

**Taxonomic and nomenclatorial revision within the Neotropical
genera of the subtribe Odontocheilina W. Horn in a new sense – 7.
Pentacomia (Pentacomia) davidpearsoni sp.nov., a new species
from Bolivia related to *P. (P.) speculifera* (Brullé)
(Coleoptera: Cicindelidae)**

JIŘÍ MORAVEC¹ & DAVID BRZOSKA²

¹ Sadová 336/21, 679 04 Adamov-1, Czech Republic; email: jirmor@quick.cz

² 2740 Island Pond Lane, Naples, Florida 34119, U.S.A. E-mail: tigerbeetles@comcast.net

MORAVEC J. & BRZOSKA D. 2014: Taxonomic and nomenclatorial revision within the Neotropical genera of the subtribe Odontocheilina W. Horn in a new sense – 7. *Pentacomia (Pentacomia) davidpearsoni* sp.nov., a new species from Bolivia related to *P. (P.) speculifera* (Brullé) (Coleoptera: Cicindelidae). *Acta Musei Moraviae, Scientiae biologicae* (Brno) **99(1)**: 15–33. – *Pentacomia (Pentacomia) davidpearsoni* sp.nov. is described as a new species to science from three localities in southeastern Bolivia. Lectotype designation and detailed redescription of a closely related species *P. (P.) speculifera* (Brullé, 1837) as well as differential diagnosis of two other related species, *Pentacomia (P.) sericina* (Klug, 1834) and *P. (P.) degandei* (Tatum, 1851) are given. The original spelling of the subtribe name Odontochilina W. Horn, 1899 is emended as Odontocheilina according to Art. 35.4.1 (ICZN 1999). Illustrations of the habitus, diagnostic characters and variability of the new species and *P. (P.) speculifera* are presented in colour photographs.

Keywords. Coleoptera, Cicindelidae, Odontochilina, Odontocheilina, *Pentacomia*, taxonomy, new species, Bolivia

Introduction

This paper is a continuation of the ongoing taxonomic revision of nine Neotropical genera of the subtribe Odontocheilina W. Horn, 1899 by the first author. The aim of this series of papers (see MORAVEC 2012a,b,c, and 2013, DURAN & MORAVEC 2013, MORAVEC & BRZOSKA 2013 and MORAVEC & DURAN 2013) is to publish significant taxonomic and nomenclatorial changes or descriptions of new taxa to be available before the completion of the final comprehensive publication.

The subtribe Odontocheilina W. Horn, as discussed by MORAVEC (2012a), is here defined exclusively for the Neotropical genera, and in the present sense is separated from the subtribe Prothymina W. Horn, 1910 sensu RIVALIER (1969, 1971). The subtribe name, originally spelled by HORN (1899) as Odontochilina, is emended as Odontocheilina according to Art. 35.4.1 (ICZN 1999).

Contrary to the classification character of glabrous thoracic and abdominal sterna used by RIVALIER (1969, 1971) to support his broad concept of the subtribe Prothymina, many species of the Neotropical Odontocheilina placed within Prothymina by Rivalier have setose sterna. The presence of such setal vestiture, particularly developed in the genus *Pentacomia* Bates, 1872 and most distinctly in the genus *Brzoskaicheila* Moravec, 2012

where the setae may even cover dorsal body surfaces (MORAVEC 2012b), was entirely ignored by Rivalier. In fact, the chaetotaxy is important not only for the classification of the subtribe, but also represents one of the most important diagnostic characters for identification of species.

Bolivia is one of the world's megadiversity centres (MITTERMEIER & MITTERRMEIER 1997). The Bolivian tiger beetle fauna has been recently explored by several specialists in Cicindelidae. A large number of specimens have been collected by David L. Pearson of the Arizona State University and others including the second author as a part of a survey conducted by the Museo de Historia Natural, Santa Cruz. A possibility of undescribed species was mentioned by GUERRA, BRZOSKA & PEARSON (1997), and the tremendous biodiversity in Bolivia has been confirmed and from the rich material obtained from these surveys five new species of the subtribe Odontocheilina (in the sense understood here) were described by HUBER (1999). An overview of 102 species of the family Cicindelidae in Bolivia was published by PEARSON, GUERRA & BRZOSKA (1999). It included simple keys, notes to identification and biology, distribution maps and fully sited localities. These authors stated that Bolivia has the largest number of tiger beetle species among the five north-Andean countries of South America, including 18 species of the genus *Pentacomia*.

The genus *Pentacomia*, subdivided by RIVALIER (1969) into four subgenera, presently comprises approximately 40 taxa that will be entirely reviewed in the final revision of the subtribe by the first author, with a new infrageneric classification and keys to subgenera and species. ERWIN & PEARSON (2008) treated 42 taxa (including subspecies). Recently, one new species was described from Panama (DURAN & MORAVEC 2013) and one from Costa Rica (MORAVEC & BRZOSKA 2013).

Regarding the Bolivian species, *P. (Mesacanthina) ronhuberi* Moravec, 2012 was recently described (MORAVEC 2012c). This species, together with the closely related *P. (Mesacanthina) punctum* (Klug, 1834), occur in Bolivia and Brazil, and were listed from Bolivia by PEARSON, GUERRA & BRZOSKA (1999) under the name *P. (M.) punctum*.

The new species described here, *P. (Pentacomia) davidpearsoni* sp.nov., was found among specimens of a similar, related species *P. (Pentacomia) speculifera* (Brullé, 1837), and was listed by PEARSON, GUERRA & BRZOSKA (1999) under the latter name. While *P. (P.) speculifera* occurs both in Bolivia and Brazil, the new species is known only from three localities in Bolivia.

Material and methods

Body length is measured without the labrum and is the distance from the anterior margin of the clypeus to the elytral apex (including the sutural spine). The width of the pronotum includes the lateral margins of the proepisterna (when the proepisterna and the notopleural sutures are visible from above). The width of the head is measured across the eyes, the distance between their outer margins. The term "aedeagus" here refers to the median lobe of the organ (without parameres). All dimensions of aedeagi are measured (and primarily figured) in their left lateral position where the basal portion (with basal orifice) points to the right and the left lateral outline (with dorsoapical orifice) faces

dorsally, provided that the ventral outline of the median portion is settled in its vertical position, and both upper and lower walls of the dorsoapical orifice are in the same line. The treatment and mounting of the aedeagi, in order to observe the structure of the internal sac, followed the usual procedure as modified and the terms explained in MORAVEC (2002, 2010). The colour photographs of the habitus and diagnostic characters, including aedeagi, were taken with a Nikon Coolpix 990 digital camera through an MBS-10 binocular stereo microscope by the first author.

Labels are cited in the following manner: lines on the same label are separated by slash /, separate labels are indicated by double-slash //. The colour of the label and mode of writing appear in square brackets (in type specimens only).

The list (catalogue) under the species name in the descriptive part is selective. It means that it gives the original name combination, as well as the first publication of all subsequent taxonomic or nomenclatorial acts concerning the taxon.

Following abbreviations of type status are used in the descriptions and captions below the illustrations: HT = holotype; PT = paratype, AT = allotype; LT = lectotype.

Abbreviations for the collections:

ASUT	Arizona State University, Tempe, U.S.A.
BMNH	The Natural History Museum London, U.K.
CCJM	Collection Cicindelidae Jiří Moravec, Adamov, Czech Republic
CMNH	Carnegie Museum of Natural History, Pittsburgh, U.S.A.
DBCN	Insect Collection of David W. Brzoska, Naples, Florida, U.S.A.
FSCA	Florida Department of Agriculture, Gainesville, FL, U.S.A.
IRSNB	Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium
MFNB	Museum für Naturkunde der Humboldt-Universität, Berlin, Germany
MNHN	Muséum national d'Histoire naturelle, Paris, France
MZMB	Entomology Department of the Moravian Museum, Brno, Czech Republic
NHMK	Natural History Museum, University of Kansas, Lawrence, Kansas U.S.A.
NHMW	Naturhistorisches Museum Wien, Vienna, Austria
RLHC	Collection Ronald L. Huber, Bloomington, Minnesota, U.S.A.
NMPC	National Museum (Entomological Department), Prague, Czech Republic
SDEI	Senckenberg Deutsches Entomologisches Institut, Müncheberg, (formerly DEI Eberswalde), Germany
UASC	Museo de Historia Natural “Noel Kempff Mercado”, Universidad Autónoma Santa Cruz de la Sierra, Bolivia
USNM	Smithsonian Institution, Entomology, Washington DC, U.S.A.

