

REVIEW OF THE CHILEAN ANTHICIDAE SENSU LATO (INSECTA: COLEOPTERA), WITH CRITICAL NOTES ON THE LEMODINAE AND TOMODERINAE, NEW DESCRIPTIONS AND SYNONYMS

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Abstract.— An account of the Anthicidae (ant-like flower beetles) and associated incertae sedis groups of Chile is presented. Forty seven species and subspecies are confirmed for the country (Anthicinae, Copobaeninae, Eurygeniinae, Lagrioidinae, Lemodinae, Tomoderinae), including 11 new to science: *Ischyropalpus aberratus*, *I. quadrimaculatus*, *I. similis*, *Sapintus costae*, *Tomoderus cavithorax*, *T. differens*, *T. melanocephalus*, *T. nahuelbuta*, *Trichananca inexpectata*, *T. neotropica*, *T. poggii* **spp. nov.** *Protoanthicus* Moore et Vidal, 2005 is found to be congeneric with *Trichananca* Blackburn, 1891, a new synonym and three new combinations are proposed: *Trichananca marziae* (Moore et Vidal, 2005) **comb. nov.**, *T. poqui* (Guerrero et Diéguez, 2018) **comb. nov.**, *T. valenciai* (Moore et Vidal, 2005) **comb. nov.** (all from *Protoanthicus*). Lectotypes are designated for *Ischyropalpus maculosus* (Fairmaire et Germain, 1860) and *I. testaceoguttatus* (Fairmaire et Germain, 1863). *Hirticomus quadriguttatus* (Rossi, 1792) appears to have been recently introduced to New World by human activity. *Heterolobus* R. A. Philippi in Philippi et Philippi, 1864, which has been originally described as Anthicidae, is moved to Salpinginae (Salpingidae). As a result of the present study, the confirmed endemism rate in Chilean Anthicidae sensu lato is about 82%.



Key words.— Taxonomy, new species, endemism, Anthicidae, Salpingidae, Gondwana

INTRODUCTION

The Chilean coleopterofauna is remarkable due to a high level of species-rank endemism, and the fact that many genera are shared with Australia and New Zealand rather than with the tropics of South America (Arias 2000, Elgueta 2000), as a consequence of a common Gondwanan origin for these faunas. According to Peña (1966), the territory of Chile is divided into 18 entomofaunal regions. There are over 4250 described species and 1290 genera of Coleoptera reported from Chile (e.g., Elgueta & Arriagada 1989, Elgueta 2000, 2006).

Anthicidae Latreille, 1819, the ant-like flower beetles, is a rather large cosmopolitan group of tenebrionoid Coleoptera (Chandler 2010) with over 3500 extant species (Telnov 2008) in eight subfamilies (Chandler 2010). Two groups anthicid of uncertain placement are the Afreminae Levey, 1985 and Lagrioidinae M. Abdullah et A. Abdullah, 1968 (Lawrence *et al.* 2010). We generally agree with the opinion of Lawrence *et al.* (2010) regarding the uncertain placement of Lagrioidinae within Tenebrionoidea Latreille, 1802, but in order to make our review more convenient for readers, we retain it within the Anthicidae sensu lato as an *incertae sedis* group for this publication.

As recently indicated by Telnov (2019), the anthicid fauna of Chile has a lower richness than tropical South America, and the species level and higher rank diversity are rather poor. Prior to the present study, 24 species and subspecies representing four subfamilies were known from Chile (Anthicinae Latreille, 1819, Copobaeninae Abdullah, 1969, Eurygeniinae LeConte, 1862, Lemodinae Matthews, 1987; *incertae sedis* Lagrioidinae M. Abdullah et A. Abdullah, 1968 excluded).

The last account and key to the Chilean anthicids presented by Werner (1974) did not include Copobaeninae, Lagrioidinae or Lemodinae. Kejval (2009) recently revised and keyed *Chileanthicus* Werner, 1966, with one more species recently described by Honour (2016). Guerrero & Diéguez (2018) provided a key to *Protoanthicus*.

Most of anthicid species recorded from Chile are considered endemic to the country (Werner 1966b, 1974, Moore & Vidal 2005, Kejval 2009, Guerrero & Diéguez 2018). The following 11 species are described and illustrated here as new to science: *Ischyropalpus aberratus*, *I. quadrimaculatus*, *I. similis*, *Sapintus costae*, *Tomoderus cavithorax*, *T. differens*, *T. melanocephalus*, *T. nahuelbuta*, *Trichananca inexpectata*, *T. neotropica*, and *T. poggii* spp. nov. *Protoanthicus* Moore et Vidal, 2005 proved to be congeneric with *Trichananca* Blackburn, 1891, a new synonym is proposed and, consequently, three new combinations are needed: *Trichananca marziae* (Moore et Vidal, 2005) comb. nov., *T. poqui* (Guerrero

et Diéguez, 2018) comb. nov., *T. valenciai* (Moore et Vidal, 2005) comb. nov. (all from *Protoanthicus*). The first neotropical record of the SW Palaearctic *Hirticomus quadriguttatus* (Rossi, 1792) is documented. An updated annotated checklist of Chilean Anthicidae is provided.

Including the results of this study, the anthicid fauna of Chile holds 45 species and subspecies of 14 genera and five subfamilies. *Apotominus* remains *incertae sedis* within the Anthicidae until the type series can be located and studied. Lagrioidinae remains *incertae sedis* within Coleoptera: Tenebrionoidea.

MATERIAL AND METHODS

All taxa are listed in alphabetical order, since a phylogenetic arrangement is not yet possible. All label text is reproduced verbatim, with no corrections or additions. Each type specimen of a newly described species is provided with a black framed label on red paper “HOLOTYPUS” or “PARATYPUS”, respectively. Lecto- and paralectotypes are provided with a black framed label on red paper with “LECTOTYPUS” or “PARALECTOTYPUS”, respectively. Labels, if more than one for the same specimen, are separated by a slash. Author's comments are placed in square brackets []. Those holotypes currently deposited in the second author's private collection (ADC) will be donated to the Museo Civico di Storia Naturale “Giacomo Doria”, Genoa (Italy) shortly in the future.

Genitalia were mounted on microscope slides and fixed in Dimethyl hydantoin formaldehyde (DMHF) to make permanent mounts. For morphological studies, a Leica S6D binocular stereomicroscope with an attached external Canon EOS 77D SLR camera was used. Genitalia were studied using a Meiji optical microscope.

Habitus digital images made with a Pentax K20D SLR camera mounted on a tripod, and an apochromatic Zeiss 3.5× lens, while images of genital organs and last abdominal segments made with a Pentax K-S1 SLR camera with a Zeiss Epiplan HD 16/0.35 lens and mounted on a biological microscope Nikon Labophot 1. Genitalia were covered in Euparal and placed on a transparent tag for photography. CombineZP software was used for image stacking (Hadley 2010). Further image manipulations were performed in GNU Image Manipulation program (GIMP).

For micrograph imaging a Scanning electron microscopy (SEM) was used facilitated by the Faculty of Biology, University of Latvia. Micrographed samples were coated with gold in an ion coater Eiko IB-3 before observations. Finally, all samples were imaged using a Hitachi TM-3000 (Hitachi High Technologies ®) SEM.

Acronyms of material repositories:

- ADC – Collection Augusto Degiovanni, Bubano di Mordano (BO), Italy;
- BMNH – Natural History Museum (formerly British Museum, Natural History), London. United Kingdom;
- DCC – Collection Donald S. Chandler, Durham, U.S.A.;
- DTC – Collection Dmitry Telnov, Riga, Latvia;
- FAC – Collection Fernando Angelini, Francavilla Fontana, Italy;
- MIIZ – Zoological Museum, Museum and Institute of Zoology, Polish Academy of Sciences, Warszawa, Poland;
- MNH – Muséum national d'Histoire naturelle, Paris, France;
- MSNG – Museo Civico di Storia Naturale “Giacomo Doria”, Genoa, Italy;
- MZUF – Museo Zoologico de “La Specola”, Museo di Storia Naturale, Università degli Studi di Firenze, Florence, Italy;
- OUMNH – Oxford University Museum of Natural History, Oxford, United Kingdom;
- SMNS – Staatliches Museum für Naturkunde Stuttgart, Germany.

RESULTS

History of study

The first records of Anthicidae from Chile were published by Antoine Solier (1851) who described five new taxa. These were placed in ‘anthicoides’ (section XXXVII, all described in *Anthicus* Paykull, 1798), and are presently assigned to Anthicinae: *Chileanthicus lafertei*, *Ischyropalpus curtisii*, *I. parallelus*, and *Vacusus chilensis*. Those placed in ‘leptoderoides’ (section XXXIV) are now member of the Eurygeniinae: *Mitraelabrus* Solier, 1851: *M. obscurus* and *M. sericeus*.

Fairmaire & Germain (1860) followed with descriptions of new species, currently treated as *Ischyropalpus maculosus*, *I. nigrofemoratus*, *Sapintus cruz* (considered as a new combination below), *Vacusus holoxanthus* (all as *Anthicus*), and established a new genus *Lagrioida* with two species *L. obscurella* and *L. rufula*. Two of their new taxa are junior synonyms, *Ischyropalpus parallelus* Solier (= *A. planicollis* Fairmaire et Germain), and the other of the cosmopolitan *Omonadus floralis* (Linnaeus, 1758) (= *A. semirufus* Fairmaire et Germain). *Anthicoxenus lagenicollis* (described as *Anthicus*) is now an Eleticinae Wellman, 1910 in the family Meloidae Gyllenhal, 1810.

The first account of Chilean Coleoptera (Fairmaire & Germain 1863) mentioned 12 anthicid taxa as

Anthicus, repeating those of Solier (1851) and describing new ones (currently *Ischyropalpus testaceoguttatus*, *Neocrochoria melanura*) and the new, mysterious monotypic genus *Apotominus* (*A. nigrozonatus* has never been knowingly re-collected). Four species were referred to ‘Pedilidae’, including a new genus *Copobaenus* (*C. nobilis*, *C. tristis*) and both *Mitraelabrus* species of Solier (1851), but both *Lagrioida* were listed as Lagriidae Latreille, 1825 (now Tenebrionidae: Lagriinae). Fairmaire & Germain (1863) retained *Anthicoxenus* in Anthicidae.

In a long account of new Chilean beetles, Philippi & Philippi (1864) established the monotypic *Heterolobus* for *H. aeneus*. This species has never been re-collected again and remained mysterious until this study (see Taxonomy section below).

Pic (1895) described a new species, now *Acanthinus strangulatus* from ‘Chili’ (see note in Werner 1974: 29). *Ischyropalpus curtisi* [sic!] var. *latereductus* (junior synonym of *I. parallelus* (Solier, 1851) was described by Pic (1913). Pic (1942) described two new Chilean taxa, of which one is now *Copobaenus ater*, but the second (originally ‘*Copobaenus maculicollis*’) is a junior synonym of *Pilipalpus dasytoides* Fairmaire, 1876 (Pilipalpinae Abdullah, 1964, Pyrochroidae Latreille, 1807) (Abdullah 1967).

Bonadonna (1961a) redescribed and keyed Chilean *Ischyropalpus* LaFerté-Sénéctère, 1849 in a partial revision, and described *I. curtisi* [sic!] *wittmeri*.

Werner revised *Vacusus* (1961, 1966a) and keyed its species, established a new genus *Chileanthicus* for *C. lafertei* (Solier, 1851) and described *C. penai* (Werner 1966b), as well as redefining *Ischyropalpus* and providing a list of the species (Werner 1966c). In 1974, the second summary of Chilean anthicids was published (Werner 1974). Seventeen species (including one as *Ischyropalpus* sp.) were discussed, keyed and listed, several new country and faunistic records were provided, and three synonyms of *Ischyropalpus* proposed. Selander (1966) moved *Anthicoxenus* to Meloidae and Werner (1974) questioned the placement of *Apotominus* and *Heterolobus* within the Anthicidae as *incertae sedis* groups, ‘probably not Anthicidae’. The Copobaeninae, Eurygeniinae, and Lagrioidinae were not included in Werner’s (1974) account.

Abdullah & Abdullah (1968) established a new tribe, Lagrioidini, for *Lagrioida*, which was later raised to the subfamily level (Abdullah 1974). The new subfamily Copobaeninae was erected for *Copobaenus* and the new tribe Mitraelabrini (in Eurygeniinae) – for *Mitraelabrus* (Abdullah 1969); anthicid subfamilies and tribes were keyed.

In a book on Chilean insects (Peña 1988), *Ischyropalpus curtisii* and *Mitraelabrus obscurus* are mentioned, and seven genera are listed (one of which,

Anthicoxenus, is now a member of Meloidae, while *Copobaenus* and *Mitraelabrus* have since been moved from Pedilidae to Anthicidae).

Elgueta & Arriagada (1989) and Elgueta (2000, 2006) published estimates of Chilean Coleoptera diversity based upon bibliographical reviews. The richness of the Anthicidae was estimated as high as 19 species of seven genera, while Lagrioidinae, following Crowson (1955), was placed in Cononotidae Crowson, 1955 (Elgueta & Arriagada 1989).

Costa *et al.* (1995) discussed the position of *Lagrioida* and listed Neotropical species, as well as describing adults and larva of the Brazilian *L. nortoni* Costa, Vanin et Ide, 1995.

Moore and Vidal (2005) established a new genus *Protoanthicus* (which is synonymized with *Trichananca* in the present paper) for two Chilean species, supplemented with a third species by Guerrero and Diéguez (2018), who keyed all three species. New synonymies and new combinations for these taxa are provided below.

New World species of *Chileanthicus* were critically revised by Kejval (2009), with seven new descriptions from the country (*Chileanthicus acutipennis*, *Ch. baculentus*, *Ch. elmorado*, *Ch. femineus*, *Ch. hirsutus*, *Ch. maritimus*, and *Ch. mitis*). This account was recently supplemented by Honour (2016), who added *Chileanthicus colpe*.

Of global or regional checklists, the following three are of particular importance and need to be mentioned: Gemminger & Harold (1870), Pic (1911a & b), and Blackwelder (1945).

TAXONOMY

Morphological features of Lemodinae and Tomoderinae

Tomoderinae was proposed by Bonadona (1961b: 11) initially for the genera *Tomoderus* (type genus by original designation), *Elgonidium* Basilewsky, 1954, and *Pseudotomoderus* Pic, 1892. This name was used by anthicid researchers and Chandler (2010) listed eight genera (with 346 species) in Tomoderinae.

Lemodinae was established by Matthews (1987: 40, pl. 26) in a key to the Australian genera of Anthicidae, without proper definition, description or type designation. Lawrence (1977: 43) and Young (1985: 205) used the subfamily name without providing differential features to validate the name. Lawrence & Britton (1991: 603) were the first to define Lemodinae based on larval features, and this was erroneously treated as the formal description by Lawrence & Newton (1995: 901–902) who missed Matthews's (1987) publication. Chandler (2010: 730) listed six genera (with 29 species) in

Lemodinae. The Lemodinae was never extensively evaluated based on of adult morphology, except for brief revisions made by Werner & Chandler (1995) and Chandler (2010). Larval morphology of Lemodinae and Tomoderinae is peculiar due to the following features (Lawrence & Britton 1991): head with two stemmata on each side near antennal base, antennal sensorium dome-like, epicranial stem short, hypostomal rods moderately long and diverging posteriorly, urogomphi short or absent (in *Trichananca*) (Lemodinae) *versus* one stemma on each side of the head, epicranial stem lacking, urogomphi absent (Tomoderinae). Lawrence & Newton (1995) indicated the similarity of adults of Lemodinae with Tomoderinae, listing the following diagnosis: anterior intercoxal process of the 1st ventrite subacute or narrowly rounded (Lemodinae) *versus* truncate (Tomoderinae), sutures separating mesoventrite (mesosternum of authors) and mesepisterna meet on the anterior edge of the mesothorax (Lemodinae) *versus* sutures dividing the mesoventrite (mesosternum of authors) from the mesepisterna meet well behind the anterior edge of mesothorax, making the mesepisterna broadly contiguous anteriorly (Tomoderinae). These and other significant features are discussed below in detail.

We studied in detail type species of *Lemodes* (*L. coccinea* Boheman, 1858) and *Tomoderus* (*T. cruciatus* LaFerté-Sénectère, 1849) and several species of both genera as well as of *Cotes* Sharp, 1877, *Lemodinus* Blair, 1913, *Protoanthicus* Moore et Vidal, 2005, *Trichananca* Blackburn, 1891 (all – Lemodinae), *Holcopyge* Champion, 1890, *Macrotomoderus* Pic, 1910 and *Pseudotomoderus* Pic, 1892 (all – Tomoderinae) to provide a comparative matrix of features tested to delimit the Lemodinae and Tomoderinae.

Lemodinae

(based on several Australian and Papuan species including the type of the genus, *Lemodes coccinea*)

- i.i. Head (Fig. 1), frontoclypeal suture – present;
- i.ii. Head, compound eye – entire, not emarginate or notched;
- i.iii. Head, compound eye, interfacetal setae – absent;
- i.iv. Head, antennal insertion – exposed and clearly visible from above; mandible inserted on lateral side of frons between base of a mandible and compound eye;
- i.v. Head, labrum – transverse, subtruncate at anterior margin;
- i.vi. Mandible, apex – with two acutely pointed apical teeth (strongly bidentate) (Figs 3–4);
- i.vii. Mandible, cutting edge – present on both mandibles, simple, uneven;
- i.viii. Mandible, outer margin – evenly curved, with few basal setae (penicilli);
- i.ix. Mandible, mola – distinct;

i.x. Mandible, prostheca – well-developed, present on both mandibles;

i.xi. Male antenna – antennomeres 9, 10, 11 without modifications;

i.xii. Maxillary palpomeres 2 & 3 – palpomere 2 & 3 each with mesal margin lobate (palpomere 3 mesally strongly lobate);

i.xiii. Terminal maxillary palpomere – scalene triangular / securiform;

i.iv. Labial palps trimerous;

i.xv. Terminal labial palpomere – curved on lateral margin, thickest at median part;

i.xvi. Gular sutures – separate;

i.xvii. Cranial neck – $\frac{1}{2}$ or slightly less of head width measured across eyes;

ii.i. Pronotum, anterior rim – very inconspicuous dorsally and laterally, very narrowly present ventrally;

ii.ii. Pronotum, antebasal sulcus – absent dorsally, shortly present laterally;

ii.iii. Pronotum, insertion of antebasal sulcus at hypomeron (above procoxa) – impression present, no pit / cavity;

ii.iv. Pronotum, insertion of antebasal sulcus at hypomeron – impression (see ii.iii.) prolonged as foveae, entire (not separated) internally;

ii.v. Pronotum, lateral postmedian transverse constriction – present, moderately deep, broad;

ii.vi. Pronotum, median longitudinal sulcus – present [this feature is species-rank specific];

iii.i. Procoxal cavities – circular (Figs 6–9);

iii.ii. Procoxal cavities – open externally, closed internally (Figs 6–9);

iii.iii. Procoxae – contiguous;

iii.iv. Procoxa – cylindrical, subtruncate flattened on the outer margin, basally widened and with moderately long basal process (Fig. 11);

iii.v. Procoxa, intercoxal process of proventrite (prosternal process) – low and narrow, compete (Figs 6–9);

iii.vi. Procoxa, postcoxal bridge – simple (with no projection), posterior margin straight, with distinct emargination at connection point with lateral fovea of hypomeron (to receive anterior margin of mesepisterna (Figs 6–9);

iii.vii. Procoxal cavity – posterior portion short, not extended posteriorly (Figs 6–9);

iv.i. Mesoventrite – broadly triangular, lateral and posterolateral edges slightly rounded, anterior edge obtusely pointed (Figs 6, 14–16);

iv.ii. Mesoventrite, mesoventral intercoxal process – projecting along almost $\frac{2}{3}$ of mesocoxal length, apically bilobate (to lock with vertical ridge of metaventrite) (Figs 6, 14–16);

iv.iii. Mesepisterna – apical portion of the mesothorax weakly constricted near the point of articulation with the pronotum, forms a broad apical “neck” to

receive the posterior portion of the posterior lobe of pronotum (Figs 14–16);

iv.iv. Mesepisterna – very narrowly meeting in front of mesoventrite or narrowly separated by anterior projection of mesoventrite (Figs 14–16);

iv.v. Mesepisterna – separated from mesoventrite by distinct suture;

iv.vi. Mesepisterna, procoxal rests – absent or present (*Trichananca*) (Figs 14, 16);

iv.vii. Mesepimera – inconspicuous, short and broad, inconspicuous, fused to the mesepisterna, with the line of fusion visible internally as a linear flange (apparent outer portion of the mesepisterna is in reality the mesal portion of the mesepimera);

iv.viii. Mesocoxae – widely separated or nearly contiguous, elongate ovoid;

iv.ix. Mesocoxal cavity – laterally closed by mesepisterna (Figs 6, 14–16);

iv.x. Mesocoxal cavity, anterior intercoxal process of metaventrite – long and narrow, locking with metaventral intercoxal process (Figs 6, 14–16);

v.i. Metaventrite – posterior margin medially broadly emarginate (to lock with anteromedian process of the 1st abdominal ventrite) (Figs 15–18);

v.ii. Metaventrite, discrimin – absent or present in posterior $\frac{1}{3}$ of metaventrite (Figs 15–18);

v.iii. Metepisterna – elongate and narrow, strongly narrowed posteriad;

v.iv. Metepimera – inconspicuous, shortly setose;

v.v. Metacoxae – separated, transverse, not foveate, setose on posterior margin (Figs 15–19);

vi.vi. Metathoracic wings – present or absent, if present – venation of lemodine / tomoderinae type;

vi.vii. Scutellar shield – rounded to subtruncate apically;

vii.i. Elytra, sutural striae – distinct, developed from postbasal transverse impression area towards apex;

vii.ii. Elytra, postbasal transverse impression – present;

vii.iii. Elytra, epipleuron – incomplete, not present in shoulder area and in apical $\frac{1}{2}$ of elytra, broader at postbasal transverse impression area;

vii.iv. Elytra, apices – rounded separately or with the sutural angle subangulate projected (one Chilean *Trichananca*);

viii.i. Abdomen, 1st ventrite (morphological sternite III) – without appendages or cavities;

viii.ii. Abdomen, anterior intercoxal process of 1st ventrite – moderately narrow, pointed, bluntly pointed or broadly rounded apically (Figs 15–18);

viii.iii. Abdomen, spiculum gastrale (morphological sternite IX) – Y-shaped, with articulated arms;

ix.i. Femur – not clavate;

ix.ii. Tibia – straight, simple (not foveate or carinate);

ix.iii. Terminal tibial spurs – absent or present (*Trichananca*);

ix.iv. Tarsal claws – curved, simple (not appendiculate);

ix.v. Protrochanter – simple;

x.i. Male genital organs – phallobase short and / or fused with tegmen, penis longer than tegmen, extending anteriorly beyond of it.

Tomoderinae

(based on several Afrotropical, Nearctic, Neotropical, Oriental, and Palaearctic species of *Bogosus*, *Macrotomoderus*, *Pseudotomoderus*, and *Tomoderus* including the type of the genus, *Tomoderus cruciatus*)

i.i. Head, frontoclypeal suture – absent, with transverse impression at place of it;

i.ii. Head, compound eye – entire, not emarginate or notched;

i.iii. Head, compound eye, interfacetal setae – present;

i.iv. Head, antennal insertion – exposed and clearly visible from above; mandible inserted on lateral side of frons between base of a mandible and compound eye;

i.v. Head, labrum – transverse, subtruncate at anterior margin;

i.vi. Mandible, apex – with two rather acutely pointed apical teeth (bidentate) (Fig. 2);

i.vii. Mandible, cutting edge – present on both mandibles, simple, uneven;

i.viii. Mandible, outer margin – evenly curved;

i.ix. Mandible, mola – distinct;

i.x. Mandible, protheca – well-developed, present on both mandibles;

i.xi. Male antenna – antennomeres 9, 10, 11 without modifications or strongly modified;

i.xii. Maxillary palpomeres 2 & 3 – palpomere 2 & 3 each with mesal margin slightly angulate (Fig. 12);

i.xiii. Terminal maxillary palpomere – subtriangular (not securiform) (Fig. 12);

i.iv. Labial palps trimerous;

i.xv. Terminal labial palpomere – elongate-fusiform;

i.xvi. Gular sutures – separate;

i.xvii. Cranial neck – about 1/3, rarely nearly 1/2 of head width measured across eyes;

ii.i. Pronotum, anterior rim – very inconspicuous dorsally and laterally, very narrowly present ventrally;

ii.ii. Pronotum, antebasal sulcus – absent dorsally, shortly present laterally;

ii.iii. Pronotum, insertion of antebasal sulcus at hypomeron (above procoxa) – a pit present;

ii.iv. Pronotum, insertion of antebasal sulcus at hypomeron – impression (see ii.iii.) prolonged as foveae, meeting internally;

ii.v. Pronotum, hypomeron – dorsal margin carinate or not carinate;

ii.vi. Pronotum, lateral postmedian transverse constriction – present, deep, narrow;

ii.vii. Pronotum, median longitudinal sulcus – absent or very inconspicuous [this feature is species-rank specific];

iii.i. Procoxal cavities – circular to slightly ovoid (Fig. 5);

iii.ii. Procoxal cavities – open externally, closed internally (Fig. 5);

iii.iii. Procoxae – contiguous;

iii.iv. Procoxa – irregularly cylindrical, subtruncate flattened on the outer margin, basally widened and with moderately long basal process (Fig. 10);

iii.v. Procoxa, intercoxal process of proventrite (prosternal process) – low and narrow, compete (Fig. 5);

iii.vi. Procoxa, postcoxal bridge – simple (with no projection), posterior margin straight (Fig. 5);

iii.vii. Procoxal cavity – posterior portion of the procoxal cavities lengthily extended posteriorly and sclerotized as a postcoxal plate (Fig. 5);

iii.viii. Prosternum, anterior margin simple (all species except some Chilean) or with broad variably deep cavity between anterior margin and procoxal cavity (most known Chilean species);

iv.i. Mesoventrite – broadly rounded on anterior and anterolateral margins, anterior edge not pointed (Fig. 13) or broadly obtusely pointed (some *Macrotomoderus* Pic, 1901, *Pseudotomoderus* Pic, 1892);

iv.ii. Mesoventrite, mesoventral intercoxal process – projecting along almost 2/3 of mesocoxal length, apically rounded (Figs 13, 61, 88);

iv.iii. Mesepisterna – apical portion of the mesothorax weakly constricted near the point of articulation with the pronotum, forms a broad apical “neck” to receive the posterior portion of the posterior lobe of pronotum (Fig. 13);

iv.iv. Mesepisterna – separated by procoxal rests in front of mesoventrite (Fig. 13);

iv.v. Mesepisterna – separated from mesoventrite by distinct suture;

iv.vi. Mesepisterna, procoxal rests – present (*Tomoderus* LaFerté-Sénectère, 1849, *Pseudotomoderus* Pic, 1892), slightly transverse, separated from mesepisterna by broad glabrous suture and from mesoventrite by double glabrous suture, or absent (*Macrotomoderus* Pic, 1901);

iv.vii. Mesepimera – inconspicuous, short and broad, inconspicuous, fused to the mesepisterna, with the line of fusion visible internally as a linear flange (apparent outer portion of the mesepisterna is in reality the mesal portion of the mesepimera) (*Tomoderus*), or distinctly separate (*Macrotomoderus*);

iv.viii. Mesocoxae – separated, ovoid;

iv.ix. Mesocoxal cavity – laterally closed by meeting of mesoventrite and metaventrite (Fig. 13) or mesepisterna and metaventrite (*Pseudotomoderus*);

iv.x. Mesocoxal cavity, anterior intercoxal process of metaventrite – impressed ventroapically or rounded apically, locking with metaventral intercoxal process (Fig. 13);

v.i. Metaventrite – posterior margin medially broadly emarginate (to lock with anteromedian process of the 1st abdominal ventrite) (Figs 13, 89–90);

v.ii. Metaventrite, discrimen – only present in posterior 1/3 of metaventrite or complete (in *Pseudotomoderus* Pic, 1892);

v.iii. Metepisterna – elongate and narrow, strongly narrowed posteriad;

v.iv. Metepimera – inconspicuous;

vi.v. Metacoxae – broadly separated, transverse, transversely foveate;

vi.vi. Metathoracic wings – present, strongly reduced or absent, if present – venation of lemodine / tomoderinae type;

vi.vii. Scutellar shield – rounded, acutely pointed to subtruncate apically;

vii.i. Elytra, sutural striae – indistinct, developed in apical half of elytra;

vii.ii. Elytra, postbasal transverse impression – absent, rarely present;

vii.iii. Elytra, epipleuron – incomplete (not in apical 1/3 of elytra) or almost complete (not on elytral apices), gradually narrowing towards elytral apex;

vii.iv. Elytra, apices – rounded;

viii.i. Abdomen, 1st ventrite (morphological sternite III) – without appendages or cavities;

viii.ii. Abdomen, anterior intercoxal process of 1st ventrite – broad, rounded apically (Figs 13, 89–90);

viii.iii. Abdomen, spiculum gastrale (morphological sternite IX) – I-shaped;

ix.i. Femur – not or clavate;

ix.ii. Tibia – straight, simple (not foveate or carinate);

ix.iii. Terminal tibial spurs – absent or paired but indistinct;

ix.iv. Tarsal claws – curved, simple (not appendiculate);

ix.v. Protrochanter – simple or with elongate process (one Chilean species) (Fig. 73);

x.i. Male genital organs – phallobase fused indistinguishably to tegmen and penis, penis enclosed in tubular tegmen.

