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Taxonomic and nomenclatorial revision within the Neotropical genera of a subtribe Odontocheilina W. Horn in a new sense - 10. *Odontocheila castelnaui* species-group (Coleoptera: Cicindelidae).

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Abstract. Taxonomic and nomenclatorial revision of commonly confused taxa of *Odontocheila castelnaui* species-group within the genus *Odontocheila* Laporte de Castelnau, 1834 is presented. The species-group is proposed within a new infrageneric arrangement, in this case to specify a large "Groupe V" by Rivalier (1969). Species status of *O. castelnaui* (Lucas, 1857) and its nomenclature is confirmed. It was commonly treated as an infraspecific taxon under a reverse unavailable name combination "*O. batesii castelnaui*", although *Odontocheila batesii* Chaudoir, 1860 was described later and the correct name combination should have been *O. castelnaui batesii*. Type specimens of *Odontocheila batesii*, *O batesii semicincta* W. Horn, 1892, *O. batesii primitiva* W. Horn, 1920 and *O. castelnaui* (based on *Cicindela castelnaui* Lucas, 1857), were examined and compared to other specimens deposited in relevant collections. The aedeagi of the three latter taxa were studied for the first time, and the revision revealed that *O. batesii* and *O. batesii primitiva* possess the same shape of aedeagi as *O. castelnaui*. *O. batesii* is here still considered a separate species with ssp. *primitiva*, while *O. batesii semicincta* clearly represents a separate species distinguished by a very different shape of its aedeagus. This taxon, commonly confused and hitherto considered a junior synonym of *O. castelnaui* (treated mostly as "*O. batesii castelnaui*"), was originally described by Horn (1892) as "var. *semicincta*", but according to Art 45.6.4 (ICZN 1999) the name is available subspecific name; consequently the taxon is elevated here to the species status as *O. semicincta* W. Horn, 1892 stat. nov. Lectotype designations of these taxa are given. *O. rostripenis* sp. nov. and *O. janvybirali* sp. nov. are described here as new species to science. Distribution and habitats of these species occurring exclusively in the rainforest of the Amazon Basin are discussed. Key to species of this species-group, detailed descriptions, as well as illustrations of their habitus, diagnostic characters and variability are presented in colour photographs.

INTRODUCTION

This paper is a continuation of the ongoing taxonomic revision of ten 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, 2013 and 2014, Duran & Moravec 2013, Moravec & Duran 2013 and Moravec & Brzoska 2013, 2014a,b) is to publish significant taxonomic and nomenclatorial changes or descriptions of new taxa to be available before the completion of the final comprehensive publication.

Regarding the subtribe Odontocheilina W. Horn, 1910 (originally as "Odontochilina", but according to Art. 35.4.1 (ICZN 1999) emended to Odontocheilina), the subtribe is in this series of papers defined exclusively for the Neotropical genera as previously discussed by

Moravec (2012a,c), and in the present sense separated from the subtribe Prothymina W. Horn, 1910 sensu Rivalier (1969,1971). The reason for such a classification is that in contrast to the characters given by Rivalier (1969, 1971) for his wide concept of the subtribe Prothymina, many species of the Neotropical Odontochilina placed within Prothymina by Rivalier (1971), possess a setal vesture, developed to various degrees.

The genus *Odontocheila* Laporte de Castelnau, 1834 presently comprises approximately 80 taxa including a number of subspecies that are under review by the first author. Many of the type specimens, namely of the taxa described by Walther Horn, were not examined by Rivalier (1969), and these were not included in his brief and incomplete revision. He subdivided the genus into five species-groups, but some of them deserve more exact delimitation.

In this paper a revision of commonly confused species related to *Odontocheila castelnaui* (Lucas, 1857), which appeared to represent a wider complex of species occurring exclusively in the Amazon Basin, is presented and the complex is classified here as a new species-group. Type specimens of *O. batesii* Chaudoir, 1860, *O. batesii semicincta* W. Horn, 1892, *O. batesii primitiva* W. Horn, 1920 and *O. castelnaui* (based on *Cicindela castelnaui* Lucas, 1857) were studied and compared to other specimens deposited in relevant collections. Except for the lectotype of *O batesii*, the aedeagi of the type specimens of the other three taxa were fully hidden inside their abdomens, thus unexamined until the present revision. Their examination disclosed that *O. batesii* and *O. batesii primitiva* possess the same, simply hooked apex of their aedeagi as in *O. castelnaui*. Nevertheless, *O. batesii* is here considered a separate species with ssp. *primitiva*.

It should be noted here that *O. castelnaui* was erroneously treated under a reverse unavailable name combination as "*O. batesii castelnaui*" although *Odontocheila batesii* was described later and the correct name combination should have been *O. castelnaui batesii*. The error in the name combination was started by Bates (1869) who listed both *O. batesii* and *O. castelnaui*, but he somewhat ambiguously indicated that the latter is only a local variety of the former. The reverse name combination, moreover with an incorrect subsequent spelling "*batesi*", was spread by Horn (1892, 1893, 1905, 1910, 1926), but also by Rivalier (1969) in his brief revision of the genus, followed by other authors including Wiesner (1992) who listed it in his checklist as *O. batesii castelnaui.* It was treated as *O. castelnaui batesii* by Lorenz (1998a,b, 2005a,b) and Erwin & Pearson (2008).

The examination of the aedeagus of a male syntype of "*Odontocheila batesi* var. *semicincta*" revealed that this taxon represents a separate, clearly distinguished species. It was described by Horn (1892) as "var. *semicincta*", but because the name was published before 1961, according to Art. 45.6.4 (ICZN 1999) it is considered available subspecific name. This is also supported by the fact that Horn (1892) in his paper with the original description of this taxon did not recognize subspecies, but simultaneously with his "var. *semicincta*" he also mentioned "var. *castelnaui*". Consequently, this taxon is here elevated to species status as *Odontocheila semicincta* W. Horn, 1892 stat. nov. Fleutiaux (1892) listed both *O. batesii* and *O. castelnaui* as separate species, the latter with "var. *semicincta*". Horn (1893) kept these taxa still as "*O. batesi* var. *castelnaui*" and "var. *semicincta*", only much later (Horn 1905, 1910, 1926) considered his "var. *semicincta*" as a synonym of "*O. batesi castelnaui*". As many other taxa described by Walther Horn, this taxon was neither examined nor mentioned

by Rivalier (1969). Due to a large white area covering elytral apex and corresponding with the original description of *O. castelnaui* by Lucas (1857), other consequent authors confused these two taxa and treated "var. *semicincta*" as a synonym (mostly of "*O. batesi castelnaui*"), because they never examined aedeagi of the type specimens and could not recognize the fundamental differences between them.

Two other species, *O. rostripenis* sp. nov. and *O. janvybirali* sp. nov., have been recognized within this group and are described here as new species to science.

MATERIAL AND METHODS

The body length is measured as the distance from the anterior margin of the clypeus to the elytral apex including the sutural spine. The width of the pronotum is measured to include the lateral margins of the proepisterna (when the proepisterna and the notopleural sutures are visible from above). The width of the head is measured as the distance between the outer margins of the eyes. 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. 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 morphological terminology is mostly adopted from Torre-Bueno dictionary (Nichols 1989), those describing the surface macrosculpture partly from Harris (1979), but many terms have been proposed by Moravec (2002, 2007, 2010).

The colour photographs of the habitus and diagnostic characters, including aedeagi, were taken by the first author with a Nikon Coolpix 990 digital camera through an MBS-10 binocular stereo microscope.

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, PLT = paralectotype.

Abbreviations for the collections:

BMNH The Natural History Museum London, U.K.;
COSJ Collection Ondřej Šafránek, Jiřetín pod Jedlovou, Czech Republic;
CCJM Collection Cicindelidae Jiří Moravec, Adamov, Czech Republic;
CJVB Collection Jan Vybíral, Židlochovice (u Brna), Czech Republic;
CMKP Collection Miroslav Klícha, Praha, Czech Republic;
CMNH Carnegie Museum of Natural History, Pittsburgh, U.S.A.;
CPVP Collection Petr Votruba, Praha, Czech Republic;

DBCN Insect Collection of David W. Brzoska, Naples, Florida, U.S.A.;
FSCA Florida Department of Agriculture, Gainesville, Florida, U.S.A.;
IRSNB Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium;
JWCW Collection Jürgen Wiesner, Wolfsburg, Germany;
KCBC collection Arnošt Kudrna, České Budějovice, Czech Republic;
MFNB Museum für Naturkunde der Humboldt-Universität, Berlin, Germany;
MHCW Michio Hori collection, Wakayama, Japan;
MNHN Muséum national d'Histoire naturelle, Paris, France;
NHMK Natural History Museum, University of Kansas, Lawrence, Kansas U.S.A.;
NHRS Swedish Museum of Natural History, Stockholm, Sweden;
NMPC National Museum (Entomological Department), Prague, Czech Republic;
RLHC Collection Ronald L. Huber, Bloomington, Minnesota, U.S.A.;
SDEI Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany.

TAXONOMY

Note: the spelling "*Odontochila*" is an unjustified emendation by Agassiz (1846), of the genus-group name *Odontocheila* Laporte de Castelnau, 1834.

Odontocheila castelnaui species-group

A species-group proposed here for five species previously placed in a large "Groupe V" by Rivalier (1969).

Identification. Body very large and rather robust, 12.5-15.5 mm in length, all portions glabrous (except for normally setose coxae, and usual a few hair-like sensory setae); elytra with conspicuously uneven surface due to several deep impressions and coarsely punctate, punctures commonly anastomosing and partly forming an elongate-cavernous sculpture; white elytral maculation consisting of 3 maculae: humeral macula clearly visible from above in male (smaller in female and in some species barely visible from above), lateral-median macula, and anteapical macula which is either isolated and restricted to the elytral anteapical angle, or covering whole anteapical-apical area, in one species variably connected with the lateral-median macula by a narrow or wider whitish band; labrum rather long, bicolored in both sexes; antennae rather short, not surpassing elytral third, scape markedly voluminous but regularly shaped, metallic black-violaceous to black-blue, antennomeres 2-4 metallic black-blue with various iridescence, 5-11 smoky-darkened; all leg segments metallic-black with greenish, blue and violaceous lustre and usual, whitish setae; mandibles normally shaped, subsymmetrical, with four teeth (and basal molar); palpi normally shaped (with elongate terminal palpomeres), either entirely metallic-black, or with longest palpomeres both of labial and maxillary palpi in male whitish or partly testaceous; aedeagi with distinctly shaped thick apex which is either simply hooked, or composed of a thick ventral stem which is either straight and rather short, abruptly constricted into thin, ventrally directed transverse projection, or long and moderately bent with a dilated "head" dorsally constricted

Figs 1-6. *Odontocheila castelnaui* species-group: 1- *O. castelnaui* (Lucas), ♂, 14.1mm, LT (MNHN); 2- *O. batesii* Chaudoir, ♂, 13.8 mm, LT (MNHN); 3- *O. batesii primitiva* W. Horn, ♂, 13.5 mm, LT (NHRS); 4- *O. semicincta* W. Horn stat. nov., ♂, 13.4 mm, LT (SDEI); 5- *O. rostripenis* sp. nov., ♂, 14.0 mm, HT (MNHN); 6- *O. janvybirali* sp. nov., ♂, 14.4 mm, HT (MNHN).

into narrow, transverse, mostly moderately rostrate process; internal sac containing sclerites characteristic of the genus: thick, elongate basodorsal piece, voluminous reniform ventral piece, thin arciform piece, and long, convoluted flagellum with bulbous base and flagelliform part usually visible as protruding from the dorsoapical orifice.

Distribution and biology. All taxa of this species-group occur exclusively in the rain forests of the vast Amazon Basin in Brazil, Peru, Ecuador, very rarely in Venezuela and Bolivia. Some of the species have evidently sympatric occurrence as obviously spreading along the numerous Amazon tributaries. Adults of this species-group are found directly on shaded edges and bars of water streams or rivers.

