

**Taxonomic and nomenclatorial revision within the Neotropical
genera of the subtribe Odontocheilina W. Horn in a new sense – 9.
Odontocheila pentacomioides W. Horn, 1900 comb. restit.;
O. cyanella pseudomargineguttata W. Horn, 1930 syn. nov.,
a junior synonym of *O. spinipennis* Chaudoir, 1843**

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MORAVEC J. 2014: Taxonomic and nomenclatorial revision within the Neotropical genera of the subtribe Odontocheilina W. Horn in a new sense – 9. *Odontocheila pentacomioides* W. Horn, 1900 comb. restit.; *O. cyanella pseudomargineguttata* W. Horn, 1930 syn. nov., a junior synonym of *O. spinipennis* Chaudoir, 1843. *Acta Musei Moraviae, Scientiae biologicae* (Brno) **99(1)**: 47–64. – *Odontocheila pentacomioides* W. Horn, 1900 comb. restit. is restored here into its original name combination. It is thus excluded from the genus *Pentacomia* Bates, 1892, where it was recently transferred when only female sex of this species was known. Examination of the recently discovered male disclosed that its aedeagus is fully characteristic of the genus *Odontocheila* both in its shape and the structure within the internal sac containing a long, convoluted flagellum. Detailed redescription, illustrations of the habitus and diagnostic characters of the holotype female in SDEL, and other two existing females, as well as the first description of the male and its aedeagus, are presented. *Odontocheila cyanella pseudomargineguttata* W. Horn, 1930 syn. nov. is newly synonymized with *Odontocheila spinipennis* Chaudoir, 1843. A detailed redescription of *O. spinipennis*, history of the taxonomy and illustrations of diagnostic characters are presented in colour photographs. The original spelling of the subtribe name Odontochilina W. Horn, 1899 is emended as Odontocheilina according to Art. 35.4.1 (ICZN 1999).

Keywords. Coleoptera, Cicindelidae, Odontochilina, Odontocheilina, *Odontocheila*, *Pentacomia*, taxonomy, comb. restit., new synonymy

Introduction

This paper is a continuation of the ongoing taxonomic revision of nine Neotropical genera of the subtribe Odontocheilina W. Horn, 1899 in a new sense (see MORAVEC 2012a), defined exclusively for the Neotropical genera separated in this conception from the subtribe Prothymina W. Horn, 1910 sensu RIVALIER (1969, 1971). The aim of this series of papers (see MORAVEC 2012a,b,c, and 2013, DURAN & MORAVEC 2013, MORAVEC & DURAN 2013, MORAVEC & BRZOSKA 2013, 2014) is to publish significant taxonomic and nomenclatorial changes, descriptions of new taxa or redescriptions of rare species to be available before the completion of the final comprehensive publication which is being prepared by the author of this paper. The subtribe name, originally spelled by HORN (1899) as Odontochilina, is emended as Odontocheilina according to Art. 35.4.1 (ICZN 1999).

In this paper, *Odontocheila pentacomioides* W. Horn, 1900 comb. restit. is restored into its original name combination. This species was transferred to the genus *Pentacomia*

by WIESNER (1992), because of the similarity noted by HORN (1910), particularly for the unicoloured-testaceous labrum, and because only female sex was known at that time. As noted by PEARSON, GUERRA & BRZOSKA (1999) the only male (ASUT) recently discovered in Peru was previously (PEARSON 1984) misidentified as *Odontocheila ignita* Chaudoir, 1860, evidently because of the apex of the aedeagus penetrating from the abdomen of the male and conspicuously resembling the aedeagus of *O. ignita*. Examination of the male revealed that the aedeagus, both in its shape and structures of the internal sac is fully characteristic of the genus *Odontocheila*.

Furthermore, examination of two syntypes (females in SDEI) of *Odontocheila cyanella pseudomargineguttata* W. Horn, 1930 syn. nov. revealed that this taxon fundamentally differs from *Odontocheila cyanella* Chaudoir, 1860 and is in fact conspecific with *Odontocheila spinipennis* Chaudoir, 1843, a species, the identity of which remained unknown to Horn. Consequently, *O. c. pseudomargineguttata* is considered here a junior synonym of *O. spinipennis*.

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. 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 (both of the habitus and diagnostic characters, including aedeagi) were taken 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, LT = lectotype, PLT = paralectotype.

The following abbreviations of the collections are used in the text:

ASUT Arizona State University, Tempe, U.S.A.
CCJM Collection Cicindelidae Jiří Moravec, Adamov, Czech Republic
DBCN Insect Collection of David W. Brzoska, Naples, Florida, U.S.A.
IRSNB Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium

MNHN Muséum national d'Histoire naturelle, Paris, France
SDEI Senckenberg Deutsches Entomologisches Institut, Müncheberg,
(formerly DEI Eberswalde), Germany

Taxonomy

Note: the spelling “*Odontochila*” is an unjustified emendation of the genus-group name by AGASSIZ (1846), also followed by several other authors, including RIVALIER (1969) and restored to *Odontocheila* by HUBER (1986). Consequently, also the original spelling (HORN 1899) of the subtribe name *Odontochilina* W. Horn, 1899 is newly emended as *Odontocheilina* (ICZN 1999 Art. 35.4.1).

Odontocheila pentacomioides W. Horn, 1900 comb. restit. (Figs 1, 6–14)

Odontochila pentacomioides W. Horn, 1900: 202.

Type locality. Brazil: “St. Paulo” (see discussion in Biology and distribution below).

Pentacomia (*Pentacomia*) *pentacomioides*: WIESNER 1992: 82.

Type specimens. Holotype (by monotypy) ♀ in SDEI, labelled: “St. Paulo” [handwritten] // “*Odontochila pentacomioides* / H” [handwritten] // “Type! / Dr. W. Horn” [printed] // “Holotypus” [red, printed] // “Col. W. Horn / DEI Eberswalde” [printed] // “*Pentacomia pentacomioides* [sic!] / W. Horn Type (DEI–Eberswalde) / borrowed by D. L. Pearson / 23. Oct. 1996 (drawer 59)” [printed] // “Revision Jiří Moravec 2012: / HOLOTYPE (by monotypy) / *Odontochila* / *pentacomioides* / W. Horn, 1900” [red, printed] // “*Pentacomia* (s. str.) / *pentacomioides* / W. Horn, 1900 / det. Jiří Moravec 2012” [printed] // “*Odontocheila* / *pentacomioides* / W. Horn, 1900 / comb. restit. / det. Jiří Moravec 2013” [printed].