Taxonomy

Pentacomia (Pentacomia) speculifera (Brullé, 1837) (Figs 1–2, 5–18)

Cicindela speculifera Brullé, 1837: 6, Pl 1, fig. 6.

Type locality. Bolivia: “Santa Anna, province de Chiquitos” = Santa Ana de Chiquitos, department of Santa Cruz.

Pentacomia speculifera: BATES 1872: 266.

Odontochila speculifera: FLEUTIAUX 1892: 125.

Cicindela (Pentacomia) speculifera: HORN 1915: 401.

Pentacomia speculifera: HORN 1899: 44.

Phyllodroma (Pentacomia) speculifera: SCHILDER 1953: 545.

Pentacomia (Pentacomia) speculifera: RIVALIER 1969: 230-231, figs 22-23.

Type material. Lectotype ♀ (designated here) in MNHN labelled: “7039 / 34 [circular hand written label, its opposite side green] // “speculifera” [green, handwritten] // “Muséum Paris / Chiquitos / d’Orbigny 1834 [greenish, printed/handwritten] // “LECTOTYPE / Cicindela / speculifera Brullé, 1837 / design. Moravec & Brzoska 2014” [red, printed] // “Pentacomia (s. str.) / speculifera (Brullé, 1837) / det. Jiří Moravec 2012” [printed].

Other material examined. 1 ♂ in ASUT, 2 ♂♂, 1 ♀ in DBCN: “Bolivia-Santa Cruz / 14 km E – San Javier / 470m, 30-XI-1995 / David Brzoska”. 4 ♂♂ in DBCN: “26.5km E – San Javier / 565m” 30-XI-1995 / David Brzoska”. 1 ♂, 1 ♀ in DBCN: “24 km S – San Javier / 280m, 6-XII-1995 / David Brzoska”. 1 ♂ in DBCN: “30.5km S – San Javier / 315m, 6-XII-1995 / David Brzoska”. 4 ♂♂, 7 ♀♀ in DBCN: “San Javier 400m / D. Brzoska 29-XI-1995”. 1 ♂, 1 ♀ in RLHC: “13km S San Javier / D. Brzoska 24-XI-1992”. 2 ♂♂ in RLHC: “2km N / San Javier / 22.Nov. 1992 / F. Guerra”. 1 ♂, 1 ♀ in RLHC: “13km S San Javier / 24.Nov. 1992 / F. Guerra”. 1 ♂ in ASUT, 8 ♂♂, 4 ♀♀ in DBCN: “Bolivia-Santa Cruz / 2.8km NE – San Ramon / 235m, 29-XI-1995 / David Brzoska”. 1 ♂ in DBCN, 1 ♀ in RLHC: “Brazil – Fed. Dist. / Brasilia – Nat. Park / pond by museum / M. Hrabovsky 15-X-1989”.

Historical specimens from Brazil: 1 ♀ in MNHN: “Matto Grosso / Cuijaba”. 1 ♀ in MNHN: “Brésil / Barro Preto / Ch. Pujol”. 17 specimens in MNHN: “Trindade / (Goyaz) / Ch. Pujol”. 1 ♀ in SDEI: “Lago Santa / Reinhardt”. 1 ♂ in NMPC, 7 specimens in SDEI: “Staudinger [leg.] / Cuyaba / Matto Grosso”. 1 ♂ in SDEI: “Chapada / Brazil”. 1 ♂ in SDEI: “Goyaz / Viannepolis”.

Redescription. Body (Figs 1–2) very small to small, of very variable size, 6.60–9.90 (LT 9.20) mm long, 2.20–3.30 (LT 2.90) mm wide, dorsal surface of the head, pronotum and elytra almost uniformly black-copper to dark lustrously cupreous; elytra with complete whitish maculation and large, angular smooth catoptric patch in middle, and smaller, but mostly distinct patch on basodiscal convexity. Metasternum punctate-setose, setae white.

Head (Fig. 5) large, but narrower than body, 2.10–2.80 mm wide, notably wider than pronotum; all head portions glabrous.

Frons distinctly convex in middle, then sloped towards clypeus and clearly separated from it, lateral areas finely or more distinctly longitudinally parallel-striate, median convex area with coarser, irregular, mostly transverse-wavy to vermicular rugae; supraantennal plates irregularly triangular, smooth and shiny with green lustre, their apices forming only indistinct frons-vertex lateral edges.

Vertex almost flat, only indistinctly impressed in middle; anteromedian area irregularly finely vermicular-rugulose (the sculpture passing from blunt frons-vertex fold) with some coarse rugae laterally; rugae on median area irregularly vermicular to longitudinal-wavy, rugae on posteromedian area longitudinal-parallel diverging posteriad; large juxtaorbital areas anteriorly irregularly rugulose, longitudinally parallel-striate only on their posterior half, sublateral areas with similar, often more wavy striae running towards temples; occipital area convex, finely irregularly rugulose, rugae more transverse and nearly effaced on posteromedian area.

Genae shiny black with green, bronze and cupreous reflections, almost smooth with only few fine striae on juxtaorbital and postgenal area (passing there from vertex).

Clypeus dark metallic copper with brighter cupreous and green lustre on lateral areas, irregularly wrinkled.

Labrum 4-setose, sexually dimorphic but in both sexes comparatively long, light ochre-yellow to light ochre-testaceous; male labrum (Fig. 7–8) 0.75–0.95 mm long,

0.95–1.20 mm wide, with right-angled or blunt basolateral teeth, then prolonged anteriorly towards rather prominent but rounded anterolateral teeth which are always in lower position than tridentate anterior lobe which is always at least slightly prolonged and consists of small, subacute to acute median tooth between much wider but usually mucronate teeth in the same level; female labrum (Fig. 9–10) notably longer, length 1.10–1.25 mm, width 1.20–1.30 mm, of a similar shape but with prominent sharply tridentate median lobe with projecting median tooth.

Mandibles (Figs 5–6) normally shaped with arcuate lateral margins, in both sexes nearly symmetrical, each mandible with four teeth (and basal molar), the three inner teeth becoming gradually smaller towards the basal molar; coloration mahogany-brown to black-brown, sometimes with metallic-green iridescences, teeth usually black, narrow lateral area ochre-testaceous;

Palpi (Fig 5–6) normally shaped with elongate terminal palpomeres; maxillary and labial palpi ochre-yellow to ochre-testaceous except for mahogany-brown and partly, to entirely black-brown terminal palpomere, in female often also penultimate palpomere of maxillary palpi brownish-darkened; penultimate (longest) palpomere of labial palpi ochre-yellow in male, usually brown-darkened ventrally in female, elongate-cylindrical with almost parallel lateral margins, only slightly dilated towards 0.15–0.20 mm wide apex.

Antennae in male rather long, reaching elytral half, in female much shorter, reaching only elytral third; scape with only apical seta, together with pedicel mostly metallic-green, or testaceous with metallic-green areas, pedicel usually dark testaceous with more or less distinct dark-brown lateral areas; antennomeres 3–4 brownish-testaceous or mahogany with metallic green apices, rarely with metallic-green lustre; antennomeres 5 smoky black except for testaceous base, 6–11 smoky-black.

Thorax. Pronotum (Figs 11–12) only slightly longer than wide, length 1.40–2.20 mm, width 1.30–1.90 mm, sulci well pronounced; anterior lobe only slightly wider than the posterior but much higher, irregularly, finely rugulose, rugae mostly vermicular to transverse wavy, coarser on sublateral areas; disc mostly with distinctly convex lateral margins (including clearly visible proepisterna) giving the disc a subglobose shape, notopleural sutures thin but clearly obvious in dorsal view; median line mostly thin but well pronounced on whole discal length; discal surface finely rugulose, rugae on sublateral areas more irregular and wavy but mostly continuous, towards the middle becoming more stria-like, parallel and continuous, converging towards the median line; juxtannotopleural area with sparser and coarser transverse rugae; posterior lobe irregularly and rather finely irregularly rugulose, rugae mostly vermicular in middle, much coarser on lateral areas and irregularly transverse adjacent to distinct posterior rim; proepisterna smooth and shiny, glabrous except for a few setae adjacent to their ventral suture; mesepisterna smooth and glabrous, shiny black with faint golden-bronze, rarely green lustre; metepisterna of the same coloration, but with two deep impressions with a few setae at metepimeron; female mesepisternal coupling sulci indistinct as lacking any pit, in form of a longitudinal furrow which is only somewhat deeper than in male; ventral thoracic sterna concolorous with the lateral sterna; prosternum and mesosternum almost

smooth and glabrous; metasternum distinctly punctate-setose with white, rather short setae which are densest on lateral areas, sparser on anterior area and absent on smooth and shiny posteromedian area.