Based on this assessment, the main distinguishing features of the Lemodinae and Tomoderinae are as specified below. Any other morphological features seem variably present in Lemodinae / Tomoderinae subgroups.

Adults (Figs 5–9, 13–18, 61, 88–90). Mesepisterna narrowly separated by anterior process of mesoventrite or narrowly meeting in front of it (Lemodinae) / mesepisterna broadly contiguous in front of mesoventrite (Tomoderinae) [“broadly” has relative meaning and is a subject of individual interpretation];

Mesoventrite with lateral margins strongly expanded anteromesally (Lemodinae) (Figs 6, 14–16) / mesoventrite with lateral margins produced mesally and less strongly extended anteriorly (Tomoderinae) (Figs 13, 61, 88). Full set of features as in the lists above.

Larvae. Head with two stemmata on each side near antennal base (Lemodinae) / head with one stemma on each side of head (Tomoderinae);

Epicranial stem short (Lemodinae) / epicranial stem absent (Tomoderinae);

urogomphi short or absent (Lemodinae) / urogomphi absent (Tomoderinae).

Species of Chilean Tomoderinae are very peculiar in their elongate, slender body, lack of elytral humeri (due to strong reduction to absence of metathoracic wings), presence of a cavity on the prosternum (in most known species), broadly rounded intercoxal process of the 1st abdominal ventrite, and protrochanters with elongate process in one species. Despite these differences we treat the Chilean species within *Tomoderus* s. s., the largest Tomoderinae genus.

NEW GENERIC RANK SYNONYM

Trichananca Blackburn, 1891

Type species. *Trichananca victoriensis* Blackburn, 1891 [monotypy].

= *Protoanthicus* Moore et Vidal, 2005 **syn. nov.**

Type species. *Protoanthicus marziai* Moore et Vidal, 2005 [original designation].

Trichananca has never been properly defined except briefly by Werner & Chandler (1995), and Lemodinae (where it is currently placed) was established as an informal group (Matthews 1987), without proper description of critical features, outside of two brief characterisations (e.g., Werner & Chandler 1995, Chandler 2010). Moreover, adult morphology of Lemodinae Matthews, 1987 is very similar to Tomoderinae Bonadona, 1961 and the two groups are quite close (see section “Morphological features of Lemodinae and Tomoderinae” above).

Trichananca is undoubtedly close to *Cotes* Sharp, 1877 and *Lemodes* Boheman, 1858, and is as yet not sufficiently delimited from the two aforementioned groups. A brief overview of critical features of each

genus is presented in Table 1. The status of these three groups needs to be clarified by a comprehensive revision of Notogaean Anthicidae genera, supplemented by molecular analysis. Table 1.

Protoanthicus was recently established to include two Chilean species (Moore & Vidal 2005) and was supplemented with a third species by Guerrero & Diéguez (2018). In the original description the authors very briefly discussed morphological peculiarities of this group and its possible relationships, only mentioning a few features of taxonomic value of genus and higher rank: eyes entire and not emarginate, cranial neck wide (more than 1/3 of head width), pronotum lacking anterior flange (rim), male abdominal sternites simple (without appendages), terminal maxillary palpomere securiform, procoxal cavities open internally but closed externally (sic! Procoxal cavities are open externally and closed internally in members of this group), metacoxae separated. Moore & Vidal (2005) discussed morphological similarities of *Protoanthicus marziai* and *P. valenciai* with “species from New Zealand and New Guinea”, without specifying which particular species or even genus was intended. These authors assigned *Protoanthicus* to Lemodinae mainly based on “analysis of male genitalia” (Moore & Vidal 2005), which we do not consider to be sufficient justification (see section “Morpho-

logical features of Lemodinae and Tomoderinae” above).

Therefore, a new synonym is proposed: *Protoanthicus* is considered a junior synonym of *Trichananca* (also consider figs 1, 6–9, 14–18). The following new combinations are proposed: *Trichananca mar-ziae* (Moore et Vidal, 2005) **comb. nov.**, *Trichananca poqui* (Guerrero et Diéguez, 2018) **comb. nov.** and *Trichananca valenciai* (Moore et Vidal, 2005) **comb. nov.** (all from *Protoanthicus* Moore et Vidal, 2005).

Chilean *incertae sedis* genera of Anthicidae

Two groups of uncertain placement have been described and are only known from Chile. These two groups, *Apotominus* Fairmaire et Germain, 1863 and *Heterolobus* Philippi et Philippi, 1864, up to now placed in Anthicidae, have long remained a puzzle because the type species were not located or studied by subsequent authors after their original descriptions, published more than 155 years ago. Both genera have been listed within the Anthicidae as *incertae sedis* groups (e.g., Chandler 2010). The systematic position of *Heterolobus* is here resolved (see section “New nomenclatural acts” below), but the position of *Apotominus* remains unclarified.

Table 1. Critical features of adult *Cotes* Sharp, 1877, *Lemodes* Boheman, 1858 and *Trichananca* Blackburn, 1891 (Lemodinae).

Feature	<i>Cotes</i>	<i>Lemodes</i>	<i>Trichananca</i> (incl. <i>Protoanthicus</i>)
Eyes	Large	Small to moderately large	Large
Pit at ventral margin of constriction dorsal to procoxae	Present, large	Absent	Absent or small
Pronotal dorsum	Globose, strongly rounded on lateral and anterior margins	Flattened, less strongly rounded anteriad and laterad	Flattened, less strongly rounded anteriad and laterad
Mesepimera	Posterior margin with a fringe of setae	Fringe of setae not present	Fringe of setae variable present
Mesocoxae	Separate	Contiguous or narrowly separate	Separate
Discrimen of metaventricle	Absent	Variable present	Present
Scutellar shield	Rounded or subtruncate apically	Rounded or subtruncate apically	Rounded, subtruncate or emarginate apically
Anterior projection of the 1 st ventrite	Obtusely pointed apically	Broadly or narrowly rounded-pointed apically	Acutely or obtusely pointed apically
Shape of elytra	Narrowed towards apex, humeri obsolete	Subparallel, humeri distinct	Variable subparallel, humeri distinct
Sutural striae	Absent or inconspicuous in apical third	Present at least in apical third of elytral	Present at least in apical third of elytral

Apotominus nigrozonatus Fairmaire et Germain, 1863

Despite extensive search and the friendly help provided by colleagues from the MNHN (see Acknowledgements), the type of *A. nigrozonatus*, the sole species in the monotypic *Apotominus*, could not be located. This taxon therefore remains *incertae sedis* within the Anthicidae.

New nomenclatural acts

Heterolobus aeneus R. A. Philippi in Philippi
et Philippi, 1864
(Figs 20–22)

Holotype MIIZ [sex unknown, not dissected]: Chile [printed, black framed, paper greenish] / *aeneus* × Phil Chile [handwritten, black frame] / MIZ 20987 [printed, black frame]. Additional printed labels: HOLOTYPE by original description, vid. D.Telnov, 2020 / HETERO-LOBUS *aeneus* Philippi vid. D.Telnov, 2020.

Philippi (Philippi & Philippi 1864: 354) described this species from single specimen collected in Valdivia Province (Region Los Ríos), S Chile. According to Philippi & Philippi (1864), the single specimen of this monotypic genus was collected by beating a flowering *Eugenia temu* Hook. & Arn. (now *Myrceugenia exsucca* (DC.) O.Berg, Myrtaceae) tree.

Heterolobus and its sole species *H. aeneus* clearly has the characters of Salpingidae Leach, 1815 and is herewith transferred to Salpinginae Leach, 1815 based on the following features of the studied type specimen: body glossy and almost entirely glabrous, head not or barely narrowed towards cranial neck, mandibles partly covered by labrum, antennal insertions exposed in dorsal view, antenna with 3-segmented terminal club, elytral punctures arranged into longitudinal rows, base of elytra with shallow postbasal transverse impression (Figs 20–22).

We are not at present able to determine the position of *Heterolobus* within the Salpinginae, or the validity of this taxon. Based on the bidentate lateral margin of the pronotum, it strongly resembles *Lissodema* Curtis, 1833, close to *Lissodema glaberrima* Fairmaire et Germain, 1863, another Chilean species, the holotype of which we were able to study: 1 specimen [BMNH] 28458 [handwritten] / TYPE [printed] / Germain [handwritten] / Chili Santiago [handwritten] / Fry Coll. 1905.100 [printed] / *Lissodema glaberrima* Germain Chili (Germain) [handwritten, black frame].

Ischyropalpus maculosus (Fairmaire
et Germain, 1860)

Lectotype [here designated] ♀ BMNH: 25724 [handwritten] / TYPE [printed] / Germain [handwritten] / Chili [upper side of label] Germain [underside of label] [both label sides handwritten] / Fry Coll. 1905.100. [printed] / *Anthicus maculatus* [sic!] Fair & Ger. Chili (Germain) [handwritten, black frame]. Additional printed labels: LECTOTYPE [label led, black frame] / ISCHYROPALPUS *maculosus* (Frm. & Germ.) vid. D.Telnov, 2019.

Paralectotype [here designated] 1♀ BMNH: TYPE [printed] / Chili [upper side of label] Germain [underside of label] [both label sides handwritten] / Germain [handwritten] / Fry Coll. 1905.100. [printed] / *maculosus* [handwritten] det. V.Krekich [printed] / *A. maculatus* [sic!] Fairm & Germ. [handwritten] K.G.Blair det. [printed]. Additional printed labels: PARALECTOTYPE [label led, black frame] / ISCHYROPALPUS *maculosus* (Frm. & Germ.) vid. D.Telnov, 2019.

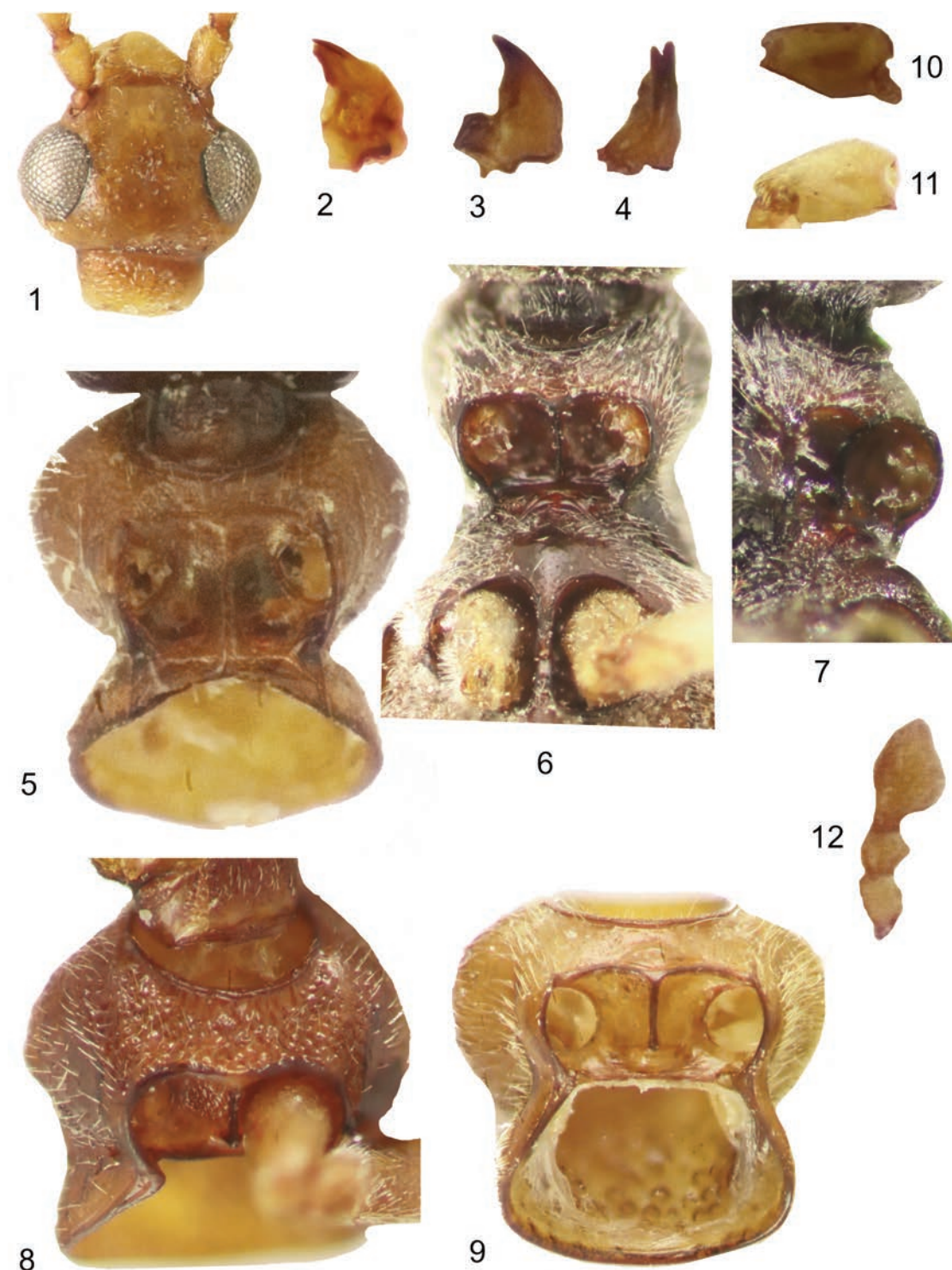
This species was originally described from an unspecified number of individuals. Two female specimens in the BMNH are considered to be syntypes based on the associated labels, and a lectotype is designated to maintain nomenclatural stability. During the trips by the first author to the MNHN, no syntypes of this species were allocated.

Ischyropalpus testaceoguttatus testaceoguttatus
(Fairmaire et Germain, 1863)

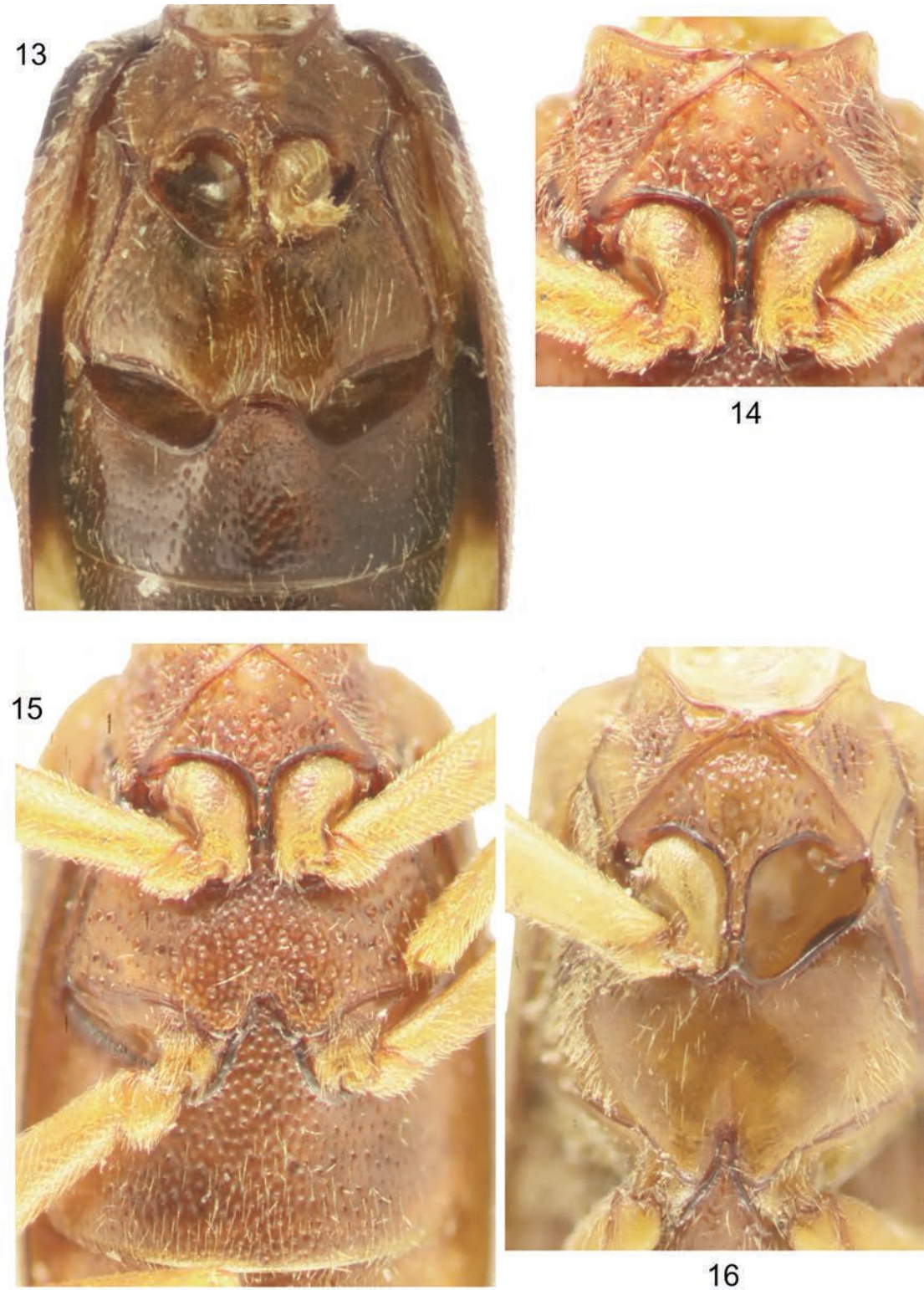
Lectotype ♀ BMNH [here designated]: 28454 [handwritten] / TYPE [printed] / Germain [handwritten] / Chili Chillan [upper side of label] Germain [underside of label] [both label sides handwritten] / Fry Coll. 1905.100. [printed] / *Anthicus testaceoguttatus* Fair. & Ger. Chili Germain [handwritten, black frame]. Additional printed labels: LECTOTYPE [label led, black frame] / ISCHYROPALPUS *testaceoguttatus* (Frm. & Germ.) vid. D.Telnov, 2019.

Paralectotype ♀ BMNH: TYPE [printed] / Germain [handwritten] / Chili Chillan [upper side of label] Germain [underside of label] [both label sides handwritten] / Fry Coll. 1905.100. [printed] / *A. testaceoguttatus* Frm. & Ger. [handwritten] K.G.Blair det. [printed]. Additional printed labels: PARALECTOTYPE [label led, black frame] / ISCHYROPALPUS *testaceoguttatus* (Frm. & Germ.) vid. D.Telnov, 2019.

This species was originally described from an unspecified number of individuals. Two female specimens in the BMNH are considered to be syntypes based on the associated labels, and a lectotype is designated to maintain nomenclatural stability. During the trips by the first author to the MNHN, no syntypes of this species were allocated.



Figures 1–12. Features of Lemodinae and Tomoderinae: (1) *Trichananca* sp. from Victoria, Australia, head, dorsal view; (2) *Tomoderus cruciatus* LaFerté-Sénéctère, 1849, specimen from Columbia, left mandible, ventral view; (3) *Trichananca inexpectata* sp. nov. holotype ♂, left mandible, ventral view; (4) ditto, frontal view; (5) *Tomoderus cruciatus* LaFerté-Sénéctère, 1849, specimen from Colombia, prothorax, ventral view; (6) *Trichananca* sp. from New South Wales, Australia, pro- and mesothorax, ventral view; (7) ditto, prothorax, ventro-lateral view; (8) *Trichananca inexpectata* sp. nov. holotype ♂, prothorax, ventral view; (9) *Trichananca* sp. from Victoria, Australia, prothorax, ventral view; (10) *Tomoderus cruciatus*, specimen from Colombia, procoxa; (11) *Trichananca* sp. from Victoria, Australia, procoxa; (12) *Tomoderus cruciatus*, specimen from Colombia, right maxillary palp, ventral view. Not to scale.



Figures 13–16. Features of Lemodinae and Tomoderinae: (13) *Tomoderus cruciatus* LaFerté-Sénectère, 1849, specimen from Columbia, meso-, metathorax and morphological sternite III, ventral view; (14) *Trichananca inexpectata* sp. nov. holotype ♂, mesothorax, ventral view; (15) ditto, meso-, metathorax and morphological sternite III, ventral view; (16) *Trichananca* sp. from Victoria, Australia, meso- and metathorax, ventral view. Not to scale.



17

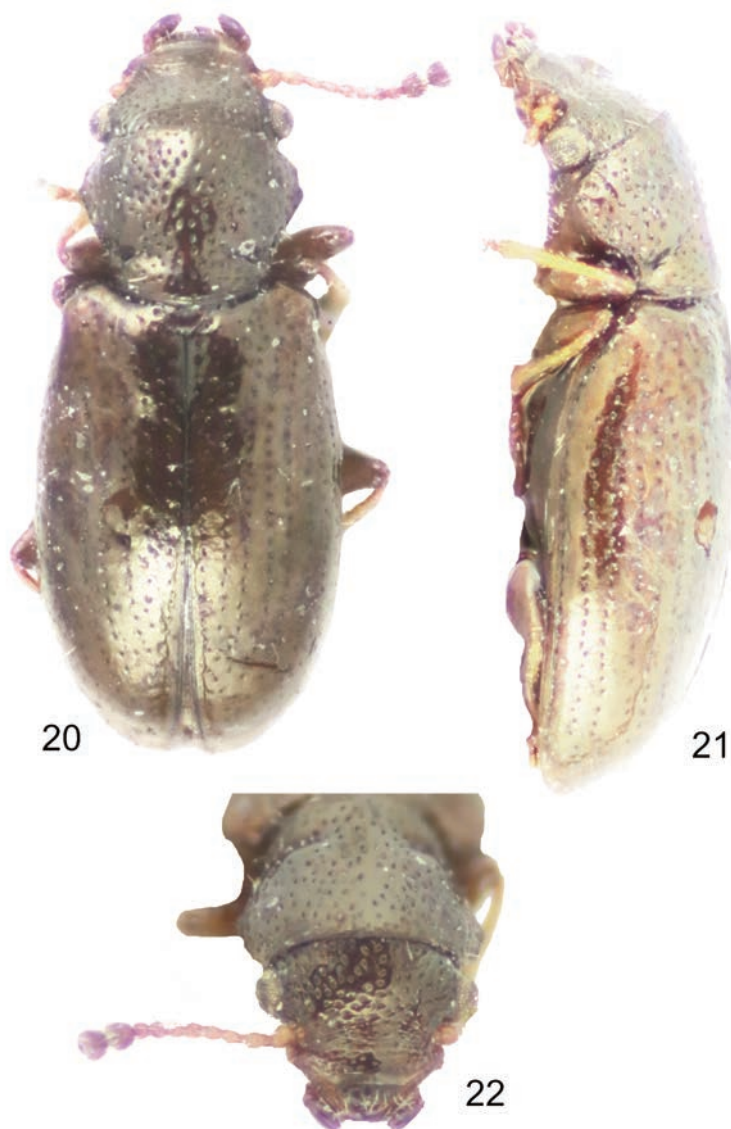


19



18

Figures 17–19. Features of Lemodinae: (17) *Trichananca* sp. from New South Wales, Australia, metathorax and morphological sternite III, ventral view; (18) *Trichananca* sp. from Victoria, Australia, metathorax and morphological sternite III, ventral view; (19) *Trichananca inexpectata* sp. nov. holotype ♂, right metacoxa, ventral view. Not to scale.



Figures 20–22. *Heterolobus aeneus* R. A. Philippi in Philippi et Philippi, 1864 holotype [sex unknown]: (20–21) habitus in dorsal (20) and lateral (21) view; (22) forebody in dorso-frontal view. Not to scale.

NEW DESCRIPTIONS

Ischyropalpus aberratus sp. nov. (Figs 23–28 & 122–126)

<http://zoobank.org/E5B43E9B-0481-4897-A544-8BDD9C6455E8>

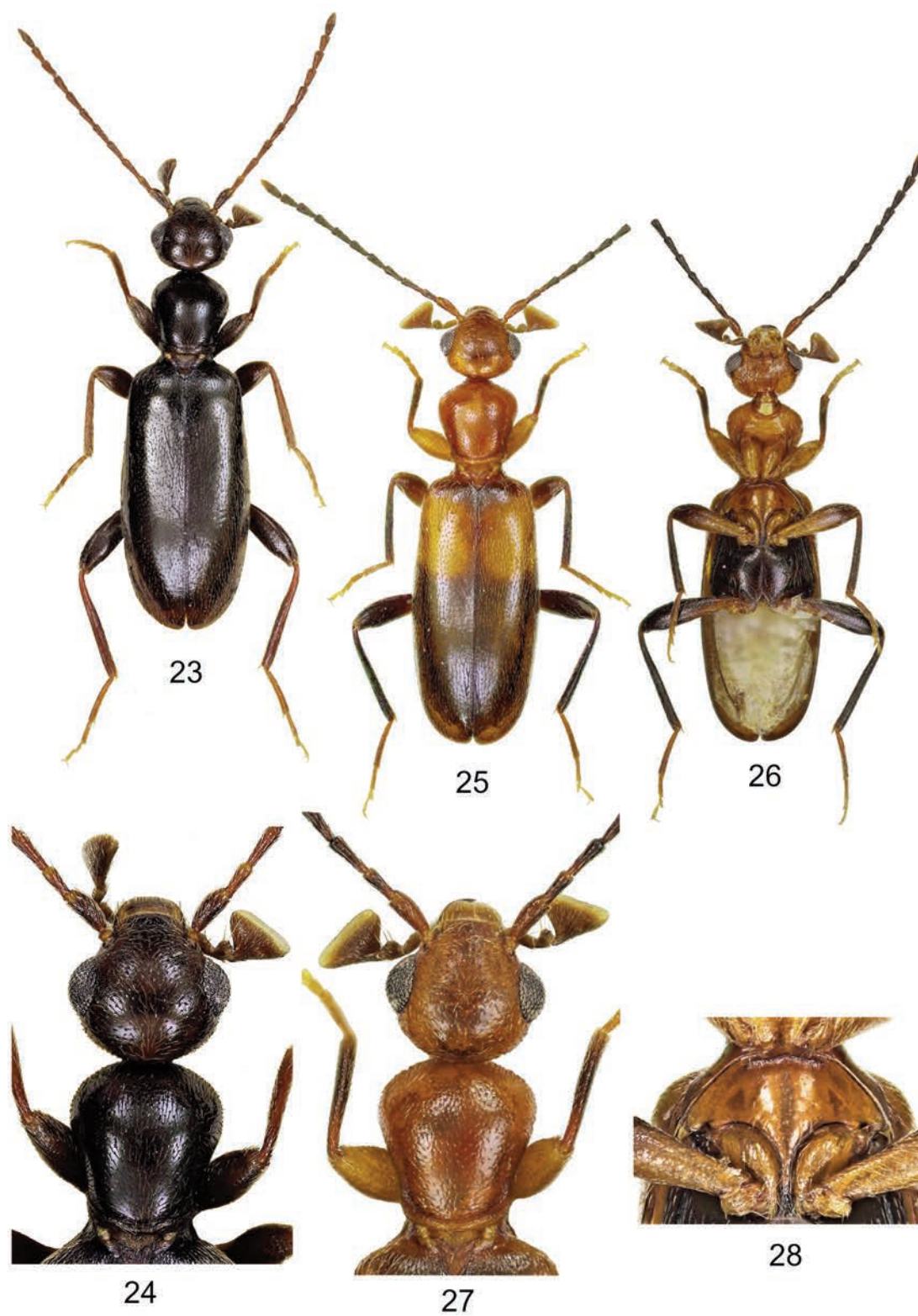
Holotype ♂ ADC: Chile C.C.reg. IV Salamanca [sic! Correct name is Salamanca] el tambo 15.XI.2003 leg. M. Snizek [printed].