Other material examined. 1 ♀ in SDEI: “Cuyaba / Paul Zabros”. 1 ♀ in DBCN: “Peru – Madre de Dios / Z.R. Tambopata Candamo / Tambopata Research Ctr. / D. Brzoska 25-X-1996”. 1 ♂ in ASUT: “Peru: Madre de Dios / 30km SW P. Maldonado / 24. Oct. 1982 / D. L. Pearson” // “*Pentacomia* (*Pentacomia*) *pentacomioides* [sic!] W. Horn / det. D. L. Pearson, 2012” // “On loan from ASU / D. L. Pearson Oct’13”. All specimens labelled: *Odontocheila* / *pentacomioides* / W.Horn, 1900 / comb. restit. / det. Jiří Moravec 2013”.

Redescription. Body (Fig 1) medium-sized, of a variable size independently of sex (HT female of the same size as the male), 9.70–11.4 (HT 9.70) mm long, 3.20–3.60 (HT 3.20) mm wide, dorsal surface light cupreous with reddish areas and more or less conspicuous velvety-darkened area on elytral disc, greenish or green-blue lustre on lateral areas and sometimes also with faint greenish lustre on posterior elytral area; elytra with three large, ivory-yellowish maculae, namely the elongate humeral macula conspicuously large; all thoracic portions and surface of ventrites glabrous.

Head (Fig. 6) large, but narrower than body, 3.0–3.30 mm wide; all head portions glabrous.

Frons triangular-shaped, rather flat and low in middle when steeply sloped towards clearly separated clypeus, anterior juxtaclypeal area almost smooth, lateral areas adjacent to supraantennal plates with shiny green lustre and several longitudinal, short striae; median area of blunt frons-vertex fold fluently passing to vertex, vividly cupreous, covered with very fine vermicular rugae mostly transversely arranged, supraantennal plates elongate-triangular, smooth and shiny blue-green, their apices forming only indistinct edges.

Vertex almost flat; anteromedian area including the frons-vertex fold covered with mostly transversely arranged, short vermicular to wavy rugae; rugae on indistinctly convex and cupreous, narrow median area vermicular-rugulose and at the point before the rugae divergent in middle and passing posteriad usually forming an arcuate ornament; sublateral slightly impressed and green areas are covered with zigzag-wavy rugae which are more parallel and divergent when passing onto temples; large juxtaorbital areas more distinctly longitudinally parallel-striate, but striae usually irregularly wavy; surface of occipital area very finely asperate.

Clypeus reddish-cupreous, usually with iridescent green or green-blue lustre on anterior and lateral areas, rather distinctly irregularly wrinkled.

Genae metallic green-blue, usually with bronze lustre in middle, almost smooth or very indistinctly shallowly striate on anterior and postgenal areas.

Labrum 4-setose, in both sexes unicoloured ochre to reddish-testaceous with only indistinct narrow black-brown margins, male labrum (Fig. 7) rather long, length 0.85 mm, width 1.30 mm, with blunt, right-angled basolateral teeth; anterior margin moderately convex between prominent, acute anterior teeth; female labrum (Figs 8–9) much longer, length 1.10–1.20 mm, width 1.35–1.40 mm, with blunt, right-angled or subacute basolateral teeth, and irregularly rounded, or right-angled, or subacute anterolateral (mediolateral) teeth, and possessing prominent, acutely tridentate median lobe with rather wide and distinctly protruding median tooth.

Mandibles (Fig 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 dark reddish-brown, usually with mahogany tinge, with narrow, ivory-ochre lateral stripe which is indistinct in female.

Palpi (Fig. 6) both maxillary and labial palpi normally shaped with elongate terminal palpomeres; ochre-yellow to ochre, terminal palpomeres in both sexes sienna-brown to reddish-brown; in female also penultimate palpomere of maxillary palpi somewhat ochre-testaceous darkened; penultimate (longest) palpomere of labial palpi elongate with moderately and gradually dilated lateral margins towards 0.20 mm wide apex, in female their smooth side usually testaceous-darkened.

Antennae rather short in both sexes reaching or slightly surpassing only elytral quarter, scape and pedicel yellow- to ochre-testaceous, their lateral margins appearing brownish-darkened, scape with only apical seta; antennomeres 3–4 ochre-testaceous with brownish-darkened apices, 5–6 ochre-testaceous, 7–11 gradually smoky-black darkened.

Thorax. Pronotum (Figs 10–11) glabrous, vividly cupreous with strong or less distinct blue-green lustre on lateral areas (in HT also with faint green iridescence in middle), as long as wide or very slightly longer, length 1.90–2.20 mm, width 1.85–2.10 mm, sulci well pronounced (anterior sulcus deep only laterally); anterior lobe slightly wider than the posterior, its anterior margin in middle distinctly convex anteriorly, finely and densely irregularly vermicular-rugulose; disc with moderately convex lateral margins of dorsally visible proepisterna, but distinctly raised and bumpy notopleural sutures are mostly straighter, mutually subparallel in middle or slightly attenuated towards posterior sulcus; medial line indistinct, often partly merging with surface sculpture; discal surface

densely but distinctly irregularly vermicular-rugulose, rugae become wavy and more continuous but still wavy when obliquely converging towards the median line; irregularly wavy transverse rugae on lateral areas reaching notopleural sutures and somewhat surpassing them on their posterior parts; posterior lobe with distinct basal rim, surface irregularly covered with vermicular to transverse-wavy rugae which are coarser but sparser on moderate dorsolateral bulges; all lateral and ventral sterna glabrous; proepisterna smooth, metallic-green with bronze or fiery-cupreous lustre in middle, mesepisterna concolorous or with cupreous lustre, female mesepisternal coupling sulci in form of a deeper longitudinal-sinuuous sulcus within the usual longitudinal furrow, thus differing from much shallower and almost uniform furrow in male mesepisternum; metepisterna metallic green-blue with golden-bronze or fiery-cupreous lustre, parallel wrinkled, with doubled impression at metepimeron; prosternum, mesosternum and metasternum smooth and shiny, in male almost uniformly metallic-green, in female mostly with golden-bronze or fiery-cupreous lustre.