Elytra (Figs 13–15) elongate, length 4.10–6.10 mm, with rounded humeri, lateral margins almost straight in male, in female slightly dilated in middle, in both sexes with slightly convex subhumeral area, anteapical angles arcuate, then obliquely running towards apices which are in female variably arcuate or rounded, in male more subacute; sutural spine short but distinct, variably acute or blunt; microserrulation fine but usually distinct; elytral dorsal surface markedly uneven due to several impressions: humeral impressions deep, continuously connected with large and deep discal impression, thus delimiting distinct basodiscal convexity and another distinctly raised discal convexity formed by deep impression of the area of large median catoptric patch; apical and sublateral-anteapical impression distinct, and additional, subsutural-anteapical impression present on raised juxtasutural area; whole elytral surface notably coarsely punctate, punctures mostly isodiametric, large and deep with narrow and sharp intervals, largest on anterior elytral half, mostly isolated, but largest punctures particularly on elytral base near humeri are occasionally irregularly connected; smaller but dense punctures on juxtasutural-discal area anastomosing in short chains; punctures on posterior elytral half become only indistinctly smaller than those on anterior half, those on anteapical area are somewhat longitudinally prolonged; apical area possess very irregular sculpture; punctures are effaced only within two shiny catoptric patches which appear shiny black but change to shiny silvery depending on the angle of illumination: the patch on the basodiscal convexity appears usually smaller because its irregularly jagged margins merge with surrounding large punctures, the catoptric patch placed in the middle of the elytral disc is much larger, irregularly rectangular, widest in middle and usually with narrower, short, oblique-transverse protrusion towards outer elytral lateral margin; rarely these two patches are connected by indistinct, longitudinal, narrow smooth area; elytral surface glabrous except for usual, a few and often very indistinct hairlike sensory setae scattered mostly on anterior area, few of them at epipleura and several others scattered along the margin of the elytral apex; elytral maculation whitish, consisting in both sexes of three rather distinct maculae: humeral lunule of which only its posterior part is visible from above, sometimes appearing as a rounded subhumeral spot; lateral-median band which is bent upwards, rarely interrupted into lateral and discal macula; anteapical macula which is elongate and rather wide.

Legs. Procoxae and mesocoxae brownish-testaceous to brown, often with greenish lustre, densely whitish setose; metacoxae metallic black-blue with greenish lustre, densely punctate-setose on lateral areas and with a few setae also on central area; trochanters smooth, pro- and mesotrochanters tawny to dark-testaceous, metatrochanters dark brown; femora tawny brown to brownish except for limited metallic-black apical area, sometimes with faint metallic-green lustre, femoral surface covered with dense irregular rows of mediocre-long and longer, erect and semierect white hairlike setae; tibiae dark brown-testaceous, sometimes with mahogany lustre, apical quarter or half metallic-black darkened, covered with scattered, much stiffer, semierect, whitish setae; apical-ventral area of protibiae and mesotibiae covered with dense whitish to greyish

setose pad; tarsi metallic black with greenish lustre, rarely dark testaceous with black apices; first three protarsomeres in male only indistinctly dilated, with dense greyish-white pad of short setae; claws metallic black-green.

Abdomen. Ventrites dark metallic black-blue sometimes with greenish lustre, apical pleurite usually brownish; surface of last three ventrites smooth and glabrous, but their posterior margins fringed with dense hairlike setae and the first two visible ventrites with several short and rather long hairlike setae present also on their surface.

Aedeagus (Figs 16–18) elongate, length 2.10–2.60 mm, width 0.35–0.40 mm, with shortly arcuate base and narrow, straight whole basal half, while ventrally directed apical half is dilated and then conically attenuated towards elongate, rounded apex which is sometimes slightly curved; internal sac (Figs 19–20) well developed, containing conspicuous, medioventral spur with thin, markedly long projection which is well observable in left lateral view (Fig. 19), basal bent piece, and two, long dorsal spikes tightly alongside each other, therefore better recognisable in the right lateral view (Fig 20) because in the left lateral view they appear as confluent together.

Variability. The body coloration varies only insignificantly; the smooth catoptric elytral patches may vary in their size, particularly the basodiscal patch which is also more variable in the shape of its irregular margins which often merge with the deep surrounding punctures, while the discal patch is always large. The elytral punctures may appear more variable because their real shape, particularly of the punctures on posterior elytral half, appears distorted in front illumination. The aedeagus is somewhat variable in its apex which can be more prolonged

Differential diagnosis. As in most other species of the nominotypical subgenus with notably uneven elytral surface, the whitish elytral maculation of *P. (Pentacomia) speculifera* consists in both sexes of humeral lunule, lateral-discal band which is bent upwards (rarely divided into lateral and discal macula), and anteapical macula, but this species is immediately distinguishable by the presence of the large, irregularly rectangular, smooth catoptric patch placed in the middle of the elytral disc, and a similar, smaller catoptric patch on the basodiscal convexity. These much larger smooth and polished elytral patches, narrower humeral macula only partly visible from above, the subglobose-shaped pronotal disc with much finer surface sculpture of predominantly parallel-arranged stria-like rugae (particularly in middle), darker penultimate palpomeres of maxillary palpi, much darker antennae with metallic-green tinge on the scape which possesses only apical seta, and markedly longer median lobe of the labrum in both sexes, immediately distinguish *P. (P.) speculifera* from *P. (Pentacomia) davidpearsoni* sp.nov. described below.

In contrast to these constant and reliable external differences, these two species possess rather similar aedeagi with apical portion attenuated into rather narrow, rounded apex; the structure of the internal sac in examined aedeagi somewhat differs, but the shape of the sclerites may change depending on their positioning within the internal sac.

P. (Pentacomia) degandei (Tatum, 1851) spelled in the original description (TATUM 1851) as *Odontocheila De Gandii*, later emended as *Degandei* by FLEUTIAUX (1892: 124) possesses similar whitish elytral maculation and smooth, shiny areas on its elytral

surface, but these catoptric areas are of an irregular shape and this species is immediately distinguishable from these two species by its uniquely shiny red-cupreous body, usually with metallic-green lateral areas, its pronotal disc is covered with much more distinct, continuous arcuate-parallel stria-like rugae conspicuously converging towards the median line, and its aedeagus is straighter.

Biology and distribution. *P. (P.) speculifera* is known only from Bolivia and Brazil. It was considered a very rare species as only the lectotype and a few old historical specimens have been deposited in the MNHN, NMPC and SDEI collections and even entirely missing in other European museum collections. Nevertheless, recent exploration of Bolivia has revealed that this species is rather common in south-eastern Bolivia. The type locality Santa Ana de Chiquitos (spelled by BRULLÉ 1837 as “Anna”) in the province of Chiquitos of the large Bolivian department of Santa Cruz lies in the southern-easternmost part of Bolivia about 150 km west from Puerto Suarez near the border town Corumbá in the Brazilian province of Mato Grosso. According to the protologue by BRULLÉ (1837) the species was found during October on opened and humid places.

Besides the type locality this species was recently discovered (PEARSON, GUERRA & BRZOSKA 1999) in two localities in the same Bolivian department of Santa Cruz. The locality Ñuflo de Chavez (16°20'S, 62°27'W, 470 m), 14 km east of San Javier lies about 600 km northwest from the type locality and San Ramon is situated only 50 km south from San Javier. The adults occupied forest trails with clay banks in a partial shade.

Most historical specimens in collections come from Brazil, mostly from the Brazil state Goiás (formerly Goyaz) and the area of Cuyaba (=Cuiabá) in the state of Mato Grosso (= Matto Grosso). Chapada (now probably the Chapada dos Veadeiros National Park) also lies in this large central state of Brazil. Lago Santa (= Lagoa Santa) is the lake in the Brazil state of Minas Gerais (see also HORN 1922). Regarding the specimen (MNHN) labelled Barro Preto it probably refers to Barro Preto in the Brazilian state of Parana, but there are several homonymous names in Brazil.

Remarks. BRULLÉ (1837) in his original description of this species (as *Cicindela speculifera*) mentioned only female sex, probably only a holotype, but as he did not explicitly mention a number of specimens, the lectotype is designated here for the better stability of the taxon. As Brullé and other old authors mostly did not originally provide their type specimens by a label “type”, the female in MNHN, although it bears no original type label, is considered to be a syntype and is designated here as the lectotype. Notwithstanding, it represents evidently a type specimen and the only one in all relevant collections, labelled “Chiquitos / d’Orbigny 1834”, thus corresponding with the type locality in the original description by Brullé, and collected by Alcide d’Orbigny during the “Voyage dans l’Amerique Méridionale”.