Paratypes 3 specimens: 1♂ DTC: same label as in holotype; 1♂ ADC & 1♀ DTC: CHILE: centr., Reg., V Cabillo, La Viña env., 14.II.2003, M. Snizek leg. [printed].

Derivatio nominis. Named from Latin “aberratus” (aberrant, variable), referring to the strongly variable body colouration.

Measurements. Holotype, total body length 3.45 mm; head length 0.7 mm, head width across eyes 0.67 mm, pronotal length 0.65 mm, maximum pronotal width 0.6 mm, elytral length 2.1 mm, combined maximum elytral width 1 mm. The paratypes are 3.6–3.65 mm (♂♂) to 3.8 mm (♀) long.

Description. Dorsum and venter uniformly dark brown, head slightly paler than rest of body (also consider variability, as specified below). Antennae, tibiae and tarsi slightly paler brown. Head slightly convex and moderately glossy dorsally, with large prominent elliptical eyes. Interfacetal setae inconspicuous, short. Frontoclypeal suture weak. Hind temporal angles rounded in one broad arc with head base. Frons very broad. Punctures circular, shallow, gentle but dense,



Figures 23–28. *Ischyropalpus aberratus* sp. nov.: (23) holotype ♂, habitus, dorsal view; (24) ditto, forebody, dorsal view; (25–28) paratype ♂, habitus in dorsal (25), ventral, abdomen removed (26) view; (27) ditto, forebody, dorsal view; (28) mesothorax, ventral view. Not to scale.

intervening spaces in part microreticulate, variable in size. Pubescence of head golden, moderately long, appressed, sparse, directed obliquely postero-medially. Male antennae extending slightly over postbasal transverse impression of elytra, antennomeres elongate and slender. Basal antennomere $1.4\times$ longer than second. Third antennomere about $1.5\times$ as long as second. Antennomeres 3–6 elongate, only slightly widened distally. Antennomeres 7–10 slightly shorter than those preceding, slightly widened distally. Terminal antennomere elongate fusiform, bluntly pointed, in male about $1.5\text{--}1.6\times$ as long as the penultimate one. Terminal maxillary palpomere large, strongly securiform. Pronotum moderately glossy dorsally, nearly as wide as head, broadly rounded anteriorly, gradually constricted laterally towards narrower base, slightly convex dorsally in lateral view. Anterior rim complete, narrow. Antebasal sulcus broad. Punctures of pronotal disc similar as those of head, intervening spaces smooth and glabrous, in part gently microreticulate, generally as large as to $4\times$ as large as punctures. Pubescence as on head, directed posteriad. Scutellar shield triangular, subacute apically. Elytra elongate, glossy dorsally, flattened in lateral view. Humeri distinct, rounded. Postbasal transverse impression barely or not indicated, short. Punctures of elytral disc larger than those on forebody, sparse, intervening spaces $2\text{--}3\times$ as large as punctures, glabrous and glossy; punctures becoming more gentle but not sparser in apical third of elytra. Setae somewhat longer than those on forebody, directed posteriad. Elytral apices broadly rounded. Sutural striae very weak, present in apical third of elytra. Epipleura moderately broad, almost reaching elytral apices. Metathoracic wings fully developed. Legs rather long and slender, densely shortly setose. Terminal tibial spurs paired. Penultimate tarsomeres short, slightly bilobate. Basal metatarsomere about as long as combined length of the remaining tarsomeres. Male tergite VII truncate on posterior margin (Fig. 126). Morphological sternite VII in male subtruncate on posterior margin (Fig. 125). Spiculum gastrale as in fig. 124, rod-like. Aedeagus as in figs 122–123, with slightly asymmetrical parameres and slightly hook-like curved penis (in lateral view). Female morphological tergite and sternite VII subtruncate on posterior margin.

Sexual dimorphism. Female externally similar to male, elytra somewhat less slender and terminal maxillary palpomere comparatively smaller.

Variability. Two paratypic specimens (σ & ρ) from the La Viña area are bicoloured: forebody dorsally and ventrally uniformly reddish-orange. Elytra black-brown with large orange transverse spot covering whole basal third except for narrow dark basal area and dark scutellar shield. Antennae generally brown with two basal and the terminal antennomeres

completely or partially reddish. Anterior legs orange except for mainly darkened tibiae, middle legs generally brown with reddish tarsi and basal half of the femora, posterior legs brown with paler tarsi and base of the femora. Pro- and mesothorax reddish-orange, including the coxae, metasternum and abdominal ventrites black-brown (terminal ventrites yellowish-brown), metacoxa and metatrochanter reddish to reddish-brown. In these specimens elytral setae are darker on the dark, yellowish on the pale pattern of elytra. Male genital organs are identical in both colour morphs.

Differential diagnosis. This species differs from its congeners by the shape of the aedeagus in combination with the gently microreticulate intervening spaces on the dorsal forebody, head in particular.

Ecology. Unknown.

Distribution. Known from Coquimbo, Libertador General Bernardo O'Higgins and Valparaíso regions, central Chile.

Ischyropalpus quadrimaculatus sp. nov.

(Figs 31–32 & 136–141)

<http://zoobank.org/1B44C421-B5BE-4673-8125-F0B9D755F731>

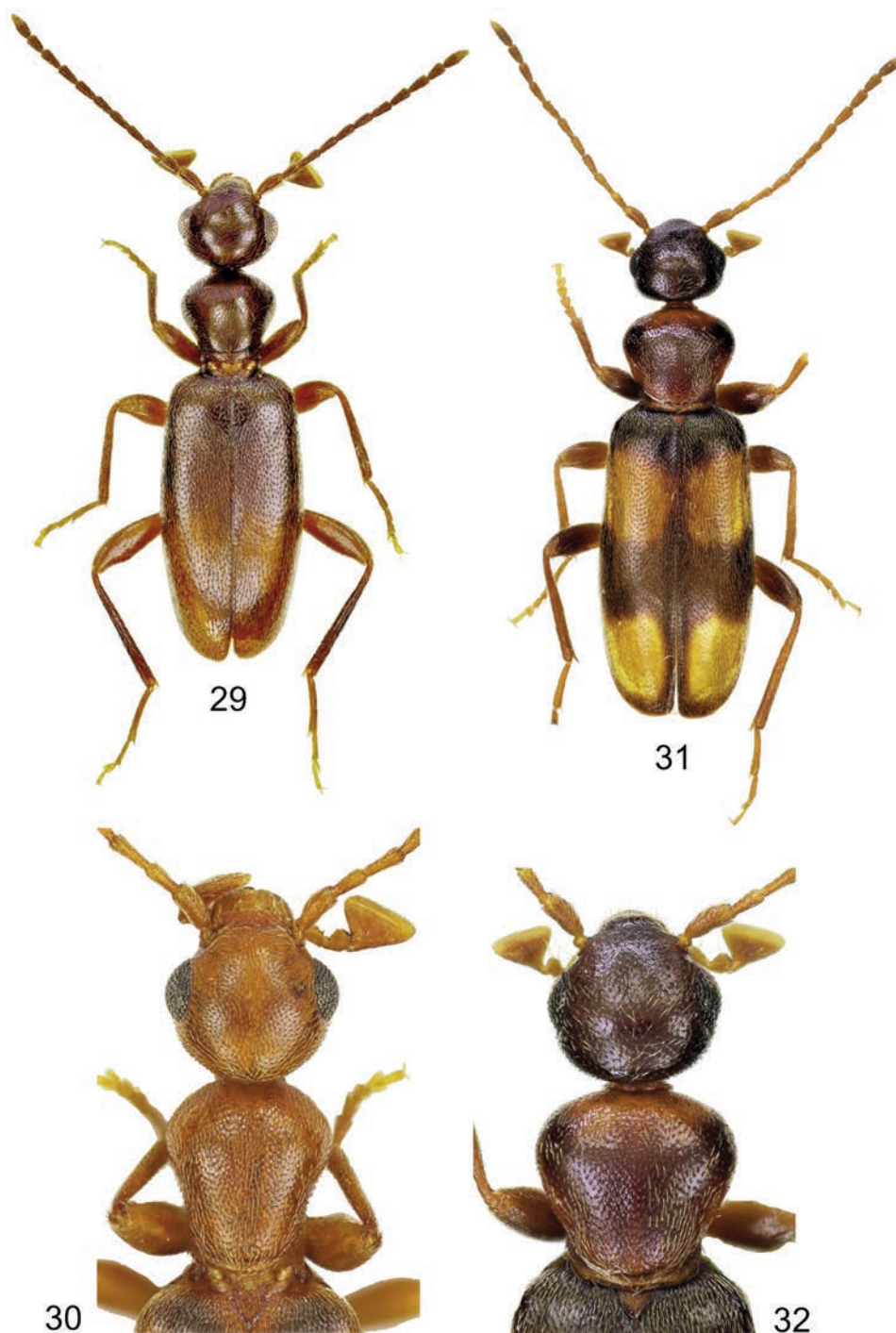
Holotype σ ADC: Chile, prov. Concepcion Concepcion, 01.XII.96 leg. T.Cekalovic [printed] [Right protarsus and left metatarsomeres 3–4 missing].

Paratypes 24 specimens. 1 ρ DTC: Chile, 6/7.I.1988 El Coiga, 950 m E Pofrero Grande [sic! Correct name is Potrero Grande] Cirucô [handwritten] / *Ischyropalpus parallelus* (Solier) det.G.Uhmann1988 [printed]; 1 ρ ADC: Chile: prov. Concepcion, Cuesta Chiviling, 02.II.1992, T. Cekalovic [printed]; 1 ρ DTC: Chile: prov. Concepcion, Curinan, 20.I.1996, T. Cekalovic [printed]; 9 ρ ADC and 1 ρ & 2 σ BMNH: Chile prov. Concepcion Mina Schwanger Coronel 20.I.99 leg. T.Cekalovic [printed]; 1 σ & 1 ρ ADC and 1 σ DTC: Chile CE. VII Talca Lago Colbun 26-XI.2003 Las Garzas env. Leg.M.Snizek [printed]; 4 ρ ADC and 1 σ & 1 ρ DTC: Chile: Los Vilos (IV) R., 20-IX.2014, gamba L. Melloni [printed].

Derivatio nominis. Named from Latin “quadri” (four) + “maculatus” (maculate) to indicate four large yellow elytral maculae.

Measurements. Holotype, total body length 3 mm; head length 0.6 mm, head width across eyes 0.6 mm, pronotal length 0.65 mm, maximum pronotal width 0.66 mm, elytral length 1.75 mm, combined maximum elytral width 0.9 mm. Selected paratypes 2.8–3.2 mm long.

Description. Colouration highly variable. Forebody uniformly black to black-brown or head dark brown with reddish to reddish-brown pronotum or head and pronotum reddish (head slightly darker). Elytra black to black-brown with two large yellow spots on each elytron. Anterior spot occupies large postbasal area leaving narrow dark basal zone, extending towards the



Figures 29–32. Chilean *Ischyropalpus* LaFerté-Sénectère, 1849: (29) *I. parallelus* (Solier, 1851), ♂ from “Curicó, 20 km. E. Potrero Grande”, habitus, dorsal view; (30) *I. curtisii curtisii* (Solier, 1851), ♂ from “Concepcion, Mina Schwanger Coronel”, forebody, dorsal view; (31–32) *I. quadrimaculatus* sp. nov., holotype ♂, habitus (31) and forebody (32), dorsal view. Not to scale.

lateral margin and narrowly interrupted or partly interrupted by darker suture. Posterior spot slightly smaller, its anterior margin sinuous, narrowly interrupted by darker suture, extending towards the lateral margin but not extending towards the apex; in some specimens (including holotype) both pale spots are narrowly connected along the lateral margin. Antennae and maxillary palps dark brown to pale reddish. Legs reddish-brown, yellow, or brown. Venter with abdomen darkened and head and thorax reddish to brownish. Head slightly convex and glossy (opaque in one paratype) dorsally, with large not prominent irregularly elliptical eyes. Interfacetal setae inconspicuous, short. Frontoclypeal suture weak. Hind temporal angles rounded in one broad arc with head base. Frons very broad. Punctures elongate or circular, shallow, dense, intervening spaces in part microreticulate, especially anterior to eyes (whole dorsal head distinctly microreticulate in one paratype) and glabrous, about as large as to twice as large as punctures. Pubescence of head greyish, moderately long, appressed, directed obliquely postero-medially. Male antennae extending over the postbasal transverse impression of elytra, antennomeres elongate and slender. Basal antennomere slightly longer than second. Third antennomere about 1.5× as long as second. Antennomeres 3–8 elongate, only slightly widened distally. Antennomeres 9–10 slightly shorter than preceding ones. Terminal antennomere elongate fusiform, bluntly pointed, in male about 1.5× as long as the penultimate one. Terminal maxillary palpomere large, strongly securiform. Pronotum glossy (opaque in one paratype) dorsally, broader than head, broadly rounded anteriorly, rather strongly constricted laterally towards narrower base, slightly convex dorsally in lateral view. Anterior rim complete, broad. Antebasal sulcus broad, widens laterally toward hypomera. Punctures of disc coarser and larger than those of head, intervening spaces smooth and glabrous to densely microreticulate, generally as large as to smaller than punctures. Pubescence as on head, directed posteriad. Scutellar shield triangular, rounded apically. Elytra glossy to subopaque dorsally, flattened in lateral view. Humeri distinct, rounded. Postbasal transverse impression barely indicated. Punctures of elytral disc generally similar to those of forebody, but more distant. Intervening spaces larger than punctures, glabrous, glossy in part microreticulate. Ordinary setae yellowish, moderately long, appressed, directed posteriad; in some specimens setae directed slightly obliquely laterally in postbasal transverse impression area. Elytral apices broadly rounded. Sutural striae very weak, present on apical third of elytra. Epipleurae rather broad, almost reaching elytral apices. Metathoracic wings fully developed. Legs rather long and slender, densely shortly setose. Terminal tibial spurs paired, short. Penultimate

tarsomeres short, slightly bilobate. Basal metatarsomere slightly shorter than combined length of the remaining tarsomeres. Tergite VII of male (Fig. 138) and female truncate at posterior margin. Morphological sternite VII of male subtruncate at posterior margin (Fig. 139), in female – truncate. Spiculum gastrale rod-like. Male morphological sternite IX as in fig. 140, male tergite IX – as in fig. 141. Aedeagus as in figs 136–137, with nearly symmetrical parameres and strongly dentate gonopore armature in penis.

Sexual dimorphism. Female antennae comparatively shorter, extending towards the middle of the postbasal transverse impression of elytra, terminal antennomere comparatively shorter, about 1.4× as long as the penultimate one. Female head less broad, pronotum comparatively less strongly widened anteriorly, elytra somewhat widened in apical third.

Differential diagnosis. This species is primarily different from its congeners by the shape of the aedeagus, combined with the yellow quadrimaculate elytra. In male *I. maculosus* (Fairmaire et Germain, 1860) the pronotum is less strongly widened and the genital organs are different. In *I. quadriplagiatus* (LaFerté-Sénectère, 1849) (Central America and Colombia), forebody is subopaque, denser and stronger punctured and pronotum is not transverse. See also diagnosis of *I. similis* sp. nov. below.

Ecology. Unknown.

Distribution. Known from Bío Bío and Maule regions, central Chile.

Ischyropalpus similis sp. nov.

(Figs 33–34 & 142–146)

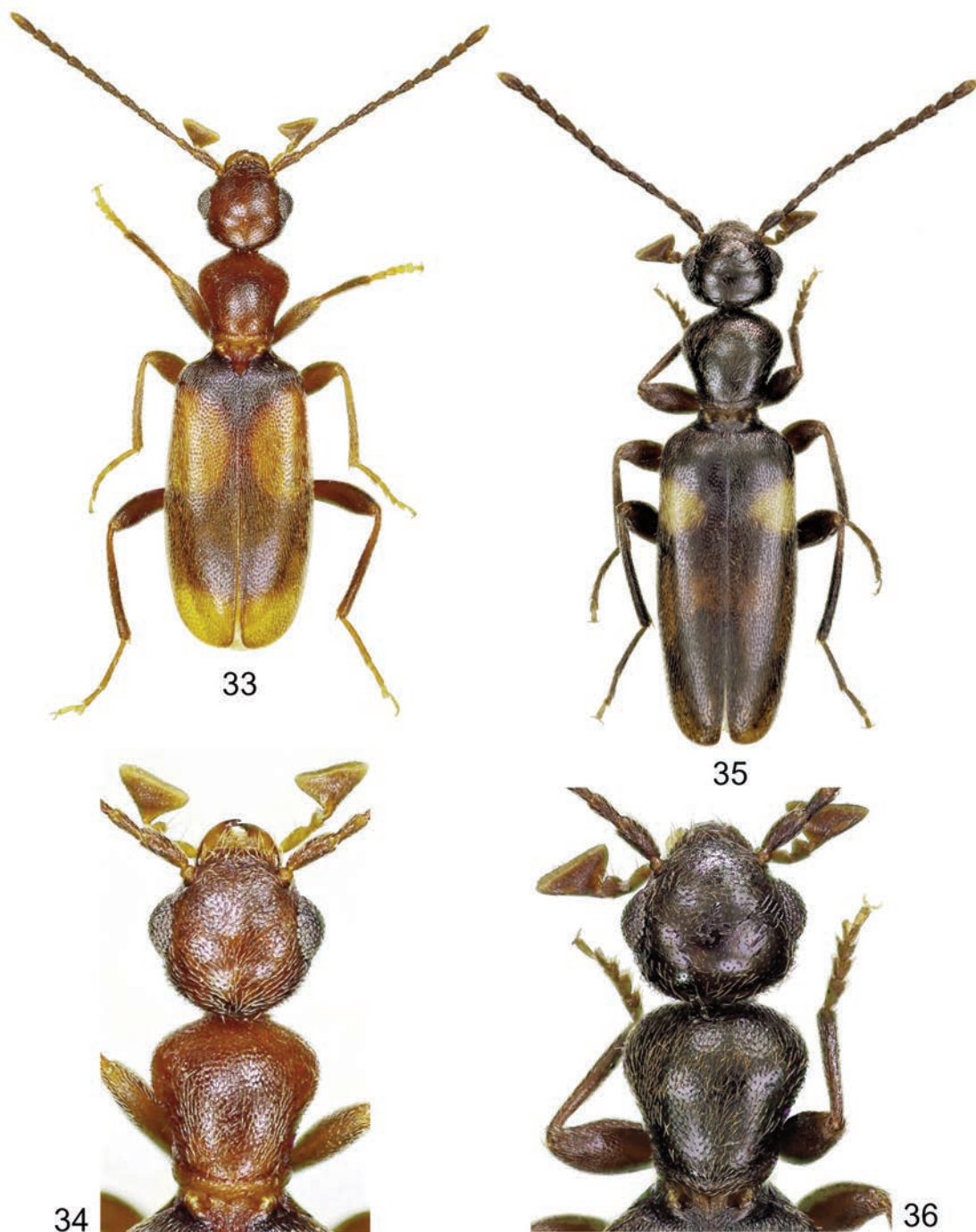
<http://zoobank.org/4F0E3549-DA31-46FD-8918-0D7A747462A8>

Holotype ♂ ADC: Chile CE. VII Talca Lago Colbun 26-XI.2003 Las Garzas env. Leg. M. Snizek [printed].

Derivatio nominis. Named from Latin “similis” (similar) to highlight its external similarity to the Chilean *I. quadrimaculatus* sp. nov. and other quadrimaculate congeners.

Measurements. Holotype, total body length 3.12 mm; head length 0.67 mm, head width across eyes 0.6 mm, pronotal length 0.65 mm, maximum pronotal width 0.6 mm, elytral length 1.8 mm, combined maximum elytral width 0.9 mm.

Description and diagnosis. Forebody dorsally reddish-orange, elytra dark brown with two large yellow spots on each elytron extending towards the lateral margins. Anterior pair interrupted by dark suture, posterior pair merging across suture. Antennae, mouthparts, and legs brown to yellowish brown. Venter yellowish brown, reddish on ventral head and prosternum. Generally with features of *I. quadrimaculatus* sp. nov. (described above) but dorsum subopaque and



Figures 33–36. Chilean *Ischyropalpus* LaFerté-Sénectère, 1849: (33–34) *I. similis* sp. nov., holotype ♂, habitus (33) and forebody (34), dorsal view; (35–36) *I. testaceoguttatus testaceoguttatus* (Fairmaire et Germain, 1863), ♂ from “Concepcion, Curinan” habitus (35) and forebody (36), dorsal view. Not to scale.

microreticulate on intervening spaces, male pronotum narrower anteriorly and scutellar shield more elongate. Male tergite VII truncate on posterior margin (Fig. 146). Male morphological sternite VII subtruncate to slightly emarginate at posterior margin (Fig. 145). Spiculum gastrale as in fig. 144, rod-like, with slightly diverging apical arms. Aedeagus as in figs 142–143, with strongly asymmetrical parameres, penis with delicate gonopore armature.

Sexual dimorphism. Female unknown.

Ecology. Unknown.

Distribution. Known from Maule Region, central Chile.

Sapintus costae sp. nov.

(Figs 37–43)

<http://zoobank.org/CDE14622-D184-4BB5-BD6D-E52176950B23>

Holotype ♂ BMNH: 21 CHILE X reg. PN Puyehue Aguas Calientes: laguna del Espejo I.Ribera leg. 1.II.1999 [printed] / BM1999-95 19.i-9-ii.1999 I.Ribera [printed].

Paratype 1♂ ADC: Chile prov. Chiloe Isla Chiloe rio Dongo [printed] 19.I 2000 [handwritten] leg. T.Cekalovic [printed].

Derivatio nominis. Patronymic. Named after Prof. Cleide Costa (Department of Zoology, University of São Paulo, Brazil), our outstanding colleague, to celebrate her commitment to entomology.

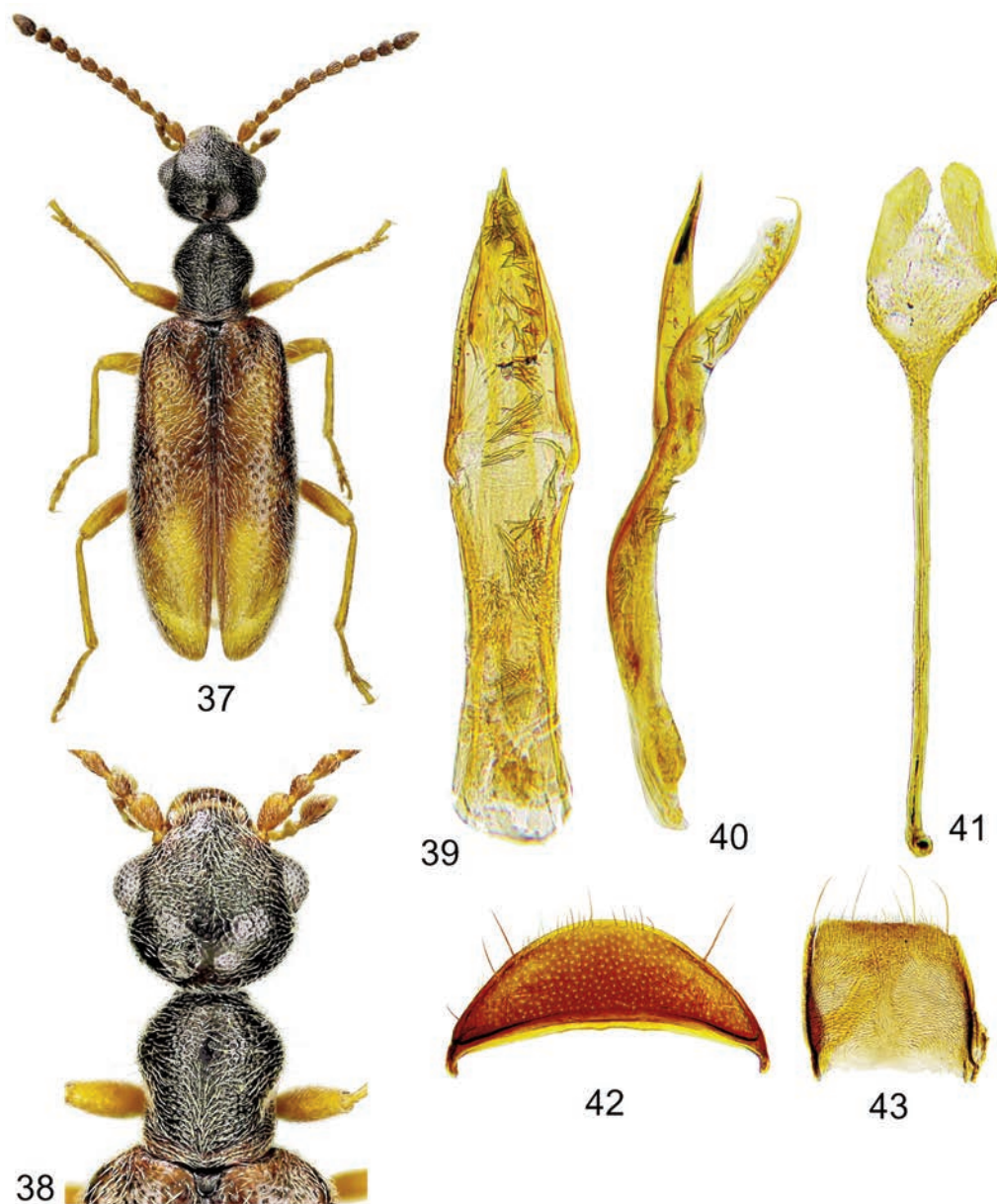
Measurements. Holotype, total body length 2.89 mm; head length 0.59 mm, head width across eyes 0.56 mm, pronotal length 0.5 mm, maximum pronotal width 0.43 mm, minimum pronotal width 0.26 mm, elytral length 1.8 mm, combined maximum elytral width 0.96 mm. The paratype is 2.88 mm long.

Description. Forebody dorsally black-brown, somewhat paler brown on mouthparts, labrum, head base and around cranial neck. Elytra yellowish-brown with darker brown markings as follow: narrow basal area projecting posteriad triangularly along suture, variable broad transverse median band widened and projecting both anteriad and posteriad on suture, touching lateral margin of each elytron which is similarly dark coloured; lateral dark colouration extends posteriad. Elytral apices pale brown. Antennomeres 1–8 yellow, 9–11 darker. Maxillary palpomeres brown. Legs yellow. Venter uniformly brown. Head flattened and subopaque dorsally, smooth ventrally, with moderately large prominent elliptical eyes. Interfacetal setae not present. Frontoclypeal suture very weak. Hind temporal angles rounded in one broad arc with head base. Frons very broad. Punctures of irregular shape, shallow, dense, intervening spaces smooth and glabrous, much smaller than punctures except on head base. Pubescence greyish to yellowish, long, appressed,

directed anteriad on anterior half of head, transverse on posterior half. Antennae barely extending towards base of elytra, antennomeres rather short and thick. Basal antennomere short and broad. Second antennomere about 0.8× as long as the third. Antennomeres 4–9 thickened, short cylindrical. Antennomeres 3–11 each with 5–6 long erect tactile setae. Terminal antennomere asymmetric, bluntly pointed, in male about 1.5–1.6× as long as the penultimate one. Terminal maxillary palpomere scalene triangular. Pronotum subopaque dorsally, narrower than head, broadly rounded anteriorly, rather strongly narrowing laterally postmedium towards base, flat dorsally in lateral view. Anterior rim complete, narrow. Antebasal sulcus narrow dorsally, widens laterally nearing hypomera, provided here with long dense whitish setation. Punctures of disc stronger and larger than those of head, intervening spaces smooth and glabrous, much smaller than punctures. Pubescence as on head, directed postero-medially. About 5 very long erect tactile setae on each side of anterior lobe. Scutellar shield small, smooth, rounded apically. Elytra smooth dorsally, flattened in lateral view. Humeri distinct, rounded. Postbasal transverse impression barely indicated. Punctures of elytral disc generally larger and deeper than those of forebody, becoming smaller and less prominent in apical third. Intervening spaces larger than punctures, smooth. No undersetae present. Ordinary setae whitish, subdecumbent, moderately dense. Setae of elytral disc directed strongly obliquely laterally in postbasal transverse impression area and in apical third; hereafter (in apical third closer to the apex) directed obliquely inwardly. On lateral margins in basal half elytral setae mostly directed dorsally or postero-dorsally, in apical half – posteriorly. Sutural striae present in apical half of elytra. Epipleurae rather broad except in their apical fourth, almost reaching elytral apices. Metathoracic wings fully developed. Legs rather long and slender, densely shortly setose. Femora not clavate. Terminal tibial spurs not present. Penultimate tarsomeres bilobate. Basal metatarsomere about as long as combined length of the remaining tarsomeres. Undersides of all basal tarsomeres long densely setose. Deep invaginations at anterior margin of abdominal sternite III (one opposing each metacoxa) not setose. Male tergite VII subtruncate at posterior margin (Fig. 43), male morphological sternite VII broadly rounded at posterior margin (Fig. 42). Spiculum gastrale as in fig. 41, Y-shaped. Aedeagus as in figs 39–40, with distinct gonopore armature as typical for New World *Sapintus* (Werner 1983).

