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Revision of the genus *Caledonica* (Coleoptera: Cicindelidae)

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Abstract. A revision of the endemic New Caledonian tiger beetle genus *Caledonica* Chaudoir, 1860 is presented based on the examination of more than 600 specimens including the relevant type material. Neotype is designated for *Distipsidera mediolineata* Lucas, 1862 and *Distipsidera Mniszechii* Thomson, 1856 as the original type material is lost. *Oxycheila arrogans* Montrouzier, 1860 is recognized as an unavailable name because it was proposed in synonymy and is replaced by *Caledonica tuberculata* Fauvel, 1882, stat. restit. The following new synonymy is proposed: *Oxycheila affinis* Montrouzier, 1860 = *Caledonica affinis* var. *lerati* Fleutiaux, 1911, syn. nov. *Caledonica luiggiorum* sp. nov. and *C. rivalieriana* sp. nov. are described as new to science. Males of two species, *C. longicollis* Fauvel, 1903 and *C. rubicondosa* Deuve, 2006, are described for the first time. Redescriptions of all species are given. A dichotomous key to species and subspecies is provided, and a brief history of the taxonomy and nomenclature of this genus is also given. Biology and distribution of most species and behaviour of adults in their biotopes, based on the author's own field research and observations during his three surveys in New Caledonia are presented. Each species is described in detail; its habitus and diagnostic characters are illustrated in colour photographs.

Résumé. Nous présentons la révision du genre de cicindèles *Caledonica* Chaudoir, 1860, endémique de Nouvelle-Calédonie. Cette révision est basée sur l'examen de plus de 600 spécimens, en particulier les spécimens types. Des néotypes sont désignés pour *Distipsidera mediolineata* Lucas, 1862 et *Distipsidera Mniszechii* Thomson, 1856 dont les types originaux sont perdus. *Oxycheila arrogans* Montrouzier, 1860 est reconnu comme indisponible, puisque proposé dans une synonymie, et remplacé par *Caledonica tuberculata* Fauvel, 1882, stat. restit. Les nouvelles synonymies suivantes sont proposées: *Oxycheila affinis* Montrouzier, 1860 = *Caledonica affinis* var. *lerati* Fleutiaux, 1911, syn. nov. Nous proposons une redescription de toutes les espèces. Deux espèces nouvelles sont décrites *Caledonica luiggiorum* sp. nov. and *Caledonica rivalieriana* sp. nov. Les mâles de *C. longicollis* Fauvel, 1903 and *C. rubicondosa* Deuve, 2006 sont également décrits pour la première fois. Une clé dichotomique des espèces et sous espèces est également présentée, ainsi qu'un bref historique de la taxonomie et de la nomenclature

des différente espèces. Pour la plupart des taxons, des éléments de biologie et distribution sont présentés, ainsi que des informations sur le comportement des adultes dans leur biotope. Ces informations sont basées sur des observations de terrain réalisées par l'auteur au cours de trois missions. Chacune des espèces est décrite en détail, l'habitus et les critères de diagnostic sont illustrés par des photos couleurs, ainsi que les biotopes des adultes.

Key words. Coleoptera, Cicindelidae, *Caledonica*, new species, new synonymy, neotype designation, New Caledonia

Introduction

Tiger beetle fauna of New Caledonia comprises mostly endemic taxa included in the following genera: *Vata* Fauvel, 1903, *Manautea* Deuve, 2006, and *Caledonica* Chaudoir, 1860. Apart from these genera, only two additional tiger beetles, *Myriochila* (*Myriochila*) *semicincta* (Brullé, 1834) and recently reported *Oceanella vitiensis* (Blanchard, 1853) occur in the archipelago (Wiesner 1991).

The most diverse genus is *Caledonica*. Adults of this genus are strictly tree trunk-dwelling and therefore mostly dependent on forest biotopes. Just like other silvicolous Cicindelidae, members of *Caledonica* are endangered by prospective deforestation and therefore their presence could possibly be a good indicator of natural balance.

Several species of *Caledonica* were known only from a few historical specimens collected more than a hundred years ago. Very little is known about their biology, ecology, distribution or behaviour. The genus was reviewed by Deuve (1981) and three additional papers were published until recently (Deuve 1987, 2006, 2015). Nevertheless, further research revealed a necessity of a more complete revision of the genus, and the results are presented here. Entomological research in New Caledonia has been rather difficult and involving expensive collecting expeditions, moreover with longer stays, to bring relevant results.

During my long-term field research, lasting nine months in total, a great number of field observations, photos of specimens in their natural habitats, and large material have been gathered. It includes the discovery of undescribed species and rediscovery of several other species known only from the type specimens. Consequently, the revision presented here contains all accessible relevant data on biology and behaviour of adults, and detailed redescriptions of all known taxa, including descriptions of their previously unknown sexes. Additional rich material collected during my three expeditions has contributed to a better understanding of the variability of individual taxa. Moreover, comparison of the recent material to the type specimens has enabled proper identification of the taxa.

Nevertheless, recent discoveries of a new species right in the natural garden of my friends, as well as that of the previously unknown genus *Manautea* described by Deuve (2006), indicate that the Cicindelidae fauna of New Caledonia is still rather poorly explored. Moreover, despite the thorough revision presented here, the true position of some taxa is still unclear and their biology remains unknown, particularly because of their scanty material. Additional studies are necessary and they may result in new discoveries. Therefore, the next expedition to New

Caledonia should be directed to the insufficiently explored areas of the archipelago in hope of finding species known currently only from a very limited, mainly historical, specimens. Furthermore, combining morphology with molecular studies which are currently conducted by the present author may resolve the mutual relations between similar species in the genus.

History of the genus *Caledonica* Chaudoir, 1860

The genus *Caledonica* was erected by Chaudoir (1860) for *Distipsidera mniszechii* Thomson, 1856 to separate the New Caledonian species previously included in the genus *Distipsidera* Westwood, 1837 from those occurring outside New Caledonia and possessing different characters. In the same paper Chaudoir described another two species, *Caledonica fasciata* Chaudoir, 1860 and *C. lunigera* Chaudoir, 1860, and argued: '*The three known species of this new genus all inhabit New Caledonia, I have given it the name of the country to which this form is devoted*', while on the next page he simultaneously noted that *C. lunigera* probably inhabits Vanuatu (former New Hebrides). Nevertheless, five years later, in his catalogue (Chaudoir 1865), he listed this species as being from New Caledonia and synonymized *C. fasciata* with *C. affinis* (Montrouzier, 1860).

In the same year in which Chaudoir proposed the genus *Caledonica*, three new species of this genus were described by Montrouzier (1860), but placed by him in the genus *Oxycheila* Dejean, 1825 as: *O. arrogans* Montrouzier, 1860, *O. pulchella* Montrouzier, 1860, and *O. affinis* Montrouzier, 1860. Subsequently, three other species were described: *Caledonica mediolineata* (Lucas, 1862), *C. deplanchei* (Fauvel, 1862), and *C. acentra* Chaudoir, 1869.

Later on, Fauvel (1882) treated *C. arrogans* as a species *incertae sedis* and described three new species: *C. tuberculata* Fauvel, 1882, *C. myrmidon* Fauvel, 1882, and *C. bavayi* Fauvel, 1882. He also presented the first key to *Caledonica* and considered *C. deplanchei* a synonym of *C. lunigera*. He was apparently not aware of the existence of *C. acentra* as that species was not included in his paper and therefore he compared *C. bavayi* to *C. lunigera* and *C. mniszechii*, which he considered to be the most similar species.

Fleutiaux (1892) synonymized *C. bavayi* with *C. acentra*.

Fauvel (1903) published a general survey of New Caledonian geography and summarized the history of exploration of the insect fauna of the island. In this publication he described *C. longicollis* Fauvel, 1903.

Horn (1910) designated *Distipsidera mniszechii* Thomson, 1856, the oldest available name originally included in *Caledonica* by Chaudoir (1860), as the type species of the genus.

Recently the genus was revised by Deuve (1981). In his revision he described *C. rivalieri* Deuve, 1981 and *C. fleutiauxi* Deuve, 1981 (based on historical specimens only), restored the species status of *C. arrogans* and synonymized *C. tuberculata* with it. Later on, Deuve (1987) published a description of *C. viridicollis* Deuve, 1987.

More recently, Wiesner (1991) described *C. wormae* Wiesner, 1991 and Deuve (2006) described two new subspecies: *C. rivalieri laevioricollis* Deuve, 2006 and *C. viridicollis rubicondosa* Deuve, 2006.

Deuve (2015) synonymized *C. wormae* with *C. acentra*, restored *C. bavayi* as a distinct species, rised the rank of *C. rubicondosa* to species, and assigned *C. laevioricollis* as a subspecies of *C. viridicollis*.

In this paper the species status of *C. tuberculata* is restored and *C. arrogans* is recognized as an unavailable name according to ICZN (1999); *C. rivalieriana* sp. nov. and *C. luiggiorum* sp. nov. are described as new species to science.

Materials and methods

Mandibles of historical and type specimens are usually firmly closed. Unfortunately, it is often impossible to relax them without a high risk of their damage, thus their exact shape remains unknown. Furthermore, such manipulations with historical type material are often strictly forbidden.

Type specimens of *C. mniszechii*, *C. arrogans* and *C. mediolineata* are considered lost (Deuve 1981). Therefore I recognize these species here based on the previously published data.

All labels of each type specimen are cited in their original spelling. Individual labels are separated by a semicolon, and additional explanatory notes are placed in square brackets. In non-type specimens only locality labels are given.

All photographs were taken using a digital camera. The quality of the photographs reflects the conditions under which they could be taken. The best quality pictures were taken in nearly professional settings, using a Canon EOS 40D with a Canon Macro 100 mm lens mostly from specimens deposited in the author's collection. Specimens of a few taxa were photographed under less ideal conditions, using a Nikon Coolpix 4500, during the author's visits to the MNHN.

Measurements. The body length was measured without the labrum and refers to the distance from the clypeus to the apices of the elytra (excluding sutural spines). The width of the body was measured across the widest part of the elytra. The width of the head was measured across the eyes and includes their lateral margins. The length of labrum includes median tooth (if present). The width of pronotum was measured including spines or ribs of notopleural sutures. Lateral margins of pronotum include proepisterna when visible from above.

When only a limited number of specimens (less than 15) per species was available, all examined specimens were measured. For species available in more numerous series, always at least 15 specimens were measured, and the specimens used were selected to cover the maximum variability.

Preparation of the aedeagus. All aedeagi are described and illustrated here in their left lateral position (if not stated otherwise). The aedeagus possesses very important diagnostic characters. Not only its shape, but also the structure of the internal sac is very important for identification of species. The aedeagi of all taxa were studied thoroughly except for those of *Caledonica mediolineata*, *C. tuberculata* and *C. fleutiauxi*, because the preparation of aedeagi in these old historical specimens deposited in MNHN was not permitted. Moreover no more material of these three species was available for my study. The aedeagi of *C. pulchella* and *C. viridicollis* were also not studied, because males of these two species are unknown.

In all other taxa the aedeagus was withdrawn from the abdomen of fresh specimens, inserted into a small vial with potassium hydroxide solution and kept there for 12–48 hours depending on its size. Afterwards, the aedeagus was washed in distilled water for about 15–20 minutes.

If the inner sac was still not clearly observable, after another washing in distilled water the aedeagus was immersed in clean lactic acid for another 12–24 hours and then washed again in distilled water for 15–20 minutes. Then it was inserted in propyl alcohol and kept there for at least 10 minutes. During these procedures, the majority of surface impurities were removed and the air bubbles which occasionally occur inside the aedeagus were carefully pushed away. Then the aedeagus in its left lateral position was immersed into a drop of synthetic transparent resin (Solakryl) on a transparent plastic mounting card. During the next 24 hours several additional drops of the resin were added to completely cover the aedeagus for permanent conservation of the sample. The plastic mounting card with the aedeagus was in all cases attached to the pin between the corresponding beetle specimen and the first locality label.

Depositories. Studied specimens are deposited in following collections:

AKCB Arnošt Kudrna collection, České Budějovice, Czech Republic;
BMNH Museum of Natural History, London, United Kingdom;
IRDN Institut de recherche pour le développement, Nouméa, New Caledonia;
IRSNB Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium;
JMCA Jiří Moravec collection, Adamov, Czech Republic;
JWCW Jürgen Wiesner collection, Wolfsburg, Germany;
MNHN Muséum national d'Histoire naturelle, Paris, France;
NMPC National Museum, Prague, Czech Republic;
QMBA Queensland Museum, Brisbane, Queensland, Australia;
SRFP Station de Recherches Frutières de Pocquereux, La Foa, New Caledonia;

Key to species of *Caledonica*

1 Humeral macula forming lunule. 2
– Humeral macula short, forming narrow band or doubled. 6
2 Body large, 16–21 mm long. 3
– Body medium-sized to small, not exceeding 16 mm. 4
3 Labrum with four setae. Lateral margins of pronotum usually with distinct, fairly narrow and long spines. Whole elytral surface distinctly covered with dense and deep punctures except for flat interspaces among costae and also suture. Episterna mostly metallic black, ventrites predominantly dark brown with dark cupreous metallic lustre. Body dorsally very dark bronze to dark cupreous or black with metallic reflections. Antennae reaching or exceeding half of elytral length in male, one third in female. Figs 71–75. .... ***C. tuberculata*** Fauvel, 1882
– Labrum with two anteromarginal setae. Lateral margins of pronotum usually with short, narrow and indistinct flat lateral ribs, less frequently with developed flat tubercles. Elytral punctures nearly effaced on apical area. Ventrites and including episterna mostly with vividly green metallic lustre. Body dorsally dark bronze to dark cupreous with metallic lustre. Antennae reaching or exceeding three quarters of elytral length in male, half in female. Figs 66–70. ..... ***C. mniszechii*** (Thomson, 1856)
4 Body 10–13 mm long. Labrum entirely testaceous. Figs 76–80. .... ***C. lunigera*** Chaudoir, 1860

– Body 13–16 mm long. Labrum with darkened margins. 5
5 Aedeagus with long and only slightly dorsally hooked apex. Labial and maxillary palpi in female testaceous to dark testaceous. Female metatarsi predominantly testaceous with darker apices. Figs 56–60. ..... ***C. acentra*** Chaudoir, 1869
– Aedeagus with dorsally distinctly hooked apex. Labial and maxillary palpi in female testaceous with black terminal palpomeres (in maxillary palpi rarely also penultimate palpomere black). Female metatarsi predominantly black with dark testaceous basal areas. Figs 61–65. ..... ***C. bavayi*** Fauvel, 1882
6 Elytra lacking costae or only discal costa weakly marked; sublateral costa entirely absent. 7
– Each elytron with two longitudinal (discal and sublateral) costae between basodiscal convexity and apical impression; sublateral costa distinct or not. 8
7 Body small, 8–11 mm long. Lateral margins of pronotal disc moderately convex, notopleural sutures simple, lacking elevated costae. Humeral macula simple, regularly expanding towards scutellum. Dorsal coloration metallic cupreous to dark bronze. Figs 4–8. ..... ***C. longicollis*** Fauvel, 1903
– Body larger than 11 mm. Lateral margins of pronotal disc distinctly convex. Humeral macula doubled, with adjacent additional basal macula, both ochreous coloured. Dorsal coloration black. Figs 1–2. ..... ***C. pulchella*** (Montrouzier, 1860)
8 Elytral maculation orange colored. Figs 36–40. ..... ***C. rubicondosa*** Deuve, 2006
– Elytral maculation white, ochre-white or ivory. 9
9 Median band distinct and long, usually overlapping discal costae. Elytra dorsally mostly black. 16
– Median macula or band short, at most reaching discal costae, but never overlapping them. Elytra dorsally mostly green or reddish, not black. 10
10 Body 13–16 mm long. Figs 41–45. ..... ***C. fleutiauxi*** Deuve, 1981
– Body length not exceeding 13 mm. 11
11 Female mesepisternal coupling sulci present. 12
Female mesepisternal coupling sulci absent. 14
12 Body 11–13 mm long. Lateral margins of pronotum with elevated notopleural sutures in form of short, but distinctly wide, flat lateral ribs. Figs 24–28. ..... ***C. rivalieriana*** **sp. nov.**
– Body 8–11 mm long. Lateral margins of pronotal disc with simple notopleural sutures lacking elevated costae. 13
13 Terminal antennomere in male and often in female with yellowish tip. Median band rather narrow and slightly cranked upwards. Elytral punctures on impressed interspaces among costae and suture indistinct or absent. Female mesepisternal coupling sulci in form of deep pit. Body 9–11 mm long. Figs 14–18. ..... ***C. myrmidon*** Fauvel, 1882
– Terminal antennomere entirely black in both sexes. Median band rather wide and not cranked upwards. Entire elytral surface densely punctate (punctures gradually becoming shallower towards apex). Female mesepisternal coupling sulci in form of long, distinct furrow (only exceptionally supplemented with small pit). Body 8–10 mm long. Figs 9–13. ..... ***C. luiggiorum*** **sp. nov.**

14 Elytral colouration dark cupreous to black. Median band slightly cranked upwards. Figs 19–23. ..... ***C. rivalieri*** Deuve, 1981
– Elytral colouration olivaceous to bronze or only indistinctly cupreous. Median band straight, not cranked upwards. 15
15 Surface of pronotal disc with shallow, but distinct rugae. Figs 29–30. .... ***C. viridicollis viridicollis*** Deuve 1987
– Surface of pronotal disc almost smooth, rugae indistinct or nearly effaced. Figs 31–35. ..... ***C. viridicollis laevioricollis*** Deuve 2006
16 Median band almost reaching suture. Anteapical macula usually in form of small spot. Labrum with four setae. Figs 46–50. ..... ***C. mediolineata*** (Lucas, 1862)
– Median band reaching or overlaping discal costa, not reaching suture. Anteapical macula large, mostly of reniform shape. Labrum with two setae. Figs 51–55. .... ***C. affinis*** (Montrouzier, 1860)

Taxonomy

Caledonica Chaudoir, 1860

Caledonica Chaudoir, 1860: 312 (original description). Chaudoir (1865): 15 (catalogue); Fauvel (1882): 222 (review incl. key to species); Fauvel (1903): 21 (review incl. key to species); Fleutiaux (1892): 31 (catalogue); Fleutiaux (1911): 162 (catalogue); Gemminger & Harold (1868): 32 (catalogue); Horn (1910): 180 (description, catalogue); Horn (1926): 104 (catalogue); Horn (1936): 5 (catalogue); Deuve (1981): 179 (revision incl. key); Deuve (2015): 69 (review); Wiesner (1992): 75 (catalogue).

Type species. *Caledonica mniszechii* (Thomson, 1856), designated by Horn (1910).
Diagnosis. Body metallic lustrous, ranging from bronze, cupreous, black, green, olivaceous to blue. Body small, medium-sized or large, varying from 8.30 to 21.00 mm. Labrum in both sexes entirely testaceous or testaceous with darkened lateral margins or apices of teeth. Each mandible with three teeth and basal molar. Lateral margins of pronotum often with elevated notopleural sutures obvious in dorsal view in form of various ribs. Elytra of most of species with longitudinal (discal and sublateral) costae between basodiscal convexity and apical impression. Interspaces between these costae and also along suture notably iridescent or dull depending on angle of illumination. Elytral maculation in all species consists of humeral, median and anteapical maculae. All thoracic portions and ventrites glabrous.
Differential diagnosis. The genus *Caledonica* differs from other genera present in New Caledonia by following characters: *Vata* Fauvel, 1903 has labrum distinctly shorter, and entire elytra immaculate (maculate in *Caledonica*). *Oceanella* Rivalier, 1963 resembles *Caledonica* by similar elytral maculation consisting of humeral, median and anteapical maculae, but can be easily distinguished by much shorter and unidentate labrum with distinct median tooth in both sexes, whereas labrum of *Caledonica* possesses anterolateral teeth and in female also sharply tridentate median lobe. *Manautea* Deuve, 2006 differs in smaller size of body, 5.80–7.80 mm, whereas the length of smallest *Caledonica* specimens is 8.30 mm; proportionally longer legs and elytral maculation with missing or only slightly indicated humeral macula. *Myriochila* Motschulsky, 1862 differs in shorter labrum and pilose lateral margins of pronotum, which is bare in *Caledonica*. *Caledonica* also differs in glabrous thoracic and abdominal ventrites,

which are setose in *Oceanella* and *Myriochila*. Moreover all above mentioned genera except for *Manautea* have mandibles with four teeth, instead of three in *Caledonica.*

The morphological similar genus *Distipsidera* Westwood, 1837, occurring in Australia, Solomon Islands and New Guinea, can be distinguished by 6-setose labrum (with additional one seta on each side of middle tooth), while *Caledonica* has 2-setose or 4-setose labrum (rarely with additional seta). Labrum of *Distipsidera* also possesses, except for tridentate median lobe and anterolateral teeth, one additional lateral tooth on each side of labrum that is missing in *Caledonica*. Moreover long labral tridentate median lobe is present in both sexes in *Distipsidera*, but only in females of *Caledonica.*

Distribution. Endemic to New Caledonia

Caledonica pulchella (Montrouzier, 1860)

(Figs 1–3)

Oxycheila pulchella Montrouzier, 1860: 234 (original description).
Distipsidera pulchella: Lucas (1863): 112 (noted).
Caledonica pulchella: Gemminger & Harold (1868): 32 (catalogue); Fauvel (1882): 223 (key), 227 (redescription); Fleutiaux (1892): 31 (catalogue); Fauvel (1903): 213 (key), 214 (noted); Horn (1910): 181 (catalogue); Horn (1926): 105 (catalogue); Horn (1936): 6 (catalogue); Deuve (1981): 180 (key), 182 (redescription); Wiesner (1992): 75 (catalogue).

Type locality. 'Nouvelle Calédonie'.
Type material examined. Holotype: ♀, 'Étiquette Baladano?, N^{ll} Caledonie' [white, handwritten]; 'Museum Paris, N^{elle} Calédonie, Mestro 53-56.' [pink, printed/handwritten]; 'Type' [red, printed]; 'Cicindela pulchella Montr., Soc. ent. 234 (1860)' [brownish, handwritten]; 'Caledonica pulchella' [printed] (MNHN).

Redescription of holotype. Body of female holotype (the only known specimen) medium sized (Fig. 1), length 11.20 mm, width 3.40 mm.

Head with large eyes, slightly narrower than elytra, dorsally black with dark cupreous metallic reflections; frons moderately convex, separated from clypeus by distinct suture, irregularly wavy-rugulose; vertex moderately convex, with shallow posterior impression, longitudinally to irregularly striate; orbital plates distinctly longitudinally parallel-striate with two setae on each side; occipital area irregularly vermicular-rugulose; genae glabrous, metallic green, finely parallel-striate; clypeus cupreous to green with strong metallic reflections, surface coriaceous.

Labrum (Fig. 2) with four setae, dark testaceous except for much paler entire median area; only very slightly shorter than wide, length 1.40 mm, width 1.50 mm, with acute anterolateral teeth and prominent, tridentate median lobe of acute teeth which are bent downwards, so their acute shape is not obvious in dorsal view.

Mandibles dark testaceous, firmly closed in holotype, therefore only their apical teeth and paler basolateral margins observable.

Labial and maxillary palpi testaceous except for darkened terminal palpomeres and also penultimate palpomere of maxillary palpi.

Antennae. Scape, pedicel and antennomeres V–VI testaceous, antennomeres III–IV dark brown with slightly paler apices, remaining antennomeres missing.

Thorax. All thoracic parts glabrous. Pronotum 2.00 mm long, 2.55 mm wide; anterior and posterior sulci well pronounced, median line indistinct; lateral margins of disc rounded,

notopleural sutures lacking elevated costae; pronotal surface black with lustre and feeble green and cupreous metallic reflections along posterior sulcus, surface shallowly irregularly wavy to vermicular-rugulose; proepisterna green with cupreous central area and with metallic lustre, mes- and metepisterna shiny green, pro- and mesepisterna nearly smooth, metepisterna only shallowly striate; female mesepisternal coupling sulci unrecognizable, lacking any pit; metepisterna with distinct impression at posterior suture; pro-, meso-, and metasternum dark testaceous with green metallic lustre; metasternum with fovea-like impression placed at dorsolateral corner.

Elytra elongate, length 7.40 mm, slightly narrowing towards rounded anteapical angles, apices rounded, moderately emarginate towards short sutural spine; basodiscal convexity, apical and juxtahumeral impressions indistinct; each elytron with only indicated longitudinal discal costa, sublateral costa absent; elytral surface anteriorly densely and deeply punctate, juxtahumeral impression punctate only sporadically; punctures towards apex becoming smaller and shallower and nearly effaced on apical area, sparse setigerous punctures with white hairlike setae are distributed on anterior area; elytral coloration lustrously black; elytral maculation ochre-white consisting of three maculae: humeral macula doubled (with tightly adjacent additional basal macula), both ochreous coloured, white, rather narrow and long transversal median band not reaching suture, and white reniform anteapical macula.

Abdomen. Ventrites glabrous, dark testaceous with limited green to cupreous, metallic reflections.

Legs. Coxae and trochanters testaceous, femora testaceous with indistinctly darkened apices; tibiae, tarsi and claws testaceous; tarsi dark testaceous.

Differential diagnosis. Superficially resembling *C. affinis* due to its dark coloration and elytra with enlarged median macula, but clearly distinguished from it by lateral margins of pronotal disc which are rounded, not convex and lacking elevated costae. From *C. luiggiorum* sp. nov. it is distinguishable by its larger body-size (11.20 mm in *C. pulchella*, 8.30–10.10 in *C. luiggiorum* sp. nov.) and narrower elytral median band. In contrast to *C. luiggiorum*, *C. affinis* and *C. viridicollis*, its elytra posses doubled humeral macula and lack elevated elytral costae.

Biology and distribution. Nothing is known about the biology or distribution of *C. pulchella*. The only known specimen, the female holotype, was collected more than 150 years ago and is without a precise locality.

Caledonica longicollis Fauvel, 1903

(Figs 4–8)

Caledonica longicollis Fauvel, 1903: 213 (key), 214 (original description). Horn (1910): 180 (noted), 181 (catalogue); Horn (1926): 105 (catalogue); Horn (1936): 6 (catalogue); Deuve (1981): 180 (key), 182 (redescription); Wiesner (1992): 76 (catalogue); Deuve (2015): 72 (noted).

Type locality. 'Kanala'.

Type material examined. Holotype: ♀, 'Coll. R. I. Sc. N. B., Nouvelle Calédonie, Kanala, rec Bougier, ex. coll. Fauvel' [pink/white, printed/handwritten]; 'Caledonia longicollis, Fvl., cf.: Rev.Ent., 1903, 22:214 Holotype' [white/red, handwritten/printed] (IRSNB).