KEY TO SPECIES OF *ODONTOCHEILA CASTELNAUI* SPECIES-GROUP

1 Elytra with wide whitish macula covering whole anteapical-apical area; palpi in both sexes metallic-black (with various iridescence) 2
- Elytra with anteapical macula restricted to anteapical angle, only rarely variably prolonged along apical margin towards suture by a narrow stripe; elytral apex in male acute 3
2 Apex of aedeagus simply hooked; elytral apex in male acute to subacute, apical white area never interconnected with lateral-median macula ..... *O. castelnaui* (Lucas)
- Apex of aedeagus consisting of a rather short and thick, straight ventral stem abruptly constricted into thin, ventrally directed transverse projection; elytra with large white anteapical-apical area sometimes (variably) interconnected with lateral-median macula by ochre to white, narrow or wide longitudinal lateral stripe; elytral apex in both sexes rounded; palpi in both sexes entirely metallic-black ..... *O. semicincta* W. Horn
3 Apex of aedeagus consisting of long, straight or moderately bent ventral stem with a "head" constricted into thin, dorsally directed and moderately rostrate process (resembling an "ostrich head"); humeral macula in female invisible from above; longest palpomeres both of labial and maxillary palpi in male almost entirely or partly whitish (metallic black in female) 4
- Apex of aedeagus simply hooked; humeral macula in female visible from above; female labrum with acute anterior teeth 5
4 Dorsal body coloration black-copper with reddish cupreous lustre in middle and greenish lustre laterally (darker in female); median lobe of male labrum with only indicated or entirely absent median tooth, length : width ratio = 1: 1.6; female labrum with right-angled or obtuse outer anterior teeth; elytral punctation coarse, partly anastomosing and forming cavernous sculpture ..... *O. rostripenis* sp. nov.
- Dorsal body coloration bright metallic-green, sometime with faint reddish-cupreous lustre on median areas; male labrum shorter, length : width ratio = 1: 1.8 with effaced anterolateral teeth and tridentate median lobe and anterior teeth in both sexes acute; elytral punctuation notably finer and less anastomosing than in other taxa of this species-group ..... *O. janvybirali* sp. nov.
5 Anteapical macula isolated from elytral apex or rarely variably prolonged along apical margin up to sutural spine by a narrow stripe; longest palpomeres both of labial and maxillary palpi metallic-black or with central area partly testaceous ..... *O. batesii* Chaudoir
- Anteapical macula isolated from elytral apex, notably smaller than in other taxa of this species-group; longest palpomeres both of labial and maxillary palpi almost entirely metallic-black ..... *O. batesii primitiva* W. Horn

Odontocheila castelnaui (Lucas, 1857)

(Figs 1, 7-17)

Cicindela Castelnaui Lucas, 1857: 34.
Type locality. Peru: Mission de Sarayacu on the Ucayali (= Oucayale) River (see "Biology and distribution" below).
Odontochila Castelnaui: Fleutiaux 1892: 123.
Odontochila Batesi Castelnaui: Horn 1893: 343 - unavailable name combination and incorrect subsequent spelling as "*Batesi*".
Odontochila batesi castelnaui: Rivalier1969: 212, 213, fig. 9cs - incorrect subsequent spelling as "*batesi*".
Odontocheila batesii castelnaui: Wiesner 1992: 79.
Odontocheila castelnaui castelnaui: Lorenz 1998a: 36.

Type material. Lectotype (designated here - see "Remarks") ♂ in MNHN, labelled: "10/47" [circular, dirty-ochre, handwritten, opposite side green] // "Cicindela / castelnaui Lucas" [dirtily ochre, handwritten] // "MUSEUM PARIS / Amerique du Sud / de Castelnau 1847" [greenish, printed/handwritten] // "Lectotype / Cicindela / castelnaui Lucas, 1857 / design. Moravec et Brzoska 2014" [red, printed] / Odontocheila / castelnaui Lucas, 1857, det. Jiří Moravec 2014" [printed].

Other material examined. 1 ♂ in MNHN: "Pebas / Amaz." // "Ex Musæo / H.W.BATES / 1892" // "MUSÉUM PARIS / 1952 / COLL. R. OBERTÜR"; 1 ♂ in BMNH: "Brazil" // "Bowring 63. 47*"; 1 ♀ in BMNH: "30924" // "Brasilia" // "Fry Coll., 1905 - 100".

Redescription. Body (Fig. 1) very large, length 13.4-14.2 (LT 14.1) mm, width 4.00-4.70 (LT 4.30) mm, basic coloration dark metallic cupreous with faint greenish lustre.

Head (Fig. 7) large with pronounced eyes, but notably narrower than body, 3.75-4.10 mm wide.

Frons dorsally triangular, steeply sloped towards clypeus and clearly delimited from it, sloped surface deep purple-violaceous with green iridescence, almost smooth with only lateral areas very finely longitudinally wrinkled; rugae passing over blunt frons-vertex edge more distinct and irregularly transverse-vermicular; supraantennal plates smooth and shiny, deep purple-violaceous.

Vertex with usual juxtaorbital sensory seta (on each side), almost flat, median area dark-cupreous, limited antero-sublateral areas deep violet-blue, lateral areas with greenish lustre; surface of anteromedian area finely irregularly transverse-wavy rugulose to vermicular rugulose (rugae passing from frons), then finely zigzag-wavy and arcuate-arranged, forming an ornament in middle; large juxtaorbital areas more distinctly longitudinally parallel-striate, striae on sublateral areas finer, more irregular and wavy with asperate intervals, finer and more continuous on posterolateral areas when passing onto temples; occipital area very finely irregularly asperate.

Clypeus bright reddish-cupreous with iridescent-green and bluish areas, irregularly rugulose.

Genae black with strong purple-violaceous and green-blue lustre, almost smooth with barely recognizable, shallow, parallel striae.

Labrum 4-setose, male labrum (Fig. 8) rather long, length 1.10 mm, width 1.65 mm, with distinct, somewhat blunt basolateral teeth, arcuate anterolateral teeth, and anteriad-prolonged median lobe consisting of three, small but distinct, subacute anterior teeth of almost same size; coloration ochre-testaceous (in LT tarnished to brownish) with metallic-black darkened

large basomedian area (in LT the original coloration faded and tarnished); female labrum (Fig. 9) of similar shape as in male, but with distinctly projecting median tooth, 1.50 mm long, 1.70 mm wide, much darker coloured.

Mandibles (Fig. 7) subsymmetrical, comparatively robust and rather long, each mandible with four teeth (and basal molar), the third tooth in left mandible somewhat wider than the second, the fourth tooth even smaller; inner teeth in right mandible seem to become gradually smaller towards the basal molar (their shape barely recognizable as the mandibles of the old specimens are firmly closed).

Palpi (Fig. 7) both maxillary and labial palpi normally shaped with elongate terminal palpomeres, metallic black-green with violaceous lustre, penultimate (longest) palpomere of labial palpi almost black, narrowly elongate, only moderately and gradually dilated towards 0.25 mm wide apex.

Antennae appearing rather short (in existing specimens incomplete); scape markedly voluminous metallic black-violaceous to blue, with only apical seta; antennomeres 2-4 metallic black-blue with strong purple-violaceous lustre and green iridescence on apical areas, with a few indistinct setae; antennomere 5-11 brownish to gradually smoky-black darkened (in LT 6-11 missing).

Thorax. Pronotum (Fig. 10) oblong, rather variably shaped but always at least slightly longer than wide, 2.80-3.00 mm long, 2.45-2.70 mm wide; anterior lobe only indistinctly wider than the posterior, notably high, purple-reddish with lustrously green anterior and lateral areas, surface rather coarsely irregularly wavy-rugose; disc cupreous with blue-green lustre on lateral areas and in middle, sublateral areas reddish-cupreous (coloration changing depending on angle of illumination); lateral margins almost parallel (including dorsally visible proepisterna); notopleural sutures thin but visible from above, mutually slightly narrowed in middle; medial line distinct; discal surface convex in middle and with shallow sublateral impressions, rather coarsely wavy-rugulose, rugae subparallel, more continuous and parallel only on anterior area when obliquely converging towards the median line, more irregularly zigzag-wavy on sublateral areas, while rugae on lateral areas towards notopleural sutures became more parallel-transverse, but nearly effaced when reaching the sutures; posterior lobe rather low, with distinct basal rim, bright reddish-cupreous with iridescent green lateral areas, surface with a few, distinct, irregularly transverse rugae; dorsolateral bulges distinct, almost smooth; all lateral and ventral sterna glabrous and smooth, metallic-black with only faint violaceous and greenish lustre.

Elytra (Figs 11-14) elongate, length 8.20-8.90 mm, with rounded humeri, lateral margins almost parallel, with widely arcuate anteapical angles, then obliquely running towards apices which are in male acute (in LT) or subacute, in female almost rounded; sutural spine short but distinct; microserrulation fine and irregular; elytra dorsally notably uneven due to several impressions: humeral and discal impressions deep, clearly delimiting distinct basodiscal convexity, apical impression rather distinct, and additional, elongate sublateral impressions running longitudinally between white lateral-median macula and suture, and merging with shallow but distinct anteapical impression; elytral surface coarsely punctate on whole elytral length, punctures notably large within humeral impressions and on basodiscal convexity; punctures isolated but on prevailing elytral area commonly anastomosing and arranged in chains with intervals forming oblique-transverse crests which are more continuous

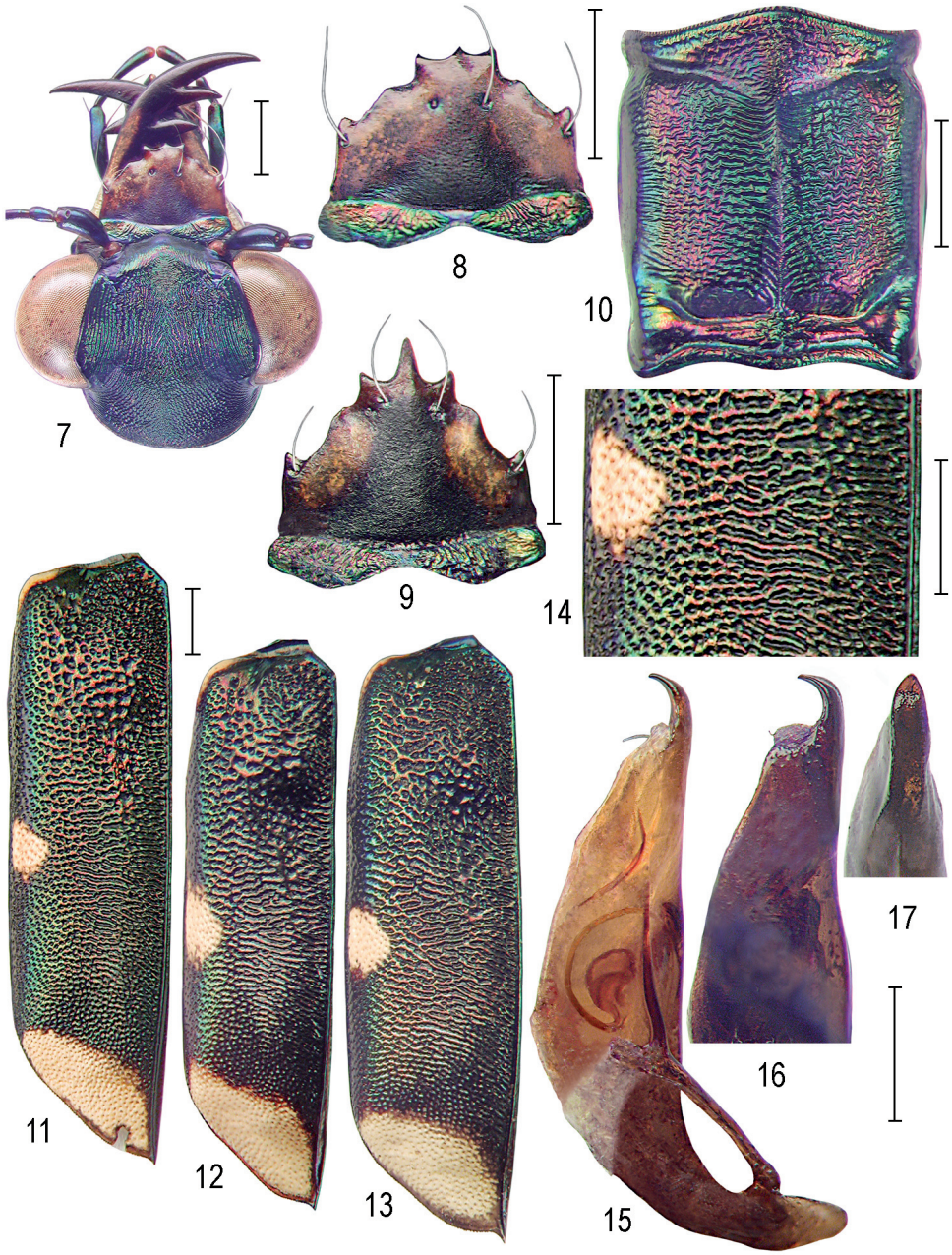
and distant forming elongate-cavernous sculpture (Fig. 14) on median area of elytral disc (mesad of the white lateral-median macula); similar but somewhat finer sculpture present on juxtasutural area; punctures on lateral areas more isolated, becoming finer towards apices, those on posterior declivity and apical area in middle form a very irregular sculpture; elytral surface glabrous except for usual, a few hairlike sensory setae indistinctly scattered mostly on basal area, and a few others adjacent to epipleura; elytral coloration black-copper with bright reddish-cupreous sublateral areas and green lustre on lateral areas while juxtaepipleural areas are black with faint violet lustre (the coloration is changeable depending on angle of illumination); elytral maculation consisting of three distinct ivory-white maculae: humeral macula which is visible from above (clearly in male, barely in female), sublateral-median macula of an irregularly triangular shape, and wide anteapical-apical macula which covers whole apical area towards suture.