Sexual dimorphism. Female unknown.

Differential diagnosis. The undersetae are absent and the main elytral setae are directed in part strongly obliquely laterally. The shape of the aedeagus (Figs 39–40) is distinct from those of all congeners.



Figures 37–43. *Sapintus costae* sp. nov., paratype ♂: (37) habitus, dorsal view; (38) forebody, dorsal view; (39–40) aedeagus, ventral and lateral view; (41) spiculum gastrale; (42) morphological sternite VII; (43) tergite VII. Not to scale.

Ecology. Unknown.

Distribution. Only known from the Los Lagos Region, inhabits both mainland and Chiloe Island.

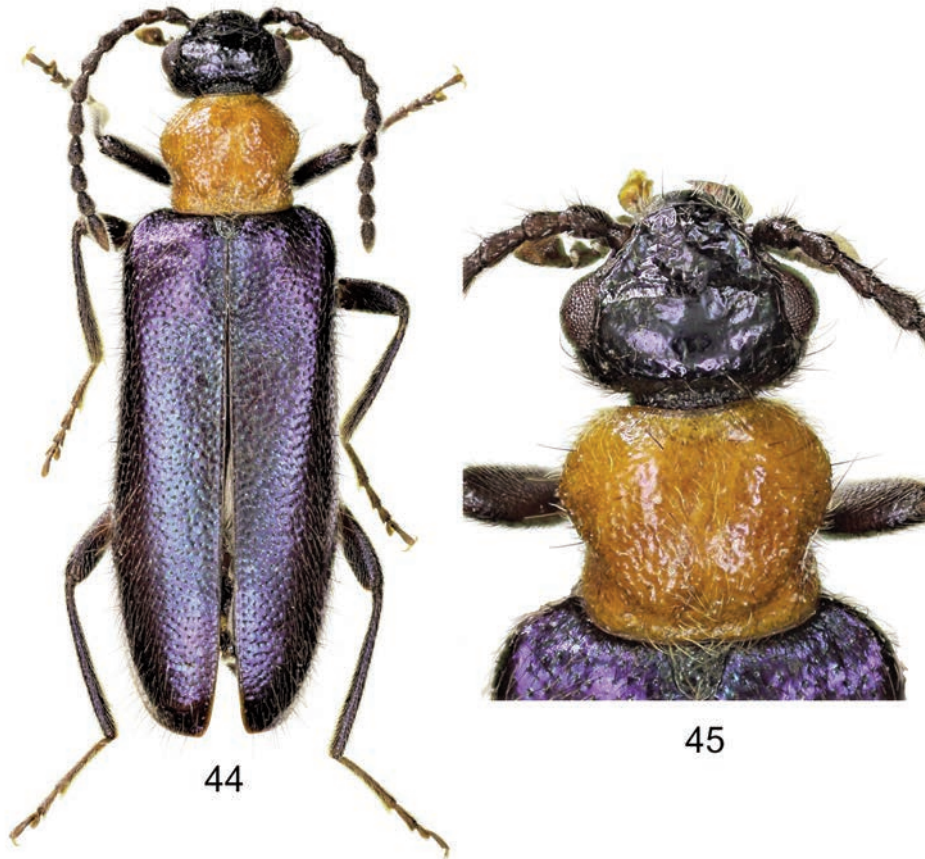
***Tomoderus cavithorax* sp. nov.**
(Figs 59–67)

<http://zoobank.org/640748E0-6594-43AA-8AFA-4C2D3CFF2699>

Holotype ♂ ADC: Chile prov. Chiloe Isla Chiloe Punta 15.II.2003 leg. Cekalovic [printed].

Paratypes 7 specimens. 1♂ & 1♀ ADC and 2♂ DTC: same label as holotype; 1♂ ADC: Chile prov. Chiloe Isla Chiloe Chepu 20.1.2000 leg. Cekalovic [printed]; 1♂ ADC: Chile prov. Chiloe Isla Chiloe km.2 N. Puente Rio Pudeto 20.1.2000 leg. Cekalovic [printed]; 1♂ DCC: CHILE: CHILEO [sic!] IS. Chepo 9 I 2001 Leg. T. Cekalovic [printed].

Derivatio nominis. Named from the combination of Latin “cavus” (cavity, cave) and Greek “thorax”, referring to the peculiar cavity on the anterior portion of the prosternum.



Figures 44–45. *Copobaenus nobilis* Fairmaire et Germain, 1863, ♀ from Nahuelbuta National Park: (44) habitus, dorsal view; (45) forebody, dorsal view. Not to scale.

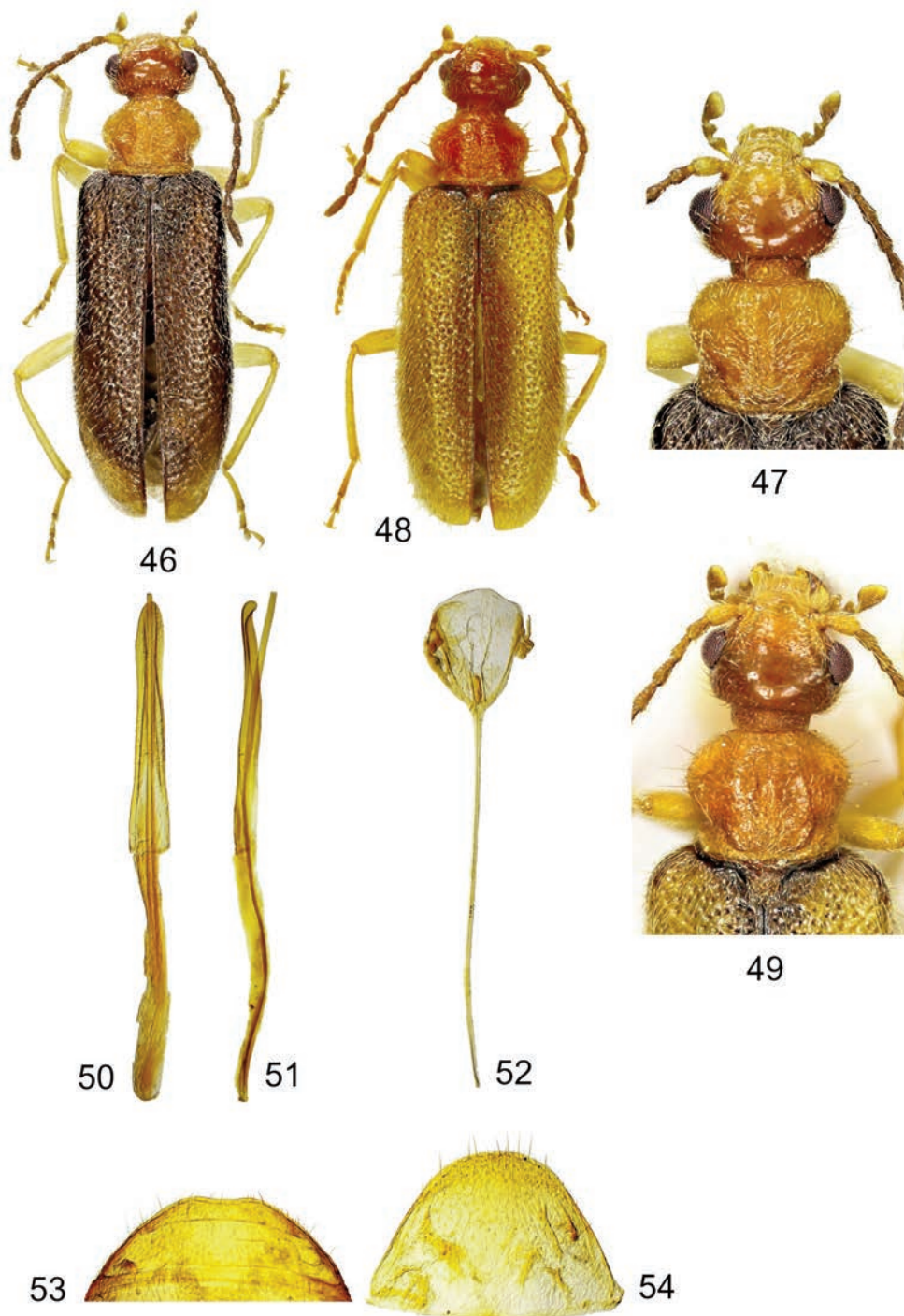
Measurements. Holotype, total body length 2.26 mm; head length 0.51 mm, head width across eyes 0.43 mm, pronotal length 0.55 mm, maximum pronotal width 0.41 mm, minimum pronotal width 0.3 mm, elytral length 1.2 mm, combined maximum elytral width 0.8 mm. Paratypes are 2.1–2.27 mm long.

Description. Head yellow anteriorly, brown to dark brown in posterior half. Pronotum yellow with brownish transverse area in constriction. Elytra castaneous, more strongly darkened along lateral margins in some specimens. Mouthparts, antennae and legs uniformly yellow. Venter yellowish to yellowish-orange, visible abdominal sternites I and II medially darkened. Head dorsally slightly convex, glossy and smooth, with moderately large prominent irregularly ovoid eyes. Interfacetal setae not present. Frontoclypeal suture not indicated. Hind temporal angles broadly rounded, head base medially shortly subtruncate. Frons broad between eyes. Punctures circular, shallow, rather coarse, intervening spaces smooth and glabrous, on frons smaller than to as large as punctures. Narrow

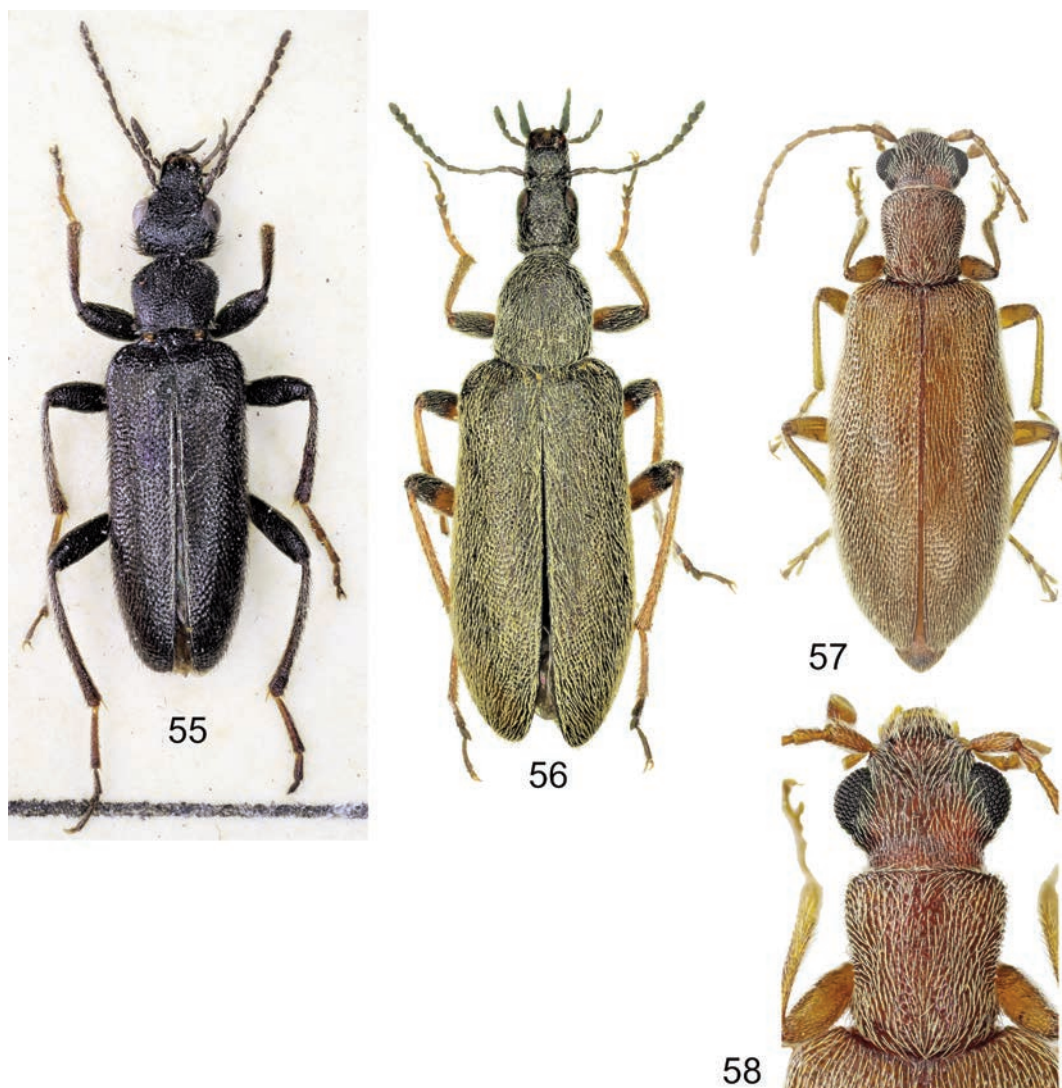
poorly indicated longitudinal unpunctured area on frons. Pubescence greyish to yellowish, moderately long, subdecumbent, sparse; seta raising from each puncture. Longer erect tactile setae on head around eyes. Antennae of both sexes not extending to pronotal base. Basal antennomere slightly longer than the 2nd antennomere which is, in turn, slightly longer than antennomere 3. Antennomeres 5–6 shortened and widened distally, antennomeres 7–9 transverse to strongly transverse. Terminal antennomere conical, bluntly pointed, about 2.5× as long as the penultimate one. All antennomeres with moderately long and dense erect setae. Terminal maxillary palpomere small, securiform. Cranial neck slightly less than ½ of head width measured across eyes. Pronotum dorsally convex, glossy and smooth, slightly narrower than head, subtruncate anteriorly, narrowing laterally towards postmedian transverse constriction, broadly rounded at base. Transverse constriction continues dorsally across pronotal disc (Fig. 62), dorsally and laterally with large coarse punctures; intervening spaces

narrow, rugulose. Anterior rim complete dorsally and ventrally, narrow. Antebasal sulcus narrow dorsally, becoming stronger laterally toward hypomera (Fig. 62). Punctures of disc rather large and dense, shallow,

intervening spaces smooth and glabrous, on both lobes generally smaller than punctures. Pubescence as on head but with several much longer erect tactile setae along lateral margins. Scutellar shield very small,



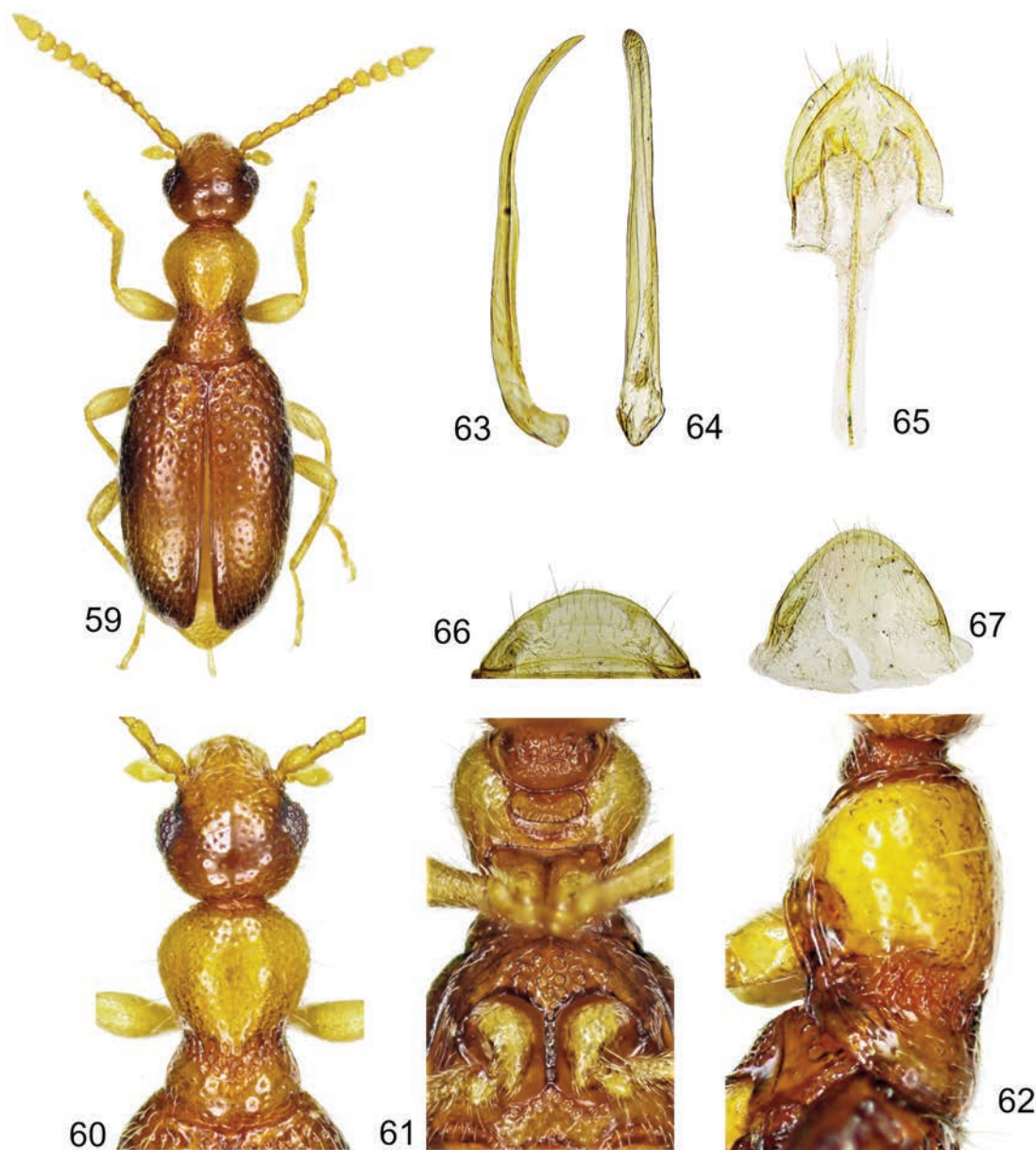
Figures 46–54. *Copobaenus tristis* Fairmaire et Germain, 1863, ♂♂ from “P.N. Nahuelbuta, Pichinahual”: (46 & 48) habitus, dorsal view; (47 & 49) forebody, dorsal view; (50–51) aedeagus, ventral and lateral view; (52) spiculum gastrale; (53) morphological sternite VII; (54) tergite VII. Not to scale.



Figures 55–58. Chilean Eurygeniinae and Lagrioidinae: (55) *Mitraelabrus obscurus* Solier, 1851, specimen from Los Vilos (see Telnov 2011: 17), habitus, dorsal view; (56) *Mitraelabrus sericeus* Solier, 1851, ♀ from Pisco Elqui, habitus, dorsal view; (57–58) *Lagrioida rufula* Fairmaire et Germain, 1860, specimen from Guanaqueros, habitus (57) and forebody (58), dorsal view. Not to scale.

smooth, rounded apically, minutely setose laterally. Elytra elongate, smooth dorsally, slightly convex in lateral view. Humeri not indicated, fully rounded. Post-basal transverse impression not indicated. Punctures of elytral disc irregular – large and coarse in basal third, intervening spaces generally smaller than punctures; punctures becoming more gentle and shallower on apical half, intervening spaces variable large. Setae whitish to yellowish, suberect, rather long and moderately dense, directed posteriad. Scattered much longer erect tactile setae on disc and along lateral margins. Sutural striae rather moderately broad, developed in apical half of elytra. Epipleura broad, reaching the apical fourth of elytron. Metathoracic wings reduced to

long rather narrow plates. Anterior intercoxal process of 1st morphological sternite very broad, broadly rounded, semicircular. Legs long and slender, sparsely shortly setose. Femora clavate. Terminal tibial spurs paired, very inconspicuous and hard to see. Penultimate tarsomeres shortly bilobate. Basal metatarsomere slightly shorter than combined length of the remaining tarsomeres. Anterior portion of prosternum with a large deep transverse cavity (Fig. 61) extending from anterior rim half distance to procoxal cavity. Lateral and posterior margins of this cavity only slightly raised, posterior margin is inclined and the cavity somewhat deepens under it (Fig. 61). Tergite VII in male (Fig. 67) and female rounded at posterior margin. Morphological



Figures 59–67. *Tomoderus cavithorax* sp. nov., paratype ♂: (59) habitus, dorsal view; (60) forebody, dorsal view; (61) pro- and mesothorax, ventral view; (62) pronotum, lateral view; (63–64) aedeagus; (65) spiculum gastrale, morphological sternite IX and tergite IX; (66) morphological sternite VII; (67) tergite VII. Not to scale.

sternite VII in male (Fig. 66) and female broadly rounded at posterior margin. Spiculum gastrale, male tergite IX and morphological sternite IX as in fig. 65. Aedeagus as in figs 63–64, rounded apically and arched in apical third in lateral aspect.

Sexual dimorphism. Female externally similar to male.

Differential diagnosis. This species is unusual among its congeners due to the presence of a proster-

nal cavity. From *T. nahuelbuta* sp. nov. (described below) it differs by the shape of the aedeagus, generally slender body, dorsally slightly impressed pronotum at area of the postmedian lateral constriction, less coarsely punctured forebody and rounded elytral apex.

Ecology. Unknown.

Distribution. Only known from Isla Grande de Chiloé, Chiloé Archipelago, Los Lagos Region, southern Chile.

Tomoderus differens sp. nov.

(Figs 68–84)

<http://zoobank.org/24281B74-BA91-4D98-B209-36E9979DDCA3>

Holotype ♂ ADC: Chile prov. Concepcion Periquillo [printed] 20.IV.2001 [handwritten] leg. T. Cekalovic [printed].

Paratypes 9 specimens. 1♂ & 2♀ ADC and 1♂ & 1♀ DTC: same label as holotype; 1♂ & 1♀ ADC and 1♂ BMNH: Chile prov. Concepcion Periquillo [printed] 24.X.92 [handwritten] leg. T. Cekalovic [printed]; 1♂ ADC: CILE – CALETA CHOME 21-XI-96 prov. CONCEPCION [handwritten] coll. Degiovanni [printed] lg. CEKALOVIC [handwritten].

Derivatio nominis. From the Latin “*differens*” – different, dissimilar, unlike, because of its unique body colouration, peculiar vestiture and strongly modified male terminal antennomeres.

Measurements. Holotype, total body length 2.44 mm; head length 0.54 mm, head width across eyes 0.5 mm, pronotal length 0.6 mm, maximum pronotal width 0.45 mm, minimum pronotal width 0.3 mm, elytral length 1.3 mm, combined maximum elytral width 0.75 mm. Paratypes are 2.3–2.6 mm long.

Description. Forebody dorsally and laterally pale castaneous brown, elytra pale yellow with complete narrow black-brown median transverse band and lighter brown apices; dark colouration not or insignificantly protruding along lateral margins and suture; disc of elytra in posterior half somewhat darker yellowish-brown than strikingly light yellow anterior half. Antennae yellow to yellowish-orange. Mouthparts and palps yellowish-orange. Legs pale yellowish-orange. Venter yellowish to yellowish-orange. Head dorsally slightly convex, glossy and smooth, with small, slightly prominent and nearly circular eyes. Interfacetal setae not present. Frontoclypeal suture not indicated. Hind temporal angles rounded in one broad arc with head base. Frons broad between small eyes. Punctures circular, shallow, rather coarse, intervening spaces smooth and glabrous, on frons as large as to twice as large as punctures. Narrow poorly defined longitudinal unpunctured area on frons. Pubescence greyish to yellowish, moderately long, subdecumbent, sparse; seta originates from each puncture. Antennae of both sexes extending slightly over base of elytra. Basal antennomere elongate, about as long as 2–3 following antennomeres. Second antennomere about as long as the third, not or barely wider than it. Antennomeres 4–6 slightly widened distally, 7–9 short and transverse to strongly transverse. Penultimate antennomere in male strongly enlarged, transverse, ventrally deeply emarginate (margins of the ventral cavity irregular), with obtusely conical median protruding at posterior margin, which is provided with a bunch of long erect setae. Terminal antennomere (Figs 71–72, 79–84) asymmetric,

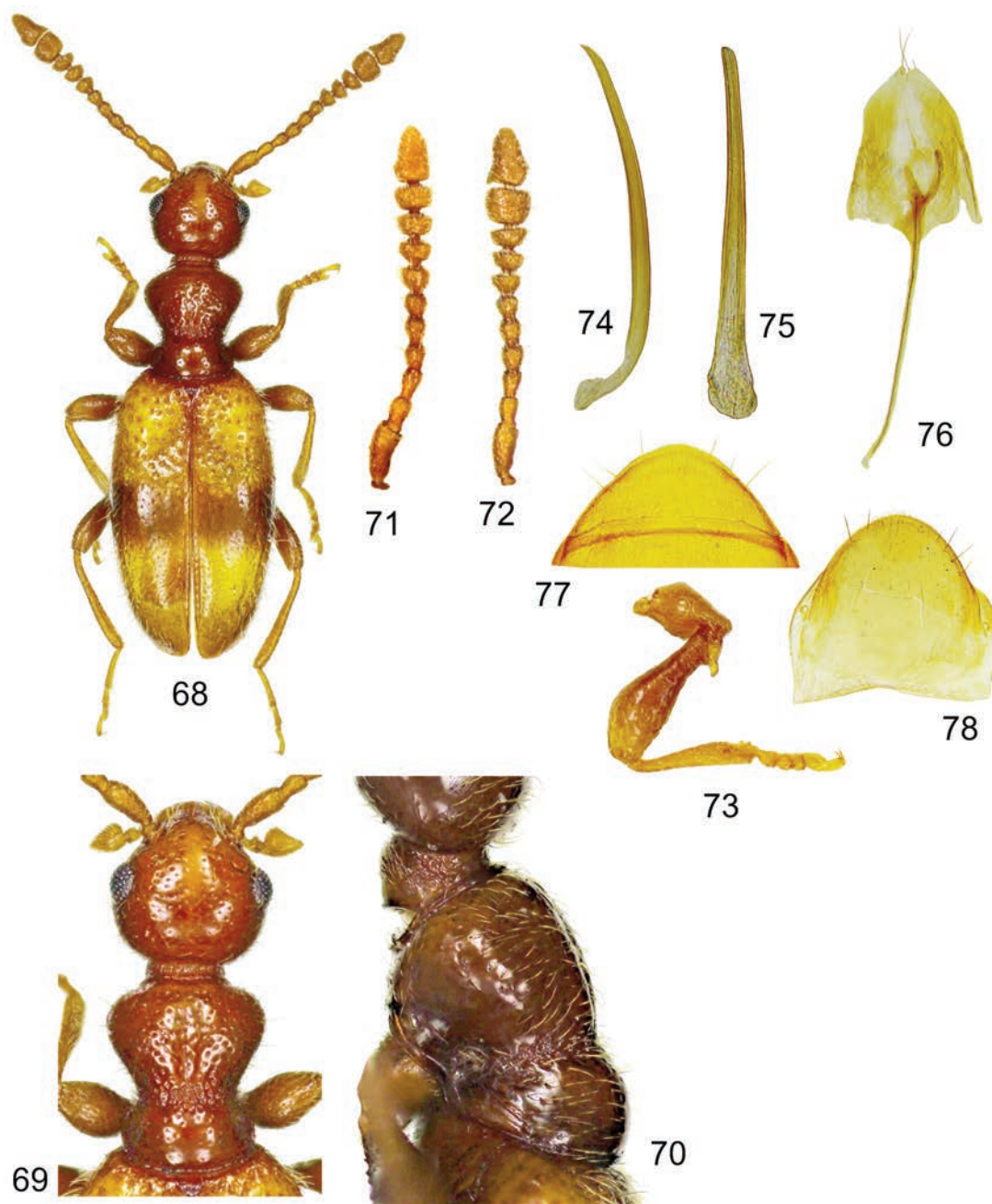
bluntly pointed, for male about 1.5× as long as the penultimate one, with basal cavity opposing the penultimate antennomere; inner angle of the terminal antennomere shortly produced posteriad; in dorsal view this protrusion is a spine-like (in dorsal view), in ventral view it is rather broad (half of basal width of the terminal antennomere) and sinuous; this protrusion opposes the setose projection of the penultimate antennomere. All antennomeres with moderately long and dense erect setae. Terminal maxillary palpomere small, securiform. Cranial neck slightly less than ½ of head width measured across eyes. Pronotum dorsally convex, glossy and smooth, slightly narrower than head, subtruncate anteriorly, strongly narrowing laterally towards postmedian transverse constriction, broadly rounded at base. Transverse constriction continues dorsally across pronotal disc, dorsally and laterally with large coarse punctures. Anterior rim complete dorsally and ventrally, moderately strongly developed. Antebasal sulcus narrow dorsally, significantly widening laterally toward hypomera. Punctures of disc slightly larger than those of head, intervening spaces smooth and glabrous, as large as to twice as large as punctures. Moderately large subcircular long setose lateral cavity present in lateral wall of pronotum dorsal of procoxa. Ventral margin of this cavity delimited by lateral carina that starts at some distance from base of pronotum, reaches cavity, and continues anteriorly and nearly reaches anterior rim of pronotum (Fig. 70). Ventral to this is a second carina that starts at posterolateral angle of pronotum and ends at anterolateral margin of procoxal cavity (Fig. 70). Pubescence is as on head but with several much longer erect tactile setae along lateral margins. Scutellar shield very small, smooth, rounded apically. Elytra smooth dorsally, convex in lateral view. Humeri obsolete. Postbasal transverse impression distinct, short. Punctures of elytral disc irregular, large and coarse but distant on basal third besides the impression, intervening spaces smaller than to 3× as large as punctures. In the impression punctures dense and coarse, but smaller than at base, intervening spaces generally smaller than punctures. The rest of elytra with gentle, sparse punctures, intervening spaces variable large. Setae whitish to yellowish, suberect, rather long and moderately dense, directed posteriad except on apical third where the setae are directed obliquely laterally. Scattered somewhat longer erect tactile setae present on disc and along lateral margins. Sutural striae rather broad, developed on apical half of elytra. Epipleurae broad, almost reaching elytral apices. Metathoracic wings reduced to long rather narrow plates. Anterior intercoxal process of 1st morphological sternite very broad, broadly rounded, semicircular. Legs stout, densely shortly setose. Femora clavate. Protrochanters with elongate asymmetrical process (Fig. 73). Terminal tibial spurs paired, very

inconspicuous and hard to see. Penultimate tarsomeres shortly bilobate. Basal metatarsomere slightly shorter than combined length of the remaining tarsomeres. Male (Fig. 78) and female tergite VII rounded at posterior margin. Morphological sternite VII in male (Fig. 77) and female rounded at posterior margin. Spiculum gastrale strongly Y-shaped apically, as in fig.

