ISSN 1211-8788 *Acta Musei Moraviae, Scientiae biologicae* (Brno)
85: 185–287, 2000

Classification of the tribe Coraebini Bedel, 1921 (Coleoptera, Buprestidae, Agrilinae)

[1]Vít Kubáň, †Karel Majer & [1]Jiří Kolibáč *)

[1]*Moravian Museum, Department of Entomology, Hviezdoslavova 29a, 627 00 Brno, Czech Republic;*
e-mail: ento.kub@volny.cz (V. Kubáň), ento.kol@volny.cz (J. Kolibáč)

Kubáň V., Majer K. & Kolibáč J. 2000: Classification of the tribe Coraebini Bedel, 1921 (Coleoptera, Buprestidae, Agrilinae). *Acta Musei Moraviae, Scientiae biologicae* (Brno) **85:** 185–287. – The morphology and higher taxonomy of the tribes Agrilini Laporte de Castelnau, 1835 and Coraebini Bedel, 1921 are studied. A morphology of selected genera is analysed through the application of phylogenetic taxonomy. The previous classification of both tribes was based chiefly on the presence of a lateral edge to the pronotum. Our observations decrease the value of this character. The conception of the tribes presented here is based chiefly on the mouthparts, wings and terminalia, as well as larval characters. The tribes Coraebini and Agrilini, both *sensu novo*, are established. The genera *Amorphosternoides* Cobos, 1974, *Amorphosternus* Deyrolle, 1864, *Bergidora* Kerremans, 1903, *Diadora* Kerremans, 1900, *Diadorina* Cobos, 1974, *Helferina* Cobos, 1956, *Paragrilus* Saunders, 1871, *Rhaeboscelis* Chevrolat, 1837, *Velutia* Kerremans, 1900 (formerly classified within the coraebine subtribes Amorphosternina Cobos, 1974 and Rhaeboscelidina Cobos, 1976), and genera *Deyrollius* Obenberger, 1922, *Lepismadora* Velten, 1987, *Nickerleola* Obenberger, 1929, *Pseudagrilodes* Obenberger, 1921, *Pseudagrilus* Laporte de Castelnau, 1835, *Sambus* Deyrolle, 1864, *Wendleria* Obenberger, 1924, *Weyersiella* Théry, 1930 (all formerly classified within the Coraebini) are transferred into the Agrilini. The subtribe Geraliina Cobos, 1988 (with genus *Geralius* Harold, 1869) described within Agrilini is transferred to Coraebini. The tribe Coraebini is subdivided into 10 subtribes: (1) Ethoniina Majer, subtrib.nov., (2) Cisseina Majer, subtrib.nov., (3) Toxoscelina Majer, subtrib.nov., (4) Geraliina Cobos, 1988 (sensu novo), (5) Dismorphina Cobos, 1990 (sensu novo), (6) Amorphosomina Majer, subtrib.nov., (7) Coraebina Bedel, 1921 (sensu novo), (8) Meliboeina Majer, subtrib.nov., (9) Synechocerina Majer, subtrib.nov. and (10) Clemina Majer, subtrib.nov. The new genus *Ethonion* Kubáň, gen.nov. is described (type species: *Buprestis fissiceps* Kirby, 1818). A history of the subfamily Agrilinae Laporte de Castelnau, 1835 is presented. A new synonymy is established: *Cisseis* Laporte de Castelnau & Gory, 1836 (= *Ethon* Laporte de Castelnau & Gory, 1836 as a new junior subjective synonymy). Conditions for qualification of the younger but valid name *Cisseis* by the term *nomen protectum* and the invalid, but older, name *Diphucrania* Dejean, 1833 by the term *nomen oblitum* are discussed.

Key words: Coleoptera, Buprestidae, Agrilinae, Agrilini, Coraebini, morphology, taxonomy, phylogeny, new subtribes, new genus, new synonyms, subtribal classification

Introduction

A history of the subfamily Agrilinae. The subfamily Agrilinae (see e.g. Lawrence & Newton 1995) was established by Laporte de Castelnau (1835) for the genera

---

*) The paper was supported by V. Kubáň´s grant KZ97P01OMG066 from the Ministry of Culture of the Czech Republic. K. Majer dissected the beetles selected, evaluated their characters, and established the subtribes. V. Kubáň examined all other studied taxa, classified these taxa within the subtribes and wrote "Introduction" and sections on nomenclature. After the sudden death of K. Majer, J. Kolibáč participated in the general conception of the paper and made a phylogenetic analysis of the subtribes. All figures were drawn by K. Majer. V. Kubáň is the corresponding author.

Chrysobothris, *Belionota*, *Sphenoptera*, *Poecilonota*, *Cratomerus*, *Anthaxia*, *Colobogaster*, *Stenogaster* [now *Dismorpha*], *Agrilus*, *Pseudagrilus* and *Amorphosoma* (as "Agrilites. *Agrilidae*."). The authorship and dating of the subfamily Agrilinae as "LAPORTE & GORY 1837" (e.g. BELLAMY 1985, 1992a) and "LAPORTE & GORY 1839" (e.g. BÍLÝ 1982) were incorrect.

In "Monographie des Buprestides", both the authors – Francis Louis Nompar de Caumont de Laporte, Comte de Castelnau and Hippolyte Louis Gory – used the name "Agrilites" for the group, in two sections. The name "Agrilites" was used by LAPORTE DE CASTELNAU & GORY (1835) in the title and preface but a content for the taxon was not included. The second mention of the name (in the form "Agrilites, Agrilidae") may be found in the title of a chapter including a short diagnosis and a key to genera classified within the group (*Castalia*, *Paecilonota*, *Zemina*, *Stenogaster*, *Eurybia*, *Agrilus*, *Pseudagrilus*, *Amorphosoma*, *Eumerus* and *Coraebus*).

It is not quite clear in which volume of "Monographie des Buprestides" the chapter cited above appeared. The bulk of genera included was covered in Volume 2 by GORY & LAPORTE DE CASTELNAU (1837: *Agrilus*) and GORY & LAPORTE DE CASTELNAU (1839: *Castalia*, *Paecilonota*, *Zemina*, *Stenogaster*, *Pseudagrilus*, *Amorphosoma*, *Eumerus* and *Coraebus*). In spite of this fact, NELSON & BELLAMY (1993: 299) mention the group as "Agrilinae LAPORTE & GORY 1837" so that, in their opinion, the chapter "5. groupe. Agrilites, *Agrilidae*" is included in LAPORTE DE CASTELNAU & GORY (1837).

The genera *Castalia*, *Zemina*, *Eumerus* and *Coraebus* are defined for the first time in the chapter mentioned above. These genera have been dated at 1839, the genus *Eurybia* at 1838 – so far (!). Moreover, all the genera retain an authorship of GORY & LAPORTE DE CASTELNAU. *)

The original diagnosis of the subfamily Agrilinae LAPORTE DE CASTELNAU, 1835 was too general and incompatible with a modern definition for the subfamily. The content of the group "Agrilites, Agrilidae" *sensu* LAPORTE DE CASTELNAU & GORY (1837) is distinctly reduced in comparison with that of an original conception by LAPORTE DE CASTELNAU (1835). A single diagnostic character ("Crochetes des tarses avec une dent") is mentioned in their 1837 paper. However, this character is not valid for all originally included genera but only for *Castalia* (now *Strigoptera* DEJEAN, Polycestinae), *Paecilonota* [sic!] (sensu *Hiperantha* GISTEL, Buprestinae, Stigmoderini), *Zemina* (now *Dactylozodes* CHEVROLAT, Buprestinae, Stigmoderini) and *Eurybia* (now *Euryspilus* LACORDAIRE, Buprestinae, Bubastini); not for *Stenogaster*, *Agrilus*, *Pseudagrilus*, *Amorphosoma*, *Eumerus* and *Coraebus*. Even in genera conventionally classified within

---

*) Oddly enough, a major portion of the genera described in "Monographie des Buprestides" is also cited in an index (or a list) in the pages 11–12 of the chapter "Buprestis [general part]". This chapter is probably part of LAPORTE DE CASTELNAU & GORY (1836) and this is why the names of genera are cited for the first time here! This case is not in contradiction with the conditions of ICZN (1999), Article 11.4.1. The names of *Cisseis*, *Coraebus*, *Eumerus* and *Ethon* are touched upon in this communication; however, the actual year of appearance of the chapter "Buprestis [general part]" should be checked.

The remaining taxa of the genus category (*Cinyra*, *Diana*, *Halecia*, *Hippomelas* and *Melobasis*) are first described in the chapter "Genre Buprestis" (LAPORTE DE CASTELNAU & GORY 1836: 3–4). This definitely changes the year of publication of the names.

the subfamily Agrilinae, the simple tarsal claw occurs quite rarely (e.g. in *Synechocera* DEYROLLE).

In LACORDAIRE (1857), the group "Agrilides" is newly defined. The author classified genera – which mostly and conventionally belong near to the nominotypical genus *Agrilus* CURTIS (excepting *Mastogenius* SOLIER) – within the group. Lately, several authors (BELLAMY 1992a; HOŁYNSKI 1988, 1993) have attempted to change (or to enlarge) the conventional conception of the subfamily Agrilinae. However, due morphological evidence as well as some character analysis is missing from their communications. Among recent papers dealing with higher taxonomy, only those of COBOS (1980, 1986) are based on an actual study of buprestid morphology and the Agrilinae are defined in such an appropriate way for the first time. The latest paper mentioning the topic is that by KOLIBÁČ (in press). The latter communication deals with representatives of whole Buprestoidea and reclassifies subfamilies of the superfamily using a character analysis of several dozen morphological and biological characters. In the present paper, we follow his definition of Agrilinae, which is also in general agreement with some our unpublished observations.

The history of the investigation of Agrilinae. The first revision work on the conventional "Agrilites" is by BEDEL (1921). The author based two new tribes, Agrilini and "Coroebini [sic!]", on the characters listed below. The tribe Agrilini: hypomeral carina present, discriminal line between abdominal sternites 3 and 4 absent, scutellum mostly with transverse keel, elytral texture squamiform and without punctures and wrinkles. The tribe Coraebini: hypomeral carina absent, pronotal lateral edge present or absent, discriminal line between abdominal sternites 3 and 4 present. In Coraebini, he quite mistakenly mentions an absence of denticles or appendages on the tarsal claws (but the entries in his keys may well have been misallocated).

Both tribes were keyed and re-defined many times, on the basis of conventional characters, e.g.: THÉRY (1942), SCHAEFER (1949), COBOS (1956, 1986), NELSON (1982), VELTEN & BELLAMY (1987), BELLAMY (1990c, 1992a). The extensive tribe Coraebini was usually based on external characters only, at the most upon the metathoracic wing. Study of the female copulatory organs was limited to the ovipositor (e.g. BELLAMY 1986a) and the aedeagi were usually studied *in toto*.

For a long time, the tribe Agrilini has been based chiefly upon the presence of the hypomeral carina and the pipe-like ("normal") ovipositor. The ovipositor is never of "coraebine" type (for more details see BELLAMY 1988b: 416), i.e. with dorsal valve setae in the ovipositor. According to the authors mentioned above, the two following characters are not always present: transversal carina on the scutellum present, tarsomere 1 protracted with regard to tarsomere 2 (see e.g. CURLETTI 1998).

For a long time, the tribe Coraebini has been based especially upon an absence of a hypomeral carina. This character has been a "taboo" and its taxonomic value has been overestimated. Unfortunately, in the face of a "cult" of this character, other morphological characters have been marginalised, including characters in the metathoracic wing. In particular, the presence and shape of the radial cell is very important, as numerous studies on various coleopteran families have shown.

Bellamy (1990c) mentioned a metathoracic "wing without radial cell" in Agrilini and "always with radial cell although this may be reduced or open distally" in Coraebini. Later, Bellamy (1992a) simplified his definition of the radial cell to "...although it may be partially open". However, the author did not follow this delimiting character when classifying further genera of Agrilinae.

Both types of ovipositor occurring in the tribe Coraebini (see above) were studied in detail by Bellamy (1988b: 416; 1988c: 104). Although his term the "coroebine type" ovipositor indicates its exclusiveness to the tribe Coraebini, paradoxically, the type does not occur in *Coraebus* genus-group.

Bellamy (1988b: 416) described the ovipositor as "characterised by the opposing 'brushes' of inwardly recurved setae on the ventral surface" and Bellamy (1988c: 110) as type "with one pair of opposing ventral setose brushes". The latter description is seemingly in contradiction with our term "dorsal valve setae in ovipositor" (see "List of morphological terms"). The setae actually occur on the dorsal valve (after terminology by Gardner 1989) but on its ventral side. Bellamy (1988b: 416) also considers an adaptive significance for the modification mentioned above. We append some further information here, including some from our own observations (Kubáň unpublished): It seems that the modification appears in the taxa in which females oviposit on rather smooth surfaces on living plants – (1) branches and slender stems (e.g. Oriental *Amorphosoma*, *Sambus*, *Metasambus* sp.), (2) thin branches of *Quercus* and *Castanopsis* (*Toxoscelus*, *Meliboeus fulgidicollis* and *M. tscherskii*), *Salix* (*Meliboeus ohbayashii*), (3) bottom portions of ligneous herbs stems (*Coroebina yunnanensis*), and (4) stems of various herbs (Palaearctic *Meliboeus* and *Clema*). Since the modification appears in parallel in various groups of Coraebini as well as Agrilini, and probably relates rather to an ecological adaptation to ovipositing, we do not attribute great value to this character state in Agrilinae.

The most important generic and biogeographically restricted synopses of Coraebini are as follows: Neotropical region: Bellamy (1991a, 1993, 1997a,b), Cobos (1956, 1988, 1990); Obenberger (1940). Afrotropical region: Bellamy (1986a,b, 1988c,d, 1989a,b, 1990c, 1991d, 2000), Bellamy & Holm (1985a,b), Burgeon (1941), Descarpentries (1969), Jelínek (1971), Théry (1905, 1947). Oriental region: Baudon (1968), Bellamy (1990a,b, 1991b,c, 1992b, 1995, 1998c), Descarpentries & Villiers (1966a,b, 1967a,b), Fisher (1921), Kubáň (1995a,b, 1996, 1997), Kurosawa (1953); Obenberger (1958a,b), Ohmomo & Akiyama (1989), Peng (1992). Australian region: Bellamy (1987, 1988a,b), Carter (1923), Théry (1929).

Materials and methods

About 1250 various species from the subfamilies Agrilinae (incl. former Cylindromorphinae Portevin, 1931, Trachysinae Laporte de Castelnau, 1835) and Galbellinae Reitter, 1911 were examined, of which about 25 species were totally disarticulated. In 492 species listed below, their terminalia and, in some species, also the metathoracic wings and mouthparts were removed or extracted. In all these species, surface characters were also studied. Nearly all the major adult body parts were figured. For the purposes of the present paper, all observable morphological characters of 39 species were studied. Larvae of five species were examined and, in four of them, selected characters were figured.

K. Majer studied a large amount of morphological characters. Upon comparison, he selected 54 of them as having the highest mutual compatibility (see also the method employed by SHARKEY 1989). Majer used these characters for the establishing and descriptions of subtribes. J. Kolibáč then used the character states from these descriptions to construct a character matrix and added the cladograms that appear in this paper.

Specimens selected for morphological analysis were relaxed and their terminalia and wings were separated. The rest of body was boiled in 10% KOH solution and disarticulated. As beetles of the family Buprestidae are very heavily sclerotised, most of body parts were cleared (discoloured) in a hot mixture of 10% KOH and 15% H_2O_2.

In unique specimens, the head was separated after relaxing, boiled in KOH solution, and put in a drop of water. A needle with a chisel-shaped point was inserted in the suture between the submental region and the mentum and the all mouthparts were detached. The wings were glued onto paper mounting cards. If the other body parts were not too large, they were also placed and embedded by dimethylhydantoin formaldehyde on paper mounting cards. Large body parts were put in vials with glycerine. Paper card embedding was also used for a larva of "*Coraebus*" *aculeatus* GANGLBAUER.

The Hennig86 computer program in combination with TreeGardener 1.0 was used for computing the subtribes' character states matrix (commands *mhennig*bb**, *successive weighting*, *nelsen*) and establishing hypotheses on phyletic relations. Unique autapomorphies were switched off during computing of the matrix. All multistate characters were treated as unordered (non-additive). The tribe Agrilini as well as other agrilines (*sensu* KOLIBÁČ in press) were used as outgroups for character analysis within Coraebini. Other buprestid subfamilies as well as Schizopodidae, all *sensu* KOLIBÁČ (in press), were used as outgroups for a character analysis in Agrilinae. For description and illustration of character states of the taxa mentioned, see KOLIBÁČ (in press).

The last known combination of generic and specific names is given in species without a definitive generic classification. A generic name is given in brackets in such cases.

All the figured specimens are in the V. Kubáň collection on deposit, as well as the other specimens studied, unless another location is indicated. The larval preparations are in the S. Bílý (Praha) collection on deposit unless another location is indicated.

An alphabetical list of the selected morphological terms and their abbreviations used in the text are presented at the end of this chapter. All abbreviations used in figures, including their explanations, are listed in Appendix 2.

The terminology follows in most aspects that of EKIS (1977) and MAJER (1986), especially for the male terminalia. Terms from the excellent work of GARDNER (1989) are used for the female terminalia and the mouthparts. A paper by KUKALOVÁ-PECK & LAWRENCE (1993) was explored for a terminology of the wing venation, VOLKOVITSH & HAWKESWOOD (1990) for a terminology of the larval mouthparts.

Abbreviated references below taxa are in the form of selected catalogues.

Abbreviations of institutions used in the text: BMNH, The Natural History Museum, London, UK; DEIC, Deutsches Entomologisches Institut Eberswalde – Finow, Germany; MNHN, Muséum National d’Histoire Naturelle, Paris, France; NMPC, Národní Muzeum v Praze, Czech Republic.

List of taxa examined

(Taxa used in this paper are in bold. The number of species studied externally is in brackets. Species in which terminalia, sometimes metathoracic wings and mouthparts were studied, are listed.)

Larvae: ***Agrilus guerini*** LACORDAIRE, 1835, ***Anocisseis danieli*** BÍLÝ, 1997, **“*Coraebus*” *aculeatus*** GANGLBAUER, 1889, ***Coraebus undatus*** (FABRICIUS, 1787), ***Meliboeus subulatus*** (MORAWITZ, 1861).