Legs. Trochanters black, possessing only apical seta, all other leg segments including tarsi metallic black-blue with strong chatoyant bright blue, green and violet lustre which changes depending on angles of illumination; femora and tibiae dorsally with limited purple-violet apical area; surface of coxae densely punctate-setose, setae rather long, white; metacoxae with apical seta and a few setae on their anteromedian area, their lateral rim and sloped lateral edge fringed with dense white setae; femoral surface rather densely covered with mediocre-long, semierect and rather stiff white setae which are sparser on apical third of metafemora; tibiae with sparser and shorter white setae; pro- and mesotibiae with dense pad of greyish-white setae on their basal two thirds; metatibiae with only sparse, semierect, short and stiffer and much darker, rusty setae; all tarsomeres with distinct longitudinal groves, first three tarsomeres in male distinctly dilated and with usual dense pad of short greyish-white setae; claws dark reddish-brown.

Abdomen. Ventrites metallic-black with greenish, blue and violaceous lustre, surface of the ventrites predominantly smooth and glabrous, except for usual, easily abraded hairlike sensory setae at their posterior margins (in HT a few setigerous punctures, probably anomalously present also on left sublateral area of penultimate ventrite).

Aedeagus (Figs 15-17) large and voluminous in middle, 4.30 mm long, 1.10-1.25 mm wide, apical half gradually attenuated towards rather thick, dorsally simply hooked apex; in ventral view (Fig. 17) the apical part appears narrowly cylindric and terminated by obtuse-triangular apex. Internal sac not examined from cleared aedeagus, but when observed re-hydrated by distilled water, it showed usual sclerites characteristic of the genus, including thin arciform piece and the long convoluted flagellum (partly seen in Fig. 15).

Differential diagnosis. Distinguished from other species of this species-group by the simply hooked apex of the aedeagus (Figs 15-16), combined with the large elytral whitish macula covering whole anteapical-apical area (Figs 11-13). The simply hooked apex of the aedeagus differentiates clearly *O. castelnaui* from *O. semicincta* which has elytra with a similar, large white apical area, but has a very different apex of its aedeagus (Figs 54-58). Moreover, the white area in *O. semicincta* is even larger and sometimes interconnected with the lateral-median macula by a whitish longitudinal stripe (Figs 48-49, 52). Females of these two species are practically indistinguishable, generally the apical white area is somewhat smaller in *O. castelnaui* than in *O. semicincta*, but the size may vary. *O. batesii* (including ssp. *primitiva*)



Figs 7-17. *Odontocheila castelnaui* (Lucas): 7- head, ♂, LT (MNHN); 8-9: labrum (8- ♂, LT; 9- ♀, "Brasilia" (BMNH); 10- prnotum, ♂, LT; 11-14: elytron (11- ♂, LT; 12- ♂, Brazil (BMNH); 13- ♀, "Brasilia" (BMNH); 14- detail of elytral sculpture, ♂, LT); 15-17: aedeagi (15- Brazil (BMNH); 16- LT; 17- LT, ventral view). Bars = 1 mm.

has the same shape of its aedeagus as *O. castelnaui*, but differs in the isolated pattern of its white elytral maculation with much smaller anteapical macula which is restricted to the elytral anteapical angle (Figs 24, 28; 40, 41), in the nominotypical subspecies rarely variably prolonged along apical margin towards apex by a narrow stripe (Figs 25-27).

Biology and distribution. After the present revision, it appeared that *O. castelnaui* is in fact a very rare species. The type locality, mentioned in the original description by Lucas (1857) as "mission Sarayacu", is a Franciscan mission in the department of Loreto, north-eastern Peru (6°47´S, 75°07´W). It is situated at the river Ucayali (= Oucayale), one of the Amazon tributaries. The male (MNHN) labelled "Pebas / Amaz." comes either from the area of Pebas in the Peruvian province of Loreto, or the locality means a large Pebas bed formation covering the whole of west-central Amazonas. Other two historical specimens are labelled "Brazil" or Brasilia" respectively. No other specimens of the genuine *O. castelnaui* have been found in collections. Specimens from Ecuador, as well as records from Ecuador in literature belong in fact to *O. semicincta* (see under that species below). Of the number of authors only Pearson & Huber (1995) mentioned the difference in the shape of the aedeagus of the "form *castelnaui*" recorded by them from Ecuador.

Remarks. Lucas (1857) did not mention in the original description of *Cicindela castelnaui* the number of specimens. The male in MNHN labelled "Amerique du Sud / de Castelnau 1847", which corresponds with the original paper by Lucas (1857) and comes from the "Voyages de Castelnau" realized by Laporte de Castelnau in 1843 and 1847, is the only syntype by Lucas found in collections. Consequently, it is here designated as lectotype to assure stability of this taxon.

Due to the elytral large white apical area, *O. castelnaui* was hitherto commonly confused with *O. semicincta* - most of specimens standing in collections as *O. castelnaui* are in fact *O. semicincta*.

Odontocheila batesii batesii Chaudoir, 1860

(Figs 2, 18-35)

Odontochila Batesii Chaudoir, 1860: 322.
Type locality. "prés du fleuve des Amazones".
Odontocheila Batesii: Bates 1869: 290.
Odontochila batesi: Rivalier 1969: 212, 213, fig. 9bt, 214, fig. 10bt - incorrect subsequent spelling as "*batesi*".
Odontocheila batesii batesii: Wiesner 1992: 79.
Odontocheila castelnaui batesii: Lorenz 1998a: 36

Type material. Lectotype (designated here) ♂ in MNHN, labelled: "Batesii / Chaud. / Amazones / 59, Bates" [dirty-ochre with black frame, handwritten] // "MUSEUM PARIS / COLL CHAUDOIR, 1884" [greenish, printed] // "TYPE" [red, printed] // "LECTOTYPE / Odontocheila / batesii / Chaudoir, 1860 / design. Moravec & Brzoska 2014" [red, printed]. Paralectotypes. 2 §§ in MNHN: "MUSEUM PARIS / COLL CHAUDOIR, 1884" [greenish, printed]; 1 ♂ in BMNH: "Amazon / Bates" [handwritten] // "Fry Coll. / 1905-100" [printed]. All paralectotypes labelled: "Revision Jiří Moravec 2014: / PARALECTOTYPE / Odontocheila / batesii / Chaudoir, 1860" [red, printed].

Other material examined. 6 ♂♂, 4 ♀♀ in SDEI: "Sao Paulo / Olivença / [leg.]Wucherpfennig"; 1 ♂ in SDEI: "Est Amazonas / S. Paulo Olivenca"; 1 ♂ in SDEI: "O. Amazones / Olivença"; 1 ♂ in SDEI: "Olivenca / Ob. Amaz."; 2 ♂♂, 1 ♀ in MNHN, 1 ♂ in MFNB: "S^{to} Paulo d'Olivença / Amazones"; 1 ♂ in MNHN: "S. Paulo / Amaz." //

"Ex Musæo / H.W.BATES / 1892" // "MUSÉUM PARIS / 1952 / COLL. R. OBERTÜR" // "Batesii Ch. / Bull. Mocs. 1860 322"; 1 ♂ in MNHN: "Amazones" // "Ex Musæo / Mniszech" // // "MUSÉUM PARIS / 1952 / COLL. R. OBERTÜR"; 1 ♂ in MNHN: "Amazones / coll. E. Gounelle 1915"; 1 ♀ in MNHN, 1 ♂ in IRSNB: "Sto Paulo / Amazon"; 1 ♂ in BMNH: "Amazones / 90" / "F. Bates Coll. / 1911-248"; 1 ♂ in BMNH: "Peru / interior" // "Ex Cab. / Thomson" // "F. Bates Coll. / 1911-248"; 1 ♂ in BMNH: "Para"; 1 ♂ in SDEI, 1 ♂ in MFNB: "Staudinger / Juanfue"; 1 ♂ in MFNB: "Amer. mer. / Peru"; 1 ♂ in MFNB: " Amaz. / 83034".

Redescription. Body (Fig. 2) very large, length 13.1-14.7 (LT 13.8) mm, width 3.90-4.40 (LT 4.10) mm, basic coloration dark metallic cupreous, mostly with greenish lustre.

Head large with pronounced eyes, but narrower than body, 3.70-4.00 mm wide.

Frons, vertex, clypeus and genae sculptured and coloured as in *O. castelnaui*.

Palpi (Figs 18-19) normally shaped as in other species of this species-group, longest palpomeres both of labial and maxillary palpi in both sexes metallic black with green, blue and violaceous lustre (also in LT), but in some syntopic males the longest palpomeres both of maxillary and labial palpi are variably partly testaceous on their inner area.

Labrum 4-setose, male labrum (Figs 20-21) markedly long, length 1.05-1.20 mm, width 1.50-1.75 mm (length : with ratio = 1: 1.42) shape as in *O. castelnaui* but the median tooth of the tridentate median lobe is always at least somewhat smaller than the two anterior teeth, mostly only indicated, blunt, or entirely effaced; coloration of the basomedian large area dark or bright metallic-green; female labrum (Fig. 22) of similar shape as in male, but longer and with distinctly protruding median tooth, length 1.35-1.60 mm, width 1.55-1.70 mm, much darker coloured with lateral margins reddish testaceous to brownish, sometimes almost entirely black-brown.

Thorax. Pronotum (Fig. 23) oblong, 2.70-3.20 mm long, 2.40-2.80 mm wide; shape, surface sculpture and coloration, as well as all thoracic sterna as in *O. castelnaui*.

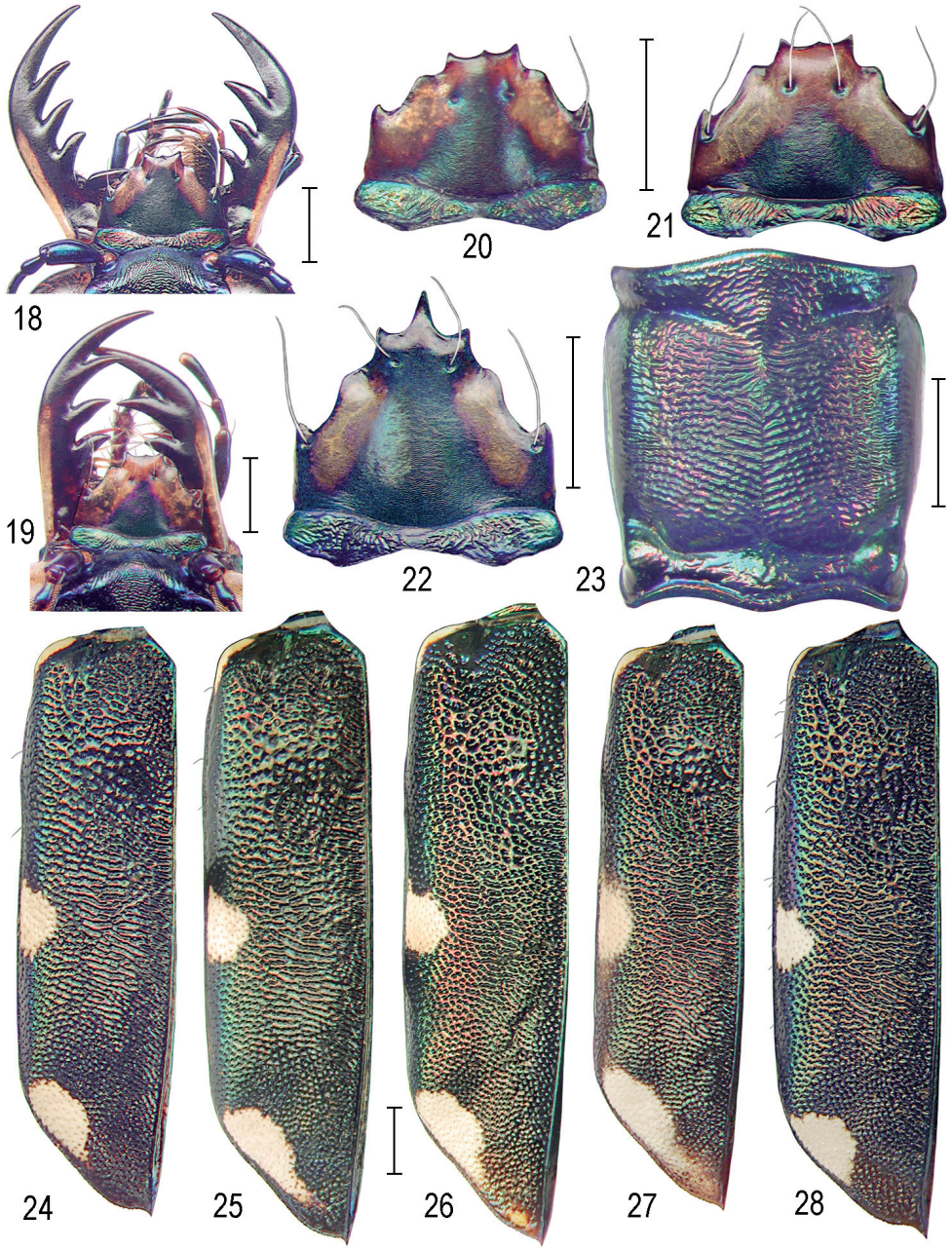
Elytra (Figs 24-28) 8.10-9.20 mm long, coloration, shape as well as surface impressions and pattern of punctate sculpture as in *O. castelnaui*. Elytral maculation consisting of three distinct, isolated maculae: humeral macula which is in both sexes clearly visible from above, rather large sublateral-median macula of an irregularly triangular shape, and anteapical macula which is restricted to anteapical angle, rarely variably prolonged along apical margin towards suture by a narrow stripe.