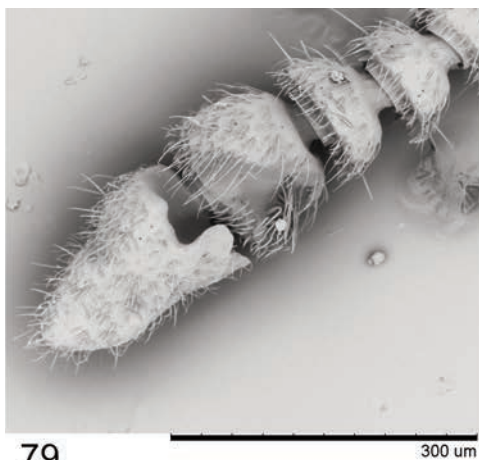
76. Aedeagus as in figs 74–75, rounded apically and slightly arched in lateral aspect.

Sexual dimorphism. Female antenna (Fig. 71) comparatively shorter, antennomeres 9–10 not modified as in male, protibia not emarginate distally.

Differential diagnosis. This species is characterized among its congeners by the modified male

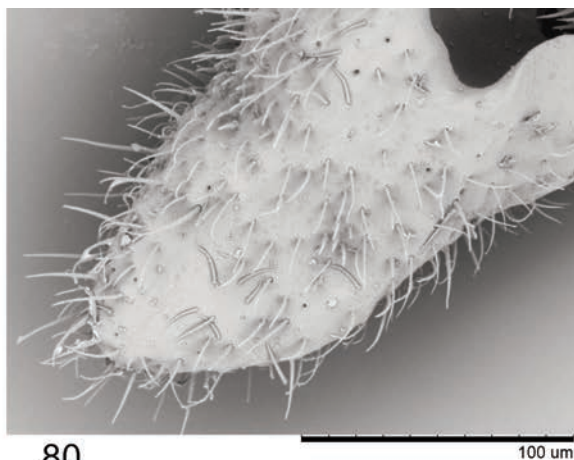


Figures 68–78. *Tomoderus differens* sp. nov., paratypes: (68) ♂, habitus, dorsal view; (69) ♂, forebody, dorsal view; (70) ♂, pronotum, lateral view; (71) ♀, antenna; (72) ♂, antenna; (73) ♂, foreleg; (74–75) aedeagus; (76) spiculum gastrale, morphological sternite IX and tergite IX; (77) morphological sternite VII; (78) tergite VII. Not to scale.



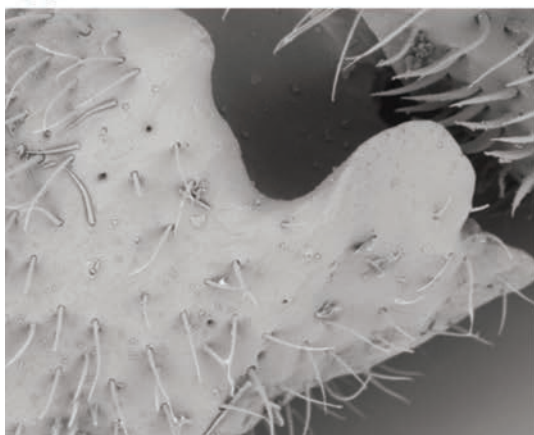
79

300 µm



80

100 µm



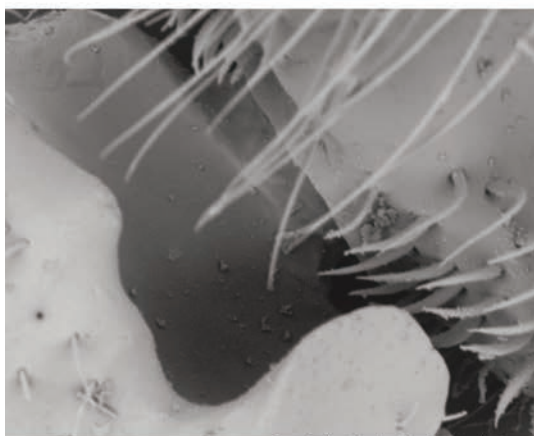
81

50 µm



82

30 µm



83

50 µm



84

50 µm

Figures 79–84. *Tomoderus differens* sp. nov., paratype ♂, last antennomeres, SEM micrographs: (79) antennomeres 8–11; (80) terminal antennomere; (81–82) basal part of terminal antennomere with a projection; (83) basal part of terminal antennomere with focus on basal cavity; (84) anterior part of penultimate antennomere with a cavity opposite the projection of the terminal antennomere. Scale bars as specified for each figure.

terminal antennomeres, presence of a postbasal transverse impression on the elytra, reduced metathoracic wings, presence of an elongate process on the pro-trochanters and the obliquely laterally directed setae on the apical third of the elytra.

Ecology. Unknown.

Distribution. Only known from Concepción Region, central Chile.

Tomoderus melanocephalus sp. nov.

(Figs 85–93)

<http://zoobank.org/580A3E11-4243-4DD3-81F0-1B489BB45550>

Holotype ♀ ADC: Chile Prov. Valdivia Parque Oncol mt. 550 8.II.2003 leg. A. Cekalovic [printed].

Derivatio nominis. Named from the combination of Greek “mélās” [black] + “kephalikos” [head] to indicate the contrasting black head of this species.

Measurements. Holotype, total body length 3.15 mm; head length 0.7 mm, head width across eyes 0.72 mm, pronotal length 0.8 mm, maximum pronotal width 0.7 mm, minimum pronotal width 0.42 mm, elytral length 1.65 mm, combined maximum elytral width 1.2 mm.

Description. Head dorsally and ventrally very dark black-brown except yellow clypeus and mouthparts. Pronotum pale yellow on anterior lobe except brown anterior rim, yellowish-castaneous on posterior lobe, castaneous along basal margin. Elytra castaneous, somewhat darkened medio-laterally. Antennae, palps and legs pale yellow. Prosternum yellow, mesosternum castaneous medially, yellow laterally, metasternum yellow with castaneous posterior margin, abdominal ventrites yellowish-castaneous with darker median spot on the 1st visible sternite. Head slightly convex dorsally, glossy, with moderately large prominent nearly circular eyes. Interfacetal setae moderately long, curved. Frontoclypeal suture not indicated. Hind temporal angles very broadly rounded with head base. Frons very broad between eyes. Punctures circular to slightly ovoid, rather coarse, intervening spaces smooth, generally smaller than punctures. Pubescence yellowish, moderately long, subdecumbent, sparse; seta originates from each puncture. Few longer erect tactile setae scattered over head disc and lateral sides. Antennae in female barely extending towards base of elytra. Basal antennomere about 1.5× as long as the 2nd antennomere which is, in turn, slightly shorter than antennomere 3. Antennomeres 4–7 widened distally, antennomeres 9–10 transverse. Terminal antennomere asymmetrically conical, pointed, about 2.2× as long as the penultimate one. All antennomeres with moderately long and dense erect setae. Terminal maxillary palpomere small, thickened, securiform. Cranial neck less than 1/3 of head width measured across eyes. Pronotum dorsally slightly convex, glossy, as wide as

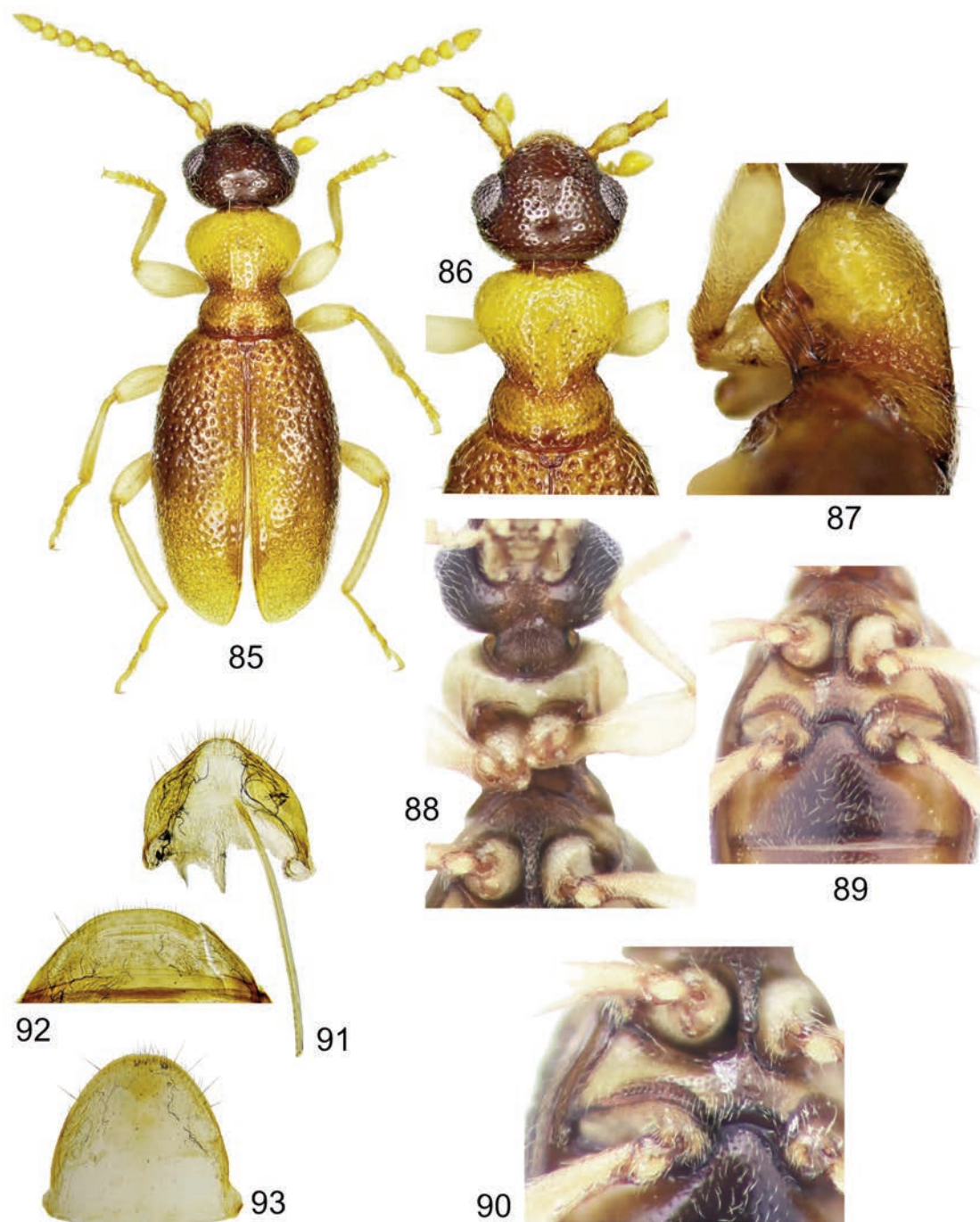
head, subtruncate anteriorly, strongly narrowing laterally towards postmedian transverse constriction, very broadly rounded at base. Transverse constriction barely continues dorsally across pronotal disc, dorsally and laterally coarsely punctate; intervening spaces narrow, rugulose. Anterior rim complete dorsally and ventrally, narrow. Antebasal sulcus not indicated dorsally, very broad laterally toward hypomera (Fig. 87). Shallow rather broad longitudinal sulcus present on anterior lobe. Punctures of disc rather large and dense, intervening spaces glossy and smaller than punctures on both pronotal lobes. Rather large subcircular long setose lateral cavity present in lateral wall of pronotum dorsal to procoxae. Ventral margin of this cavity delimited by lateral carina that starts not immediately from base of pronotum, reaches the cavity, continues anteriorly and nearly reaches anterior rim of pronotum (Fig. 87). Ventral to “upper” carina there is a second carina that starts at posterolateral angle of pronotum and ends at anterolateral margin of procoxal cavity (Fig. 87). Pubescence as on head but much longer erect tactile setae are more abundant. Scutellar shield very small, rounded on posterior margin. Elytra elongate, glossy dorsally, slightly convex in lateral view. Humeri not indicated, fully rounded. Postbasal transverse impression not indicated. Elytral apices rounded. Punctures of elytral disc large and coarse for basal half, intervening spaces smaller than punctures; punctures becoming shallower in apical part, intervening spaces becoming larger. Setae yellowish, suberect, moderately long and sparse, directed posteriorly. Scattered somewhat longer erect tactile setae on disc. Sutural striae moderately broad, developed in apical 2/3 of elytra. Epipleurae broad, almost reaching apices of elytra. Metathoracic wings not present (apterous). Metathorax short and broad (Figs 89–90). Anterior intercoxal process of 1st morphological sternite very broad, broadly rounded, semicircular (Figs 89–90). Legs slender, long setose. Femora clavate. Terminal tibial spurs not observed. Penultimate tarsomeres bilobate. Female basal metatarsomere about as long as combined length of the remaining tarsomeres. Female tergite VII rounded at posterior margin (Fig. 93), female morphological sternite VII broadly rounded at posterior margin (Fig. 92). Spiculum gastrale and female tergite IX as in fig. 91.

Sexual dimorphism. Male unknown.

Differential diagnosis. This species is readily distinguished from its Neotropical congeners by its body colouration, tricarinate lateral pronotal margins, presence of a cavity dorsad the procoxa, longitudinally impressed anterior lobe of the pronotum, and dense, coarse punctures of pronotum and elytra.

Ecology. Unknown.

Distribution. Only known from Oncol National park, Los Lagos Region, central Chile.



Figures 85–93. *Tomoderus melanocephalus* sp. nov., holotype ♀: (85) habitus, dorsal view; (86) forebody, dorsal view; (87) pronotum, lateral view; (88) pro- and mesothorax, ventral view; (89) meso- metathorax and morphological sternite III, ventral view; (90) metathorax, ventero-lateral view; (91) spiculum gastrale and tergite IX; (92) morphological sternite VII; (93) tergite VII. Not to scale.

Tomoderus nahuelbuta sp. nov.

(Figs 94–98)

<http://zoobank.org/DCC5AB52-9F80-43C3-9589-9A2CBB7800E7>

Holotype ♂ BMNH: CHILE, prov. Malleco Parque Nac. Nahuelbuta (entrada) mar 2001, suelo leg. J.E. Barriga S 37° 49.555' W 72° 58.008' [printed].

Paratype 1♂ MZUF: CHILE, prov. Malleco Parque Nac. Nahuelbuta (entrada) mar 2001, suelo leg. J.E. Barriga S 37° 49.555' W 72° 58.008' [printed] / *Tomoderus* sp.2 [printed] / Coll. ANGELINI Num. Mag. 2957 [printed].

Derivatio nominis. Toponymic. Named after the Nahuelbuta National park, the locus typicus of this species. Noun in apposition.

Measurements. Holotype, total body length 2.61 mm; head length 0.56 mm, head width across eyes 0.53 mm, pronotal length 0.65 mm, maximum pronotal width 0.55 mm, minimum pronotal width 0.3 mm, elytral length 1.4 mm, combined maximum elytral width 0.97 mm.

Description. Dorsum and venter uniformly yellowish-orange, mouthparts, antennae, palps and legs yellow. Elytral suture is slightly and very narrowly darkened. Head dorsally flattened, subopaque around eyes but glossy medially, with moderately large prominent ovoid eyes. Interfacetal setae not present. Frontoclypeal suture not indicated. Hind temporal angles broadly rounded with head base, base medially shortly concave. Frons very broad between eyes. Punctures circular, shallow, rather coarse, intervening spaces smooth or (in part) microreticulate, generally smaller than punctures. Pubescence yellowish, moderately long, subdecumbent, sparse; seta originates from each puncture. Much longer erect tactile setae on head posterior to eyes. Antennae in male almost reaching base of pronotum. Basal antennomere about 1.3× as long as the 2nd antennomere which is, in turn, slightly longer than antennomere 3. Antennomeres 4–6 about same long, slightly widened distally, antennomeres 7–8 strongly widened and shortened, antennomeres 8–10 transverse to strongly transverse. Terminal antennomere conical, bluntly pointed, about 3× as long as the penultimate. All antennomeres with moderately long and dense erect setae. Terminal maxillary palpomere small, securiform. Cranial neck less than ½ of head width measured across eyes. Pronotum dorsally slightly convex dorsally, flattened posteriorly, subopaque, slightly narrower than head, subtruncate anteriorly, strongly narrowing laterally towards postmedian transverse constriction, very broadly rounded at base. Transverse constriction barely continues dorsally across pronotal disc, dorsally and laterally with large coarse punctures; intervening spaces narrow, rugulose. Anterior rim complete dorsally (inconspicuous) and ventrally, narrow. Antebasal sulcus not indicated dorsally, but developed laterally toward

hypomera. Punctures of disc rather large and dense, shallow, intervening spaces in part microreticulate, spaces on both lobes smaller than punctures. Pubescence as on head but with several much longer erect tactile setae along lateral margins. Scutellar shield very small, broad, almost semicircular. Elytra elongate, glossy dorsally, slightly convex in lateral view. Humeri not indicated, area fully rounded. Postbasal transverse impression not indicated. Elytral apices truncate. Punctures of elytral disc large and coarse in basal half, intervening spaces smaller than punctures; punctures becoming much more gentle and shallower postmedium, intervening spaces as large as to slightly larger as punctures. Setae yellowish, subdecumbent, rather long and moderately dense, directed posteriad. Some scattered same long erect tactile setae on disc. Sutural striae deep, developed in apical half of elytra. Epipleura broad, extending to reach apical fourth of elytron. Metathoracic wings not present (apterous). Legs slender, sparsely shortly setose. Femora not or slightly clavate. Terminal tibial spurs paired, inconspicuous and hard to see. Penultimate tarsomeres bilobate. Basal metatarsomere shorter than combined length of the remaining tarsomeres. Anterior part of prosternum with a large but shallow transverse cavity (cf. Fig. 61, as in *Tomoderus cavithorax* sp. nov.) starting at anterior rim and extending postmedially more than half the distance to procoxal cavity. Lateral and posterior margins of this cavity only slightly raised, posterior margin is inclined and the cavity somewhat deepens under it (cf. Fig. 61). Male tergite VII subangulate medially on posterior margin (Fig. 98), male morphological sternite VII broadly rounded on posterior margin (Fig. 97). Aedeagus as in figs 96, thin and slightly arched in lateral aspect.

Sexual dimorphism. Female unknown.

Differential diagnosis. This species is readily different from its Neotropical congeners in the densely and rather coarsely punctured forebody, anterior lobe of the pronotum wider than head, postmedian lateral constriction of the pronotum not continuing dorsally across the pronotal disc, truncate elytral apex, and the shape of the aedeagus.

Ecology. Found on the ground.

Distribution. Only known from E part of Nahuelbuta National park, Araucania Region, central Chile.

Trichananca inexpectata sp. nov.

(Figs 99–105)

<http://zoobank.org/B03B5EB8-3D61-4164-BDFF-4631E516AF29>

Holotype ♂ BMNH: CHILE: Fray Jorge Parq. N. P. Coquimbo X-2-1967 [printed] / *Protoanthicus valenci* M+V [handwritten] det. DSChandler [printed] [holotype specimen is damaged, mouthparts are partly

missing, antennomeres 3–11 of the left and antennomere 2 of the right antenna missing, femur- and tibia of the right foreleg and left metatarsus are missing].

Derivatio nominis. From the Latin “inexpectatus” (unexpected) to indicate shape of male genital organs, which are unique among all Lemodinae.

Measurements [due to the absence of the anterior part of head measurements might be not exact]. Holotype, total body length 4.85 mm [without anterior part of the head]; head length 0.75 mm [same as above], head width across eyes 1.05 mm, pronotal length 1.15 mm, maximum pronotal width 1.1 mm, minimum pronotal width 0.85 mm, elytral length 3 mm, combined maximum elytral width 1.6 mm.

Description. Dorsum and venter uniformly pale brown. Mouthparts, antennae, palps, legs and terminal abdominal ventrites yellowish-brown. Head dorsally flattened, opaque, with large prominent irregularly ovoid eyes. Interfacetal setae inconspicuous, sparse. Frontoclypeal suture not indicated. Hind temporal angles broadly obtuse, head base truncate. Frons very broad between eyes. Punctures rough, irregular (ovoid to pentagonal to hexagonal), in part umbilicate, large and very dense; intervening spaces narrow, rugulose, glabrous. Pubescence inconspicuous. Few longer erect tactile setae at antennal insertions and on head sides posterior to eyes. Antennae in male extending nearly to median third of elytra. Basal antennomere about 1.5× as long as the 2nd antennomere. Third antennomere 1.6–1.7× as long as the preceding one. Antennomeres 4–9 shortly cylindrical, penultimate antennomere slightly longer than wide. Terminal antennomere asymmetrical, bluntly conical, about 1.5× as long as the penultimate one. All antennomeres with moderately long and dense and some significantly longer erect setae. Pronotum dorsally flattened, opaque, slightly wider than head, very broadly rounded to subtruncate anteriorly, truncate posteriorly, moderately strongly narrowing laterally towards postmedian transverse constriction. Transverse constriction not continuing dorsally across pronotal disc, dorsally and laterally with same large and coarse punctures as pronotal disc. Poorly defined longitudinal sulcus broad and shallow, extending almost length of pronotal disc (Fig. 100). Anterior rim not present dorsally, narrow ventrally. Antebasal sulcus not present dorsally, but broad laterally toward hypomera. Punctures of disc similar as those on head but larger and coarser, more strongly umbilicate; intervening spaces much smaller than punctures, rugulose, glabrous. Pubescence inconspicuous, with several longer erect tactile setae along lateral margins. Scutellar shield very small, subtriangular, rounded apically. Elytra elongate, subopaque dorsally, flattened in lateral view. Humeri obsolete. Postbasal transverse impression not indicated. Elytral apices broadly rounded separately. Punctures of elytral disc

elongate, large and coarse in basal half, intervening spaces glossy, as large as to twice as large as punctures; punctures becoming smaller and shallower on apical half, intervening spaces becoming larger on apical third of elytra. Setae yellowish, suberect, long and moderately dense, directed posteriad; seta originating from each puncture. Scattered longer erect tactile setae on disc. Sutural striae rather broad, developed in apical third of elytra. Epipleura moderately broad. Metathoracic wings not studied. Legs moderately long, sparsely shortly setose. Femora not clavate. Terminal tibial spurs not studied. Penultimate tarsomeres broad. Basal metatarsomere not longer than combined length of the remaining tarsomeres. Male tergite VII subtruncate at posterior margin (Fig. 105), male morphological sternite VII broadly rounded at posterior margin (Fig. 104). Spiculum gastrale as in fig. 103, with long arms. Aedeagus as in figs 101–102, with peculiarly modified apex of parameres (triangular in ventral, claw-hammer-like in lateral view) and strongly narrowed apical half of penis.

Sexual dimorphism. Female unknown.

Differential diagnosis. This species has a unique shape of the aedeagus, which is, unlike in any known congeners, irregularly shaped, the penis strongly narrowed in apical half, elongate and rounded apically and sinuous in lateral aspect.

Ecology. Unknown.

Distribution. Only known from Fray Jorge National park in Coquimbo Region.

Trichananca neotropica sp. nov.