It is very interesting that HORN (1899) treated this species as *Pentacomia speculifera*, but later (HORN 1915) as *Cicindela (Pentacomia) speculifera*, and more later HORN (1938) surprisingly as *Cicindela speculifera*. SCHILDER (1953) accommodated *Pentacomia speculifera* in the genus *Phyllodroma* Lacordaire, 1842 as he treated *Pentacomia* as a subgenus of *Phyllodroma*. His classification was not accepted by RIVALIER (1969) and by any recent authors as the internal sac in *Phyllodroma*, in contrast

to the genus *Pentacomia*, contains a long, multicoiled flagellum associated with a compact sustaining membrane, thus also differing from the long, coiled, but not so supported flagellum in the genus *Odontocheila*. For that reason, and also for some of its external characters, the genus *Phylldroma* has an outstanding position within the subtribe *Odontocheilina*.

***Pentacomia (Pentacomia) davidpearsoni* sp.nov.** (Figs 3–4, 21–42)

Type locality. Bolivia: department of Santa Cruz, province of Cordillera, 41 km S, 1.6 km W of Camiri, 900 m.a.s.l. (20°31'S, 63°34'W), along the secondary road towards the village of Cuevo.

Type material. Holotype ♂ in UASC, labelled: “BOLIVIA – Santa Cruz / 41 km S – 1.6 km W – / Camiri 900m / D. Brzoska 8-XII-1995” [printed]. Allotype ♀ in DBCN (later in NHMK) with same labels as holotype. Paratypes. 2 ♂♂, 4 ♀♀ in DBCN, 1 ♀ in FSCA, 1 ♀ in CMNH, 1 ♂ in BMNH, 1 ♀ in MZMB, 1 ♀ in NMPC, 4 ♂♂, 4 ♀♀ in CCJM, 1 ♂, 1 ♀ in RLHC with same labels as holotype. 6 ♂♂, 2 ♀♀ in DBCN, 1 ♂, 1 ♀ in CCJM, 1 ♀ in SDEI, 1 ♂ in FSCA, 1 ♂ in CMNH: “BOLIVIA – Santa Cruz / 41 km S – 8.8 km W – / Camiri 950m / D. Brzoska 8-XII-1995” [printed]. 5 ♂♂, 4 ♀♀ in DBCN, 2 ♂♂, 1 ♀ in CCJM, 1 ♂, 1 ♀ in ASUT, 1 ♂ in MNHN: “BOLIVIA – Santa Cruz / 6.8 km S – Rio Grande – / Abapo 615 m / D. Brzoska 9-XII-1995” [printed]. 1 ♂ in DBCN: “BOLIVIA – Santa Cruz / 5.5 km S – Abapo / 33-XII-1993” [printed]. All type specimens labelled: “HOLOTYPE (ALLOTYPE or PARATYPE respectively) / *Pentacomia* (s. str.) / *davidpearsoni* sp.nov. / Moravec & Brzoska 2014” [red, printed].

Description. Body (Figs 3–4) small, of rather variable size, 7.45–8.50 (HT 7.50) mm long, 2.30–2.80 (HT 2.45) mm wide, dorsal surface of head, pronotum and elytra almost uniformly cupreous to rather lustrously bronze-cupreous; elytra with complete whitish maculation and narrow, obliquely transverse catoptric median band, while the smooth catoptric patch on basodiscal convexity is only indistinct, irregular or absent. Metasternum punctate-setose on lateral areas.

Head (Fig. 33–34) large, almost as wide as body, or slightly narrower (particularly in female), 2.30–2.60 mm wide, notably wider than pronotum; all head portions glabrous.

Frons only indistinctly convex in middle, rather steeply sloped towards clypeus and clearly separated from it, lateral areas rather distinctly longitudinally parallel-striate, median area with coarse, irregular, vermicular rugae; supraantennal plates irregularly triangular, smooth, but their inner margins usually merging with coarse sculpture on lateral areas of frons, shiny cupreous often with green lustre, their apex connected with indistinct or acute but short lateral edge.

Vertex almost flat, rarely with only indicated anterior impressions, anteromedian area irregularly vermicular-rugulose (the sculpture passing from blunt frons-vertex fold), surface sculpture similar to that in *P. (Pentacomia) specularifera* but more irregular, usually very irregularly vermicular-rugulose on almost whole vertexal surface, rugae in middle only rarely more longitudinal but still irregularly wavy, rugae on posteromedian area sometimes shortly longitudinal, wavy and indistinctly diverging posteriad; juxtaorbital areas anteriorly irregularly rugulose, longitudinally parallel-striate only on their limited posterior area, sublateral areas mostly with vermicular sculpture, only indistinctly recognizable as parallel-arranged wavy stria-like rugae running towards temples; rugae on posteromedian area longitudinal-parallel diverging posteriad onto

occipital area which is moderately convex, irregularly rugulose with rugae more transverse on lateral areas.

Genae metallic-cupreous with golden-bronze lustre on median smooth area, usually strong green lustre on anterior and posterior areas, anterior and ventral areas finely wrinkled to striate, juxtaorbital and postgenal area more distinctly striate.

Clypeus predominantly metallic copper with brighter cupreous and faint green lustre on lateral areas, irregularly wrinkled.

Labrum 4-setose, sexually dimorphic in shape, in both sexes shorter than in *P. (Pentacomia) speculifera*, and mostly ivory to light ochre-yellow; male labrum (Figs 28–30) 0.60–0.75 mm long, 1.05–1.15 mm wide, basolateral margins mostly short and straight with right-angled or blunt basolateral teeth, then lateral margins arcuate forming wide, rounded anterolateral teeth; median tridentate lobe short, either in the same level as the anterolateral teeth or only slightly surpassing them, consisting of small, mostly right-angled subacute median tooth between much wider but usually mucronate teeth in the same level; female labrum (Figs 31–32) longer, length 1.00–1.15 mm, width 1.15–1.30 mm, of a similar shape except for the median lobe consisting of three large anterior teeth resembling a part of a hexagram as the median tooth is only moderately longer (much less prominent than in *P. (Pentacomia) speculifera*).

Mandibles (Figs 33–34) normally shaped with arcuate lateral margins, in both sexes nearly symmetrical, each mandible with four teeth (and basal molar), the three inner teeth becoming gradually smaller towards the basal molar; coloration ivory to ochre on wide lateral areas, inner area and teeth mahogany-brown, apices of teeth often black-brown.

Palpi (Figs 33–34) normally shaped with elongate terminal palpomeres, conspicuously light, both maxillary and labial palpi ivory-white to ochre-yellow including terminal palpomeres except for their brown-darkened apical patch; penultimate (longest) palpomere of labial palpi elongate with almost parallel lateral margins, only slightly dilated towards 0.14–0.18 mm wide apex.

Antennae rather short, in male reaching or slightly surpassing elytral third, in female much shorter, reaching or only slightly surpassing elytral quarter; scape (Fig. 35) pale ivory to light ochre-yellow, with apical seta and additional 1–4 setae placed on the discal area of the scape (setae easily abraded); antennomeres 2–5 and sometimes also antennomeres 6–8 pale ochre-yellow to ochraceous, last three antennomeres smoky darkened.

Thorax. Pronotum (Figs 36–39) slightly to more distinctly longer than wide, length 1.55–1.90 mm, width 1.30–1.65 mm, sulci well pronounced; anterior lobe only very slightly wider than the posterior but notably higher, irregularly coarsely vermicular-rugulose; disc with subparallel to moderately convex lateral margins (including clearly visible proepisterna) usually but not always more distinctly convex in females; notopleural sutures clearly obvious in dorsal view, subparallel; median line mostly thin but developed on whole discal length; discal surface coarsely vermicular-rugulose, rugae irregularly “zigzag” arranged, partly and indistinctly converging towards the median line; juxtanotopleural area with sparser transverse rugae; posterior lobe covered with the same vermicular coarse sculpture as the disc, but also with irregularly transverse rugae adjacent

to posterior rim; proepisterna smooth and shiny, glabrous except for one or three setae adjacent to their ventral suture; mesepisterna smooth and glabrous, shiny black with faint golden-bronze and green lustre; similarly coloured metepisterna possess two deep impressions at metepimeron with a few setae; female mesepisternal coupling sulci indistinct as lacking any pit, with only longitudinal furrow almost unrecognizable from a similar furrow in male; ventral thoracic sterna concolorous with the lateral sterna, or with bluish lustre; prosternum and mesosternum almost smooth and glabrous; metasternum with distinctly punctate-setose lateral areas with rather short setae, remaining areas glabrous.