Elytra (Figs 12–13) elongate, length 5.90–6.80 mm, with rounded humeri, lateral margins in male only indistinctly dilated in middle, more distinctly so in female, anteapical angles in both sexes arcuate, then obliquely running towards apices which are rounded towards indistinct sutural spine; microserrulation indistinct and very irregular; elytral dorsal surface regularly convex on posterior half of elytral disc, humeral impression rather deep, together with distinct but short discal impression clearly delimiting distinct basodiscal convexity; additional, shallow elongate sublateral impression present mesad of ivory lateral-median macula, delimiting convex area of elytral disc along sutures; anteapical impression moderate, apical impression distinct; elytral surface punctate on whole elytral length, but markedly diversely arranged and shaped: punctures conspicuously larger and usually with wide, smooth intervals within humeral impressions and particularly on shiny lateral areas of basodiscal convexity and within discal impression, still rather large and mostly isolated punctures cover also elytral lateral areas, large punctures within sublateral impressions are anastomosing in short oblique chains, while punctures on remaining discal area and whole area towards elytral apices are much smaller, very irregular and irregularly anastomosing with carinate intervals forming rasp sculpture; appearance of the sculpture varies depending on angle of illumination; elytral surface glabrous except for a few usual hairlike sensory setae indistinctly scattered mostly on basal area, and a few others adjacent to epipleura and apical margins; elytral coloration vividly cupreous with velvety-blackish area on elytral disc, limited lateral areas bright green; widened smooth intervals between the large punctures on lateral areas of the basodiscal convexity iridescent golden to reddish, posterior elytral area in the holotype with faint greenish lustre; ivory-white to yellowish elytral maculation consisting in both sexes of three maculae: humeral macula conspicuously wide and elongate-prolonged posteriad; lateral-median macula wide, irregularly rectangular and somewhat narrowed and mesad-prolonged; anteapical macula somewhat elongate or elongate-triangular.

Legs. Procoxae and mesocoxae ochraceous with bronze or cupreous anterior area which is densely whitish-setose; metacoxae metallic green-blue with testaceous apex, densely punctate-setose on their lateral areas and with one seta in middle; trochanters

glabrous (except for usual apical seta), ivory-white to ochraceous; femora with ventral area pale ochre-yellow and translucent, remaining femoral area ochre to ochre-testaceous except for conspicuous, large, sienna-brown to black-brown subapical area; femoral surface covered with almost regular rows of rather long, erect and semierect white setae; tibiae ochre-testaceous, metatibiae somewhat darker, tibial surface covered with scattered, much shorter semierect, greyish-whitish setae, apical-ventral third of pro- and mesotibiae covered with dense whitish to greyish setose pad; tarsi testaceous with darkened apices; first three protarsomeres in male only indistinctly dilated, with usual, dense greyish-white pad of short setae; claws testaceous.

Abdomen. Ventrites shiny metallic blue-green or dark copper with greenish and bronze lustre, posterior margin of last ventrite usually indistinctly testaceous, apical bilobed pleurite in male pale ochre; surface of the visible ventrites smooth and glabrous, their posterior margins with usual, two, long hairlike sensory setae.

Aedeagus (Fig. 14) with short, arcuately bent base, notably voluminous in middle, 3.35 mm long, 0.90 mm wide, apical part moderately bent ventrally and conically attenuated towards capitate apex, which is emarginated dorsally and rounded ventrally; internal sac (partly visible in Fig. 14) characteristic of the genus *Odontocheila*, containing well developed, reniform central-ventral piece, upper dorsal arciform piece and convoluted flagellum with bulbous base and its long flagelliform part protruding from the dorsoapical orifice (as the aedeagus when observed in distilled water was partly transparent with clearly observable structure of the internal sac, no other cleaning procedure was used).

Variability. Only indistinct variability in the body coloration occurs. The female from Cuyaba (MNHN) is somewhat larger, more uniformly cupreous coloured and its pronotum wider. The holotype female and the male from ASUT have stronger greenish or green-blue lustre on lateral areas and the holotype also feeble greenish lustre on posterior elytral area. Labrum with anterolateral (mediolateral) teeth variably rounded or acute, in the holotype female somewhat anomalously asymmetrical with the right tooth more acute than the left one, the labrum in the holotype female is slightly darker (somewhat tarnished, as usual in old specimens).

Differential diagnosis. *Odontocheila pentacomioides* is immediately recognizable from all other species of the genus *Odontocheila* by the notably wide ivory-yellowish elytral maculation, particularly the remarkably wide, elongate humeral macula, in combination with unicoloured pale testaceous labrum, diversely arranged and shaped elytral punctures, body coloration with dark velvety area on elytral disc, and remarkably bicoloured femora. These characters immediately distinguish this species from *Odontocheila ignita* Chaudoir, 1860 and other species with similarly capitate apex of their aedeagi. Among them, *O. camposi* W. Horn, 1925 has the most similar shape of the aedeagus, but all these species have their elytra with much smaller whitish maculae, namely the humeral macula almost invisible from above, very different coloration of body and appendages, much finer and uniform elytral punctation, pronotum with indistinct notopleural sutures, and bicoloured labrum with metallic-black basomedian area. None of other species have so large humeral macula as in *O. pentacomioides*,

although a similar pattern of whitish elytral maculation with elongate humeral macula has *O. scapularis* Horn, 1896, but it is clearly distinguished by all other above mentioned characters and very different, thin, uncinat (crochet-like) apex of its aedeagus. Similar pattern of elytral maculation also occurs in *O. hamulipenis* W. Horn, 1933 and *O. davidbrzoskai* Moravec, 2013, but both clearly differ by their very different pronotal and elytral surface sculptures, bicoloured labrum, very different apex of their aedeagi and coloration of legs (see MORAVEC 2013). Similar pattern of the elytral maculation also has *Pentacomia (Mesochila) brasiliensis* (Dejean, 1825), but it is immediately distinguished by its other external characters including dark legs, different shape of the labrum in both sexes, and particularly by the very different shape of its aedeagus and internal sac (characteristic of the genus *Pentacomia* Bates, 1872, subgen. *Mesochila* Rivalier, 1969).

Biology and distribution. It is hardly understandable that this very rare species, known from only four adults, can be distributed on so vast area, from the southeastern Brazilian state of São Paulo, north-westwards through Cuiabá in the Brazilian state of Mato Grosso, then far northwards to the area of Madre de Dios in Peru. There is only “St. Paulo” written on the label of the holotype (SDEI) and it is possible that the name may represents one of two other homonymous, less known Brazilian places: one is situated just near the border with Peru, the other in the Brazilian state of Mato Grosso. The other historical female in SDEI is labelled Cuyaba / Paul Zabros (the latter probably a collector). Cuyaba (= Cuiabá) also lies in Mato Grosso. Nevertheless, this Brazilian state is a very long way from the area of Madre de Dios in southeastern Peru where one female and one male were caught recently (but in an interval of 14 years) on two localities separated by the distance of merely 35 km; one near the Tambopata National Reserve, the other 35 km southwest of Maldonado. The collecting data in Tambopata and the habitat of the male were described in PEARSON, GUERRA & BRZOSKA (1999) as that it was found on the steeply inclined and forested ancient river banks at the edge of primary forest and oxbow lakes (cochas), and that it was extremely difficult to find adults of this species, both because of shaded conditions of the habitat as well as its apparently sparse population.