(Figs 106–113)

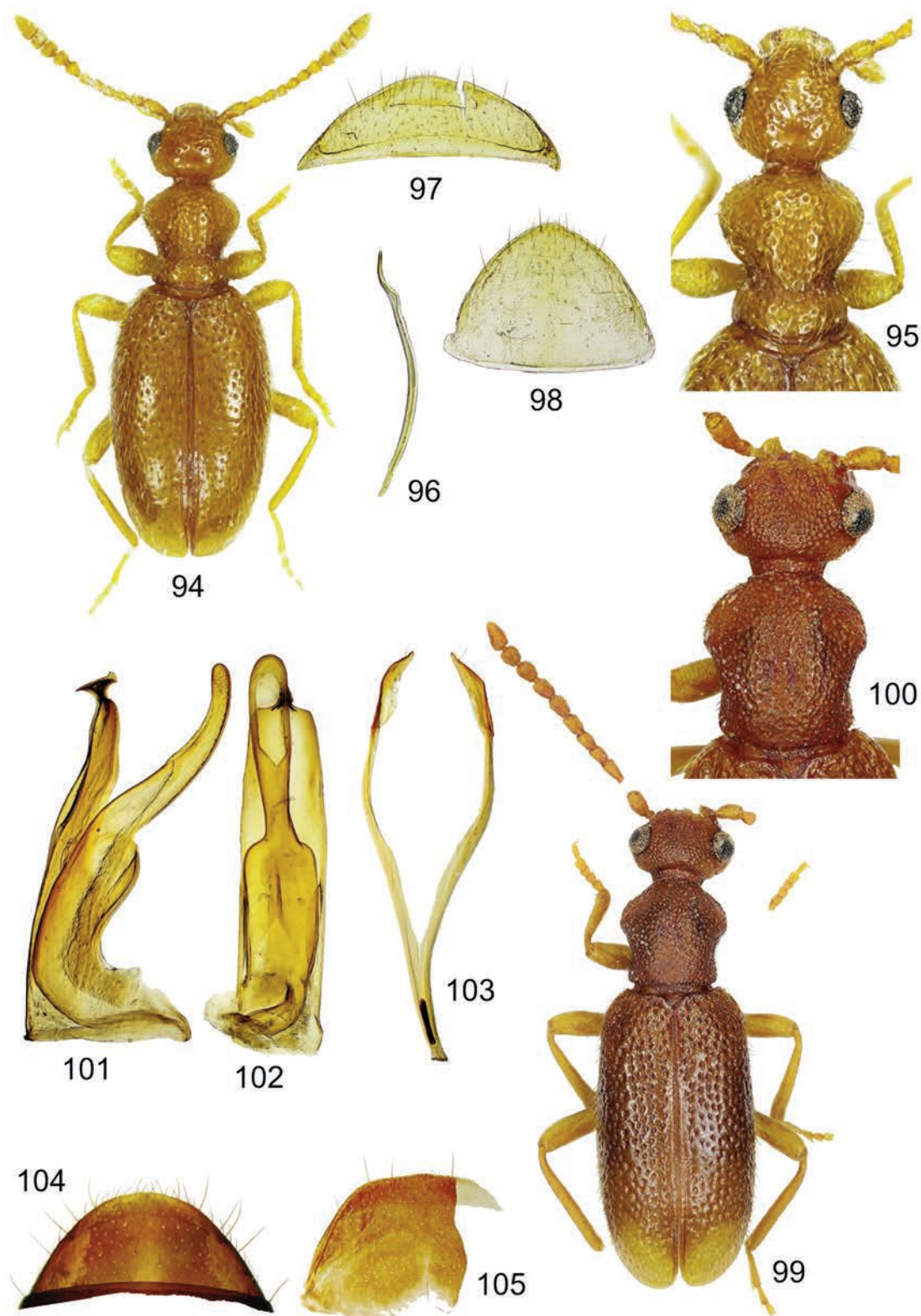
<http://zoobank.org/6122ADCD-6664-4D3D-A8F0-841B217B872B>

Holotype ♂ ADC: Chile prov. Concepcion Periquillo [printed] 29.XII.02 [handwritten] leg. T. Cekalovic [printed].

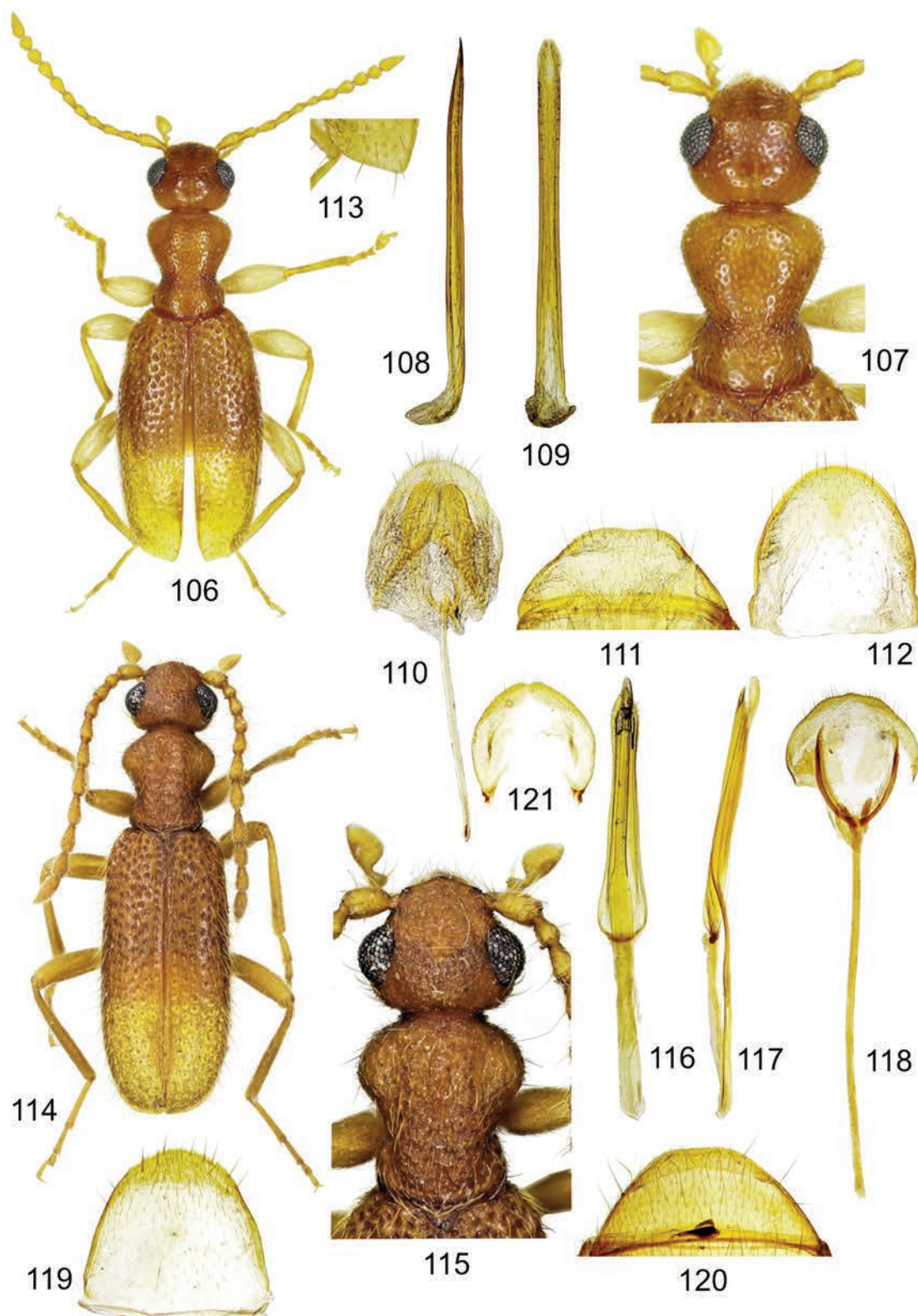
Derivatio nominis. Named after the Neotropical biogeographical region.

Measurements. Holotype, total body length 3.3 mm; head length 0.7 mm, head width across eyes 0.62 mm, pronotal length 0.8 mm, maximum pronotal width 0.6 mm, minimum pronotal width 0.37 mm, elytral length 1.8 mm, combined maximum elytral width 1.14 mm.

Description. Dorsum uniformly yellowish-brown, head and indistinctly defined median transverse band on elytra slightly darker. Mouthparts, antennae, palps and legs yellow. Venter yellowish to yellowish-orange, becoming darker on first two visible abdominal segments. Head dorsally slightly convex, glossy, with large prominent ovoid eyes. Interfacetal setae long, sparse. Frontoclypeal suture not indicated. Hind temporal angles broadly rounded with head base, base medially subtruncate. Frons very broad between eyes.



Figures 94–105. Chilean *Tomoderus* and *Trichananca*: (94–98) *Tomoderus nahuelbuta* sp. nov., holotype ♂: (94) habitus, dorsal view; (95) forebody, dorsal view; (96) aedeagus, lateral view; (97) morphological sternite VII; (98) tergite VII; (99–105) *Trichananca inexpectata* sp. nov., holotype ♂: (99) habitus, dorsal view; (100) forebody, dorsal view; (101–102) aedeagus, ventral (101) and lateral (102) view; (103) spiculum gastrale; (104) morphological sternite VII; (105) tergite VII. Not to scale.



Figures 106–121. Chilean *Trichananca*: (106–113) *Trichananca neotropica* sp. nov., holotype ♂: (106) habitus, dorsal view; (107) forebody, dorsal view; (108–109) aedeagus; (110) spiculum gastrale, morphological sternite IX and tergite IX; (111) morphological sternite VII; (112) tergite VII; (113) apex of left elytra, dorsal view; (114–121) *Trichananca poggii* sp. nov., holotype ♂: (114) habitus, dorsal view; (115) forebody, dorsal view; (116–117) aedeagus (crystalized membrane is attached to the base of tegmen is not a part of male aedeagus); (118) spiculum gastrale and tergite IX; (119) tergite VII; (120) morphological sternite VII; (121) morphological sternite IX. Not to scale.

Punctures ovoid, shallow, moderately large, intervening spaces smooth, generally as large as punctures. Punctures are gently microreticulate on background. Pubescence whitish to yellowish, moderately long, suberect, sparse; seta originating from each puncture. Few much longer erect tactile setae on frons at antennal insertions (two) and on sides posterior to eyes (2–3 on either side of head). Antennae in male extending to postbasal transverse impression of elytra. Basal antennomere about 1.5× as long as the 2nd antennomere. Third antennomere 1.5× as long as the preceding antennomere. Antennomeres 2–6 elongate, antennomeres 7–10 widened and shortened, penultimate antennomere about as long as wide. Terminal antennomere pointed conical, about 2× as long as the penultimate one. All antennomeres with moderately long and dense and some significantly longer erect setae. Terminal maxillary palpomere small, scalene triangular. Pronotum dorsally flattened, glossy, slightly narrower than head, subtruncate anteriorly and posteriorly, strongly narrowing laterally towards postmedian transverse constriction. Transverse constriction not or barely continues dorsally across pronotal disc, dorsally and laterally with large coarse punctures; intervening spaces narrow, rugulose. Anterior rim complete dorsally (inconspicuous) and ventrally, narrow. Antebasal sulcus very narrow dorsally, but very broad laterally toward hypomera. Punctures of disc moderately large, dense, shallow, intervening spaces glossy, smaller than punctures, gently microreticulate on background. Pubescence as on head, directed posteriad, with several much longer erect tactile setae on disc and along lateral margins. Scutellar shield very small, rounded apically. Elytra elongate, subopaque dorsally, flattened in lateral view. Humeri not indicated, fully rounded. Postbasal transverse impression vaguely indicated. Elytral apices obliquely subtruncate; sutural angle very slightly protruding apicad (Fig. 113). Punctures of elytral disc large and coarse, intervening spaces smaller than punctures; punctures becoming smaller and shallower postmedium, intervening spaces as large as to slightly larger as to twice as large as punctures. Setae yellowish, suberect, long and moderately dense, directed posteriad. Scattered longer erect tactile setae on disc. Suture striae weak, rather broad, developed in apical half of elytra. Epipleura moderately broad, extending to apical sixth of elytron. Metathoracic wings reduced to long rather narrow plates. Legs long and slender, sparsely shortly setose. Femora thickened but only slightly clavate. Male metatibia slightly swollen medially on inner margin. Terminal tibial spurs not observed. Penultimate tarsomeres broad. Basal metatarsomere distinctly longer than combined length of the remaining tarsomeres. Male tergite VII rounded at posterior margin (Fig. 112), male morphological sternite VII broadly rounded and

shortly medially emarginate at posterior margin (Fig. 111). Spiculum gastrale, male tergite IX and morphological sternite IX as in fig. 110. Aedeagus straight, as in figs 108–109, shape of its apex unknown (tip of the apex seems to be missing in holotype, as figured).

Sexual dimorphism. Female unknown.

Differential diagnosis. This species is primarily different from Chilean congeners by the combination of the following features: long, slender, nearly straight aedeagus, absence of median longitudinal pronotal sulcus, obliquely subtruncate elytral apices, and dorsal outline of forebody (slender and elongate, less strongly widened on anterior lobe than in congeners).

Ecology. Unknown.

Distribution. Only known from Concepción surroundings, Bío Bío Region, central Chile.

Trichananca poggii sp. nov.

(Figs 114–121)

<http://zoobank.org/247DB00B-B9B6-477A-8EE9-A351BD85F8D7>

Holotype ♂ BMNH: CHILE: 40kmWAngol Nahuelbuta Nat. Pk. 9.XII.84–17.II.85 S&JPeck, 12–1500m, FITS Nothofagus-Araucaria For. [printed] / Protoanthicus ? marziae M&V [handwritten] det. DSChandler [printed].

Paratypes 2 specimens. 1 DCC: Chile: Pemehue P.Malleco II-1-1968 [printed] / at night L.& C.W.O'Brien [printed]; 1 DTC: CHILE, prov. Malleco Parque Nac. Nahuelbuta (entrada) mar 2001, suelo leg. J.E. Barriga S 37° 49.555' W 72° 58.008' [printed].

Derivatio nominis. Patronymic. This species name is devoted to Dr. Roberto Poggi (Museo Civico di Storia Naturale “Giacomo Doria”, Genoa, Italy), well-known coleopterist and our responsive colleague, for his commitment to the conservation of zoological collections and the study of Coleoptera.

Measurements. Holotype, total body length 4.08 mm; head length 0.7 mm, head width across eyes 0.8 mm, pronotal length 0.95 mm, maximum pronotal width 0.8 mm, minimum pronotal width 0.5 mm, elytral length 2.43 mm, combined maximum elytral width 1.14 mm. Paratypes are 3.8–4.5 mm long.

Description. Dorsum and venter uniformly pale brown. Antennae, palps, and legs paler yellow. Head dorsally slightly convex, opaque, with very large strongly prominent ovoid eyes. Interfacetal setae not indicated. Frontoclypeal suture not indicated. Hind temporal angles broadly rounded, head base subtruncate to slightly concave. Frons very broad between eyes. Punctures variable in size and shape, shallow, intervening spaces opaque, generally smaller than punctures. Pubescence yellowish, moderately long, suberect, sparse; seta originating from each puncture. Much longer erect to suberect tactile setae on frons at

antennal insertions (two) and on sides posterior to eyes (4–5 on either head side). Antennae in male extending to the posterior margin of the postbasal transverse impression of elytra but not reaching elytral midlength. Basal antennomere thickened, about $2\times$ as long as the 2nd antennomere. Third antennomere about $1.75\times$ as long as second. Antennomeres 3–9 elongate, penultimate antennomere slightly shortened and widened, but much longer than wide. Terminal antennomere elongated conical, in male about $1.3\times$ as long as the penultimate one. All antennomeres with moderately long and dense suberect and some significantly longer erect setae. Terminal maxillary palpomere weakly securiform. Pronotum dorsally flattened, subopaque, slightly narrower than head, truncate anteriorly and posteriorly, strongly narrowing laterally towards postmedian transverse constriction. Transverse constriction discontinued dorsally across pronotal disc, laterally with large coarse punctures; intervening spaces narrow, rugulose. Anterior rim, weakly indicated dorsally, inconspicuous and narrow laterally and ventrally. Antebasal sulcus not indicated dorsally, inconspicuous and narrow laterally toward hypomera. Broad shallow longitudinal impression present on disc, running from anterior one fifth to the base and laterally delimited by low flat straight ridges. Punctures of disc moderately large, dense and coarse, irregularly shaped, intervening spaces subopaque, generally smaller than punctures. Pubescence as on head, directed posteriad, with several longer erect tactile setae on disc and along lateral margins. Scutellar shield small, shortly setose, rounded apically. Elytra elongate, subopaque dorsally, flattened in lateral view, maximum width posterior to middle. Humeri not indicated, area fully rounded. Postbasal transverse impression not indicated. Elytral apices broadly rounded. Punctures of elytral disc large and coarse, intervening spaces about as large as punctures; punctures becoming smaller and shallower on apical half. Setae yellowish, subdecumbent, long and moderately dense, directed posteriad. Several longer erect tactile setae on disc. Sutural striae rather broad, developed in apical half of elytra. Epipleurae moderately broad, reaching apices of elytra. Metathoracic wings not present (apterous). Legs long and slender, sparsely shortly setose. Femora elongate, not thickened. Terminal tibial spurs paired, short and inconspicuous. Penultimate tarsomeres short. Basal metatarsomere slightly shorter than combined length of the remaining tarsomeres. Tarsal claws long, curved. Prosternum with low obtuse longitudinal ridge from anterior margin to procoxal cavity. Male tergite VII broadly rounded at posterior margin (Fig. 119), male morphological sternite VII rounded medially subtruncate at posterior margin (Fig. 120). Spiculum gastrale and male tergite IX as in fig. 118. Male morphological sternite IX as in fig. 121. Aedeagus as in figs

116–117, with penis flattened apically in lateral aspect and rounded apically.

Sexual dimorphism. Not studied.

Differential diagnosis. This species is primarily different from Chilean congeners by the combination of the following features: shape of the aedeagus, comparatively long male antennae, weakly longitudinally sulcate pronotum.

Ecology. Collected in mid-montane *Araucaria* / *Nothofagus* mixed forests, altitude 1200–1500 m.

Distribution. Only known from E part of Nahuelbuta National park, Araucania Regions, central Chile.

Annotated checklist of Chilean Anthicidae with new records

Only records related to taxonomy or Chilean records are considered. Genera and species endemic to Chile are marked with an asterisk [*]. Species considered to have been introduced into Chile due to human activities are marked with [¹]. All records listed as new are based on specimens identified by the first author. Distribution is given in accordance with the current administrative divisions (regions) of Chile.

Anthicinae Latreille, 1819

Anthicini Latreille, 1819

Acanthinus LaFerté-Sénéctère, 1849

Acanthinus strangulatus (Pic, 1895)

Bibliography: Pic (1895: p.19, footnote 1) original description, as *Formicomus leporinus* Laf. [now *Acanthinus confusus* (Pic, 1895)] race *strangulatus* Deyr.; Pic (1897: p.214) checklist, as *Formicomus strangulatus*; Pic (1911b: p.22) checklist, as *Formicilla strangulata*; Blackwelder (1945: p.432) checklist, as *Formicilla strangulata*; Werner (1962: p.112) checklist, new combination; Werner (1965: p.11) key, distribution; Werner (1970: p.723, figs. 17 & 31) re-description, key, distribution; Werner (1974: pp. 28–29) key, distribution.

Distribution in Chile. This species is originally described from 'Chili'. No other records of *A. strangulatus* are known from Chile and, as already stated by Werner (1970: 723; 1974: 29), the occurrence of this species in Chile needs further confirmation.

General distribution. Argentina, Chile(?), Uruguay.

Anthicus Paykull, 1798

Anthicus crinitus LaFerté-Sénéctère, 1849¹

For complete synonymy see Chandler *et al.* (2008).

First record for Chile: 1 specimen OUMNH: Chili Germain / Anthicus / Coll.(1830-73) WWSaunders Ex coll.H.E. Cox. dd.1916 Mrs.Cox / Hope Entomological Collection Ex. Cabinet 6, drw 9.

Distribution in Chile. Unknown.

General distribution. Cosmopolitan or nearly cosmopolitan.

***Anthicus postsignatus* Pic, 1901**

= *Anthicus postsignatus* var. *subnebulosus* Pic, 1913.

= *A. postsignatus* var. *vianai* Pic, 1938.

Bibliography: Uhmman (2000: p.154) records.

Distribution in Chile. Los Ríos, Región Metropolitana, Valparaíso (entomoregions of Coquimban Desert, Central Valley, and Valdivian Forest).

General distribution. Argentina, Chile, Uruguay.

***Anthicus torquatus* Werner, 1966ⁱ?**

Bibliography: Werner (1974: pp. 28 & 30) key, record, distribution ("most likely to have been introduced ... from Argentina").

New records: 2 specimens ADC: Chile: prov. Concepcion, fundo El Manzano, 23.IV.1996, T. Cekalovic; 1 specimen ADC: Chile: prov. Concepcion, fundo El Manzano, 18.XI.1996, T. Cekalovic leg.; 2 specimens ADC: Chile: prov. Concepcion, fundo El Manzano, 12.X.1998, T. Cekalovic leg.; 5 specimens ADC: Chile: prov. Concepcion, fundo El Manzano, 23.IV.2002, T. Cekalovic leg.

Distribution in Chile. Bío Bío, Región Metropolitana (entomoregions of Central Valley and Northern Valdivian Forest).

General distribution. Argentina, Bolivia, Chile, Uruguay.

***Formicilla* LeConte, 1851**

***Formicilla bruchi* Pic, 1904**

Bibliography: Chandler (1973: p.32, figs. 1a & 10) record ("doubtful record...").

Distribution in Chile. Unknown.

General distribution. N Argentina, Chile(?), Paraguay (D. Telnov, unpublished data).

***Hirticomus* Pic, 1894**

***Hirticomus quadriguttatus* (Rossi, 1792)ⁱ
(Figs 149–151)**

For complete synonymy, refer to Chandler *et al.* (2008).

First record for Chile and the New World: 1 specimen MZUF: CHILE, prov. Curicó, Hue ca-hus can,

Camino Zapallar 10 km.E. Curicó 14-21. Mar 2000 leg. J.E. Barriga Malaise trap; Central Chile, Maule Region, 16 km E Linares, -35.822986, -71.769593, 25.vii.2019, under pieces of old asphalt, leg. C.Maureira [15 specimens observed and photographed at 17:24 local time; C. Maureira personal communication]; Central Chile, Maule Region, 16 km E Linares, -35.822602 Longitude: -71.769809, 17.ix.2019, leg. C.Maureira [1 specimen observed and photographed at 10:42 local time; C. Maureira personal communication]; Central Chile, Maule Region, 16 km E Linares, -35.821411 Longitude: -71.768681, 17.ix.2019, leg. C.Maureira [2 specimens observed and photographed at 17:21 local time; C. Maureira personal communication]; San Rosendo 05.xii. 2019 (1 specimen photographed) (iNaturalist 2019).

Distribution in Chile. Bío Bío, Maule.

General distribution. Circum-Mediterranean, Asia Minor, Azores, southern Caucasus, Central Asia, southern and S of central Europe, Turkey. Introduced to and evidently established in Chile.

***Ischyropalpus* LaFerté-Sénectère, 1849**

Ischyropalpus aberratus* sp. nov.

Described above.

Distribution in Chile. Coquimbo (entomoregion of Coquimban Desert), Libertador General Bernardo O'Higgins (entomoregion of Central Valley), Valparaíso (entomoregion of Central Coastal Cordillera).

General distribution. Endemic to Chile.

Ischyropalpus curtisii curtisii* (Solier, 1851)

[curtisi of authors]
(Figs 30 & 127–131)

Bibliography: Solier (1851: p.276, pl. 21 fig. 10a-d) original description, as *Formicomus Curtisii*; Lacordaire (1859: p.592) checklist, as *Formicomus Curtisii*; Fairmaire & Germain (1863: p.245) additional description & distribution, as *Anthicus Curtisii*; Gemminger & Harold (1870: p.2087) checklist, as *Formicomus Curtisi*; Pic (1911b: p.42) checklist, as *Anthicus Curtisi*; Blackwelder (1945: p.433) checklist, as *Anthicus Curtisi*; Bonadona (1961a: pp.154 & 173, figs. 23, 44 & 53) key & redescription, as *Ischyropalpus Curtisi*; Werner (1966c: p.195) checklist, as *Ischyropalpus curtisi*; Werner (1974: pp.28 & 30) key, records & distribution, as *Ischyropalpus curtisi*; Peña (1988: 150, figure), as *Ischyropalpus curtisi*.

New records: 1 specimen BMNH: Chile Col Mayes Sadler 97-158.; 2 specimens BMNH: Chile ex HSQ / *Formicomus curtisii*; 1 specimen OUMNH: Chile / *Anthicus curtisii* Laf / Hope Entomological Collection

Ex. Cabinet 6, drw 9; 2 specimens OUNHM: Chili Reed / *I. curtisii* / Hope Entomological Collection Ex. Cabinet 6, drw 9; 2 specimens BMNH: Chili loc HSE. / *Formicomus curtisii* / G.C.Champion Coll. B.M. 1927–409; 1 specimen DTC: Chile, Aconcagua El Tártaro 4.XII.1986 / *Ischyropalpus curtisii* [sic!] (Solier) det.G.Uhmann 1988; 1 specimen BMNH: CHILE V Reg.San Felipe Estero Quilpué / BM1999-195 19.i.-9.ii.1999 I.Ribera; 18 specimens ADC: Chile: prov. Concepcion, Mina Schwanger Coronel, 20.I.1999, T. Cekalovic leg.; 3 specimens MZUF: CHILE, prov. Elqui, Quebrada Seca, 25 nov 2000, 130 mt., leg. J.E. Barriga S 30° 30.524' W 71° 29.566' / Coleccion J.E. BARRIGA CHILE 114995 /

Ischyropalpus curtisii [sic!] (Solier Det.J.E. Barriga Tuñon 2008 / Coll. ANGELINI Num. mag. 2957; 1 specimen ADC: CHILE: centr., Reg., V Cabildo, La Viña env., 14.II.2003, M. Snižek leg.; 4 specimens MZUF: CHILE, Limarí prov; Frey Jorge NP; malaise on bank of Quebrada las Vacas; 190 m, 12/31 dic 2003, leg. M.E. Irwin, FD Parker, 30.64448° S, 71.66072° W. / El Schlinger Foundation Insect Expedition, Deposit primary types with the Univ. Chile Luis E. Peña Entomological Museum / Coleccion J.E. BARRIGA CHILE 151266 / *Ischyropalpus curtisii* [sic!] (Solier) Det.J.E. Barriga Tuñon 2008 / Coll. ANGELINI Num. mag. 2957; 1 specimen ADC: Chile: Los Vilos (IV) R., 20-XI.2014, gamba L. Melloni.



Figures 122–131. Chilean *Ischyropalpus*, male genital organs and last abdominal segments: (122–126) *I. aberratus* sp. nov., holotype: (122) aedeagus, ventral view; (123) ditto, lateral view; (124) spiculum gastrale; (125) morphological sternite VII; (126) tergite VII; (127–131) *I. curtisii curtisii* (Solier, 1851): (127) aedeagus, ventral view; (128) ditto, lateral view; (129) spiculum gastrale; (130) morphological sternite VII; (131) tergite VII. Not to scale.

Distribution in Chile. Bío Bío, Coquimbo, Libertador General Bernardo O'Higgins, Región Metropolitana, Valparaíso (entomoregions of Coquimban Desert, Central Valley and Northern Valdivian Forest).

General distribution. Endemic to Chile.

Ischyropalpus curtisii wittmeri* Bonadona, 1961

Bibliography: Bonadona (1961a: pp.173 & 175, figs. 45 & 47) original description, as *Ischyropalpus Curtisi Wittmeri*; Werner (1966c: p.195) checklist, as *Ischyropalpus curtisii wittmeri*; Werner (1974: p.30) distribution.

Distribution in Chile. Coquimbo (entomoregion of Coquimban Desert).

General distribution. Endemic to Chile.

***Ischyropalpus maculosus* (Fairmaire et Germain, 1860)*
(Figs 132–134)**

Bibliography: Fairmaire & Germain (1860: p.3) original description, as *Anthicus maculosus*; Fairmaire & Germain (1863: pp.248) additional description, distribution & ecology ('commun sur le *Fagus obliqua*', now *Nothofagus obliqua* (Mirb.)), as *Anthicus maculosus*; Gemminger & Harold (1870: p.2097) checklist, as *Anthicus maculosus*; Pic (1911b: p.60) checklist, as *Anthicus (Ischyropalpus) maculosus*; Blackwelder (1945: p.435) checklist, as *Anthicus maculosus*; Bonadona (1961a: p.172, figs. 26, 42–43, 56–57), redescription; Werner (1966c: p.195) checklist; Werner (1974: pp.29 & 31) key, records, distribution; Telnov (1999: p.79) record, incorrectly placed to Microhoriini; Uhmann (2000: p.155) records.

New records: 2 specimens ADC: Chile: prov. Concepcion, Curinan, 29.XII.1994, T. Cekalovic leg.; 7 specimens ADC: Chile: prov. Concepcion, Curinan, 14.XII.1996, T. Cekalovic leg.; 3 specimens ADC: Chile: prov. Concepcion, Curinan, 09.I.1999, T. Cekalovic leg.; 7 specimens MZUF: CHILE E,prov. Curicó, 20 km. E. Potrero Grande, El Relvo 14 ene 2004, leg. J.E. Barriga T., fogging, s/ Lomatia dendata, N. obliqua, S 35° 11' W70° 55.9' / Coleccion J.E. BARRIGA CHILE 140848 / *Ischyropalpus maculosus* (Fairm & Germ). Det.J.E. Barriga Tuñon 2008 / Coll. ANGELINI Num. mag. 2957; 2 specimens ADC: Chile CE. VII Talca Lago Colbun 14.I.2004 leg.M.Snizek.

Distribution in Chile. Bío Bío, Coquimbo, Libertador General Bernardo O'Higgins, Maule, Región Metropolitana, Valparaíso (entomoregions of Coquimban Desert and Central Valley).

General distribution. Endemic to Chile.

