2°14′1″N, 54°27′38″W (MNHN, CCO); Maripa-Soula, Mont Tabulaire Itoupé, altitude 600 m, 3°01′20″N, 53°05′41″W (CCO); Régina, Petite Montagne Tortue, 4°18′N, 52°13′W (CCO); Saint-Elie, Réserve de la Trinité, savane-roche de la Haute-Koursibo, 4°19′N, 53°17′W (CCO); Saint-Laurent du Maroni, village Espérance, 5°25′N, 54°03′W (CCO); Saül, belvédère de la Montagne Pelée, 3°37′22″N, 53°12′57″W (CCO). All published by Constantin (2010b).

Description. Body length: 5.0–6.1 mm. Head black; frons, clypeus and base of mandibles light brown to testaceous, slightly translucent; apex of mandibles light brown; palpi dark brown. Antennae black; antennomeres X–XI yellowish-brown, except at base of X and tip XI. Pronotum orange-yellow with wide medial black patch stretching longitudinally from anterior to posterior margins. Elytra, thorax, legs and abdomen dark brown.

Male (Fig. 6). Head as long as wide, broadly rounded behind eyes, densely pubescent; occipital region and frons convex; clypeus wide, emarginated anteriorly. Eyes rounded, slightly prominent. Maxillary palpi elongate, last palpomere slender and slightly securiform. Antennae (Fig. 12) long, serrate and slightly compressed dorso-ventrally; dorsal surface of antennomeres VI–IX with irregular longitudinal line, not straight, varying in length and width. Pronotum densely pubescent, transverse, 1.6 times wider than long; lateral margins almost parallel, explanate upwards and shortly notched before basal angles. Elytra finely rugous, densely covered with erect brownish setae; each elytron 5 times longer than wide. Legs slender; tarsomeres increasing in size from pro- to metathoracic legs; inner claw of prothoracic tarsus broadly lamellate at base, meso- and metathoracic tarsal claws with sharp protruding tooth. Last abdominal ventrite (Fig. 32) bilobed and slightly acute at apex; abdominal tergite VIII (Figs 32–34) short and broad, strongly constricted posteriorly, forming broad and short apical projection bearing two contiguous glandular openings at apex. Aedeagus (Figs 56–58): ventral wall of tegmen long and broad, lateral sides emarginated, apical margin truncate with short median incision, sparse short setae along lateral and apical margins; parameres very short, hidden behind dorsal margins of tegmen, bearing a few thin apical setae; median lobe long and slender, membranous apically; internal sac hidden inside median lobe, except apex of sclerites; ventral sclerite entire, not divided, apex slightly acute, curved ventro-laterally; dorsal sclerites slender, with apex curved dorso-laterally.

Female. Similar to male but antennae lacking longitudinal lines; pronotum not notched laterally; tarsal claws simple; abdominal ventrite VII (Fig. 40) 2.7 times wider than long, not divided, lateral margins arched, distal margin with short and broad projecting tip; abdominal tergite VIII broad and simple.

Differential diagnosis. Colour pattern similar to *P. gurupi* sp. nov. and *P. monoceros* sp. nov. Antennal lines from antennomeres VI–IX; last abdominal ventrites of males bilobed, with acute apex; last abdominal tergite of males strongly constricted posteriorly forming broad and short apical projection.

Distribution. The species was known only from the type series from French Guiana (Constantin 2010b). It is recorded for the first time from the State of Amapá in Brazil (Figs 59–60).

Natural history and distribution of *Pygodiscodon*

Specimens of *Pygodiscodon* are rarely collected or recorded in collections and consequently little is known about the natural history of the species. Constantin (2010b) reported a large series of *P. apicicornis* collected with light and interception traps during a one-year inventory in French Guiana, showing an occurrence period from the end of June to beginning of March for males, and from July to November for females. However, specimens collected in Guyana and Suriname increase the period of occurrence of the species within the whole year for males and from May to December for females.

Also, for *P. touroulti*, the available records show even occurrences of males and females in the interception flight traps during the whole year, with a peak of emergence in January and February. Both *P. apicicornis* and *P. touroulti* appear equally widely distributed over French Guiana and are often collected together in the same traps. At Mont Itoupé, they were observed mostly at 600 m altitude, while *P. monoceros* is established closer to the top, at altitude of 800 m.

Pygodiscodon gurupi sp. nov. was collected with light traps in a patch of Amazonian forest in the transition between the Amazon and Cerrado biomes in the Maranhão State, northeastern Brazil. The majority of specimens of *P. monoceros* sp. nov. was attracted by an automatic trap combining a Polytrap cross-glass interception device with a white-pink LED light, but two specimens were attracted by a conventional UV light trap. Specimens of *P. similis* sp. nov. were collected with Malaise traps at Reserva Ducke, a small forest reserve in the vicinity of Manaus, in central Amazon, and by beating vegetation along the edge of a forest clearing at the Iwokrama Research station, Guyana. *Pygodiscodon obscurus* is still known only from its type locality and its surroundings.

The genus was previously recorded only from French Guiana and Brazil (Pará: Belém). The new records for the six species extend the distribution of *Pygodiscodon* to Guyana, Suriname and the Brazilian states of Amapá, Amazonas and Maranhão, from the centre to the northern and eastern reaches of the Amazonian forest (Figs 59–60).

Acknowledgments

We would like to thank the curators for loan of specimens and granting access to collections under their care, especially Francisco Limeira de Oliveira (CZMA), Augusto Henriques (INPA), Orlando Tobias Silveira (MPEG), Thierry Deuve (MNHN), Matthias Borer, Isabelle Zürcher (NHMB), Michael Geiser (BMNH), Hans Huijbregts (RMNH), Katja Neven and Michael Balke (ZSMC). Sônia A. Casari, Lukáš Sekerka, Michael Geiser and Andreas Kopetz for critical reading and making suggestions on the manuscript. Lara Guimarães (MZSP) for scanning electron microscope images. We also thank the Environment Department of French Guiana, the National Forest Office and the Parc Amazonien de Guyane for commissioning the SEAG to years long entomological inventories and also our colleagues in French Guiana for their realization, mainly Pierre-Henri Dalens, Stéphane Brûlé, Eddy Poirier, Julien Touroult, and a group of amateur volunteers. Tuca Alvares for the English revision. This work was supported by grants to GB from Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq-142074/2013-6) and Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP-2013/08966-1; FAPESP-2015/21273-0).

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