Elytra (Figs 40–42) elongate, length 4.30–5.50 mm, with rounded humeri, lateral margins in both sexes with slightly convex subhumeral and median areas, anteapical angles arcuate, then obliquely running towards apices which are variably rounded in both sexes; sutural spine short; microserrulation indistinct and very irregular; elytral dorsal surface markedly uneven due to several impressions: humeral impressions deep, continuously connected with large and deep discal impression, thus delimiting distinct basodiscal convexity which is, however, impressed in juxtasutural narrow area, and another distinctly raised discal convexity delimited by deep impression on the area of the narrow, obliquely transverse median catoptric band; apical and sublateral-anteapical impression distinct, and additional, subsutural-anteapical impression present on raised posterior juxtasutural area; whole elytral surface rather coarsely punctate, but punctures generally finer than on the elytra of *P. (P.) speculifera*, particularly along sutures and on posterior elytral area, mostly isodiametric with narrow and sharp intervals, largest on anterior elytral half, mostly isolated, but the largest punctures particularly on elytral base near humeri occasionally irregularly connected; smaller but dense punctures on juxtasutural-discal area anastomosing in short chains; punctures on posterior area of elytral disc smaller and denser, those on anteapical area more irregular, and very irregular, deep but dense on apical area giving the area rasp sculpture; the punctures are effaced only within two shiny catoptric patches which appear shiny black but change to shiny silvery depending on the angle of illumination: the patch on the basodiscal convexity is usually small, or almost entirely missing, its irregularly jagged margins merge with large surrounding punctures, while the patch placed in the middle of the elytral disc is in form of elongate transverse catoptric band, slightly wider in middle (as in the holotype), in some adults very narrow; these two smooth patches are sometimes connected by another but very indistinct, narrow, longitudinally running smooth area of widened intervals; elytral surface glabrous except for usual, a few and often very indistinct hairlike sensory setae scattered mostly on anterior area, few of them at epipleura and several others scattered along the margin of the elytral apices; elytral maculation whitish, consisting in both sexes of three rather large maculae: wide humeral macula clearly visible from above as entire continuous lunule, lateral-median band which is continuous and bent upwards on the elytral disc, and anteapical macula which is elongate but rather wide.

Legs. Procoxae and mesocoxae ochraceous only rarely with greenish lustre, densely whitish-setose; metacoxae black-brown to metallic black-blue with greenish lustre,

densely finely punctate-setose on lateral areas and with one or two setae on central area; trochanters smooth, ivory to ochraceous; femora ochre-yellow or ochre-brownish with black apices, femoral surface covered with dense irregular rows of mediocre-long, erect and semierect white hairlike setae; tibiae concolorous with femora, their apices black-darkened, covered with scattered, much stiffer, semierect, whitish setae; apical-ventral area of protibiae and mesotibiae covered with dense whitish to greyish setose pad; tarsi pale ochre with black apices; first three protarsomeres in male only indistinctly dilated, with usual dense greyish-white pad of short setae; claws black-brown.

Abdomen. Ventrites dark metallic black-blue or with greenish lustre, last ventrite usually ochre-testaceous, apical bilobed pleurite in male pale ochre; surface of the visible ventrites smooth and glabrous, their posterior margins with usual, sparse hairlike sensory setae.

Aedeagus (Figs 21–23) elongate, of a similar shape as in *P. (Pentacomia) speculifera*, length 2.35–2.60 mm, width 0.40–0.42 mm, with shortly arcuate base then with narrow, straight basal half and ventrally directed apical half which is dilated and then conically attenuated towards rounded apex; internal sac (Figs 24–27) well developed, containing conspicuous, medioventral spur with thin, long filiform projection, basal bent pieces, and two long dorsal spikes appearing as confluent because tightly alongside each other, sometimes better recognisable in the right lateral view (Fig. 27).

Variability. This new species is only slightly variable in body size and coloration which is in some adults brighter; sometimes the smooth, catoptric, obliquely transverse-elongate and narrow median patch is somewhat wider (as in the holotype), but never so large and angular as in *P. (Pentacomia) speculifera*. The number of discal setae on the antennal scape varies from one to four, but the setae can be easily abraded.

Regarding the variability of internal sac of aedeagi, the shape of the sclerites depends both on their positioning within the internal sac, as well as on the position of the internal sac within the aedeagus – the sclerites can be variously swung, and the whole internal sac inside the aedeagus can be variously turned, and consequently, even small differences in the positioning may change the appearance of the structure.

The line drawing of the aedeagus for *P. (P.) speculifera* by RIVALIER (1969, fig. 23sp) is rather schematic and its shape is somewhat deformed (dilated) by the treatment used by Rivalier in order to observe the internal sac and by mounting the aedeagi between glass slides – for that matter most of the aedeagi mounted by Rivalier, unfortunately also those of most type specimens, were mostly flattened, by such mounting treatment, damaged or even destroyed by extraction of the internal sacs from the aedeagi (see MORAVEC 2010). It should be noted that even proper and careful clearing procedures of the aedeagi always change their outline shape; they usually become wider and straighter.

Differential diagnosis. *P. (Pentacomia) davidpearsoni* sp.nov. differs from the related and rather similar *P. (Pentacomia) speculifera* in having its dorsal body surface much lighter coloured, bronze-cupreous to bright-cupreous, and significantly differs in following diagnostic characters: conspicuously narrower catoptric patch on the elytral disc and smaller or sometimes nearly absent basal catoptric spot; wider humeral macula in both sexes clearly obvious from above as a continuous lunule, generally narrower

pronotal disc with much coarser and notably irregular surface sculpture consisting of short zigzag arranged vermicular rugae; much shorter median lobe of the labrum in both sexes; ivory to ochre coloured mandibles with only brown teeth; paler penultimate and terminal palpomeres both of maxillary and labial palpi; much paler antennae including the ivory to ochre coloured scape which besides the usual apical seta possesses additional 1–4 discal setae (these are constantly absent on the much darker, metallic-tinged scape of *P. (P.) speculifera* with only apical seta); all leg segments paler, particularly the ochre-testaceous tarsi, and the metasternum punctate-setose only on lateral areas, and abdominal ventrites have setae only on their posterior margins while their surface is glabrous.

Most of these characters and also a rather different shape of the aedeagus immediately distinguish this new species also from *P. (Pentacomia) degandei* (Tatum, 1851) which is, moreover, unique in the genus due to its conspicuously bright red body coloration and its elytra lacking humeral lunule (only a submarginal macula placed posteriad of the humerus present).

Another related species, *Pentacomia (Pentacomia) sericina* (Klug, 1834) occurs in Brazil. The holotype (MFNB) and five additional specimens (SDEI) have been examined and compared by the first author. It resembles both *P. (P.) speculifera* (by its dark body coloration and subglobose pronotal disc) and *P. (P.) davidpearsoni* sp.nov. (by its pale appendages), but the labrum in *P. (P.) sericina* is much longer in both sexes and with much more prominent teeth. Moreover, *P. (P.) sericina* is immediately recognizable because its elytra lack the large, smooth catoptric patches (they possess only darkened punctate areas with lustrously shiny intervals between the deep punctures, irregularly occurring from basal to apical elytral areas), the pronotum possess a different surface sculpture, the scape has only the apical and one discal seta, and the aedeagus has much longer apex and very different structure of the internal sac with much shorter ventral spur and with characteristic, oblong, longitudinally placed central piece with acute apex and angular base. In addition, the elytral humeral lunule of *P. (P.) sericina* consists of longitudinal lateral band with a rounded or angular mesad directed posterior appendage, and besides the setose anterior and lateral areas of the metasternum and median area of the proepisterna, also ventral area of the prosternum possesses a few, erect setae.

Etymology. The new species is named in the honour of Prof. David. L Pearson (Arizona State University, Tempe), the well known specialist in the ecology, biodiversity, biology and natural history of tiger beetles.

Biology and distribution. The adults of *P. (P.) davidpearsoni* sp.nov. were taken by the second author in three localities in the province of Cordillera in the drier southern part of the large department of Santa Cruz. The type locality south of Camiri along the road to the small town of Cuevo (20°31'S, 63°34'W), 900–950 m.a.s.l., lies about 340 km south of Santa Cruz de la Sierra, the capital of Santa Cruz Department. The second locality is about 7 km west of the type locality along the same road. The third locality, 6.8 km south of Abapó on the Río Grande River is situated about 150 km south of Santa Cruz de la Sierra. The adults of this new species always occupied small “quebradas” – small clay stream cuts, some as much as 2 to 3 metres deep. Similar to most other species of the

nominotypical subgenus of *Pentacomia*, the new species is shade-loving and their larval tunnels can be found in clay banks. Unfortunately, no larva was successfully dug out of the tunnels.