***Ischyropalpus parallelus* (Solier, 1851)
(Figs 29 & 135)**

= *Anthicus nigrofemoratus* Fairmaire et Germain, 1860.
= *A. planicollis* Fairmaire et Germain, 1860.
= *A. curtisii* var. *latereductus* Pic, 1913.

Bibliography *I. parallelus*: Solier (1851: p.278) original description, as *Formicomus parallelus*; Lacordaire (1859: p.592) checklist, as *Formicomus parallelus*; Fairmaire & Germain (1863: p.249) record, as *Anthicus parallelus*; Gemminger & Harold (1870: p.2088) checklist, as *Formicomus parallelus*; Pic (1911b: p.66) checklist, as *Anthicus (Ischyropalpus) parallelus*; Blackwelder (1945: p.434) checklist, as *Anthicus parallelus*; Werner (1966c: p.196) checklist; Werner (1974: pp.29 & 31) key, new synonymy, records, distribution; Uhmann (2000: pp.155) records.

Bibliography *A. nigrofemoratus*: Fairmaire & Germain (1860: p.3) original description, as *Anthicus nigro-femoratus*; Fairmaire & Germain (1863: p.247) redescription, distribution, as *Anthicus nigrofemoratus*; Gemminger & Harold (1870: p.2098) checklist, as *Anthicus nigrofemoratus*; Pic (1911b: p.63) checklist, as *Anthicus nigrofemoratus*; Blackwelder (1945: p.434) checklist, as *Anthicus nigrofemoratus*; Werner (1966c: p.196) checklist; Werner (1974: p.31) new synonymy.

Bibliography *A. planicollis*: Fairmaire & Germain (1860: p.3) original description, as *Anthicus planicollis*; Fairmaire & Germain (1863: p.248) redescription, distribution, as *Anthicus planicollis*; Gemminger & Harold (1870: p.2099) checklist, as *Anthicus planicollis*; Pic (1911b: p.67) checklist, as *Anthicus (? Ischyropalpus) planicollis*; Blackwelder (1945: p.434) checklist, as *Anthicus planicollis*; Bonadona (1961a: p.166) in part, as synonym of *I. sericans*; Werner (1966c: p.196) checklist, as synonym of *I. sericans*; Werner (1974: p.31) new synonymy.

Bibliography *I. curtisii* var. *latereductus*: Pic (1913: p.347) original description, as *Anthicus Curtisi* [sic!] var. *latereductus*; Blackwelder (1945: p.433) checklist, as *Anthicus curtisi* [sic] v. *latereductus*; Bonadona (1961a: p.172, fig. 52) redescription, as *Ischyropalpus latereductus*; Werner (1966c: p.195) checklist; Werner (1974: p.31) new synonymy.

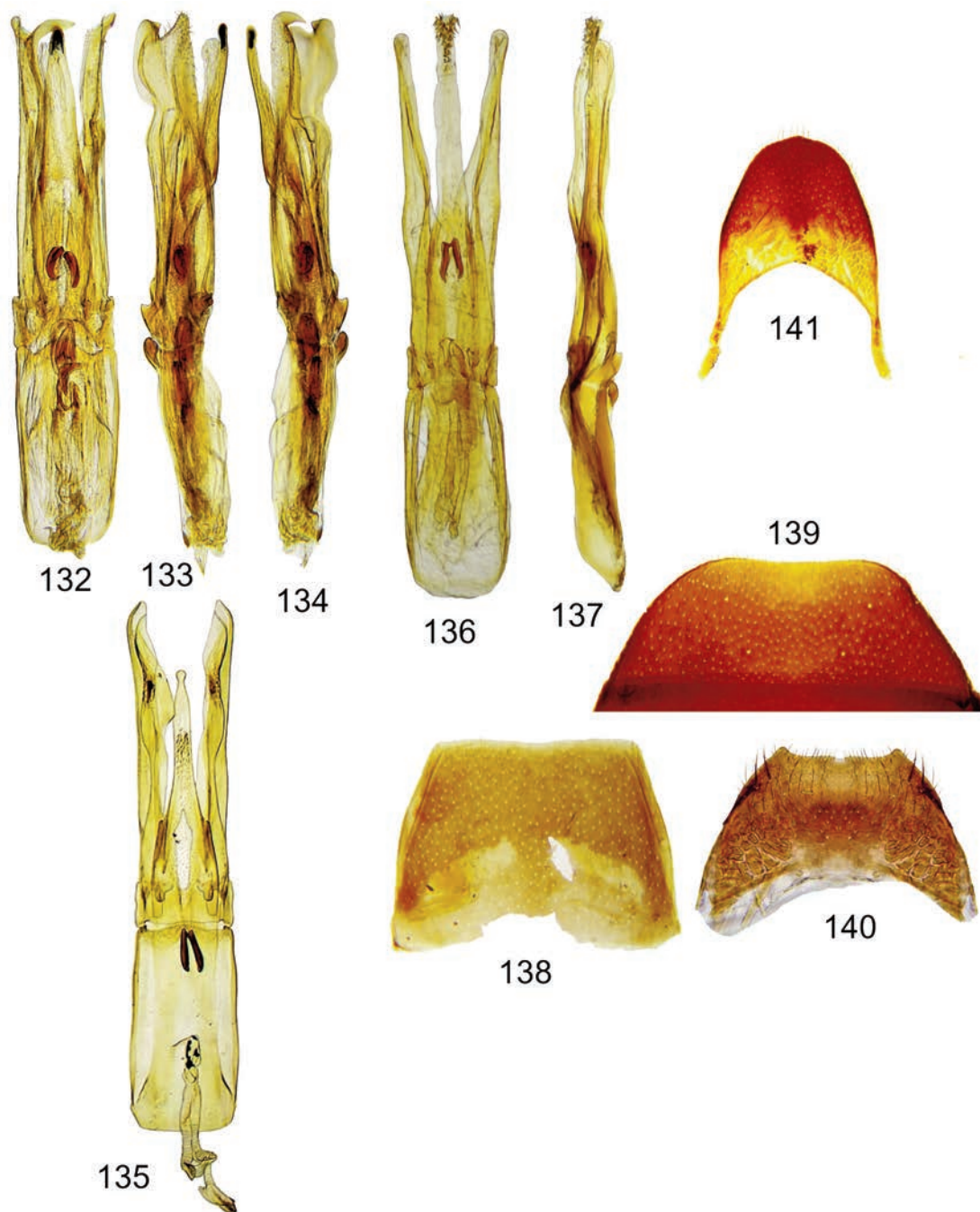
Type material 1 syntype MNHN: Santa Rosa [handwritten] / *Formicomus parallelus* [handwritten].

New records: 7 specimens MZUF: CHILE E,prov. Curicó, 20 km. E. Potrero Grande, El Relvo 27 dic 2003, leg. J.E. Barriga T., fogging, s/ Quillaia saponaria, S 35° 11' 8.2" W070° 56' 6" / Coleccion J.E. BARRIGA CHILE 149514 / *Ischyropalpus parallelus* (Solier). Det.J.E. Barriga Tuñon 2008 / coll. ANGELINI Num. Mag. 2957; 1♂ & 2♀ ADC: Chile CE.reg.VIICurico E di Potrero Grande 10.XII.2003, Leg.M.Snizek; 1♂ ADC: Chile CW.reg.VII SW di Cuirihue 8.II.2004, M.Snizek.

Three additional specimens (in the BMNH) from South Argentina, Chubut Province, is the southernmost record of this species: CHILE [sic! Argentina]: Chubut, Epuye. [sic! Correct name is Epuyen] 18.xi.1962. A. KOVACS. B.M.1964–193.

Distribution in Chile. Bío Bío, Coquimbo, Maule, Región Metropolitana, Valparaíso (entomoregions of Coquimban Desert, Central Valley and Northern Valdivian Forest).

General distribution. Argentina, Chile, Peru.



Figures 132–141. Chilean *Ischyropalpus*, male genital organs and last abdominal segments: (132–134) *I. maculosus* (Fairmaire et Germain, 1860): (132) aedeagus, ventral view; (133–134) ditto, right and left lateral view; (135) *I. parallelus* (Solier, 1851), aedeagus, ventral view; (136–141) *I. quadrimaculatus* sp. nov., holotype: (136) aedeagus, ventral view; (137) ditto, lateral view; (138) tergite VII; (139) morphological sternite VII; (140) morphological sternite IX; (141) tergite IX. Not to scale.

Note. We did not check the types of *Anthicus nigrofemoratus* Fairmaire et Germain, 1860, *A. planicollis* Fairmaire et Germain, 1860 and *A. curtisii* var. *latereductus* Pic, 1913 and relied on the synonymy as proposed by Werner (1974: p.31).

Ischyropalpus quadrimaculatus* sp. nov.

Described above.

Distribution in Chile. Bío Bío, Maule (entomoregions of Central Valley and Northern Valdivian Forest).

General distribution. Endemic to Chile.

***Ischyropalpus sericans sericans* (Erichson, 1834)**

= *Anthicus amplicollis* Boheman, 1858.

Bibliography: Bonadona (1961: p.166) redescription, synonymy (in part for *I. parallelus*) distribution; Werner (1974: pp.29 & 32) key & bibliography, records; Telnov (1999: p.79) record, incorrectly placed to Microhoriini; Uhmman (2000: p.155) records.

Bibliography *A. amplicollis*: Boheman (1858: p.106) original description, *Anthicus amplicollis*; Pic (1911b: p.32) checklist, as *Anthicus amplicollis*, distribution ("? U.S."); Werner (1966c: p.196), synonymy.

New records: 9 specimens MZUF: CHILE, prov. Huasco, Vallenar 30 nov 1987 leg. J.E. Barriga / Coll. ANGELINI Num. Mag. 2957; 1 specimen MZUF: Parcuelas de Chaca, CHILE prov. Tarapacá-XI-1993 lg. J.E. Barriga / en flores de Shinus molle / Coleccion J.E. BARRIGA CHILE 19960 / *Ischyropalpus sericans* (Er.) Det.J.E. Barriga Tuñon 1998 / Coll. ANGELINI Num. mag. 2957; 1 specimen SMNS: Chile (VII. Reg.) 400/500 m Cerro El Castillo s. Linares Heinz leg. 12/13.I.2001.

Distribution in Chile. Atacama, Maule, Tarapacá (entomoregions of Northern Desert, Intermediate Desert and Central Valley).

General distribution. Brazil, Chile, Ecuador, Paraguay, Peru. Subspecies *Ischyropalpus sericans trieductus* (Pic, 1928) in Argentina.

Ischyropalpus similis* sp. nov.

Described above.

Distribution in Chile. Maule (entomoregion of Central Valley).

General distribution. Endemic to Chile.

Ischyropalpus testaceoguttatus testaceoguttatus
(Fairmaire et Germain, 1863)
(Figs 35–36 & 147–148)

= *I. catamarcanus* Pic, 1926.

Bibliography *I. testaceoguttatus*: Fairmaire & Germain (1863: p.247) original description, as *Anthicus testaceoguttatus*; Pic (1911b: p.76) checklist, as *Anthicus (Ischyropalpus) testaceoguttatus*; Blackwelder (1945: p.435) checklist, as *Anthicus testaceoguttatus*; Bonadona (1961a: p.162) redescription in part, not for male and figures; Werner (1966c: p.196) checklist; Werner (1974: pp.28 & 32) key & bibliography, records; Uhmman (2000: p.155) record.

Bibliography *I. catamarcanus*: Pic (1926: p.25) original description (from Argentina).

New records: 5 specimens ADC: Chile: Malleco prov. Cordillera de Nahuelbuta (Piedra del Aguila) 29.XII.1988, T. Cekalovic leg.; 2 specimens ADC: Chile: prov. Concepcion, Curinan, 29.XII.1994, T. Cekalovic leg.; 2 specimens ADC: Chile: prov. Concepcion, Curinan, 20.I.1996, T. Cekalovic leg.; 26 specimens ADC: Chile: prov. Concepcion, Curinan, 14.XII.1996, T. Cekalovic leg.; 2 specimens ADC: Chile: prov. Concepcion, Curinan, 09.I.1999, T. Cekalovic leg.; 4 specimens ADC: Chile: CW. Reg. VII Contotution E of Putu, 08.XII.2003 M. Snizek leg.; 1 specimen ADC: Chile: prov. Concepcion, fundo El Manzano, 18.XI.1996, T. Cekalovic leg.; 5 specimens MZUF: CHILE E,prov. Curicó, 20 km. E. Potrero Grande, El Relvo 30 dic 2003, leg. J.E. Barriga T., fogging, s/ N. dombeyi, S 35° 11.35' W70° 57.5' / Coleccion J.E. BARRIGA CHILE 150331 / *Ischyropalpus testaceoguttatus* (Fairm & Germ). Det.J.E. Barriga Tuñon 2008; 2 specimens MZUF: CHILE E,prov. Curicó, 20 km. E. Potrero Grande, El Relvo 16 ene 2004, leg. J.E. Barriga T., fogging, s/ Lomatia dendata, N. obliqua, S 35° 11' W70° 55.9' / Coleccion J.E. BARRIGA CHILE 147963 / *Ischyropalpus testaceoguttatus* (Fairm & Germ). Det.J.E. Barriga Tuñon 2008 / Coll. ANGELINI Num. mag. 2957.

Distribution in Chile. Bío Bío, Maule, Ñuble, Valparaíso (entomoregions of Coquimban Desert, Central Valley and Northern Valdivian Forest).

General distribution. Bolivia, Chile. Subspecies *Ischyropalpus testaceoguttatus esteroensis* (Pic, 1928) in Argentina.

***Omonadus* Mulsant et Rey 1866**

***Omonadus floralis* (Linnaeus, 1758)ⁱ**

= *Anthicus semirufus* Fairmaire et Germain, 1860

= *Formicomus breviculus* Philippi, 1864

For complete synonymy, refer to Chandler *et al.* (2008).

Bibliography *O. floralis*: Werner (1974: pp.28 & 29), key & bibliography; Uhmman (2000: p.153) record.

Bibliography *A. semirufus*: Fairmaire & Germain (1860: p.3) original description; Fairmaire & Germain (1863: p.246) record & ecological information.

Bibliography *F. breviculus*: Philippi (1864: p.353) original description.

Distribution in Chile. Arica y Parinacota.
General distribution. Cosmopolitan.

Sapintus Casey 1895

Sapintus costae sp. nov.*

Described above.

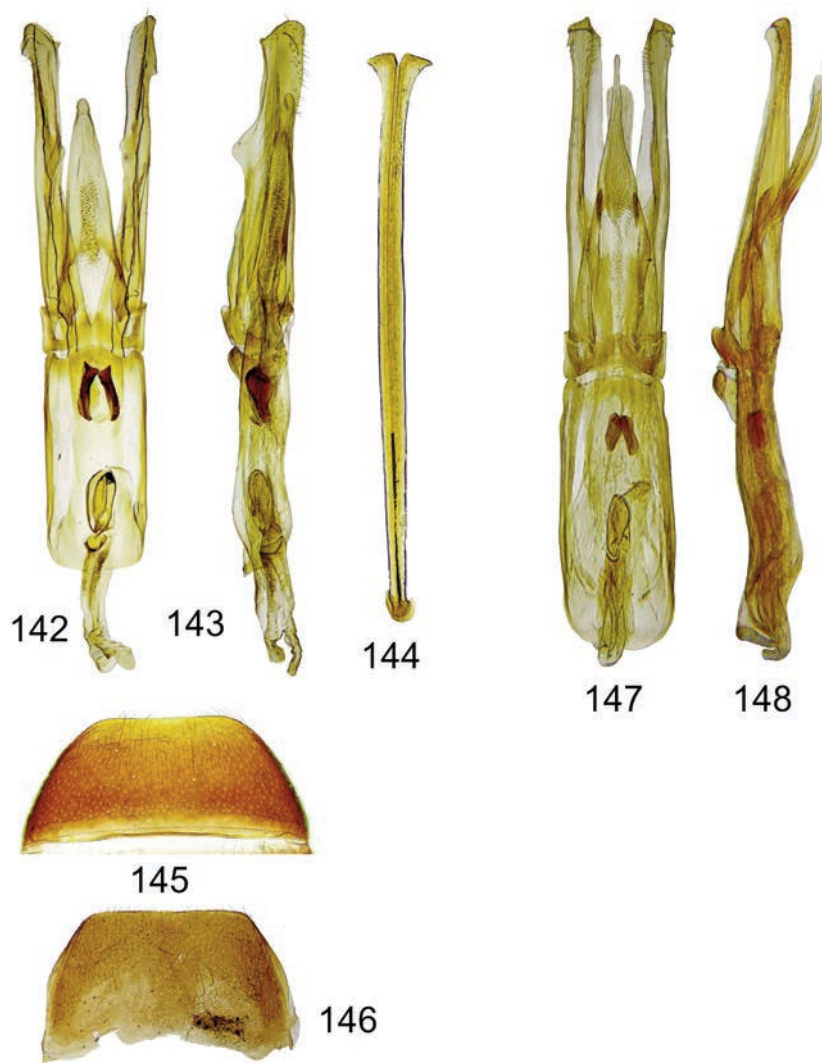
Distribution in Chile. Los Lagos (entomoregion of Valdivian Forest).

General distribution. Endemic to Chile.

Sapintus crux (Fairmaire et Germain, 1860) *comb. nov.

Bibliography: Fairmaire & Germain (1860: p.3) original description, as *Anthicus crux*; Fairmaire & Germain (1863: p.246) record & ecological data, as *Anthicus crux*; Gemminger & Harold (1870: p.2094) checklist, as *Anthicus crux*; Pic (1911b: p.42) checklist, as *Anthicus crux*; Blackwelder (1945: p.433) checklist, as *Anthicus crux*; Werner (1974: pp.28–29) key, bibliography & records, as *Anthicus crux*.

New combination: Mesepisternal setae are present but less dense and conspicuous than for most congeners. Elytral setae simple (no undersetae present).



Figures 142–148. Chilean *Ischyropalpus*, male genital organs and last abdominal segments: (142–146) *I. similis* sp. nov., holotype: (142) aedeagus, ventral view; (143) ditto, lateral view; (144) spiculum gastrale; (145) morphological sternite VII; (146) tergite VII; (147–148) *I. testaceoguttatus testaceoguttatus* (Fairmaire et Germain, 1863): (147) aedeagus, ventral view; (148) ditto, lateral view. Not to scale.

First visible abdominal sternite (morphological sternite III) with a pubescent transverse cavity posterior to each metacoxa.

New records: 1 specimen BMNH: 54124 / Reed / Chili / Fry Coll. 1905.100. / crux det. v.Krekich; 10 specimens MSNG: Santiago Chile Ruiz 1923 / Museo Civico di Genova; 1 specimen ADC: Chile: prov. Arauco 5 km S, Norte Curanilahue, 20.X.1996, T. Cekalovic leg.; 4 specimens ADC: Chile: prov. Concepcion, fundo El Manzano, 12.X.1999, T. Cekalovic leg.

Distribution in Chile. Bío Bío, Valparaíso (entomoregions of Central Valley and Northern Valdivian Forest).

General distribution. Endemic to Chile.

Vacusus Casey, 1895

Vacusus chilensis (Solier, 1851)*

= *Formicomus quadriguttatus* Philippi et Philippi, 1864.

Bibliography *V. chilensis*: Solier (1851: p.277) original description, as *Formicomus chilensis*; Fairmaire & Germain (1863: p.245) redescription, as *Anthicus chilensis*; Gemminger & Harold (1870: p.2087) checklist, as *Formicomus chilensis*; Pic (1911b: p.40) checklist, as *Anthicus chilensis*; Blackwelder (1945: p.433) checklist, as *Anthicus chilensis*; Werner (1961: pp. 805–806) new combination, new synonymy, records; Werner (1966: p.219) record; Werner (1974: pp.28 & 32) key, bibliography & records; Uhmman (2000: p.155) record.

Bibliography *F. quadriguttatus*: Philippi & Philippi (1864: p.353) original description; Pic (1911b: p.20) checklist, as *Formicomus quadriguttatus*; Blackwelder (1945: p.432) checklist, as *Formicomus quadriguttatus*.

New material: 2 specimens OUMNH: Chile Reed / Coll (1830-73) W W Saunders Ex coll. H.E. Cox id.1916 Mrs. Cox / Hope Entomological Collection Ex. Cabinet 6, drw 9; 4 specimens MSNG: Santiago Chile Ruiz 1923 / Museo Civico di Genova; 6 specimens BMNH: CHILE: R.N., El Bolson. 27.viii.1961. A.Kovacs. B.M.1964–193.; 2 specimens MZUF: CHILE, prov. Curicó, Hue ca-hus can, Camino Zapallar 10 km E. Curicó 1-15 may 1998 leg. J.E. Barriga Malaise trap / Coll. ANGELINI Num. Mag. 2957; 1 specimen MZUF: CHILE, prov. Santiago, Santiago, 17 oct 2006, leg. J.E. Barriga-Tuñón / Coleccion J.R. BARRIGA CHILE 173718 / *Vacusus chilensis* (Solier) Det. J.E. Barriga Tuñón 2008 / Coll. ANGELINI Num. Mag. 2957.

Distribution in Chile. Coquimbo, Maule, Región Metropolitana, Valparaíso (entomoregion of Central Valley).

General distribution. Endemic to Chile.

Note. The town of El Bolson, on the label of six specimens in the BMNH, is in Argentina (41.9649°S,

71.5353°W), as is Rio Negro (R.N.) on the same labels. It is likely that Kovacs was based in El Bolson, a short distance from the Chilean border, and collected on both sides of that border, but chose to label all his specimens incongruously as 'Chile, R.N., El Bolson'. It should be assumed that any species with this label likely occurs on both sides of the Chile / Argentina border, even if no specifically Argentinean specimens are yet known.

Vacusus holoxanthus (Fairmaire et Germain, 1860)

= *Vacusus jamaicanus* Werner, 1961.

Bibliography: Fairmaire & Germain (1860: p.3) original description, as *Anthicus holoxanthus*; Fairmaire & Germain (1863: p.249) additional description & record, as *Anthicus holoxanthus*; Gemminger & Harold (1870: p.2096) checklist, as *Anthicus holoxanthus*; Pic (1911b: p.53) checklist, as *Anthicus holoxanthus*; Blackwelder (1945: p.434) checklist, as *Anthicus holoxanthus*; Werner (1961: pp.808–809) new combination, record; Werner (1966: p.219) new synonymy; Werner (1974: pp.28 & 32) key & bibliography.

Distribution in Chile. Región Metropolitana. As correctly suggested by Werner (1974), this is an ecologically plastic species, possibly adventive in Chile (entomoregion of Central Valley).

General distribution. Argentina, Bolivia, Brazil, Chile, Jamaica, Paraguay.

Formicomini Bonadona, 1974

Chileanthicus Werner, 1966

Chileanthicus acutipennis Kejval, 2009 *

Bibliography: Kejval (2009: pp.6 & 12) key & original description.

Distribution in Chile. Atacama (entomoregion of Intermediate Desert).

General distribution. Endemic to Chile.

Chileanthicus baculentus Kejval, 2009 *

Bibliography: Kejval (2009: pp.6 & 14) key & original description.

Distribution in Chile. Coquimbo (entomoregion of Coquimban Desert).

General distribution. Endemic to Chile.

Chileanthicus colpe Honour, 2016 *

Bibliography: Honour (2016: p.109) original description.

Distribution in Chile. Atacama (entomoregion of Central Andean Plateau)

General distribution. Endemic to Chile.

Chileanthicus elmorado* Kejval, 2009

Bibliography: Werner (1966: p.223) [not Solier 1851]; Kejval (2009: pp.6 & 15) key & original description.

Distribution in Chile. Atacama (entomoregion of Intermediate Desert).

General distribution. Endemic to Chile.

Chileanthicus femineus* Kejval, 2009

Bibliography: Kejval (2009: pp.6 & 18) key & original description.

Distribution in Chile. Coquimbo (entomoregion of Coquimban Desert).

General distribution. Endemic to Chile.

Chileanthicus hirsutus* Kejval, 2009

Bibliography: Kejval (2009: pp.6 & 19) key & original description.

Distribution in Chile. Atacama (entomoregion of Intermediate Desert).

General distribution. Endemic to Chile.

Chileanthicus lafertei* (Solier, 1851)

Bibliography: Solier (1851: p.277) original description, as *Formicomus Lafertei*; Fairmaire & Germain



Figures 149–151. Habitat and microhabitat of *Hirticomus quadriguttatus* (Rossi, 1792) in Chile. Discussed specimens were sampled here by Claudio Maureira from under pieces of wood, metal plates (roof fragments), and other debris (images courtesy C. Maureira).

(1863: p.245 additional description) as *Anthicus Lafertei*; Gemminger & Harold (1870: p.2088) checklist, as *Formicomus Lafertei*; Pic (1911b: p.18) checklist, as *Formicomus Lafertei*; Blackwelder (1945: p.432) checklist, as *Formicomus Lafertei*; Werner (1966: pp.223 & 225) new genus & combination, records; Werner (1974: pp.28 & 30) key, bibliography & records; Kejval (2009: p.22) redescription; Werner's (1966) record is based on misidentified specimens of *C. elmorado* (see above).

Distribution in Chile. Central Chile ("Se halla en las provincias centrales"). Records from Atacama and Coquimbo by Werner (1974) belong to different species (see Kejval (2009)).

General distribution. Endemic to Chile.

Chileanthicus maritimus Kejval, 2009*

Bibliography: Kejval (2009: pp.6 & 22) key & original description.

Distribution in Chile. Coquimbo (entomoregion of Coquimban Desert).

General distribution. Endemic to Chile.

Chileanthicus mitis Kejval, 2009 *

Bibliography: Kejval (2009: pp.6 & 23) key & original description.

Distribution in Chile. Coquimbo (entomoregion of Coquimban Desert).

General distribution. Endemic to Chile.

Note. Kejval (2009: p.23) incorrectly gives co-ordinates of the type locality for this species. Instead of "29°30'S 71°13'E" as of the author, it must be 29°30'S 71°13'W (Western Hemisphere).

Chileanthicus penai Werner, 1966 *

Bibliography: Werner (1966: p.225) original description; Kejval (2009: pp.6 & 26) key & redescription.

Distribution in Chile. Atacama, Coquimbo (entomoregion of Coquimban Desert).

General distribution. Endemic to Chile.

Microhoriini Bonadonna, 1974

Neocrohoria Telnov, 2019 *

Neocrohoria melanura (Fairmaire et Germain, 1863) *

Bibliography: Fairmaire & Germain (1863: p.246) original description, as *Anthicus melanurus*; Gemminger & Harold (1870: p.2097) checklist, as *Anthicus*

melanurus; Pic (1911b: p.61) checklist, as *Anthicus melanurus*; Blackwelder (1945: p.434) checklist, as *Anthicus melanurus*; Telnov (2019: pp.6–7) new genus & combination, lectotype designation, records; Kejval & Chandler (2020: p.115) taxonomy, records.

New material: 2 specimens ADC: Chile, prov. Concepcion, Cuesta Chiviling, 02.II.1992, T. Cekalovic; 3 specimens [ADC] Chile, prov. Concepcion, Laguna Chica de San Pedro, 05.XII.1994, T. Cekalovic; 4 specimens ADC: Chile, prov. Concepcion, Camino a Ramuntho, 08.XI.1996, T. Cekalovic; 3 specimens ADC: Chile, prov. Concepcion, Concepcion, 01.XII.1996, T. Cekalovic; 2 specimens ADC: Chile, prov. Concepcion, Curinan, 14.XII.1996, T. Cekalovic; 1 specimen ADC: Chile, prov. Concepcion, Periquillo, 29.XII.2000, T. Cekalovic; 1 specimen ADC: Chile CW., reg. VIII W of Angol, 17.XI.2003, M. Snizek leg.; 3 specimens ADC: Chile CE., reg. VII Talca, 27.XI.2003, W of Vilches Alto, M. Snizek leg.; 2 specimens FAC: CHILE, prov. Curicó 16 km E. Potrero Grande, 8 nov 2003, leg. J. E. Barriga / *Anthicus melanurus* Fairm. & Germ. Det. J.E. Barriga Tuñon 2008; 5 specimens MZUF: CHILE E, prov. Curicó, 20 km. E. Potrero Grande, El Relvo 16 ene 2004, leg. J.E. Barriga T., fogging, s/ N. dombeyi, Laurella, C. hystrix, Podocarpus seligna, S 36° 11.1' W70° 56.2' / Coleccion J.E. BARRIGA CHILE 143766 / *Anthicus melanurus* Fairm & Germ. Det.J.E. Barriga Tuñon 2008 / Coll. ANGELINI Num. mag. 2957.