Additional material examined (44 specimens). **NEW CALEDONIA: Province Nord:** 15 km SE of Pouebo, 1.–5.ii.2012, 20°28′S, 164°39′E, 400–500 m, 1 ♀, A. Kudrna jr. lgt. (AKCB); Antenna Forest, 2 km S of Touho, 20°47′S, 165°14′E, 450 m, 7.–10.ii.2012, 1 ♂, A. Kudrna jr. lgt. (AKCB). **Province Sud:** near Bouirou, cca 20 km

N of Bourail, 27.xii.2004–2.i.2005, 27 ♂♂ 11 ♀♀, A. Kudrna jr. lgt (AKCB; 1 ♂ 1 ♀ in NMPC; 1 ♂ 1 ♀ in BMNH).

Redescription. Body small (more robust in female), length 8.45–10.00 mm, width 2.60–3.00 mm in male (Fig. 4); in female length 9.30–10.70 (holotype: 10.50) mm, width 2.80–3.40 (holotype: 3.25) mm (Fig. 6).

Head with large eyes, slightly narrower than elytra, dorsally metallic dark bronze to cupreous, frons, supraantennal plates and clypeus in male shiny green to shiny cupreous; frons indistinctly to moderately convex in male, more distinctly in female, separated from clypeus by distinct suture, irregularly longitudinally striate, striae occasionally nearly effaced in middle; vertex variable in shape, usually with posterior and anterior impression, vermicularly to irregularly striate; orbital plates longitudinally parallel-striate with two setae on each side; occipital area rather finely and densely irregularly wavy to vermicular-rugulose, rugae becoming more regularly transversally parallel on lateral areas; genae glabrous, metallic green to cupreous with metallic lustre, parallel-striate; clypeus dark testaceous, coriaceous, in male with strong green lustre, in female predominantly with strong cupreous reflections.

Labrum with four setae, in both sexes with acute anterolateral teeth, testaceous except for often darkened margins of teeth and in female usually also darkened lateral margins; male labrum (Fig. 5) shorter than wide, 0.80–1.05 mm long, 1.15–1.30 mm wide, median lobe short with distinct or rarely reduced anterior teeth and missing or very weakly indicated blunt median tooth; female labrum (Fig. 7) slightly shorter than wide, 1.25–1.50 mm long, 1.25–1.45 mm wide, with prominent, sharply tridentate median lobe of acute teeth which are bent downwards, so their acute shape is not obvious in dorsal view.

Mandibles subsymmetrical, brownish-testaceous with paler basolateral area, often with smaller black patch in lateromedian area and darkened margins of teeth; each mandible with three teeth and basal molar; third tooth in right mandible slightly smaller than third in left mandible and second tooth in left mandible indistinctly smaller than second in right mandible.

Labial and maxillary palpi in male testaceous, with darkened apices of terminal palpomeres; in female testaceous, terminal palpomeres black, penultimate palpomeres of maxillary palpi usually darkened.

Antennae longer and paler in male, extending to nearly two thirds of elytral length, in female half elytral length; in both sexes scape testaceous, usually with somewhat darkened apical area that may be more extended, in male pedicel and antennomeres III and IV black except for often testaceous ventral areas and apex, in female black with apex less distinctly pale; antennomeres V–X testaceous in male, dark testaceous to black in female, terminal antennomere black.

Thorax. All portions glabrous. Pronotum in male 1.55–1.80 mm long, 1.65–1.90 mm wide (on average 1.06 times wider than long); in female 1.60–1.80 mm long, 1.70–2.05 mm wide (on average 1.10 times wider than long); anterior and posterior sulci well pronounced, median line developed, lateral margins of disc moderately convex, notopleural sutures simple, lacking elevated costae; pronotal surface metallic cupreous to dark bronze, lateral margins, anterior and posterior lobe usually with green reflections (more markedly so in male); finely and densely irregularly or more regularly transversely striate, anterior and posterior lobe irregularly wavy to vermicular-rugulose; proepisterna and mesepisterna dark testaceous to

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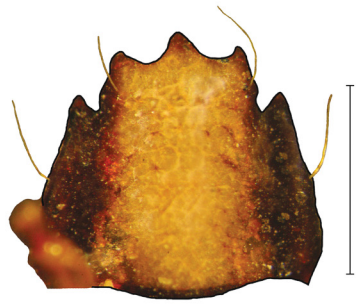

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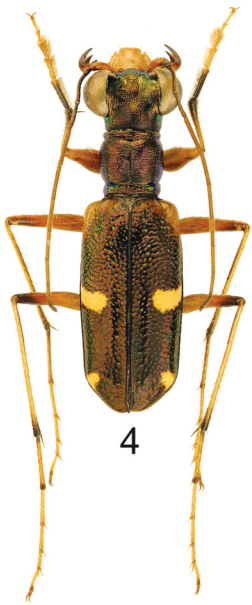

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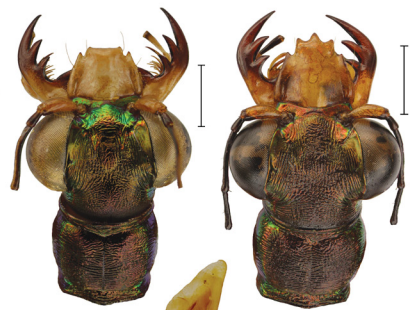

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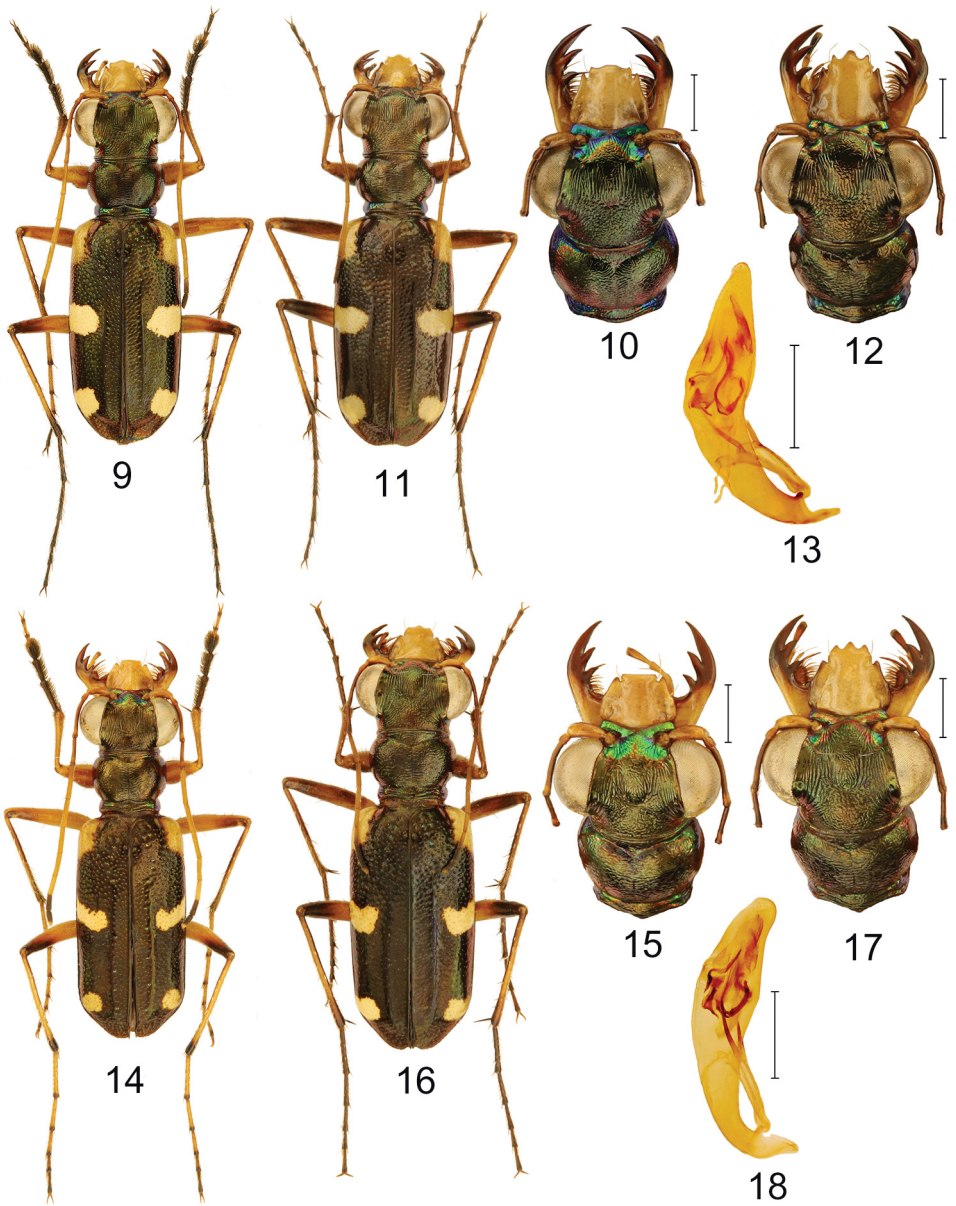
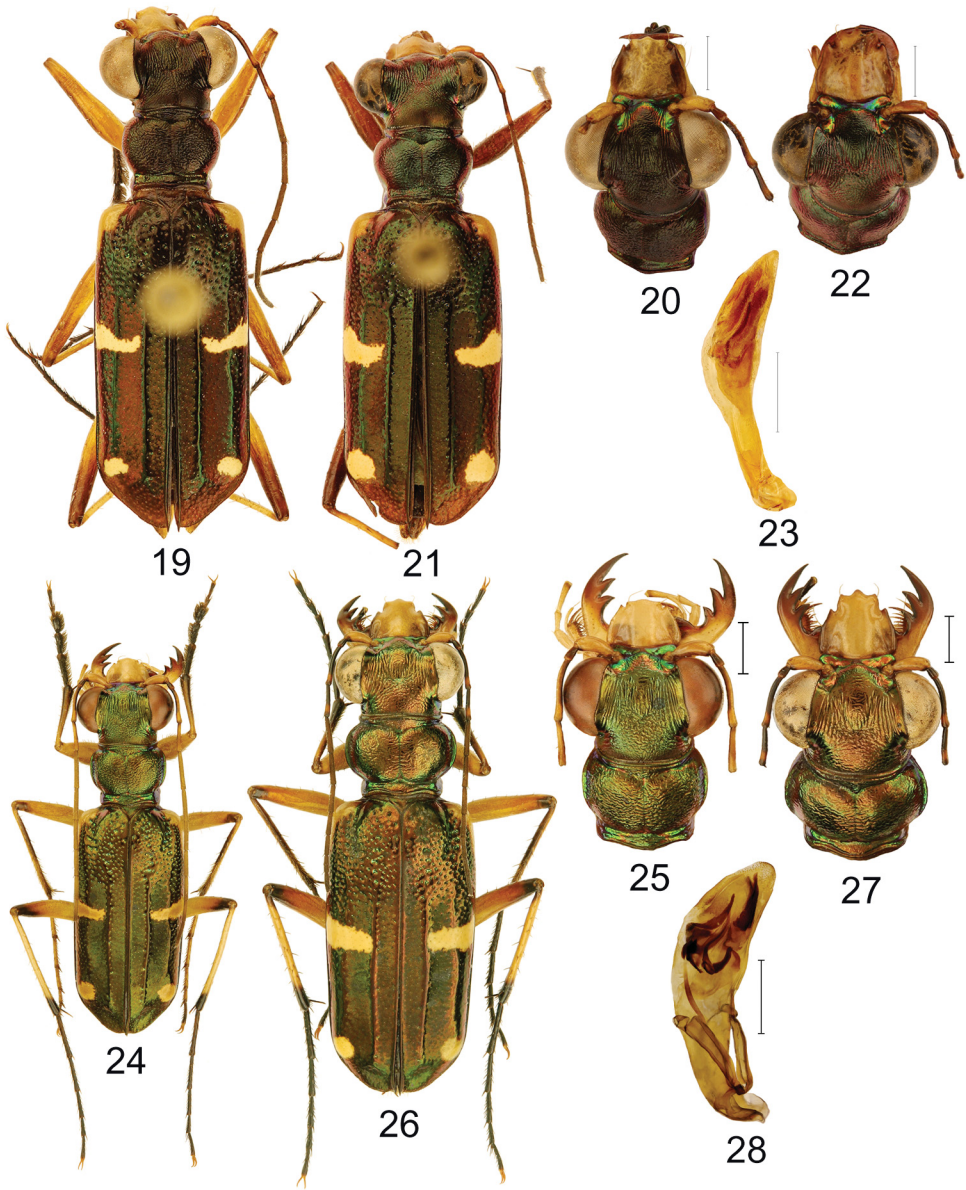
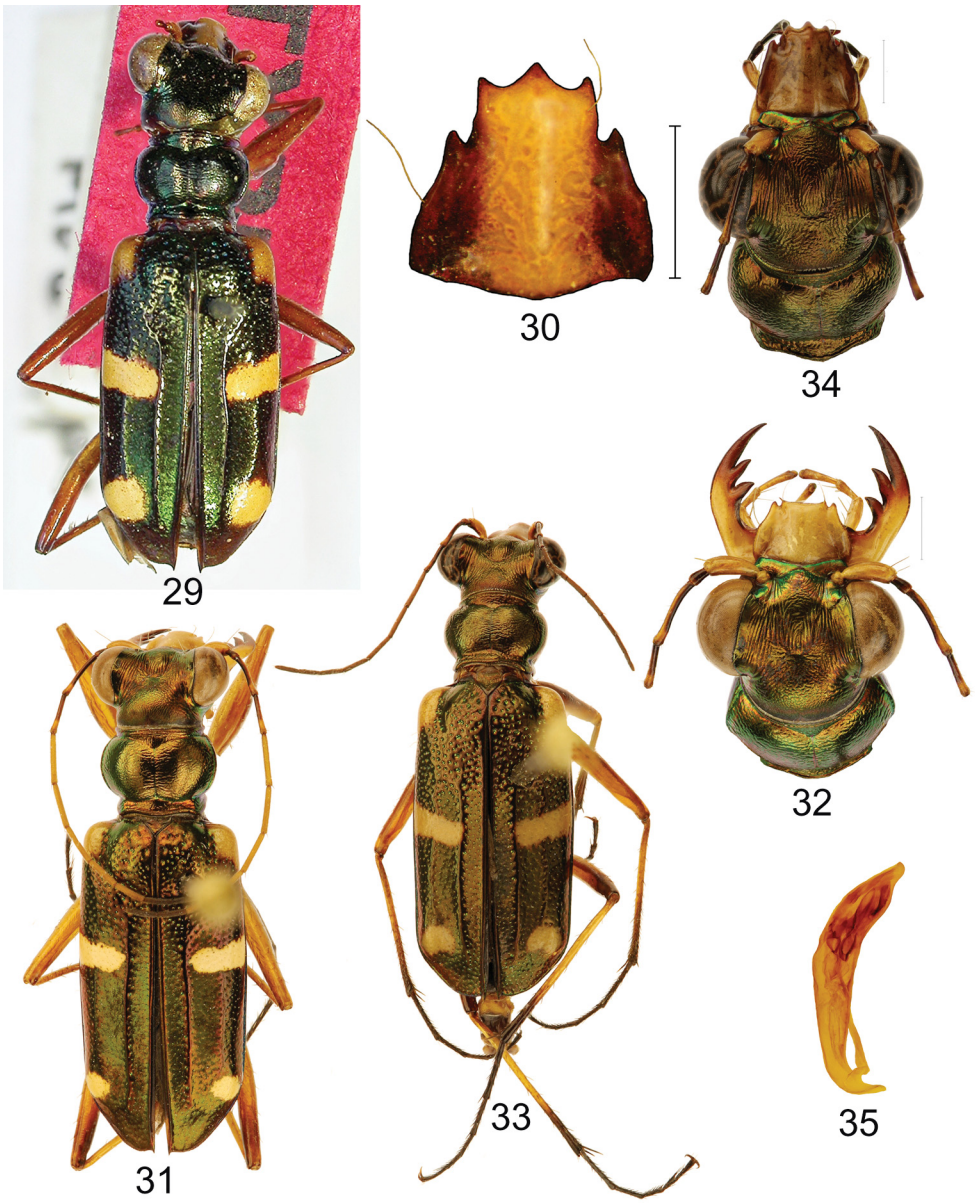
Figs 1–8. 1–3 – *Caledonica pulchella* (Montrouzier, 1860): 1 – habitus, ♀, holotype, 11.2 mm (MNHN); 2 – labrum, ibid.; 3 – labels. 4–8 – *C. longicollis* Fauvel, 1903: 4 – habitus, ♂, Touho, 9 mm (AKCB); 5 – frontal view, ibid.; 6 – habitus, ♀, N Bourail, 9.5 mm (AKCB); 7 – frontal view, ibid.; 8 – aedeagus, Bourail (AKCB). Scale bars = 1 mm.



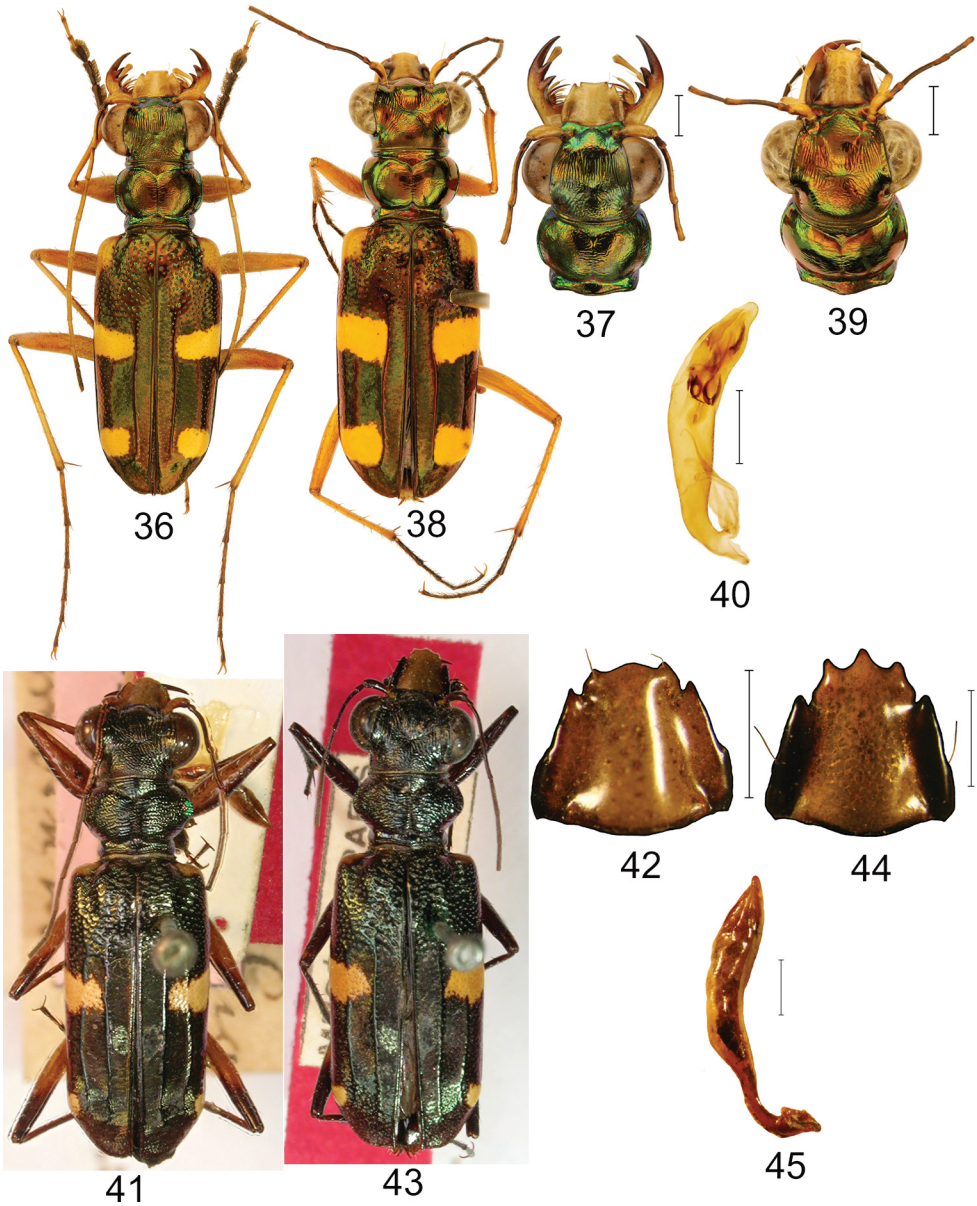
Figs 9–18. 9–13 – *Caledonica luiggiorum* sp. nov.: 9 – habitus, ♂, paratype, SE Koumac, 9.8 mm (AKCB); 10 – frontal view, ibid.; 11 – habitus, ♀, paratype, SE Koumac, 9.9 mm (AKCB), 12 – frontal view, ibid.; 13 – aedeagus, paratype, SE Koumac (AKCB). 14–18 – *C. myrmidon* Fauvel, 1882: 14 – habitus, ♂, Mt. Mou, 9.6 mm (AKCB); 15 – frontal view, ibid.; 16 – habitus, ♀, Boulouparis, 9.6 mm (AKCB), 17 – frontal view, ibid.; 18 – aedeagus, Mt. Mou (AKCB). Scale bars = 1 mm.



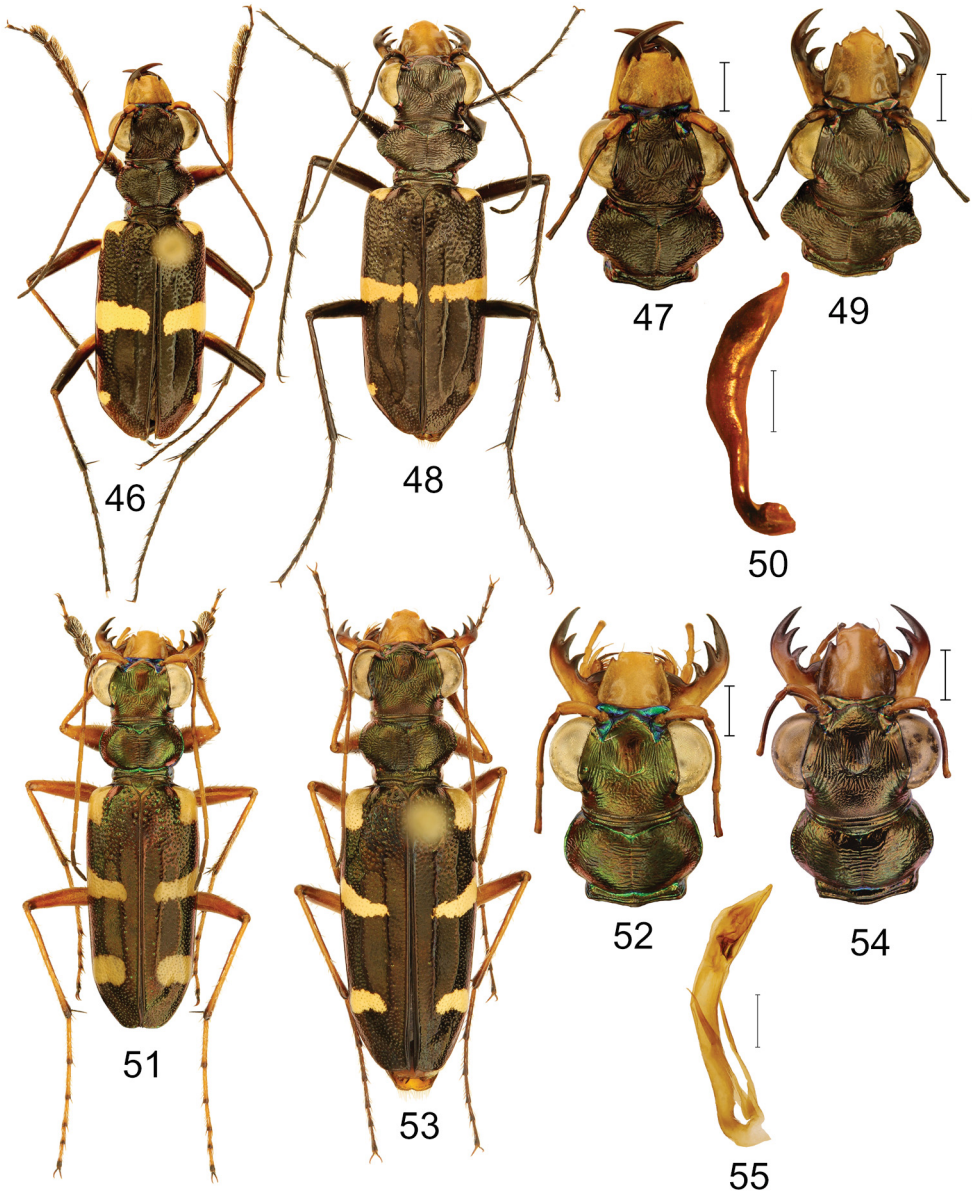
Figs 19–28. 19–23 – *Caledonica rivalieri* Deuve, 1981: 19 – habitus, ♂, Plaine des Lacs, 11.2 mm (MNHN); 20 – frontal view, ibid.; 21 – habitus, ♀, paratype, 11.5 mm (MNHN); 22 – frontal view, ibid.; 23 – aedeagus, Plaine des Lacs (MNHN). 24–28 – *C. rivalieriana* sp. nov.: 24 – habitus, ♂, paratype, Sarramea, 11.5 mm (AKCB); 25 – frontal view, ibid.; 26 – habitus, ♀, allotype, 12.1 mm (AKCB); 27 – frontal view, ibid.; 28 – aedeagus, paratype, Bourail (AKCB). Scale bars = 1 mm.