Remarks. Specimens of this new species were partly confused with *P. (P.) specularifera* and listed under that name by PEARSON, GUERRA & BRZOSKA (1999) with the citations of the localities in Type material above, together with the two recent Bolivian localities of *P. (P.) specularifera*. On the map of the distribution of *P. (P.) specularifera* published by these authors, the southernmost marks are in fact marks for the distribution of *P. (P.) davidpearsoni* sp.nov.

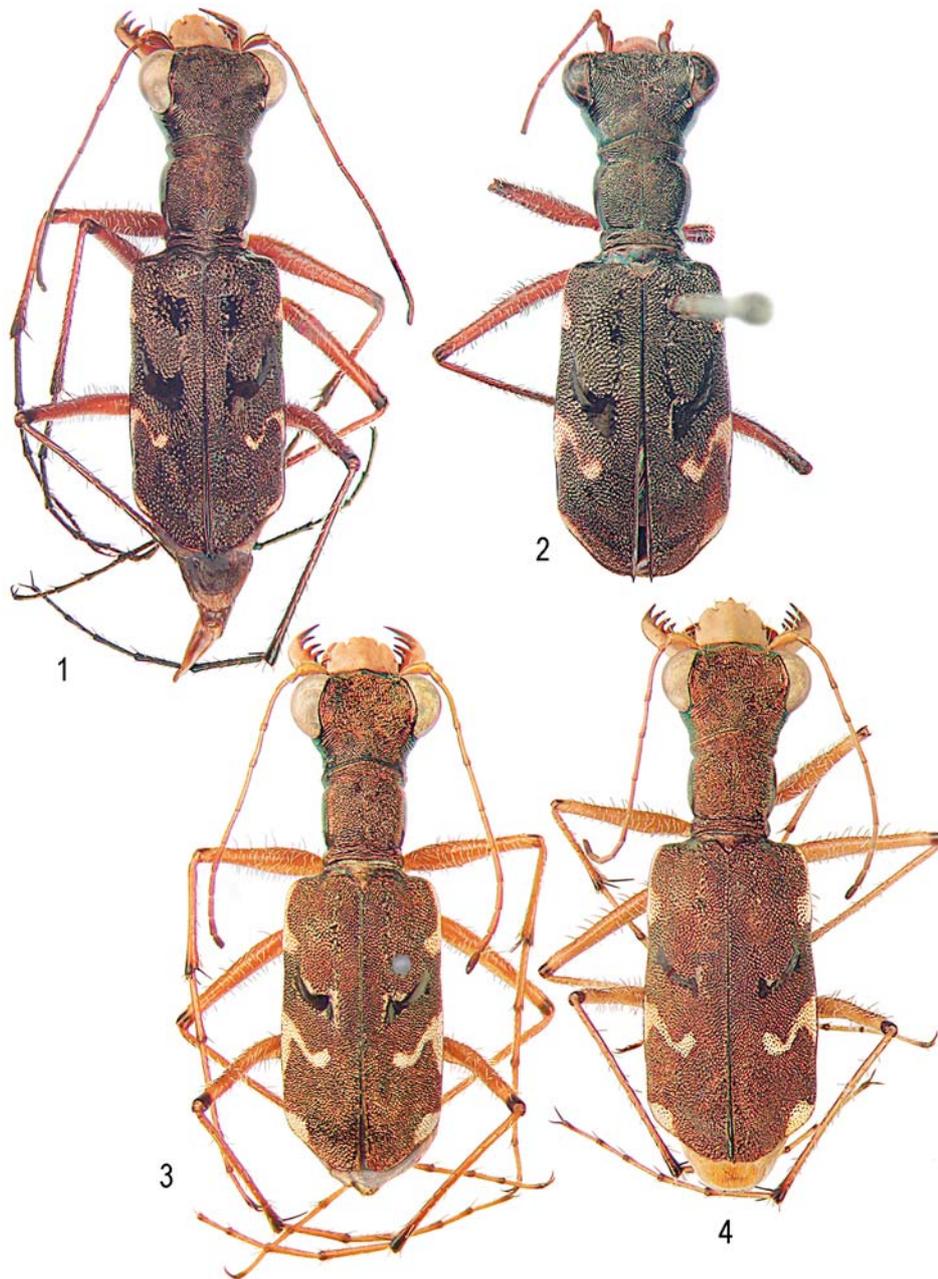
Acknowledgements

We would like to thank David L. Pearson (Arizona State University, Tempe) for providing specimens for this study, reading the Introductory part of the manuscript and valuable comments. We would also like to thank the staff of the BMNH, IRSNB, MFNB, MNHN, NHMW, NMPC and SDEI collections for their kind assistance during visits and for loans of relevant type material. Jürgen Wiesner (Wolfsburg) kindly helped with some literature. Josef Jelinek (NMPC, Prague) and Ronald L. Huber (Bloomington, Minnesota) kindly reviewed the manuscript. The first author received support to conduct this research from the SYNTHESYS project <http://www.synthesys.info/> which is financed by the European Community Research Infrastructure Action under the FP7 “Capacities” Programme.