Distribution in Chile. Araucanía, Bío Bío, Libertador General Bernardo O'Higgins, Maule, Región Metropolitana, Ñuble, Valparaíso (entomoregions of Central Valley and Northern Valdivian Forest).

General distribution. Endemic to Chile.

Copobaeninae Abdullah, 1969

Copobaenus Fairmaire et Germain, 1863

Copobaenus nobilis Fairmaire et Germain, 1863* (Figs 44–45)

Bibliography: Fairmaire & Germain (1863: p.237) original description, record; Gemminger & Harold (1870: p.2083) checklist; Pic (1911a: p.22) checklist; Abdullah (1969: pp.335–337) taxonomy, key, records.

New material: 1♀ MZUF: CHILE, prov. Malle co, P.N.Nahuelbuta, 25 nov 2004, leg. J.E. Barriga T., fogging, s/ Nothofagus dombeyi, 1200 m, 37°47'S 73°0' W / Coleccion J.E. BARRIGA CHILE 160277 / *Copobaenus nobilis* F & G. Det.J.E. Barriga Tuñon 2008 / Coll. ANGELINI Num. mag. 2957.

Distribution in Chile. Araucanía, Ñuble (entomoregion of Northern Valdivian Forest).

General distribution. Endemic to Chile.

Copobaenus tristis Fairmaire et Germain, 1863*
(Figs 46–54)

Bibliography: Fairmaire & Germain (1863: p.237) original description, record; Gemminger & Harold (1870: p.2083) checklist; Pic (1911a: p.22) checklist; Lucas (1920: p.201) checklist; Abdullah (1969: pp.335, 337–338) taxonomy, key, records; Aksent'ev (1979: p.14) taxonomy.

New material: 7 specimens MZUF & 1 specimen DTC: CHILE, prov. Arauco, P.N. Nahuelbuta, Pichinahual, 1200m, 22-Nov-2004, leg. J.E. Barriga T., fogging, s/ N. dombeyi, 1200 m, 37°47'S 73°00' W / Coleccion J.E. BARRIGA CHILE 137484 / *Copobaenus tristis* Fairm & Germ Det.J.E. Barriga Tuñon 2008 / Coll. ANGELINI Num. mag. 2957.

Distribution in Chile. Bío Bío, Ñuble (entomoregion of Northern Valdivian Forest).

General distribution. Endemic to Chile.

Eurygeniinae LeConte, 1862

Mitraelabrini Abdullah et Abdullah 1968

Mitraelabrus Solier, 1851*

Mitraelabrus obscurus Solier, 1851*
(Fig. 55)

Bibliography: Solier (1851: p.261 & pl.21 fig. 5) original description, as *Mitraelabrus obscurus*; Lacordaire (1859: p.582) morphology, as *Mitraelabrus obscurus*; Fairmaire & Germain (1863: p.236) additional description, record; Gemminger & Harold (1870: p.2083) checklist; Pic (1911a: p.22) checklist; Lucas (1920: p.421) checklist; Abdullah (1969: pp.350–352) taxonomy, records, behaviour; Peña (1988: 150, figure); Telnov (2011: p.17) record.

New material: 9 specimens BMNH: CHILE: Coquimbo, Had. Illapel. 500m.26.x.1954 / L.E.Pena. B.M.1954-176.; 3 specimens MZUF: CHILE, prov. Limarí Rettén Fray Jorge 1 oct 1987 leg. JE. Barriga / *Mitraelabrus obscurus* Solier 1851 Det.J.E. Barriga Tuñon 2008 / Coll. ANGELINI Num. mag. 2957.

Distribution in Chile. Coquimbo, Valparaíso (entomoregion of Central Coastal Cordillera).

General distribution. Endemic to Chile.

Mitraelabrus sericeus Solier, 1851*
(Fig. 56)

Bibliography: Solier (1851: p.261) original description, as *Mitraelabrus sericeus*; Lacordaire (1859: p.582) morphology, as *Mitraelabrus sericeus*; Fairmaire & Germain (1863: p.236) additional description, record; Gemminger & Harold (1870: p.2083) checklist; Pic (1911a: p.22) checklist; Lucas (1920: p.421) checklist; Abdullah (1969: p.351) note.

New material: 1♀ MZUF: CHILE, prov Elqui, Pisco Elqui 12 oct 2004 leg. M. Beech. / Coleccion J.E. BARRIGA CHILE 109077 / *Mitraelabrus sericeus* Solier 1851 Det.J.E. Barriga Tuñon 2008 / Coll. ANGELINI Num. mag. 2957.

Distribution in Chile. Coquimbo, Valparaíso (entomoregion of Central Coastal Cordillera).

General distribution. Endemic to Chile.

Notes. According to Abdullah (1969) this taxon might be conspecific with *M. obscurus*, but both taxa are undoubtedly different (cf. Fig. 55). Indeed, we consider the studied female to be *Mitraelabrus sericeus*, which could be proven later, when the type material will be allocated.

Lemodinae Matthews, 1987

Trichananca Blackburn, 1891

= *Protoanthicus* Moore et Vidal, 2005 syn. nov.

Trichananca inexpectata sp. nov.*

Described above.

Distribution in Chile. Coquimbo (entomoregion of Coquimban Desert).

General distribution. Endemic to Chile.

Trichananca marziae (Moore et Vidal, 2005)
comb. nov.*

Bibliography: Moore & Vidal (2005: p.412) original description, as *Protoanthicus marziae*; Guerrero & Diéguez (2018: p.396) key, as *Protoanthicus marziae*.

Distribution in Chile. Coquimbo (entomoregion of Central Coastal Cordillera).

General distribution. Endemic to Chile.

Trichananca neotropica sp. nov.*

Described above.

Distribution in Chile. Bío Bío (entomoregion of Northern Valdivian Forest).

General distribution. Endemic to Chile.

Trichananca poggii sp. nov.*

Described above.

Distribution in Chile. Araucania (entomoregion of Central Coastal Cordillera).

General distribution. Endemic to Chile.

Trichananca poqui (Guerrero et Diéguez, 2018)
comb. nov.*

Bibliography: Guerrero & Diéguez (2018: pp.392 & 396) original description & key, as *Protoanthicus poqui*.

Distribution in Chile. Libertador General Bernardo O'Higgins (entomoregion of Central Valley).

General distribution. Endemic to Chile.

Trichananca valenciai (Moore et Vidal, 2005)
comb. nov.*

Bibliography: Moore & Vidal (2005: p.413) original description, as *Protoanthicus valenciai*; Guerrero & Diéguez (2018: p.396) key, as *Protoanthicus valenciai*.

New material: 3 specimens BMNH & DTC: La Ligua (W) Coqbo.27-IX-80 Coll:L.E.Pena.

Distribution in Chile. Valparaíso (entomoregion of Coquimban Desert).

General distribution. Endemic to Chile.

Tomoderinae Bonadona, 1961

Tomoderus LaFerté-Sénéctère, 1849

Tomoderus cavithorax sp. nov.*

Described above.

Distribution in Chile. Los Lagos (Chiloé Archipelago) (entomoregion of Valdivian Forest).

General distribution. Endemic to Chile.

Tomoderus differens sp. nov.*

Described above.

Distribution in Chile. Concepción (entomoregion of Northern Valdivian Forest).

General distribution. Endemic to Chile.

Tomoderus melanocephalus sp. nov.*

Described above.

Distribution in Chile. Los Lagos (entomoregion of Northern Valdivian Forest).

General distribution. Endemic to Chile.

Tomoderus nahuelbuta sp. nov.*

Described above.

Distribution in Chile. Araucania (entomoregion of Pehuenar).

General distribution. Endemic to Chile.

Incertae sedis groups

Lagrioidinae M. Abdullah et A. Abdullah, 1968
[this is likely a separate family]

Lagrioida Fairmaire et Germain, 1860

Lagrioida obscurella Fairmaire et Germain, 1860 *

Bibliography: Fairmaire & Germain (1860: p.4) original description; Fairmaire & Germain (1863: p.235) additional description, record; Gemminger & Harold (1870: p.2077) checklist; Champion (1895: p.238) taxonomy, new synonymy; Abdullah (1974: pp.22–23) taxonomy (formal description of Lagrioidinae), key, checklist; Elgueta & Arriagada (1989: p.36) checklist, incorrectly placed in Cononotidae; Costa *et al.* (1995: p.113) note.

Distribution in Chile. Valparaíso (entomoregion of Coquimban Desert).

General distribution. Endemic to Chile

Lagrioida rufula Fairmaire et Germain, 1860*
(Figs 57–58)

Bibliography: Fairmaire & Germain (1860: p.4) original description; Fairmaire & Germain (1863: p.235) additional description, record; Gemminger & Harold (1870: p.2077) checklist; Champion (1895: p.238) taxonomy, new synonymy as junior synonym to *L. obscurella*; Abdullah (1974: pp.22–23) taxonomy (formal description of Lagrioidinae), checklist (rescued from synonymy but not included to the key on p. 22); Elgueta & Arriagada (1989: p.36) checklist, incorrectly placed in Cononotidae; Costa *et al.* (1995: p. 113) note.

New material: 3 specimens MZUF: Guanaqueros 4^a Reg. CHILE 3-8 Feb 05 Coll. T.Cupraic / Coll. ANGELINI Num. Mag. 2957.

Distribution in Chile. Coquimbo, Valparaíso (entomoregion of Coquimban Desert).

General distribution. Endemic to Chile

Subfamilia incerta

Apotominus Fairmaire et Germain, 1863 *

Apotominus nigrozonatus Fairmaire
et Germain, 1863 *

Bibliography: Fairmaire & Germain (1863: p.284) original description; Pic (1911b: p.81) checklist; Lucas

(1920: p.113) checklist; Blackwelder (1945: p.435) checklist; Werner (1974: p.33) taxonomy, bibliography.

Distribution in Chile. Bío Bío, Libertador General Bernardo O'Higgins.

General distribution. Endemic to Chile.

Key to genera of Chilean Anthicidae sensu stricto

The *incertae sedis* genera *Apotominus* and *Lagrioida* are not included into this key. Certain features used in the key are specific to Chilean taxa and should not be used for treating the same genera from other geographical areas.

1. Cranial neck broad, 1/2 or more of head width measured across eyes 2
- Cranial neck narrow, 1/2–1/3 or less of head width measured across eyes 4
2. Pronotum without postmedian lateral transverse constriction, dorsally with narrow but distinct anterior rim and antebasal sulcus; head narrow and elongate, frontoclypeal region produced to form short rostrum; galea elongated **Mitraelabrus**
- Pronotum variably strongly transversely constricted postmedium laterally, dorsally without or with indistinct anterior rim and / or antebasal sulcus; head transverse or semicircular; galea not elongated ... 3
3. Pronotum transverse, broad; postmedian lateral transverse constriction of pronotum short and shallow; mesoventrite broadly rounded on anterior margin; mesepisterna broadly separated ... **Copobaenus**
- Pronotum longer than broad; postmedian lateral transverse constriction of pronotum long and shallow; mesoventrite broadly triangular, anterior edge obtusely pointed; mesepisterna narrowly meeting in front of mesoventrite or narrowly separated by anterior projection of it **Trichananca**
4. Vestiture of dorsum and legs not erect and extraordinary long (dorsal setae generally less than 0.15 mm); punctures of dorsum not uniformly large and deep 5
- Vestiture of dorsum and legs with long (generally about 0.15–0.25 mm), erect setae; dorsum with coarse deep punctures **Hirticomus**
5. Pronotum without or with slight postmedian lateral transverse constriction; pronotum dorsally with distinct anterior rim and antebasal sulcus; anterior intercoxal process of abdominal sternite III apically pointed or broadly rounded 6
- Pronotum with broad and deep postmedian lateral transverse constriction; pronotum dorsally without or with indistinct anterior rim and / or antebasal sulcus; anterior intercoxal process of abdominal sternite III broad, rounded apically **Tomoderus**

6. Terminal maxillary palpomere curved to subtruncate on mesal margin, not angularly expanded and not unusually enlarged 7
- Terminal maxillary palpomere angularly expanded medially, strongly enlarged **Ischyropalpus**
7. Anterolateral margin on procoxal cavity evenly rounded, not notched; antebasal sulcus of pronotum not or sparsely setose laterally 8
- Anterolateral margin of procoxal cavity with a notch on either side; antebasal sulcus of pronotum densely white setose laterally **Neocrohoria**
8. Mesepisterna without or with short, not grouped together setae; mesepimera glabrous, not setose; anterior margin of abdominal sternite III without or with vague invagination opposing each meta-coxa ... 9
- Mesepisterna with fringe of dense setae on posterolateral margin, covering mesepimera; mesepimera setose; anterior margin of abdominal sternite III with invagination opposing each metacoxa **Sapintus**
9. Metafemora simple; elytral humeri developed, rounded; male abdominal sternite VIII not modified into prongs 10
- Metafemora unidentate on inner margin; elytral humeri obsolete (apterous species); male abdominal sternite VIII modified, with distinct posteriorly projecting prongs **Chileanthicus**
10. Mesoventrite not expanded laterad semicircularly, not fringed with semiradial setae along lateral margins; vestiture of dorsum with conspicuous or long setae; forebody glossy on intervening spaces ... 11
- Mesoventrite with lateral margins broadly semicircularly expanded laterad, along lateral margins fringed with short (0.03 mm long) evenly arranged semiradial setae appressed to mesepisterna; vestiture of dorsum with sparse, appressed and very short (0.03–0.04 mm long) setae; forebody gently microreticulate on intervening spaces **Omonadus**
11. Lateral margins of mesoventrite strongly curved / rounded, with fringe of short to long setae 12
- Lateral margins of mesoventrite straight or nearly straight, not fringed with setae **Anthicus**
12. Pronotum in dorsal view with distinct shallow prebasal lateral transverse constriction 13
- Pronotum with lateral margins nearly straight in dorsal view, evenly converging towards narrower base **Vacusus**
13. Mesoventrite with fringe of evenly arranged setae on anterolateral margins; mesepisterna without tuft of setae; pronotum dorsally with deep saddle-like impression **Acanthinus**
- Mesoventrite without fringe of setae (individual setae might be present), expanded anterolaterally and pressed against mesepisterna; mesepisterna with tuft of setae; pronotum not impressed dorsally **Formicilla**

Keys to species of selected Chilean genera of Anthicidae *sensu stricto*

Previous keys (Abdullah 1969, Werner 1974, Kejval 2009) remain current for Chilean *Chileanthicus*, *Copobaenus*, and *Vacusus*. Genera still represented in the Chilean fauna by single species (*Acanthinus*, *Formicilla*, *Hirticomus*, *Neocrohoria*, and *Omonadus*) can effectively be identified using the key to genera presented above. Due to a lack of material, species-keys are not yet possible for *Apotominus* and Chilean *Lagrioida*. Considering the number of new country records and new species described in the present paper, we here present keys to Chilean species for the following genera: *Anthicus*, *Ischyropalpus*, *Mitraelabrus*, *Sapintus*, *Tomoderus*, and *Trichananca*. Since *Mitraelabrus* is endemic to Chile, the present key covers the whole world fauna.

Key to the Chilean *Anthicus*

1. Dorsal punctures on forebody dense, almost touching, intervening spaces narrow and irregular, dorsal forebody therefore is subopaque; all tibiae with apical spine between terminal spurs; elytral pubescence shorter and denser, subdecumbent; dorsal colouration yellowish-brown to pale brown with elytra variable darkened (or uniformly pale as in some specimens) **2**
- . Dorsal punctures of forebody and elytra spaceous with large, glossy and glabrous intervening spaces (generally larger than punctures), where dorsal body is therefore glossy; tibiae without apical spine additional to terminal spurs; elytral pubescence long, sparse, suberect; head usually darker than reddish pronotum, elytra reddish-orange in anterior third and medially postmedium, black in median third (a narrow reddish suture an exception) and in apical third (encircling drop-shaped median reddish spot) ***A. crinitus***
2. Head base truncate; prosternum without a transverse depression; first visible abdominal sternite with narrow transverse pits, which extend 1/2 the length of metacoxa; tegmen notched twice in apical part, truncate apically ***A. postsignatus***
- . Head base rounded; prosternum with an anterior transverse depression lined with moderately dense pubescence; first visible abdominal sternite with distinct lateral transverse pits lined with pubescence and extending from sides ca. 2/3 the length of metacoxa; tegmen notched laterally in apical part, obtusely pointed apically ***A. torquatus***

Key to Chilean *Ischyropalpus*

Accurate identification only possible for males.

1. Elytral pubescence in part oblique in postbasal transverse impression area (cf. Fig. 35) (this feature is not pronounced in *I. quadrimaculatus* and *I. similis* spp. nov., both taxa are therefore included in both couplets) **2**
- . Elytral pubescence directed uniformly posteriad to latero-posteriad, setae no more oblique in postbasal transverse impression area than on the rest of elytra **3**
2. Uniformly dark brown to black except for a lateral whitish to yellow spot in postbasal transverse impression area on each elytron (Fig. 35); pronotum about as wide as head; aedeagus as in figs 147–148 ***I. testaceoguttatus testaceoguttatus***
- . Dorsal forebody variably strongly dark to reddish-brown, elytra generally dark coloured with paired pale spots in postbasal transverse impression area and in apical third (Fig. 31); pronotum distinctly wider than head; aedeagus as in figs 136–137 ***I. quadrimaculatus* sp. nov.**
- . Dorsal forebody variably strongly dark to reddish-brown, elytra generally dark coloured with paired pale spots in postbasal transverse impression area and in apical third (Fig. 33); pronotum about as wide as head; aedeagus as in figs 142–143 ***I. similis* sp. nov.**
3. Head rounded in broad arc posterior to compound eyes; male parameres moderately long, not very slender (cf. Figs 122–123, 127, 132–137 & 142–143); forebody glossy to moderately glossy; intervening spaces between punctures on dorsal forebody generally larger than the punctures; punctures of forebody ordinary, not crateriform; pronotum moderately strongly widened anteriorly **4**
- . Head base prolonged into narrow arc posterior to compound eyes; male parameres long and slender (cf. Bonadona (1961a: fig. 39)); forebody opaque to subopaque; intervening spaces distinctly smaller than in part crateriform punctures on dorsal forebody; pronotum strongly widened anteriorly ***I. sericans sericans***
4. Elytra uniformly dark coloured or anterior third to half pale yellow to orange or elytra entirely pale; parameres symmetrical or asymmetrical, not like on figs 132–134 **5**
- . Elytra generally dark coloured, with more or less distinct paired pale spots in postbasal transverse impression area and in apical third; pronotum about as wide as head; parameres strongly asymmetrical, left paramere with a long dorsal lobe directed mesad from near apex (Figs 132–134) ***I. maculosus***
- . Elytra generally dark coloured, with more or less distinct paired pale spots in postbasal transverse

- impression area and in apical third (Fig. 33); pronotum about as wide as head; aedeagus as in figs 142–143 *I. similis* sp. nov.
- . Elytra generally dark coloured, with more or less distinct paired pale spots in postbasal transverse impression area and in apical third (Fig. 31); pronotum distinctly wider than head; aedeagus as in figs 136–137 *I. quadrimaculatus* sp. nov.
5. Mesoventrite rufous to orange, if mesoventrite brown or black, than aedeagus not as in fig. 135 6
- . Mesoventrite brown to blackish-brown, rarely pale brown; aedeagus as in fig. 135 *I. parallelus*
6. Aedeagus as in figs 127–128 (in *I. curtisii wittmeri* parameres are stouter and less slender, cf. fig. 45 in Bonadonna (1961a)); intervening spaces on frons and vertex glossy or gently microreticulate; forebody and region of postbasal transverse impression of elytra rufous to orange, elytra otherwise black
..... *I. curtisii curtisii*; *I. curtisii wittmeri*
- . Aedeagus as in figs 122–123; microreticulation of intervening spaces on frons and vertex comparatively more prominent; body entirely black-brown or forebody and region of postbasal transverse impression of elytra rufous *I. aberratus* sp. nov.

Key to *Mitraelabrus*

1. Head considerable narrower than pronotum; compound eyes not prominent; dorsal vestiture distinctly paler than black dorsum ... *Mitraelabrus sericeus*
- . Head nearly as wide as pronotum; compound eyes prominent; dorsal vestiture generally black or greyish (except contrastingly paler pubescent suture) *M. obscurus*

Key to Chilean *Sapintus*

1. Setae of elytral disc directed obliquely laterally in postbasal transverse impression area and in apical third, in apical third of elytra setae are directed obliquely inwardly; on lateral margins in basal half of elytra (see in lateral view!) setae mostly directed dorsally or postero-dorsally, in apical half of elytra – posteriorly; dorsal punctures of forebody very dense, forebody is therefore subopaque dorsally; dorsal forebody black
..... *Sapintus costae* sp. nov.
- . None of elytral setae directed obliquely laterally (outwardly or inwardly); on lateral margins of elytra setae mainly directed dorsally; punctures of forebody comparatively sparse, with glossy intervening spaces, dorsal forebody is generally glossy; dorsal forebody pale-yellow to orange *S. crux*

Key to Chilean *Tomoderus*

1. Anterior portion of prosternum with a large deep transverse cavity (as in fig. 61) between anterior rim and procoxal cavity 2
- . Prosternum without cavity (as in fig. 88) 3
2. Head slightly wider than pronotum; dorsal punctures of pronotum denser and coarser in lateral constriction area compared to median part of anterior and posterior pronotal lobes (Figs 59–60); aedeagus either straight in median part in lateral view (Fig. 63); elytral punctures very large on anterior half (Fig. 59) than on rest of body, similarly large as those in pronotal lateral constriction area
..... *Tomoderus cavithorax* sp. nov.
- . Head slightly narrower than pronotum; dorsal punctures of pronotum large and coarse, more or less same on both lobes as in lateral constriction area (Figs 94–95); elytral punctures larger and coarser in anterior third, but not as strongly as in previous species (Fig. 94) *T. nahuelbuta* sp. nov.
3. Protochanter with long asymmetrical process (Fig. 73); compound eye small, about as long as temporal area (Fig. 69); lateral pronotal constriction continues across disc (Fig. 70); head and pronotum darker than generally pale yellow elytra; dark transverse band on elytra *T. differens* sp. nov.
- . Protochanter without process; compound eye moderately large, longer than temporal area (Fig. 86); lateral pronotal constriction not or barely continues across disc (Fig. 87); head strikingly darker than rest of body; elytra darker in anterior half, darker transverse band not present
..... *T. melanocephalus* sp. nov.

Key to Chilean *Trichananca*

Accurate identification only possible for males.

1. Penis nearly straight, angulate or arched in lateral aspect, not sinuous, rounded, pointed or subtruncate apically; accessory arms of male sternite IX shorter than common basal part (sternite IX unknown for *T. marziae*, *T. poqui*, and *T. valenci*) 2
- . Penis distinctly sinuous in lateral aspect (Fig. 101), narrowed in apical part, rounded apically (Fig. 102); accessory arms of male sternite IX distinctly longer than common basal part (Fig. 103)
..... *Trichananca inexpectata* sp. nov.
2. Penis distinctly longer than tegmen 3
- . Penis not or slightly longer than tegmen 4
3. Male antennomeres 8–10 each about twice as long as wide; penis apically rounded; penis slightly widens in basal fourth; compound eyes comparatively larger, occupy most of head side; dorsal body uniformly pale brown *T. poggii* sp. nov.

- . Male antennomeres 8–10 shorter and stronger widened distally, about 1/3 longer than wide; penis apically tapering; penis strongly widens in basal fourth; compound eyes comparatively smaller, temporal area larger; dorsal body dark brown with contrastingly paler apical spot on each elytron ***T. poqui***
- 4. Dorsal forebody opaque; pronotum stout, not hourglass-shaped; aedeagus with lateral margins sinuous in dorsal view **5**
- . Dorsal forebody with intervening spaces glossy; pronotum slender, hourglass-shaped (Figs 106–107); aedeagus nearly straight on lateral margins in dorsal and lateral view (Figs 108–109) ***T. neotropica* sp. nov.**
- 5. Total body length exceeds 4.5 mm; scutellar shield transverse, subtruncate apically; head slightly wider than pronotum; pronotal disc with broad, flat median longitudinal sulcus; dorsal colouration uniformly pale brown ***T. valenci***
- . Total body length not exceeds 3.5 mm; scutellar shield triangular, pointed apically; head slightly narrower than pronotum; median longitudinal sulcus of the pronotal disc very weak; elytra generally darker than forebody, each with pale yellow apical spot ***T. marziae***

Biogeography, diversity and conservation

As a result of the present study, 45 species and subspecies of the Anthicidae (*sensu stricto*) and three species of groups placed as *incertae sedis* (Anthicidae *sensu lato*) are confirmed for Chile. The anthicid *sensu stricto* fauna is represented by five subfamilies and 14 genera (see “Annotated checklist of Chilean Anthicidae with new records” for details). Anthicinae is the most species-rich subfamily, with tribes Anthicini (eight genera, 20 species), Formicomini (one genus, 10 species), and Microhoriini (one genus, one species). Copobaeninae (two species), Eurygeniinae (two species), Lemodinae (six species), and Tomoderinae (four species) are each represented by one genus. The *incertae sedis* Lagrioidinae is represented by one genus and two possibly conspecific taxa. *Apotominus*, of uncertain placement, includes a single species.

At the present level of knowledge, 36 Anthicidae *sensu lato* species are endemic to Chile, which comprises 82% of the known fauna. The level of country endemism is particularly high and reaches 100% in *Apotominus*, *Chileanthicus*, *Copobaenus*, *Lagrioida*, *Mitraelabrus*, *Neocrohoria*, *Sapintus*, *Trichananca*, and *Tomoderus*. In *Ischyropalpus* six of nine species (67%) and in *Vacusus* one of two species (50%) are considered Chilean endemics. Regional endemism is very high as well and 23 species are only recorded from single geographically limited area, most of them

(eight species) are recorded only from Coquimbo and four – from the Atacama Region.

At least two cosmopolitan species (*Anthicus crinitus*, *Omonadus floralis*) are currently known from Chile, but are not widespread according to the available material. *Hirticomus quadriguttatus* is a common circum-Mediterranean species that is evidently established in Chile (see above) and, hence, the New World. For *Acanthinus strangulatus*, *Anthicus crinitus*, and *Formicilla bruchi* only country-level records are currently presented, without exact locality or distributional data, while for *Chileanthicus lafertei* – only a regional record (“Central Chile”) is available.

Individual groups (*Chileanthicus*, *Trichananca*) exhibit a Gondwanan distribution and are shared with Australia (both genera), New Guinea, and the Pacific Islands (*Trichananca*) and Madagascar (*Chileanthicus*). Acting as biogeographical barrier, the Andes strongly limit faunal exchange with adjacent Argentina, Bolivia and Peru, with only 6 species and subspecies (*Anthicus postsignatus*, *A. torquatus*, *Ischyropalpus parallelus*, *I. sericans sericans*, *I. testaceoguttatus testaceoguttatus*, *Vacusus holoxanthus*) in common with at least one of the neighbouring countries (this does not include unconfirmed records of *Acanthinus strangulatus* and *Vacusus holoxanthus*).

Of Chile’s 18 entomoregions (Peña 1966) Anthicidae *sensu lato* is recorded from at least nine (Northern Desert, Intermediate Desert, Coquimban Desert, Central Andean Plateau, Central Valley, Central Coastal Cordillera, Northern Valdivian Forest, Valdivian Forest, Pehuenar). This immediately highlights our limited knowledge of the Chilean anthicid fauna. Most anthicids occur in the Coquimban Desert (17 species and subspecies), Central Valley (16 species), and Northern Valdivian Forest (12 species). The Intermediate Desert and Central Coastal Cordillera have four and five species, respectively. Only three species are recorded from the Valdivian Forest, one each from the Northern Desert, Central Andean Plateau, and Pehuenar. The following five species occur in more than one entomoregion: *Anthicus postsignatus*, *Ischyropalpus curtisii curtisii*, *I. maculosus*, *I. parallelus*, *I. quadrimaculatus*, *I. sericans sericans*, *I. testaceoguttatus testaceoguttatus*, and *Neocrohoria melanura*. Other Chilean anthicids, as presently known, seem localized in distribution or significantly understudied. Therefore attention must be paid to the conservation of small patches of habitat suitable for particular species.

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