Remarks. According to the protologue (HORN 1900), the description of *O. pentacomiooides* was based on only female holotype (SDEI). First and apposite colour picture of the female is in HORN (1910, Pl. 13, fig.2). The history of the nomenclature of this taxon can be traced in the Introductory chapter of this paper.

***Odontocheila spinipennis* Chaudoir, 1843**

(Figs 2–5, 15–33)

Odontocheila spinipennis Chaudoir, 1843: 680.

Type locality. Cayenne.

Misapplications. Non *Odontochila spinipennis*: HORN 1902: 233, nec *Odontochila margineguttata spinipennis*: HORN 1905: 15, 1910: 202, 1915: 439, 1926: 121, which is *Odontocheila margineguttata* (Dejean, 1825).

Odontochila cyanella pseudomargineguttata W. Horn, 1930: 310 **syn. nov.**

Type locality. Cayenne.

Odontocheila cyanella pseudomargineguttata: WIESNER 1992: 79.

Type specimens of *O. spinipennis* Chaudoir: Holotype (by monotypy) ♀ in MNHN, labelled: “MUSEUM PARIS / Coll. Chaudoir 1874” [greenish, printed] // “TYPE” [red, printed] // “Spinipennis / Chaud. / Cayenne / Buquet” [ochraceous with black frame, handwritten] // “Revision Jiří Moravec 2014: / Odontocheila / spinipennis Chaudoir, 1843” [red, printed].

Type specimens of synonymous *O. cyanella pseudomargineguttata* W. Horn: lectotype (designated here) ♀ in SDEI, labelled: “Cayenne / Juin” [handwritten] // “Type W. Horn” [printed] // “Coll. W. Horn / DEI Eberswalde” [printed] // “Syntypus” [red, printed] // “ssp. / pseudo-mar- / gineguttata / W. H.” [greenish with thin black frame, handwritten] // “LECTOTYPE / Odontochila cyanella / margineguttata W. Horn, 1930 / design. Jiří Moravec 2014” [red, printed]. Paralectotype. 1 ♀ in SDEI with same labels except for: “Brasilia” [handwritten] // Cicindela / pseudo-mar- / gineguttata / W. Horn” [handwritten] // “Revision Jiří Moravec 2014: PARALECTOTYPE / Odontochila cyanella / margineguttata W. Horn, 1930”. Both type specimens labelled: “Odontocheila / spinipennis Chaudoir, 1843 / det. Jiří Moravec 2013” [printed].

Other material examined. 4 ♂♂, 1 ♀ in MNHN: “MUSEUM PARIS / Guyane / Haut Carsevenne / F. Geayi 1898”. 2 ♂♂, 1 ♀ in MNHN: “Guyane / Passoura / E. le Moulit 1895.6”. 2 ♂♂, 2 ♀♀ in MNHN: “Guyane / Rivière Lunier / F. Geayi 1898”. 1 ♂ in MNHN: “Guiane Française”. 1 ♂ in MNHN, 3 ♂♂, 1 ♀ in IRSNB: “St. Jean du Maroni”. 1 ♂ in MNHN: “Coll. Rambur / P. / Ilcabille [illegible] 1904 / Coll. Dejean” [red ink, handwritten] // “MUSEUM PARIS / ex Coll. M. Maidron / Coll. G. Babault 1930” // “margineguttata / type de Dejean” [reddish ink, handwritten] // “Echantillon mélangé par / erreur par Dejean avec ses / types de margineguttata / l'insecte est: O. spinipennis / de Chaudoir / Rivalier, Juin 1964” [red ink, handwritten; confused syntype of *O. margineguttata* but in fact *O. spinipennis*].

Redescription. Body (Figs 2–4) small to medium-sized, of a variable size independently of sex, 8.90–10.3 (HT 10.2) mm long, 2.90–3.30 (HT 3.30) mm wide, dorsal surface black-copper to dark lustrously cupreous, with more vivid greenish and reddish-cupreous lustre on pronotum; elytra with whitish, elongate humeral macula (mostly clearly visible also from above as a thin stripe) sublateral-median macula and usually smaller antepical spot which can be variably reduced (particularly so in female), reddish-brown darkened (as in HT), barely visible or even missing. All thoracic portions and surface of ventrites glabrous.

Head (Fig. 5) large, but narrower than body, 2.75–3.20 mm wide; all head portions glabrous.

Frons convex in middle, then sloped towards clypeus and clearly separated from it, juxtaclypeal area almost smooth, median area only indistinctly radiate-striate, surface of blunt frons-vertex fold fluently passing to vertex asperate or very finely vermicular or irregularly rugulose, limited lateral areas of frons-vertex, fold in form of indistinct edges, rather distinctly longitudinally parallel-striate; supraantennal plates irregularly triangular, smooth and shiny green, their inner margins usually merging with the lateral striae.

Vertex almost flat, or very shallowly impressed in middle; anteromedian area irregularly transversely asperate to vermicular-rugulose, rugae often arcuate (sculpture passing from frons over the frons-vertex fold), median area irregularly longitudinally parallel-rugulose to striate, often forming an arcuate ornament in middle, sublateral and large juxtaorbital areas more distinctly longitudinally parallel-striate, striae usually indistinctly wavy, those on sublateral areas divergent posteriad and passing on temples; occipital area very finely asperate to irregularly wavy-rugulose.

Clypeus iridescent green or green-blue, usually reddish-cupreous in middle or also on sublateral areas, rather distinctly irregularly wrinkled.

Genae metallic green, green-blue to violaceous blue, usually with bronze lustre in middle, almost smooth or very indistinctly shallowly parallel-striate on anterior and postgenal areas.

Labrum 4-setose, male labrum (Fig. 22) 0.60–0.65 mm long, 1.10–1.20 mm wide, ochre to reddish-testaceous with variously expanded black-brown, black to metallic black-blue basomedian area and dark anterior margin, with distinctly developed, blunt or subacute lateral teeth, irregularly right-angled or rounded anterolateral teeth, anterior margin usually shallowly emarginate between rather prominent subacute or acute anterior teeth, or with small or only indicated median tooth; female labrum (Figs 23–24) much longer, length 1.00–1.15 mm, width 1.20–1.35 mm, of a similar shape and coloration as in the male labrum but generally darker and with prominent, acutely tridentate median lobe with distinctly protruding median tooth.