Legs and abdomen as in *O. castelnaui*.

Aedeagus (Figs 29-35) robust, length 4.40-5.00 mm, width 1.00-1.25 mm, shaped as in *O. castelnaui* having the same simply hooked apex; internal sac (Fig. 32) containing sclerites characteristic of the genus: thick. elongate basodorsal piece, voluminous reniform ventral piece, thin, sinuous arciform piece, and long, convoluted flagellum with bulbous base and flagelliform part usually protruding from the dorsoapical orifice.

Variability. One of the paralectotypes as well as some of the adults of the population from São Paulo de Olivença posses elytra with anteapical white macula prolonged along the apical margin towards the suture by a narrow, continuous or interrupted whitish stripe; longest palpomeres of both labial and maxillary palpi are in some males partly testaceous on their inner area.

Differential diagnosis. *O. batesii* (including ssp. *primitiva*) shares the same shape of the simply hooked apex of aedeagus with *O. castelnaui* (compare Figs 15-16 to 29, 31-35). It differs only externally, in having the white anteapical macula restricted to the anteapical



Figs 18-28. *Odontocheila b. batesii* Chaudoir: 18- buccal appendages, ♂, Sao Paulo de Olivença (SDEI); 19- ditto, ♂, PLT ex Chaudoir (MNHN); 20-22: labrum (20- ♂, LT (MNHN); 21- ♂, Sao Paulo de Olivença (SDEI); 22- ♀, ibid. (SDEI); 23- pronotum, ♂, LT; 24-28 elytron: (24- ♂, LT; 25- ♂, "Amazon" (BMNH); 26- ♂, Sao Paulo de Olivença (SDEI); 27- ♂, PLT ex Chaudoir (MNHN); 28- ♀, Sao Paulo de Olivença (SDEI). Bars = 1 mm.

angle (Figs 24, 28), only rarely (variably in syntopic adults) prolonged to the suture along the apical margin by a narrow whitish stripe (Figs 25-27). The three existing syntypes of *O. b. primitiva* have the anteapical macula isolated and even smaller (Figs 40-41) than in the nominotypical subspecies. *O. rostripenis* sp. nov. described below differs in having a very different shape of aedeagus, but because of the similar (but always isolated) pattern of the elytral maculation, females can be recognized only by the humeral macula which is more easily visible from above in females of *O. batesii*. Moreover, the median lobe of the female labrum in *O. rostripenis* sp. nov. has right-angled or blunt outer anterior teeth (Figs 69-70), thus differing from the acute anterior teeth in female labrum of *O. batesii* (Fig. 9, 37) and all other taxa of this species-group.

Biology and distribution. *O. batesii* inhabits rain forests of the large Amazon Basin in Brazil and Peru. The type locality "prés du fleuve des Amazones" is rather ambiguous, but most specimens come from Brazil, such as from the state of Para, and a large population (SDEI) comes from São Paulo de Olivença situated in the western border of the Brazilian state of Amazonas. The locality "Juanfué" by Staudinger on the labels (MNHN, MFNB) means according to Stephens & Trailor (1983) "Juanjui", a place on the river Huallaga in the province of San Martin, Peru. According to one male of *O. rostripenis* sp. nov. deposited in SDEI, *O. batesii* can be sympatric in the area of Huallaga with this new species and also the type locality of *O. castelnaui* is in the same area. For that matter it may suggest that all species inhabiting the Amazon Basin can radiate along the numerous tributaries of the Amazon river. It is also possible that some of the old historical specimens were mislabelled by insect dealers.

Remarks. As *O. batesii* possesses the same shape of its aedeagus as in *O. castelnaui* and differs from it only externally, it can be possible that these two taxa are conspecific, and as they barely can be geographical subspecies, *O. batesii* can alternatively be considered a junior synonym of *O. castelnaui*. Such a possibility can be supported by the fact that one syntype ex Chaudoir (now paralectotype in MNHN) of *O. batesii* and some adults of the large population from Brazilian São Paulo de Olivença, as well as from Peru, have their elytral anteapical white macula variably prolonged along the apical margin towards the suture by a narrow or wider stripe, thus possessing an intermediate character between these two taxa as demonstrated in Figs 25-27. Moreover, after the present revision, the genuine *O. castelnaui* is in fact known from only four specimens. Nevertheless, as some difference in the pattern of the elytral white maculation exists, and taking into consideration also a great biodiversity in the area, as well as the possibility of incomplete evolutionary processes due to adaptations under different environmental conditions, we feel at present that sending *O. batesii* into synonymy would be premature. Therefore, for the time being, we have treated these two taxa as separate species. From the type specimens of all taxa of this species-group, only the aedeagus of the lectotype of *O. batesii* was examined and correctly illustrated by Rivalier (1969 fig. 10bt) because of the major part of the aedeagus protruding from the abdomen of the male lectotype with clearly visible apex. Rivalier's illustration was adopted also by Pearson, Buestán & Navarrete (1999) although in fact they treated from Ecuador under the name "*O. batesii castelnaui*" evidently *O. semicincta*. In contrast, Horn (1893 fig. 12) illustrated for "*O. batesi*" an aedeagus which in fact refers to *O. semicincta*, because he never examined the

aedeagi of type specimens of all these taxa. For the nomenclature history of these taxa see the "Introduction" of this paper.

Odontocheila batesii primitiva W. Horn, 1920
(Figs 3, 36-41)

Odontochila Batesi primitiva W. Horn, 1920: 2 - incorrect subsequent spelling as "*Batesi*".
Type locality. Río Purús (see "Distribution and biology" below).
Odontocheila batesii primitiva: Wiesner 1992: 79.
Odontocheila castelnaui primitiva: Lorenz 1998a: 36.

Type material. Lectotype (designated here) ♂ in NHRS, labelled: "Amazon / Roman" [printed] // "jan." [printed] // "Rio Purus" [printed] // "Type!" [handwritten] // "NHRS-JLKB / 000021639" [printed] // "3990 / E91 +" [bluish, printed] // "Odontochila / Batesi Chd. / primitiva n. subsp. / W. Horn / Type!" [greenish with black frame, handwritten] // "LECTOTYPE / Odontochila batesi / primitiva W. Horn, 1920 / design. J.Moravec & D.Brzoska 2014" [red, printed]. Paralectotypes. 1 ♀ in NHRS with same first six labels as lectotype except for: "NHRS-JLKB / 000021640" // "3991 / E91"; 1 ♀ in SDEI with same first three labels and: "Syntypus" [red, printed] // "Type / W. Horn" [printed] // "Col. W. Horn / DEI Eberswalde" [printed] // "~~ssp~~ f. / primitiva / mihi" [greenish with black frame, handwritten]. Both paralectotypes labelled: "Revision Jiří Moravec 2014: PARALECTOTYPE / Odontochila batesi / primitiva W. Horn, 1920" [red, printed].

Redescription (of the male LT and two females PLT). Body (Fig. 3) large (the size independent of sex), but smaller than in *O. b. batesii*, 12.4-13.5 (LT 13.5) mm long, 3.90-4.00 (LT 3.90) mm wide, coloration as in *O. b. batesii*.

Head. All characters of frons, vertex, clypeus and genae, including surface sculptures and coloration as in *O. b. batesii*.

Palpi. Maxillary palpi shaped as in *O. b. batesii*, in both sexes metallic-black-brown (coloration faded as usual in old specimens), labial palpi in male paler on its setose side.

Labrum in both sexes shaped as in *O. b. batesii*, but the black-green basomedian area in these old type specimens is faded to black-brown and the testaceous lateral areas tarnished; male labrum (Fig. 36) 1.05 mm long, 1.55 mm wide; female labrum (Fig. 37) 1.35-1.40 mm long, 1.50-1.55 mm wide.

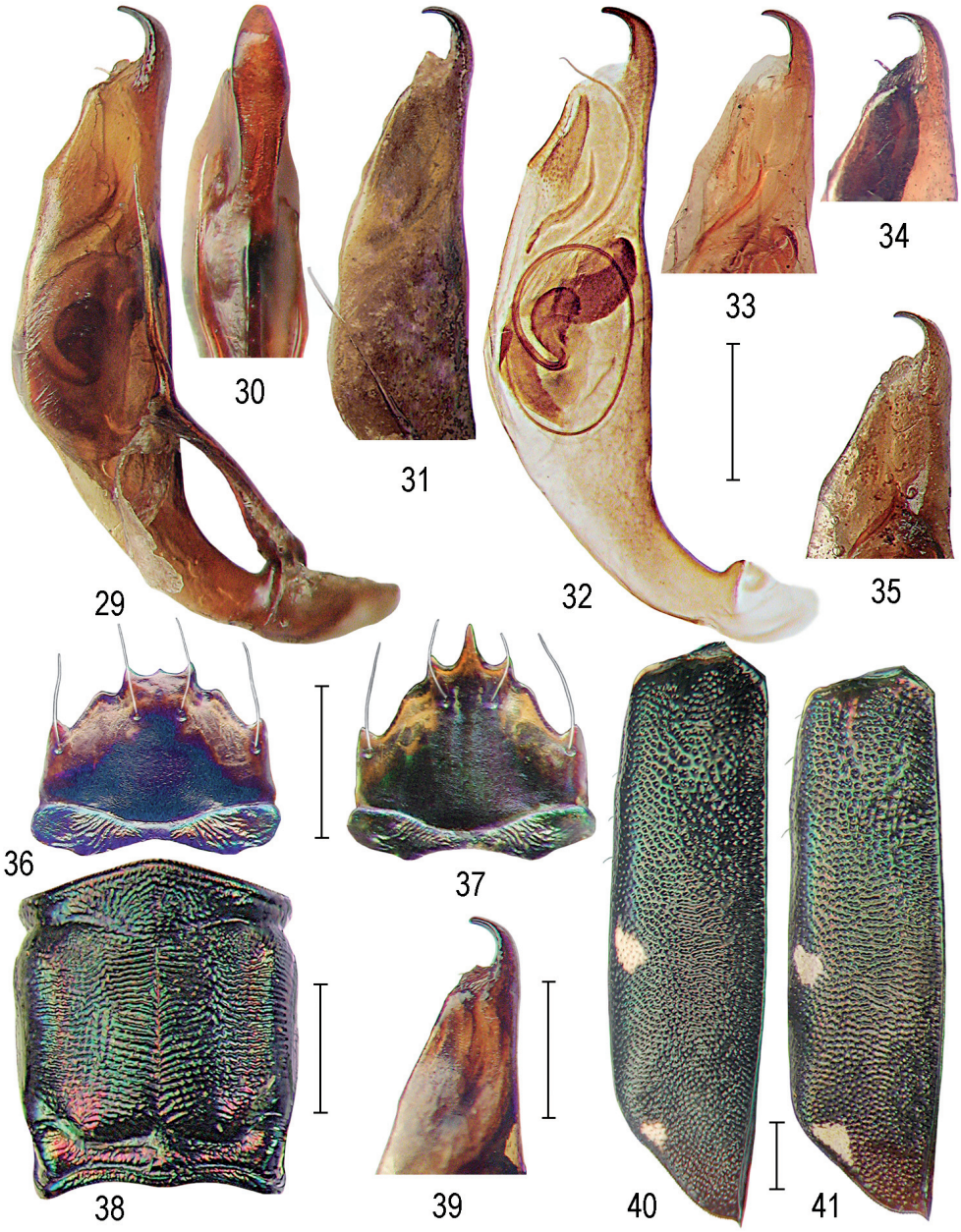
Antennae and mandibles as in *O. b. batesii*, only more faded to brownish.

Thorax. Pronotum (Fig. 38) 2.50-2.75 mm long, 2.20-2.35 mm wide, surface sculpture and coloration as in *O. b. batesii*. All ventral and lateral thoracic sterna as in *O. b. batesii*.

Elytra (Figs 40-41) 7.70-8.10 mm long; shape and surface as in *O. b. batesii*, but the areas with cavernous sculpture formed by somewhat finer anastomosing punctures; pattern of white maculation isolated as in *O. b. batesii*, the humeral macula visible from above in both sexes, but the maculae smaller, particularly the anteapical macula is notably smaller and in all three syntypes isolated from the elytral apex.