Adults: *Agrilodia* OBENBERGER, 1923 (1), *A. paraguayensis* OBENBERGER, 1923; *Agriloides* KERREMANS, 1903 (4), *A. hydropicus* (KLUG, 1827), *A. tuberculatus* (KLUG, 1827); ***Agrilus*** CURTIS, 1825 (125), *A. acutus* (THUNBERG, 1787), *A. angustulus* (ILLIGER, 1803), *A. antiquus* MULSANT, 1841, *A. asiaticus* KERREMANS, 1898, ***A. biguttatus*** (FABRICIUS, 1775), *A. convexicollis* REDTENBACHER, 1848, *A. cyaneoniger* SAUNDERS, 1873, *A. cyanescens* RATZEBURG, 1837, *A. desertus* (KLUG, 1829), *A. falcatus* KLUG, 1835, *A. ganglbaueri* SEMENOV, 1891, *A. guerini* LACORDAIRE, 1835, *A. guerryi* OBENBERGER, 1933, *A. muscarius* KERREMANS, 1895, *A. nubeculosus* FAIRMAIRE, 1890, *A. pratensis* RATZEBURG, 1839, *A. purpuratus* (KLUG, 1829), *A. roscidus* KIESENWETTER, 1857, *A. sericans* KIESENWETTER, 1857, *A. sinensis* THOMSON, 1879, *A. sinuatus* (OLIVIER, 1790), *A. tempestivus* LEWIS, 1893, *A. transversesulcatus* REITTER, 1890, *A. viridanus* (KERREMANS, 1900), ***A. viridis*** (LINNAEUS, 1758); *Alcinous* DEYROLLE, 1864 (2), *A. nodosus* DEYROLLE, 1864, *A. fossicollis* (KERREMANS, 1903); *Alissoderus* DEYROLLE, 1864 (3), *A. magnus* KERREMANS, 1911, *A. rex* OBENBERGER, 1931, *A. vittatus* LANSBERGE, 1886; ***Amorphosoma*** LAPORTE DE CASTELNAU, 1835 (29, incl. “*Vanroonia*”), *A. cochinchinae* DESCARPENTRIES & VILLIERS, 1967, ***A. coomani*** DESCARPENTRIES & VILLIERS, 1967, *A. papuanum* OBENBERGER, 1922 (type female, NMPC); ***A. penicillatum*** (KLUG, 1827), *A. perroti* DESCARPENTRIES & VILLIERS, 1967; *Amorphosternoides* COBOS, 1974 (1), *A. vianai* (OBENBERGER, 1947) (type female, NMPC); *Amorphosternus* DEYROLLE, 1864 (1), *A. cucullatus* (GORY, 1841); *Anadora* KERREMANS, 1898 (3), *A. cupriventris* OBENBERGER, 1922, *A. mechowi* (QUEDENFELDT, 1886), *A. rivularis* OBENBERGER, 1924; *Anaphlocteis* BELLAMY, 1986 (4), *A. orientalis* BELLAMY, 1986, *A. pulchra* (OBENBERGER, 1922), *A. zanzibarica* (KERREMANS, 1903); *Anocisseis* BELLAMY, 1990 (5), *A. danieli* BÍLÝ, 1997, *A. nigromaculata* (KERREMANS, 1895); *Anthaxomorphus* DEYROLLE, 1864 (2), *A. papuanus* DEYROLLE, 1864; *Aphanisticus* LATREILLE, 1810 (20), *A. elongatus* (VILLA & VILLA, 1835); *Asymades* KERREMANS, 1893 (2), *A. transvalensis* KERREMANS, 1893, *A. borana* (OBENBERGER, 1940); *Autarcontes* WATERHOUSE, 1887 (2), *A. mucoreus* (KLUG, 1827), *A. planus* WATERHOUSE, 1887; *Belgaumia* KERREMANS, 1903 (2), *B. capucinea* (KERREMANS, 1893) (type male, BMNH), *B. horni* THÉRY, 1941 (type male, DEIC); *Bergidora* KERREMANS, 1903 (1), *B. picturella* (KERREMANS, 1887); *Borneoscelus* BELLAMY, 1990 (1), *B. variegatus* BELLAMY, 1990 (holotype female, coll. Museum Tokyo); *Bourgoinia* OBENBERGER, 1926 (1), *B. achardi* OBENBERGER, 1926 (type female, NMPC); ***Brachycoraebus*** KERREMANS, 1903 (20), *B. aruensis* KUBÁŇ, 1996, *B. baumi* (OBENBERGER, 1929) (type, NMPC), *B. borneensis* (KERREMANS, 1912) (type female, MNHN), *B. brodskyi* KUBÁŇ, 1995, *B. buyteti* (BAUDON, 1961), *B. cumatilis* (BOURGOIN, 1922) (type male, MNHN), ***B. helferi*** OBENBERGER, 1922, *B. herychi* OBENBERGER, 1940 (type male, NMPC), *B. horakianus* KUBÁŇ, 1995, *B. klapperichi* OBENBERGER, 1959 (types, NMPC), *B. krali* KUBÁŇ, 1996, *B. longicornis* KUBÁŇ, 1997, *B. luzonicus* OBENBERGER, 1959 (type female, NMPC), *B. navratili* KUBÁŇ, 1995, *B. piliferus* (DEYROLLE, 1864) (type, MNHN), *B. punctatus* (BAUDON, 1968), *B. svatopluki* KUBÁŇ, 1995, ***B. viridis*** (KERREMANS, 1900); *Brachys* DEJEAN, 1833 (2), *B. aerosa* (MELSHEIMER, 1846), *B. nodosa* KERREMANS, 1897; *Callimicra* DUPONCHEL, 1845 (1), *C. scintillans* OBENBEGRER, 1932; *Chloricalla* KERREMANS, 1893 (1), *C. gratiosa* KERREMANS, 1893 (male, NMPC); ***Cisseicoraebus*** KERREMANS, 1903 (5), *C. bicoloratus* BELLAMY, 1991, *C. grandis* (KERREMANS, 1900), *C. piperi* (FISHER, 1921), ***C. retrolatus*** (DEYROLLE, 1864), ***C.* cf. *opaculus*** OBENBERGER, 1932; ***Cisseis*** LAPORTE DE CASTELNAU & GORY, 1836 (20), ***C.* cf. *duodecimmaculata*** (FABRICIUS, 1801); ***Clema*** SEMENOV, 1900 (4), ***C. deserti*** SEMENOV, 1900; ***Coraebosoma*** OBENBERGER, 1932 (4), ***C. samarense*** BELLAMY, 1990, *C. sibuyanicum* BELLAMY, 1990; “*Coraebus*” (2): “*C.*” *aculeatus* GANGLBAUER, 1889, “*C.*” *pascoei* SAUNDERS, 1867; ***Coraebus*** LAPORTE DE

Castelnau & Gory, 1836 (187), *C. acutus* Thomson, 1879, *C. aequalipennis* Fairmaire, 1888, *C. aeneopictus* (Kerremans, 1895), *C. aesopus* Kerremans, 1912, *C. akiyamai* Kubáň, 1997, *C. aldo* Kubáň, 1996, *C. amabilis* Kerremans, 1895, *C. amplithorax* (Fairmaire, 1889), ***C. andrewesi*** Obenberger, 1922, *C. annamensis* Descarpentries & Villiers 1967, *C. auberti* Théry, 1922, *C. auriventris* Kerremans, 1912, *C. aurofasciatus* (Hope, 1831), *C. baylei* Bourgoin, 1922, *C. becvari* Kubáň, 1995, *C. bilyi* Kubáň, 1996, *C. bilyianus* Kubáň, 1995, ***C. blandus*** Akiyama & Ohmomo, 1989, *C. blaoensis* Descarpentries & Villiers, 1967, *C. bunun* Miwa & Chûjô, 1940, *C. cavifrons* Descarpentries & Villiers, 1967, *C. cervenkai* Kubáň, 1995, *C. chrysogaster* Kurosawa, 1953, *C. chucki* Kubáň, 1997, ***C. cingulatus*** (Hope, 1831), *C. clermonti* Bourgoin, 1924, *C. cloueti* Théry, 1895, *C. coelestiofulgens* Akiyama & Ohmomo, 1993, *C. coeruleus* Kerremans, 1892, ***C. collaris*** Gory & Laporte de Castelnau, 1839, *C. conjunctus* Deyrolle, 1864, *C. conspicuus* Thomson, 1878, *C. coomani* Descarpentries & Villiers 1967, *C. cornutus* Deyrolle, 1864, *C. cupricollis* Deyrolle, 1864, ***C. cyaneopictus*** Kerremans, 1892, *C. daisensensis* Hirayama, 1940, *C. davidis* Fairmaire, 1886, *C. delepinei* Baudon, 1960, *C. dembickyi* Kubáň, 1995, *C. demonstratus* Kubáň, 1995, *C. denticollis* Saunders, 1866, *C. dentipennis* Kerremans, 1900, *C. diminutus* Gebhardt, 1928, *C. disponsi* Baudon, 1962, *C. elatus* (Fabricius, 1787), *C. elongaticollis* Akiyama & Ohmomo, 1993, *C. fallaciosus* Bourgoin, 1925, *C. femina* Kubáň, 1997, *C. florentinus* (Herbst, 1801), *C. fulgidus* Obenberger, 1916, *C. gagneuxi* Baudon, 1963, *C. gestroi* Kerremans, 1892, *C. gorkai* Gebhardt, 1928 (type male, MNHN), *C. gorkaianus* Kubáň, 1997, *C. hastanus* Gory & Laporte de Castelnau, 1839, *C. hauseri* Obenberger, 1930, *C. herychi* Obenberger, 1940, *C. hewitti* Kerremans, 1912, *C. holzschuhi* Kubáň, 1996, *C. honza* Kubáň, 1995, *C. horaki* Kubáň, 1995, *C. hoscheki* Gebhardt, 1928, *C. houianus* Kubáň, 1995, *C. hovorkai* Kubáň, 1997, *C. ignifrons* Fairmaire, 1895, *C. ignotus* Saunders, 1873, ***C. inornatus*** Kerremans, 1912, *C. insulicola* Kerremans, 1912, *C. javae* Obenberger, 1932, *C. jedlickai* Obenberger, 1934, *C. jelineki* Descarpentries & Villiers 1967, ***C. jendeki*** Kubáň, 1997, *C. karenorum* Kubáň, 1995, *C. kiangsuanus* Obenberger, 1934, *C. klickai* Obenberger, 1930, *C. kulti* Obenberger, 1940, *C. kurosawai* Akiyama, 1988, *C. laportei* Saunders, 1871, *C. larminati* Kubáň, 1995, *C. lesnei* Bourgoin, 1922, *C. leucospilotus* Bourgoin, 1922, *C. levasseuri* Bourgoin, 1925, *C. lienhwachiensis* Akiyama, 1988, *C. linnei* Obenberger, 1922, *C. longipennis* Deyrolle, 1864, *C. lubopetri* Kubáň, 1995, *C. maculifer* Abeille de Perrin, 1897, ***C. magnus*** Kerremans, 1898, *C. mianningensis* Peng, 1991, ***C. mirus*** Kubáň, 1996, *C. moultoni* Kerremans, 1912, *C. muehlei* Kubáň, 1996, *C. mulleri* Théry, 1925, *C. natator* Kubáň, 1996, *C. nigromaculatus* Kurosawa, 1953, *C. nikodymi* Kubáň, 1995, *C. niponicus* Lewis, 1894, *C. occidentalis* Kubáň, 1997, *C. oertzeni* Ganglbauer, 1886, *C. olexai* Bílý, 1983, *C. orothi* (Baudon, 1962), *C. pacholatkoi* Kubáň, 1996, *C. perroti* Descarpentries, 1948, *C. pickai* Kubáň, 1995, *C. probstorum* Kubáň, 1995, *C. pseudoblandus* Kubáň, 1997, *C. pseudopurpura* Kubáň, 1997, *C. purpura* Kubáň, 1996, *C. purpuratiformis* Kubáň, 1995, *C. purpureicollis* Gestro, 1877, *C. quadriundulatus* Motschulsky, 1866, ***C. rubi*** (Linnaeus, 1767), *C. rusticanus* Lewis, 1893, *C. sainvali* Kubáň, 1997, *C. salamandra* Kubáň, 1995, *C. salamandriformis* Kubáň, 1995, *C. salvazai* Bourgoin, 1922, *C. sausai* Kubáň, 1997, *C. sauteri* Kerremans, 1912, *C. semipurpureus* Fairmaire, 1888, *C. sherpa* Kubáň, 1996, *C. sidae* Kerremans, 1888, *C. sinomeridionalis* Kubáň, 1995, *C. smaragdineus* Kerremans, 1892, *C. sonani* Miwa & Chûjô, 1935, *C. spectabiliformis* Kubáň, 1995, *C. spectabilis* Bílý, 1983, *C. spevari* Kubáň, 1995, *C. stichai* Obenberger, 1924, *C. strnadianus* Kubáň, 1995, *C. svaneki* Kubáň, 1997, *C. svihlai* Kubáň, 1995, *C. tamensis* Descarpentries & Villiers 1967, *C. teres* Kubáň, 1996, *C. thailandicus* Kubáň, 1995, *C. thoracellus* Kerremans, 1900, *C. torigaii* Akiyama & Ohmomo, 1993, *C. tubulosus* Kubáň, 1997, *C. umphangicus* Kubáň, 1995, *C. violaceipennis* Saunders, 1866, ***C. undatus*** (Fabricius, 1787), *C. vicarius* Kubáň, 1995, *C. vietnamensis* Kubáň, 1996, *C. vuilletae* Bourgoin, 1925, *C. yanshanensis* Peng, 1991, *C. zonatus* Kubáň, 1996, *C. zoufali* Obenberger, 1930; ***Coroebina*** Obenberger, 1923 (24), *C. affinis* Obenberger, 1958, *C. bilyi* Akiyama & Ohmomo, 1993, *C. birmaniae* Obenberger, 1923, *C. cambodiensis* Descarpentries & Villiers, 1967, ***C.*** **cf.** ***fulgidiceps*** (Kerremans, 1892), *C. ikomai* Descarpentries & Chûjô, 1961, *C. minutesculpta* Obenberger, 1958, *C. rondoni* Baudon, 1965, *C. yunnanensis* Obenberger, 1934; ***Cryptodactylus*** Deyrolle, 1864 (17) *C. coeruleus* Saunders, 1867, *C. coomani* Descarpentries & Villiers, 1966, *C. cyaneoniger* Kerremans, 1892, ***C. kerremansi*** Descarpentries & Villiers, 1966, *C. planicollis* Descarpentries & Villiers, 1966, *C. scutellaris* Kerremans, 1892; *Cryptomorpha* Bellamy, 1988 (1), *C. dentifera* (Waterhouse, 1902); *Cupriscobina* Bellamy & Holm, 1985 (1), *C. loranthae* Bellamy & Holm, 1985; *Cylindromorphus* Kiesenwetter, 1857 (10), *C. filum* (Gyllenhal in Schönherr, 1817); ***Cyphothorax*** Waterhouse, 1887 (2), ***C. gibber*** (Gory, 1841), *C. gibbicollis* (Kerremans, 1897); *Demostis* Kerremans, 1900 (1), *D. elongata* (Kerremans, 1900); *Dessumia*

Descarpentries & Villiers, 1966 (3), *D. vitalisi* (Bourgoin, 1922); *Deyrollius* Obenberger, 1922 (2), *D. nitidicollis* (Gory & Laporte de Castelnau, 1839), *D. paraguayensis* Obenberger, 1932; *Diadora* Kerremans, 1900 (1), *D. undulata* Obenberger, 1922; *Dinocoraebus* Obenberger, 1924 (1), *D. petrusicollis* (Fairmaire, 1892); *Discoderella* Bellamy, 1988 (1), *D. stevensoni* (Théry, 1932); *Discoderes* Chevrolat, 1837 (4), *D. salzmanni* (Solier, 1833); *Discoderoides* Théry, 1936 (7), *D. immunitus* (Fåhraeus, 1851); ***Dismorpha*** Gistel, 1848 (4), **_D._ cf. _diffusa_** (Chevrolat, 1837), *D. juvenca* (Gory, 1841), *D. linearis* (Linnaeus, 1758), *D. tenuis* (Kirsch, 1873); *Endelus* Deyrolle, 1864 (20), *E. collaris* (Saunders, 1873), *E. cupido* Deyrolle, 1864; *Entomogaster* Saunders, 1871 (35), *E.* sp. (Madagascar); *Epimacha* Kerremans, 1900 (6), *E. helferi* Obenberger, 1935, *E. planata* (Kerremans, 1900) (female, NMPC), *E. theryi* Kerremans, 1903 (types females, BMNH, MNHN); ***Ethonion*** Kubáň, gen.nov. (3), *E. corpulentum* (Boheman, 1858), *E.* cf. *fissiceps* (Kirby, 1818), **_E._ cf. _reichei_** (Chevrolat, 1837); *Euamyia* Kerremans, 1903 (1), *E. chryselytria* (Perty, 1830); *Euchroaria* Obenberger, 1924 (1), *E. subcornuta* (Fairmaire, 1891); *Eudiadora* Obenberger, 1924 (2), *E. pulchra* (Obenberger, 1922), *E. kerremansi* Obenberger, 1932; *Eulasiodora* Obenberger, 1924 (2), *E. singularis* Obenberger, 1931; ***Eupristocerus*** Deyrolle, 1864 (1), ***E. cogitans*** (Weber, 1801); *Evimantius* Deyrolle, 1864 (2), *E. rufopictus* Deyrolle, 1864; *Galbella* Westwood, 1898 (10), *G. felix* (Marseul, 1866); ***Geralius*** Harold, 1869 (1), ***G. furciventris*** (Chevrolat, 1837); *Germarica* Blackburn, 1887 (1), *G. liliputana* (Thomson, 1879); *Habroloma* C. G. Thomson, 1864 (ca 40), *H. geranii* (Silfverberg, 1977); *Helferia* Obenberger, 1931 (1), *H. strandi* Obenberger, 1931 (type male, NMPC); *Holmerika* Bellamy, 1988 (2), *H.* sp. (Kenya); *Holubia* Obenberger, 1924 (1), *H. kheili* Obenberger, 1924 (type, NMPC); *Hypocisseis* Thomson, 1879 (4), *H. latipennis* (MacLeay, 1872); *Indiadactylus* Bellamy, 1993 (5), *I. pulchellus* (Gory & Laporte de Castelnau, 1839); *Kamosia* Kerremans, 1898 (2), *K. duvivieri* Kerremans, 1898; *Kamosiella* Bellamy, 1988 (1), *K. dermestoides* (Thomson, 1878); *Katangiella* Bellamy, 1988 (1), *K. squamivela* Bellamy, 1988; *Katonia* Théry, 1941 (4), *K.* cf. *tricolour* (Théry, 1941), *K. usambarae* (Obenberger, 1922); *Kerremansella* Obenberger, 1923 (1), *K. rufitarsis* (Obenberger, 1920) (type female, NMPC); *Kerremansia* Péringuey, 1908 (1), *K. paradoxa* Péringuey, 1908; *Lakhonia* Descarpentries & Villiers, 1967 (4), *L. coomani* (Bourgoin, 1924); *Leiopleura* Deyrolle, 1864 (1), *L.* sp. (Nicaragua); *Lepidoclema* Bellamy & Holm, 1985 (1), *L. parva* Bellamy & Holm, 1985; *Lepismadora* Velten in Velten & Bellamy, 1987 (1), *L. algodones* Velten in Velten & Bellamy, 1987; *Mandritsaria* Obenberger, 1942 (2); *Melanocoraebus* Baudon, 1968 (3), [„*Cryptodactylus*“ *aeneiventris* Bourgoin, 1922]; *Meliacanthus* Théry, 1942 (1), *M. cupreomarginatus* (Saunders, 1867); *Melibaeopsis* Kerremans, 1903 (1), *M. chlorolineata* (Quedenfeldt, 1886); *Meliboeithon* Obenberger, 1920 (1), *M. intermedium* (Kerremans, 1898); „*Meliboeus*“ (1): „*M.*“ *croesus* Obenberger, 1931; ***Meliboeus*** Deyrolle, 1864 (ca 150, incl. “*Nalanda*”), *M. aeratus* (Mulsant & Rey, 1863), *M. amethystinus* (Olivier, 1790), *M. aureolus* (Abeille de Perrin, 1893), *M. birmicolus* Obenberger, 1922, *M. caucasicus* (Abeille de Perrin, 1896), *M. clavicornis* Obenberger, 1922, *M. cryptocerus* (Kiesenwetter, 1858), *M. cyaneus* (Ballion, 1870), ***M. episcopalis*** (Mannerheim, 1837), ***M. fulgidicollis*** (Lucas, 1846); *M. gibbicollis* (Illiger, 1803), *M. graminioides* (Abeille de Perrin, 1896), *M. graminis* (Panzer, 1789), *M. heydeni* (Abeille de Perrin, 1897), *M. holubi* Obenberger, 1922, *M. impressithorax* Pic, 1923, *M. insipidus* Théry, 1906, *M. kabakovi* Alexeev, 1992, *M. kaszabi* Cobos, 1966, *M. kraatzi* Kerremans, 1899, *M. nigroscutellatus* Obenberger, 1935, *M. notatus* (Thunberg, 1789), *M. ohbayashii* (Kurosawa, 1957), *M. potanini* Obenberger, 1929, *M. princeps* Obenberger, 1927, *M. punctatus* Péringuey, 1908, *M. purpureicollis* Théry, 1930, *M. reitteri* (Semenov, 1889), *M. robustus* (Küster, 1852), *M. santolinae* (Abeille de Perrin, 1894), *M. scintillus* Obenberger, 1931, *M. semenoviellus* Obenberger, 1929, *M. sinae* Obenberger, 1935, *M. subulatus* (Morawitz, 1861), *M. sulcifrons* Bourgoin, 1924, *M. theryi* (Abeille de Perrin, 1893), *M. transverserugatus* Obenberger, 1935, *M. tscherskii* Alexeev, 1979, *M. venustus* Kerremans, 1892; ***Metasambus*** Kerremans, 1903 (10), **_M._ cf. _hoscheki_** (Obenberger, 1916), *M. weyersi* (Kerremans, 1900); ***Mundaria*** Kerremans, 1894 (9), *M. analis* (Saunders, 1867), *M. brooksi* (Kerremans, 1912), *M. harmandi* (Théry, 1941), *M. postfasciata* Obenberger, 1922, *M. sarrauti* (Bourgoin, 1922), ***M. typica*** Kerremans, 1894; “*Nalanda*”: “*N.*” *acuta* (Bourgoin, 1922), “*N.*” *arrowi* (Bourgoin, 1924), “*N.*” *atrata* Descarpentries & Villiers, 1967, “*N.*” *bilyi* Ohmomo & Akiyama, 1989, “*N.*” *cupreoapicalis* Descarpentries & Villiers, 1967, “*N.*” *cupricollis* (Saunders, 1867), “*N.*” *dalatensis* Descarpentries & Villiers, 1967, “*N.*” *delauneyi* (Van de Poll, 1892), “*N.*” *fleutiauxi* (Bourgoin, 1924), “*N.*” *frontalis* Descarpentries & Villiers, 1967, “*N.*” *hideoi* Ohmomo & Akiyama, 1989, “*N.*” *kurosawana* Ohmomo & Akiyama, 1989, “*N.*” *lagerstraemiae* Ohmomo & Akiyama, 1989, “*N.*” *laotica* (Bourgoin, 1924), “*N.*” *magnifica* (Kerremans, 1892), “*N.*” *pentacallosa* Ohmomo & Akiyama, 1989, “*N.*” *perroti* Descarpentries & Villiers, 1967, “*N.*” *rutilicollis* (Obenberger, 1914), “*N.*” *toyamai* Ohmomo