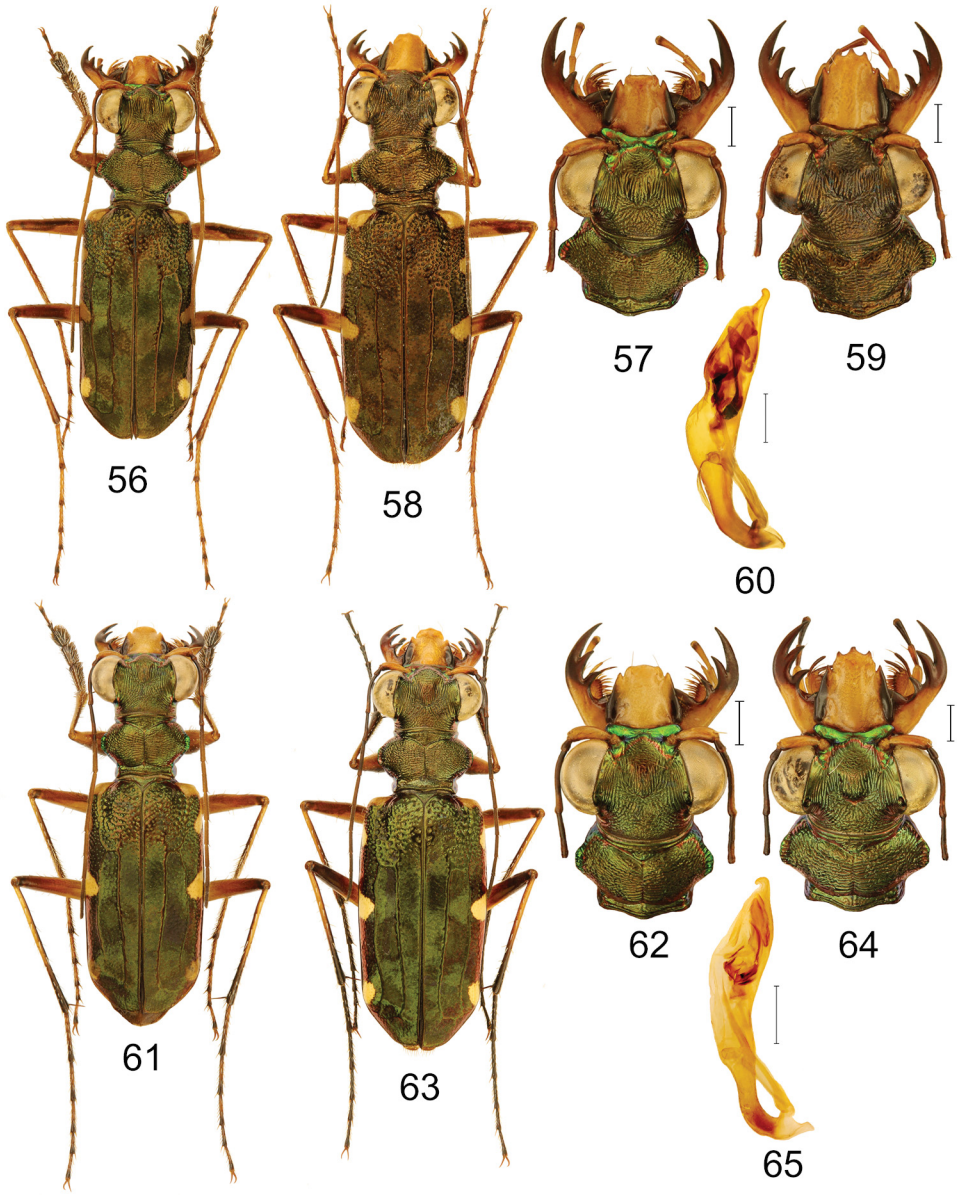
Figs 29–35. 29–30 – *Caledonica viridicollis viridicollis* Deuve, 1987: 29 – habitus, ♀, holotype, 12.5 mm (MNHN); 30 – labrum, ibid. 31–35 – *C. viridicollis laevioricollis* Deuve, 2006: 31 – habitus, ♂, holotype, 11.5 mm (QMBA); 32 – frontal view, ibid.; 33 – habitus, ♀, paratype, 10.8 mm (QMBA); 34 – frontal view, ibid.; 35 – aedeagus (not measured), holotype (QMBA). Scale bars = 1 mm.



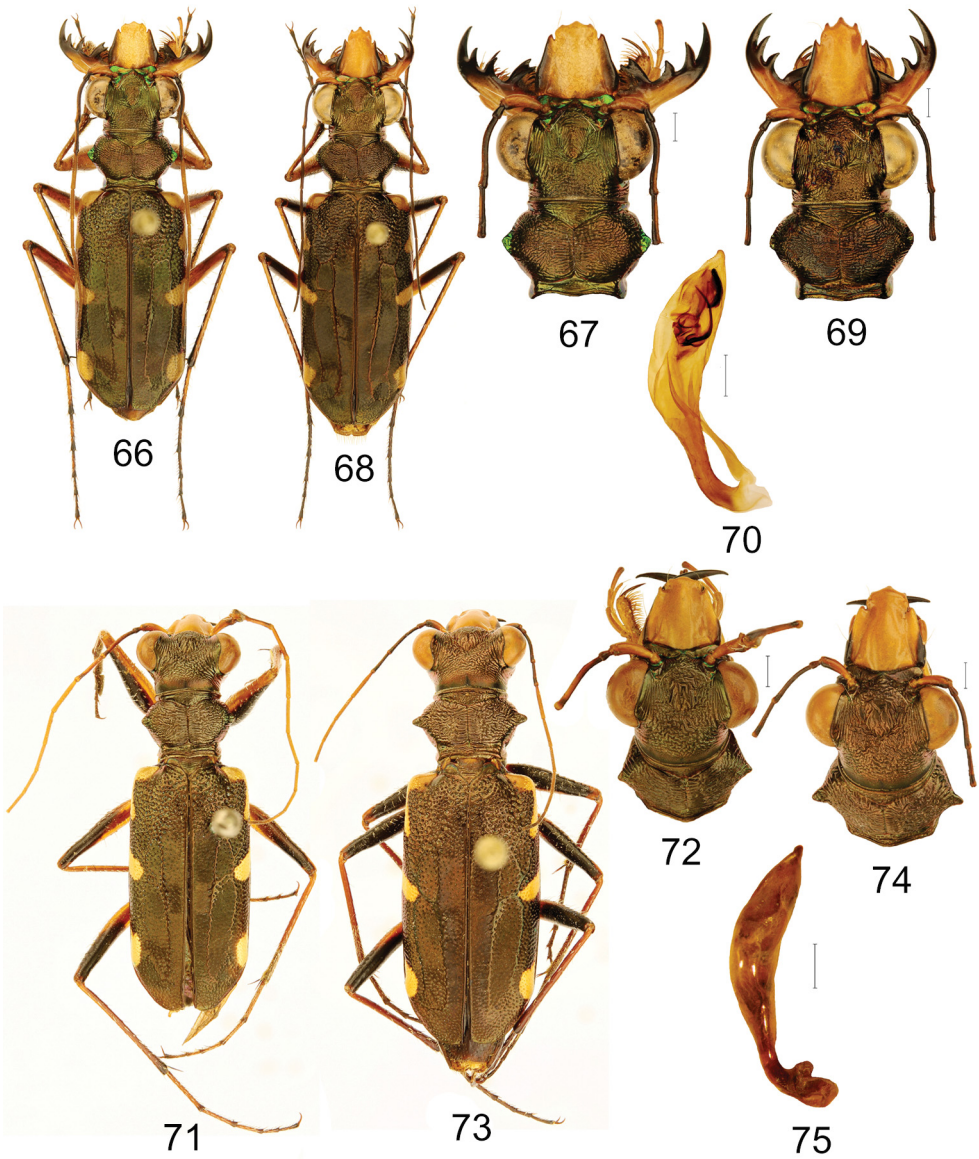
Figs 36–45. 36–40 – *Caledonica rubicondosa* Deuve, 2006: 36 – habitus, ♂, Mt. Colnett, 12.2 mm (AKCB); 37 – frontal view, ibid.; 38 – habitus, ♀, Touho, 11.4 mm (QMBA); 39 – frontal view, ibid.; 40 – aedeagus, Mt. Colnett (AKCB). 41–45 – *C. fleutiauxi* Deuve, 1981: 41 – habitus, ♂, holotype, 13.9 mm (MNHN); 42 – labrum, ibid.; 43 – habitus, ♀, paratype, no locality data, 14 mm (MNHN); 44 – labrum, ibid.; 45 – aedeagus, holotype (MNHN). Scale bars = 1 mm.



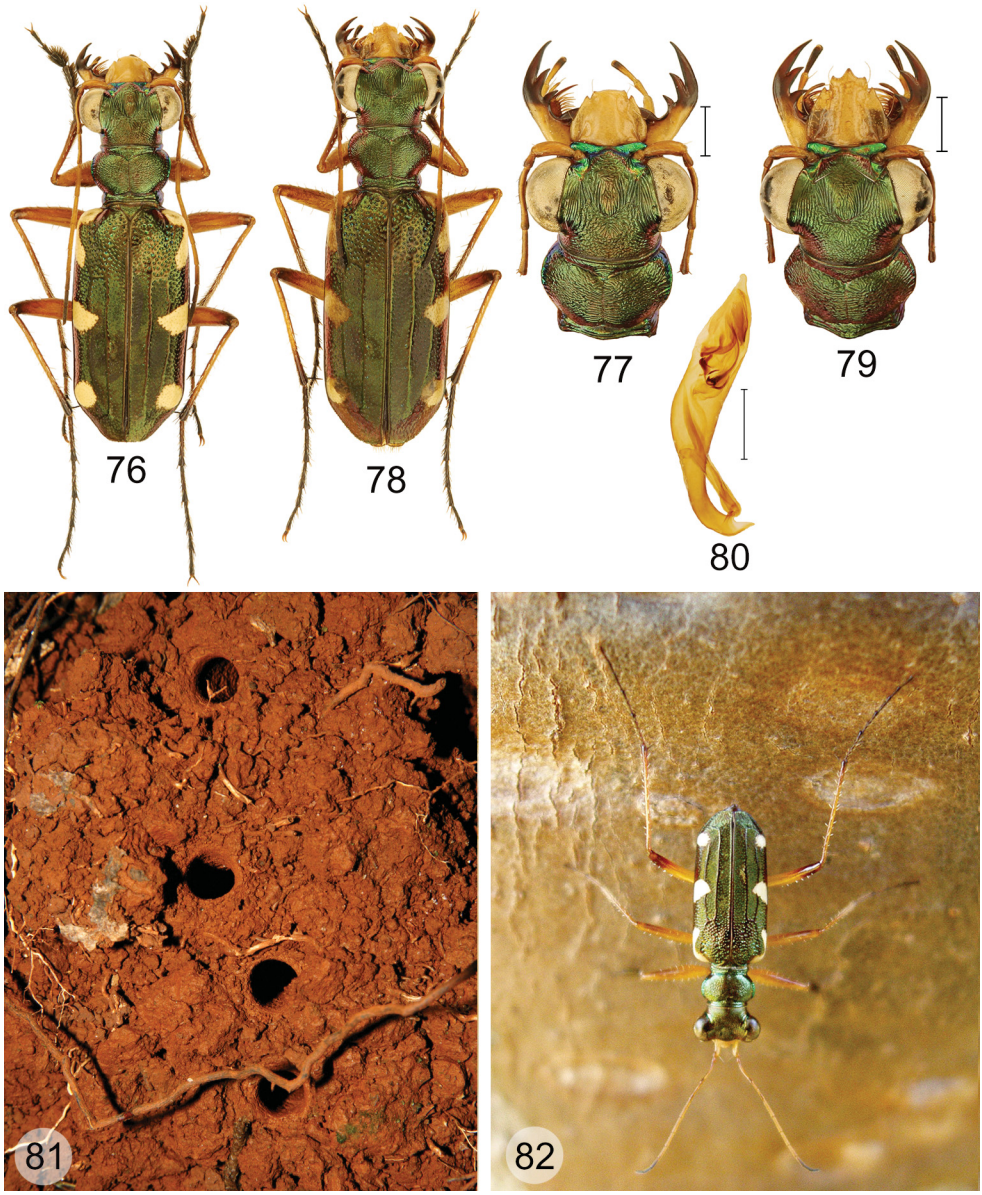
Figs 46–55. 46–50 – *Caledonica mediolineata* (Lucas, 1862): 46 – habitus, ♂, neotype, Port Boisé, 13.1 mm (MNHN); 47 – frontal view, ibid.; 48 – habitus, ♀, Nyamié creek, 13.8 mm (AKCB); 49 – frontal view, ibid.; 50 – aedeagus, Nouméa (MNHN). 51–55 – *C. affinis* (Montrouzier, 1860): 51 – habitus, ♂, SE Koumac, 14 mm (AKCB); 52 – frontal view, ibid.; 53 – habitus, ♀, SW Ouegoa, 15 mm (AKCB); 54 – frontal view, ibid.; 55 – aedeagus, SE Koumac (AKCB). Scale bars = 1 mm.



Figs 56–65. 56–60 – *Caledonica acentra* Chaudoir, 1869: 56 – habitus, ♂, Sarramea, 13.7 mm (AKCB); 57 – frontal view, ibid.; 58 – habitus, ♀, Sarramea, 15 mm (AKCB); 59 – frontal view, ibid.; 60 – aedeagus, Sarramea (AKCB). 61–65 – *C. bavayi* Fauvel, 1882: 61 – habitus, ♂, NW Koumac, 12.5 mm (AKCB); 62 – frontal view, ibid.; 63 – habitus, ♀, N Bourail, 15.4 mm (AKCB); 64 – frontal view, ibid.; 65 – aedeagus, Mt. Colnett (AKCB). Scale bars = 1 mm.



Figs 66–75. 66–70 – *Caledonica mniszechii* (Thomson, 1856): 66 – habitus, ♂, neotype, 18 mm (MNHN); 67 – frontal view, ibid.; 68 – habitus, ♀, Sarramea, 20.8 mm (AKCB); 69 – frontal view, ibid.; 70 – aedeagus, Bouirou (AKCB). 71–75 – *C. tuberculata* Fauvel, 1882: 71 – habitus, ♂,syntype, Yahoué, 17.4 mm (IRSNB); 72 – frontal view, ibid.; 73 – habitus, ♀, syntype, Ile des Pins, 20.5 mm (IRSNB); 74 – frontal view, ibid.; 75 – aedeagus, no locality data (MNHN). Scale bars = 1 mm.



Figs 76–82. 76–80 – *Caledonica lunigera* Chaudoir, 1860: 76 – habitus, ♂, Mt. Mou, 11.2 mm (AKCB); 77 – frontal view, ibid.; 78 – habitus, ♀, Parc Prov. Riviere Bleue, 10.3 mm (AKCB); 79 – frontal view, ibid.; 80 – aedeagus, S Kanala (AKCB). 81–82 – habitats and adults: 81 – larval holes probably of *Caledonica mniszechii* (Thomson, 1856) in small forest remnants, Province Sud, Port Boise; 82 – Parc Prov. Riviere Bleue, adult of *Caledonica lunigera* Chaudoir, 1870 on a tree trunk. Scale bars = 1 mm.

Figs 83–86. Habitats and adults. 83 – Province Sud, Sarramea, Plato de Dogny, a path through forest with saplings of *Coffea arabica*, a biotope of *Caledonica mniszechii* (Thomson, 1856) and *C. bavayi* Fauvel, 1882; 84 – Province Sud, Mt. Koghis, a biotope of *C. mniszechii*, *C. acentra* Chaudoir, 1869, *C. rivalieri* Deuve, 1981 and *C. bavayi*; 85 – a mating pair of *C. mniszechii*, Plato de Dogny; 86 – *C. luiggiorum* sp. nov. on the trunk of young *Acacia spirorbis* tree in a garden, Province Nord.

green with metallic green reflections, testaceous areas more extended in female, metepisterna mostly metallic green, all lateral sterna shallowly, rarely more deeply and irregularly striated, mesepisterna in some females nearly smooth, female mesepisternal coupling sulcus in form of deep, rather large pit placed in dorsal mesepisternal third; metepisterna with fovea-like impression at posterior suture; prosternum, mesosternum and metasternum metallic green, prosternum and mesosternum occasionally with limited testaceous portions, metasternum often with predominant testaceous to dark-testaceous interior area, metasternum with less distinct impression placed at dorsolateral corner.

Elytra elongate, length 5.35–6.45 mm in male, 5.80–7.00 mm in female, lateral margins moderately dilated in middle, anteapical angles rounded towards apices which are rounded, scarcely emarginate towards short sutural spines; juxtahumeral impressions moderate, basodiscal convexity moderate to indistinct, apical impressions indistinct; each elytron lacking or with only indicated discal longitudinal costa which is occasionally visible in dorsal view in form of lustrous line within matt darker areas, sublateral costa entirely absent; elytral surface anteriorly densely and deeply punctate, juxtahumeral impression with several punctures mostly on posterior area; punctures towards apex becoming smaller and shallower and nearly effaced on apical area, sparse setigerous punctures with rather long, white hairlike setae are distributed on anterior area; elytral coloration metallic cupreous to dark bronze; elytral maculation ochre-white, in both sexes consisting of three maculae: elongate humeral macula regularly expanding towards scutellum in male while in female only rarely reaching it, median macula which is usually wide, oblong and transverse, reaching to or beyond halfway point of elytra, and sublateral-anteapical macula which is irregularly circular, rather variable in size.

Abdomen. Ventrites glabrous, metallic green to blue combined with orange areas.

Legs. Coxae and trochanters testaceous; femora testaceous, except for darkened apices of meso- and more distinctly of metafemora, profemora usually with only indistinctly darkened apices but occasionally with black stripe along posterior margin; protibiae slightly darker in female, black except for testaceous basal area, meso- and metatibiae predominantly testaceous with darkened apical area (more markedly so in metatibiae) and usually with black stripe along interior margin; tarsi in female testaceous to black, metatarsi often darker, protarsi in male testaceous except for darkened apex of terminal tarsomere, meso- and metatarsi testaceous usually with darkened apices, first tarsomere in metatarsi often entirely black; claws testaceous.

Aedeagus (Fig. 8) 2.50–2.60 mm long and 0.45–0.50 mm wide; elongate with notably narrow basal half and voluminous apical half, conically attenuated towards wide, rounded apex.

Differential diagnosis. Resembling *C. myrmidon* and *C. luiggiorum* sp. nov. in small body size, but differs in narrower and more finely and densely striate pronotal surface and humeral macula which is regularly expanding towards scutellum. From *C. luiggiorum* sp. nov. it is also distinguishable by shape of elytral maculae with less rounded and less distinct median macula and smaller anteapical macula. In contrast to well developed elytral costae in *C. myrmidon*, discal costa in *C. longicollis* is only adumbrated or entirely missing, and sublateral costa is entirely absent.

Biology and distribution. *Caledonica longicollis* is a very rare species, for a hundred years known only from the female holotype. It appears to be a strictly forest species. At the end

of the year 2004, a population was discovered in a humid primary forest near Bouirou, localized in a small area of young trees with narrow trunks often densely covered with mosses. Adults were observed sitting on the trunks even during continual heavy rains, sometimes with raindrops trickling from their bodies and heads. In the mountains 15 km SE of Pouebo, a single female was caught deep inside a primary forest. In the vicinity of Touho, a single male was found in forest remnants. It occurred there sympatrically with *C. rubicondosa*, *C. bavayi* and *C. mniszechii*.

Caledonica luiggiorum sp. nov.

(Figs 9–13, 86)

Type locality. New Caledonia, Province Nord, 10 km SE of Koumac, 20°37′S, 164°20′E, 0–50 m a.s.l.
Type material. Holotype: ♂, 'New Caledonia, Pr. Nord, 10 km SE Koumac, S 20°37´, E 164°20´, 1.-7.01.2012, 0-50 m., A. Kudrna jr. lgt.' [white/printed] (MNHN). Allotype: ♀, 'New Caledonia, Pr. Nord, 10 km SE Koumac, S 20°37´, E 164°20´, 25.-28.01.2012, 0-50 m., A. Kudrna jr. lgt.' [white/printed] (AKCB). Paratypes (49 specimens): 15 ♂♂, 15 ♀♀ (AKCB): 'New Caledonia, Pr. Nord, 10 km SE Koumac, S 20°37´, E 164°20´, 0-50 m., 25.-28.01.2012, A. Kudrna jr. lgt.' [white/printed]; 7 ♂♂, 4 ♀♀ (AKCB): 'New Caledonia, Pr. Nord, 10 km SE Koumac, S 20°37´, E 164°20´, 1.-7.1.2012, 0-50 m., A. Kudrna jr. lgt.' [white/printed]; 2 ♂♂, 2 ♀♀ (SRFP), 2 ♂♂, 2 ♀♀ (IRDN): 'New Caledonia, Pr. Nord, Karembe, 10 km SE Koumac, 13.1.2016, 20°37´ S, 164°20´ E, A. Kudrna jr. lgt.' [white/printed]. All type specimens provided with additional red printed label: 'Holotype [Allotype or Paratype, respectively], Caledonica luiggiorum sp. nov., A.Kudrna det. 2014'.

Description. Body small, in male (Fig. 9) length 8.30–9.90 (holotype: 9.40) mm, width 2.65–3.15 (holotype: 3.00) mm; in female (Fig. 11) length 8.30–10.10 mm, width 2.75–3.45 mm.

Head with large eyes, slightly narrower than elytra, dorsal coloration varies from dark green or olivaceous to dark bronze, always with metallic lustre; clypeus and supraantennal plates in both sexes and frons in male shiny green to blue-green, in female metallic colour much less distinct and often limited; frons moderately to rather distinctly convex (more markedly in female); surface irregularly rugulose, rugae often more regularly longitudinal and parallel on lateral areas; clypeus coriaceous, separated from frons by indistinct suture; vertex with variably developed, deep to shallow posterior impression, rarely also with impression on anterior area, surface of vertex and orbital plates rather regularly longitudinally parallel-striate, rugae often becoming more irregular on central areas of vertex; orbital plates with two setae on each side; occipital area irregularly wavy to vermicular-rugulose; genae glabrous, parallel-striate, metallic green to blue.

Labrum in both sexes with four setae and acute anterolateral teeth; in male (Fig. 10) testaceous except for usually somewhat darkened apices of anterolateral teeth, shorter than wide, length 0.95–1.15 mm, width 1.20–1.30 mm, median lobe variably short to rather prominent with indistinct or effaced anterior teeth and effaced or blunt and wide median tooth; female labrum (Fig. 12) longer, slightly shorter than wide, length 1.10–1.40 mm, width 1.30–1.55 mm, testaceous with darkened teeth, more rarely with distinctly darkened lateral margins, with prominent, tridentate median lobe.

Mandibles symmetrical to subsymmetrical; dark testaceous except for their paler basolateral areas and smaller black patch in lateromedian area; each mandible with three teeth and basal molar, third tooth in right mandible usually slightly smaller than the third tooth in left mandible.

Labial and maxillary palpi in male testaceous except for darkened apices of terminal palpomeres; in female testaceous with terminal and in maxillary palpi also penultimate palpomeres brown to black.

Antennae. In male generally paler and markedly longer, reaching half of elytra, testaceous except for often partly darkened scape, pedicel and antennomeres III–IV and last one or two antennomeres black; in female antennal length reaching only one elytral third; scape, pedicel and antennomeres III–IV testaceous to black (scape usually somewhat paler), V–XI yellow-testaceous except for last two, rarely three antennomeres black.

Thorax. All thoracic parts glabrous. Pronotum in male 1.45–1.85 mm long, 1.85–2.25 mm wide (on average 1.29 times wider than long), in female 1.50–1.80 mm long, 2.00–2.40 mm wide (on average 1.30 times wider than long), anterior and posterior sulci well pronounced, anterior lobe only slightly wider than posterior one; lateral margins of disc rounded, notopleural sutures simple, lacking elevated costae; pronotal surface dark green or olivaceous to dark bronze with metallic lustre, lateral margins iridescent, often with blue, green or red reflections; surface irregularly, mostly vermicularly rugulose, rugae along developed median line more regularly transverse, usually shallow, but sometimes deeper; lateral sterna metallic, green, blue or bronze, smooth to rather deeply striated (more markedly in male), striae on proepisterna finer; female mesepisternal coupling sulci usually in form of long distinct furrow, this furrow is exceptionally supplemented by small pit; metepisterna with deep impression at posterior suture; prosternum, mesosternum and metasternum dark testaceous, with strong green or blue metallic reflections; metasternum with variably deep impression placed at dorsolateral corner.

Elytra oval-shaped, length 5.25–6.45 mm in male, 5.30–6.45 mm in female, anteapical angles rounded, apices slightly to distinctly emarginate towards short sutural spine; juxtahumeral impressions shallow to moderate; basodiscal convexity and apical impressions indistinct; each elytron with two longitudinal costae: moderately developed discal costa and faint to entirely effaced sublateral costa running between the basodiscal convexity and apical impression; interspace between costae and suture only indistinctly impressed; entire elytral surface densely punctate, punctures shiny green (depending on angle of view), juxtahumeral impression punctate only sporadically, punctures on anterior elytral area larger, those towards apex becoming smaller and shallower; punctures on anterior area with sparse rather long, white, hairlike setae; elytral coloration dark bronze to black with bronze to olivaceous metallic lustre; elytral maculation ochre-ivory, in both sexes consisting of three rather distinct maculae: short yellowish humeral macula which is visible in dorsal view, well pronounced ivory median macula which is long and often wide, approaching or reaching discal costa, and of ivory anteapical macula of irregularly circular shape.

Abdomen. Ventrites glabrous, dark testaceous to metallic blue or green with lustre.

Legs. Darker in female; coxae and trochanters testaceous in both sexes; in male femora and tibiae testaceous often with darkened apices (more markedly in metafemora, pro- and metatibiae); protarsi black, often with paler last two tarsomeres, mesotarsi testaceous except for their apices and last tarsomere that are darkened; metatarsi black with partly paler first two tarsomeres; in female femora and tibiae testaceous to black, tarsi black occasionally with paler areas or testaceous with darkened apices; claws black with lightened apices.

Aedeagus (Fig. 13) 2.50–2.65 mm long, 0.60–0.65 mm wide; laterally moderately arcuate and dilated in middle, narrowing into rounded apex.

Differential diagnosis. Resembling *C. myrmidon,* but differs in the following characters: slightly smaller body size (8.30–10.10 mm in *C. luiggiorum* sp. nov., 8.90–10.40 mm in *C. myrmidon*), terminal antennomere in both sexes entirely black, median macula not cranked upwards, and the entire elytral surface densely punctate (punctures gradually becoming shallower towards apex). Moreover aedeagus of *C. myrmidon* is longer (3.00–3.25 mm in *C. myrmidon*, 2.50–2.65 mm in *C. luiggiorum* sp. nov.) and more regularly laterally arcuate. From *C. pulchella* it is distinguishable by its smaller body-size (11.20 mm in *C. pulchella*, 8.30–10.10 in *C. luiggiorum* sp. nov.) and wider elytral median band.

Etymology. This species is dedicated with love and deep respect to all members of the large Luiggi family who made themselves my second family, and thus New Caledonia my second home.