Legs and abdomen as in *O. b. batesii.*

Aedeagus (Fig. 39) with simply hooked apex as in *O. b. batesii* - only its apical half illustrated as the aedeagus was only partly extracted and its basal half kept inside the abdomen (after the rehydration and examination of the type specimen), 1.10 mm wide.



Figs 29-41. 29-35: *Odontocheila b. batesii* Chaudoir, aedeagi or their apices (29- Sao Paulo de Olivença (SDEI); 30- ditto, ventral view; 31- LT (MNHN); 32- cleared, showing internal sac, Sao Paulo de Olivença (SDEI); 33- PLT ex Chaudoir (MNHN); 34- Sao Paulo de Olivença (SDEI); 35- Peru Interior (BMNH). 36-41: *Odontocheila b. primitiva* W. Horn, from Rio Purús. 36-37: labrum (36- ♂, LT (NHRS); 37- ♀, PLT (SDEI); 38- pronotum, ♂, LT; 39- aedeagus (apex), LT; 40-41: elytron (40- ♂, LT; 41- ♀, PLT (SDEI). Bars = 1 mm.

Differential diagnosis. The differences from the nominotypical subspecies are mentioned in the redescription.

Distribution. Known only from the type locality Rio Purús, the very long tributary which originates in Peru, but its main part is in Brazil where it enters the larger Amazon tributary Rio Solimões about 110 km west of its mouth to the Amazon river in Manaus. Therefore, the locality is ambiguous and can be anywhere in the vast area.

Remarks. Probably merely a junior synonym of *O. batesii*. Nevertheless, as we do not know the exact position of the type locality and know little of its environmental characters, we keep this taxon tentatively as a subspecies. Described by Horn (1920) as a subspecies of *O. batesii*, and maintained in the subspecies rank also by Horn (1926), it was later probably considered by Horn himself to be merely a "form", which can be deduced from the label of the female syntype in the Horn's collection (now in SDEI) where the "ssp." was crossed out and replaced with "f." (see in the "Type material" above).

Odontocheila semicincta W. Horn, 1892 stat. nov.

(Figs 4, 42-58)

Odontochila Batesi var. *semicincta* W. Horn, 1892: 69 - available subspecific name.

Type locality. Unknown, but obviously in Ecuador.

Type material. Lectotype (designated here) ♂ in SDEI, labelled: "Syntypus" [red, printed] // "ex coll. / Dr. Richter" // "Type / Dr. W. Horn!" [printed] // "Coll. W. Horn / DEI Eberswalde" [printed] // "(semicincta / mihi)" [greenish with thin black frame, handwritten] // "DEI Müncheberg / col 04582" [green, printed] // "LECTOTYPE / Odontochila batesi / var. semicincta W. Horn, 1892 / design Moravec & Brzoska 2014" [red, printed]. Paralectotypes. 1 ♀ in SDEI with same first four labels as in lectotype and: "Revision Jiří Moravec 2014: / PARALECTOTYPE / Odontochila batesi / var. semicincta W. Horn, 1892" (SDEI). Both type specimens labelled: "Odontocheila / semicincta stat. nov. / det. J. Moravec & D. Brzoska 2014" [printed].

Other material examined. 2 ♂♂, 1 ♀ in SDEI: "Napo / Ecuador"; 1 ♂ in SDEI, 3 ♂♂ in BMNH: "Ecuador"; 1 ♂, 1 ♀ in BMNH: "Ecuador, Napo / Muyuna, 500 m. / 5 km W of Tena / 19.IV.1981 / M. Cooper"; 1 ♂ in BMNH, 2 ♂♂, 1 ♀ in MNHN: "Buckley[leg.] / Ecuador"; 1 ♂ in SDEI: "Archidona / (Ecuad.) / R. Haensh"; 1 ♂ in MNHN: "Equateur / Deyrolle"; 1 ♀ in MNHN: "Ecuador"; 1 ♀ in MNHN: "Ex Musaeo Sallé"[no locality]; 1 ♂ in BMNH: "Archidona"; 1 ♂ in SDEI, 1 ♀ in MFNB: "Napo / (Ecuad.) / R. Haensh"; 1 ♀ in MFNB: "Ecuador / Jivaria"; 6 ♂♂, 1 ♀ in KCBC: "Ecuador / Loreto, 400 m. / 50 km SW of El Coca / 4-11.03.2002 / A. Kudrna Jr lgt."; 1 ♂ in RLHC: "Ecuador: Napo Prov. / Rio Piocullin / 10 km SW Puerto Napo / 2 km S Limon Chicta / 27.V.1987; c. 550m / leg. J. H. leg. Acorn, etc."; 1 ♂ in RLHC: ibid., except for: "28.XII.1989; 600m / leg. T.C. MacRae"; 1 ♂ in RLHC: "Ecuador: Napo Prov. / Limoncocha / 16.II.1972 /leg. D. L. Pearson"; 5 ♂♂, 5 ♀♀ in DBCN: "Ecuador - Napo / Tena Puyo Rd. / 17 km N Santa Clara / 01°08.3´S; 77°49.9´W / D. Brzoska 19-IX-1993 (1996, or 1997 respectively)"; 3 ♂♂, 1 ♀ in CCJM: ditto.; 1 ♀ in DBCN: "Ecuador, Napo Pr. / 25-29 km E Alahualpa / 12-16. IX.1998 / F.T. Hovore, coll."; 1 ♂, 3 ♀♀ in CCJM, 1 ♂, 3 ♀♀ in CJVB, 1 ♂, 1 ♀ in CMKP, 1 ♂, 2 ♀♀ in CPVP: "Ecuador / Provincia Pastaza / Santa Clara / 25-28.I.2000 / leg. Mráček"; 1 ♂ in CCJM, 1 ♂ in CMKP: ibid. except for: "leg. R. Veigler"; 3 ♂♂, 1 ♀ in COSJ: "Ecuador 22-27.XI.2004 / prov. Pastaza, Santa Clara (S 01°18´,W 77°52´) / 800-1200 m Petr Baňař lgt."; 1 ♂ in COSJ, 1 ♂ in CPVP: "Ecuador 30.XI.3.XII.2004 / prov. Napo, Loreto / S 0°42´, W 77°19´ / 200-600 m Petr Baňař lgt."; 1 ♂ in JWCW: "Ecuador, Napo / Cholua Yoku, 1000 m"; 1 ♂ in BMNH: "Amaz. / [leg.]Buckley"; 1 ♂ in MHCW: "Puyo / Ecuador / 29.X.2007 / Kondo leg."; 1 ♂ in CCJM: "Bolivia, alt. 300m / Bulo Bulo / 5.I.2002 leg. B. Bubeník".

Redescription. Body (Fig. 4) very large (size independent of sex), length 13.3-15.3 (LT 13.5) mm, width 3.90-4.50 (LT 4.10) mm, basic coloration metallic-black with faint cupreous and greenish iridescence.

Head (Fig. 42) with markedly large eyes (conspicuously so in female where the head capsule itself is narrowed due to the very large eyes), but still narrower than body, 3.40-4.10 mm wide.

Frons, vertex, clypeus and genae as in *O. castelnaui* and *O. batesii*.

Labrum 4-setose, male labrum (Figs 43-44) notably long, length 1.00-1.15 mm, width 1.45-1.60 mm, shape and coloration as in *O. castelnaui* with acute teeth of tridentate anterior lobe; female labrum (Figs 45-46) of similar shape as in male, but with distinctly projecting median tooth, 1.35-1.60 mm long, 1.55-1.70 mm wide, much darker coloured with lateral margins reddish-testaceous to brownish, sometimes almost entirely black-brown.

Mandibles (Fig. 42) robust and rather long, subsymmetrical, apical and second tooth in right mandible more robust than in left mandible, each mandible with four teeth (and basal molar), the third tooth in left mandible somewhat wider than the second, the fourth tooth smaller; inner teeth in right mandible gradually smaller towards the basal molar.

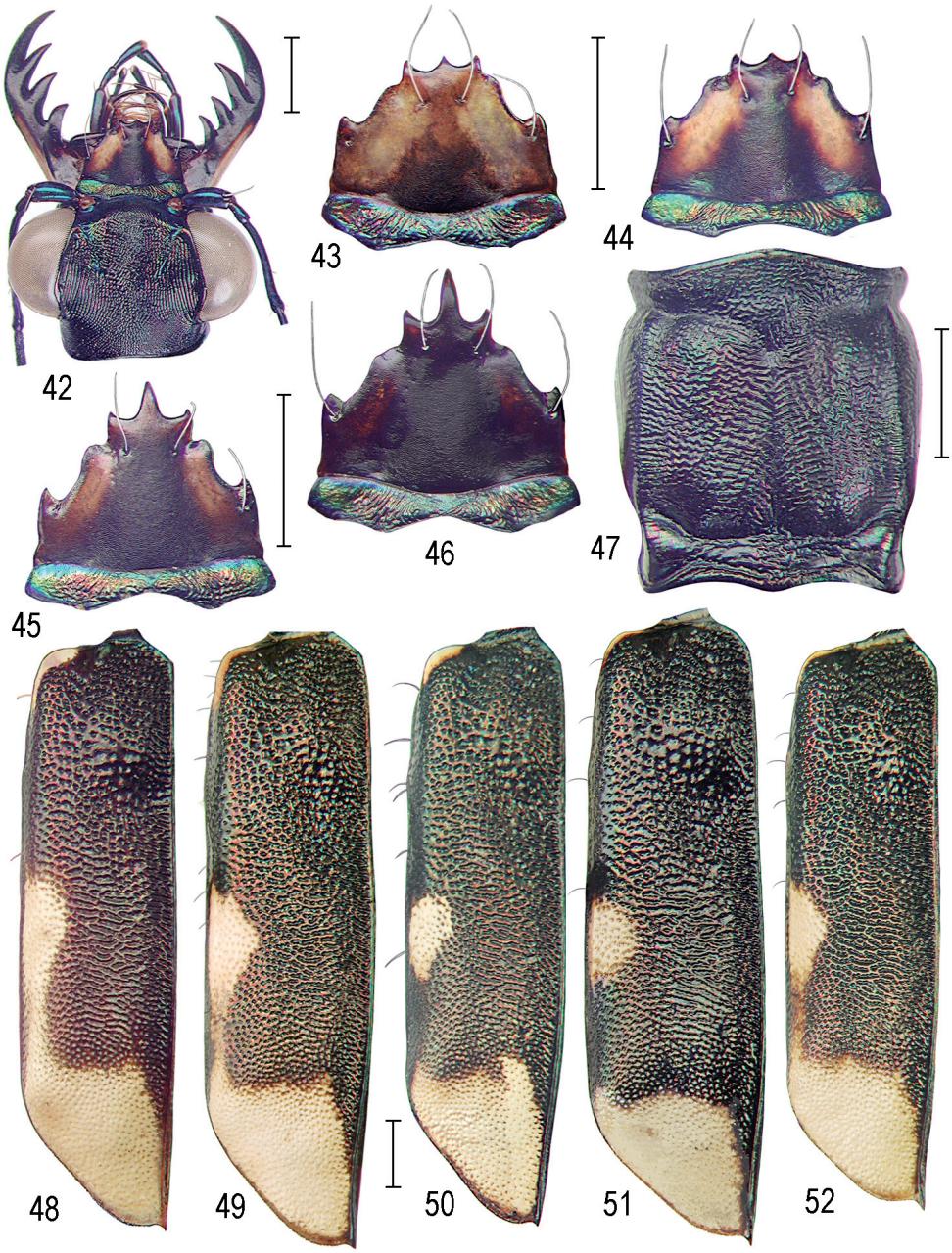
Palpi (Fig. 42) both maxillary and labial palpi normally shaped with elongate terminal palpomeres, in both sexes entirely metallic black with violaceous, blue or green lustre, penultimate (longest) palpomere of labial palpi narrowly elongate, only moderately and gradually dilated towards 0.22-0.24 mm wide apex.

Antennae rather short, in male barely reaching elytral third, in female even shorter; scape with only apical seta, markedly voluminous, metallic black-violaceous to blue; antennomeres 2-4 iridescent-green, or partly black-blue with purple-violaceous lustre, with a few indistinct setae; antennomeres 5-11 brownish to smoky-black darkened.

Thorax. Pronotum (Fig. 47) oblong, 2.60-3.10 mm long, 2.40-2.60 mm wide; anterior lobe only indistinctly wider than the posterior, notably high, cupreous with lustrously green lateral areas; disc cupreous in middle with iridescent-green lustre on sublateral areas (coloration changing depending on angle of illumination); lateral margins moderately or more distinctly convex (including dorsally visible proepisterna); notopleural sutures thin but visible from above; medial line distinct; surface of anterior lobe and disc as in *O. castelnaui*, but the sculpture somewhat finer; posterior lobe with distinct basal rim, bright reddish-cupreous with irregular green iridescence, surface covered with rather coarse wavy rugae, partly forming irregularly areolate sculpture; dorsolateral bulges distinct, almost smooth, shiny reddish; all lateral and ventral sterna glabrous and smooth, metallic-black with only faint violaceous lustre and indistinct, lustrous greenish areas; female mesepisterna lacking any pit, coupling sulci indistinct, in form of longitudinal groove running on whole mesepisternal length, thus more distinctly pronounced than a shorter and shallower sulcus in male mesepisterna.