& AKIYAMA, 1989; *Nalanda* THÉRY, 1904 (2), *N. horni* THÉRY, 1904 (type male, MNHN); *Nastella* KERREMANS, 1903 (1), *N. chalcodes* (WIEDEMANN, 1821); *Neospades* BLACKBURN, 1887 (6), *N. cruciata* (FABRICIUS, 1775); *Neotoxoscelus* FISHER, 1921 (6); *Nickerleola* OBENBERGER, 1929 (3), *N. comata* FÅHRAEUS, 1851), *N. raffrayi* (THÉRY, 1929); *Obenbergerula* STRAND, 1932 (2), *O. bakeri* (FISHER, 1924); *Omochyseus* WATERHOUSE, 1887 (1), *O. terminalis* WATERHOUSE, 1887; *Pachyschelus* SOLIER, 1833 (9), *P. bedeli* OBENBERGER, 1921; *Paracephala* SAUNDERS, 1868 (2); *Paracryptodactylus* ALEXEEV, 1975 (1), *P. kerzhneri* (ALEXEEV, 1975); *Paracylindromorphus* THÉRY, 1930 (13), *P. subuliformis* (MANNERHEIM, 1837), *P. transversicollis* (REITTER, 1913); *Parademostis* OBENBERGER, 1931 (1), *P. capucina* FÅHRAEUS, 1851); *Paradora* KERREMANS, 1903 (1); *Paradorella* OBENBERGER, 1923 (1), *P. strandi* OBENBERGER, 1923; *Paragrilus* SAUNDERS, 1871 (6), *P.* cf. *lesueri* WATERHOUSE, 1889; *Parakamosia* OBENBERGER, 1924 (4), *P. margotana* NOVAK, 1988; *Paranastella* OBENBERGER, 1931 (2), *P.* sp. (Madagascar); *Parasambus* DESCARPENTRIES & VILLIERS, 1966 (6), *P. aurosignatus* DESCARPENTRIES & VILLIERS, 1966; *Paraxenita* BELLAMY, 1988 (1), *P. tesselata* BELLAMY, 1988; *Philippscelus* BELLAMY, 1998 (1), *P. fisheri* (HOSCHECK, 1931) (NMPC); ***Philocoroebus*** BELLAMY, 1991 (8), *P. alius* BELLAMY, 1991, *P. banahaoensis* (OBENBERGER, 1928), ***P. azureipennis*** (OBENBERGER, 1935); *Phlocteis* KERREMANS, 1893 (6), *P. exasperata* (SWARTZ in SCHÖNHERR, 1817), *P.* cf. *humeralis* WATERHOUSE, 1887, *P. cavifrons* THÉRY, 1906; *Pilotrulleum* BELLAMY & WESTCOTT, 1995 (1), *P. lagartiguanum* BELLAMY & WESTCOTT, 1995; *Planidia* KERREMANS, 1899 (6), *P. hauseri* OBENBERGER, 1931, *P. vansoni* OBENBERGER, 1936, *P. velutina* KERREMANS, 1899; ***Polyonychus*** CHEVROLAT, 1837 (6), ***P. mucidus*** CHEVROLAT, 1837, *P. nigropictus* (GORY & LAPORTE DE CASTELNAU, 1839), *P. tricolor* (SAUNDERS, 1867); *Promeliboeus* OBENBERGER, 1924 (3), *P. strandi* OBENBERGER, 1924; *Pseudagrilodes* OBENBERGER, 1921 (1), *P. leonensis* (KERREMANS, 1898); *Pseudagrilus* LAPORTE DE CASTELNAU, 1835 (16), *P. arabicus* OBENBERGER, 1925, *P. beryllinus* (FÅHRAEUS, 1851), *P. cyanimus* (FÅHRAEUS, 1851), *P. dubius* OBENBERGER, 1924, *P. granulosus* ROTH, 1851, *P. leonensis* KERREMANS, 1898, *P. sophorae* (FABRICIUS, 1792); ***Pseudoclema*** THÉRY, 1938 (2), ***P. transvaalensis*** (KERREMANS, 1911); *Pseudokamosia* THÉRY, 1932 (1), *P. meridionalis* (KERREMANS, 1898); *Pseudokerremansia* BELLAMY & HOLM, 1985 (1), *P. arcuata* (PÉRINGUEY, 1908); *Pseudophlocteis* BELLAMY, 1986 (1), *P. vidua* (FÅHRAEUS, 1851); *Rhaeboscelis* CHEVROLAT, 1837 (1), *R. purpurea* CHEVROLAT, 1837; *Sambirania* OBENBERGER, 1942 (2); *Sambomorpha* OBENBERGER, 1924 (4), *S. blairi* OBENBERGER, 1940 , *S. catharinae* OBENBERGER, 1924, *S. vicina* OBENBERGER, 1940 (all types, NMPC); *Sambus* DEYROLLE, 1864 (ca 90), *S. aeneus* KERREMANS, 1900, *S. albopunctatus* (FÅHRAEUS, 1851), *S. auberti* THÉRY, 1926, *S. binhensis* DESCARPENTRIES & VILLIERS, 1966, *S. bourgoini* DESCARPENTRIES & VILLIERS, 1966, *S. caesar* OBENBERGER, 1935, *S. coeruleipennis* THÉRY, 1930, *S. daoensis* DESCARPENTRIES & VILLIERS, 1966, *S. davidi* THÉRY, 1926, *S. dessumi* DESCARPENTRIES & VILLIERS, 1966, *S. deyrollei* THOMSON, 1878, *S. dives* DEYROLLE, 1864, *S. elegans* THÉRY, 1926, *S. femoralis* KERREMANS, 1892, *S. fouqueti* BOURGOIN, 1923, *S. fulgidicollis* KERREMANS, 1900, *S. gibbicollis* KERREMANS, 1892, *S. gmelinae* THÉRY, 1930, *S. inermipes* BOURGOIN, 1923, *S. jelineki* DESCARPENTRIES & VILLIERS, 1966, *S. kanssuensis* GANGLBAUER, 1889, *S. lafertei* DEYROLLE, 1864 (types, MNHN), *S. melanoderus* KERREMANS, 1892, *S. muong* DESCARPENTRIES & VILLIERS, 1966, *S. nickerli* OBENBERGER, 1924, *S. nigritus* KERREMANS, 1892, *S. novus* THÉRY, 1926, *S. obesus* KERREMANS, 1900, *S. optatus* THÉRY, 1926, *S. parisii* DEYROLLE, 1864, *S. perroti* DESCARPENTRIES & VILLIERS, 1966, *S. quadricolor* SAUNDERS, 1873, *S. satanellus* OBENBERGER, 1917, *S. vitalisi* DESCARPENTRIES & VILLIERS, 1966, *S. weyersi* KERREMANS, 1900, *S. yaeyamanus* KUROSAWA, 1985, *S. zonalis* KERREMANS, 1892; *Sarawakita* OBENBERGER, 1924 (1), *S. latifrons* OBENBERGER, 1924; *Shimogia* OBENBERGER, 1942 (4), *S. fasciata* (GUÉRIN-MÉNEVILLE, 1840); *Sjoestedtius* THÉRY, 1931 (6), *S. egregius* (BOHEMAN, 1860), *S. thoracicus* (KERREMANS, 1903); *Strandietta* OBENBERGER, 1931 (1), *S. schoutedeni* OBENBERGER, 1931; *Strigulia* KERREMANS, 1893 (5); *Striguliodes* BELLAMY, 1986 (1), *S. gabonica* (KERREMANS, 1903); ***Synechocera*** DEYROLLE, 1864 (1), ***S. tasmanica*** THÉRY, 1923; *Therybuprestis* STRAND, 1932 (1), *T. crassa* (THÉRY, 1930); *Tonkinula* OBENBERGER, 1923 (1), *T. aurofasciata* (SAUNDERS, 1967); ***Toxoscelus*** DEYROLLE, 1864 (49), ***T. auriceps*** (SAUNDERS, 1973), *T. sterbai* OBENBERGER, 1934; *Trachys* FABRICIUS, 1801 (ca 80), *T. minuta* (LINNAEUS, 1758); *Trypantius* WATERHOUSE, 1887 (2), *T. infrequens* WATERHOUSE, 1887; ***Vanroonia*** OBENBERGER, 1923 (2), ***V. coraeboides*** OBENBERGER, 1923; "*Vanroonia*": "*V.*" *bispinosa* (WIEDEMANN, 1823), "*V.*" *grisator* (GORY & LAPORTE DE CASTELNAU, 1839), "*V.*" *guineae* OBENBERGER, 1858, "*V.*" *himalayana* OBENBERGER, 1858, "*V.*" *indica* (OBENBERGER, 1922), "*V.*" *javana* (KERREMANS, 1898), "*V.*" *marmorea* (DEYROLLE, 1864), "*V.*" *pectoralis* (KERREMANS, 1892), "*V.*" *pyropyga* (KERREMANS, 1903), "*V.*" *sachtlebeni* OBENBERGER, 1858, "*V.*" *spinipennis* (KERREMANS, 1900); *Wendleria* OBENBERGER, 1924 (2), *W. bicolor* BELLAMY, 1988; *Weyersiella* THÉRY, 1930 (1), *W. viridiceps* (KERREMANS, 1900) (type male, BMNH); *Xenomerius* OBENBERGER, 1924 (4), *X. clermonti* OBENBERGER, 1924.

List of morphological terms and their abbreviations used in the text

(See Appendix 2 for a complete list of terms used in the figures.)

basal corners of male tergite 8 (**bm8**) (male terminalia) (Fig. 282)
basal sclerite of stipes (**bss**) (larval labiomaxillary complex) (Fig. 10)
basistipes (**bst**) (maxilla) (Fig. 104)
cell cu-a1 [1st cu-a cell (cubito-anal cell)] (wing) (Fig. 207)
clypeus (**cly**) (cranium) (Fig. 20)
corner sclerite (**csc**) (larval labiomaxillary complex) (Fig. 11)
corner seta (**csl**) (larval labiomaxillary complex) (Fig. 11)
dorsal process of mental sclerite (**dpm**) (labium) (Fig. 135, 143)
dorsal valve setae in ovipositor [ventral view] (**dvs**) (female terminalia) (Fig. 468)
female paraproct (**fpp**) (female terminalia) (Fig. 447, 468)
frontal fossa (**frf**) (cranium) (Fig. 22)
galea (**gal**) (maxilla) (Fig. 104)
hypomeral carina (**hmc**) (prothorax ventral) (Fig. 153)
hypomeron [proepisternum] (**hme**) (prothorax ventral) (Fig. 153, 161)
labial palpus (**lpa**) (labium) (Fig. 135)
lacinia (**lac**) (maxilla) (Fig. 104)
lateral branch of palatine sclerite (**lbp**) (larval labrum) (Fig. 8)
lateral tormal process (**ltp**) (labrum) (Fig. 60)
mala (**maa**) (larval labiomaxillary complex) (Fig. 10)
male epiproct [distal part of male tergite 9] (**mpt**) (male terminalia) (Fig. 313)
male paraproct [basal part of male tergite 9] (**mpp**) (male terminalia) (Fig. 313)
mandibular hole (**mho**) (mandible) (Fig. 82)
median branch of palatine sclerite (**mbp**) (larval labrum) (Fig. 8)
median rib in basal corners of male tergite 8 (**mrt**) (male terminalia) (Fig. 282)
mediostipes (**mds**) (maxilla) (Fig. 104)
mental sclerites (**mls**) (adult labium) (Fig. 135)
mental sclerites (**msl**) (larval labiomaxillary complex) (Fig. 11)
mentonniere [apical margin of prosternum] (**mnt**) (prothorax ventral) (Fig. 152–153, 155–157)
mesepimeron (**msm**) (meso- and metasternum) (Fig. 187)
mesepisternum (**msn**) (meso- and metasternum) (Fig. 187)
mesothoracic intercoxal process (**msp**) (meso- and metasternum) (Fig. 187)
metathoracic intercoxal process (**mtp**) (meso- and metasternum) (Fig. 187)
ocular fossa (**ocf**) (cranium) (Fig. 22)
ocular furrow (**ocw**) (cranium) (Fig. 20)
palpifer (**plf**) (adult maxilla) (Fig. 104, 112)
palpifer (**pll**) (larval labiomaxillary complex) (Fig. 12)
parameral membrane (**pmm**) (male terminalia) (Fig. 371)
phallic struts (**phs**) (male terminalia) (Fig. 395)
praeparatergites (**ppt**) (i.e. pp1–pp7) (abdomen) (Fig. 248)
premental sclerites (**pms**) (labium) (Fig. 135)
pronotal carina (**pnc**) (pronotum) (Fig. 152–153)
pronotal lateral edge (**ple**) (pronotum) (Fig. 152–153, 161)
prostheca (**prl**) (larval mandible) (Fig. 1)
pseudopalpifer (**ppf**) (maxilla) (Fig. 104, 112)
radial cell (**Rc**) (wing) (Fig. 207)

sclerotised appendages on mesotarsal claws (**sam**) (legs) (Fig. 237)
sensorial fields (**sfl**) (antenna) (Fig. 39)
spermathecal gland (**spg**) (female terminalia) (Fig. 493)
stipes (**stl**) (larval labiomaxillary complex) (Fig. 10)
tibial spur (**tsp**) (legs) (Fig. 227)
valvifer [ventral] (**vvf**) (female terminalia) (Fig. 447, 468)
vein MP3+4 (wing) (Fig. 207)
vein MP3a (wing) (Fig. 207)
vein MP3b (wing) (Fig. 207)
vein MP4a (wing) (Fig. 207)
vein MP4b (wing) (Fig. 207)
vein r4 (wing) (Fig. 207)
ventral process of mental sclerite (**vpm**) (labium) (Fig. 135, 143)

Systematics

Subfamily Agrilinae LAPORTE DE CASTELNAU, 1835

Agrilites, Agrilidae LAPORTE DE CASTELNAU, 1835: 165 ("Agrilites. *Agrilidae*"). Type genus: *Agrilus* CURTIS, 1825. LAPORTE DE CASTELNAU & GORY, 1837: 1 (sensu novo).
Agrilites: LAPORTE DE CASTELNAU & GORY, 1835, Préface: 6.
Agrilides: LACORDAIRE, 1857: 76 (sensu novo).
Agrilinae: COBOS, 1980: 22 (sensu novo); BELLAMY, 1992a: 47 (sensu novo); HOŁYNSKI, 1993: 14 (sensu novo); KOLIBÁČ, in press (sensu novo).

Remarks. The Agrilinae have been recently re-defined by KOLIBÁČ (in press) in his communication on a classification and phylogeny of Buprestoidea. The latter paper does not deal with the tribal categories, which should be the aim of our next paper. The definition of Agrilini presented here is only provisional, requiring a complete analysis of all the genera of Agrilinae (incl. former Cylindromorphinae and Trachysinae) as well as Galbellinae. We have studied an extensive body of material and we believe that Agrilinae will surely include more tribes in addition to re-defined Coraebini and Agrilini, especially from newly incorporated groups.

The present contribution is aimed at the delimitation of the tribe Coraebini BEDEL, 1921 and demarcation of its taxonomic boundaries, even though the Coraebini seem thus in a some aspects a paraphyletic group because their adults are rather primitive with regard to Agrilini. According to the derived adult mouthparts and other characters, Agrilini (sensu novo) seems phylogenetically a very progressive group.

Because a new morphological data set is used, the taxonomic contents of the both tribes was changed.

Tribe Agrilini LAPORTE DE CASTELNAU, 1835 (sensu novo)

"Agrilites. *Agrilidae*." LAPORTE DE CASTELNAU, 1835: 165. Type genus: *Agrilus* CURTIS, 1825.
Agrilini: THÉRY, 1942: 12; 1947: 22; SCHAEFER, 1949: 26; NELSON, 1982: 438; COBOS, 1956: 117; 1986: 210; VELTEN & BELLAMY, 1987: 186; BELLAMY, 1985: 426–427 (listed); 1990c: 574; 1992a: 48; HOŁYNSKI, 1993: 14 (sensu novo).

Description.

Adults. Apomorphies: Mediostipes (**mds**) bipartite and divided from basistipes (**bst**) (Fig.119); premental sclerites (**pms**) filiform (Fig. 151); hypomeral carina (**hmc**) present [>] (Fig. 153); mesosternum fused with mesepisternum (**msn**) and mesepimeron (**msm**) (Fig. 191); radial cell (**Rc**) open proximally (Fig. 219); tarsomere 1 distinctly longer than 2 [>] (Fig. 230); male sternite 9 bare [>] (Fig. 358).

Plesiomorphies: Male tergite 9 horizontally divided in paraproct (**mpp**) and epiproct (**mpt**) (Fig. 313).

Larvae. Apomorphies: Prostheca (**prl**) membranous (Fig. 4).

Plesiomorphies: Lateral branch of palatine sclerite (**lbp**) perfect (Fig. 8); stipes (**stl**) not fused on innerside with mala (**maa**) (Fig. 12); maxillary palpomere 1 with numerous setae; palpifer (**pll**) differentiated horizontally; (9) corner setae (**csl**) 3, short.