Mandibles (Fig. 5) normally shaped with arcuate lateral margins, subsymmetrical, each mandible with four teeth (and basal molar), the three inner teeth gradually smaller towards the basal molar; coloration dark brown usually with reddish tinge, except for indistinct, narrow, ivory-ochre lateral stripe.

Palpi (Fig 5). Both maxillary and labial palpi with normal (elongate) shape of terminal palpomeres, yellowish to ochre-yellow except for brown penultimate and black-brown terminal palpomeres in maxillary palpi, and black terminal palpomeres of labial palpi; penultimate (longest) palpomere of labial palpus elongate and narrow with subparallel lateral margins only slightly and gradually dilated towards 0.15–0.17 mm wide apex.

Antennae rather long, in male reaching or slightly surpassing elytral half, in female somewhat shorter; scape with only apical seta, metallic black (in old specimens faded to black-brown) with strong blue or violaceous-blue lustre, sometimes with indistinct testaceous apical spot and somewhat paler ventral area; pedicel concolorous with scape; antennomeres 3–4 black with strong metallic blue or violaceous lustre, rarely with paler subapical spot, covered with usual, sparse indistinct setae; antennomeres 5–11 smoky black with normal micropubescence.

Thorax. Pronotum (Figs 19–21) glabrous, black-brown with more or less vivid greenish lustre in middle, and green or reddish-cupreous lustre on lateral areas and on posterior lobe, mostly as long as wide, length and width 1.85–2.10 mm, sulci well pronounced; anterior lobe only slightly wider than the posterior, its anterior margin in middle usually rather distinctly convex anteriad, densely irregularly vermicular-rugulose; disc in male mostly subglobose with distinctly convex lateral margins (including clearly visible proepisterna), in female lateral margins often somewhat subparallel in middle, notopleural sutures thin but clearly obvious in dorsal view; medial line indistinct, often partly merging with surface sculpture; discal surface densely irregularly, mostly vermicular-rugulose to transversely wavy-rugulose to intricate-rugulose; rugae along median line more continuous and transverse; short transverse rugae also on limited lateral areas adjacent to notopleural sutures but not reaching them; posterior lobe covered with irregular, vermicular to transverse-wavy rugae; lateral sterna glabrous, proepisterna and

metepisterna metallic black with strong blue-green to violaceous lustre, or also bronze iridescence in middle, metepisterna with doubled impression at metepimeron; mesepisterna almost black, female mesepisternal coupling sulci in form of a deeper longitudinal sulcus placed within the usual longitudinal furrow, thus clearly differing from much shallower uniform furrow in male mesepisternum; prosternum, mesosternum and metasternum metallic black-green to black-blue, smooth and shiny.

Elytra (Figs 15–18.) elongate, length 5.60–6.40 mm, humeri rounded, lateral margins almost straight, anteapical angles arcuate, then obliquely running towards apices which are in male shortly rounded to subacute, in female rounded; sutural spine short but distinct; microserrulation indistinct and very irregular; humeral impressions rather deep and wide, discal impression deep, clearly delimiting mediocre distinct basodiscal convexity with small juxtasutural impression in middle of the convexity; apical impressions shallow or more distinct; elytral surface coarsely punctate to cristulate-punctate on whole elytral length, punctures largest within humeral impressions, commonly anastomosing on prevailing elytral area in irregularly directed chains with intervals forming irregular transverse crests conspicuously distinct on discal area mesad of the white sublateral-median macula (Fig. 17) and also on juxtasutural area in middle of the elytra; punctures become smaller towards apices but still distinct; appearance of the surface sculpture depends on angle of illumination; elytral surface glabrous except for usual, a few hairlike sensory setae indistinctly scattered mostly on basal area, and a few others adjacent to epipleura and along apices; elytral coloration in holotype and most adults dark copper with mostly faint green-blue sublateral areas, basal area more vividly reddish-cupreous (as in holotype), rarely with bright green-blue lustre; whitish elytral maculation in both sexes consisting of three maculae: slightly elongate humeral macula partly visible from above (developed also in female), its posteriad prolonged shape clearly visible in lateral view; mostly subangular to triangular sublateral-median macula; anteapical-apical macula which can be variably reduced (particularly so in female), reddish-brown darkened (as in holotype), barely visible or even missing.

Legs. Pro and mesocoxae brownish with metallic green and densely setose anterior area, metacoxae metallic green-blue, glabrous except for densely setose lateral margin; trochanters glabrous (except for usual apical seta), ochre to brownish-testaceous, metatrochanters in female often dark brown; femora tawny brown to dark brown with mahogany or rusty tinge on basal half and with faint metallic-blue lustre on apical half, basal area ventrally pale ochre; femoral surface covered with dense irregular rows of short to mediocre-long, erect and semierect white setae which are much sparser on metafemora; tibiae metallic-black with blue, blue-green or violaceous lustre, pro- and mesotibiae with ochre to ochre-brownish apical quarter or half; surface covered with rows of scattered semierect, whitish setae which are much stiffer than those on femora, apical-ventral area of protibiae and mesotibiae covered with dense whitish to greyish setose pad; tarsi in male metallic black (faded to brown in old specimens) often with greenish, blue or violaceous lustre, in female dark testaceous with black apices; first three protarsomeres in male distinctly dilated, with usual, dense greyish-white pad of short setae; claws dark testaceous to black-brown.

Abdomen. Ventrites dark metallic black with strong green, blue, violaceous and sometimes also bronze lustre; surface entirely glabrous, their posterior margins with usual a few, long hairlike sensory setae.

Aedeagus (Figs 25–33) large, with widely arcuate and narrow basal portion, then straight and voluminous in middle, 3.00–3.40 mm long, 0.70–0.75 mm wide, apex strongly chitinized, in lateral view (Figs 25, 27–29) with triangular base and rather long, beak-like spine which is oblique-horizontally and dorsally directed; the base of the chitinized apex in ventral view (Figs 26, 30–31) and dorsal view (Fig. 32) appearing obtusely triangular, while the spine is in ventral view notably wide and rectangular. Internal sac (Fig 33) containing usual sclerites characteristic of the genus: large reniform central-ventral piece, thin arciform piece and long, multicoiled flagellum with bulbous base and flagelliform portion protruding from dorsoapical orifice.

Variability. The elytral anteapical macula is often reduced, reddish-brown darkened, very small or absent (particularly so in female).

Differential diagnosis. The most similar to *Odontocheila spinipennis* is *O. tricuspipennis* W. Horn, 1932 which also has a very similar apex of the aedeagus in its lateral aspect. However, these two species can be clearly distinguished by the very different shape of the apex in its ventral view. The apex of the aedeagus of *O. tricuspipennis* in its ventral and dorsal view has a bilobed base and the spine is in ventral view much thinner (see also HORN 1932 figs 19a-c), thus somewhat resembling the ventral aspect of the apex in *O. chrysis* (Fabricius, 1801) which, moreover, immediately differs in having its abdominal ventrites densely covered by short, appressed setae.