Elytra (Figs 48-53) 8.40-9.30 mm long, coloration, shape as well as surface impressions and partly cavernous sculpture (Fig. 53) as in *O. castelnaui*, except for elytral apex which is in both sexes rounded (towards sutural spine); elytral maculation consisting of three large ivory-white maculae: humeral macula clearly visible from above and somewhat elongate along the lateral margin, sublateral-median macula of obtuse-triangular shape, and wide anteapical-apical macula which covers wide apical area towards suture, and is often (variably) connected with the lateral-median macula by ochre to ivory, narrow or wide lateral band.

Legs. All leg segments as in *O. castelnaui*, but femora sometimes, particularly in females black (in old specimens faded to black-brown).



Figs. 42-52. *Odontocheila semicincta* W. Horn: 42- head, ♂, Santa Clara (CCJM); 43-46: labrum (43- ♂, LT (SDEI); 44- ♂, Santa Clara (CCJM); 45-46- ♀, ibid. (CCJM); 47- pronotum, ♂, LT; 48-52: elytron (48- ♂, LT; 49-50- ♂, Santa Clara (CCJM); 51-52- ♀, ibid. (CCJM). Bars = 1 mm.

Abdomen. Ventrites metallic-black with greenish, blue and violaceous lustre, sometimes predominantly shiny black, surface of the ventrites smooth and glabrous except for usual, a few hairlike sensory setae (easily abraded) at their posterior margins.

Aedeagus (Figs 54-58) very large, 4.20-5.20 mm long, 1.00-1.10 mm wide, voluminous in middle, gradually attenuated towards rather short and thick, almost straight ventral stem abruptly constricted into thin, ventrally directed transverse projection; dorsoapical orifice sclerotized; in ventral view the apical part is gradually conically attenuated towards obtuse-triangular apex; internal sac (Fig. 58) containing sclerites characteristic of the genus: thick elongate basodorsal piece, voluminous reniform ventral piece, thin (usually feebly sclerotized) arciform piece, and long, convoluted flagellum with bulbous base and flagelliform part usually protruding from the dorsoapical orifice.

Variability. Some adults have the white elytral apical area variably connected with the lateral-median macula by an ochre to white, narrow or wide, longitudinal lateral stripe. The basic coloration of some females is predominantly black, as well as the female labrum; the labrum (both its testaceous margins and basomedian black area) is usually tarnished in old specimens (as in LT), and the coloration of all appendages may fade to brown.

Differential diagnosis. Externally similar to *O. castelnaui* due to the similar, large, white anteapical-apical area covering whole elytral apex, but males are clearly distinguished by the constantly very different, composed shape of the apex of the aedeagus. Moreover, the white apical elytral area is even larger than that in *O. castelnaui*, and sometimes connected with the lateral-median macula by a longitudinal whitish stripe. Females of these two species are practically indistinguishable because only some females of *O. semicincta* have the large anteapical white area interconnected with the lateral-median macula; nevertheless, the white apical area is somewhat smaller in *O. castelnaui*. On the other hand, the large white anteapical-apical elytral area immediately differentiates these two species from all other taxa of this species-group.

Distribution and biology. *O. semicincta* is common in Ecuadorian provinces of Napo and Pastaza and appears to be the most common species within this species-group. Most specimens were recently caught along the Puyo - Tena road (Napo) towards Santa Clara (Pastaza), on the banks of the small river Anzu in the Amazonian rain forests, inhabiting directly shaded edges or bars of river. Adults are good flyers; larvae were not observed. The male (CCJM) labelled "Bolivia / Bulo-Bulo" is the only specimen known from Bolivia. Pearson, Guerra & Brzoska (1999) have not listed from Bolivia any species of this species-group, although the country was thoroughly explored during several expeditions and also by the second author of this paper. The locality Bulo-Bulo in the Bolivian province of Cochabamba is a very long way from Ecuador, but on the other hand, it is situated in Bolivian Amazon Basin. According to the collector, the male was attracted to light during a rainy night, some 50 m from a small river in a swampy place.

Remarks. Because of the large white anteapical-apical area covering whole elytral apex, *O. semicincta* was commonly confused with *O. castelnaui* and hitherto considered a junior synonym of the latter. Described by Horn (1892) as "*O. batesi* var. *semicincta*" (according

to Art 45.6.4 ICZN 1999 available subspecific name), it was later quite inadequately synonymized by Horn himself (Horn 1926) with "*O. batesii castelnaui*" because he never examined the aedeagus of the male syntype (now deposited in NHRS and designated here as the lectotype). Because of the constantly very different composed shape of the apex of its aedeagus, this taxon is here elevated to the species status.

For the history of the nomenclature see the "Introduction" of this paper.

Odontocheila rostripenis sp. nov.

(Figs 5, 59-74)

Type locality. Ecuador: Morona Santiago, 21.5 km southwest of "Puerto Morona Road", 2°58´89´´S; 77°48´94´´W, 585-665 m.a.s.l.

Type material. Holotype ♂ in MNHN, labelled: "ECUADOR - MOR. / SANT. / 21.5km SW-PT. Morona / 0.2°58´89´´S; 77; 48´94´´W / D. Brzoska 18-IX-1996" [printed]. Allotype ♀ in DBCN, (later in NHMK): "ECUADOR: MORONA / SANTIAGO, 25 km S-Patuca / 02°53´42´´S; 78°14´46´´W / D. Brzoska 23-X-1997" [printed]. Paratypes. 4 ♂♂, 1 ♀ in DBCN, 1 ♂ in CCJM, 1 ♂ in FSCA, 1 ♂ in CMNH: same label data as in holotype; 3 ♂♂, 1 ♀ in DBCN, 2 ♂♂ in CCJM: 1 ♂ in SDEI, "ECUADOR: MORONA / SANTIAGO / 21.5km SW-PT. Morona / 0.2°58´89´´S; 77° 48´94´´W / D. Brzoska 24-X-1997" [printed]; 1 ♂ in DBCN, 1 ♀ in CCJM: "ECUADOR: MORONA / SANTIAGO / Pto Morona Road / 6.6 km W Santiago / 03°01.2´S; 78°03.5´W / D. Brzoska 21-X-1998" [printed]; 1 ♂, 1 ♀ in DBCN, 2 ♂♂ in CCJM: "ECUADOR - MOR. / SANT. / 5.2 km S-Patuca 820 m / 2°46´68´´S; 78°15´00´´W / D. Brzoska 17-IX-1996" [printed]; 1 ♀ in DBCN: same label data except for "23-X-1997"; 1 ♂ in RLHC: "Ecuador: Morona-Santiago Prov. / 39km SE Patuca / 3.XI.1995, 385m / leg. J. Buestan" [printed]. 1 ♀ in BMNH: "Ecuador, Morona / - Santiago, Taisha / 500 m. /16.i.1982, / M. Cooper". All type specimens labelled: "HOLOTYPE (ALLOTYPE or PARATYPE respectively) / Odontocheila / rostripenis sp. nov. / det. Moravec & Brzoska 2014" [red, printed].

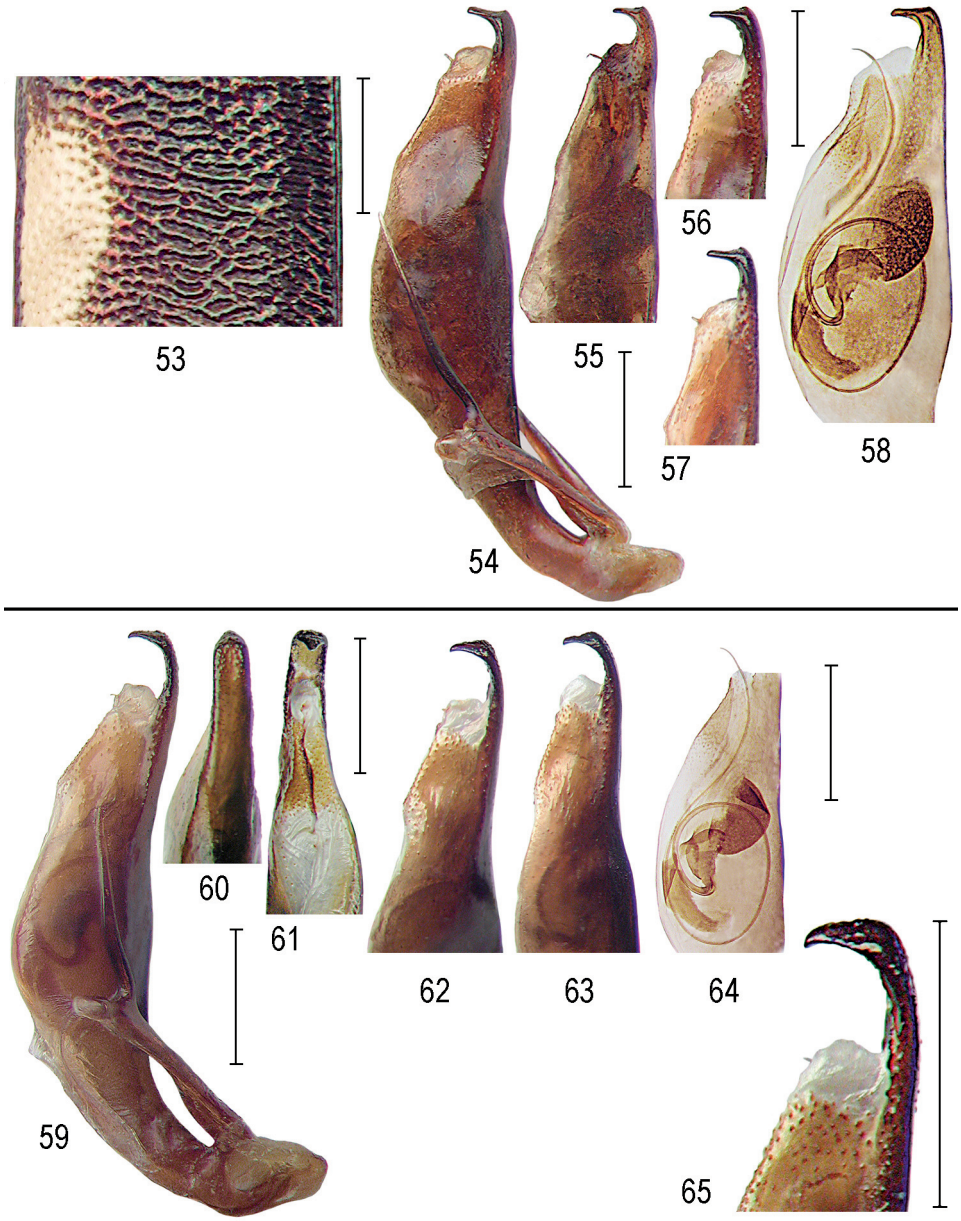
Other material examined. 1 ♂, 1 ♀ in BMNH: "58'77 Amazon / Nanta"; 1 ♂ in SDEI: "Staudinger / Amaz. Str."; 1 ♂ in SDEI: "Peru / [leg.]Staudinger"; 1 ♂ in MFNB: "73890" // "Amazon"; 1 ♂ in MNHN: "Juanfue / ex Staudinger"; 1 ♀ in SDEI: "Staudinger / Huallaga"; 3 ♂♂, 3 ♀♀ in NMPC: "Venezuela / Vráz"[leg.] // Coll. Nickerl / Museum Pragense".

Description. Body (Fig. 5) very large (size independent of sex), 13.9-15.7 (HT 14.0, AT 15.2) mm long, 4.20-4.90 (HT 4.20, AT 4.80) mm wide, basic coloration metallic-black, irregularly with iridescent-cupreous areas and very indistinct greenish iridescences, some adults almost black.