Remarks. JENDEK (2000) synonymised the genera *Samboides* KERREMANS, 1900 and *Therysambus* DESCARPENTRIES & VILLIERS, 1967 with *Agrilus*. Genera formerly classified within the coraebine subtribes Amorphosternina and Rhaeboscelidina are transferred into Agrilini. The genera *Deyrollius*, *Lepismadora*, *Nickerleola*, *Parasambus*, *Pseudagrilodes*, *Pseudagrilus*, *Sambus* and *Weyersiella* are transferred into Agrilina. On the other hand, the subtribe Geraliina described by COBOS (1988) within in Agrilini is transferred into Coraebini.

The larvae of relatively many species of *Agrilus* have yet been described. We studied a larva of *Agrilus guerini* ourselves, which was used as a representative of whole tribe.

On the basis of the above characters, the following taxa have been examined and considered to belong in the tribe Agrilini (sensu novo). See also BELLAMY (1986c, 1990c), BELLAMY & WESTCOTT (1995), COBOS (1972, 1974, 1976, 1979), CURLETTI (1998) and VELTEN & BELLAMY (1987).

Taxa included. The subtribes Amorphosternina COBOS, 1974, Amyiina HOŁYNSKI, 1993, Rhaeboscelidina COBOS, 1976 and the genera: *Agrilochyseus* THÉRY, 1935, *Agrilodia* OBENBERGER, 1923, *Agriloides* KERREMANS, 1903, *Agrilophotus* BELLAMY & WESTCOTT, 1992, *Agrilus* CURTIS, 1823, *Amorphosternoides* COBOS, 1974, *Amorphosternus* DEYROLLE, 1864, *Amyia* SAUNDERS, 1871, *Autarcontes* WATERHOUSE, 1887, *Bellamyus* CURLETTI, 1997, *Bergidora* KERREMANS, 1903, *Callipyndax* WATERHOUSE, 1887, *Deyrollius* OBENBERGER, 1922, *Diadora* KERREMANS, 1900, *Diadorina* COBOS, 1974, *Euamyia* KERREMANS, 1903, *Eumerophilus* DEYROLLE, 1864, *Helferina* COBOS, 1956, *Lepismadora* VELTEN, 1987, *Malawiella* BELLAMY, 1990, *Maublancia* THÉRY, 1946, *Mychommatus* MURRAY, 1868, *Nickerleola* OBENBERGER, 1929, *Omochyseus* WATERHOUSE, 1887, *Paragrilus* SAUNDERS, 1871, *Parakamosia* OBENBERGER, 1924, *Parasambus* DESCARPENTRIES & VILLIERS, 1966, *Pareumerus* DEYROLLE, 1864, *Pilotrulleum* BELLAMY & WESTCOTT, 1995, *Pseudagrilodes* OBENBERGER, 1921, *Pseudagrilus* LAPORTE DE CASTELNAU, 1835, *Rhaeboscelis* CHEVROLAT, 1837, *Sambus* DEYROLLE, 1864, *Sarawakita* OBENBERGER, 1924, *Sjoestedtius* THÉRY, 1931, *Velutia* KERREMANS, 1900, *Wendleria* OBENBERGER, 1924, *Weyersiella* THÉRY, 1930, *Xenagrilus* OBENBERGER, 1924.

Tribe Coraebini BEDEL, 1921 (sensu novo)

Coraebini BEDEL, 1921: 170. Type genus: *Coraebus* LAPORTE DE CASTELNAU & GORY, 1836. THÉRY, 1942: 12; 1947: 22; SCHAEFER, 1949: 25; NELSON, 1982: 436; COBOS, 1956: 117; 1986: 209; VELTEN & BELLAMY, 1987: 186; BELLAMY, 1985: 423–426 (listed); 1990c: 574; 1992a: 48.

Description.

Adults. Apomorphies: Male tergite 9 horizontally undivided (Fig. 304).

Plesiomorphies: Mediostipes (**mds**) entire (Fig. 104), if bipartite, fused with basistipes (Fig. 116); premental sclerites (**pms**) distally widened (Fig. 135); hypomeral carina (**hmc**) absent (Fig. 152); mesosternum with at least mesepisternum (**msn**) or mesepimeron (**msm**) isolated (Fig. 187); radial cell (**Rc**) closed proximally (Fig. 207); tarsomere 1 as long as 2 [>] (Fig. 227); male sternite 9 setose (Fig. 347).

Larvae. Apomorphies: Lateral branch of palatine sclerite (**lbp)** reduced (Fig. 5–7); stipes (**stl**) fused on innerside with mala (**maa**) (Figs 9–11); maxillary palpomere 1 with a single long seta; palpifer (**pll**) undifferentiated horizontally; corner seta (**csl**) 1, long.

Plesiomorphies: Prostheca (**prl**) setose (Figs 1–3).

Remarks. The subtribe Geraliina described by COBOS (1988) in Agrilini is transferred into Coraebina. However, our conception of the subtribe is amplified – surprisingly, the Afrotropical genus *Pseudokamosia* is added.

Five genera of Coraebini are not classified within any subtribe: *Alcinous*, *Alissoderus*, *Dinocephalia* OBENBERGER, 1923, *Meliboeithon*, and *Paracephala*; see the Discussion chapter.

Considering larvae, *Meliboeus* is the best-studied genus of Coraebini. ALEXEEV (1988) and BÍLÝ (1989) described larvae of the following species in detail: *M. amethystinus*, *M. cyaneus*, *M. graminis*, *M. graminioides*, *M. reitteri*, *M. ohbayashii*, *M. robustus*, and *M. subulatus*.

The larvae of the coraebines *Coraebus undatus*, *Ethonion affine* (GORY & LAPORTE DE CASTELNAU) (VOLKOVITSH & HAWKESWOOD 1990), and *Anocisseis danieli* have also been described. Larvae of *C. undatus* and *A. danieli* were studied *in natura* by ourselves. Only the larval mouthparts characters and urogomphi were used in the character analysis. A larva of "*Coraebus*" *aculeatus* is briefly described for the first time here, later in the present paper.

BELLAMY (1987) provided an outline figure of *Synechocera tasmanica*, unfortunately without stressing any details. We did not have a preparation of the *Clema deserti* larva at our disposal (coll. A. V. Alexeev, Orekhovo-Zuevo). Some character states of the larva are indicated in VOLKOVITSH & HAWKESWOOD (1990: Table 1).

Further examinations of larvae will surely extend the character set applied here and will support (or suppress) the subtribes already established.

Descriptions of subtribes of Coraebini

The subtribes are described by their complete character sets (see “Character Table”); their character states are given in square brackets. [*] = homoplasy, [>] = apomorphy not defined in all subordinated taxa (non-inclusive synapomorphy).

Character table for subtribes of Coraebini

Adult characters

1. Ocular furrow (**ocw**): absent or fine (Fig. 20) [0]; deep (Fig. 19) [1]; deep, slot-like, i.e. ocular fossa (**ocf**) present (Fig. 22) [2].
2. Frons: even (Fig. 19) [0]; with depression (Fig. 20) [1]; with frontal fossa (**frf**) (Fig. 17) [2].
3. Clypeus (**cly**): even (Fig. 20) [0]; with transverse groove (Fig. 19) or with transversal groove connected with frontal fossa (**frf**) (Fig. 22) [1].
4. Antennomeres 4–11: 4–11 scarcely widened (with sensorial fields) (Fig. 33) [0]; 5–11 scarcely widened (with sensorial fields) (Fig. 32) [1]; 6–11 scarcely widened (no sensorial fields at all) (Fig. 31) [2]; 4–11 distinctly widened (with sensorial fields) (Fig. 39) [3]; 5–11 distinctly widened (with sensorial fields) (Fig. 43) [4]; 6–11 distinctly widened (with sensorial fields) [5].
5. Sensorial fields (**sfl**) on antennomeres: distinct (Fig. 39) [0]; weak (Fig. 33) [1]; absent (Fig. 31) [2].
6. Lateral tormal process (**ltp**): recurved (Fig. 60) [0]; recurved, long (Fig. 48) [1]; recurved, long, with inner angle (Fig. 71) [2]; recurved very short (Fig. 49) [3]; dentiform (Fig. 47) [4]; sinuato-dentate, not recurved (Fig. 70) [5]; straight, apex slightly recurved (Fig. 73) [6]; straight, subsinuate (Fig. 53) [7]; reduced to 2 subparallel lines (Fig. 69) [8].
7. Mandibular hole (**mho**): distinct (Fig. 82) [0]; weakly developed (reduced) (Fig. 88) [1]; absent (Fig. 75) [2].
8. Pseudopalpifer (**ppf**): conspicuous, simple (Fig. 104) [0]; conspicuous, bisetose (Fig. 115) [1]; conspicuous, linear (Fig. 116) [2]; inconspicuous (Fig. 92) [3].
9. Basistipes (**bst**): moderate (Fig. 104) [0]; elongate, subparallel (Fig. 94) [1]; semicircular (Fig. 92) [2]; large, elongate (Fig. 116) [3].
10. Palpifer (**plf**): moderately sized (Fig. 104) [0]; very extensive (Fig. 118) [1]; reduced, round (Fig. 92) [2].
11. Galea (**gal**): separated from mediostipes (Fig. 104) [0]; fused with mediostipes (Fig. 92) [1].
12. Mediostipes (**mds**): entire, outerside angulate (Fig. 104) [0]; entire, outerside rounded (Fig. 95) [1]; entire, subquadrate (Fig. 113) [2]; fused with galea (Fig. 92) [3]; bipartite (Fig. 116) [4].
13. Lacinia (**lac**): extensive (Fig. 94) [0]; moderate (Fig. 104) [1]; fused with mediostipes (Fig. 92) [2].

14. Mental sclerites (**mls**): sinuate-conical, moderate, ventral process (**vpm**) present (Fig. 135) [0]; sinuate-conical, moderate, dorsal process (**dpm**) fused (Fig. 123) [1]; sinuate-conical, very slender, ventral process (**vpm**) present (Fig. 147) [2]; subsinuate, broad, ventral process (**vpm**) missing (Fig. 122) [3]; straight, slender, ventral process (**vpm**) missing (Fig. 148) [4]; straight, oblong, ventral process (**vpm**) missing (Fig. 150) [5].
15. Premental sclerites (**pms**): apex forked (Fig. 135) [0]; apex unforked, thickened only (Fig. 129) [1]; apex unforked, sclerite subtriangular (Fig. 120) [2]; apex modified (Fig. 123) [3]; reduced, linear (Fig. 147) [4].
16. Labial palpus (**lpa**): 3-segmented (Fig. 135) [0]; segments 1–2 partly coalescent or palpus 2-segmented (Fig. 147) [1]; 2-segmented, segment 1 reduced (Fig. 120) [2].
17. Pronotal carina (**pnc**) (Fig. 152): present, complete [0]; present, incomplete [1]; irregular [2]; absent [3].
18. Hypomeron (**hme**): without longitudinal keel (Fig. 161) [0]; with longitudinal keel (Fig. 166) [1].
19. Mentonniere (**mnt**): absent (Fig. 154) [0]; present (Fig. 155) [1].
20. Mesosternum: transverse (Fig. 184) [0]; rhomboidal (Fig. 187) [1]; semicircular (Fig. 190) [2]; ventral mesothoracic sclerites imperfectly fused (Fig. 181) [3].
21. Mesothoracic intercoxal process (**msp**), apex: broadly truncate (Fig. 181) [0]; broadly rounded (Fig. 184) [1]; angulate (Fig. 187) [2]; semicircular (Fig. 190) [3].
22. Mesepisternum (**msn**): perfectly separated (Fig. 187) [0]; partly fused with mesosternum and mesepimeron (**msm**) (Fig. 181) [1].
23. Metathoracic intercoxal process (**mtp**), apex: broad, truncate (Fig. 181) [0]; broad, emarginate (Fig. 187) [1]; tapered (Fig. 188) [2].
24. Cell cu-a1: conspicuous (Fig. 198) [0]; inconspicuous (Fig. 197) [1].
25. Vein MP3+4: present, complete (Fig. 198) [0]; reduced (Fig. 200) [1]; absent (Fig. 197) [2].
26. Vein MP3a: complete (Fig. 218) [0]; reduced (Fig. 203) [1]; reduced, bearing indicated base of MP3b (Fig. 198) [2]; absent (Fig. 197) [3].
27. Vein MP3b: complete (Fig. 203) [0]; reduced (Fig. 212) [1]; reduced, bearing indicated base of MP3a (Fig. 198) [2]; absent (Fig. 197) [3].
28. Vein MP4a: complete (Fig. 198) [0]; reduced (Fig. 203) [1]; absent (Fig. 197) [2].
29. Vein MP4b: base simple (Fig. 198) [0]; base not simple (Fig. 207) [1]; base isolated and/or thickened (Fig. 212) [2]; absent (Fig. 197) [3].
30. Radial cell (**Rc**): moderate (lenticular) (Fig. 198) [0]; elongate, opened distally (Fig. 212) [1]; rounded, with striking r3 (Fig. 215) [2]; extremely elongated and enlarged (Fig. 197) [3]; enlarged and modified (Figs 217, 218) [4]; elongate, compressed and modified (Fig. 216) [5].
31. Vein r4: present (Fig. 198) [0]; absent (Fig. 197) [1].
32. Tibial spur (**tsp**): straight (Fig. 227) [0]; modified in shape (Fig. 222) [1].
33. Tarsomere 4: as long as 3 (Fig. 227) [0]; slightly shorter than 3 [1]; conspicuously shorter than 3 [2].

34. Sclerotised appendages on tarsal claws (**sam**): present (Fig. 237) [0]; reduced [1]; absent (Fig. 231) [2].
35. Praeparatergites (**ppt**): perfectly separated (Fig. 248) [0]; partly fused with tergites (Fig. 253) [1].
36. Basal corners of male tergite 8 (**bm8**): acuminate (Fig. 270) [0]; broadened (Fig. 282) [1].
37. Median rib in basal corners of male tergite 8 (**mrt**): absent (Fig. 270) [0]; indicated (Fig. 271) [1]; striking (Fig. 282) [2]; with fine oblique line [3].
38. Male tergite 9 (**mt9**): divided in paraproct and epiproct (cf. Fig. 313) [0]; with indicated transverse division [1]; entire (Fig. 304) [2].
39. Basal corners of male tergite 9: slender (Fig. 292) [0]; dilated (Fig. 304) [1]; filiform (Fig. 312) [2].
40. Male sternite 9: simple, not distinctly transverse (Fig. 347) [0]; simple, distinctly transverse (Fig. 338) [1]; modified in shape (Fig. 355) [2].
41. Parameres: acuminate, simple (Fig. 371) [0]; acuminate, with median line and/or feather-like appendages (Fig. 380) [1]; obliquely broadly truncate (Fig. 362) [2]; rounded (Fig. 359) [3]; truncate (Fig. 379) [4]; acuminate, simple, dorsal notch much broader than ventral one (Fig. 377) [5].
42. Parameral membrane (**pmm**): moderate in size, setose (Fig. 371) [0]; narrow, setose (Fig. 367) [1]; reduced, moderately setose (Fig. 377) [2]; absent, setae distinct, long (Fig. 361) [3]; absent, setae fine, short (Fig. 360) [4]; reduced, very strongly setose (Fig. 362) [5]; not defined, setae absent (Fig. 359) [6].
43. Phallus: moderately elongate (Fig. 395) [0]; robust, subparallel (Fig. 385) [1]; blade-shaped (Fig. 382) [2]; tripartite (base and apex separated) (Fig. 403) [3].
44. Phallic struts (**phs**): moderately elongate (Fig. 395) [0]; extremely short (Fig. 385) [1]; fused at base and separated (Fig. 401) [2].
45. Female paraproct (**fpp**): conspicuous (Fig. 447) [0]; inconspicuous (Fig. 457) [1].
46. Dorsal valve setae in ovipositor (**dvs**): simple, hair-like (Fig. 468) [0]; thickened to clavate (Fig. 472) [1].
47. Valvifer (**vvf**): moderate, not filiform (Fig. 468) [0]; filiform (Fig. 478) [1].
48. Spermathecal gland (**spg**): absent (Fig. 502) [0]; present (Fig. 492) [1].

Larval characters

49. Lateral branch of palatine sclerite (**lbp**): perfect (Fig. 8) [0]; reduced (Fig. 7) [1]; broad (Fig. 6) [2].
50. Median branch of palatine sclerite **(mbp**): distally simple (Fig. 6–7) [0]; distally modified (Fig. 5) [1].
51. Stipes (**stl**): without basal sclerite (Fig. 9, 11) [0]; with basal sclerite (**bss**) (Fig. 10) [1].
52. Mental sclerites (**msl**): straight narrow (Fig. 9) [0]; sinuate narrow (Fig. 11) [1]; broad (Fig. 10) [2].
53. Corner sclerite (**csc**): heavily sclerotised, without remnants (Fig. 10) [0]; heavily sclerotised, with rounded remnants (Fig. 9) [1]; with weakly sclerotised patch (Fig. 11) [2].
54. Urogomphi: always present (Fig. 13) [0]; absent in some stages [1].

Classification of Coraebini

1. Ethoniina MAJER, subtrib.nov.

(Figs 17, 32, 48, 76, 93, 121, 155, 169, 182, 198, 242, 256, 271, 293, 315, 336, 360, 383, 406, 426, 447, 468, 489.)

Description. Autapomorphies: (4) Antennomeres 5–11 scarcely widened (with sensorial fields) (Fig. 32) [1]; (6) lateral tormal process recurved, long (Fig. 48) [1]; (26) vein MP3a reduced, bearing indicated base of MP3b (Fig. 198) [2]; (42) parameral membrane absent, setae fine, short (Fig. 360) [4].

Synapomorphies: (2) Frons with frontal fossa (Fig. 17) [2*]; (9) basistipes elongate, subparallel (Fig. 93) [1]; (14) mental sclerites subsinuate, broad, ventral process missing (Fig. 121) [3]; (19) mentonniere present (Fig. 155) [1*]; (23) apex of metathoracic intercoxal process broad, emarginate (Fig. 182) [1*]; (27) vein MP3b reduced, bearing indicated base of MP3a (Fig. 198) [2]; (37) median rib in basal corners of male tergite 8 indicated (Fig. 271) [1]; (38) male tergite 9 entire (Fig. 293) [2*].

Symplesiomorphies: (1) Ocular furrow absent or fine (Fig. 17); (3) frontal fossa not extended to clypeus; (5) sensorial fields on antennomeres distinct (Fig. 32); (7) mandibular hole distinct (Fig. 76); (8) pseudopalpifer conspicuous, simple (Fig. 93); (10) palpifer moderately sized; (11) galea separated from mediostipes; (12) mediostipes entire, outer side angulate; (13) lacinia extensive; (15) premental sclerites apex forked (Fig. 121); (16) labial palpus 3-segmented; (17) pronotal carina present, complete; (18) hypomeron without longitudinal keel (Fig. 155); (20) mesosternum transverse (Fig. 182); (21) apex of mesothoracic intercoxal process broadly truncate; (22) mesepisternum perfectly separated; (24) cell cu-a1 conspicuous (Fig. 198); (25) vein MP3+4 present, complete; (28) vein MP4a complete; (29) vein MP4b base simple; (30) radial cell moderate (lenticular); (31) vein r4 present; (32) tibial spurs straight; (33) tarsomere 4 as long as 3; (34) sclerotised appendages on tarsal claws present; (35) praeparatergites perfectly separated (Fig. 242); (36) basal corners of male tergite 8 acuminate (Fig. 271); (39) basal corners of male tergite 9 slender (Fig. 293); (40) male sternite 9 simple, not distinctly transverse (Fig. 336); (41) parameres acuminate, simple (Fig. 360); (43) phallus moderately elongate (Fig. 383); (44) phallic struts moderately elongate; (45) female paraproct conspicuous (Fig. 447); (46) dorsal valve setae in ovipositor simple, hair-like (Fig. 468); (47) valvifer moderate, not filiform; (48) spermathecal gland absent (Fig. 489).