The other species of this group of species with similar shape of their aedeagi (Group IV by RIVALIER 1969) also clearly differ: *O. cyanella* Chaudoir, 1860 has a similar, coarse and commonly anastomosing elytral punctation, but the spine of the apex of its aedeagus in lateral view is much shorter and also in ventral view diversely shaped, and externally this species immediately differs in having cyaneous body coloration, often with green and purple-violaceous areas. *O. trilbyana* Thomson, 1857 has similar apex of the aedeagus in its lateral view, but the basal portion of the apex is higher, and the apical spine is mostly transverse and in its ventral view rounded; Moreover, *O. trilbyana* differs in having punctate-setose posterolateral corner of the metasternum. Other species of this group differ more significantly: *O. vermiculata* Bates, 1872 and *O. eximia* (Lucas, 1857) differ in having very short, almost triangular apex of their aedeagi and externally are immediately recognizable by their black body coloration. *O. rufiscapis* Bates, 1874, has much finer elytral punctation, punctate setose lateral corner of the metasternum and the apex of its aedeagus is triangular and blunt. *O. divergentehamulata* W. Horn, 1929 clearly differs in having finer elytral punctation and the aedeagus has short, obtuse and conversely (ventrally) directed “nose-like” apex.

Because of external similarity, *O. spinipennis* was commonly confused with *O. margineguttata* (Dejean, 1825) (see “Remarks” below). However, apart of a much finer and more regular elytral punctation in *O. margineguttata*, males of this Dejean’s species are immediately recognizable by their aedeagi possessing apex with capitate “knobstick-like” tip (see fig. 7m in RIVALIER 1969).

Biology and distribution. *O. spinipennis* has been a very rare species, uncommon or entirely missing in collections, or commonly misidentified. For instance, the only specimen in BMNH appeared to be in fact *O. chrysis*. All specimens examined are old and deposited in MNHN and IRSNB only.

Apart from the type locality Cayenne (the capital of French Guiana, but usually meaning the whole country by old authors) it occurs in other places of the country. Saint Jean du Maroni lies in the northwestern corner of French Guiana. However, the locality of specimens in MNHN labelled “Guyane / Haut Carsevenne”, although commonly interpreted as lying in French Guiana, lies in fact in Brazilian state of Amapá, bordering French Guiana and Surinam, with Rio Calfoene and partly preserved Amazon rainforest.

Remarks. CHAUDOIR (1843) in his original description of *O. spinipennis* described female sex only, and, as obvious from the text, only one. Accordingly, no other female in relevant collections bears the label corresponding with the protologue. Therefore the female in MNHN with red label “Type” is considered here to be holotype by monotypy.

Odontocheila spinipennis was entirely unknown to Walther Horn. During a long period of his tremendous publication activity he confused this species with *O. margineguttata* (Dejean, 1825), and never mentioned or illustrated the aedeagus of *O. spinipennis* in its true shape. It is also obvious from his brief description (HORN 1902) of the aedeagus of “*O. spinipennis*”, which in fact featured the aedeagus of *O. margineguttata*. Accordingly, specimens deposited under the name *O. spinipennis* in Horn’s collection in SDEI are in fact *O. margineguttata*. As explained by RIVALIER (1969) it was probably due to a previous confusion of some of the syntypes of *O. margineguttata* in collections (see also the label written by Rivalier, attached to the confused specimen labelled as “margineguttata / type de Dejean” and cited here in “Other material examined” above). These two species are externally similar, but can be distinguished by the different pattern of their elytral punctation, but more significantly by the very different shape of their aedeagi. Later HORN (1905, 1910, 1915, 1926) treated it as *O. margineguttata spinipennis*, but still in the same confused sense. On the other hand, he knew *O. margineguttata* very well as obvious from his descriptions of the elytral surface (HORN 1930: 310) and appropriate illustrations of its aedeagus (HORN 1929: 158, Lám. X, fig. 21, 1932: 405, figs 14a,b). Nevertheless, *O. spinipennis* was unknown to Horn still when he described *O. tricuspipenis* W. Horn, 1932 and illustrated its aedeagus (HORN 1932 figs 20a–e). It is obvious from the fact that he did not compare his new species to *O. spinipennis*, although *O. tricuspipenis* is distinguishable just by the shape of the apex of its aedeagus in its ventral and dorsal view, while the apex in lateral view is nearly identical with that in the aedeagus of *O. spinipennis*. It should be noted here that *O. tricuspipenis* was unknown to Rivalier as obvious from his incomplete revision (RIVALIER 1969).

Odontocheila cyanella pseudomargineguttata Horn, 1930 syn. nov. was described from two females. In the original description (HORN 1930) two localities “Cayenne et Brasilia” were mentioned for the two syntypes. The female from Cayenne is here designated as the lectotype for a better stability of the taxon which is simultaneously

synonymized here with *O. spinipennis* Chaudoir, 1843, the holotype of which has the same type locality “Cayenne”. The other syntype, the female with locality label “Brasilia” becomes a paralectotype.

As mentioned above, *Odontocheila cyanella* Chaudoir, 1860 is clearly separated species. It should be noted here that in PEARSON, GUERRA & BRZOSKA (1999), under *O. cyanella*, the authors erroneously mentioned that Walther Horn described populations of *O. cyanella* Chaudoir from Bolivia as the subspecies *O. cyanella*” *pseudomargineguttata* W. Horn. In fact, as obvious from HORN (1930), the type locality is not in Bolivia, and, moreover, Horn never mentioned its occurrence there and also no specimen of *O. spinipennis* from Bolivia has been found in collections during my revision. The same error was adopted by LEDEZMA (2000) and ERWIN & PEARSON (2008) when they listed *O. cyanella pseudomargineguttata* from Bolivia. Notwithstanding, *O. cyanella* sensu these authors is obviously a different species. PEARSON, GUERRA & BRZOSKA (1999) were fully aware of such a possibility when they mentioned that their identification of the Bolivian specimens was only tentative. My examination of some of the specimens cited by these authors and sent to me by the collector David W. Brzoska (Naples, Florida) disclosed that they are in fact *O. divergentehamulata* W. Horn, 1929 described from Bolivia.