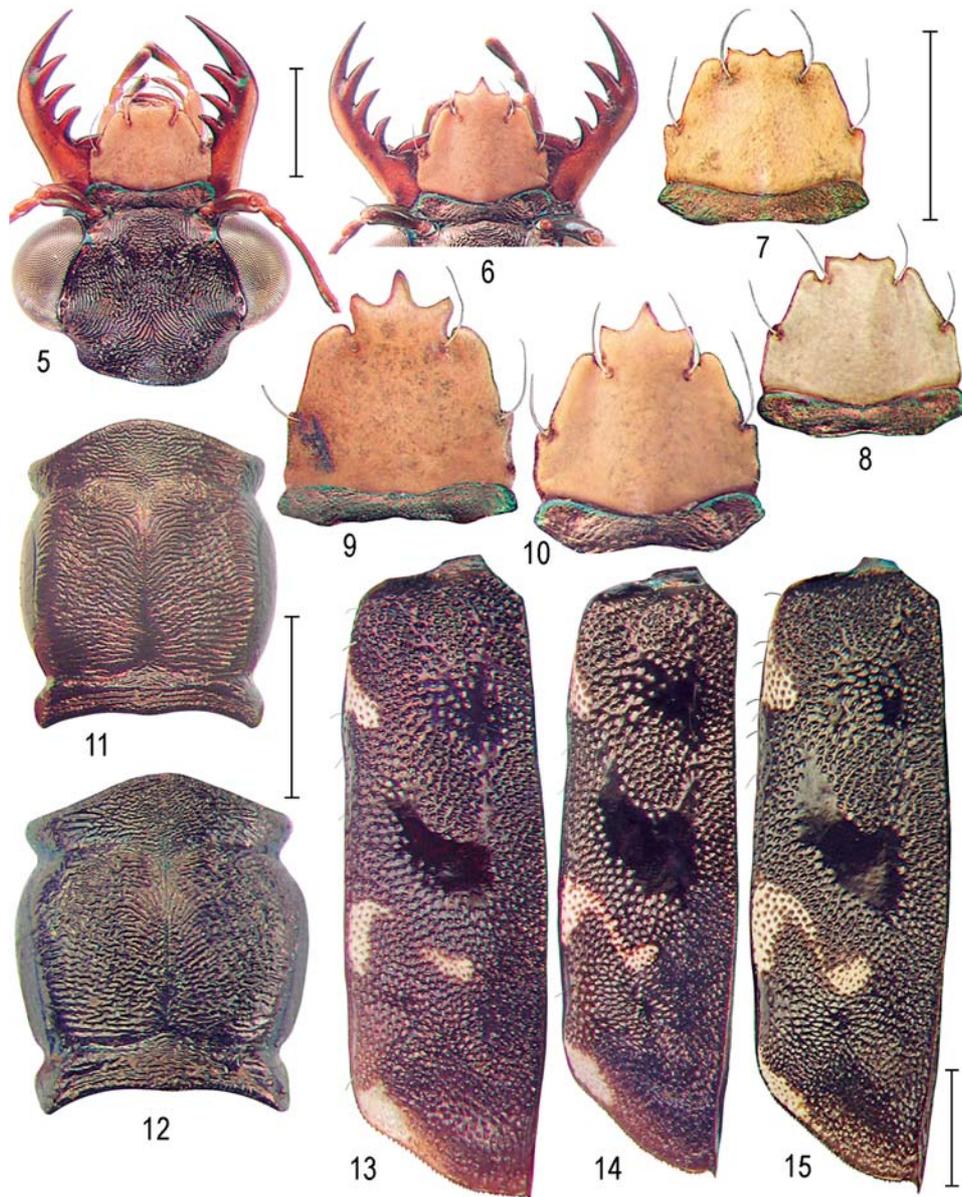
References

- BATES H. W. 1872: Notes on Cicindelidae and Carabidae, and descriptions of new species (No. 14). *Entomologist's Monthly Magazine* **8**: 263–266.
- BRULLÉ A. 1837: Insectes de l'Amérique méridionale recueillis par Alcide d'Orbigny. *Voyage dans l'Amérique méridionale* **6** (2e Partie: Insectes), Paris: 17–32. Strasbourg.
- DURAN D. P. & MORAVEC J. 2013: A new species of the genus *Pentacomia* from Panama (Coleoptera: Cicindelidae). *Acta Entomologica Musei Nationalis Pragae* **53**: 49–57.
- ERWIN T. L. & PEARSON D. L. 2008: *A treatise on the Western Hemisphere Caraboidea (Coleoptera). Their classification, distributions, and ways of the life. Volume II. Carabidae – Nebriformes 2 – Cicindelidae*. Pensoft Series Faunistica 84, Pensoft Publishers, Sofia, Bulgaria.
- FLEUTIAUX E. 1892: *Catalogue systématique des Cicindelidae*. Liege, 1–186.
- GUERRA J. F., BRZOSKA D. W. & PEARSON D. L. 1997: Preliminary list of the tiger beetle species of Bolivia (Coleoptera: Cicindelidae). *Cicindela* **29(1–2)**: 25–32.
- HORN, W. 1899: Ueber das System der Cicindeliden. *Deutsche Entomologische Zeitschrift* **1**: 33–51.
- HORN W. 1915: *Coleoptera Adephaga, Fam. Carabidae, Subfam. Cicindelinae*. In: WYTSMAN, P., *Genera Insectorum* **82**, 209–487, plates 16–23.
- HORN W. 1922: Studien über neue und alte Cicindeliden (*Col.*), (Neubeschreibungen, Synonymie, Faunistik). *Zoologische Mededeelingen* **7**: 90–112.
- HORN W. 1938: 2000 Zeichnungen von Cicindelinae. *Entomologische Beihefte aus Berlin-Dahlem* **5**: 1–71, 90 Tafeln.
- HUBER R. L. 1999: Eight new tiger beetle species from Bolivia in the genera *Odontocheila*, *Pentacomia* and *Pometon* (Coleoptera: Cicindelidae). *Cicindela* **31(1–2)**: 1–44.

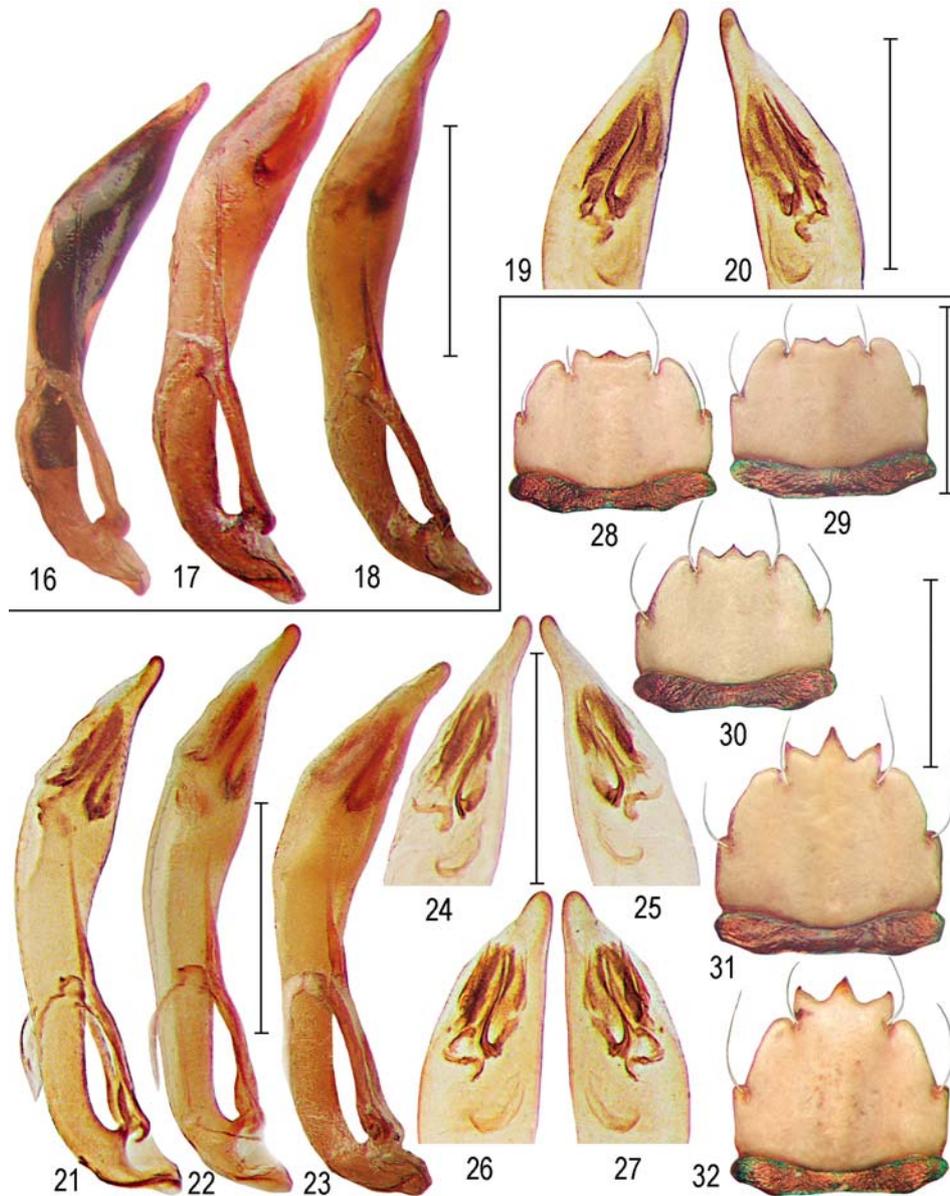
- ICZN [INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE] 1999: *International Code of Zoological Nomenclature, fourth edition, adopted by the International Union of Biological Sciences*. International Trust for Zoological Nomenclature, London, xxix + 306 pp.
- KLUG F. 1834: Uebersicht der Cicindeletae der Sammlung. *Jahrbücher der Insectenkunde* **1**: 1–47, Tafel 1.
- MITTERRMEIER R. A. & MITTERRMEIER C. G. 1997: *Megadiversity*. CEMEX, Mexico City, Mexico, 501 pp.
- MORAVEC J. 2002: *A monograph of the genus Physodeutera (Coleoptera: Cicindelidae). Tiger beetles of Madagascar 2*. Kabourek, Zlín, 290 pp.
- MORAVEC J. 2010: *Tiger beetles of the Madagascan Region (Madagascar, Seychelles, Comoros, Mascarenes, and other islands. Taxonomic revision of the 17 genera occurring in the region (Coleoptera: Cicindelidae)*. Biosférická rezervace Dolní Morava, o.p.s., Lednice na Moravě, Czech Republic, 429 pp.
- MORAVEC J. 2012a: Taxonomic and nomenclatorial revision within the Neotropical genera of the subtribe *Odontochilina* in a new sense – 1. Some changes in taxonomy and nomenclature within the genus *Odontocheila* (Coleoptera: Cicindelidae). *Acta Musei Moraviae, Scientiae Biologicae* **97(2)**: 13–33.
- MORAVEC J. 2012b: Taxonomic and nomenclatorial revision within the Neotropical genera of the subtribe *Odontochilina* W. Horn in a new sense – 2. *Brzoskaicheila* gen. nov., a new genus for *Cicindela hispidula* Bates, 1872, and *Brzoskaicheila crassisculpta* sp. nov. (Coleoptera: Cicindelidae). *Acta Musei Moraviae, Scientiae Biologicae* **97(2)**: 35–48.
- MORAVEC J. 2012c: Taxonomic and nomenclatorial revision within the Neotropical genera of the subtribe *Odontochilina* W. Horn in a new sense – 3. *Pentacomia (Mesacanthina) punctum* (Klug) and *P. (M.) ronhuberi* sp. nov. (Coleoptera: Cicindelidae). *Acta Musei Moraviae, Scientiae Biologicae* **97(2)**: 49–63.
- MORAVEC J. 2013: Taxonomic and nomenclatorial revision within the Neotropical genera of a subtribe *Odontochilina* W. Horn in a new sense – 4. A new species and a new synonymy within the genus *Odontocheila*. (Coleoptera: Cicindelidae). *Acta Musei Moraviae, Scientiae Biologicae* **98(1)**: 53–73.
- MORAVEC J. & BRZOSKA D. 2013: Taxonomic and nomenclatorial revision within the Neotropical genera of the subtribe *Odontochilina* W. Horn in a new sense – 5. A new species of the genus *Pentacomia* from Costa Rica. *Acta Musei Moraviae, Scientiae Biologicae* **98(1)**: 75–84.
- MORAVEC L. & DURAN D. P. 2013: Taxonomic and nomenclatorial revision within the Neotropical genera of the subtribe *Odontochilina* W. Horn in a new sense – 6. *Odontocheila fraternum* sp. nov., a new species sister to *O. gilli* (Coleoptera: Cicindelidae). *Acta Entomologica Musei Nationalis Pragae* **53**: 585–599.
- PEARSON D. L., GUERRA J. F. & BRZOSKA D. W. 1999: The Tiger beetles of Bolivia: their Identification, Distribution and Natural History (Coleoptera: Cicindelidae). *Contributions on Entomology, International* **3(4)**: 379–524.
- RIVALIER E. 1969: Démembrement du genre *Odontochila* (col. Cicindelidae) et Révision des principales espèces. *Annales de la Société Entomologique de France* (N. S.) **5**: 195–237.
- RIVALIER E. 1971: Remarques sur la tribu des Cicindelini (Col. Cicindelidae) et sa subdivision en sous-tribus. *Nouvelle Revue d'Entomologie* **1**: 135–143.
- SCHILDER F. A. (1953): Studien zur Evolution von *Cicindela*. *Wissenschaftliche Zeitschrift der Martin-Luther-Universität Halle-Wittenberg* **3**: 539–576.
- TATUM T. 1851: Descriptions of new species of coleopterous insects. *Anales and Magazine of Natural History*, London **8**: 49–51.