Biology and distribution. The new species was discovered in January 2012 in Northern Province, 10 km southeast of Koumac. The biotope is a big open garden with grassy places and trees in a sparsely settled lowland area. The locality is situated on the western leeward and drier side of Grande Terre about two kilometres from the ocean coast. The population in the locality was composed of dozens of adults with diurnal activity. They were observed during numerous visits from January to March (until the final departure from New Caledonia) on narrow trunks of low young trees called by natives 'Gaïac' (*Acacia spirorbis* (Labill.)). The adult specimens, when disturbed, instead of flying away, often run to hide in grass surrounding the trees. Adults of *Myriochila* (s. str.) *semicincta* were observed on the neighbouring path.

Caledonica myrmidon Fauvel, 1882

(Figs 14–18)

Caledonica myrmidon Fauvel, 1882: 223 (key), 226 (original description). Fleutiaux (1892): 31 (catalogue); Fauvel (1903): 213 (key), 214 (noted); Horn (1910): 180 (noted), 181 (catalogue); Horn (1926): 105 (catalogue); Horn (1936): 6 (catalogue); Deuve (1981): 182 (key), 183 (redescription); Wiesner (1992): 76 (catalogue); Deuve (2015): 73 (remark), 74 (figure).

Type locality. 'Kanala'.

Type material examined. Lectotype (designated by Deuve 1981): ♂, 'Coll. R. I. Sc. N. B., Nouvelle Calédonie, Kanala, rec Bougier, ex coll. Fauvel' [pink, printed/handwritten]; 'Caledonica myrmidon Fvl., cf.: Rev. Ent., 1882, 1:226' [white, handwritten]; 'T. Deuve, désign., 1981, Lectotype, cf.: Ann. soc. ent. France, 1981, 17.2: 183,4' [white/red, printed/handwritten] (IRSNB). Paralectotype: ♀, 'Coll. R. I. Sc. N. B., Nouvelle Calédonie, Ourail, rec Lecard, ex coll. Fauvel' [pink, printed/handwritten]; 'Paratype' [red, printed]; 'Coll. et det. A. Fauvel, Caledonica myrmidon n. sp, R.I.Sc.N.B. 17.479' [white, printed/handwritten] (IRSNB).

Additional material examined (53 specimens). **NEW CALEDONIA: Province Sud:** environs of Bouloupari, 09.–16.ii.2009, 1 ♂, 1 ♀, A. Kudrna jr. lgt. (AKCB); Col de la Pirogue, Mt. Mou, 22°04′S, 166°20′E, 7.–12.i.2005, 400–600 m, 36 ♂♂, 8 ♀♀, A. Kudrna Jr. Lgt (AKCB; 1 ♂ in NMPC; 1 ♂ in BMNH); La Foa, 2 ♂♂ (MNHN); Bourail, 1 ♂ (MNHN); Ourail, 2 ♀♀ (MNHN).

Redescription. Body small, in male (Fig. 14) length 8.90–10.20 (lectotype: 9.90) mm, width 2.75–3.10 (lectotype: 3.00) mm; in female (Fig. 16) length 9.30–10.40 mm, width 2.95–3.35 mm.

Head with large eyes, slightly narrower than elytra, dorsally dark, bronze, cupreous or black with lustre, in male except for shiny green frons with blue-green to red-gold reflecti-

ons; frons moderately convex (more in female) and irregularly rugose; clypeus testaceous, coriaceous with green to orange metallic lustre, separated from frons by well visible suture; vertex moderately convex with distinct posterior impression, in its anterior parts usually irregularly striated, striae becoming more regularly longitudinal and parallel in its posterior and lateral areas; orbital plates longitudinally parallel-striate with two setae on each side; occipital area irregularly wavy to vermicular rugulose; genae glabrous, finely parallel-striate, green with shiny green, occasionally blue-green or bronze reflections except for partly testaceous anterior areas.

Labrum with four setae, in male (Fig. 15) testaceous, usually with darkened apices of anterolateral teeth, shorter than wide, length 0.80–1.00 mm, width 1.15–1.35 mm, median lobe short, truncate, rarely with indistinctly indicated anterior teeth; female labrum (Fig. 17) longer, testaceous generally with darkened lateral margins, slightly shorter than wide, length 1.15–1.30 mm, width 1.35–1.45 mm, with acute anterolateral teeth and prominently tridentate median lobe of acute teeth which are somewhat bent downwards, thus their acute shape is not obvious in dorsal view.

Mandibles subsymmetrical, dark testaceous except for its paler laterobasal area, teeth often with black margins, each mandible with three teeth and basal molar; second tooth in both mandibles larger than third, third tooth in right mandible slightly smaller than third one in left mandible.

Labial and maxillary palpi in male testaceous, terminal palpomeres usually with darkened apices (terminal palpomeres in labial palpi more distinctly darkened and occasionally completely black); palpi in female testaceous with terminal palpomeres black and penultimate palpomere of maxillary palpi brown to black.

Antennae markedly longer and generally paler in male (reaching half of elytra in male, whereas only one third in female); in male scape and pedicel yellow-testaceous often partly darkened, antennomeres III–IV testaceous with variably extended darkened areas which occasionally cover almost whole surface, V–IX yellow to testaceous, X black or only very rarely with paler basal part, XI black, but paler apically; in female scape and pedicel testaceous with darkened areas, antennomeres III–IV black, occasionally paler, V–VIII ochre-testaceous, IX–XI progressively black-darkened, often with yellowish tip of last antennomere.

Thorax. All portions glabrous. Pronotum in male 1.50–1.85 mm long, 1.85–2.20 mm wide (on average 1.18 times wider than long), in female length 1.65–1.90 mm, width 2.10–2.30 mm (on average 1.24 times wider than long), anterior and posterior lobe approximately of the same width and with well pronounced sulci, median line well visible; lateral margins of disc rounded, notopleural sutures simple, not obvious in dorsal view, lacking elevated costae; coloration dorsally shiny dark bronze, cupreous or black (along sulci often with green reflections), lateral areas of disc ochre-testaceous to shiny green; surface of pronotum irregularly vermicular to wavy rugulose, rugae becoming more regularly transversal-wavy along median line; rugae variable, rather deep or very shallow; lateral sterna often with dark testaceous areas (especially on proepisterna), but predominantly with strong green, occasionally also bluish or bronze, metallic reflections; proepisterna very shallowly wrinkled or nearly smooth, mes- and metepisterna shallowly to moderately deep striated (markedly in male); mesepisterna in

female with distinct, deeply foveolate coupling sulcus placed rather dorsally; metepisterna with larger usually furrow-like impression at posterior suture; prosternum shallowly to more deeply striated, meso- and metasternum nearly smooth, metasternum with fovea-like impression placed at its dorsolateral corner.

Elytra elongate and narrow, length 5.40–6.55 mm in male, 5.75–6.75 mm in female, nearly parallel, only very slightly narrowed towards apices, anteapical angles arcuate, apices distinctly to indistinctly emarginate towards short sutural spine; elytral surface with distinct juxtahumeral impressions, basodiscal convexity shallow, apical impressions faintly indicated; each elytron between basodiscal convexity and apical impression with two longitudinal costae: elevated discal costa, generating distinct edge and sublateral costa in form of less distinct elevation, occasionally quite faint; area between costae and suture impressed; elytral surface punctate; punctures shiny green, blue-green or cupreous (depending on angle of illumination), anteriorly rather dense and deep (partly effaced in juxtahumeral impressions), becoming gradually smaller and shallower towards apex, punctures on interspaces among costae and suture usually even less distinct; sparse setigerous punctures with rather long, white, hairlike setae are distributed on anterior area; elytral coloration dark bronze to black with lustre; interspaces between costae and also along the suture notably iridescent silvery-bronze to silvery-cupreous, changing to dull depending on angle of illumination; elytral maculation in both sexes consists of three maculae: ivory to ochreous-white humeral macula, ivory-white, rather variable, oblong median macula which is usually slightly cranked upwards and usually reaching discal costa, and ivory-white, irregularly circular anteapical macula.

Abdomen. Ventrites glabrous, dark testaceous with green to blue-green or rarely bronze metallic lustre.

Legs. Generally darker in female; coxae and trochanters testaceous, femora testaceous except for darkened apices (only rarely and indistinctly on profemora, more markedly on metafemora and usually very distinctly on metafemora); tibiae testaceous, darkened apically (particularly on metatibiae), mesotibiae and rarely also protibiae with darkened lateral dorsal area; tarsi in male testaceous with darkened joints except for black or nearly black first three tarsomeres of protarsi and rarely also last three tarsomeres of metatarsi, in female black to dark testaceous with black joints; claws testaceous.

Aedeagus (Fig. 18) 3.00–3.25 mm long, 0.70– 0.80 mm wide; laterally moderately arcuate and voluminous in middle, apex notably wide, rounded.

Differential diagnosis. Resembling *C. luiggiorum* sp. nov., but differs in the following characters: terminal antennomere in male and often also in female with a yellowish tip; elytral median macula narrower and usually slightly angled upwards; punctures on the elytral impressed interspaces between costae and suture very indistinct to effaced. Moreover, the body is slightly larger (8.30–10.10 mm in *C. luiggiorum* sp. nov., 8.90–10.40 mm in *C. myrmidon*). From *C. rivalieriana* sp. nov. it can be distinguished by lacking pronotal lateral ribs and distinctly smaller size (11.10–13.10 mm in *C. rivalieriana* sp. nov.) and from *C. rivalieri* by its smaller body size (11.20–11.50 mm in *C. rivalieri*), terminal antennomere in male and often also in female with a yellowish tip, and presence of female mesepisternal coupling sulci.

Biology and distribution. Very rare species, probably with small and localised populations. According to historical data (Deuve 1981) *C. myrmidon* occurs on the western coast (Bourail, La

Foa) as well as on the eastern coast (Kanala) of the Grande Terre. Fauvel based his description on specimens caught in Kanala and Ourail. Recently, rather abundant adults were observed during rainy weather on tree trunks in the forest at the foot of the Mont Mou. In the last mentioned locality the species occurs sympatrically with another three species: *C. mniszechii, C. acentra*, and *C. lunigera.* Another pair was collected in forest remnants near Bouloupari.

Caledonica rivalieriana sp. nov.

(Figs 24–28)

Type locality. New Caledonia, Province Sud, Forest of Plato de Dogny, near Sarramea.

Type material. Holotype: ♂, 'New Caledonia, Pr. Sud, Forest of Plato de Dogny, near Sarramea, 24.-27.12. 2004, A. Kudrna Jr. Lgt.' [white, printed] (MNHN). Allotype: ♀, 'New Caledonia, Pr. Sud, village Bouirou, cca 20 km N Bourail, 09.-10.12.2008, 500 m., A. Kudrna jr. Lgt.' [white, printed] (AKCB). Paratypes (34 specimens): 4 ♂♂, 9 ♀♀ (AKCB): 'New Caledonia, Pr. Sud, near Bouirou, cca 20 km N Bourail, 27.12.2004-02.01.2005, A. Kudrna jr. Lgt.' [white, printed]; 6 ♂♂, 3 ♀♀ (AKCB), 1 ♂, 1 ♀ (JWCW), 1 ♂, 1 ♀ (JMCA), 1 ♂, 1 ♀ (MNHN): 'New Caledonia, Pr. Sud, forest of Plato de Dogny, near Sarramea, 24.-27.12.2004, A. Kudrna jr. Lgt.' [white, printed]; 1 ♂ (AKCB): 'New Caledonia, Province Sud, environs of Sarramea, 05.-08.02. and 16.-18.02.2009, A. Kudrna jr. Lgt.' [white, printed]; 3 ♂♂, 2 ♀♀ (AKCB): 'New Caledonia, Pr. Sud, 3 km NW Sarramea, S 21°37′, E 165°50′, 23.-30.12.2011, 250-550 m., A. Kudrna jr. Lgt.' [white, printed]. All type specimens provided with additional red printed label: 'Holotype [Allotype or Paratype, respectively], Caledonica *rivalieriana* sp. nov., A.Kudrna det., 2016'.

Description. Body small (more robust in female), length 11.10–12.30 (holotype: 12.00) mm, width 3.40–3.95 (holotype: 3.70) mm in male (Fig. 24); in female (Fig 26) length 10.90–13.10 mm, width 3.70–4.25 mm.

Head with large eyes, slightly narrower than elytra, dorsally dark black-bronze with cupreous greenish metallic reflections; in male frons, supraantennal plates and often also clypeus shiny green or blue-green (central area of frons usually shiny red-cupreous), frons moderately convex (more distinctly so in female), separated from clypeus by distinct suture, irregularly vermicular-rugulose; vertex moderately convex, with shallow to distinct posterior impression, longitudinally to irregularly striate; orbital plates distinctly longitudinally parallel-striate with two setae on each side; occipital area irregularly wavy to vermicular rugulose; genae glabrous, brownish to green, finely parallel-striate with strong green, blue-green or violet reflections; clypeus dark testaceous, coriaceous, with strong green metallic lustre.

Labrum with four setae in both sexes, male labrum (Fig. 25) testaceous except for indistinct brownish margins of acute anterolateral teeth, shorter than wide, length 1.00–1.10 mm, width 1.40–1.55 mm, median lobe short, with only indistinct anterior teeth and rarely and weakly indicated blunt median tooth; female labrum (Fig. 27) longer, testaceous with acute anterolateral teeth, often with darkened lateral margins, only slightly shorter than wide, length 1.35–1.60 mm, width 1.45–1.80 mm, with prominent and sharply tridentate median lobe of acute teeth which are bent downwards, so their acute shape is not obvious in dorsal view.

Mandibles subsymmetrical, brownish-testaceous with paler basolateral part, often with black margins of teeth; each mandible with three teeth and basal molar; two inner teeth in left mandible approximately of same size, while third tooth in right mandible smaller than second.

Labial and maxillary palpi in male testaceous, occasionally with darkened apices of terminal palpomeres; palpi in female testaceous to dark testaceous, terminal palpomeres black (with paler apices in maxillary palpi), penultimate palpomeres of maxillary palpi brown to black.

Antennae markedly longer and paler in male, reaching two thirds of elytra, in female reaching elytral third; scape in male testaceous, indistinctly darkened apically, pedicel dark brown to black except for paler apex, antennomeres III–IV testaceous, usually with black areas, V–X testaceous, terminal antennomere darkened; in female scape testaceous, with darkened apices, pedicel and antennomeres III–IV black with paler apical areas, antennomeres V–XI dark brown to black, progressively darkened.

Thorax. All parts glabrous. Pronotum in male 1.95–2.10 mm long, 2.50–2.80 mm wide (on average 1.29 times wider than long); in female 1.95–2.25 mm long, 2.65–3.00 mm wide (on average 1.37 times wider than long), anterior and posterior sulci well pronounced, anterior lobe slightly wider than posterior one; disc with convex lateral margins and elevated notopleural sutures obvious in dorsal view in form of short, but distinctly wide, flat lateral ribs that are gradually effaced towards anterior and posterior sulci; pronotal surface dark green to bronze with cupreous reflections, partly shiny green on lateral margins of disc and on anterior and posterior lobe, irregularly wavy to vermicular-rugulose, rugae becoming more regularly transverse-wavy along developed median line, on lateral areas of disc and often also on anterior lobe; posterior lobe usually with only a few, mostly transverse rugae; proepisterna, mesepisterna and metepisterna shiny green to ochre-green with metallic reflections, in both sexes very shallowly striated to nearly smooth except for often coarsely striated male mesepisterna; female mesepisternal coupling sulci in form of a deep, rather large pit placed in ventral mesepisternal half, metepisterna with large impression at posterior suture; pro-, meso-, and metasternum lustrously green to brownish-testaceous; metasternum with deep fovea-like impression placed at dorsolateral corner.

Elytra elongate, length 7.65–8.30 mm in male, 7.75–8.60 mm in female, slightly narrowing towards rounded anteapical angles, apices rounded, slightly to distincty emarginate towards short sutural spine; juxtahumeral impressions indistinct to moderate, basodiscal convexity distinct, apical impressions indistinct; each elytron between basodiscal convexity and apical impression with two longitudinal costae: markedly elevated discal costa forming distinct edge, and sublateral costa in form of indistinct elevation; interspaces between costae and suture impressed; elytral surface anteriorly densely and deeply punctate (juxtahumeral impressions punctate only sporadically); punctures become smaller towards elytral apex and shallower and nearly effaced on apical area, punctures on flat interspaces among costae and suture are nearly effaced, occasionally larger punctures are adjacent to discal costa, and sparse setigerous punctures with rather long white hairlike setae are distributed on anterior area; elytral coloration dark bronze to bronze-greenish with metallic lustre; interspaces between costae and also along the suture notably iridescent silvery-bronze to silvery-cupreous, the iridescence changing to dull depending on angle of illumination; elytral maculation ochre-white, in both sexes consisting of three maculae: slightly elongate humeral macula, transverse and oblong median macula often reaching the discal costa (but never crossing it), and irregularly circular anteapical macula.

Abdomen. Ventrites glabrous, dark testaceous with green to blue-green metallic lustre.

Legs. Generally darker in female; coxae and trochanters testaceous, femora testaceous, in male usually with somewhat darkened apices, always and more distinctly so in metafemora, in female the blackish area is more largely expanded also on meso- and metafemora; tibiae

testaceous except for black-darkened apices (more markedly in female) and black-darkened lateral areas of meso- and metatibiae; tarsi in female black except for rarely and indistinctly paler areas of protarsi, in male pro- and metatarsi black, often with paler base; mesotarsi testaceous, their apices and usually also last tarsomere dark brown to black; claws testaceous.

Aedeagus (Fig. 28) 3.20–3.50 mm long and 0.90–1.00 mm wide, lateral margins moderately arcuate, apex rounded and dorsally slightly emarginate.

Differential diagnosis. Distinguished from *C. myrmidon* by its larger body size (10.90–13.10 mm in *C. rivalieriana* sp. nov., 8.90–10.40 mm in *C. myrmidon*), lateral margins of pronotal disc with short but distinct wide lateral ribs and entirely darkened terminal antennomere. Moreover, female mesepisternal coupling sulci are placed in ventral mesepisternal half. From *C. rivalieri* it differs in the following characters: on average larger body size (10.90–11.50 mm in *C. rivalieri*, 10.90–13.10 mm in *C. rivalieriana* sp. nov.), proportionally shorter male labrum, much paler testaceous male terminal palpomeres (occasionally with darkened apices) contrary to the entirely black terminal palpomeres of male of *C. rivalieri*, paler penultimate (longest) palpomeres of female labial palpi with testaceous glabrous side and elytral colour predominantly bronze instead of strongly iridescent cupreous in *C. rivalieri*. Moreover coupling sulci are present in *C. rivalieriana* sp. nov. and entirely absent in *C. rivalieri*.

Etymology. The epithet refers to the proximity of the new species to *Caledonica rivalieri.*

Biology and distribution. *Caledonica rivalieriana* sp. nov. is a rare species. Adults were always found in primary humid forests at altitudes above 500 m a.s.l. and never in large numbers, but only sparsely dispersed there.

Caledonica rivalieri Deuve, 1981

(Figs 19–23, 84)

Caledonica rivalieri Deuve, 1981: 182 (key), 184 (original description). Wiesner (1992): 76 (catalogue); Deuve (2015): 73 (redescription of male), 74 (figure).

Type locality. 'Nouvelle Calédonie, Baie de Prony'.

Type material examined. Holotype: ♀, 'Baie de Prony, N-lle Calédonie' [handwritten]; 'Muséum Paris, coll. Fleutiaux' [pink, printed/handwritten]; 'Type' [red, printed]; 'Cal. myrmidon Fauv.' [handwritten]; 'rivalieri, Deuve, Holotype' [handwritten] (MNHN). Paratype: ♀, 'Baie de Prony, N-lle Calédonie' [handwritten]; 'Muséum Paris, 1952, Coll. R. Oberthur' [printed]; 'Paratype' [red, printed]; 'Ex Musaeo Gambey, 1892' [printed] (MNHN).

Additional material examined (3 specimens). **NEW CALEDONIA: Province Sud:** Plaine des Lacs, 5 km E of Grand Lac, 300 m, 22°16´S, 166°58´E, Jan. 1984, 1 ♂, M. Pogue & M. Epstein (MNHN); 15 km NE of Noumea, forest of Mts. Koghis, 30.i.–4.ii.2005, 2 ♀♀, A. Kudrna jr. lgt (AKCB).

Redescription. Body small (more robust in female), length 11.20 mm, width 3.25 mm in male (Fig. 19); in female (Fig. 21) length 10.90–11.50 (holotype: 10.90) mm, width 3.50–3.75 (holotype: 3.75) mm.

Head with large eyes, slightly narrower than elytra, dorsally black with dark cupreous to dark violet or even blackish metallic reflections; frons moderately convex, separated from clypeus by distinct suture, irregularly vermicular-rugulose; vertex moderately convex, with distinct posterior impression, mostly longitudinally striate; orbital plates distinctly longitudinally parallel-striate with two setae on each side; occipital area irregularly wavy to vermicular

rugulose; genae glabrous, finely parallel-striate with strong green or cupreous reflections; clypeus dark testaceous, coriaceous, with green or partly cupreous metallic lustre.

Labrum with four setae in both sexes, male labrum (Fig. 20) testaceous except for darkened lateral margins, with acute anterolateral teeth, shorter than wide, length 1.15 mm, width 1.35 mm, median lobe prominent, with blunt teeth; female labrum (Fig. 22) longer, testaceous with acute anterolateral teeth and darkened lateral margins, only slightly shorter than wide, length 1.40–1.45 mm, width 1.40–1.55 mm, with prominent and sharply tridentate median lobe of acute teeth which are bent downwards, so their acute shape is not obvious in dorsal view.

Mandibles subsymmetrical, brownish-testaceous with paler basolateral part; each mandible with three teeth and basal molar; third inner teeth smaller than second in both mandibles.

Labial and maxillary palpi in male testaceous except for entirely black terminal palpomeres, penultimate palpomeres of maxillary palpi dark testaceous; in female maxillary palpi with basal palpomeres entirely testaceous or partly darkened, penultimate and terminal palpomeres black, penultimate (longest) palpomeres of labial palpi testaceous with darkened apices or with entirely black glabrous side.

Antennae. In male paler, scape pale testaceous, slightly darkened apically, pedicel testaceous, antennomeres III–IV testaceous to dark testaceous, with paler subapical areas, V–X testaceous, terminal antennomere darkened; in female scape entirely testaceous or with darkened belt, pedicel and antennomeres III–IV dark testaceous to black with paler subapical areas, antennomeres V–XI dark brown to black, progressively darkened (female paratype with much paler, brownish antennomeres V–X, antennomere XI missing).

Thorax. All parts glabrous. Pronotum in male 2.15 mm long, 3.00 mm wide; in female 1.75–1.80 mm long, 2.35–2.50 mm wide (on average 1.36 times wider than long), anterior and posterior sulci well pronounced; disc with convex lateral margins, elevated flat lateral ribs on notopleural sutures missing or only indistinctly present; pronotal surface black, with dark, cupreous, bronze or blackish metallic reflections, irregularly wavy to vermicular-rugulose, rugae becoming more regularly transverse-wavy along developed median line; proepisterna, mesepisterna and metepisterna ochreous, with shiny green to shiny cupreous or even blackish metallic reflections, in both sexes very shallowly striated to nearly smooth; female mesepisternal coupling sulci absent, metepisterna with large impression at posterior suture; pro-, meso-, and metasternum brownish-testaceous with greenish or cupreous lustre; metasternum with deep fovea-like impression placed at dorsolateral corner.

Elytra elongate, length 6.75 mm in male, 7.40–7.70 mm in female, only indistinctly narrowing towards rounded anteapical angles, apices rounded, slightly to distincty emarginate towards short sutural spine; juxtahumeral impressions moderate (less distinct in male), basodiscal convexity distinct, apical impressions indistinct; each elytron between basodiscal convexity and apical impression with two longitudinal costae: markedly elevated discal costa forming distinct edge, and sublateral costa in form of indistinct elevation; interspaces between costae and suture impressed; elytral surface anteriorly densely and deeply punctate (juxtahumeral impressions punctate only sporadically); punctures become smaller towards elytral apex, punctures on apical area smaller and shallower but distinct, on flat interspaces among costae and suture nearly effaced, occasionally larger punctures are adjacent to discal costa, sparse setigerous punctures with rather long white hairlike setae are distributed on

anterior area; elytral coloration dark cupreous to black, mostly with cupreous and rarely also partly olivaceous metallic lustre; interspaces between costae and also along the suture notably iridescent silvery-cupreous, cupreous or blackish, the iridescence changing to dull depending on angle of illumination; elytral maculation ochre-white, in both sexes consisting of three maculae: slightly elongate humeral macula, transverse and oblong median macula which is usually slightly cranked upwards and never reaching the discal costa, and irregularly circular or reniform anteapical macula.

Abdomen. Ventrites glabrous, testaceous to dark testaceous with green, blue or cupreous metallic lustre.

Legs. Coxae and trochanters testaceous, femora in male testaceous, in female vary from testaceous to dark testaceous with black apical half, the blackish area is more largely expanded on meso- and metafemora; tibiae testaceous except for black-darkened apices and lateral areas (more markedly in female); tarsi in female black, in male dark testaceous to black, mesotarsi with testaceous basal segment; claws black in basal part, becoming testaceous toward apex.

Aedeagus (Fig. 23) 3.25 mm long and approximately 0.50 mm wide, with narrow basal half and voluminous apical half, conically attenuating towards blunt apex.

Differential diagnosis. Distinguished from *C. myrmidon* by its larger body size (8.90–10.40 mm in *C. myrmidon*, 10.90–11.50 mm in *C. rivalieri*), entirely darkened terminal antennomere and absent female mesepisternal coupling sulci. From *C. rivalieriana* sp. nov. it differs in the following characters: on average smaller body size (10.90–11.50 mm in *C. rivalieri*, 10.90–13.10 mm in *C. rivalieriana* sp. nov.), absent female mesepisternal coupling sulci, proportionally longer male labrum with prominent median lobe, much darker – entirely black male terminal palpomeres in contrast to testaceous (occasionally with darkened apices) terminal palpomeres of male of *C. rivalieriana* sp. nov., darker penultimate (longest) palpomeres of female labial palpi with darkened or entirely black glabrous side, elytral median band slightly angled upwards and elytral colour strongly iridescent cupreous instead of predominantly bronze in *C. rivalieriana* sp. nov.