Larva (*Ethonion affine*, after VOLKOVITSH & HAWKESWOOD 1990).

Synapomorphies: (49) Lateral branch of palatine sclerite reduced (cf. Fig. 5) [1]; (50) median branch of palatine sclerite distally modified [1]; (53) corner sclerite heavily sclerotised, with roundet remnants (cf. Fig. 9) [1*]; (54) urogomphi absent in some stages [1*].

Symplesiomorphies: (51) Stipes without basal sclerite (cf. Fig. 9); (52) mental sclerites straight narrow.

Distribution. Australia continental.

Remarks. This is perhaps the most primitive group within the tribe Coraebini. VOLKOVITSH & HAWKESWOOD (1990) consider a larva of *Ethonion affine* conspicuously different from all other agriline larvae. Their opinion is based on an observation of the urogomphi: this body part is missing in the stages studied of the species mentioned. Later, Bílý (1997) described a larva of *Anocisseis danieli* in which the urogomphi are fully developed in a mature larva but missing in a prepupa. It shows a tendency in some Coraebini to reduce the urogomphi during ontogeny and this is why we do not agree with the Volkovitsh and Hawkeswood opinion on the exclusiveness of *Ethonion* gen.nov. On the contrary, this character confirms a relationship between Ethoniina subtrib.nov. and Cisseina subtrib.nov. Moreover, the larvae mentioned show no autapomorphies of their own.

Genera included. Type genus: *Ethonion* gen.nov.

Ethonion Kubáň, gen.nov.

Ethon sensu Lacordaire 1857: 77 (nec Laporte de Castelnau & Gory, 1836). Deyrolle 1864: 113; Saunders 1868: 54; 1871: 101; Gemminger & Harold 1869: 1428; Kerremans 1892: 223; 1893: 116; 1903: 218, 226; Carter 1923: 160; 1929: 276; Théry 1929: 268, 272; Obenberger 1935: 860; Hawkeswood 1980: 198; Bellamy 1985: 425; 1988b: 417, 419; 1998a: 13; Volkovitsh & Hawkeswood 1990: 55; Hawkeswood & Turner 1992: 169; 1994: 165.

Type species: *Buprestis fissiceps* Kirby, 1818. Designated here.

Remarks. The names *Ethon* Laporte de Castelnau & Gory, 1836 and *Cisseis* Laporte de Castelnau & Gory, 1836 are synonyms (see “Remarks” in the chapter dealing with *Cisseis*). This is why the name *Ethon* Laporte de Castelnau & Gory, 1836 (a junior subjective synonym) is invalid and for *Ethon* sensu Lacordaire the new genus *Ethonion* gen.nov. is established here.

Lacordaire (1857: 77) was the first author to note differences among some species classified by Gory & Laporte de Castelnau (1839) within the genus *Ethon*. In his generic diagnosis, he especially emphasised the presence of a cranial frontal fossa and an equilateral triangle-like scutellum. The remaining species known to him were inserted into the genus *Cisseis*. Having classified other known species, Saunders (1868, 1871) followed Lacordaire’s procedure. The whole group *Ethon* sensu Lacordaire was revised by Carter (1923).

The genus is defined by apomorphies of the monotypic subtribe Ethoniina subtrib.nov. (see above). Eight known species of *Ethonion* gen.nov. are characterised as follows: (1) body oval, flat; (2) elytra shagreened, elytral furrows composed of longitudinal impressions; (3) tarsal claws with sclerotised appendages that are nearly equal in shape and length; (4) dorsal surface irregularly setose, setae in patches or fasciae.

Biology. The larvae are gall-formers and inhabit live branches of ligneous plants. Adults are generally found on fabaceous flowers. [See e.g. Saunders (1849), Hawkeswood (1980), Volkovitsh & Hawkeswood (1990), Hawkeswood & Turner (1992, 1994).]

Differential diagnosis. *Ethonion* gen.nov. is here compared with all other Australian genera of Coraebini. We have not studied the Australian genera *Paracephala*, *Dinocephalia*, and *Meliboeithon* in detail; we have therefore referred to a paper by Bellamy (1988b) for the review of character states. *Ethonion* gen.nov. differs from genera of Cisseina subtrib.nov. and *Synechocera* in the character states mentioned in "A key to subtribes". The cranial frontal fossa is absent in *Paracephala* and *Dinocephalia* as well as in the genera of Cisseina subtrib.nov. The fossa is present in the genera *Synechocera* (see below), *Ethonion* gen.nov., and *Meliboeithon*. *Ethonion* gen.nov. differs from *Meliboeithon* in body shape, conformation of tarsal claw appendages, dorsal pubescence of body, and biology. The body of *Meliboeithon* is narrower, subcylindrical, subparallel. Its tarsal claw appendages are small or reduced and the dorsal body surface is regularly and sparsely setose. The life cycle of *Meliboeithon* adults, and perhaps also of larvae, is connected with grasses. One species was caught on Cyperaceae (*Juncus* sp.), another flying low above the earth.

Distribution. Australia continental.

Etymology. Neuter. Derived from the name *Ethon*.

2. Cisseina Majer, subtrib.nov.

(Figs 1, 5, 9, 13, 26, 33, 49, 77, 94, 122, 156, 170, 183, 199, 220, 232, 243, 257, 272, 294, 316, 337, 361, 384, 407, 427, 448, 469, 490.)

Description. Autapomorphies: (6) Lateral tormal process recurved, but very shortly (Fig. 49) [3]; (42) parameral membrane absent, setae distinct, long (Fig. 361) [3].
Synapomorphies: (5) Sensorial fields on antennomeres weak (Fig. 33) [1*]; (9) basistipes elongate, subparallel (Fig. 94) [1]; (14) mental sclerites subsinuate, broad, ventral process missing (Fig. 122) [3]; (19) mentonniere present (Fig. 156) [1*]; (23) apex of metathoracic intercoxal process broad, emarginate (Fig. 183) [1*]; (26) vein MP3a absent (Fig. 199) [3*]; (37) median rib in basal corners of male tergite 8 indicated (Fig. 272) [1]; (38) male tergite 9 entire (Fig. 294) [2*].
Symplesiomorphies: (1) Ocular suture fine; (2) frons even; (3) clypeus even; (4) antennomeres 4–11 scarcely widened (with sensorial fields) [>] (Fig. 33); (7) mandibular hole distinct (Fig. 77); (8) pseudopalpifer conspicuous, simple (Fig. 94); (10) palpifer moderately sized; (11) galea separated from mediostipes; (12) mediostipes entire, outer side angulate; (13) lacinia extensive; (15) premental sclerites apex forked (Fig. 122); (16) labial palpus 3-segmented; (17) pronotal carina present, complete; (18) hypomeron without longitudinal keel (Fig. 156); (20) mesosternum transverse (Fig. 183); (21) apex of mesothoracic intercoxal process broadly truncate; (22) mesepisternum perfectly separated; (24) cell cu-a1 conspicuous (Fig. 199); (25) vein MP3+4 present, complete; (27) vein MP3b complete; (28) vein MP4a complete; (29) vein MP4b base simple; (30) radial cell moderate (lenticular); (31) vein r4 present; (32) tibial spurs straight (Fig. 220); (33) tarsomere 4 as long as 3; (34) sclerotised appendages on tarsal claws present (Fig. 232); (35) praeparatergites perfectly separated (Fig. 243); (36) basal corners of male tergite 8 acuminate (Fig. 272); (39) basal corners of male tergite 9 slender (Fig. 294); (40) male sternite 9 simple, not distinctly transverse (Fig. 337); (41) parameres acuminate, simple (Fig. 361); (43) phallus moderately elongate (Fig. 384); (44) phallic struts moderately elongate; (45) female paraproct conspicuous (Fig. 448); (46) dorsal valve

setae in ovipositor simple, hair-like (Fig. 469); (47) valvifer moderate, not filiform; (48) spermathecal gland absent (Fig. 490).

Larva (*Anocisseis danieli*). Synapomorphies: (49) Lateral branch of palatine sclerite reduced (Fig. 5) [1]; (50) median branch of palatine sclerite distally modified [1]; (51) stipes without basal sclerite (Fig. 9); (53) corner sclerite heavily sclerotised, with roundet remnants (Fig. 9) [1*]; (54) urogomphi absent in some stages [1*].
Symplesiomorphies: (52) Mental sclerites straight narrow (Fig. 9) [0].

Remarks. The subtribe displays several symplesiomorphies with Coraebina from which it is sometimes hardly distinguishable by habit. The relationship between this subtribe and Ethoniina subtrib.nov. is confirmed by both adult and larval character states, as discussed above. The genus *Cisseis* was revised only by CARTER (1923). A larva of *Anocisseis danieli* was described by BÍLÝ (1997).

Distribution. Australia continental. Islands: Tasmania, Solomon, New Guinea, Seram, Misool, Halmahera, Sumbawa, Borneo, Sumatra. Malay Peninsula. Philippines: Samar, Luzon, Mindanao.

Genera included. Type genus: *Cisseis* LAPORTE DE CASTELNAU & GORY, 1836
Other genera: *Anocisseis* BELLAMY, 1990, *Hypocisseis* THOMSON, 1879, *Neospades* BLACKBURN, 1887, *Pachycisseis* THÉRY, 1929.

Cisseis LAPORTE DE CASTELNAU & GORY, 1836 (by V. KUBÁŇ)

Cisseis LAPORTE DE CASTELNAU & GORY, 1836: 12 (listed); GORY & LAPORTE DE CASTELNAU, 1839: 1–2 (described). Type species: "*Buprestis duodecimguttata* Guérin" sensu BOISDUVAL, 1835 (unavailable name). Subsequent designation by DUPONCHEL in D'ORBIGNY, 1843: 719. LACORDAIRE 1857: 78; DEYROLLE 1864: 113; SAUNDERS 1868: 57; 1871: 102; GEMMINGER & HAROLD 1869: 1429; KERREMANS 1892: 224; 1893: 117; 1903: 218, 227; CARTER 1923: 161; 1929: 277; THÉRY 1929: 268, 273; OBENBERGER 1935: 842; BELLAMY 1985: 425; 1988b: 417, 420; 1991c: 157, 171; 1998a: 12.
Diphucrania DEJEAN, 1833: 81. Type species: *Buprestis leucosticta* KIRBY, 1818 (now in *Cisseis*). Designated here. DEJEAN 1836: 92; CHEVROLAT 1837: 82; LACORDAIRE 1857: 78; SAUNDERS 1868: 54, 57; 1871: 101, 102; GEMMINGER & HAROLD 1869: 1428, 1429; KERREMANS 1892: 224; OBENBERGER 1935: 842, 860; BELLAMY 1985: 425; 1998b: 376.
Ethon LAPORTE DE CASTELNAU & GORY, 1836: 12 (listed); GORY & LAPORTE DE CASTELNAU, 1839: 1–2 (described). Type species: *Buprestis leucosticta* KIRBY, 1818 (now in *Cisseis*). Subsequent designation by DUPONCHEL in D'ORBIGNY, 1848: 471. **Syn.nov.**
Diphucrama KERREMANS 1892: 223 (lapsus).

Remarks. The generic names *Cisseis* and *Ethon* were first used by their authors in a general section of the first volume of their "Monographie des Buprestides" (LAPORTE DE CASTELNAU & GORY 1836: 11–12). A history of the genus *Buprestis* (in meaning "Buprestidae") is treated in that section under the title "Buprestis". At the end of the section, the authors cite a list of names of genera already described, as well as new genera in the same manner as that used, or about to be used, in the "Monographie des Buprestides". They also state that characters of new genera are always written in captions of those genera. This is why there is a time difference between the appearance of the list of the genera and an actual description of the respective genus contained within it.

The genera *Cisseis* and *Ethon* are described and combined with their nominal species in the second volume (GORY & LAPORTE DE CASTELNAU 1839). Therefore, the generic names mentioned in the first volume (1836) can be accepted as consistent with the Principle of Binominal Nomenclature. The availability of names is in conformity with Article 11.4.1. ICZN (1999); the year of appearance and authorship correspond with the Articles 21.5. and 50.1. ICZN (1999). The authors classified six nominal species within the genus *Cisseis* and eight nominal species within the genus *Ethon*. However, type species of the genera were not established in the "Monographie des Buprestides". The type species were first established by DUPONCHEL in D'ORBIGNY (1843 and 1848).

"*Ciss*. 12-*guttata* (*Buprest. Id.*) Guér." was established as a type species for the genus *Cisseis* by DUPONCHEL (1843). It follows from the text that he chose the species *sensu* GORY & LAPORTE DE CASTELNAU (1839). BELLAMY (1998a: 12) notices that "*Buprestis duodecimguttata* Boisduval" *sensu* GORY & LAPORTE DE CASTELNAU (1839) and *Buprestis duodecimguttata* GUÉRIN-MÉNEVILLE, 1830 are not conspecific. The latter species is noted as a junior subjective synonym of *C. duodecimmaculata* (FABRICIUS, 1801). The name *Buprestis duodecimguttata* sensu BOISDUVAL, 1835 is an unavailable name. Unless it is in synonymy with another different available name, the name must changed.

It is not known to us whether the specimens cited by BOISDUVAL (1835: 93) and GORY & LAPORTE DE CASTELNAU (1839, Genre Cisseis: 2) are equal. However, it is evident that the specimen upon which a valid designation of the type species of the genus *Cisseis* is based is the one which is deposited in the Gory & Laporte de Castelnau collection (now in Coll. Oberthür in Muséum National d'Histoire Naturelle in Paris). A designation of *C. signata* GORY & LAPORTE DE CASTELNAU, 1839 as the type species, made by BELLAMY (1998a: 12), is not valid because it is later.

DUPONCHEL (1848) established *Buprestis leucosticta* KIRBY, 1818 as a type species for the genus *Ethon*. A conception of the latter species [i.e., "*B. leucosticta* KIRBY" *sensu* BOISDUVAL (1835: 97) and "*B. leucosticta* KIRBY" *sensu* GORY & LAPORTE DE CASTELNAU (1839, Genre Ethon: 2)] has never been in doubt. Nowadays, the species is classified within the genus *Cisseis*. Therefore, the names *Cisseis* and *Ethon* are subjective synonyms. Both names are published in the same communication and in the same year. I assign the valid name *Cisseis* as a senior subjective synonym. The name *Ethon* is a junior subjective synonym. Nowadays, several dozen species category taxa are classified within *Cisseis*, a name that is also more suitable for solving problems with the available name *Diphucrania* DEJEAN, 1833.

BELLAMY (1998a: 13) designated "*Ethon fissiceps* Gory & Laporte, 1839" [nec KIRBY, 1818] as a type species for *Ethon* (see below). This designation is not valid because it is later than Duponchel.

BOISDUVAL (1835: 96) described a specimen (or specimens) from Dejean's collection under the name "Buprestis fissiceps MacLeay" and adverted to the name "Diphucrania fissiceps, Dej. [sic!]".

GORY & LAPORTE DE CASTELNAU (1839, Genre Ethon: 4) mixed the conceptions of Kirby, MacLeay, and Boisduval under the name "*Ethon fissiceps*. Kirby" (see also

BELLAMY 1999: 4). The names *Buprestis fissiceps* KIRBY, 1818 and "*Buprestis fissiceps* MacLeay" *sensu* BOISDUVAL (1835) are primary homonyms and Boisduval's name is an unavailable name. The name "*Ethon fissiceps* Kirby" *sensu* GORY & LAPORTE DE CASTELNAU (1839) is an unavailable name according to Article 49 ICZN (1999).

The content of the genus *Ethon* was redefined by subsequent authors, firstly by LACORDAIRE (1857: 77). However, considering the facts mentioned above, the name *Ethon* sensu LACORDAIRE becomes unavailable. A new generic name should be established, a name which will form the basis for a new subtribe (see above).

The question of validity of the available name *Diphucrania* DEJEAN, 1833 cannot be resolved in this communication. MACLEAY's paper (1828) and some recent literature on *Cisseis* and *Ethon* have not been at my disposal.

BELLAMY's (1998b: 373) proposal "to leave in synonymy" some of Dejean's available, but unused for dozens of years is not valid: the names have run out of time. Only after the issue the new ICZN (1999), will it be possible in some exactly defined cases. Under Article 23.9. ICZN (1999) the Principle of Priority can be avoided but "an author will be required (without a ruling by the Commission) not to displace a name which has been used as valid by at least 10 authors in 25 publications during the past 50 years by an earlier synonym or homonym which has not been used as valid since 1899. When an author has discovered that such conditions exist, and has published a statement of this fact which cites the relevant Article (23.9.) and gives appropriate evidence, then the later name in prevailing use permanently takes precedence over the earlier but disused synonym or homonym." (Cited after a simplified information in *http://www.iczn.org*.)

DEJEAN (1833) classifies the following nominal Australian ("Nov. Holland.") species within the new genus *Diphucrania*: "Leucosticta. *Kirby*., *Squamulata*. *Mac Leay*., Fissiceps. *Mac Leay.* [sic!]". I do not have the paper by MACLEAY (1828) at my disposal. This is why I do not know if the names cited above are used only in a catalogue and/or discussed or diagnosed in some way. With regard to the title of the paper ("Catalogue of Insects from Australia... Narrative of a Survey of the intertropical and western Coasts of Australia."), both possibilities are plausible. The name "fissiceps" certainly relates with a name of the species *Buprestis fissiceps* KIRBY, 1818 (now in *Ethonion* gen.nov.). It is not known to us what is addressed in MACLEAY's (1828) paper: whether the actual Kirby species or only the name cited and material are "*sensu* Mac Leay".

If the names "*Squamulata*. *Mac Leay*" and "Fissiceps. *Mac Leay*" (combined with the genus *Diphucrania* in Dejean's catalogue) appear to be unavailable names, then *Diphucrania* will be monotypic. *Buprestis leucosticta* KIRBY, 1818 would be its type species. For the case of availability of the other originally classified names, I designate *Buprestis leucosticta* KIRBY, 1818 as a type species for *Diphucrania* DEJEAN, 1833 by the designation that follows here.

The names *Diphucrania* and *Ethon* are objective synonyms and the names *Diphucrania* and *Cisseis* are subjective synonyms. The name *Cisseis* (as a junior subjective synonym) can be treated as a valid name and a *nomen protectum* with regard to its senior subjective synonym *Diphucrania* (as a *nomen oblitum*) according to Article 23.9.1. ICZN (1999). I suppose that this will be possible within the large genus *Cisseis*.

3. Toxoscelina Majer, subtrib.nov.

(Figs 18, 34–36, 50–52, 78–79, 95–97, 123–125, 157–158, 171, 184, 200–202, 221–223, 233, 244–245, 258–259, 273–275, 295–297, 317–319, 338–340, 362–364, 385–388, 408–410, 428–430, 449–451, 470–471, 491–493.)

Description. Autapomorphies: (12) Mediostipes entire, outer side rounded (Figs 95–97) [1]; (14) mental sclerites sinuate-conical, moderate, dorsal process fused (Figs 123–125) [1>]; (15) premental sclerites apex modified [3>]; (21) apex of mesothoracic intercoxal process broadly rounded (Fig. 184) [1]; (25) vein MP3+4 reduced (Figs 200–202) [1]; (32) tibial spurs modified in shape (Figs 221–223) [1>]; (40) male sternite 9 simple, distinctly transverse (Figs 338–340) [1]; (41) parameres obliquely broadly truncate (Figs 362–364) [2]; (42) parameral membrane reduced, very strongly setose [5]; (43) phallus robust, subparallel (Figs 385–388) [1]; (48) spermathecal gland present (Figs 491–493) [1].