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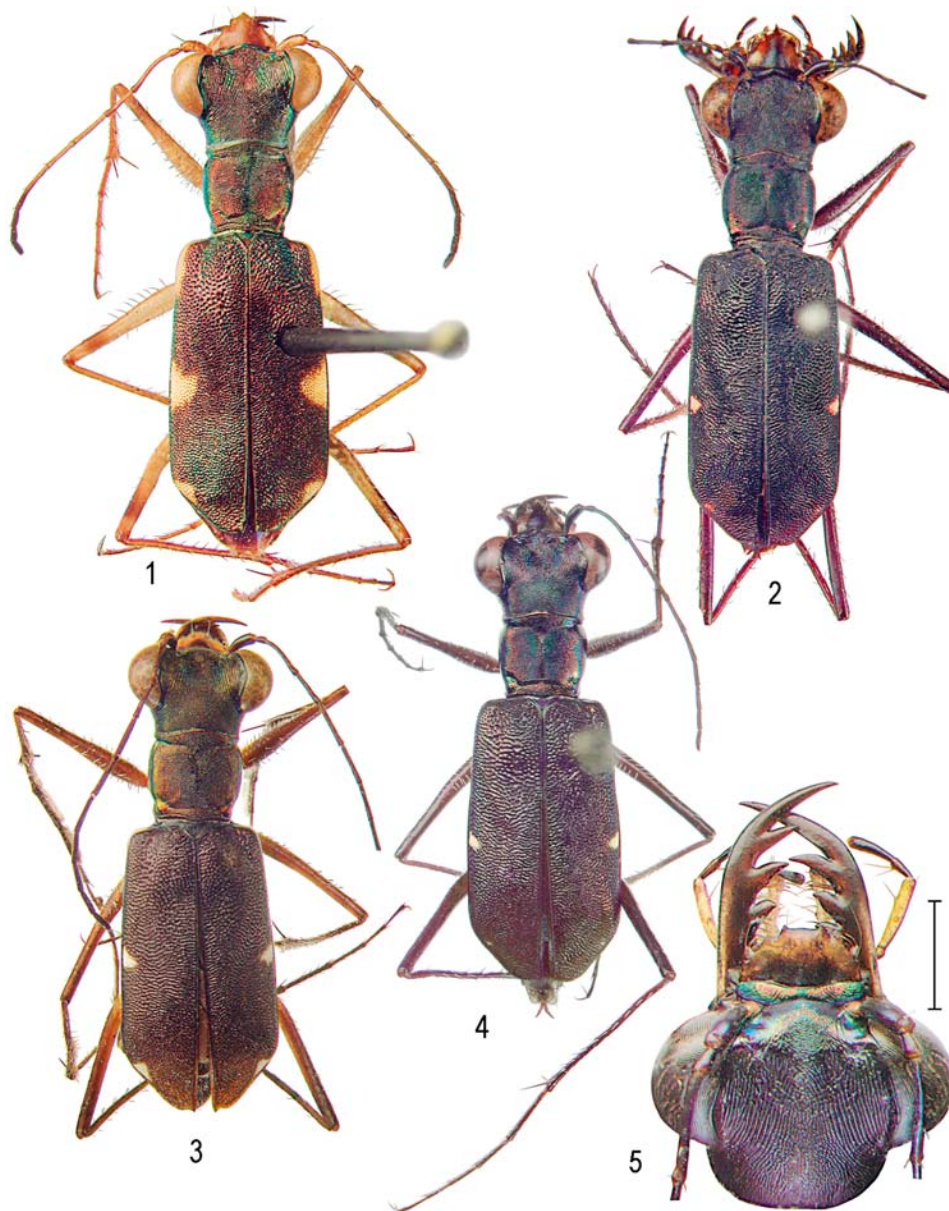
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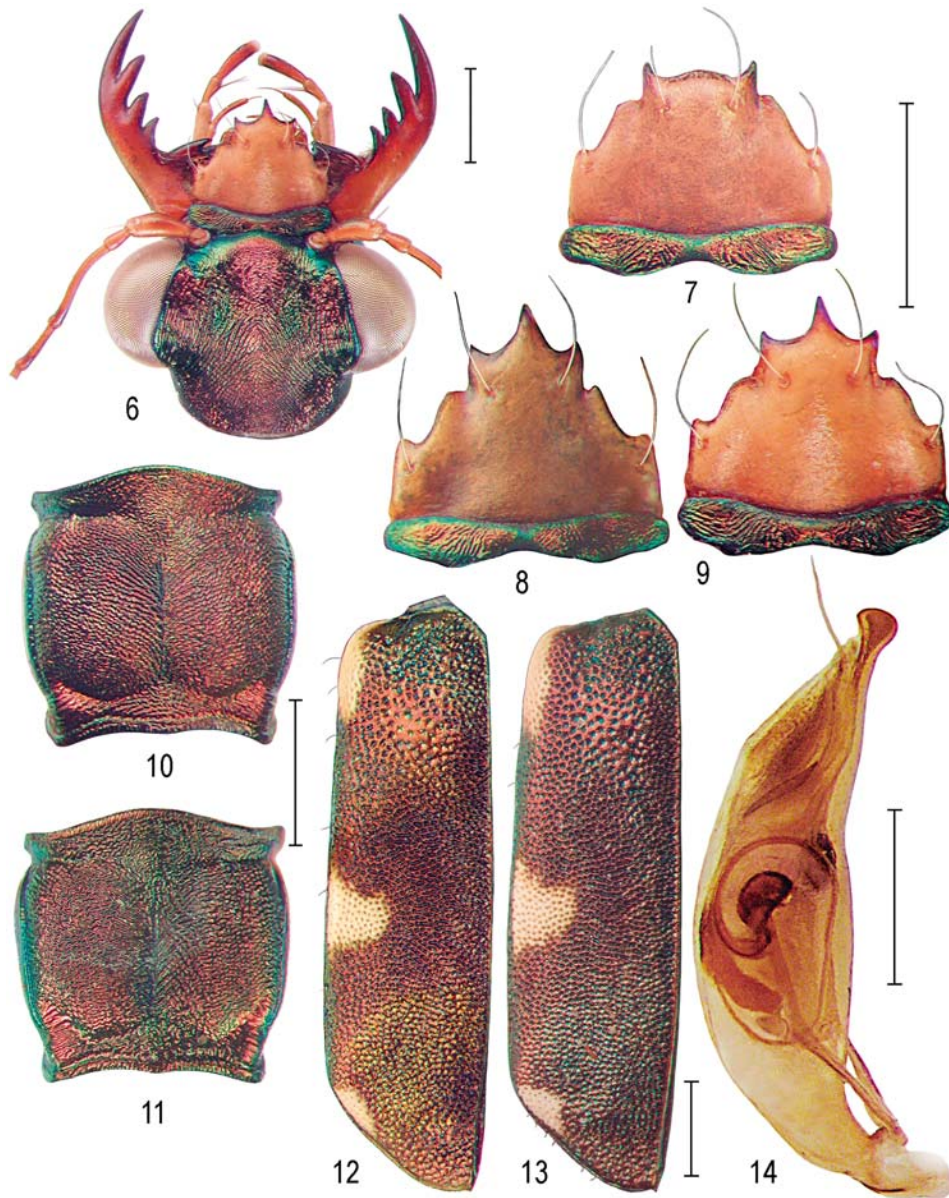
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Revision of Odontocheilina – 9. *Odontocheila pentacomiooides*; *O. cyanella pseudomargineguttata*