Biology and distribution. *Caledonica rivalieri* is a very rare species. It was recognized as a separate species among the historical specimens identified as *C. myrmidon* deposited in MNHN (Deuve 1981). The original description was based on two females which were the only existing specimens for a long time. They came from Baie de Prony situated on the southern tip of the main island (Grande Terre) covered with coastal forest. Recently two more female specimens were caught in forest of Mts. Koghis and single known male, collected in 1984 in Plaine des Lacs, became available for study.

Caledonica viridicollis viridicollis Deuve, 1987

(Figs 29–30)

Caledonica viridicollis Deuve, 1987: 114 (original description). Wiesner (1992): 76 (catalogue); Deuve (2015): 76 (figure), 77 (noted).

Type locality. 'Nouvelle Calédonie'.

Type material examined. Holotype: ♀, 'cd 3, Rivalier' [handwritten]; 'Type' [red, printed]; 'Muséum Paris, 1952, Coll. R. Oberthur' [printed]; 'Ex. Musaeo Gambey, 1892' [printed]; 'viridicollis, Deuve, Holotype' [handwriten] (MNHN).

Redescription. Body of female holotype (the only existing specimen) small, length 12.50 mm, width 4.20 mm (Fig. 29).

Head with large eyes, slightly narrower than elytra, dorsally bronze to indistinctly cupreous with metallic reflections; frons and vertex moderately convex, frons separated from clypeus by distinct suture, irregularly wavy-rugulose; vertex with rather shallow posterior impression, longitudinally to irregularly striate; orbital plates distinctly longitudinally parallel-striate with two setae on each side; occipital area irregularly wavy to vermicular-rugulose; genae glabrous, metallic green, finely parallel-striate; clypeus coriaceous, cupreous with metallic lustre.

Labrum with four setae (Fig. 30), with acute anterolateral teeth, testaceous with widely darkened lateral margins, 1.55 mm long, 1.50 mm wide, with prominent and sharply tridentate median lobe of acute teeth which are bent downwards, thus their acute shape is not obvious in dorsal view.

Mandibles of the holotype partly closed, thus not fully visible, with testaceous teeth and paler basolateral half.

Labial and maxillary palpi testaceous with terminal and in maxillary palpi also penultimate palpomere darkened.

Antennae. Scape testaceous, pedicel dark testaceous, remaining antennomeres missing.

Thorax. All portions glabrous. Pronotum 2.00 mm long, 2.70 mm wide, anterior and posterior sulci well pronounced, anterior and posterior lobe of about the same width; disc with rounded to slightly convex lateral margins and elevated notopleural sutures obvious in dorsal view in form of short, but distinctly wide, flat lateral ribs that are gradually effaced towards anterior and posterior sulci; pronotal surface dark bronze with metallic reflections; partly shiny green along anterior and posterior sulci, shallowly irregularly wavy- to vermicular-rugulose, rugae becoming more regularly transverse-wavy along indistinct median line; pro-, mes- and metepisterna ochraceous with less distinct green metallic reflections, nearly smooth; female mesepisternal coupling sulci absent, metepisterna with rather deep impression at posterior suture; pro-, meso-, and metasternum brownish-testaceous with limited green reflections; metasternum with less distinct fovea-like impression placed at dorsolateral corner.

Elytra elongate, length 7.90 mm, anteapical angles and apices rounded, slightly emarginate towards short, but distinct sutural spine; juxtahumeral impressions and basodiscal convexity moderate, apical impressions indistinct; each elytron between basodiscal convexity and apical impression with two longitudinal costae: markedly elevated discal costa forming distinct edge, and sublateral costa forming less distinct elevation; interspaces between costae and suture impressed; elytral surface anteriorly densely and deeply punctate (juxtahumeral impressions with few punctures); punctures towards elytral apex become smaller and shallower and nearly effaced on apical area, punctures on flat interspaces between costae and also between suture are very indistinct; elytral coloration dark olivaceous with metallic lustre; interspaces between costae and also along suture notably iridescent silvery-bronze, iridescence changing to dull depending on angle of illumination; elytral maculation ochre-white, in both sexes consisting of three maculae: short humeral macula, transverse and oblong median band reaching discal costa, and irregularly circular anteapical macula.

Abdomen. Ventrites glabrous, dark brown, in lateral areas with limited green metallic lustre.

Legs. Coxae and trochanters testaceous, femora testaceous except for indistinctly darkened apices on metafemora; tibiae testaceous except for darkened apical area on metatibiae; protarsi and mesotarsi dark testaceous, metatarsi black.

Differential diagnosis. Close to *C. myrmidon,* but differs in having short but distinct and long ribs along pronotal lateral margins. From *C. rivalieriana* sp. nov. it is distinguished by absent female mesepisternal coupling sulci and much larger anteapical macula. From *C. viridicollis laevioricollis* it differs in surface of pronotal disc that is coarser, with well visible rugae.

Biology and distribution. Nothing is known about the origin of the holotope except that it came from the collection of René Oberthür, acquired in 1952 by MNHN. It lacks any locality label, but was most probably collected in New Caledonia.

Remark. Relationships between *Caledonica v. viridicollis*, *C. v. laevioricollis*, *C. rubicondosa* and *C. rivalieri* are not clear. All these species are quite similar and more specimens including males are required to clarify their identity (see also remarks under *C. rubicondosa)*.

Caledonica viridicollis laevioricollis Deuve, 2006

(Figs 31–35)

Caledonica rivalieri laevioricollis Deuve, 2006: 4 (original description).
Caledonica viridicollis laevioricollis: Deuve (2015): 69 (transferred to *C. viridicollis*), 76 (figure), 77 (noted).

Type locality. 'New Caledonia, 20°24´Sx164°31´E. 550 m., Mandjelia, lower creek'.

Type material examined. Holotype: ♂, 'New Caledonia 11488, 20°24´Sx164°31´E. 550m., Mandjelia, lower creek., 29Nov2003-31Jan2004., G.Monteith. Malaise.' [printed]; 'Queensland Museum loan, Date: March 2005, No. LE 05.09' [bluish, printed]; 'Holotype' [red, printed] (QMBA, temporarily in MNHN). Paratype: ♀, 'New Caledonia 11488, 20°24´Sx164°31´E. 550m., Mandjelia, lower creek., 29Nov2003-31Jan2004., G.Monteith. Malaise.' [printed]; 'Queensland Museum loan, Date: March 2005, No. LE 05.09' [bluish, printed]; 'Paratype' [red, printed] (QMBA, temporarily in MNHN).

Redescription. Body small, in male (holotype) length 11.50 mm, width 3.80 mm (Fig. 31); in female (Fig. 33) length 10.80 mm, width 3.75 mm.

Head with large eyes, slightly narrower than elytra, dorsally dark bronze with metallic cupreous reflections; frons moderately convex, separated from clypeus by rather distinct suture, irregularly vermicular-rugulose; vertex moderately convex (more distinctly in female), with posterior impression, longitudinally or irregularly striate; orbital plates distinctly longitudinally parallel-striate with two setae on each side; occipital area rather shallowly irregularly wavy to vermicular-rugulose; genae glabrous, green to cupreous with metallic reflections, parallel-striate; clypeus coriaceous, with strong green to cupreous metallic lustre.

Labrum in both sexes with four setae and acute anterolateral teeth, in male (Fig. 32) testaceous except for indistinctly brownish margins, shorter than wide, 1.05 mm long, 1.60 mm wide, median lobe short and truncate between short anterior teeth, female labrum (Fig. 34) longer, testaceous with brown lateral margins, only slightly wider than long, length 1.35 mm, width 1.45 mm, with prominent, tridentate median lobe of acute teeth which are bent downwards.

Mandibles subsymmetrical, ivory-yellow to testaceous except for dark testaceous teeth and their black margins; each mandible with three teeth and basal molar.

Labial and maxillary palpi in male testaceous with darkened apices of terminal palpomeres; palpi in female darker, labial palpi with penultimate (longest) palpomere testaceous with

darkened apex and terminal palpomere black, maxillary palpi testaceous with terminal and penultimate palpomere black.

Antennae. In male scape testaceous, pedicel black with paler apical area, antennomeres III–IV dark testaceous with black stripe, V–IX testaceous, last two antennomeres black; in female scape testaceous with darkened belt, pedicel dark testaceous to black, antennomeres III–IV dark testaceous to black with paler apices, antennomeres V–XI testaceous.

Thorax. All parts glabrous. Pronotum in male 2.00 mm long, 2.75 mm wide; in female 1.75 mm long, 2.45 mm wide; anterior and posterior sulci well pronounced, anterior and posterior lobe approximately of the same width; disc with convex lateral margins, in male with elevated notopleural sutures obvious in dorsal view forming very narrow ribs which are gradually effaced towards anterior and posterior sulci, in female without elevated notopleural sutures; pronotal surface dark bronze with bronze to cupreous metallic reflections, surface rather shallowly irregularly wavy-striate, several more distinct transverse rugae present along median line; lateral sterna in male dark ochreous or green with green to cupreous metallic lustre, in female darker, with dark cupreous and also green metallic lustre, very shallowly wrinkled (mesepisterna in male wrinkled more distinctly) female mesepisternal coupling sulcus absent; metepisterna with distinct impression at posterior suture; ventral sterna green to cupreous (in female also dark cupreous) with metallic lustre, metasternum with small fovea-like impression at dorsolateral corner.

Elytra elongate, length 8.10 mm in male, 7.90 in female, with rounded anteapical angles, apices rounded, slightly emarginate towards short sutural spine; apical impressions indistinct, juxtahumeral impressions and basodiscal convexity moderate; each elytron between basodiscal convexity and apical impression with two longitudinal costae: discal costa markedly elevated forming distinct edge, and much less distinct sublateral costa; area between costae and suture impressed; elytral surface anteriorly densely and deeply punctate; punctures towards apex becoming smaller and shallower, punctures on apical area in male indistinct, female elytral apical area with more distinct punctures, punctures on flat interspaces between costae and also between suture are indistinct to nearly effaced in male, shallow but distinct in female; sparse setigerous punctures with white, rather long hairlike setae are distributed on anterior area; elytral coloration bronze to indistinctly cupreous with metallic lustre; interspaces between costae and also along suture notably iridescent silvery-bronze, iridescence changing to dull depending on angle of illumination; elytral maculation ivory, in both sexes consisting of three maculae: humeral macula rather long, transverse median band reaching discal costa, and anteapical macula which is irregularly circular in male, reniform in female.

Abdomen. Ventrites glabrous, dark ochreous to green with green (in female even blue or blackish) metallic reflections.

Legs. Coxae and trochanters testaceous, femora testaceous with darker apices of metafemora; tibiae in male testaceous with indistinctly darkened apices of metatibiae, in female testaceous with black apices; tarsi in male as follows: protarsi black, last two tarsomeres partly testaceous, mesotarsi testaceous with darkened apices, metatarsi black, tarsi in female black; claws testaceous in male, black with testaceous apical part in female.

Aedeagus (Fig. 35) with short base, basal half straight, apical half moderately arcuately bent, constricted towards rounded rather short and wide apex which is dorsally slightly emarginate. Not measured.

Differential diagnosis. Resembling *C. rivalieri* and *C. rivalieriana* sp. nov., but with smoother pronotum and differently shaped aedeagus with dorsally slightly emarginate apex. Moreover, from *C. rivalieriana* sp. nov. it differs in absent coupling sulcus. From *C. v. viridicollis* it can be distinguished by almost smooth surface of pronotal disc with rugae nearly effaced.
Biology and distribution. The original description was based on one male and one female specimen from a forest locality in vicinity of Mandjelia in the northern part of New Caledonia.
Remarks. *Caledonica viridicollis laevioricollis* was originally described as a subspecies of *C. rivalieri.* Recently, Deuve (2015) placed this taxon as a subspecies of *C. viridicollis*, but due to lack of additional material, even this position is only provisional. This taxon may represent only a synonym of *C. viridicollis* (see also remarks under *C. viridicollis* and *C. rubicondosa*). Moreover, in the same publication Deuve mentioned that the paratype probably belongs to another, yet undescribed species.

Caledonica rubicondosa Deuve, 2006

(Figs 36–40)

Caledonica viridicollis rubicondosa Deuve, 2006: 2 (original description).
Caledonica rubicondosa: Deuve (2015): 69 (elevated to species rank), 77 (noted), 78 (figure).

Type locality. 'New Caledonia, Touho TV tower, 20°39´S, 165°13´E, 400 m, a.s.l.'.
Type material examined. Holotype: ♀, 'New Caledonia, 11485, 20°39´S x 165°13´E., Touho TV tower, 400 m., 28Nov2003-30Jan2004., G.Monteith. flight int. trap.' [printed]; 'Queensland, museum loan, Date: March 2005, No. LE 05.09' [green, printed]; 'Holotype' [red, printed] (MNHN). Paratypes: 2 ♀♀, 'New Caledonia, 8905, 20°58´Sx 165°17´E.500 m, Pic d´Amoa, N slopes, 24Nov01-31Jan2002, BurwellMonteith. Malaise.' [printed]; 'Queensland, museum loan, Date: March 2005, No. LE 05.09' [green, printed] (QMBA); 1 ♀, 'New Caledonia, 8603, 20°58´Sx 165°17´E.500 m, Pic d 'Amoa, N slopes, 10-24Nov2001, C.Burwell&Monteith. Malaise trap' [printed]; 'Queensland, museum loan, Date: March 2005, No. LE 05.09' [green, printed] (QMBA); 1 ♀, 'New Caledonia, 11488, 20°24´Sx 164°31´E.550 m, Mandjelia, lower creek, 29Nov2003-31Jan2004, G.Monteith. Malaise.' [printed]; 'Queensland, museum loan, Date: March 2005, No. LE 05.09' [green, printed] (QMBA); 2 ♀♀, 'New Caledonia 11506, 20°39´Sx 165°13´E. Touho TV tower, 400 m. 30Jan2004, G.Monteith. handcoll. rainforest.' [printed]; 'Queensland, museum loan, Date: March 2005, No. LE 05.09' [green, printed] (QMBA). All paratypes are temporarily on loan in MNHN.
Additional material examined (3 specimens). **NEW CALEDONIA: Province Nord:** Antenna Forest, 2 km S of Touho, 450 m, 20°47′S, 165°14′E, 7.10.ii.2012, 2 ♂, A. Kudrna jr. lgt (AKCB); Mt. Colnett, 0–350 m, 20°30′S, 164°45′E, 17.–23.i.2012, 1 ♂, A. Kudrna jr. lgt. (AKCB).

Redescription. Body small, length 11.30–12.20 mm, width 3.50–3.90 mm in male (Fig. 36); 10.70–12.00 (holotype: 12.00) mm long, 3.90–4.05 (holotype: 4.05) mm wide in female (Fig. 38).

Head with large eyes, slightly narrower than elytra, dorsally bronze to cupreous with metallic reflections; frons and supraantennal plates shiny green and cupreous; frons moderately convex, separated from clypeus by distinct suture, irregularly vermicular-rugulose; vertex moderately to rather distinctly convex, with moderate to shallow posterior impression, mostly longitudinally striate; orbital plates longitudinally parallel-striate with two setae on each side; occipital area irregularly vermicular-rugulose; genae glabrous, green to cupreous, finely parallel-striate with strong metallic reflections; clypeus coriaceous, metallic green to cupreous.

Labrum in both sexes with four setae and acute anterolateral teeth, in male (Fig. 37) testaceous with darkened margins of anterolateral teeth (in one male entirely testaceous) shorter than wide, length 0.95–1.10 mm, width 1.50–1.55 mm, median lobe short, truncate; female labrum (Fig. 39) longer, length 1.25–1.45 mm, width 1.40–1.50 mm, testaceous, with widely

and distinctly darkened lateral margins, the darker area occasionally mesad-expanded; prominent tridentate median lobe of acute teeth which are bent downwards, so their acute shape is not obvious in dorsal view.

Mandibles subsymmetrical; brownish-testaceous with paler basolateral part, paler area occasionally more expanding; each mandible with three teeth and basal molar; the third tooth in right mandible only indistinctly smaller than the third in left mandible.

Labial and maxillary palpi in male entirely testaceous, or with darkened apices of terminal palpomeres; in female palpi testaceous with terminal (and in maxillary palpi also penultimate) palpomeres black.

Antennae longer and paler in male, reaching two elytral thirds while in female only elytral third to half; scape in male testaceous or with only limited black apical area, pedicel and antennomeres III–IV dark-testaceous with variably extended black stripes, antennomere IV occasionally nearly entirely testaceous, antennomeres V–XI testaceous, progressively darkened with terminal or also penultimate antennomere black; scape in female testaceous, pedicel and antennomeres III–IV black with paler apical areas, antennomeres V–XI dark brown, progressively black-darkened.

Thorax. All thoracic portions glabrous. Pronotum in male 1.95–2.10 mm long, 2.60–2.80 mm wide (on the average 1.32 times wider than long); in female 1.80–2.00 mm long, 2.50–2.75 mm wide (on the average1.20 times wider than long), anterior and posterior sulci well pronounced, anterior and posterior lobe of about the same width, median line indistinct to rather distinct, lateral margins of disc convex with elevated notopleural sutures obvious in dorsal view in form of very short, but distinctly wide, flat lateral ribs that are gradually effaced towards anterior and posterior sulci; pronotal surface bronze to cupreous with metallic reflections, irregularly vermicular-rugulose, rugae shallow to nearly effaced; lateral sterna in male shiny green to cupreous with metallic reflections; in female predominantly dark ochreous as the metallic lustre is less strong, smooth to very finely wrinkled (smoother in female) except for finely to more coarsely wrinkled male mesepisterna; female mesepisternal coupling sulci absent; metepisterna with deep fovea-like impression at posterior suture; ventral sterna metallic green, in females occasionally ochreous, more markedly on metasternum which also possesses much less distinct impression at dorsolateral corner.

Elytra elongate, length 7.20–8.00 mm in male, 7.10–7.90 mm in female, slightly narrowing towards rounded anteapical angles, apices rounded, only indistincty emarginate towards short sutural spine; juxtahumeral impressions shallow to moderate, basodiscal convexity moderate to distinct, apical impressions indistinct; each elytron between basodiscal convexity and apical impression with two longitudinal costae: markedly elevated discal costa generating distinct edge, and sublateral costa in form of much less distinct elevation, area between costae and suture impressed; elytral surface anteriorly densely and deeply punctate, juxtahumeral impressions with several punctures; punctures towards apex becoming smaller and shallower becoming very indistinct to effaced on apical area and on flat interspaces between the costae and also between suture; sparse setigerous punctures with white, rather long hairlike setae are distributed on anterior area; elytral coloration bronze to cupreous with lustre; interspaces between costae and also along the suture notably iridescently bronze, silvery-bronze or cupreous, the iridescence changing to dull depending on angle of illumination; elytral maculation

orange and distinct, in both sexes consisting of short humeral macula, wide, transverse-oblong median band that is always widely reaching discal costa, and anteapical macula which is large, irregularly circular or oblong.

Abdomen. Ventrites glabrous, in male entirely shiny green or green with cupreous areas; in female ochreous with green to blue-green metallic lustre.

Legs. All leg segments including coxae and trochanters orange-testaceous (femora and tibiae with indistinctly darkened apices), tarsi in male with first three protarsomeres dark brown to black, protarsomeres 4–5 and mesotarsi testaceous with darkened apices, metatarsi dark testaceous to black; tarsi in female dark testaceous to black, often with somewhat paler basal tarsomere; claws testaceous.

Aedeagus (Fig. 40) 3.30–3.55 mm long and 0.65–0.75 mm wide; with notably short base, rather wide in middle and arcuately curved, apex notably wide and rounded.

Differential diagnosis. Resembling the nominotypical subspecies, but distinguished by the wider and orange coloured elytral maculation.

Biology and distribution. The description of this subspecies (Deuve 2006) was based on seven females, the male was unknown. The three males treated here are the only males known to science. In the primary forest close to Touho two specimens were caught during a rainy day on tree trunks overgrown with rather dense vegetation.

Remarks. *Caledonica rubicondosa* was recently elevated to species rank (Deuve 2015). However the situation in the *C. rivalieri-viridicollis* species complex is confusing and unclear. All taxa included in the complex (*C. viridicollis viridicollis*, *C. viridicollis laevioricollis*, *C. rubicondosa*, and *C. rivalieri*) are unfortunately known from only a few specimens or a single specimen. Additional material, particularly adult specimens of *C. viridicollis*, is needed to clarify the identity of taxa in this group.

All taxa in the complex are, among others, characterised by absence of the female mesepisternal coupling sulci, a unique character (except for the very different *C. pulchella*) in the genus.

Caledonica affinis (Montrouzier, 1860)

(Figs 51–55)

Oxycheila affinis Montrouzier, 1860: 234 (original description).
Distipsidera affinis: Fauvel (1862): 130 (redescription); Lucas (1862): 27 (noted); Lucas (1863): 112 (noted).
Caledonica affinis: Chaudoir (1865): 15 (catalogue); Gemminger & Harold (1868): 32 (catalogue); Fauvel (1882): 223 (key), 226 (redescription); Fleutiaux (1892): 31 (catalogue); Fauvel (1903): 213 (key), 214 (noted); Heyne & Taschenberg (1908): 8 (noted); Horn (1910): 181 (catalogue); Fleutiaux (1911): 162 (catalogue); Horn (1926): 105 (catalogue); Horn (1936): 6 (catalogue); Deuve (1981): 182 (key), 184 (redescription); Wiesner (1992): 76 (catalogue); Deuve (2015): 83 (noted).
Caledonica fasciata Chaudoir, 1860: 313 (original description). Chaudoir (1865): 15 (synonymy).
Distipsidera fasciata: Lucas (1863): 112 (noted).
Caledonica affinis var. *lerati* Fleutiaux, 1911: 162 (original description), **syn. nov.**
Caledonica affinis ssp. *lerati*: Horn (1926): 105 (catalogue); Horn (1936): 6 (catalogue).
Caledonica affinis var. *lerati*: Deuve (1981): 185 (noted).

Type localities. *Oxycheila affinis*: ‘Nouvelle-Calédonie’; *Caledonica fasciata*: ‘Nouvelle-Calédonie’; *Caledonica affinis lerati*: ‘Hienghéne’.

Type material examined. *Oxycheila affinis*: Lectotype (designated by Deuve 1981): ♀, 'Muséum Paris, N^elle^Calédonie, Mestro 53.56' [printed/handwritten]; 'Lectotype' [red, printed] (MNHN).

Caledonica affinis var. *lerati*: Syntype: 1 spec., studied but label data not recorded (MNHN).

Additional material examined (56 specimens). **NEW CALEDONIA:** N^elle^Calédonie, 2 ♂♂ (MNHN). **Province Nord:** 10 km SE Koumac, 20°37′S, 164°20′E, 1.–7.i.2012, 0–50 m, 8 ♂♂, 3 ♀♀, A. Kudrna jr. lgt. (AKCB); 3 km SW of Ouegoa, 20°20′S, 164°23′E, 30.–31.i.2012, 20 m, 26 ♂♂, 12 ♀♀, A. Kudrna jr. lgt. (AKCB). **Province Sud:** near Bouirou, cca 20 km N of Bourail, 27.xii.2004–2.i.2005, 2 ♀♀, A. Kudrna jr. lgt. (AKCB); village Bouirou, cca 20 km N of Bourail, 9.–10.xii.2008, 500 m, 3 ♀♀, A. Kudrna jr. lgt. (AKCB).

Redescription. Body medium-sized (more robust in female), male (Fig. 51) length 11.30–13.80 mm, width 3.40–4.20 mm; female (Fig. 53) length 13.70–14.90 (lectotype: 15.00) mm, width 4.20–5.05 (lectotype: 5.05) mm.

Head with large eyes, slightly narrower than elytra, dorsally dark bronze, black or olivaceous-green (frons in males occasionally cupreous) with metallic reflections, clypeus and supraantennal plates in male and occasionally indistinctly also in female shiny blue or green; frons convex, separated from clypeus by distinct suture, surface irregularly rugulose, rugae often shallow and sometimes more regularly arcuately radiate; vertex convex, with posterior impression, shallowly to deeply longitudinally or irregularly rugulose, rarely nearly smooth with only few rugae; orbital plates distinctly longitudinally parallel-striate with two setae on each side; occipital area irregularly wavy to vermicular-rugulose; genae glabrous, finely parallel-striate, in male metallic green, in female predominantly metallic cupreous; clypeus dark coriaceous, in male shiny green to blue, in female mostly shiny dark cupreous.

Labrum with two setae (rarely with additional seta on anterior area), in both sexes with acute anterolateral teeth; male labrum (Fig. 52) shorter than wide, length 1.10–1.45 mm, width 1.45–1.75 mm, median lobe short or rather prominent, truncate, anterior teeth absent or reduced, testaceous, usually with brown to black margins of anterolateral teeth and rarely with darkened lateral margins; female labrum (Fig. 54) longer, only slightly shorter than wide, length 1.65–2.00 mm, width 1.75–2.05 mm, testaceous, often with very distinctly darkened lateral margins, with prominently tridentate median lobe of acute teeth which are bent downwards, thus their acute shape is not obvious in dorsal view.

Mandibles nearly symmetrical, brownish-testaceous to black with paler basolateral portion; each mandible with three teeth and basal molar; the third tooth in right mandible only slightly smaller than in left; teeth margins often black.

Labial and maxillary palpi in male testaceous with darkened apices of terminal palpomeres; palpi in female testaceous except for partly or entirely black terminal palpomeres and often darkened penultimate palpomeres of maxillary palpi.

Antennae longer in male, reaching or exceeding half of elytral length in male, one third in female; scape in both sexes testaceous, in male with darkened apex, in female darkened area more extended; pedicel and antennomeres III–IV usually partly brown to black, V–XI testaceous, progressively darkened, last two or three antennomeres black.

Thorax. All thoracic portions glabrous. Pronotum in male 1.95–2.25 mm long, 2.60–3.25 mm wide (on the average 1.41 times wider than long); in female 2.10–2.45 mm long, 3.15–3.55 mm wide (on the average 1.46 times wider than long), anterior and posterior sulci well-pronounced, anterior lobe only slightly wider than posterior; disc with convex lateral margins and elevated

notopleural sutures which are obvious in dorsal view in form of flat lateral ribs that are indistinct or distinct in form of narrow band running parallel with major parts of lateral margins; coloration dark bronze, cupreous or black with metallic lustre, lateral margins, anterior and posterior sulci often with shiny green reflections, surface of pronotum mostly irregularly wavy to vermicular-rugulose except for usually more regularly transverse rugae along indistinct median line, rugae variable in shape and depth; lateral sterna in male metallic green or blue-green usually with shiny red or cupreous central areas; in female dark cupreous to black with metallic reflections, surface nearly smooth or shallowly irregularly vermicular-rugulose, rugae more distinct and deeper on male mesepisterna and metepisterna; female mesepisternal coupling sulci placed in dorsal mesepisternal half in form of a pit of variable diameter and depth, sometimes rather indistinct; metepisterna with impression at posterior suture; prosternum, mesosternum and metasternum in male metallic green to blue-green, occasionally with red areas, in female metallic dark green or dark blue, changing to ochreous or alternatively black on lateral areas; metasternum with deep fovea-like impression placed at dorsolateral corner.