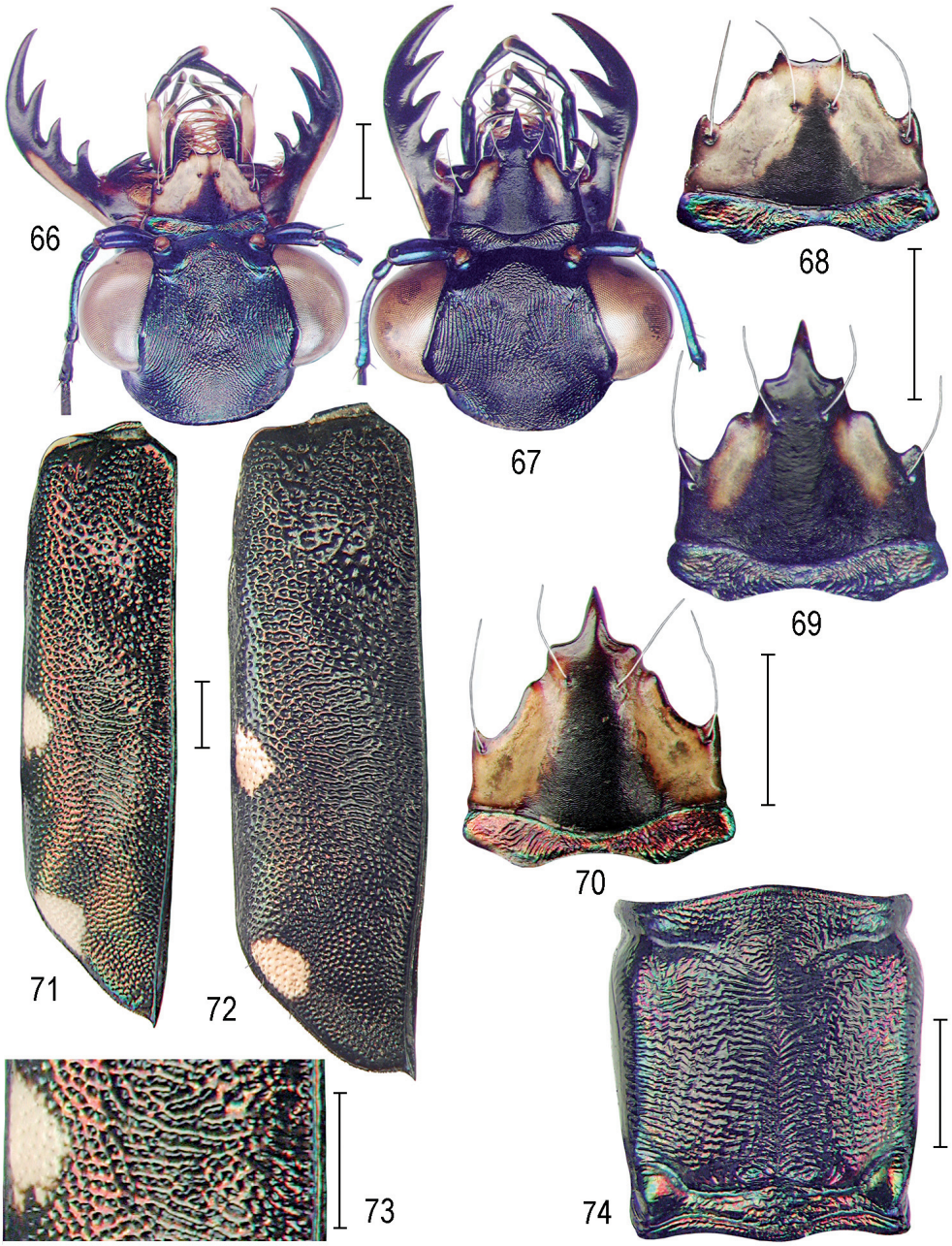
Head (Figs 66-67) large with pronounced eyes, but markedly narrower than body, 3.65-4.00 mm wide.

Frons in dorsal view obtuse-triangular to arcuate-convex, rather steeply sloped towards clypeus and clearly delimited from it; sloped surface iridescently metallic-blue, almost smooth except for very finely longitudinally wrinkled areas adjacent to supraantennal plates; more distinct, irregularly transverse-vermicular rugae passing over blunt frons-vertex edge; supraantennal plates irregularly triangular, deep purple-violaceous, smooth and shiny, often with irregular inner margins due to adjacent striae, their apices merging with lateral frons-vertex edges.

Vertex with usual juxtaorbital sensory seta (on each side), dark-cupreous, lateral areas sometimes with greenish lustre; surface almost flat with faint anterior-sublateral impressions which are often cyaneous-blue; median area slightly convex with shallow posterior impression delimiting rather distinctly convex occipital area; surface of anteromedian area



Figs 53-65. Two species of *Odontocheila*. 53-58: *O. semicincta* W. Horn. 53- detail of elytral sculpture, ♂, LT; 54-58: aedeagi or their apices (54- Santa Clara (CCJM); 55- LT (SDEI); 56- Santa Clara (CCJM); 57- Tana - Puyo (CCJM); 58- internal sac, Santa Clara (CCJM). 59-65: *O. rostripenis* sp. nov., aedeagi: (59- type locality, Morona Santiago, PT (CCJM); 60- ditto, ventral view; 61- ditto, dorsal view; 62- HT (MNHN); 63- Morona, Patuca, PT (CCJM); 64- internal sac, type locality (CCJM); 65- detail of apex, HT). Bars = 1 mm.



Figs 66-74. *Odontocheila rostripenis* sp. nov. 66-67: head (66- ♂, HT (MNHN); 67- ♀, AT (DBCN, later NHMK); 68-70: labrum (68- ♂, HT; 69- ♀, AT; 70- ♀, Taisha, PT (BMNH); 71-72: elytron (71- ♂, HT; 72- ♀ AT); 73- detail of elytral sculpture, ♂, HT; 74 - pronotum, ♂, HT. Bars = 1 mm.

finely irregularly transversely wavy- to vermicular-rugulose (rugae passing from frons), rugae in middle more irregularly longitudinal or arcuate-arranged; juxtaorbital areas more distinctly and parallel-striate, striae on sublateral areas finer, more irregular and wavy with asperate intervals, becoming much finer and crumbling to asperate sculpture in middle, more continuous and parallel when running posteriad onto temples; occipital area very finely irregularly asperate.

Clypeus bright reddish-cupreous, often dark blue in middle and with iridescent-green, blue, or purple-violaceous lateral areas, rather distinctly irregularly rugulose.

Genae black with strong purple-violaceous and green-blue lustre on anterior area, smooth except for shallow, parallel striae on postgenal (temporal) area (striae passing from lateral areas of vertex).

Labrum 4-setose, male labrum (Fig. 68) ivory-testaceous with black-darkened large basomedian area, rather long, length 1.00-1.05 mm, width 1.55-1.65 mm, with distinct, acute or blunt basolateral teeth, blunt to rounded anterolateral teeth, and somewhat prolonged median lobe consisting of two acute anterior teeth and always much smaller, indistinct, nearly effaced or entirely absent median tooth; female labrum (Figs 69-70) possesses median lobe with long, projecting median tooth between right-angled or even more obtuse anterior teeth.

Mandibles (Figs 66-67) subsymmetrical, each mandible with four teeth (and basal molar), shape as in *O. semicincta* and other species of this species-group, black-brown with ivory-white lateral margins.

Palpi. Both maxillary and labial palpi normally shaped (with elongate terminal palpomeres), longest palpomeres both of labial and maxillary palpi in male (Fig. 66) predominantly ivory-whitish, in female (Fig. 67) metallic-black with green, blue or violaceous lustre.

Antennae as in other species of this species-group; scape voluminous, deep metallic violaceous-blue; pedicel deep blue with greenish iridescence; antennomeres 3-4 iridescent-green-blue with purple-violaceous apices, 5-11 smoky darkened.

Thorax. Pronotum (Fig. 74) oblong, slightly longer than wide, 2.80-3.20 mm long, 2.50-2.90 mm wide; anterior lobe rather markedly wider than the posterior, markedly high, delimited from disc by laterally well pronounced sulcus, black-copper with more or less distinct lustrously reddish-cupreous or greenish areas; disc almost uniformly black-copper with only faint bright-cupreous sublateral areas and greenish lustre on lateral areas (coloration changing depending on angle of illumination); lateral margins anteriorly convex, then subparallel and slightly attenuated towards posterior sulcus giving the disc somewhat trapezoid shape including dorsally visible proepisterna and parallel-running notopleural sutures which are thin and barely visible from above; medial line distinct; surface of anterior lobe and disc striate-rugulose, sculpture as in *O. castelnaui*; posterior lobe with distinct basal rim, cupreous with irregular reddish-cupreous and green iridescence, surface covered with rather coarse and very irregular wavy rugae; dorsolateral bulges distinct, almost smooth, shiny reddish and green; proepisterna, mesepisterna and metepisterna black, smooth; prosternum, mesosternum and metasternum metallic-black with only faint violaceous lustre and indistinct, lustrous greenish areas; female mesepisterna lacking any pit, coupling sulci in form of longitudinal grove running on whole mesepisternal length.

Elytra (Figs 71-73) elongate, length 8.80-10.1 mm, with rounded humeri, lateral margins subparallel or slightly convex in middle with widely arcuate anteapical angles, then obliquely running towards apices which are conspicuously elongate-acute in males, less acute in females; sutural spine distinct and acute; microserrulation indistinct and very irregular; elytra dorsally notably uneven due to several impressions and coarsely punctate on whole elytral length (elytral impressions as in other species of this species-group and pattern of anastomosing elytral punctation forming partly cavernous sculpture (Fig. 73); elytral coloration dark copper with large, bright reddish-cupreous and golden-bronze lustrous areas and only indistinct greenish or golden lustre along lateral margins and along outer apical margin; elytral maculation consisting of three, always isolated ivory-white maculae: humeral macula which is in male clearly visible from above and in lateral view somewhat elongate posteriad along the humeral margin, in female barely visible from above, sublateral-median macula which is rather large and of an irregularly triangular shape, and anteapical macula which is rather large, but always restricted to the elytral arcuate anteapical angle, never prolonged towards elytral apex.

Legs. All leg segments metallic black with blue, green and violaceous lustre, but protrochanters in male often paler, brownish; setae on femora and tibiae as in *O. castelnaui* and other taxa of this species-group.

Abdomen. Ventrites metallic-black with faint or strong greenish, or blue lustre, surface of the ventrites smooth and glabrous except for usual, a few hairlike sensory setae (easily abraded) at their posterior margins.

Aedeagus (Figs 59-65) voluminous in middle, 4.40-4.50 mm long, 1.05-1.10 mm wide, gradually attenuated towards apex which consists of long, thick and moderately bent ventral stem with a "head" constricted into thin, dorsally directed and moderately rostrate process (resembling an "ostrich head"); the surface of the apex is irregularly covered with fine tubercles; in ventral view (Fig. 60) the apical part is narrowly cylindric, terminated by obtuse-triangular apex which is in dorsal view (Fig. 61) bent downwards; internal sac (Fig. 64) as in other species of this species-group, containing thick elongate basodorsal piece, voluminous ventral piece, thin, feebly sclerotized arciform piece (barely obvious), and long, convoluted flagellum with bulbous base and flagelliform part protruding from the dorsoapical orifice.

Variability. One female paratype from Taisha (BMNH) is remarkably reddish-cupreous coloured, while the allotype and other females from the type locality are almost black (thus much darker than the males). The right-angled outer anterior teeth in female labrum of the allotype and other females, are even more obtuse in the female from Taisha (Fig. 70).

Differential diagnosis. *O. rostripenis* sp. nov. shares the isolated white elytral maculation with *O. batesii* and *O. b. primitiva*, but clearly differs in having the long, rostrate ("ostrich head-like") apex of its aedeagus (Fig. 65). Females of these two species are very similar, but the elytral humeral macula in *O. rostripenis* is smaller and barely visible from above, and the median lobe of the female labrum (Fig. 69-70) of this new species has, unlike in other species of this species-group, right-angled or obtuse anterior teeth. *O. janvybirali* sp. nov. has a similar apex of its aedeagus, but it immediately differs in its bright green body coloration and much shorter male labrum which has effaced anterolateral teeth (Fig. 77). *O. semicincta*

also has a similar apex of its aedeagus, but the apex is much shorter (Figs 54-58), and these two species are externally immediately recognizable as *O. semicincta* has the elytral apices in both sexes rounded and covered with the very large, white anteapical-apical area (Figs 48-52).

Distribution and biology. *O. rostripenis* sp. nov. is a rare species, but obviously occurring in a large area of the Amazon Basin. The type locality is in the Ecuadorian province of Morona Santiago, and also other specimens come from Patuca and Taisha placed in this province. Adults of the type series were caught on forested edges of a small river Yaupi, those from the area of Patuca were taken near the Río Namangoza. If the other examined historical specimens were not mislabelled, this new species occurs also in Peruvian Amazon along the river Huallaga: the place Juanjui (written as "Juanfué" on the label by Staudinger) lies in Peruvian province of San Martin. The specimens labelled " Amazon / Nanta" come from an area of a historical settlement Nanta, now spelled Nauta, a town in the north-eastern part of the province of Loreto in the Peruvian Amazon, about 100 km south of Iquitos; the locality lies on the north bank of the Marañón River, a major tributary of the Upper Amazon, a few miles from its confluence with the Río Ucayali. Regarding the historical specimens in NMPC labelled "Venezuella / Vráz", if not mislabelled, they were possibly taken by one of the Czech historical travellers Enrique Stanko Vráz, probably during his trip through South America in 1889-1893 which also included Venezuelan Amazonas when he travelled along the Orinoco and Rio Negro rivers.