Synapomorphies: (1) Ocular furrow deep, slot-like, i.e. ocular fossa present (Fig. 18) [2>]; (3) clypeus with transversal groove [1>*]; (4) antennomeres 5–11 distinctly widened (with sensorial fields) (Figs 35–36) [4*]; (7) mandibular hole weakly developed (reduced) (Figs 78–79) [1*]; (13) lacinia moderate (Figs 95–97) [1*]; (17) pronotal carina irregular [2*]; (19) mentonniere present (Figs 157–158) [1*]; (23) apex of metathoracic intercoxal process broad, emarginate (Fig. 184) [1*]; (26) vein MP3a absent (Figs 200–202) [3*]; (27) vein MP3b reduced [1]; (38) male tergite 9 entire (Figs 295–297) [2*]; (44) phallic struts extremely short (Figs 385–388) [1*]; (46) dorsal valve setae in ovipositor thickened to clavate (Figs 470–471) [1*].

Symplesiomorphies: (2) Frons even; (5) sensorial fields on antennomeres distinct (Figs 35–36); (6) lateral tormal process recurved (Figs 50–52); (8) pseudopalpifer conspicuous, simple (Figs 95–97); (9) basistipes moderate; (10) palpifer moderately sized; (11) galea separated from mediostipes; (16) labial palpus 3-segmented [>] (Figs 123–125); (18) hypomeron without longitudinal keel (Figs 157–158); (20) mesosternum transverse (Fig. 184); (22) mesepisternum perfectly separated; (24) cell cu-a1 conspicuous (Figs 200–202); (28) vein MP4a complete; (29) vein MP4b base simple; (30) radial cell moderate (lenticular); (31) vein r4 present; (33) tarsomere 4 as long as 3 (Figs 221–223); (34) sclerotised appendages on tarsal claws present (Fig. 233); (35) praeparatergites perfectly separated (Figs 244–245); (36) basal corners of male tergite 8 acuminate (Figs 273–275); (37) median rib in basal corners of male tergite 8 absent; (39) basal corners of male tergite 9 slender (Figs 295–297); (45) female paraproct conspicuous (Figs 449–451); (47) valvifer moderate, not filiform (Figs 470–471).

Larva. Unknown.

Distribution. Afrotropical and Oriental.

Remarks. This large taxon displays strong diversity of habit but rather uniform terminalia. The ground type of tegmen is broadened and truncate. In *Polyonychus* (and a number of related genera) the tegmina are rather slender, however; wing veins reduced in median sector show reliable toxosceline character. A very remarkable phenomenon is the presence of a spermathecal gland in all genera examined.

Genera from the Afrotropical region were revised by BELLAMY (1986a,b, 1988c, 1989a), BELLAMY & HOLM (1985a), DESCARPENTRIES (1969), JELÍNEK (1971); from the Oriental region by BAUDON (1968), DESCARPENTRIES & VILLIERS (1966a,b, 1967a).

Genera included. Type genus: *Toxoscelus* DEYROLLE, 1864.
Other genera: *Anadora* KERREMANS, 1898, *Anaphlocteis* BELLAMY, 1986, *Angarta* DESCARPENTRIES, 1969, *Antanambia* DESCARPENTRIES, 1975, *Borneoscelus* BELLAMY, 1995, *Brachydora* OBENBERGER, 1923, *Capitijubatus* BELLAMY, 1986, *Chalcophlocteis* OBENBERGER, 1924, *Chloricalla* KERREMANS, 1893, *Cobosietta* BELLAMY, 1986, *Compsoglypha* FAIRMAIRE, 1904, *Coraebastus* FAIRMAIRE, 1904, *Cryptodactylus* DEYROLLE, 1864, *Cupriscobina* BELLAMY & HOLM, 1985, *Demostis* KERREMANS, 1900, *Dessumia* DESCARPENTRIES & VILLIERS, 1966, *Discoderella* BELLAMY, 1988, *Discoderes* CHEVROLAT, 1837, *Discoderoides* THÉRY, 1936, *Discoderopsis* THÉRY, 1929, *Entomogaster* SAUNDERS, 1871, *Epimacha* KERREMANS, 1900, *Eulasiodora* OBENBERGER, 1924, *Eumorphocerus* THÉRY, 1929, *Evimantius* DEYROLLE, 1864, *Gigantocoraebus* OBENBERGER, 1942, *Helferia* OBENBERGER, 1931, *Holubia* OBENBERGER, 1924, *Indiadactylus* BELLAMY, 1993, *Jaroslavia* OBENBERGER, 1942, *Katangiella* BELLAMY, 1988, *Kerremansella* OBENBERGER, 1923, *Kerremansia* PÉRINGUEY, 1908, *Mandritsaria* OBENBERGER, 1942, *Maroantsetra* THÉRY, 1936, *Melanocoraebus* BAUDON, 1968, *Metatoxoscelus* HATTORI, 1990, *Midongya* OBENBERGER, 1942, *Nastella* KERREMANS, 1903, *Neotoxoscelus* FISHER, 1921, *Paracryptodactylus* ALEXEEV, 1975, *Parademostis* OBENBERGER, 1931, *Paradora* KERREMANS, 1900, *Paradorella* OBENBERGER, 1923, *Paranastella* OBENBERGER, 1931, *Parastrigulia* BELLAMY, 1988, *Paraxenita* BELLAMY, 1988, *Peyrierasina* DESCARPENTRIES, 1975, *Philippscelus* BELLAMY, 1998, *Phlocteis* KERREMANS, 1893, *Planidia* KERREMANS, 1899, *Polyonychus* CHEVROLAT, 1837, *Pseudocoroebus* THÉRY, 1905, *Pseudokerremansia* BELLAMY & HOLM, 1985, *Pseudophlocteis* BELLAMY, 1986, *Sambirania* OBENBERGER, 1942, *Seranambia* DESCARPENTRIES, 1974, *Seyrigia* THÉRY, 1937, *Shimogia* OBENBERGER, 1942, *Strandietta* OBENBERGER, 1931, *Strigulia* KERREMANS, 1893, *Strigulioides* BELLAMY, 1986, *Suarezina* THÉRY, 1936, *Xenita* THÉRY, 1941.

4. Geraliina COBOS, 1988 (sensu novo)

(Figs 71, 116, 148, 166, 216, 312, 380, 404.)

Geraliina COBOS, 1988: 10 (in Agrilini).

Description. Autapomorphies: (4) Antennomeres 6–11 distinctly widened (with sensorial fields) [5]; (6) lateral tormal process recurved, long, with inner angle (Fig. 71) [2]; (8) pseudopalpifer conspicuous, linear (Fig. 116) [2]; (12) mediostipes bipartite [4]; (14) mental sclerites straight, slender, ventral process missing (Fig. 148) [4]; (18) hypomeron with longitudinal keel (Fig. 166) [1>]; (30) radial cell elongate, compressed and modified (Fig. 216) [5]; (33) tarsomere 4 slightly shorter than 3 [1]; (34) sclerotised appendages on tarsal claws reduced [1]; (39) basal corners of male tergite 9 filiform (Fig. 312) [2]; (41) parameres acuminate, with median line and/or feather-like appendages (Fig. 380) [1].
Synapomorphies: (1) Ocular furrow deep, slot-like, i.e. ocular fossa present [2]; (5) sensorial fields on antennomeres weak [1*]; (7) mandibular hole weakly developed (reduced) [1*]; (9) basistipes large, elongate (Fig. 116) [3]; (10) palpifer very extensive [1]; (13) lacinia moderate [1*]; (17) pronotal carina irregular [2*]; (19) mentonniere present (Fig. 166) [1*]; (20) ventral mesothoracic sclerites of mesosternum imperfectly fused [3*]; (24) cell cu-a1 inconspicuous (Fig. 216) [1*]; (26) vein MP3a reduced [1*]; (36) basal corners of male tergite 8 broadened [1*]; (38) male tergite 9 with indicated transverse division [1]; (42) parameral membrane not defined, setae absent (Fig. 380)

[6*]; (44) phallic struts extremely short (Fig. 404) [1*]; (46) dorsal valve setae in ovipositor thickened to clavate [1*].

Symplesiomorphies: (2) Frons even; (3) clypeus even; (11) galea separated from mediostipes (Fig. 116); (15) premental sclerites apex forked (Fig. 148); (16) labial palpus 3-segmented; (21) apex of mesothoracic intercoxal process broadly truncate; (22) mesepisternum perfectly separated; (23) apex of metathoracic intercoxal process broad, truncate; (25) vein MP3+4 present, complete (Fig. 216); (27) vein MP3b complete; (28) vein MP4a complete; (29) vein MP4b base simple; (31) vein r4 present; (32) tibial spurs straight; (35) praeparatergites perfectly separated; (37) median rib in basal corners of male tergite 8 absent; (40) male sternite 9 simple, not distinctly transverse; (43) phallus moderately elongate (Fig. 404); (45) female paraproct conspicuous; (47) valvifer moderate, not filiform; (48) spermathecal gland absent.

Larva. Unknown.

Distribution. Neotropical and Afrotropical.

Remarks. The subtribe displays a series of character states shared with Dismorphina and they represent a certain connecting link with the tribe Agrilini. COBOS (1988) provided a revision of *Geralius* (in Agrilini: Geralina). Its hypomeron is modified (excavated). The longitudinal keel which occurs in the excavation was interpreted by COBOS (l.c.) as the agriline hypomeral carina. We consider these two characters (i.e. longitudinal keel and hypomeral carina) to be non-homologous. In *Sambomorpha* almost all characters comport with those in *Geralius* excepting the hypomeron, which is simple. *Pseudokamosia* has such strongly modified hypomeron that any excavation is hardly definable. Thus the unreliability of various structures in the hypomeron is displayed.

Sambomorpha was the most recently revised by BELLAMY (1997b).

Genera included. Type genus: *Geralius* HAROLD, 1869.
Other genera: *Pseudokamosia* THÉRY, 1932, *Sambomorpha* OBENBERGER, 1924.

5. Dismorphina COBOS, 1990 (sensu novo)

(Figs 22, 72–73, 89, 117–118, 149–150, 217–218, 253, 268, 424, 445, 465, 487, 510.)

Dismorphina COBOS, 1990: 542 (pars).

Description. Autapomorphies: (6) Lateral tormal process straight, apex slightly recurved (Fig. 72–73) [6]; (14) mental sclerites straight, oblong, ventral process missing (Figs 149–150) [5]; (30) radial cell enlarged, modified (Figs 217–218) [4]; (35) praeparatergites partly fused with tergites (Fig. 253) [1]; (37) median rib in basal corners of male tergite 8 with fine oblique line [3].

Synapomorphies: (1) Ocular furrow deep, slot-like, i.e. ocular fossa present (Fig. 22) [2]; (2) frons with frontal fossa [2*]; (3) clypeus with transversal groove connected with frontal fossa [1*]; (4) antennomeres 5–11 distinctly widened (with sensorial fields) [4*]; (5) sensorial fields on antennomeres weak [1*]; (7) mandibular hole weakly developed (reduced) (Fig. 89) [1*]; (8) pseudopalpifer inconspicuous (Figs 117–118) [3*]; (9) basistipes large, elongate [3]; (10) palpifer very extensive [1]; (13) lacinia moderate [1*]; (17) pronotal carina irregular [2*]; (19) mentonniere present [1*]; (20) ventral mesothoracic sclerites of mesosternum imperfectly fused [3*]; (23) apex of metathoracic intercoxal process broad, emarginate [1*]; (24) cell cu-a1 inconspicuous (Figs 217–218) [1*]; (36) basal corners of male tergite 8 broadened [1*]; (46) dorsal valve setae in ovipositor thickened to clavate (Fig. 487) [1*].

Symplesiomorphies: (11) Galea separated from mediostipes (Figs 117–118); (12) mediostipes entire, outer side angulate; (15) premental sclerites apex forked (Figs 149–150); (16) labial palpus 3-segmented; (18) hypomeron without longitudinal keel; (21) apex of mesothoracic intercoxal process broadly truncate; (22) mesepisternum perfectly separated; (25) vein MP3+4 present, complete (Figs 217–218); (26) vein MP3a complete; (27) vein MP3b complete; (28) vein MP4a complete; (29) vein MP4b base simple; (31) vein r4 present; (32) tibial spurs straight; (33) tarsomere 4 as long as 3; (34) sclerotised appendages on tarsal claws present; (38) male tergite 9 divided in paraproct and epiproct; (39) basal corners of male tergite 9 slender; (40) male sternite 9 simple, not distinctly transverse; (41) parameres acuminate, simple; (42) parameral membrane moderate in size, setose; (43) phallus moderately elongate; (44) phallic struts moderately elongate; (45) female paraproct conspicuous (Figs 465, 487); (47) valvifer moderate, not filiform (Fig. 487); (48) spermathecal gland absent (Fig. 510).

Larva. Unknown.

Distribution. Neotropical.

Remarks. The genus *Dismorpha* displays some distinctly agriline-like character states in the wing structure. Cobos (1990) revised *Dismorpha* and constructed the subtribe Dismorphina on the supposition that a frons with a fossa is a synapomorphy for all genera; he also classified *Ethon* (now *Ethonion* gen.nov.) and *Meliboeithon* here as well. But the frontal fossa is a homoplastic character as already emphasised by Bellamy (1988b).

Bellamy (1991a) reviewed the genus *Eudiadora* and quite recently (Bellamy 1997a) the genus *Cyphothorax*.

Velten & Bellamy (1987) consider the genus *Lepismadora* (also with the frontal fossa) to relate with *Eudiadora* (now in Dismorphina). However, we classify *Lepismadora* within the tribe Agrilini here. On the other hand, the genus displays rather strange character states and will in all probability come to belong to one of new tribes of Agrilinae.

Genera included. Type genus: *Dismorpha* Gistel, 1848.
Other genera: *Cyphothorax* Waterhouse, 1887, *Eudiadora* Obenberger, 1924, *Trypantius* Waterhouse, 1887.

6. Amorphosomina Majer, subtrib.nov.

(Figs 2, 6, 10, 14, 19, 28–29, 37–38, 53–55, 80, 98–100, 126–129, 159–160, 172–174, 185–186, 203–205, 224, 234–235, 246–247, 260–261, 276–278, 298–300, 320–322, 341–343, 365–367, 389–391, 411–413, 431–433, 452–454, 472–473, 494–497.)

Description. Autapomorphies: (1) Ocular furrow deep (Fig. 19) [1]; (6) lateral tormal process straight, subsinuate (Figs 53–55) [7]; (15) premental sclerites apex unforked, thickened only (Figs 126–129) [1]; (42) parameral membrane narrow, setose (Figs 365–367) [1].

Synapomorphies: (3) Clypeus with transversal groove (Fig. 19) [1>*]; (4) antennomeres 4–11 distinctly widened (with sensorial fields) (Figs 37–38) [3>]; (13) lacinia moderate (Figs 98–100) [1*]; (17) pronotal carina irregular [2*]; (19) mentonniere present (Figs 159–160) [1*]; (20) ventral mesothoracic sclerites of mesosternum imperfectly fused (Figs 185–186) [3*]; (22) mesepisternum partly fused with mesosternum and mesepimeron [1*]; (23) apex of metathoracic intercoxal process broad, emarginate [1*]; (26) vein MP3a reduced (Figs 203–205) [1*]; (28) vein MP4a reduced [1>*]; (36) basal corners of male tergite 8 broadened (Figs 276–278) [1*]; (38) male tergite 9 entire (Figs 298–300) [2*]; (40) male sternite 9 modified in shape (Figs 341–343) [2*]; (46) dorsal valve setae in ovipositor thickened to clavate (Figs 472–473) [1*]; (47) valvifer filiform [1].

Symplesiomorphies: (2) Frons even (Fig. 19); (5) sensorial fields on antennomeres distinct (Figs 37–38); (7) mandibular hole distinct (Fig. 80); (8) pseudopalpifer conspicuous, simple (Figs 98–100); (9) basistipes moderate; (10) palpifer moderately sized; (11) galea separated from mediostipes; (12) mediostipes entire, outer side angulate; (14) mental sclerites sinuate-conical, moderate, ventral process present (Figs 126–129); (16) labial palpus 3-segmented; (18) hypomeron without longitudinal keel (Figs 159–160); (21) apex of mesothoracic intercoxal process broadly truncate (Figs 185–186); (24) cell cu-a1 conspicuous (Figs 203–205); (25) vein MP3+4 present, complete; (27) vein MP3b complete; (29) vein MP4b base simple; (30) radial cell moderate (lenticular); (31) vein r4 present; (32) tibial spurs straight; (33) tarsomere 4 as long as 3 (Fig. 224); (34) sclerotised appendages on tarsal claws present (Figs 234–235); (35) praeparatergites perfectly separated (Figs 246–247); (37) median rib in basal corners of male tergite 8 absent (Figs 276–278); (39) basal corners of male tergite 9 slender (Figs 298–300); (41) parameres acuminate, simple (Figs 365–367); (43) phallus moderately elongate (Figs 389–391); (44) phallic struts moderately elongate; (45) female paraproct conspicuous (Figs 452–454); (48) spermathecal gland absent.

Larva (“*Coraebus*” *aculeatus*). Autapomorphies: (49) Lateral branch of palatine sclerite broad (Fig. 6) [2]; (51) stipes with basal sclerite (Fig. 10) [1]; (52) mental sclerites broad [2];

Symplesiomorphies: (50) Median branch of palatine sclerite distally simple (Fig. 6); (53) corner sclerite heavily sclerotised, without remnants (Fig. 10); (54) urogomphi always present (Fig. 14).

Biology. A dry, dead larva was found in the live wood of a shrubby *Salix* sp. branch with a diameter ca 30 mm. A dead adult specimen and galleries were found together with the larva. Locality: China, Northern Yunnan, Hengduan Shan mts, Baima massif, 4300 m, 30. June 1996 (in coll. V. Kubáň).

Distribution. Circumtropical.

Remarks. Differs strikingly from the subtribe Coraebina in male sternite 9 modified and wing vein MP4b simple.

BELLAMY (1991b) provided a revision of *Obenbergerula* placing it to the "*Coraebus* genus-group".

The species "*Coraebus*" *aculeatus* has not been transferred to another genus so far. It has been described and classified in *Coraebus*. All character states of the adult *C. aculeatus* are congruent with a definition of Amorphosomina subtrib.nov. Therefore, a larva of the species is used for a description of the subtribe.

Genera included. Type genus: *Amorphosoma* LAPORTE DE CASTELNAU, 1835.
Other genera: *Asymades* KERREMANS, 1893, *Coroebina* OBENBERGER, 1923, *Cryptomorpha* BELLAMY, 1988, *Dinocoraebus* OBENBERGER, 1924, *Euchroaria* OBENBERGER, 1924, *Holmerika* BELLAMY, 1988, *Katonia* THÉRY, 1941, *Metasambus* KERREMANS, 1903, *Neocoraebus* KERREMANS, 1903, *Obenbergerula* STRAND, 1932, *Therybuprestis* STRAND, 1932, *Vanroonia* OBENBERGER, 1923.

7. Coraebina BEDEL, 1921 (sensu novo)

(Figs 3, 7, 11, 15, 20–21, 25, 27, 39–42, 56–68, 81–86, 101–112, 130–144, 152, 161–162, 175–177, 187, 192–193, 195–196, 206–211, 225–228, 236–239, 248–250, 262–265, 279–287, 301–308, 323–330, 344–354, 368–376, 392–400, 414–420, 434–441, 455–461, 474–483, 498–506.)