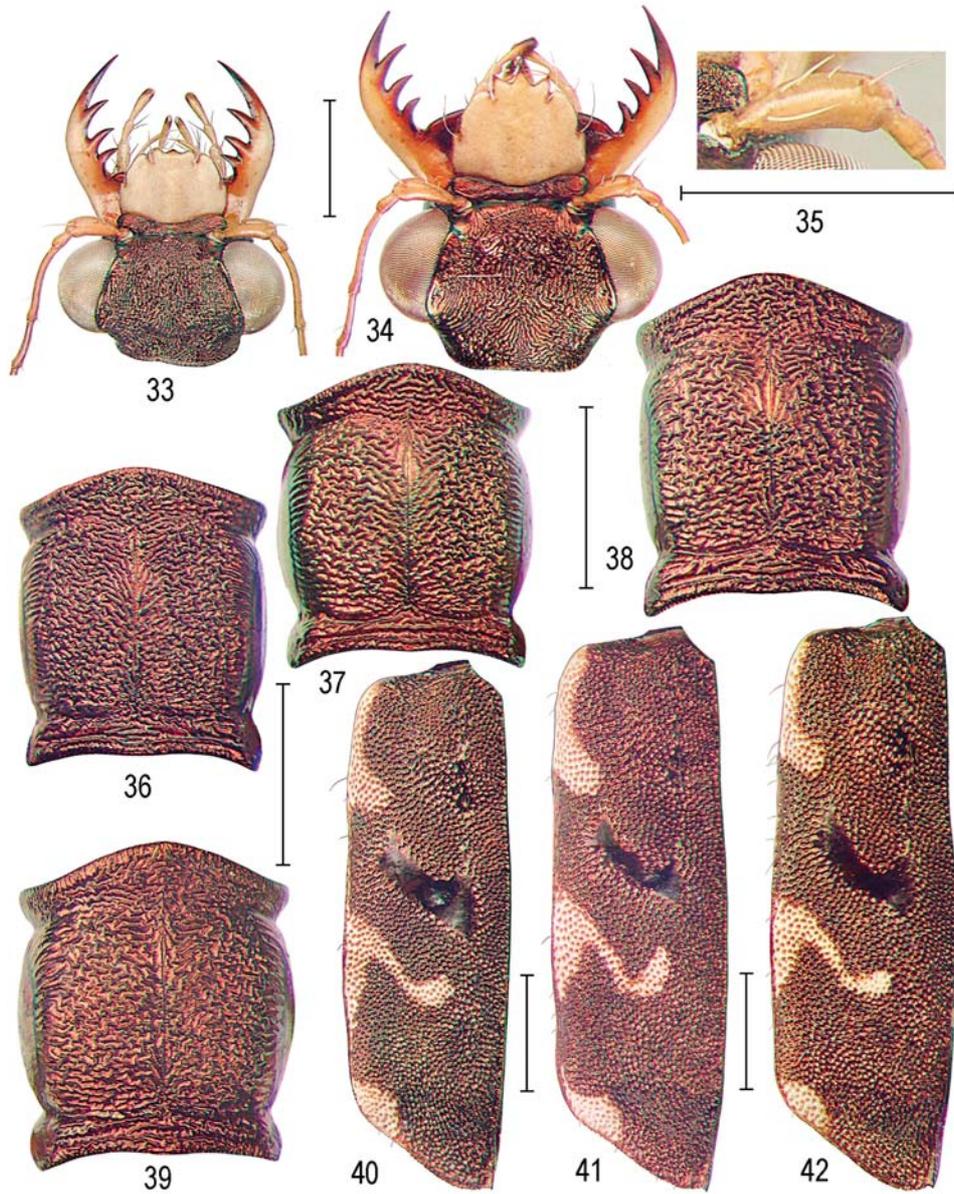
Figs 1–4. Habitus of two species of *Pentacomia* (*Pentacomia*). 1–2: *P. (P.) speculifera* Brullé (1 – ♂, 8.5 mm, San Ramon (CCJM); 2 – ♀, 9.5 mm, LT (MNH)). 3–4: *P. (P.) davidpearsoni* sp.nov. (3 – ♂, 7.5 mm, Camiri, HT (UASC); 4 – ♀, 8.6 mm, Camiri, PT (CCJM)).



Figs 5–15. *P. (Pentacomia) speculifera* Brullé. 5 – head, ♂, San Ramon (CCJM). 6 – buccal appendages, ♀, San Ramon (CCJM). 7–10: labrum (7 – ♂, Trindade–Goyaz (MNHN); 8 – ♂, San Javier (CCJM); 9 – ♀, LT (MNHN); 10 – ♀, San Ramon (CCJM). 11–12: pronotum (11 – ♂, San Javier (CCJM); 12 – ♀, LT (MNHN)); 13–15: elytron (13 – ♂, Trindade–Goyaz (MNHN); 14 – ♂, San Javier (CCJM); 15 – ♀, LT (MNHN). Bars = 1 mm.



Figs 16–32. Characters of two species of *Pentacomia* (*Pentacomia*). 16–20: *P. (P.) speculifera* Brullé. 16–18: aedeagi (16 – Trindade–Goyaz (MNHN); 17 – San Ramon (CCJM); 18 – San Javier (CCJM); 19–20: ditto, internal sac in left and right lateral view. 21–32: *P. (P.) davidpearsoni* sp.nov. 21–23: aedeagi (21 – HT (UASC); 22 – Camiri, PT (CCJM); 23 – Abapo, PT (CCJM). 24–27: internal sac in left and right lateral view (24–25 – Camiri, PT (CCJM); 26–27 – of the same aedeagus as in Fig. 23, Abapo, PT (CCJM); 28–32: labrum (28 – ♂, HT; 29 – ♂, Abapo, PT (CCJM); 30 – ♂, Camiri, PT (CCJM); 31 – ♀, ibid., PT (CCJM); 32 – ♀, ibid., AT (DBCN). Bars = 1 mm.



Figs 33–42. *P. (Pentacomia.) davidpearsoni* sp.nov. 33–34: head (33 – ♂, HT (UASC); 34 – ♀, Camiri, PT (CCJM). 35: antennal scape, ♀, Abapo, PT (CCJM). 36–39: pronotum (36 – ♂, HT; 37 – ♀, AT (DBCN); 38–39 – ♀, Camiri, PT (CCJM). 40–42: elytron (40 – ♂, HT; 41 – ♂, Camiri, PT (CCJM); 42 – ♀, AT (DBCN), Bars = 1 mm.