Elytra elongate and narrow, length 7.30–9.50 mm in male, 9.10–10.50 mm in female, lateral margins subparallel, anteapical angles rounded, obliquely constricted towards narrow rounded apices that are only slightly emarginate towards short sutural spines; juxtahumeral impressions and basodiscal convexity moderate, apical impressions distinct or indistinct; each elytron between basodiscal convexity and apical impression with two longitudinal (discal and sublateral) costae that are in their basal or central area rarely mutually connected with additional, short, transverse costa; interspace between costae and suture impressed; whole elytral surface densely punctate, punctures in anterior part often deep and large (juxtahumeral impression with several punctures), punctures on impressed flat interspaces between costae and suture mostly shallow; sparse setigerous punctures with rather long white hairlike setae are distributed on anterior area; elytral coloration dark bronze, cupreous or black with metallic lustre; interspaces between costae and along the suture iridescent silvery-bronze to cupreous, changing to dull depending on angle of illumination; elytral maculation in both sexes ivory, consisting of three maculae: humeral macula which is mostly of a square-like shape, median macula which is transverse-oblong, either overlapping or more rarely only reaching discal costa, and anteapical macula of irregular, mostly reniform shape.

Abdomen. Ventrites glabrous, in male metallic green to blue-green, rarely with limited orange areas, in female darker, dark metallic green to blue with copper or blackish areas.

Legs. Coxae and trochanters testaceous; femora testaceous, usually with somewhat darkened apices (more distinctly on meso- and metafemora), in female often with dark areas more expanded, ocassionally covering most of the femoral surface; tibiae generally darker in female, testaceous with darkened apices (particularly on metatibiae); tarsi in female and protarsi in male dark testaceous with black apices to entirely black, meso- and metatarsi in male testaceous with darkened apices (terminal or also penultimate tarsomeres very rarely entirely black); claws testaceous.

Aedeagus (Fig. 55) notably elongate and moderately curved in middle, 4.75–5.00 mm long, 0.60–0.65 mm wide; apical part directed ventrally, then conically attenuated into narrow and short apex.

Differential diagnosis. Superficially resembling *C. mediolineata*. Distinguished by elytra with shorter median band and much larger anteapical macula, narrower body (3.40–5.05 mm in *C. affinis*, 4.00–5.50 mm in *C. mediolineata)*, labrum with only two setae, and differently shaped aedeagus (Fig. 55).

Biology and distribution. *Caledonica affinis* is a rare species. Southeast of Koumac adults were found on tree trunks of *Casuarina* sp. along a dusty road in predominantly grassy area, just next to a sandy ocean beach.

In the locality near Bouirou a few female adults were taken from wide and partly burnt solitary trunks of Niaouli trees (*Melaleuca quinquenervia* (Cav.) S. T. Blake; Myrtaceae). These trees were mixed with sparsely planted *Pinus caribaea* Morelet in grassy clearings surrounded by primary forest. This population represents a very dark form with black elytra.

In January 2012 in the vicinity of Ouegoa, adults were active in masses together with adults of *C. bavayi* in forest close to a small river. The forest was more open and with only limited lower vegetation or shrub layer due to the frequent presence of a large herd of cattle.

Remarks. Fleutiaux (1911) proposed the variety *lerati* of *Caledonica affinis* from Hienghéne and provided only very short description: 'Robust, close to *C. mediolineata* in form. [translated from French]'. Subsequent authors considered the taxon a subspecies of *C. affinis* (Horn 1936) or its synonym (Deuve 1981, Wiesner 1992) but without providing any additional comments. Therefore the taxon was never clearly commented on and synonymized. In order to clarify the situation I hereby synonymize the variety *lerati* with the nominotypical *C. affinis* as the only known specimen (deposited in MNHN) is similar to the typical *C. affinis*.

Caledonica mediolineata (Lucas, 1862)

(Figs 46–50)

Distipsidera mediolineata Lucas, 1862: 27 (original description). Lucas (1863): 111 (redescription).

Caledonica mediolineata: Gemminger & Harold (1868): 32 (catalogue); Fauvel (1882): 223 (key, redescription); Fleutiaux (1892): 31 (catalogue); Fauvel (1903): 212 (key), 213 (noted); Horn (1910): 181 (catalogue); Horn (1926): 105 (catalogue); Horn (1936): 6 (catalogue); Deuve (1981): 180 (key), 185 (redescription); Wiesner (1992): 76 (catalogue); Deuve (2015): 83 (noted).

Type locality. Original type locality 'Nouvelle Calédonie', replaced here by the act of the neotype designation by 'Nouvelle Calédonie, Port Boisé, forêt Nord'.

Type material examined. Neotype (present designation): ♂, 'Nouvelle-Calédonie, Port Boisé, forêt Nord, PL. 1. III. 1993, M. Boulard réc.' [pink, printed/handwritten]; 'Forêt humide' [pink, printed]; 'Muséum Paris' [pink, printed]; 'Neotype Caledonica, mediolineata Lucas, 1862, design. A. Kudrna 2016' [red, printed] (MNHN).

Additional material examined (8 specimens). **NEW CALEDONIA: Province Sud:** Nyamié creek 30–50 m, at Comboui river, 21°45.9′S, 166°25.5′E, 31.xii.2006, 1 ♀, at light, M. Wanat & R. Dobosz lgt. (AKCB); Prony, 2 ♀♀, 2 ♂♂ (MNHN); Mont Do, 26.ii. 1993, 2 ♂♂, M. Boulard lgt. (MNHN); env. de Nouméa, 1 ♂ (MNHN).

Neotype designation. A neotype is designated to conserve status of this taxon in its current sense and ensure its recognition. Also the original type locality was stated only as 'Nouvelle Calédonie' and more precise distribution was unknown. The neotype is based on a well preserved specimen corresponding with the primary description (Lucas 1862) and supplementary description and figure published by the same author (Lucas 1863). The

original type material should be located in MNHN, however, it was not found repeatedly and is considered lost (Deuve 1981).

Description. Body medium sized, length 12.30–12.80 (neotype: 13.10) mm, width 4.00–4.30 mm in male (Fig. 46); in female (Fig. 48) length 13.30–15.20 mm, width 4.70–5.50 mm.

Head with large eyes, slightly narrower than elytra, dorsally lustrous, black, rarely black-cupreous; limited areas of frons adjacent to clypeus and supraantennal plates with green, blue or violet metallic reflections; frons moderately to distinctly convex, separated from clypeus by rather indistinct suture, irregularly vermicular-rugulose; vertex weakly to moderately convex, with shallow posterior impression, longitudinally striate; orbital plates longitudinally parallel-striate with two setae on each side; occipital area irregularly wavy to vermicular-rugulose; genae glabrous, lustrous, coloration varies from black to green, cupreous or violet, finely parallel-striate; clypeus coriaceous, mostly metallic black to cupreous in female; in male shiny, green, blue or violet.

Labrum in both sexes with four setae and acute anterolateral teeth, in male (Fig. 47) entirely testaceous or with only very indistinctly darkened lateral margin in basal area and apices of anterolateral teeth, shorter than wide, 1.25–1.50 mm long, 1.75–1.85 mm wide, median lobe short, its anterior margin truncate or slightly emarginate between indistinct or only indicated anterior teeth (median tooth absent); labrum in female (Fig. 49) longer, testaceous, with indistinctly to more distinctly darkened basolateral margins and teeth, nearly as long as wide, 1.90–2.35 mm long, 1.95–2.35 mm wide, with prominent, tridentate median lobe of acute teeth which are bent downwards, so their acute shape is not obvious in dorsal view.

Mandibles symmetrical, brownish-testaceous with paler basolateral half; each mandible with three teeth and basal molar.

Labial and maxillary palpi in male testaceous except for darkened terminal palpomeres; in female testaceous to dark testaceous with darker terminal and in maxillary palpi also penultimate palpomere.

Antennae markedly longer in male, surpassing half of elytral length while in female usually only one third (only rarely reaching elytral half); scape in male testaceous with black band, pedicel and antennomeres III–IV black with variably developed dark testaceous areas, V–XI dark testaceous to black (progressively darkened); in female as in male except for black scape with testaceous basal area that is occasionally expanding to apex.

Thorax. All parts glabrous. Pronotum in male 2.15–2.35 mm long, 3.15–3.75 mm wide (on average 1.52 times wider than long); in female length 2.05–2.35 mm, width 3.65–4.00 mm (on average 1.60 times wider than long), anterior and posterior sulci well pronounced, anterior lobe of the same width or very slightly wider than the posterior; lateral margins of disc distinctly convex with markedly elevated notopleural sutures obvious in dorsal view, forming flat lateral ribs which are markedly extended in middle and gradually effaced towards anterior and posterior sulci; pronotal surface black to black-cupreous with metallic reflections, irregularly wavy to vermicular-rugulose, rugae becoming more regularly transverse-wavy along moderately developed median line; lateral sterna with metallic lustre, mostly black to dark cupreous, along their sutures often with green or violet metallic

reflections, shallowly wrinkled to nearly smooth; female mesepisternal coupling sulci in form of deep, large pit placed in the dorsal mesepisternal half; metepisterna with rather distinct impression at posterior suture; pro-, meso-, and metasternum dark ochreous usually with violent or blueish metallic reflections; metasternum with indistinct impression placed at dorsolateral corner.

Elytra oblong, comparatively wide, length 8.30–9.30 mm in male, 8.80–10.50 mm in female, apices and anteapical angles rounded, slightly to indistinctly emarginate towards short sutural spine; juxtahumeral impressions and basodiscal convexity moderate, apical impressions faint; each elytron between basodiscal convexity and apical impression with two elevated longitudinal (discal and sublateral) costae; area between costae and suture impressed, elytral surface anteriorly densely and deeply punctate (juxtahumeral impression punctate only sporadically); punctures nearly effaced on flat interspaces between costae and also between suture, those on lateral areas of basodiscal convexity often with wide interspaces forming elevated irregular chains, punctures towards apex becoming smaller and shallower, apical area finely but distinctly punctate; sparse setigerous punctures with white, rather long hairlike setae distributed on anterior area; elytral coloration black to black-cupreous with metallic lustre; interspaces between costae and also along the suture iridescent silvery, the iridescence changing to dull depending on angle of illumination; elytral maculation ivory, in both sexes consisting of three maculae: humeral macula with narrow longitudinal protrusion (invisible from above) running along the lateral margin posteriad, transverse median band which is notably long, nearly reaching elytral suture, and anteapical macula which is rather small and of irregularly circular shape.

Abdomen. Ventrites glabrous, dark ochreous often with bluish metallic reflections on lateral areas.

Legs. Coxae and trochanters in both sexes testaceous to dark testaceous; femora dark testaceous to black except for paler basal area (observable laterally) on metafemora (in male also on mesofemora); tibiae testaceous with darkened apical area which is more distinct in metatibiae; tarsi dark testaceous to black; claws dark testaceous.

Aedeagus (Fig. 50) long, length 4.30 mm, width 0.80 mm; basal part notably slim, dorsal margin slightly arcuate, apical area conically attenuated into narrow but rounded, dorsally hooked apex.

Differential diagnosis. Externally resembling *C. affinis* in its dark body coloration and long transverse median band, but clearly differs in having this band much longer, nearly reaching elytral suture, in much smaller anterapical macula, labrum with predominantly fully developed four setae, and shorter differently shaped aedeagus. Moreover, the body is wider (3.40–5.05 mm in *C. affinis,* 4.00–5.50 mm in *C. mediolineata*).

Biology and distribution. Nothing is known about biology of this species. The single female from Nyamié creek came incidentally to a light trap.

Remarks. The species was first briefly described in reports from sessions of the French Entomological Society (Lucas 1862). However a year later, Lucas (1863) published a full description including quite a good drawing in colour which enabled subsequent authors to recognize this species.

Caledonica lunigera Chaudoir, 1860

(Figs 76–80, 82)

Caledonica lunigera Chaudoir, 1860: 314 (original description). Chaudoir (1865): 15 (catalogue); Gemminger & Harold (1868): 32 (catalogue); Fauvel (1882): 223 (key), 225 (redescription); Fleutiaux (1892): 31 (catalogue); Fauvel (1903): 212 (key), 213 (noted); Heyne & Taschenberg (1908): 8 (noted); Horn (1910): 180 (noted), 181 (catalogue); Horn (1926): 105 (catalogue); Horn (1936): 6 (catalogue); Deuve (1981): 182 (key), 185 (redescription); Wiesner (1992): 76 (catalogue); Deuve (2015): 83 (noted).

Distipsidera lunigera: Lucas (1863): 112 (noted).

Distipsidera deplanchei Fauvel, 1862: 129 (original description).

Caledonica deplanchei: Gemminger & Harold (1868): 32 (catalogue, synonym of *C. mniszechii*), Fauvel (1882): 225 (synonymy).

Type localities. *Caledonica lunigera:* 'Nouvelles-Hébrides' [in fact New Caledonia]; *Distipsidera deplanchei:* 'N^{elle} Calédonie'.

Type material examined. *Caledonica lunigera*: Holotype (by monotypy): ♂, 'Museum Paris, N^{elles} Hébrides, Coll. Chaudoir 1874' [pink, printed/handwritten]; 'lunigera Chaud., N^{lle} Caledonie, J. Stevens' [handwritten]; '208/4' [small circular label, handwritten]; 'Type' [red, printed] (MNHN). *Distipsidera deplanchei*: Holotype (by monotypy): ♀, 'Museum Paris, N^{elle} Calédonie, coll. Chaudoir 1874' [pink, printed/handwritten]; 'Type' [red, printed]; 'Deplanchei Fvl. type' [handwritten] (MNHN).

Additional material examined (27 specimens). **NEW CALEDONIA: Province Nord:** 3–10 km S of Canala, 20–150 m, 21°33′S, 165°59′E, 11.–15.ii.2012, 3 ♂♂, 2 ♀♀, A. Kudrna jr. lgt. (AKCB). **Province Sud:** Noumea, near Tjibao Centre, 17.ii.2005, 3 ♂♂, 1 ♀, A. Kudrna jr. lgt. (AKCB); Parc Provincial de la Riviere Bleue, near gate, 13.–14.ii.2005, 2 ♂♂, 2 ♀♀, A. Kudrna jr. lgt. (AKCB); Paita-Mt. Mou, near Noumea, 5 ♂♂, 1 ♀, 25.iii.–14.iv.2009, A. Kudrna jr. lgt. (AKCB); environs of Boulouparis, 9.–16.ii.2009, 4 ♂♂, 4 ♀♀, A. Kudrna jr. lgt. (AKCB).

Redescription. Body medium sized, length 10.60–12.40 (holotype: 11.00) mm, width 3.30–4.00 (holotype: 3.55) mm in male (Fig. 76); in female length 10.40–12.80 mm, width 3.25–4.25 mm (Fig. 78).

Head with large eyes, slightly narrower than elytra, dorsally olivaceous-green to cupreous with metallic reflections; frons, clypeus and supraantennal plates in male (much less distinctly in female) usually shiny green, often with strong cupreous and reddish reflections; frons rather distinctly convex, separated from clypeus by obvious suture; vertex variably shaped, moderately convex with distinct posterior impression; surface of frons and vertex longitudinally rugulose, rugae often becoming irregular on central area; orbital plates longitudinally parallel-striate with two setae on each side; occipital area irregularly vermicular to wavy rugulose; genae glabrous, dark testaceous to green with strong green reflections, finely to more coarsely striate; clypeus coriaceous, occasionally with dark testaceous areas, otherwise shiny green, often with cupreous and red reflections.

Labrum with four setae and acute anterolateral teeth in both sexes, testaceous except for often darkened apices of teeth (more markedly in female), male labrum (Fig. 77) shorter than wide, length 1.00–1.15 mm, width 1.40–1.65 mm, median lobe short, truncate between entirely effaced or moderately developed anterior teeth; female labrum (Fig. 79) longer, approximately as long as wide, length 1.40–1.70 mm, width 1.45–1.70 mm, with prominent, sharply tridentate median lobe of acute teeth which are bent downwards, so their acute shape is not obvious in dorsal view.

Mandibles subsymmetrical, dark testaceous to black except for paler basolateral area; each

mandible with three teeth and basal molar; third tooth in both mandibles smaller than second, third tooth in right mandible smaller than the one in left.

Labial and maxillary palpi in both sexes testaceous except for darkened apices of terminal palpomeres, in female terminal palpomere often entirely black.

Antennae markedly longer in male, reaching half to two thirds of elytral length, in female only one third, testaceous, progressively darkened with last two or three, rarely four antennomeres black.

Thorax. All parts glabrous. Pronotum wide, in male 1.65–1.95 mm long, 2.35–2.95 mm wide (on average 1.49 times wider than long), in female 1.55–2.00 mm long, 2.35–3.00 mm wide (on average 1.45 times wider than long), anterior and posterior sulci well pronounced, anterior lobe of the same width or only slightly wider than posterior lobe; disc rather variable, with either markedly or less distinctly convex lateral margins and elevated notopleural sutures obvious in dorsal view in form of flat lateral ribs which can be faint to nearly absent, or short but distinctly wide, gradually effaced towards anterior and posterior sulci; pronotal surface olivaceous green to cupreous with metallic reflections, coarsely and irregularly wavy to vermicular-rugulose, rugae becoming more regularly transverse along rather distinct median line and on lateral areas of disc; pro-, mes-, and metepisterna finely to very finely wrinkled, rarely nearly smooth, predominately shiny metallic-green, red or cupreous, often with dark testaceous areas; female mesepisternal coupling sulci with moderately deep to nearly effaced pit placed in dorsal mesepisternal third or half; metepisterna usually with small impression at posterior suture; pro-, meso-, and metasternum dark testaceous to green with metallic lustre, metasternum with fovea-like impression placed at dorsolateral corner.

Elytra elongate and narrow, length 7.00–8.40 mm in male, 6.85–8.50 mm in female, moderately narrowed towards rounded anteapical angles, apices rounded with indistinct to effaced emargination towards short sutural spines; juxtahumeral impressions distinct, basodiscal convexity moderate, apical impressions indistinct; each elytron between basodiscal convexity and apical impression with two elevated longitudinal costae: distinct discal and somewhat less distinct sublateral costa, rarely both costae mutually connected by additional, short transverse costa in area adjacent to median macula or more often in basal area, the area between costae and suture impressed; elytral surface on anterior area densely and deeply punctate (except for only sporadically punctate juxtahumeral impressions), punctures on lateral areas of basodiscal convexity often with wide interspaces forming elevated irregular chains, punctures towards apex become gradually smaller and shallower and are nearly effaced on apical area; punctures on flat interspaces between costae and suture and along exterior edge of sublateral costae very faint and with only several larger punctures placed anteriorly; sparse setigerous punctures with rather long, white hairlike setae distributed on anterior area; elytral coloration olivaceous-green to cupreous with metallic reflections; interspaces between costae and also along the suture notably iridescent green, more rarely silvery or bronze, iridescence changing to dull depending on angle of illumination; elytral maculation ivory, quite characteristic, in both sexes consisting of three maculae: elongate humeral lunule markedly curved and clearly visible in dorsal view, oblong median macula directed obliquely backwards and variably overlapping sublateral costa, and anteapical macula of irregularly circular shape.

Abdomen. Ventrites glabrous, dark testaceous to shiny metallic green.

Legs. Coxae and trochanters testaceous; meso- and metafemora testaceous with darkened apical area, profemora with less distinctly darkened apices, but occasionally with darkened posterior portions, female femora generally with more extended dark coloration; tibiae testaceous with black apical area that is often expanding upwards (especially in female protibiae); protarsi and metatarsi in both sexes testaceous to black, mesotarsi in female black, rarely tarsomeres with dark testaceous areas, in male testaceous with darkened apices and terminal tarsomere entirely black; claws testaceous, often with black basal area.

Aedeagus (Fig. 80) 3.75–4.00 mm long and 0.65–1.75 mm wide; with narrow and arcuately curved basal portion, dilated in middle, apical portion conically attenuated towards narrow, blunt tip.

Differential diagnosis. Resembling *C. acentra* and *C. bavayi*, but distinguished from these two species by markedly smaller body (13.10–15.70 mm in *C. acentra*, 10.80–15.20 mm in *C. bavayi*, 10.40–12.80 mm in *C. lunigera*), always entirely testaceous labrum (except for often darkened apices of teeth), and the aedeagus with shorter and only indistinctly dorsally hooked tip.

Biology and distribution. According to Fauvel (1882), *C. lunigera* was 'a most common species, probably occurring in the whole colony and even more widespread in the north'. Nevertheless, I found this species only rarely and in a few localities in the Southern Province only. Moreover all these localities were biotopes of secondary forests or just solitary trees in build-up areas. In February 2005 hundreds of adults were active on large tree trunks in a monocultural plantation of *Agathis lanceolata* Lindley ex Warb. (Araucariaceae) in the Parc Rivière Bleue. In February 2012 *C. lunigera* was found together with *C. bavayi* at the margins of woods in otherwise open land south of Kanala. On a few occasions in Paita and its vicinity adults were observed on solitary trees in gardens and also on planted trees along tarmac road directly in the centre of the town. Surprisingly, some adults were found dead and glued onto tree trunks by the natural resin of injured trees in a small park close to Tjibao centre on the outskirts of Noumea.

Remarks. Fauvel (1862) described *D. deplanchei* based on a single female specimen, now deposited in MNHN and closely corresponding with *C. lunigera.* Although the type locality was not mentioned in the original description (Fauvel 1862), it is apparent from the context of the paper that it is a place in New Caledonia.

Caledonica acentra Chaudoir, 1869

(Figs 56–60, 84)

Caledonica acentra Chaudoir, 1869: 23 (original description). Fleutiaux (1892): 31 (catalogue); Fauvel (1903): 212 (key), 213 (noted); Horn (1910): 181 (catalogue); Fleutiaux (1911): 162 (catalogue); Horn (1926): 104 (catalogue); Horn (1936): 6 (catalogue); Deuve (1981): 182 (key), 185 (redescription); Wiesner (1992): 76 (catalogue); Deuve (2015): 81 (figure), 82 (noted).

Caledonica wormae Wiesner, 1991: 208 (original description). Wiesner (1992): 76 (catalogue); Deuve (2015): 82 (synonymy).

Type localities. *Caledonica acentra*: 'Nouvelle-Calédonie'; *Caledonica wormae*: 'New Caledonia, 200 m, N. Paita, Mt. Mou.'.

Type material examined. *Caledonica acentra*: Lectotype (designated by Deuve 1981): ♂, 'acentra Chaud.' [handwritten]; 'Nouv. Calédonie, Montrouzier' [handwritten]; 'Lectotype' [red, printed]; 'Museum Paris, N^{elle} Calédonie, Coll. Chaudoir 1874' [handwritten/printed]; 'Bavayi Fvl.' [handwritten] (MNHN).

Caledonica wormae: Paratypes: 1 ♂, 1 ♀, 'New Caledonia, 200 m., N Paita, Mt. Mou, 25.-28.12. 1990/20.1. 1991, leg. Wiesner&Worm' [violet, printed]; 'Caledonica wormae n. sp., det. Wiesner 91' [printed]; 'Paratypus' [red, printed] (AKCB).

Additional material examined (64 specimens). **NEW CALEDONIA: Province Sud:** Pr. Sud, forest of Plato de Dogny, near Sarramea, 24.–27.xii.2004, 10 ♂♂, 8 ♀♀, A. Kudrna jr. lgt. (AKCB); 3 km NW of Sarramea, 21°37′S, 165°50′E, 23.–30.xii.2011, 250–550 m, 4 ♂♂, 4 ♀♀, A. Kudrna jr. lgt. (AKCB); Col de la Pirogue, Mt. Mou, 22°04′S, 166°20′E, 7.–12.i.2005, 400–600 m, 26 ♂♂, 6 ♀ ♀, A. Kudrna jr. lgt. (AKCB); near Bouirou, cca. 20 km N of Bourail, 27.xii.2004–2.i.2005, 2 ♂♂, 2 ♀♀, A. Kudrna jr. lgt. (AKCB); 15 km NE of Noumea, Forest of Mts. Koghis, 30.i.–4.ii.2005, 2 ♂♂, A. Kudrna jr. lgt.

Redescription. Body medium sized (more robust in female), length 13.10–14.40 (lectotype: 13.20) mm, width 4.15–4.75 mm in male (Fig. 56); female length 14.30–15.70 mm, width 4.75–5.25 mm (Fig. 58).

Head with large eyes, slightly narrower than elytra, dorsally dark olivaceous to bronze or cupreous with metallic reflections, frons and supraantennal plates in male shiny green, often with strong cupreous and red reflections; frons moderately to markedly convex, separated from clypeus by distinct suture, surface irregularly rugulose, rugae often more regularly longitudinally parallel on lateral areas; vertex moderately to distinctly convex, with variably deep posterior impression, mostly longitudinally or irregularly rugulose; orbital plates distinctly longitudinally parallel-striate with two setae on each side; occipital area irregularly wavy to vermicular-rugulose; genae glabrous, dark testaceous to green, finely parallel-striate with strong green, cupreous or golden reflections; clypeus dark testaceous, coriaceous, in male with strong green or cupreous lustre, in female with black, dark cupreous or greenish metallic reflections.

Labrum with four setae and acute anterolateral teeth in both sexes; in male (Fig. 57) testaceous with darkened lateral margins and darkened apices of anterolateral teeth (labrum exceptionally entirely testaceous), shorter than wide, length 1.30–1.45 mm, width 1.70–1.95 mm, median lobe rather short with distinct or reduced anterior teeth and only very rarely and weakly indicated median blunt tooth; female labrum (Fig. 59) longer, testaceous except for distinctly black lateral margins, nearly as long as wide, length 1.90–2.15 mm, width 1.90–2.20 mm, with prominent, sharply tridentate median lobe of acute teeth which are bent downwards, so their acute shape is not obvious in dorsal view.

Mandibles subsymmetrical, brownish-testaceous with paler basolateral part, teeth often with black margins; each mandible with three teeth and basal molar; the third teeth in left mandible slightly larger than that in right.

Labial and maxillary palpi in both sexes testaceous, in male usually with somewhat darkened apices of terminal palpomeres; in female often with slightly to distinctly darkened terminal palpomeres; in maxillary palpi also penultimate palpomere darkened.