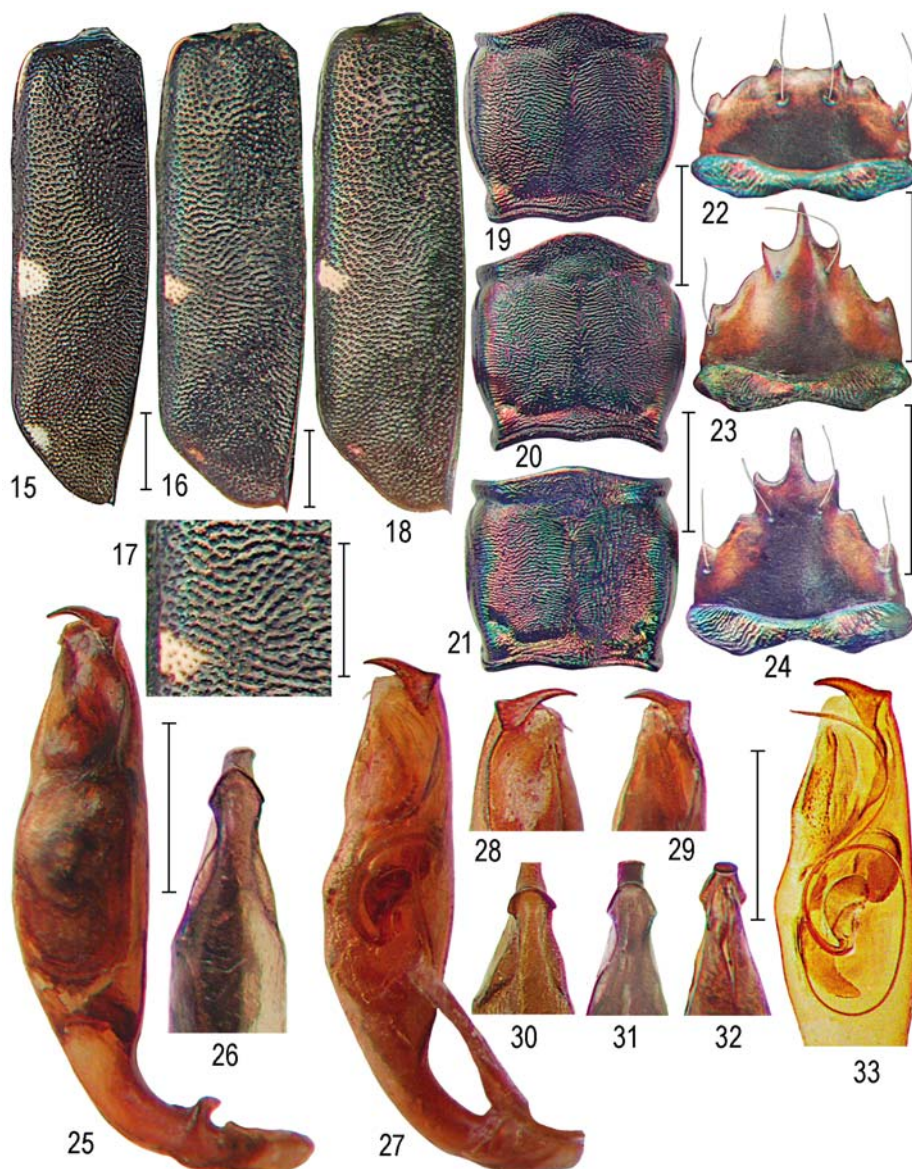
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Figs 1–5. Two species of *Odontocheila*. 1–4: habitus. 1: *O. pentacomioides* W. Horn, ♀, 9.7 mm, HT (SDEI). 2–5: *O. spinipennis* W. Horn (2 – ♀, 10.2 mm, HT (MNHN); 3 – ♂ 8.9 mm, Guyane Haut Carsevenne (MNHN); 4 – ♀, 10.2 mm, LT of *O. cyanella margineguttata* W. Horn syn. nov. (SDEI). 5 – *O. spinipennis* W. Horn, head, ♂, Saint Jean du Maroni (IRSNB).



Figs 6–14. *Odontocheila pentacomioides* W. Horn. 6 – head, ♀, Tambopata, Peru (DBCN); 7–9: labrum (7 – ♂, Maldonado, Peru (ASUT); 8 – ♀, HT (SDEI); 9 – ♀, Tambopata (DBCN). 10–11: pronotum (10 – ♂, Maldonado (ASUT); 11 – ♀, HT (SDEI). 12–13: elytron (12 – ♂, Maldonado (ASUT); 13 – ♀, HT (SDEI). 14: aedeagus, ♂, Maldonado (ASUT). Bars = 1 mm.



Figs. 15–33. *Odontocheila spinipennis* W. Horn. 15–18: elytron (15 – ♂, Saint Jean du Maroni (IRSNB); 16 – ♀, HT (SDEI); 17 – ditto, detail of elytral sculpture; 18 – ♀, LT of *O. cyanella margineguttata* W. Horn syn. nov. (SDEI). 19–21: pronotum (19 – ♂, Saint Jean du Maroni (IRSNB); 20 – ♀, ibid.; 21 – ♀, LT of *O. c. margineguttata* W. Horn syn. nov. (SDEI). 22–24: labrum (22 – ♂, Saint Jean du Maroni (IRSNB); 23 – ♀, HT (SDEI); 24 – ♀, *O. c. margineguttata* W. Horn syn. nov. (SDEI). 25–33: aedeagi or their apices (25 – Saint Jean du Maroni (IRSNB); 26 – ditto, ventral view; 27 – Guyane Haut Carsevenne (MNHN); 28 – ditto, right lateral view; 29 – Saint Jean du Maroni (IRSNB); 30–31 – ibid., ventral view; 32 – ibid., dorsal view; 33 – showing internal sac, Guyane Haut Carsevenne (MNHN). Bars = 1 mm.