Coraebini BEDEL, 1924: 170.
Coroebina [sic!]: HOŁYNSKI, 1993: 15 (sensu novo).

Description. Autapomorphies: (2) Frons with depression (Fig. 20) [1>]; (17) pronotal carina present, incomplete (Fig. 152) [1>]; (29) vein MP4b base not simple (Figs 206–211) [1]; (37) median rib in basal corners of male tergite 8 striking (Figs 279–287) [2]; (39) basal corners of male tergite 9 dilated (Figs 301–308) [1].
Synapomorphies: (4) Antennomeres 4–11 distinctly widened (with sensorial fields) (Figs 39–42) [3]; (13) lacinia moderate (Figs 101–112) [1*]; (19) mentonniere present (Figs 161–162) [1*]; (20) mesosternum rhomboidal (Figs 187, 192) [1*]; (21) apex of mesothoracic intercoxal process angulate [2*]; (23) apex of metathoracic intercoxal process broad, emarginate [1*]; (26) vein MP3a reduced (Figs 206–211) [1*]; (28) vein MP4a reduced [1>*]; (36) basal corners of male tergite 8 broadened (Figs 279–287) [1*]; (38) male tergite 9 entire (Figs 301–308) [2*]; (45) female paraproct inconspicuous (Figs 455–461) [1*]; (47) valvifer filiform (Figs 474–483) [1].
Symplesiomorphies: (1) Ocular furrow absent or fine (Figs 20); (3) clypeus even; (5) sensorial fields on antennomeres distinct (Figs 39–42); (6) lateral tormal process recurved [>] (Figs 56–68); (7) mandibular hole distinct (Figs 81–86); (8) pseudopalpifer conspicuous, simple (Figs 101–112); (9) basistipes moderate; (10) palpifer moderately sized; (11) galea separated from mediostipes; (12) mediostipes entire, outer side angulate; (14) mental sclerites sinuate-conical, moderate, ventral process present (Figs 130–144); (15) premental sclerites apex forked; (16) labial palpus 3-segmented; (18) hypomeron without longitudinal keel (Figs 161–162); (22) mesepisternum perfectly separated (Figs 187, 192); (24) cell cu-a1 conspicuous (Figs 206–211); (25) vein MP3+4 present, complete; (27) vein MP3b complete; (30) radial cell moderate (lenticular); (31) vein r4 present; (32) tibial spurs straight (Figs 225–228); (33) tarsomere 4 as long as 3; (34) sclerotised appendages on tarsal claws present (Figs 236–239); (35) praeparatergites perfectly separated (Figs 248–250); (40) male sternite 9 simple, not distinctly transverse

(Figs 344–354); (41) parameres acuminate, simple (Figs 368–376); (42) parameral membrane moderate in size, setose; (43) phallus moderately elongate (Figs 392–400); (44) phallic struts moderately elongate; (46) dorsal valve setae in ovipositor simple, hair-like (Figs 474–483); (48) spermathecal gland absent (Figs 498–506).

Larva (*Coraebus undatus*). Autapomorphies: (53) corner sclerite as a weakly sclerotised patch (Fig. 11) [2].
Synapomorphies: (49) Lateral branch of palatine sclerite reduced (Fig. 7) [1]; (52) mental sclerites sinuate narrow (Fig. 11) [1].
Symplesiomorphies: (50) Median branch of palatine sclerite distally simple (Fig. 11); (51) stipes without basal sclerite [0]; (54) urogomphi always present (Fig. 15).

Distribution. Holarctic, Oriental, Wallacea and New Guinea.

Remarks. The autapomorphically modified base of the wing vein MP4b is very remarkable and together with the form of the parameral membrane makes this subtribe readily recognisable. Its distribution in the Australian region (Queensland) is doubtful (KUBÁŇ 1995a: 19).

Genera included. Type genus: *Coraebus* LAPORTE DE CASTELNAU & GORY, 1836.
Other genera: *Belgaumia* KERREMANS, 1903, *Brachycoraebus* KERREMANS, 1903, *Cisseicoraebus* KERREMANS, 1903, *Coraebosoma* OBENBERGER, 1932, *Eupristocerus* DEYROLLE, 1864, *Mundaria* KERREMANS, 1894, *Philocoroebus* BELLAMY, 1991.

8. Meliboeina MAJER, subtrib.nov.

(Figs 43–44, 69, 87, 113–114, 145–146, 163–164, 178, 188–189, 212–213, 251, 266, 288–289, 309–310, 331–332, 355–356, 377–378, 401–402, 421–422, 442–443, 462–463, 484–485, 507–508.)

Description. Autapomorphies: (12) Mediostipes entire, subquadrate (Figs 113–114) [2]; (30) radial cell elongate, opened distally (Figs 212–213) [1]; (41) parameres acuminate, simple, dorsal notch much broader than ventral one (Figs 377–378) [5]; (42) parameral membrane reduced moderately setose [2].
Synapomorphies: (4) Antennomeres 5–11 distinctly widened (with sensorial fields) (Figs 43–44) [4*]; (6) lateral tormal process reduced to 2 subparallel lines (Fig. 69) [8]; (13) lacinia moderate (Figs 113–114) [1*]; (17) pronotal carina absent [3]; (19) mentonniere present (Figs 163–164) [1*]; (20) mesosternum rhomboidal (Figs 188–189) [1*]; (21) apex of mesothoracic intercoxal process angulate [2*]; (23) apex of metathoracic intercoxal process tapered [2]; (24) cell cu-a1 inconspicuous (Figs 212–213) [1*]; (25) vein MP3+4 absent [2>]; (26) vein MP3a absent [3*]; (27) vein MP3b reduced [1]; (28) vein MP4a reduced [1*]; (29) vein MP4b base isolated and/or thickened [2]; (31) vein r4 absent [1]; (33) tarsomere 4 conspicuously shorter than 3 [2]; (36) basal corners of male tergite 8 broadened (Figs 288–289) [1*]; (38) male tergite 9 entire (Figs 309–310) [2*]; (40) male sternite 9 modified in shape (Figs 355–356) [2*]; (44) phallic struts fused at base and separated (Figs 401–402) [2]; (45) female paraproct inconspicuous (Figs 462–463) [1*]; (46) dorsal valve setae in ovipositor thickened to clavate (Figs 484–485) [1*].

Symplesiomorphies: (1) Ocular furrow absent or fine; (2) frons even; (3) clypeus even; (5) sensorial fields on antennomeres distinct (Figs 43–44); (7) mandibular hole distinct (Fig. 87); (8) pseudopalpifer conspicuous, simple (Figs 113–114); (9) basistipes moderate; (10) palpifer moderately sized; (11) galea separated from mediostipes; (14) mental sclerites sinuate-conical, moderate, ventral process present (Figs 145–146); (15) premental sclerites apex forked; (16) labial palpus 3-segmented; (18) hypomeron without longitudinal keel (Figs 163–164); (22) mesepisternum perfectly separated (Figs 188–189); (32) tibial spurs straight; (34) sclerotised appendages on tarsal claws present; (35) praeparatergites perfectly separated (Fig. 251); (37) median rib in basal corners of male tergite 8 absent; (39) basal corners of male tergite 9 slender (Figs 309–310); (43) phallus moderately elongate (Figs 401–402); (47) valvifer moderate, not filiform (Figs 484–485); (48) spermathecal gland absent (Figs 507–508).

Larva (*Meliboeus subulatus*, after BÍLÝ 1988, 1999). Synapomorphies: (49) Lateral branch of palatine sclerite reduced [1]; (51) stipes without basal sclerite [2*]; (52) mental sclerites sinuate narrow [1]; (53) corner sclerite heavily sclerotised, with roundet remnants [1*].

Symplesiomorphies: (50) Median branch of palatine sclerite distally simple; (54) urogomphi always present (cf. Fig. 13).

Distribution. Afrotropical, Palaearctic, Oriental, Wallacea, New Guinea Isl.

Remarks. Readily distinguishable externally. Sclerites in the bursa copulatrix in some *Meliboeus* could be explored in a taxonomy of the species.

BELLAMY (1989b) provided a checklist of South African species of this group.

Genera included. Type genus: *Meliboeus* DEYROLLE, 1864.

Other genera: *Bourgoinia* OBENBERGER, 1926, *Kamosia* KERREMANS, 1898, *Kamosiella* BELLAMY, 1988, *Lakhonia* DESCARPENTRIES & VILLIERS, 1967, *Meliacanthus* THÉRY, 1942, *Melibaeopsis* KERREMANS, 1903, *Nalanda* THÉRY, 1904, *Tonkinula* OBENBERGER, 1923, *Xenomerius* OBENBERGER, 1924.

9. Synechocerina MAJER, subtrib.nov.

(Figs 31, 47, 75, 92, 120, 154, 168, 181, 197, 231, 241, 255, 270, 292, 314, 335, 359, 382, 467.)

Description. Autapomorphies: (4) Antennomeres 6–11 scarcely widened (no sensorial fields at all) (Fig. 31) [2]; (5) sensorial fields on antennomeres absent [2]; (6) lateral tormal process dentiform (Fig. 47) [4]; (7) mandibular hole absent (Fig. 75) [2]; (9) basistipes semicircular (Fig. 92) [2]; (10) palpifer reduced, round [2]; (11) galea fused with mediostipes [1]; (12) mediostipes fused with galea [3]; (13) lacinia fused with mediostipes [2]; (15) premental sclerites apex unforked, sclerite subtriangular (Fig. 120) [2]; (16) labial palpus 2-segmented, segment 1 reduced [2]; (28) vein MP4a absent (Fig. 197) [2]; (29) vein MP4b absent [3]; (30) radial cell extremely elongated and enlarged [3]; (41) parameres rounded (Fig. 359) [3]; (43) phallus blade-shaped (Fig. 382) [2].

Synapomorphies: (2) Frons with frontal fossa [2*]; (8) pseudopalpifer inconspicuous (Fig. 92) [3*]; (17) pronotal carina absent [3]; (20) ventral mesothoracic sclerites of mesosternum imperfectly fused (Fig. 181) [3*]; (22) mesepisternum partly fused with mesosternum and mesepimeron [1*]; (24) cell cu-a1, inconspicuous (Fig. 197)

[1*]; (25) vein MP3+4 absent [2]; (26) vein MP3a absent [3*]; (27) vein MP3b absent [3*]; (31) r4 vein absent [1]; (34) sclerotised appendages on tarsal claws absent (Fig. 231) [2*]; (38) male tergite 9 entire (Fig. 292) [2*]; (42) parameral membrane not defined, setae absent (Fig. 359) [6*].

Symplesiomorphies: (1) Ocular furrow absent or fine; (3) clypeus even (frontal fossa not extended to clypeus); (14) mental sclerites sinuate-conical, moderate, ventral process present (Fig. 120); (18) hypomeron without longitudinal keel (Fig. 154); (19) mentonniere absent; (21) apex of mesothoracic intercoxal process broadly truncate (Fig. 181); (23) apex of metathoracic intercoxal process broad, truncate; (32) tibial spurs straight; (33) tarsomere 4 as long as 3; (35) praeparatergites perfectly separated (Fig. 241); (36) basal corners of male tergite 8 acuminate (Fig. 270); (37) median rib in basal corners of male tergite 8 absent; (39) basal corners of male tergite 9 slender (Fig. 292); (40) male sternite 9 simple, not distinctly transverse (Fig. 335); (44) phallic struts moderately elongate (Fig. 382); (45) female paraproct conspicuous (Fig. 467); (46) dorsal valve setae in ovipositor simple, hair-like; (47) valvifer moderate, not filiform; (48) spermathecal gland absent; (54) larva: urogomphi always present (cf. Fig. 13).

Larva. Not studied *in natura* (see Bellamy 1987).

Distribution. Australia continental. Tasmania Isl. ?Amboina.

Remarks. The tribe is extremely advanced in all body parts, but the mouthparts might indicate common origin with Ethoniina subtrib.nov.

The genus was revised by Bellamy (1987). The larva shown in the paper is, regrettably, outlined only. Nevertheless, the presence of the urogomphi in the larva is conspicuous.

Genera included. Type genus: *Synechocera* Deyrolle, 1864.

10. Clemina Majer, subtrib.nov.

(Figs 30, 45, 70, 88, 115, 147, 165, 179, 190, 214–215, 252, 267, 290, 311, 333, 357, 379, 403, 423, 444, 464, 486, 509.)

Description. Autapomorphies: (6) Lateral tormal process sinuate-dentate, not recurved (Fig. 70) [5]; (8) pseudopalpifer conspicuous, bisetose (Fig. 115) [1]; (14) mental sclerites sinuate-conical, very slender, ventral process present (Fig. 147) [2]; (15) premental sclerites reduced, linear [4]; (16) labial palpus segments 1–2 partly coalescent or palpus 2-segmented [1]; (20) mesosternum semicircular (Fig. 190) [2]; (21) apex of mesothoracic intercoxal process semicircular [3]; (30) radial cell rounded, with striking r3 (Figs 214–215) [2]; (41) parameres truncate (Fig. 379) [4]; (43) phallus tripartite (base and apex separated) (Fig. 403) [3].

Synapomorphies: (4) Antennomeres 5–11distinctly widened (with sensorial fields) (Fig. 45) [4*]; (7) mandibular hole weakly developed (reduced) (Fig. 88) [1*]; (13) lacinia moderate (Fig. 115) [1*]; (17) pronotal carina absent [3]; (19) mentonniere present (Fig. 165) [1*]; (23) apex of metathoracic intercoxal process tapered (Fig. 190) [2]; (25) vein MP3+4 absent (Figs 214–215) [2>]; (26) vein MP3a absent [3*]; (27) vein MP3b absent [3>*]; (28) vein MP4a reduced [1*]; (29) vein MP4b base isolated and/or thickened [2]; (33) tarsomere 4 conspicuously shorter than 3 [2]; (34) sclerotised appendages on tarsal claws absent [2*]; (38) male tergite 9 entire (Fig. 311) [2*]; (42) parameral membrane not defined, setae absent (Fig. 379) [6*]; (44) phallic struts fused at base and separated (Fig. 403) [2].

Symplesiomorphies: (1) Ocular furrow absent or fine; (2) frons even; (3) clypeus even; (5) sensorial fields on antennomeres distinct (Fig. 45); (9) basistipes moderate (Fig. 115); (10) palpifer moderately sized; (11) galea separated from mediostipes; (12) mediostipes entire, outer side angulate; (18) hypomeron without longitudinal keel (Fig. 165); (22) mesepisternum perfectly separated (Fig. 190); (24) cell cu-a1 conspicuous (Figs 214–215); (31) vein r4 present; (32) tibial spurs straight; (35) praeparatergites perfectly separated (Fig. 252); (36) basal corners of male tergite 8 acuminate (Fig. 290); (37) median rib in basal corners of male tergite 8 absent; (39) basal corners of male tergite 9 slender (Fig. 311); (40) male sternite 9 simple, not distinctly transverse (Fig. 357); (45) female paraproct conspicuous (Fig. 486); (46) dorsal valve setae in ovipositor simple, hair-like; (47) valvifer moderate, not filiform; (48) spermathecal gland absent (Fig. 509); (54) larva: urogomphi always present (cf. Fig. 13).

Larva. Not studied *in natura* (see VOLKOVITSH & HAWKESWOOD 1990).

Distribution. Deserts and steppes of Central Asia, Western Mediterranean and Southern Africa.

Remarks. All the taxa examined display very similar structures of the aedeagus. The spermathecal capsule is remarkably sclerotised. The larval urogomphi are conspicuous (VOLKOVITSH & HAWKESWOOD 1990).

The genus *Promeliboeus* was revised by BELLAMY (1988a).

Genera included. Type genus: *Clema* SEMENOV, 1900.
Other genera: *Anodontodora* OBENBERGER, 1931, *Lepidoclema* BELLAMY & HOLM, 1985, *Niehuisia* CURLETTI, 1995, *Promeliboeus* OBENBERGER, 1924, *Pseudoclema* THÉRY, 1938.

Key to the subtribes of the tribe Coraebini

(Character states not occurring in all subtaxa are in small letters)

1 Male sternite 9 modified (Figs 341–343, 355–356).
Tarsomere 4 proper (excepting tarsal lobes) usually smaller than 3. Ovipositor with dorsal valve setae nearly always (excepting *Vanroonia coraeboides*) thickened distally (Figs 472–473, 484–485). 2

– Male sternite 9 simple (Figs 335–340, 344–354, 357).
Tarsomere 4 proper (excepting tarsal lobes) usually as large as 3. Ovipositor with dorsal valve setae simple or thickened distally. 3

2 Radial cell always simple, entire (Figs 203–205). Meso- and metathoracic intercoxal processes broadened (Figs 185–186). Parameral membrane always very long and narrow (Figs 365–367). Phallus entire, with long phallic struts (Figs 389–391).

Pronotal carina present, usually modified, only rarely absent. Mentonniere usually not extensive. Antennomere 4 usually broadened, bearing sensorial field (Figs 37–38). .... **6. Amorphosomina subtrib.nov.**

– Radial cell modified: compressed, elongated, usually open distally (Figs 212–213). Meso- and metathoracic intercoxal processes narrowed, conical (Figs 188–189). Parameral membrane extensive or reduced (Figs 377–378) but never as long and narrow as in Amorphosomina. Phallus always bipartite: phallic struts basally fused and separated from the phallic body (Figs 401–402).

Pronotal carina not definable. Mentonniere usually extensive. Antennomere 4 not broadened, as slender as 3 (Figs 43–44). .... **8. Meliboeina subtrib.nov.**

3 Basistipes not well differentiated, palpifer very extensive (Figs 116–118). Phallic struts extremely shortened (Fig. 404).

Cranium usually with frontal fossa (Fig. 22). Sensorial fields on antennae reduced. Ovipositor with dorsal valve setae thickened. 4

– Basistipes well differentiated, palpifer moderate (e.g. Fig. 104). Phallic struts distinctly elongate (e.g. Figs 386, 399).

Cranium usually without frontal fossa (Figs 18, 20). Sensorial fields on antennae usually not reduced (e.g. Figs 32, 39). Ovipositor with dorsal valve setae simple or thickened. 5

4 Mediostipes bipartite (Fig. 116). Radial cell compressed and elongated (Fig. 216). Parameres with median line and/or feather-like appendages (Fig. 380).

Cranium without frontal fossa. Antennomeres 6–11 widened. Hypomeron excavated or otherwise modified (Fig. 166). Tarsomere 4 shorter than 3. Sclerotised appendages on tarsal claws reduced. Male tergite 9 with indicated transverse divison (Fig. 312). .... **4. Geraliina Cobos**

– Mediostipes entire. Radial cell enlarged (Figs 217–218). Parameres without median line and/or feather-like appendages.

Cranium with frontal fossa. Antennomeres 5–11 widened. Hypomeron simple. Tarsomere 4 not shorter than 3. Sclerotised appendages on tarsal claws not reduced. Male tergite 9 without indicated transverse division. .... **5. Dismorphina Cobos**

5 Basistipes semicircular, other maxillary sclerites almost fused (Fig. 92). Radial cell extremely enlarged and elongated (Fig. 197). Meso- and metasternal sclerites strongly fused (Fig. 181). Tarsal claws unarmed (Fig. 231).

Cranium with frontal fossa. Antennomeres 6–11 widened, without sensorial fields (Fig. 31). Mentonniere not even indicated (Fig. 154). .... **9. Synechocerina subtrib.nov.**

– Basistipes never semicircular, other maxillary sclerites differentiated. Radial cell never extremely enlarged and elongated. Meso- and metasternal sclerites differentiated. Tarsal claws armed.