Etymology. Derived from Latin *rostratus* = rostriform, having a beak-like (not strongly hooked) process, referring to the shape of the apex of the aedeagus.

Remarks. *O. rostripenis* sp. nov. is absent in most collections. Apart of the type series, only a few specimens are deposited in BMNH, NMPC and SDEI, confused there with *O. batesii*.

Odontocheila janvybirali **sp. nov.**

(Figs 6, 75-84)

Type locality. Peru: Madre de Dios Province, Caña Brava Quebrada, 11°56.5´S; 17°16.7´W.

Type material. Holotype ♂ in MNHN, labelled: "PERU - MADRE de DIOS / Manu Res. Zone - Pakitza B.S / Cana Brava Quebrada 320 m / 11°56.5´S; 17°16.7´W / D. Brzoska 15-X-2000" [printed]. Allotype ♀ in DBCN (later in NHMK) with same label data. Paratypes. 1 ♀ in DBCN, 1 ♀ in CCJM, 1 ♀ in CJVB: ibid. All type specimens labelled: "HOLOTYPE (ALLOTYPE or PARATYPE respectively) / Odontocheila / *janvybirali* sp. nov. / det Moravec & Brzoska 2014" [red, printed].

Description. Body (Fig. 6) very large (length independent of sex, but females usually wider), 13.9-14.5 (HT 14.4, AT 14.1) mm long, 4.20-4.50 (HT 4.40, AT 4.50) mm wide, bright metallic-green, with only indistinct iridescent-cupreous areas.

Head (Figs 75-76) large with pronounced eyes, but markedly narrower than body, 3.60-3.70 mm wide.

Frons in dorsal view arcuate-triangular, rather steeply sloped towards clypeus and clearly delimited from it; sloped surface iridescently metallic violaceous-blue with green iridescence, almost smooth except for very finely longitudinally wrinkled areas adjacent to supraantennal plates; more distinct, irregularly transverse-vermicular rugae passing over blunt frons-vertex

edge; supraantennal plates elongate-triangular, deep purple-violaceous, smooth and shiny, their apices partly forming lateral frons-vertex edges.

Vertex iridescent-green with reddish-cupreous areas; surface and striate sculpture as in *O. rostripenis* sp. nov.

Clypeus with surface and coloration as in *O. rostripenis* sp. nov., but notably narrowed in middle.

Genae iridescent green with changeable violaceous lustre, smooth and shiny except for shallow striae passing from temporal area.

Labrum 4-setose, male labrum (Fig. 77) ivory coloured with black-darkened large basomedian area, rather short, length 0.85 mm, width 1.55 mm, with distinct, acute basolateral teeth, then conical attenuated anteriad (anterolateral teeth entirely absent) towards median lobe which consists of three, small, but acute anterior teeth of the same size; female labrum (Fig. 78), of a similar shape, but longer, 1.40 mm long, 1.60 mm wide with only indicated arcuate anterolateral teeth and acute anterior teeth.

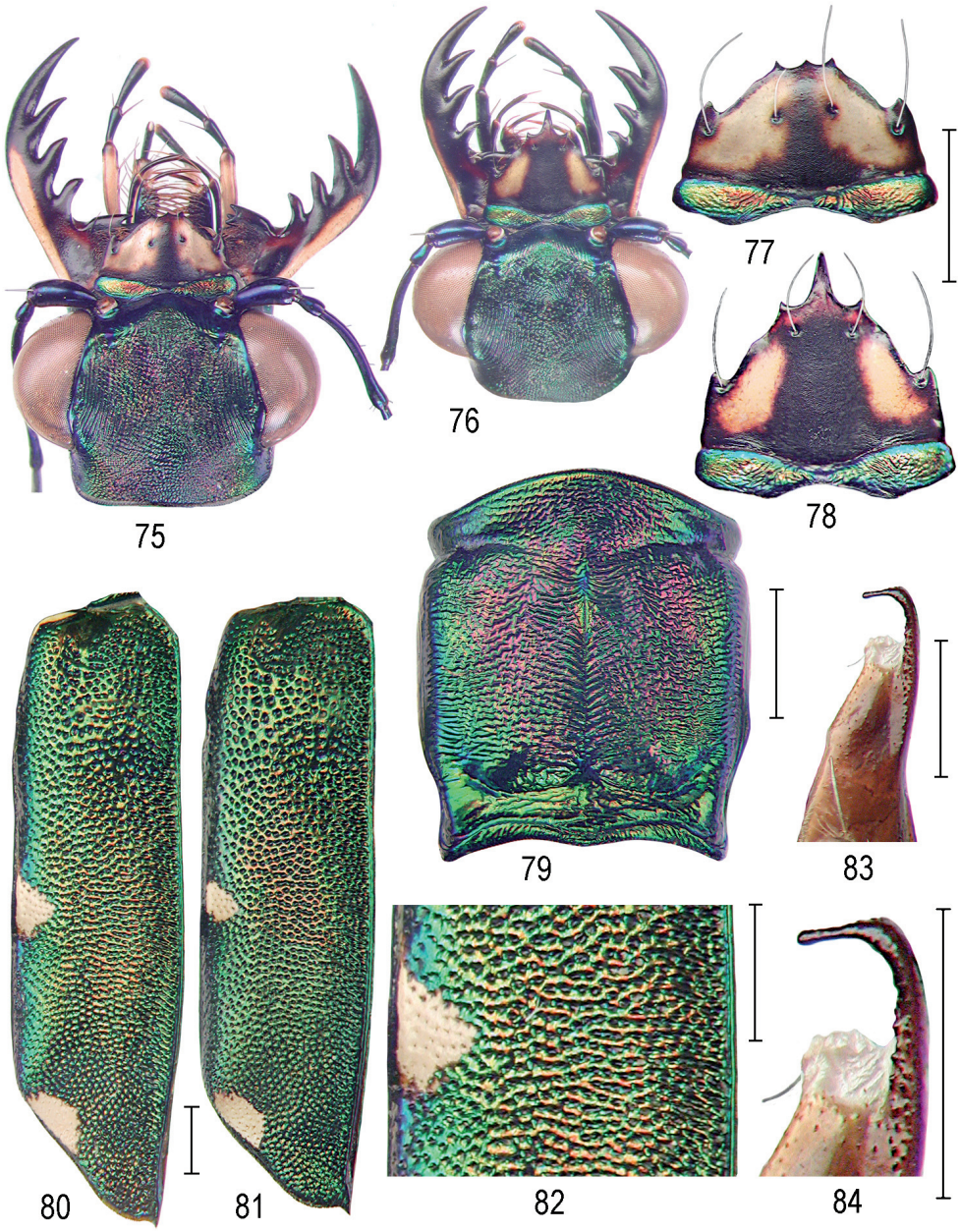
Mandibles (Figs 75-76) shaped and coloured as in *O. rostripenis* sp. nov.

Palpi shaped and coloured as in *O. rostripenis* sp. nov., longest palpomeres both of labial and maxillary palpi in male (Fig. 75) almost entirely ivory-whitish, in female (Fig. 76) metallic black with green and blue lustre.

Antennae rather short as in other species of this species-group; antennomeres 1-4 black-violaceous with green-blue lustre, 5-11 smoky-darkened.

Thorax. Pronotum (Fig. 79) oblong, slightly longer than wide, 2.80-3.00 mm long, 2.45-2.60 mm wide; anterior lobe iridescent green with reddish-cupreous median area, markedly high and notably wider than the posterior lobe, surface rather finely and very irregularly rugulose; disc bright metallic-green with faint reddish cupreous tinge (in HT reddish-cupreous in middle with iridescent green-blue lateral areas); lateral margins subparallel (including dorsally visible proepisterna), only their posterior parts constricted towards posterior lobe; notopleural sutures thin but visible from above, running parallel with outer margins of the proepisterna; medial line distinct; surface irregularly striate-rugulose, striae irregularly zigzag-wavy on large sublateral areas (sculpture as in *O. castelnaui* but finer and much more irregular also along the median line); posterior lobe rather high, with thick basal rim, bright iridescent green with only irregular and very indistinct reddish iridescences; surface covered with rather coarse, mostly transverse or irregular rugae; dorsolateral bulges moderate and elongate in dorsal view, almost smooth, shiny green; proepisterna, mesepisterna and metepisterna black, smooth; prosternum, mesosternum and metasternum metallic-black with strong greenish lustre; female mesepisterna lacking any pit, coupling sulci in form of indistinct longitudinal grove running on whole mesepisternal length;

Elytra (Figs 80-82) elongate, length 8.60-9.00 mm, with rounded or slightly subquadrate humeri, lateral margins subparallel with widely arcuate anteapical angles, then obliquely running towards apices which are in male elongate but subacute, more rounded in female; sutural spine distinct and acute; microserrulation indistinct and very irregular; elytra dorsally notably uneven due to several impressions and coarsely punctate on whole elytral length, impressions as in *O. castelnaui* and other species of this species-group, but elytral punctation finer and less anastomosing (Fig. 82), never forming areas with cavernous sculpture; elytral



Figs 75-84. *Odontocheila janvybirali* sp. nov. from type locality Cana Brava. 75-76: head (75- ♂, HT (MNHN); 76- ♀ AT (DBCN, later NHMK); 77-78: labrum (77- ♂, HT; 78- ♀, AT); 79- pronotum, ♂, HT; 80-82: elytron (80- ♂, HT; 81- ♀, AT; 82- detail of elytral punctation, HT); 83- apical part of aedeagus, HT; 84- ditto, detail of the apex. Bars = 1 mm.

coloration bright metallic-green, with only indistinct iridescent reddish-cupreous areas on elytral disc; elytral maculation consisting of three always isolated ivory-white maculae, their pattern as in *O. rostripenis* sp. nov., but the humeral macula is mostly smaller, in female indistinct and darkened, entirely invisible from above.

Legs. All leg segments metallic black with blue, green and violaceous lustre, but protrochanters in male often paler, brownish; setae on femora and tibiae as in *O. castelnaui* and other taxa of this species-group.

Abdomen. Ventrites metallic-black with faint or strong greenish, or blue lustre, surface of the ventrites smooth and glabrous except for usual, a few hairlike sensory setae (easily abraded) at their posterior margins.

Aedeagus (Figs 83-84) voluminous in middle, 1.00 mm wide, with elongate and moderately bent ventral stem with a "head" constricted into thin, dorsally directed elongate-subclavate process; the surface of the apex is irregularly covered with fine tubercles; internal sac of the holotype (the only known male) is not illustrated as the aedeagus was not cleared, but when re-hydrated in distilled water, the convoluted flagellum protruding from the dorsoapical orifice and other sclerites characteristic of the genus were obvious.

Variability. This new species appears to be rather constant in coloration and other characters; some variability mentioned in the description.

Differential diagnosis. Immediately recognizable due to its bright-green coloration. Because of a similar shape of its aedeagus and the isolated white elytral maculation, *O. janvybirali* sp. nov. is obviously closely related to *O. rostripenis* sp. nov. Nevertheless, the holotype which is the only male of the type series, has the apex of its aedeagus with more prolonged and subclavate dorsal projection, and its labrum (Fig. 77) is much shorter, with entirely effaced anterolateral teeth, and the median tooth of the tridentate anterior lobe is of the same size as the other two anterior teeth. In contrast, the median tooth in the male labrum of *O. rostripenis* sp. nov. is much smaller (Fig. 68) or entirely absent, and the median lobe of the female labrum of *O. rostripenis* sp. nov. has the outer anterior teeth right-angled (Fig. 69) or obtuse (Fig. 70). Elytral punctation in *O. janvybirali* sp. nov. is notably finer than in other taxa of this species-group, and less anastomosing, never forming cavernous sculpture on the area mesad of the white lateral-median macula (Fig. 82).

Etymology. Named after a good friend of the first author, Ing. Jan Vybíral, a forest specialist, entomologist and publisher (The Lower Morava Biosphere Reserve, Czech Republic).

Distribution and biology. Known only from the type locality Caña Brava, Quebrada in Peruvian province of Madre de Dios (department of Ancash). Adults were taken on forested banks of a small river, just near the water. Nevertheless, one male recorded by Pearson & Huber (1995) from Pakitza (the area of the type locality) as *O. batesii* (without a depository of the specimen) can be obviously *O. janvybirali* sp. nov. as it comes from the area of the type locality. The authors evidently did not examine the aedeagus of the male as they referred for the shape of the aedeagus to Rivalier (1969).

O. janvybirali sp. nov. may also occur in other places of the Peruvian Amazon Basin, because one green-coloured male deposited in BMNH labelled "Amazon / Nanta"(Peruvian

Amazon) may be conspecific with this new species. Unfortunately the abdomen of this male is damaged, lacking the aedeagus, so it is impossible to identify this specimen with certainty.

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