Antennae in male reaching two thirds of elytra, testaceous (antennomeres II–IV often only slightly darkened), terminal antennomere black; antennae in female shorter, reaching only one elytral third and generally darker.

Thorax. All portions glabrous. Pronotum in male 2.10–2.55 mm long, 3.25–3.75 mm wide (on average 1.49 times wider than long); in female 2.25–2.65 mm long, 3.50–4.20 mm wide (on average 1.55 times wider than long), anterior and posterior sulci well pronounced, anterior and posterior lobe approximately of the same width, lateral margins of disc distinctly convex with markedly elevated notopleural sutures obvious in dorsal view in form of wide, flat lateral

ribs that are markedly extended in middle and gradually effaced towards anterior and posterior sulci; dorsal pronotal surface mostly olivaceous green to bronze, rarely nearly black or dark cupreous with metallic reflections, occasionally with shiny, green or cupreous lateral areas, irregularly wavy to vermicular-rugulose, rugae becoming more regularly transverse and wavy along rather distinct median line and on surface of lateral ribs; proepisterna, mesepisterna and metepisterna in male dark testaceous with green to cupreous metallic reflections, in female dark metallic cupreous usually with shiny green lateral areas; proepisterna finely striate to nearly smooth, mesepisterna and metepisterna finely to more coarsely striate (mesepisterna in some females nearly smooth), female mesepisternal coupling sulci in form of a deep, rather large pit placed in the dorsal mesepisternal half, metepisterna with rather deep impression at posterior suture; pro-, meso-, and metasternum dark testaceous with strong metallic green or rarely cupreous areas, metasternum with deep fovea-like impression placed at dorsolateral corner.

Elytra elongate, length 8.50–9.70 mm in male, 9.25–10.10 mm in female, anteapical angles rounded, apices blunt to arcuate, slightly to indistinctly emarginate towards short sutural spine; juxtahumeral impressions and basodiscal convexity moderate, apical impressions indistinct; each elytron between basodiscal convexity and apical impression with two longitudinal (discal and sublateral) costae that are in basal half of each rarely mutually connected by additional, short transverse costa; interspaces between costae and suture impressed; elytral surface anteriorly densely and deeply punctate (juxtahumeral impression punctate only sporadically); punctures on lateral areas of basodiscal convexity often with wide interspaces forming elevated irregular chains, punctures towards apex becoming smaller and shallower and very indistinct on apical area, punctures on flat interspaces between the costae and also between suture are nearly effaced; sparse setigerous punctures with rather long, white hairlike setae are distributed on anterior area; elytral coloration mostly olivaceous-green to cupreous with metallic lustre; interspaces between costae and also along the suture notably iridescent silvery-bronze, silvery-cupreous or reddish-cupreous, the iridescence changing to dull depending on angle of illumination; elytral maculation ochre-white, in both sexes consisting of three maculae: humeral macula which is elongate, curved and visible in dorsal view, median macula which is rather short, transverse and obliquely directed backwards, reaching or more often slightly overlapping sublateral costa and anteapical macula of irregularly circular shape.

Abdomen. Ventrites glabrous, dark testaceous with green or cupreous metallic reflections.

Legs. Coxae and trochanters testaceous; in both sexes profemora testaceous with dark testaceous to black stripe on posterior area that is often expanding onto lateral margin, meso- and metafemora testaceous with darkened apex and variably extended black stripes (more distinctly in female, in male sometimes reduced); tibiae testaceous, sometimes with somewhat darkened apices; tarsi testaceous with darkened apices, rarely tarsomeres 2 and 3 in male protarsi entirely darkened; claws testaceous.

Aedeagus (Fig. 60) 5.00–5.40 mm long and 1.00–1.15 mm wide; with almost straight ventral margin, dorsally notably convex, then arcuately narrowed in middle and constricted into rather long, slightly dorsally hooked tip.

Differential diagnosis. Related and similar to *Caledonica bavayi*, but distinguished by testaceous to dark testaceous labial and maxillary palpi in female, metatarsi in female predominantly testaceous with dark-testaceous apices. Moreover, the body is generally larger (13.10–15.70 mm in *C. acentra*, 10.80–15.20 mm in *C. bavayi*). Other similar species is *C. lunigera*, from

which it differs in having distinctly larger body (10.60–12.80 mm in *C. lunigera*), labrum with darkened margins, and lateral margins of pronotal disc with notopleural sutures markedly extended in the middle. From both of these species it is also distinguishable by its aedeagus with longer and slightly dorsally hooked tip (Fig. 60).

Biology and distribution. *Caledonica acentra* is known only from the southern half of the main island Grande Terre. Its northernmost locality known to me is situated in the vicinity of Bourail in the central part of the island. Therefore the data 'Mt Panié, Wewec, 410 m, 20°35′41.80″S-164°43′42.37″' cited by Deuve (2015) are rather surprising and should be confirmed before being accepted.

This species almost exclusively inhabits primary forest. Most specimens (including the type series of the synonymous *C. wormae*) came from Mont Mou, where they were collected together with *C. myrmidon* and *C. mniszechii* along a trail leading through primary forest. In forests in the vicinity of Sarramea this species occurs together with *C. rivalieriana* sp. nov., *C. mniszechii*, and *C. bavayi.*

Remarks. Wiesner (1991) was the first to recognise two distinct species among specimens considered to be *C. acentra*. However, when describing *C. wormae*, he neither examined the lectotype of *C. acentra* nor the syntypes of *C. bavayi.* My examination of the type specimens of these taxa revealed that the type specimens of *C. wormae* fully correspond with that of *C. acentra.* Recently, Deuve (2015) considered *C. wormae* a junior synonym of *C. acentra* as well.

Caledonica acentra was probably unknown to Fauvel (1882) as he did not mention it and compared his *C. bavayi* to *C. mniszechii* and *C. lunigera*, while *C. bavayi* is actually most similar to *C. acentra*.

Caledonica bavayi Fauvel, 1882

(Figs 61–65, 83, 84)

Caledonica Bavayi Fauvel, 1882: 223 (key), 225 (original description). Fleutiaux (1892): 31 (as synonym of *C. acentra*); Deuve (2015): 79 (restored species status), 81 (figure).

Type locality. 'Kanala'.

Type material examined. Lectotype (designated by Deuve 2015): ♂, 'Coll. R. I. Sc. N. B., Nouvele Calédonie, Kanala, rec Coste, ex. coll. Fauvel' [pink/white, printed/handwritten]; 'Coll. et det. A. Fauvel, Caledonica bavayi n. sp., R.I.Sc.N.B. 17.479' [white, printed/handwritten]; 'Syntype' [white, red print] (IRSNB). Paralectotypes (4 specimens): 1 ♂, 1 ♀, 'Coll. R. I. Sc. N. B., Nouvele Calédonie, Bourail, rec Lécard, ex. coll. Fauvel' [pink/white, printed/handwritten]; 'Coll. et det. A. Fauvel, Caledonica bavayi n. sp., R.I.Sc.N.B. 17.479' [white, printed/handwritten]; 'Syntype' [white, red print] (IRSNB); 1 ♀, 'Coll. R. I. Sc. N. B., Nouvele Calédonie, Yahoué, rec Savés, ex. coll. Fauvel' [pink/white, printed/handwritten]; 'Coll. et det. A. Fauvel, Caledonica bavayi n. sp., R.I.Sc.N.B. 17.479' [white, printed/handwritten]; 'Syntype' [white, red print] (IRSNB); 1 ♀, 'Coll. R. I. Sc. N. B., Nouvele Calédonie, Noumea, rec Deplanche, ex. coll. Fauvel' [pink/white, printed/handwritten]; 'Caledonica bavayi Fvl., [one letter illegible, possibly g, q or p] Rev. Ent., 1882, 1:225, syntype' [white, red print/handwritten] (IRSNB).

Additional material examined (138 specimens). **NEW CALEDONIA: Province Nord:** 3 km SW of Ouegoa, 20°20′S, 164°23′E, 30.–31.i.2012, 20 m, 11 ♂♂, 12 ♀♀, A. Kudrna jr. lgt. (AKCB); 15 km NW of Koumac, 25 m, Foret et riviere de Nehoue, 20°25′S, 164°13′E, 6.i.2012, 9 ♂♂, 3 ♀ ♀, A. Kudrna jr. lgt. (AKCB); Antenna Forest, 2 km S of Touho, 450 m, 20°47′S, 165°14′E, 7.–10.ii.2012, 7 ♂♂, 1 ♀, A. Kudrna jr. lgt. (AKCB); 3–10 km S Canala, 20–150 m, 21°33′S, 165°59′E, 11.–15.ii.2012, 18 ♂♂, 7 ♀♀, A. Kudrna jr. lgt. (AKCB); Mt. Colnett, 0–350 m, 20°30′S, 164°45′E, 17.–23.i.2012, 13 ♂♂, 5 ♀♀, A. Kudrna jr. lgt. (AKCB); 15 km SE of Pouebo, 20°28′S, 164°39′E, 400–500 m, 1.–5.ii.2012, 1 ♂, A. Kudrna jr. lgt. (AKCB). **Province Sud:** 15 km NE of Noumea, forest of Mts. Koghis, 30.i.–4.ii.2005, 3 ♂♂, A. Kudrna jr. lgt. (AKCB); village Bouirou, cca.20 km N of Bourail, 9.–10.xii.2008, 500 m, 9 ♂♂, 11 ♀♀, A. Kudrna jr. lgt. (AKCB); near Bouirou, cca.20 km N of Bourail, 27.xii.2004–2.i.2005, 7

♂♂, 4 ♀♀, A. Kudrna jr. lgt. (AKCB); 3 km NW of Sarramea, 21°37′S, 165°50′E, 23.–30.xii.2011, 250–550 m, 6 ♂♂, 2 ♀♀, A. Kudrna jr. lgt. (AKCB); forest of Plato de Dogny, near Sarramea, 24.–27.xii.2004, 2 ♂♂, 3 ♀♀, A. Kudrna jr. lgt. (AKCB); environs of Sarramea, 5.–8.ii. and 16.–18.ii. 2009, 2 ♂♂, 1 ♀, A. Kudrna jr. lgt. (AKCB); environs of Touaourou, 5–10 km SE of Yate, 19.–24.i.2009, 1 ♂, A. Kudrna jr. lgt. (AKCB).

Redescription. Body medium sized (more robust in female), length 10.80–13.50 (lectotype: 13.30 mm, width 3.55–5.15 (lectotype: 4.50) mm in male (Fig. 61); in female (Fig. 63) length 10.90–15.20 mm, width 3.70–5.20 mm.

Head with large eyes, narrower than elytra, dorsally olivaceous-green to bronze or cupreous with metallic reflections, frons and supraantennal plates in male shiny green, with cupreous to reddish margin; frons moderately to distinctly convex, separated from clypeus by distinct suture, surface irregularly rugulose (rugae on lateral areas often more regularly longitudinally parallel); vertex usually rather distinctly convex, with posterior impression, mostly longitudinally or irregularly rugulose; orbital plates distinctly longitudinally parallel-striate with two setae on each side; occipital area irregularly wavy to vermicular-rugulose; genae glabrous, dark testaceous to green, finely parallel-striate with strong green, rarely cupreous reflections; clypeus dark testaceous, coriaceous with strong metallic green, blue-green or partly cupreous reflections in male and mostly green or reddish in female.

Labrum with four setae, in both sexes with acute anterolateral teeth, in male (Fig. 62) testaceous except for lateral margins which are entirely darkened or at least along basal third and often with darkened apices of anterolateral teeth; male labrum shorter than wide, length 1.15–1.55 mm, width 1.45–1.90 mm, median lobe prominent, mostly with reduced (rarely more distinct) anterior teeth and only very rarely and weakly indicated blunt median tooth; female labrum (Fig. 64) longer, testaceous except for distinctly darkened lateral margins, nearly as long as wide (length 1.60–2.35 mm, width 1.65–2.15 mm), with prominent and sharply tridentate median lobe of acute teeth which are bent downwards, thus their acute shape is not obvious in dorsal view.

Mandibles nearly symmetrical, brownish-testaceous with paler basolateral part, often with black margins of teeth; each mandible with three teeth and basal molar, third teeth in left mandible slightly larger than in right mandible.

Labial and maxillary palpi in both sexes testaceous, in male with somewhat darkened apices of terminal palpomeres; in female with darkened terminal and in maxillary palpi occasionally also penultimate palpomeres.

Antennae markedly longer in male, reaching or moderately exceeding two elytral thirds while in female they barely surpass elytral third; scape in male testaceous with darkened apical area which may be variably extended, antennomeres II–IV dark testaceous to black, antennomeres V–XI testaceous, progressively darkened with ultimate or three terminal antennomeres black; antennae in female coloured as in male, alternatively antennomeres II–XI are dark testaceous to black.

Thorax. All parts glabrous. Pronotum in male 1.80–2.55 mm long, 2.60–3.55 mm wide (on average 1.43 times wider than long); in female 1.90–2.55 mm long, 2.60–3.95 mm wide (on average 1.52 times wider than long), anterior and posterior sulci well pronounced, anterior lobe approximately as wide as the posterior; disc with convex lateral margins and elevated notopleural sutures which are obvious in dorsal view forming wide and flat lateral ribs which

are extended in middle and gradually effaced towards anterior and posterior sulci, they are variable in size being either only indicated or rather extended; pronotal surface mostly olivaceous-green to bronze or cupreous with metallic reflections, often with shiny-green or bright-cupreous lateral areas, irregularly wavy to vermicular-rugulose, rugae becoming more regularly transverse-wavy along well developed median line and on extended areas of lateral ribs; lateral sterna shiny green to cupreous (in female also bronze), occasionally with dark testaceous areas, finely or more coarsely striate to nearly smooth (often so in female); female mesepisternal coupling sulci in form of deep, rather large pit placed in the dorsal mesepisternal half; metepisterna with deep fovea-like impression at posterior suture; pro-, meso-, and metasternum metallic green or blue, sometimes with orange areas, metasternum with impression placed at dorsolateral corner.

Elytra elongate, length 7.00–8.90 mm in male, 7.00–9.80 mm in female, anteapical angles rounded, apices rounded or obtuse, slightly or indistinctly emarginate towards short sutural spines; juxtahumeral impressions shallow, basodiscal convexity moderate, apical impressions indistinct; each elytron between basodiscal convexity and apical impression with two longitudinal (discal and sublateral) costae, which are in basal area of each costa usually mutually connected by additional, short transverse costa; interspace between costae and suture impressed; elytral surface anteriorly densely and deeply punctate (juxtahumeral impression punctate only sporadically); punctures in lateral areas of basodiscal convexity often with wide interspaces forming elevated irregular chains, punctures towards apex becoming smaller and shallower and are very indistinct on apical area, punctures on flat interspaces between costae and also between suture are nearly effaced; sparse setigerous punctures with rather long, white, hairlike setae distributed on anterior area; elytral coloration olivaceous-green to iridescent bronze or cupreous; interspaces between costae and also along suture notably iridescent green, silvery-bronze or silvery-cupreous, changing to dull depending on angle of illumination; elytral maculation ochre-white, in both sexes consisting of three maculae: elongate curved humeral macula visible in dorsal view, rather short transverse median macula which is usually obliquely directed backwards, but rather variable in its length, usually reaching sublateral costa more rarely short and very rarely overlapping it, and irregularly circular anteapical macula.

Abdomen. Ventrites glabrous, dark testaceous with green, rarely partly bright-bluish or cupreous metallic reflection.

Legs. Coxae and trochanters testaceous; profemora testaceous often with darkened stripe in posterior area, meso- and metafemora testaceous with variably sized, sometimes reduced, darkened terminal area; protibiae in both sexes testaceous with darkened terminal joints and often also with narrow dark stripe, in female darker area is usually more extended; mesotibiae testaceous, usually with black inner area; metatibiae testaceous with black apical area often expanding towards base (more markedly so in female); tarsi in male vary from testaceous with black joints to entirely black, metatarsi occasionally distinctly darker than pro- and mesotarsi; tarsi in female generally darker; claws testaceous.

Aedeagus (Fig. 65) 4.05–4.55 mm long and 0.75–0.90 mm wide; moderately voluminous in middle; attenuated into short, but rather thick, dorsally hooked tip.

Differential diagnosis. Distinguished from *C. acentra* by the coloration of labial and maxillary palpi in female which are testaceous with black terminal palpomeres (in maxillary palpi rarely also penultimate palpomeres black), generally somewhat smaller body size (13.10–15.70 mm in *C. acentra*, 10.80–15.20 mm in *C. bavayi*). Also resembling *C. lunigera* due to similar pattern of elytral maculation, but distinguished from it by distinctly larger body size (10.60–12.80 mm in *C. lunigera*) and labrum with darkened margins. *Caledonica acentra* also differs from both above-mentioned species in aedeagus with dorsally distinctly hooked tip.

Biology and distribution. *Caledonica bavayi* is probably the most common and widespread species of the genus, often syntopic with *C. mniszechii*, occurring together and often in large numbers in various types of biotopes. They live inside primary forests, but also inhabit trees around roads, paths or clearings and particularly large solitary trees a short distance from the forest edge. One adult was observed sitting on a wide and very high stalk of grass in an open grassy area in the vicinity of Païta.

Remarks. Examination of the type specimens has revealed that *C. bavayi* is a separate species clearly distinguished from *C. acentra.* Therefore, species status of *C. bavayi* was recently restored and a lectotype was designated (Deuve 2015).

Adults of the populations of *C. bavayi* from the locality 3 km southwest of Ouegoa are of an exceptionally small size, often smaller than 11 mm, while the usual size of this species is between 12–15 mm.

Caledonica fleutiauxi Deuve, 1981

(Figs 41–45)

Caledonica fleutiauxi Deuve, 1981: 182 (key), 186 (original description). Wiesner (1992): 76 (catalogue); Deuve (2015): 83 (noted).

Type locality. 'Nouvelle Calédonie, Prony'.

Type material examined. Holotype: ♂, 'Cal. mediolineata Luc., var. macula media abbreviata' [handwritten]; 'N. Cocléd., H. Deyr[olle].' [handwritten]; 'Type' [red, printed]; 'Muséum Paris, Coll. Fleutiaux' [pink, handwritten/printed] (MNHN). Paratypes: 1 ♀, 'Muséum Paris, 1952, Coll. R. Oberthür' [printed]; 'Paratype' [red, printed] (MNHN); 1 ♀, 'Prony' [handwritten]; 'ex Musaeo Gambey, 1892' [printed]; 'Muséum Paris, 1952, Coll. R. Oberthür' [printed]; 'Paratype' [red, printed] (MNHN).

Redescription. Body medium sized (more robust in female), in male (holotype) length 13.90 mm, width 4.50 mm (Fig. 41); in female (Fig. 43) length 14.00–15.20 mm, width 4.90–5.10 mm.

Head with large eyes, slightly narrower than elytra, dorsally dark olivaceous to black with metallic reflections; lateral areas of frons and supraantennal plates in male shiny green, this green area passing into narrow belt of metallic red and golden; frons moderately convex, separated from clypeus by distinct suture, surface irregularly rugulose, rugae often more regularly longitudinally parallel in lateral areas; vertex slightly convex, with moderate posterior impression, irregularly longitudinally rugulose; orbital plates distinctly longitudinally parallel-striate, with two setae on each side; occipital area irregularly wavy to vermicular rugulose; genae glabrous, finely parallel-striate with green reflections; clypeus dark-testaceous with strong metallic reflections, green to blue-green in male and mostly cupreous to blackish in female, surface coriaceous.

Labrum with four setae and acute anterolateral teeth in both sexes; male labrum (Fig. 42) testaceous except for darkened lateral margins (more markedly so in basal third of the labrum), shorter than wide, 1.40 mm long, 1.75 mm wide, median lobe convex in middle (indicated median tooth) between small anterior teeth, moderately surpassing acute anterolateral teeth, female labrum (Fig. 44) longer, testaceous except for distinctly darkened lateral margins, as long as wide, length 1.90–2.05 mm, width 1.95–2.05 mm, with prominent, tridentate median lobe of acute teeth which are bent downwards.

Mandibles of all existing specimens are firmly closed, therefore their exact shape is not obvious, only their dark testaceous terminal teeth and yellowish margin of basal half are visible (see note in Material and methods).

Labial and maxillary palpi in male testaceous with darkened apices of terminal palpomeres; palpi in female entirely black except for paler ventral (setose) side of penultimate (longest) palpomere of labial palpi.

Antennae. In male scape testaceous with darkened apex, antennomeres II–IV testaceous with black areas, V–IX testaceous; in female scape dark testaceous to black with paler basal area, pedicel dark testaceous, antennomeres III–IV black with slightly paler apical areas, antennomeres V–VII testaceous (antennomeres VIII–XI in both existing specimens missing).

Thorax. All portions glabrous. Pronotum in male 2.35 mm long, 3.40 mm wide; in female 2.40–2.50 mm long, 3.60–3.80 mm wide; anterior and posterior sulci well pronounced, anterior lobe approximately as wide as the posterior; lateral margins of disc convex with elevated notopleural sutures obvious in dorsal view in form of short but distinct, flat lateral ribs; pronotal surface lustrous, dark olivaceous to black, with shiny, green and cupreous ribs and lateral areas of disc, mostly irregularly vermicular-rugulose, rugae becoming more regular and transverse-wavy along moderately distinct median line and on extended areas of lateral ribs; lateral sterna dark testaceous with predominant green, in female also dark cupreous metallic reflections, in male finely striate, in female proepisterna and mesepisterna nearly smooth, metepisterna very shallowly striate; female mesepisternal coupling sulci in form of a deep pit placed in the mesepisternal central area; metepisterna with deep fovea-like impression at posterior suture; pro-, meso-, and metasternum metallic, green to blue, metasternum with distinct furrow placed at dorsolateral corner.

Elytra elongate, length 9.30 mm in male, 9.10–9.80 mm in female, anteapical angles and apices rounded, slightly to indistinctly emarginate towards short sutural spine; juxtahumeral impressions and basodiscal convexity moderate, apical impressions indistinct; each elytron between basodiscal convexity and apical impression with two distinct longitudinal (discal and sublateral) costae; interspaces between costae and suture impressed; elytral surface anteriorly densely and deeply punctate (juxtahumeral impression with several deep punctures); punctures on lateral areas of basodiscal convexity with wide interspaces forming elevated irregular chains, punctures towards apex becoming smaller and shallower, apical area shallowly, but distinctly punctured, punctures on flat interspaces between the costae and also between suture are nearly effaced; sparse setigerous punctures with rather long white hairlike setae are distributed on anterior area; elytral coloration dark olivaceous to black with lustre; interspaces between costae and also along the suture iridescent silvery-bronze, changing to dull depending on angle of illumination; elytral maculation ivory, in both sexes consisting of three maculae: humeral

macula with very narrow protrusion (band) running along the lateral margin posteriad, partly visible in dorsal view, median macula in form of transverse wide band with irregular margins, rather short, only reaching discal costa, and of small, irregularly circular anteapical macula.

Abdomen. Ventrites glabrous, dark testaceous to black mostly with greenish lustre.

Legs. Coxae and trochanters testaceous; femora in male testaceous with darkened apices (more distinctly in meso- and metafemora); in female dark testaceous to black with paler basal area of meso- and metafemora; tibiae in male testaceous with somewhat darkened apices; in female notably darker; tarsi in both sexes dark testaceous to black; claws testaceous.

Aedeagus (Fig. 45) comparatively long, only moderately ventrally directed and with indistinctly dorsally directed tip, 4.75 mm long and 0.80 mm wide.

Differential diagnosis. Resembling *C. acentra* and *C. bavayi* in medium body size, but easily distinguishable by larger median band with irregular margins and less developed humeral maculation. Moreover it has differently shaped aedeagus with less distinct tip.

Biology and distribution. For many years *Caledonica fleutiauxi* was only known from the three historical type specimens. Moreover, only one paratype was more accurately localized as the label bears 'Prony'. Baie de Prony is situated in the southern tip of New Caledonia and is surrounded by coastal forests.

I made several visits to southern tip of Grande Terre, including two visits directly to Baie de Prony and its coastal forest. Unfortunately, I was not able to find *C. fleutiauxi*.

Recently Deuve (2015) published a discovery of additional three females, collected by Mr. G. Monteith close to Baie de Prony, in forest of 'Pic du Grand Kaori'.

Caledonica mniszechii (Thomson, 1856)

(Figs 66–70, 83–85)

Distipsidera Mniszechii Thomson, 1856: 112 (original description). Fauvel (1862): 129 (redescription); Lucas (1863): 112 (noted).

Caledonica Mniszechii: Chaudoir (1860): 312 (transfer); Chaudoir (1865): 15 (catalogue); Wiesner (1992): 76 (catalogue).

Caledonica Mniszechi: Gemminger & Harold (1868): 32 (catalogue); Fauvel (1882): 223 (key), 224 (redescription); Fleutiaux (1892): 31 (catalogue); Fauvel (1903): 212 (key), 213 (noted); Heyne & Taschenberg (1908): 8 (noted); Horn (1910): 180 (noted), 181 (catalogue); Fleutiaux (1911): 162 (catalogue); Horn (1926): 104 (catalogue); Horn (1936): 5 (as a synonym of *C. tuberculata*), 6 (catalogue); Deuve (1981): 182 (key), 188 (redescription); Deuve (2015): 83 (noted).

Type locality. Original type locality 'Nouvelle Calédonie', replaced here by the act of the neotype designation as 'New Caledonia, Province Nord, 15 km NW Koumac, 25 m., foret et riviere de Nehoue, S 20°25´, E 164°13´'.

Type material examined. Neotype (present designation): ♂, 'New Caledonia, Province Nord, 6.1.2012, 15 km NW Koumac, 25 m., foret et riviere de Nehoue, S 20°25´, E 164°13´, A. Kudrna jr. Lgt.' [white, printed]; 'Neotype Distipsidera, Mniszechii Thomson, 1856, design. A. Kudrna 2016' [red, printed]; 'Caledonica mniszechii, (Thomson, 1856), design. A. Kudrna 2016' [white, printed] (MNHN).

Additional material examined (94 specimens). **NEW CALEDONIA: Province Nord:** Antenna Forest, 2 km S of Touho, 450 m, 20°47′S, 165°14′E, 7.–10.ii.2012, 7 ♂♂, 1 ♀, A. Kudrna jr. lgt. (AKCB); 15 km NW Koumac, 25 m, foret et riviere de Nehoue, 20°25′S, 164°13′E, 6.i.2012, 6 ♂♂, 3 ♀♀, A. Kudrna jr. lgt. (AKCB); Mt. Colnett, 0–350 m, 17.–23.i.2012, 20°30′S, 164°45′E, 5 ♂♂, 5 ♀♀, A. Kudrna jr. lgt. (AKCB); 3–10 km S of Canala, 20–150 m, 21°33′S, 165°59′E, 11.–15.ii.2012, 3 ♂♂, A. Kudrna jr. lgt. (AKCB); Poindimié, 24.i.1993, 2 ♀♀, M. Boulard lgt. (MNHN). **Province Sud:** near Bouirou, cca 20 km N Bourail, 27.xii.2004–02.i.2005, 4 ♂♂, 3 ♀♀, A. Kudrna jr. lgt. (AKCB); forest of Plato de Dogny, near Sarramea, 24.–27.xii.2004, 8 ♂♂, 5 ♀♀, A. Kudrna jr. lgt. (AKCB); Col

de la Pirogue, Mt. Mou, 22°04′S, 166°20′E, 7.iii.2012, 1 ♂, 2 ♀♀, A. Kudrna jr. lgt. (AKCB); environs of Sarramea, 05.–08.ii. and 16.–18.ii. 2009, 1 ♂, 2 ♀♀, A. Kudrna jr. lgt. (AKCB); 3 km NW of Sarramea, 21°37′S, 165°50′E, 23.–30.xii.2011, 250–550 m, 7 ♂♂, 5 ♀♀, A. Kudrna jr. lgt. (AKCB); 15 km NE of Noumea, forest of Mts. Koghis, 5.–6.iii.2009, 500 m, 4 ♂♂, 4 ♀♀, A. Kudrna jr. lgt. (AKCB); environs of Port Boise, 22°21′S, 166°58′E, 20.–28.ii.2012, 0–100 m, 6 ♂♂, 2 ♀♀, A. Kudrna jr. lgt. (AKCB); ca. 10 km NW of Paita, 7.–12.i.2005, 3 ♂♂, 3 ♀♀, A. Kudrna jr. lgt. (AKCB); Prony, 2 ♂♂ (MNHN).

Neotype designation. The original type material was not located and is considered lost (Deuve 1981). A neotype is designated to conserve status of this taxon and ensure its recognition. Also, the original type locality was stated only as 'Nouvelle Calédonie' and more precise distribution was unknown. The neotype is based on a well preserved specimen corresponding with the primary description and accompanying figure (Thomson 1856).

Redescription. Body very large (more robust in female), length 16.30–19.50 (neotype: 18) mm, width 5.20–6.25 mm in male (Fig. 66); in female (Fig. 68) length 18.10–20.80 mm, width 6.60–7.60 mm.

Head with large eyes, slightly narrower than elytra, dorsally dark bronze to dark cupreous with metallic reflections (cupreous coloration more frequent in female), in male supraantennal plates and lateral areas of frons in with metallic cupreous, green or violet reflections, frons distinctly convex, notably in female, separated from clypeus by more or less distinct suture, median area mostly irregularly vermicular-rugulose, lateral areas more regularly longitudinally or oblique-longitudinally rugulose; vertex moderately to distinctly convex (more markedly so in female) with variably sized posterior impression, longitudinally or irregularly striate; orbital plates longitudinally parallel-striate with two setae on each side; occipital area irregularly wavy to vermicular-rugulose; genae glabrous, finely parallel-striate, shiny metallic green, occasionally with limited shiny cupreous areas; clypeus coriaceous, in male green to cupreous, in female dark cupreous to black, in both sexes with metallic reflections.

Labrum with two setae and acute anterolateral teeth in both sexes, testaceous, usually with darkened teeth and distinctly or rarely less distinctly black lateral margins; male labrum (Fig. 67) rather long, slightly shorter than wide, 2.20–2.55 mm long, 2.35–2.60 mm wide, median lobe long, with distinct and acute anterior teeth and usually blunt median tooth; female labrum (Fig. 69) slightly longer than wide, 2.95–3.40 mm long, 2.95–3.20 mm wide, with prominent, sharply tridentate median lobe of acute teeth which are bent downwards, so their acute shape is not obvious in dorsal view.

Mandibles subsymmetrical, dark testaceous to black, with paler basolateral area and often with black margins of teeth; each mandible with three teeth and basal molar; third tooth in right mandible indistinctly smaller than in left.

Labial and maxillary palpi in male testaceous, usually with darkened apices of terminal palpomeres; palpi in female testaceous to dark testaceous except for black terminal palpomeres and often darkened penultimate palpomere in maxillary palpi.

Antennae markedly longer in male, reaching or exceeding three quarters of elytral length, while in female only elytral half; scape in male testaceous, with darkened apical area, pedicel dark brown to black, antennomeres III–IV dorsally dark testaceous to black, rarely with paler apices, in lateral view mostly testaceous; antennomeres V–XI entirely testaceous or progressively darkened, terminal or three last antennomeres black; in female scape dorsally testaceous,

usually with darkened apices and large black ventral area, pedicel and antennomeres III–IV dorsally dark brown to black, rarely with limited paler lateral areas, V–XI mostly dark brown to black, rarely testaceous with last antennomere darkened.

Thorax. All parts glabrous. Pronotum in male 2.85–3.40 mm long, 4.05–4.75 mm wide (on average 1.42 times wider than long); in female 3.20–3.70 mm long, 4.90–5.60 mm wide (on average 1.51 times wider than long), anterior and posterior sulci well pronounced, anterior lobe approximately as wide as posterior; disc with convex lateral margins and elevated notopleural sutures which are obvious in dorsal view either in form of flat, short and very indistinct lateral ribs or flat protuberances; pronotal surface dark bronze to dark cupreous with metallic reflections, irregularly wavy to vermicular-rugulose, rugae becoming more regularly transverse-wavy along rather distinctly developed median line and on lateral areas of disc; lateral sterna in male mostly shiny green, occasionally blue-green or cupreous, metepisterna often with shiny red central areas, in female predominantly metallic cupreous, black-cupreous or violet, occasionally dark green; in both sexes pro- and metepisterna very shallowly wrinkled, proepisterna in some females nearly smooth, mesepisterna in male finely to more coarsely rugulose, in female finely rugulose to smooth; female mesepisternal coupling sulci forming deep and large pit placed in the dorsal mesepisternal half, metepisterna with rather deep impression at posterior suture; pro-, meso-, and metasternum mostly dark testaceous, lustrously green or cupreous, metasternum with deep fovea-like impression placed at dorsolateral corner.

Elytra elongate, length 10.50–12.50 mm in male, 12.50–15.20 mm in female, only slightly narrowed towards rounded anteapical angles, apices rounded or only indistinctly emarginate in male, slightly more distinctly in female, sutural spine short; juxtahumeral impressions and basodiscal convexity moderate, apical impressions indistinct; each elytron between basodiscal convexity and apical impression with two longitudinal (discal and sublateral) costae which are often mutually connected by additional, short transverse costa in basal area of each costa; area between costae and suture impressed; elytral surface anteriorly densely and deeply punctate (juxtahumeral impression punctate only sporadically); punctures in area of basodiscal convexity often with wide interspaces forming elevated irregular chains; punctures towards apex becoming smaller and shallower and are very indistinct on apical area, punctures on flat interspaces between the costae and also between suture are very indistinct to nearly effaced; setigerous punctures with rather long white hairlike setae are sparsely distributed on anterior area; elytral coloration dark bronze to dark cupreous with metallic lustre; interspaces between costae and area along the suture notably iridescent silvery-bronze to silvery-bluish, iridescence changing to dull depending on angle of illumination; elytral maculation ochre-white, in both sexes consisting of three maculae: elongate and curved humeral macula, well visible in dorsal view, rather short transverse median macula, usually directed obliquely backwards and reaching or overlapping sublateral costa, and anteapical macula of irregularly circular shape.

Abdomen. Ventrites glabrous, dark testaceous with shiny-green, cupreous or occasionally bluish, metallic reflections.

Legs generally somewhat darker in female; coxae and trochanters testaceous; femora testaceous, usually with black stripes of variable extend and darkened apices (very rarely with femora in male entirely testaceous); tibiae in male testaceous except for apices, interior and in protibiae also lateral areas usually black; tibiae in female with more extended black areas;

tarsi in male testaceous with darkened apices, rarely last tarsomere of meso- and metatarsi and the three dilated protarsomeres entirely black, tarsi in female dark testaceous with black apices to entirely black; claws testaceous.

Aedeagus (Fig. 70) 6.30–7.00 mm long, 1.25–1.50 mm wide; markedly voluminous, basal part notably narrow, apical part narrowed into short and blunt apex which is dorsally slightly emarginated and thus indistinctly pointing dorsally.

Differential diagnosis. Resembling *C. tuberculata* in its large body, but distinguished by labrum with generally only two setae, lateral margins of pronotum usually with short and indistinct flat lateral ribs or rarely flat protuberances, elytral punctures becoming smaller towards apex and nearly effaced on apical area, and longer antennae reaching or exceeding three quarters of elytral length in male, elytral half in female. The ventral portions of the body usually have shiny green metallic reflections.

Biology and distribution. *Caledonica mniszechii* is together with *C. bavayi* the most common species of the genus, recorded from many localities all over the island. Moreover these two species usually have syntopic occurrence. Adults were observed along the trails inside forests, as well as at forest edges or even on solitary trees, sitting on tree trunks of various size, sometimes even on very thin trunks. On several occasions females were observed laying eggs into laterite soil of forest trails in humid conditions.

Remarks. Thomson (1856) described this species from a single specimen but the type was not found recently and is assumed to be lost (Deuve 1981).

Caledonica tuberculata Fauvel, 1882, stat. restit.

(Figs 71–75)

Caledonica mniszechii [misidentification]: Fauvel (1862): 129 (redescription); Fauvel (1882): 224 (= *C. tuberculata*).

Caledonica tuberculata Fauvel, 1882: 223 (key), 224 (original description). Fleutiaux 1892: 31 (catalogue); Fauvel (1903): 212 (key), 213 (noted); Heyne & Taschenberg (1908): 8 (noted; incl. Fig. 52, pl. 1); Horn (1910): 180 (noted), 181 (catalogue); Horn (1926): 104 (catalogue); Horn (1936): 5 (catalogue); Deuve (1981): 189 (as synonym of *C. arrogans*).

Oxycheila arrogans Montrouzier, 1860: 233 (unavailable name; described in synonymy of *Distipsidera Mniszechii* Thomson, 1856).

Caledonica arrogans: Fauvel (1882): 224 (ex parte as synonym of *C. mniszechii* and *C. tuberculata*); Deuve (1981): 182 (key), 189 (restored species status, redescription); Wiesner (1992): 76 (catalogue), Deuve (2015): 83 (noted).

Type localities. *Caledonica tuberculata:* 'Ile des Pins, Yahoué, Tonghoué, Païta, Kanala'. *Oxycheila arrogans:* 'Nouvelle-Calédonie' (after the title of the original publication (Montrouzier 1860)).

Type material examined. *Caledonica tuberculata*: Syntypes (7 specimens): 1 ♀, 'Coll. R. I. Sc. N. B., Nouvelle Calédonie, Ile des Pins, rec Deplanche, ex coll. Fauvel' [pink/white, printed/handwritten]; 'Caledonica tuberculata, Fvl.' [white, handwritten]; 'Syntype' [white, red print]; 'Cf.: Rev. Ent. 1882, 1:224' [white, handwritten] (IRSNB); 1 ♂, 'Coll. R. I. Sc. N. B., Nouvelle Calédonie, Ile des Pins, rec Deplanche, ex coll. Fauvel' [pink, printed/handwritten]; 'Coll. et det. A. Fauvel, Caledonica tuberculata n. sp., R. I. Sc. N. B. 17.479' [white, handwritten/printed]; 'Syntype' [white, red print] (IRSNB); 1 ♀, 'Coll. R. I. Sc. N. B., Nouvelle Calédonie, Ile des Pins, rec Deplanche, ex coll. Fauvel' [pink, printed/handwritten]; 'Caledonica tuberculata Fvl., f.:Rev. Ent. , Syntype' [white, handwritten/printed] (IRSNB); 1 ♂, 'Coll. R. I. Sc. N. B., Nouvelle Calédonie, Yahoué, rec Savés, ex coll. Fauvel' [pink/white, printed/handwritten]; 'Coll. et det. A. Fauvel, Caledonica tuberculata n. sp., R. I. Sc. N. B. 17.479' [white, handwritten/printed] (IRSNB); 'Syntype' [white, red print]; 1 ♀, 'Coll. R. I. Sc. N. B., Nouvelle Calédonie, Païta, rec Godard, ex coll. Fauvel' [pink/white, printed/handwritten]; 'Coll. et det. A. Fauvel, Caledonica tuberculata n. sp., R. I. Sc. N. B. 17.479' [white, handwritten/printed]; 'Syntype' [white, red print] (IRSNB); 1 ♀, 'Coll. R. I. Sc. N. B., Nouvelle

Calédonie, Tonghoué, janvier, rec Savés, ex coll. Fauvel' [pink/white, printed/handwritten]; 'Coll. et det. A. Fauvel, Caledonica tuberculata n. sp., R. I. Sc. N. B. 17.479' [white, handwritten/printed]; 'Syntype' [white, red print] (IRSNB); 1 ♀, 'Coll. R. I. Sc. N. B., Nouvelle Calédonie, Kanala, rec Coste, ex coll. Fauvel' [pink/white, printed/handwritten]; 'Coll. et det. A. Fauvel, Caledonica tuberculata n. sp., R. I. Sc. N. B. 17.479' [white, handwritten/printed]; 'Syntype' [white, red print] (IRSNB).

Caledonica arrogans: Not located, most probably lost (Deuve 1981). See also note in Material and methods.

Additional material examined (15 specimens). **NEW CALEDONIA:** Nouvelle Calédonie, 3 ♂♂ (IRSNB). **Province Nord:** Kanala, 4 ♀♀ (MNHN). **Province Sud:** Ile des Pins, 1 ♀, f. Faustien, coll. A. Fauvel (IRSNB); Ile des Pins, 1 ♀ (MNHN); Bourail, 2 ♂♂ 4 ♀♀ (MNHN).

Redescription. Body very large (more robust in female), length 15.60–17.20 mm, width 5.00–5.60 mm in male (Fig. 71); in female (Fig. 73) length 17.50–19.60 mm, width 6.10–6.65 mm.

Head with large eyes, but slightly narrower than elytra, dorsally markedly dark bronze to dark cupreous or black with metallic reflections, in male supraantennal plates and lateral areas of frons often with limited shiny green or cupreous reflections, frons distinctly to moderately convex, separated from clypeus by distinct suture; central area mostly irregularly vermicular-rugulose, area adjacent to clypeus more regularly longitudinally or oblique-longitudinally rugulose; vertex moderately to distinctly convex with posterior impression, longitudinally or irregularly striate; orbital plates longitudinally parallel-striated with two setae on each side; occipital area irregularly wavy to vermicular-rugulose; genae glabrous, finely parallel-striate, metallic dark cupreous with occasional shiny green reflections (mostly on lateral areas); clypeus coriaceous, in female dark cupreous to black with metallic reflections, in male slightly paler and usually with limited green areas.

Labrum with four setae (one female specimen with only two setae developed) in both sexes approximately as long as wide, with acute anterolateral teeth, testaceous except for often darkened teeth and lateral margins with variably developed darkened stripe mostly restricted to basal third, in some females the darkened area reaches anterolateral teeth, whereas in some males the labrum is almost entirely testaceous; male labrum (Fig. 72) 2.20–2.50 mm long, 2.15–2.55 mm wide, median lobe long, with sharp or blunt anterior teeth and indistinct blunt median tooth; female labrum (Fig. 74) longer, 2.45–3.15 mm long, 2.45–3.00 mm wide, with prominent, sharply tridentate median lobe of acute teeth which are bent downwards, so their acute shape is not obvious in dorsal view.

Mandibles dark testaceous to black except for testaceous basal margins.

Labial and maxillary palpi in male entirely testaceous or with black terminal palpomeres; palpi in female testaceous to dark testaceous except for black terminal palpomeres and often darkened penultimate palpomeres of maxillary palpi.

Antennae slightly longer in male (mostly exceeding half, rarely three quarters of elytral length in male, one third or half in female), scape in male testaceous or with darkened apical area, pedicel and antennomeres III–IV either entirely black with only indistinctly paler apices or testaceous with limited dark areas, antennomeres V–XI testaceous or with darkened terminal antennomere; in female scape dorsally testaceous, usually with darkened apices and black ventral area, pedicel and antennomeres III–IV dorsally dark testaceous to black, occasionally with limited paler lateral areas, antennomeres V–XI as in male.

Thorax. All portions glabrous. Pronotum in male 2.75–3.10 mm long, 4.20–4.70 mm wide (on the average 1.54 times wider than long); in female 2.90–3.40 mm long, 4.55–5.55

mm wide (on the average 1.57 times wider than long), anterior and posterior sulci well pronounced, anterior lobe only slightly wider than posterior; disc with convex lateral margins and elevated notopleural sutures which are obvious in dorsal view in form of thin and long spines which are in some specimens distinctly shorter; colouration very dark bronze to dark cupreous or black with metallic reflections, surface mostly irregularly coarsely transverse-wavy rugulose, rugae becoming more regularly transverse-wavy along developed median line; proepisterna, mesepisterna and metepisterna in both sexes metallic black or very dark blue changing to shiny cupreous or bronze depending on angle of view; shallowly striate or nearly smooth; female mesepisternal coupling sulci in form of a deep and large pit placed in dorsal mesepisternal half; metepisterna with rather deep impression at posterior suture; pro-, meso-, and metasternum dark cupreous to bronze with metallic lustre, metasternum with deep fovea-like impression placed at dorsolateral corner.

Elytra elongate, length 10.30–11.40 mm in male, 11.30–13.10 mm in female, only slightly narrowing towards rounded anteapical angles, apices rounded or slightly emarginate; sutural spines short to indistinct, juxtahumeral impressions and basodiscal convexity moderate, apical impressions indistinct; each elytron between basodiscal convexity and apical impression with two longitudinal (discal and sublateral) costae which are usually mutually connected by additional short transverse costa in area adjacent to median macula; interspace between costae and suture impressed; whole elytral surface distinctly covered with dense and deep punctures except for impressed interspaces between costae and suture where punctures are usually less distinct and rarely nearly effaced (apical area of a few specimens also with less distinct punctures, juxtahumeral impressions punctate only sporadically; punctures on basodiscal convexity often with wide interspaces forming elevated irregular chains; sparse setigerous punctures with rather long white hairlike setae distributed on anterior area; elytral colouration notably dark bronze to dark cupreous or nearly black with metallic lustre; interspaces between costae and also along the suture distinctly iridescent silvery-bronze to silvery-cupreous, iridescence changing to dull depending on angle of illumination; elytral maculation ochre-white, in both sexes consisting of three maculae: elongate curved humeral macula visible in dorsal view, transverse-oblong median macula that is rather variable in its shape and length, reaching or markedly exceeding sublateral costa and cranked frontwards and of irregularly circular or reniform anteapical macula.

Abdomen. Ventrites glabrous, usually dark testaceous with cupreous and greenish metallic lustre.

Legs. Coxae and trochanters testaceous; femora testaceous with variably extended black stripes, or black with dark testaceous areas; tibiae mostly testaceous with darkened apices; tarsi in male testaceous with more or less darkened joints, terminal tarsomeres sometimes black; tarsomeres in female testaceous with darkened apices to entirely black; claws testaceous.

Aedeagus (Fig. 75) markedly voluminous, basal portion notably narrow, apical portion narrowed into short and blunt apex, 5.85–6.05 mm long and 0.50–0.60 mm wide.

Differential diagnosis. Similar to *C. mniszechii* in its large body, but distinguished by its labrum which has predominantly fully developed four setae, lateral margins of pronotum usually with fairly narrow and long spines, transverse elytral costa that connects longitudi-

nal costae in their median area, and by distinctly and deeply punctate whole elytral surface except for flat and smooth interspaces between the costae and suture. Moreover the body is significantly darker.

Biology and distribution. *Caledonica tuberculata* is rather commonly represented in collections among historical specimens from various localities, with approximately similar numbers of specimens as *C. mniszechii*. In the MNHN collection there are about fifty specimens of each species deposited; the IRSNB collection possesses 16 specimens of *C. mniszechii* and 11 specimens of *C. tuberculata*. Thus, it is quite surprising that among hundreds of adults of *C. mniszechii* collected or observed during my three trips to New Caledonia, I have not found any specimen of *C. tuberculata*. It seems that this species has disappeared from biotopes for an unknown reason.

Remarks. Montrouzier (1860) described *C. arrogans*, however, already in the original description he noted that the newly described *C. arrogans* was already described as *C. mniszechii*. Therefore according to ICZN (1999: Articles 11.6 and 11.6.1), the description of *C. arrogans* is invalid as it was described in synonymy with *Distipsidera mniszechii*. Fauvel (1862) redescribed *C. mniszechii*. Fauvel (1882) described *C. tuberculata* and noted that the material published by him in 1862 belongs to this new species and was wrongly identified. He also stated that *C. arrogans* is invalid and is a mixture of two different species based on the original description of Montrouzier (1860) and therefore listed it as a synonym of both, *C. mniszechii* and *C. tuberculata*. Subsequent authors accepted this act (Fleutiaux 1892; Fauvel 1903; Horn 1910, 1936). Deuve (1981) restored the species status of *C. arrogans* and synonymized *C. tuberculata* with it, ommiting the fact that *C. arrogans* was described in synonymy.

Six specimens of *C. tuberculata* in the MNHN collection are placed under the unpublished provisional name '*propingua*'. Obviously when the specimens were examined by Rivalier, he tentatively separated them as a new species '*Caledonica propingua*' due to the difference in the elytral maculation possessing enlarged median band. Nevertheless, later Rivalier most likely found this character to be only intraspecific variability of *C. tuberculata* and never described this taxon.

Biology and distribution

The name of the genus *Caledonica* is really appropriate as all hitherto known species are restricted to the New Caledonia archipelago. Except for *C. pulchella*, known only from a single specimen without an exactly specified locality (type locality: 'Nouvelle Calédonie'), all other species are known to occur on Grande Terre (the main island of New Caledonia). Three species: *C. affinis*, *C.mediolineata* and *C. tuberculata* were also collected on the neighbouring small island Ile des Pins (according to the labels under old historical specimens). On the contrary, no species of this genus is known from any of the three atolls of the Loyalty Islands.

Besides 16 species and one subspecies of the genus *Caledonica*, another four tiger beetle genera have been recorded from New Caledonia. Two of them are also considered to be endemic: *Vata* Fauvel, 1903 with the type species *V. thomsoni* (Perroud, 1864) and *V. gracilipalpis* W. Horn, 1909, as well as the recently discovered genus *Manautea* with the type

species *M. gracilior* Deuve, 2006 (Deuve 2006a), and *M. millei* Deuve, 2006, *M. minimior* Deuve, 2006 and *M. tripotini* Deuve, 2006 (Deuve 2006b). Another tiger beetle occurring in New Caledonia is *Myriochila* (*Myriochila*) *semicincta* (Brullé, 1834), a widespread species in the Pacific area from Australia in the south to some of the Indonesian islands in the north. Most recently Deuve (2015) published a rather surprising discovery of *Oceanella vitiensis* (Blanchard, 1853), a species so far considered to be endemic to Fiji.

The adults of *Caledonica* are predominantly silvicolous and arboreous and have diurnal activity. Nevertheless, there are several exceptions, e.g. *C. bavayi* and *C. mniszechii* occur rather on trees in some distance from the forest. In the vicinity of Paita I even observed one specimen of *C. bavayi* on a wider stalk of high grass in a meadow with shrub. Furthermore, *C. lunigera* seems to be directly confined to more open habitats, predominantly along the drier leeward western coast but also inland. I have not found any records from the eastern coast in the literature and only once I observed a population of *C. lunigera* on the eastern windward side of the island. The habitat was a row of trees standing along a small river surrounded by a grassy area and forest remnants in the vicinity of Kanala. On the western coast, in Paita I have found *C. lunigera* on trunks of trees in a garden and on trees along a tarmac road. In the Parc provincial de la Rivière Bleue masses of adults were active on tree trunks in a monocultural plantation of 'Grand Kaori' (*Agathis lanceolata* Warb.). On the contrary *C. rivalieri*, *C. rivalieriana* sp. nov., *C. viridicollis laevioricollis*, *C. longicollis*, and *C.myrmidon* are probably strictly silvicolous species.

On tree trunks, adults hold the head-down position. They are very good flyers, but when disturbed, they run fast to hide on the opposite side of the trunk, and this manoeuvre is effectively repeated. They usually hide so fast, that when walking along the trees, they are barely noticeable. Only when continuously disturbed, they fly several metres to another tree. After landing in head-upwards position they immediately turn head-down. In a garden south of Koumac, individuals of *C. luiggiorum* sp. nov. occasionally, when repeatedly disturbed, ran to hide among the grass surrounding the tree instead of flying away.

Usually two or three individuals can be found together on one trunk. On the tree they dwell usually in height of about one to three metres above the ground, but sometimes I observed them running up to more than eight metres. Adults do not show preference for a particular tree species. Generally they prefer higher and larger dominant trees with some free space around, but in distance of only some metres from other trees. However, close to Sarramea in lower part of the trail to Plato de Dogny numerous individuals of *C. bavayi* were seen settled on very narrow trunks of small saplings of *Coffea arabica* L., which were predominant in that area. They also prefer trunks with smooth surface or with indistinctly wrinkled bark.

Probably most of the adult life is confined to tree trunks, including preying but also mating there, but females oviposit into soil, mostly after or directly during the rain when the soil is moist and soft. Larval holes are rather commonly seen along forest trails and paths. On several occasions individuals were observed actively searching for prey, always for small ants running onto trunks.

In the night adults of *Caledonica* either stay on the trunk or disappear to unknown place. During several days of my camping on the forest edge about three kilometres northwest of

Sarramea, I observed a few adults of *C. bavayi* dwelling permanently on two trees just near my tent. Some of the adults stayed on the trunk during the night, but often ran up the tree, the others disappeared. Once I found one adult hidden inside a fissure in bark. This suggests that the individuals that disappeared possibly hid in a safe place for the night.

Adults usually persist on trees during rainy conditions, including heavy rains, for example numerous adults of *C. longicollis* in a forest near Bouirou. The trunks were entirely wet and I observed some adults with raindrops trickling from their body and heads.

Adults are not attracted to lights, except for situations when the light source is in immediate proximity to the place where they stay overnight. On one occasion, close to Sarramea, a male of *C. bavayi* came to sheet of light trap and actively hunted for small ants there.

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