Cranium with or without frontal fossa. Antennomeres 4(5)–11 widened, usually with sensorial fields. Mentonniere at least indicated. 6

6 Cranium with frontal fossa (Fig. 17). Wing with MP3a reduced, bearing indicated remnant of MP3b (Fig. 198).

Antennal segment 4 without sensorial field, strongly elongate (Fig. 32). ....**1. Ethoniina subtrib.nov.**

– Cranium without frontal fossa. Wing with MP3a not bearing indicated remain of MP3b.

Antennal segment 4 with or without sensorial field, never as elongate as in Ethoniina. 7

7 Antennal segment 4 with sensorial field. Median rib in basal corners of male and female tergite 8 distinct (Figs 272, 279–287, 427, 434–441) 8

– Antennal segment 4 without sensorial field. Median rib in basal corners of male and female tergite 8 indistinct (Figs 273–275, 290, 428–430, 444). 9

8 Base of wing vein MP4b modified (Figs 206–211). Mesosternum without median slot, differentiated (Fig. 187).
Mental sclerites more slender and sinuate, at least with indicated dorsal process (e.g. Figs 130, 135, 144). Parameral membrane usually well developed (e.g. Figs 368, 370, 375). .... **7. Coraebina Bedel**

– Base of wing vein MP4b simple (Fig. 199). Mesosternum with median slot, undifferentiated (Fig. 183).
Mental sclerites broad, without dorsal process (Fig. 122) almost as in Ethoniina (cf. Fig. 121). Parameral membrane indistinct (Fig. 361). .... **2. Cisseina subtrib.nov.**

9 Parameres horizontally truncate, without distinct setae (Fig. 379). Phallus tripartite (Fig. 403). Wing veins in general very strongly reduced and lightened (Figs 214–215). Spermathecal gland absent (Fig. 509).
Tarsomere 4 smaller than 3. Meso- and metathoracic intercoxal processes conical (Fig. 190). .... **10. Clemina subtrib.nov.**

– Parameres usually distally oblique, broadly truncate, setose (Figs. 362–364). Phallus undivided (Figs 385–386, 388). Wing veins in general distinct and sclerotised (Figs 200–202). Spermathecal gland present (Figs. 491–493).
Tarsomere 4 nearly as large as 3. Meso- and metathoracic intercoxal processes widened (Fig 184). .... **3. Toxoscelina subtrib.nov.**

Discussion

Five genera are not classified within any subtribe in this communication (*Alcinous*, *Alissoderus*, *Dinocephalia*, *Meliboeithon*, and *Paracephala*) although these genera are surely members of the tribe Coraebini. The genera *Alissoderus*, *Paracephala*, *Meliboeithon*, and *Dinocephalia* were revised by Bellamy (1988b, 2000); nevertheless, we did not have sufficient material for our own more detailed study.

The character states of the subtribes were rewritten into the character states matrix. The results of the computation are shown in trees 1 and 2 (Appendix 1). The fact that only two trees result from the computing shows a relatively high congruence of the character matrix. Relatively high values of consistency index (ci = 94) and retention index (ri = 85) indicate low homoplasy level in the character states matrix.

The position of Synechocerina subtrib.nov. (with Meliboeina subtrib.nov. and Clemina subtrib.nov.) is the only controversial matter. The single genus of Synechocerina subtrib.nov. is distributed in Australia whereas members of the other two subtribes occur in the Afrotropical, Oriental, and Palaearctic regions. Only one species of the monotypical Synechocerina subtrib.nov. was studied. Also the Australian genera *Paracephala*, *Meliboeithon*, *Dinocephalia*, *Alcinous* were not studied sufficiently. Therefore further detailed observation of these genera and other species of *Synechocera* may reveal facts that help to resolve the problem of Synechocerina subtrib.nov. relationships.

The consensus tree is shown in the cladogram 3.

Acknowledgements

The authors are very obliged to Dr. S. Bílý, from the National Museum, Prague, for the kind loan of larval preparations. Our sincere thanks are due to Drs M. Kerley (BMNH), L. Zerche (DEIC), J. Menier (MNHN), and S. Bílý (NMPC) who allowed us to study a large amount of Buprestidae material held in their institutions. We are very obliged to Dr. J. Kodada for extensive critical comments on an earlier draft of the manuscript and to Ms. A. Božková and Mr. L. Dembický (both Department of Entomology, Moravian Museum, Brno) for their patient technical assistance.

References

ALEXEEV A. V. 1988: Lichinki zhukov-zlatok roda Meliboeus Deyr. fauny SSSR (Coleoptera, Buprestidae). Pp. 3–12 (in Russian). In: ALEXEEV V. N. (ed): Morfologiya, sistematika i ekologiya zhivotnykh. Mezhvuzovskii sbornik nauchnykh trudov Moskovskogo oblastnogo pedagogicheskogo instituta, Moskva, 145 pp.

BAUDON A. 1968: Catalogue commenté des Buprestidae récoltés au Laos. Deuxième Partie. Ministère de l'Information, Vientiane, 190 pp.

BEDEL L. 1921: Faune des coléoptères du bassin de la Seine. Tome IV, Deuxième Fascicule – Serricornia, pp. 165–234. Firmin-Didot, Paris.

BELLAMY C. L. 1985: A catalogue of the higher taxa of the family Buprestidae (Coleoptera). *Navorsinge van die Nasionale Museum* (Bloemfontein) **4:** 405–472.

BELLAMY C. L. 1986a: Studies in the African Agrilinae, Coraebini IV. (Coleoptera, Buprestidae). *Navorsinge van die Nasionale Museum* (Bloemfontein) **5:** 93–167.

BELLAMY C. L. 1986b: Rectifications and descriptions of new taxa in the Coraebini Bedel (Coleoptera, Buprestidae, Agrilinae). *Journal of the Entomological Society of Southern Africa* **49:** 239–249.

BELLAMY C. L. 1986c: Studies in the African Agrilinae, Agrilini I. (Coleoptera: Buprestidae). *Revue de Zoologie Africaine* **100:** 229–235.

BELLAMY C. L. 1987: A revision of the genus Synechocera Deyrolle (Coleoptera, Buprestidae, Agrilinae). *Invertebrate Taxonomy* **1:** 17–34.

BELLAMY C. L. 1988a: A review of the genus Promeliboeus Obenberger with comments on its relationships (Coleoptera, Buprestidae, Agrilinae). *Elytron* (Barcelona) **2:** 113–119.

BELLAMY C. L. 1988b: The classification and phylogeny of the Australian Coroebini, Bedel, with a revision of the genera Paracephala, Meliboeithon and Dinocephalia (Coleoptera: Buprestidae: Agilinae). *Invertebrate Taxonomy* **2:** 413–453.

BELLAMY C. L. 1988c: Studies in the African Agrilinae, Coroebini VI (Coleoptera: Buprestidae). *Journal of the Entomological Society of Southern Africa* **51:** 101–114.

BELLAMY C. L. 1988d: New genera, species and synonymy of African Coroebini (Coleoptera: Buprestidae: Agrilinae). *The Coleopterists Bulletin* **42:** 173–192.

BELLAMY C. L. 1989a: A revision of the African genera Nastella Kerremans and Paradorella Obenberger (Coleoptera: Buprestidae: Agrilinae). *The Coleopterists Bulletin* **43:** 35–44.

BELLAMY C. L. 1989b: The Meliboeus Deyrolle generic group, and further nomenclatural changes, in the Afrotropical Coroebini Bedel (Coleoptera: Buprestidae: Agrilinae). *The Coleopterists Bulletin* **43:** 315–324.

BELLAMY C. L. 1990a: A revision of the coroebine genus Coraebosoma Obenberger (Coleoptera: Buprestidae: Agrilinae). *Entomologica Scandinavica* **21:** 197–210.

Bellamy C. L. 1990b: The Philippine Coroebini (Coleoptera: Buprestidae: Agrilinae) I. Introduction, nomenclatural changes and descriptions of a new genus and species. *Journal of Natural History* **24:** 689–698.

Bellamy C. L. 1990c: Studies in the African Agrilinii II. (Coleoptera: Buprestidae). *Revue de Zoologie Africaine* **104:** 573–579.

Bellamy C. L. 1991a: A revision of the genus Eudiadora Obenberger (Coleoptera: Buprestidae). *Proceedings of the Entomological Society of Washington* **93:** 409–419.

Bellamy C. L. 1991b: A revision of the Philippine Coroebine genus Obenbergerula Strand (Coleoptera: Buprestidae: Agrilinae). *Invertebrate Taxonomy* **5:** 541–551.

Bellamy C. L. 1991c: A review of the Philippine species of the Coroebus Gory & Laporte genus-group (Coleoptera, Buprestidae). *Tijdschrift voor Entomologie* **134:** 155–176.

Bellamy C. L. 1991d: A catalogue of the Coroebini of sub-Saharan Africa (Coleoptera, Buprestidae, Agrilinae). *Entomology Memoir*, *Department of Agriculture Republic of South Africa* **No. 81:** 1–19.

Bellamy C. L. 1992a: The Afrotropical cylindromorphines: subfamilial placement, generic synonymy and species lists (Coleoptera Buprestidae Agrilinae). *Tropical Zoology* **5:** 45–54.

Bellamy C. L. 1992b: Studies on the Indian Coroebini (Coleoptera: Buprestidae) I. *Colemania*: *Insect Biosystematics* **No. 1:** 5–8.

Bellamy C. L. 1993: A new species of Callipyndax Waterhouse from French Guiana with comments on the generic relationships (Coleoptera: Buprestidae: Agrilinae). *Elytron* (Barcelona) **7:** 57–64.

Bellamy C. L. 1995: The Malesian Coroebini, Part I. Introduction, nomenclatural changes and the description of a new genus and species from Sabah (Coleoptera: Buprestidae). *The Coleopterists Bulletin* **49:** 1–7.

Bellamy C. L. 1997a: A revision of the genus Cyphothorax (Coleoptera: Buprestidae: Agrilinae). *Anales Inst. Biol. Univ. Nac. Autón. México, Ser. Zool.* **68:** 275–289.

Bellamy C. L. 1997b: A revision of the Neotropical coroebine genus Sambomorpha Obenberger 1924 (Coleoptera Buprestidae Agrilinae). *Tropical Zoology* **10:** 143–156.

Bellamy C. L. 1998a: Type species designations in the family Buprestidae (Coleoptera). *Mitteilungen aus dem Museum für Naturkunde in Berlin – Deutsche Entomologische Zeitschrift* **45:** 9–15.

Bellamy C. L. 1998b: A clarification of authorship of buprestid genera originally defined in the catalogues of P.F.M.A. Dejean (Coleoptera, Buprestidae). *Fragmenta Entomologica* (Roma) **29 (1997):** 365–382.

Bellamy C. L. 1998c: Studies in the Philippine Coraebina (Coleoptera: Buprestidae). Part V: a new genus for Polyonychus fisheri and three new species of Cisseicoraebus. *Folia Heyrovskyana* (Zlín) **6:** 115–124.

Bellamy C. L. 1999: Nomenclatural notes in Buprestidae (Coleoptera). *Folia Heyrovskyana* (Zlín) **7:** 1–11.

Bellamy C. L. 2000: A revision of the African Coraebine genus Alissoderus Deyrolle, 1864 (Coleoptera: Buprestidae: Agrilinae). *Annals of the Transvaal Museum* **37:** 69–89.

Bellamy C. L. & Holm E. 1985a: Studies in the African Agrilinae, Coraebini I (Coleoptera; Buprestidae). *Journal of the Entomological Society of Southern Africa* **48:** 121–128.

Bellamy C. L. & Holm E. 1985b: Studies in the African Agrilinae, Coraebini II (Coleoptera: Buprestidae). *Journal of the Entomological Society of Southern Africa* **48:** 129–134.

Bellamy C. L. & Westcott R. L. 1995: A revision of the Omochyseus Waterhouse genus-group (Coleoptera: Buprestidae: Agrilinae). *Annals of the Transvaal Museum* **36:** 193–203.

Bílý S. 1982: The Buprestidae of Fennoscandia and Denmark. *Fauna Entomologica Scandinavica* **10:** 1–110.

Bílý S. 1997: Anocisseis danieli sp. n. from Seram and larval morphology of the genus Anocisseis (Coleoptera: Buprestidae). *Folia Heyrovskyana* (Zlín) **5:** 115–122.

Bílý S. 1998: Larvae of the genus Meliboeus from Central Europe (Coleoptera: Buprestidae). *Acta Societatis Zoologicae Bohemicae* **62:** 25–28.

Bílý S. 1999: Larvae of buprestid beetles (Coleoptera: Buprestidae) of Central Europe. *Acta Entomologica Musei Nationalis Pragae* **Suppl. 9:** 1–45 & 33 pls (in Czech and English).

Burgeon L. 1941: Catalogues raisonnés de la faune entomologique du Congo Belge. Coléoptères. Buprestides. *Annales du Musée du Congo Belge* **C (Zool.), Ser. 3 (2), Tom. 5 (3):** 121–276.

Carter H. J. 1923: Revision of the genera Ethon, Cisseis and their allies (Buprestidae). *Proceedings of the Linnean Society of New South Wales* **48:** 159–176.

Carter H. J. 1929: A check list of the Australian Buprestidae. *Australian Zoologists* **5:** 265–304, pls 31–33 (With tables and keys to sub-families, tribes, and genera by A. Thery) (see below).

Chevrolat L. A. A. 1837: Centurie de Buprestides. *Revue Entomologique* **5:** 41–110.

Cobos A. 1956: Quinta nota sobre Bupréstidos (Ins. Coleoptera) neotropicales. Descripción de un nuevo género y especie de “Coroebini” Bedel. *Boletín de la Real Sociedad Española de Historia Natural*, *Sección Biológica* **54:** 113–118.

Cobos A. 1972: Revision monografica del genero Deyrollius Obenb. (Coleoptera, Buprestidae). *Archivos de Instituto de Aclimatación* (Almería) **17:** 37–69.

Cobos A. 1974: Notas sobre Buprestidos neotropicales, XIX. El género Amorphosternus H. Deyrolle y afines. *Archivos de Instituto de Aclimatación* (Almería) **19:** 65–81.

Cobos A. 1976: Estudio sobre Rhaeboscelis Chevrolat, 1837 y géneros afines (Col. Buprestidae). *EOS* (*Revista Española de Entomologia*) **50 (1974):** 19–40.

Cobos A. 1979: Nuevos materiales del género Deyrollius Obenberger (Coleoptera, Buprestidae), comunicados poer l Museo de Paris. *Bulletin du Muséum National d'Histoire Naturelle* **Ser. 4, (A) 2:** 531–535.

Cobos A. 1980: Ensayo sobre los géneros de la subfamilia Polycestinae (Coleoptera, Buprestidae) (Parte I). *EOS, Revista Española de Entomologia* **54 (1978):** 15–94.

Cobos A. 1986: Fauna iberica de coleopteros Buprestidae. Imp. Aguirre, Madrid, 364 pp.

Cobos A. 1988: Revisión del género Geralius Harold, 1869 (Coleoptera: Buprestidae). *Elytron* (Barcelona) **1(1987):** 9–16.

Cobos A. 1990: Revisión del género Dismorpha Gistel (Coleoptera, Buprestidae). *Revista Brasileira de Biología* **34:** 539–559.

Curletti G. 1998: Notes on metatarsal morphology in the genus Agrilus and a proposed redefinition of its subgenera in the afrotropical region (Coleoptera Buprestidae). *Bolletino della Società Entomologica Italiana* **130:** 125–134.

Dejean P. F. M. A. 1833: Genus Diphucrania. Pp. 81. In: Catalogue des Coléoptères de la collection de M. le comte Dejean. Méquignon-Marvis, Paris, livr. 1, pp. 1–96 (section 1–12). [2. edition.]

Dejean P. F. M. A. 1836: Genus Diphucrania. Pp. 92. In: Catalogue des Coléoptères de la collection de M. le comte Dejean. Troisième édition, revue, corrigée et augmentée, livraisons 1–4. Méquignon-Marvis, Paris, pp. 1–384.

Descarpentries A. 1969: Diagnoses de Buprestidae (Col.) nouveaux de Madagascar. *Annales de la Société Entomologique de France* (N. S.) **5:** 909–926.

Descarpentries A. & Villiers A. 1966a: Catalogue raisonné des Buprestidae d'Indochine (Col.). IX. - Coraebini (1re partie). *Bulletin de la Société Entomologique de France* **71:** 86–88.

Descarpentries A. & Villiers A. 1966b: Catalogue raisonné des Buprestidae d'Indochine. XI, Coraebini (2e partie). *Annales de la Société Entomologique de France* (N. S.) **2:** 979–994.

Descarpentries A. & Villiers A. 1967a: Catalogue raisonné des Buprestidae d'Indochine. XIII, Coraebini (3e partie). *Annales de la Société Entomologique de France* (N. S.) **3:** 471–492.

Descarpentries A. & Villiers A. 1967b: Catalogue raisonné des Buprestidae d'Indochine. XIV. Coraebini (4e partie). *Annales de la Société Entomologique de France* (N. S.) **3:** 989–1008.

Deyrolle H. 1864: Description des Buprestides de la Malaisie recueillis par M. Wallace. *Annales de la Société Entomologique de Belgique* **8:** 1–272, 305–312.

Duponchel P. A. J. 1843: Cisseis de Castelnau et Gory. Pp. 719. In: D´Orbigny, C. (ed.): Dictionnaire universel d´histoire naturelle... Tome 3 (C–CLA). Bureau principal de l´editeur, Paris, 744 pp.

Duponchel P. A. J. 1848: Ethon Gory et Delaporte. Pp. 471. In: D´Orbigny, C. (ed.): Dictionnaire universel d´histoire naturelle... Tome 5 (D–GAL). Renard, Martinet & Cie, Paris, 768 pp.

Ekis G. 1977: Classification, Phylogeny, and Zoogeography of the Genus Perilypus (Coleoptera: Cleridae). *Smithsonian Contributions to Zoology* **No. 227:** 1–138.

Fisher W. S. 1921: New Coleoptera from the Philippine Islands. Family Buprestidae, tribe Agrilini. *Philippine Journal of Science* **18:** 349–447.

Gardner J. A. 1989: Revision of the genera of the tribe Stigmoderini (Coleoptera: Buprestidae) with a discussion of phylogenetic relationships. *Invertebrate Taxonomy* **3:** 291–361.

Gemminger M. & Harold E. von 1869: Catalogus coleopterorum hucusque descriptorum synonymicus et systematicus. Tom. V. Buprestidae, Trixagidae, Monommidae, Eucnemidae, Elateridae, Cebrionidae. E. H. Gummi, München, pp. 1347–1608 (Buprestidae, pp. 1347–1455).

Gory H. L. & Laporte de Castelnau F. L. de 1837: Genre Agrilus, 70 pp. In: Histoire naturelle et iconographie des insectes Coléoptères, publiée par monographies séparées. Monographie de la tribu des Buprestides. Tome II (livraisons 12–16). P. Duménil, Paris, (genera paged separately).

GORY H. L. & LAPORTE DE CASTELNAU F. L. DE 1839: Genre Castalia, 4 pp.; Genre Paecilonota, 5 pp.; Genre Zemina, 6 pp.; Genre Stenogaster, 3 pp.; Genre Pseudagrilus, 2 pp.; Genre Amorphosoma, 13 pp.; Genre Eumerus, 5 pp.; Genre Coraebus, 18 pp.; Genre Cisseis, 5 pp.; Genre Ethon, 6 pp. In: Histoire naturelle et iconographie des insectes Coléoptères, publiée par monographies séparées. Monographie de la tribu des Buprestides. Tome II (livraisons 25–35). P. Duménil, Paris, (genera paged separately).

HAWKESWOOD T. J. 1980: An adult food plant of Ethon breve (Coleoptera: Buprestidae). *Western Australian Naturalist* **14:** 198.

HAWKESWOOD T. J. & TURNER J. R. 1992: Review of the biology and host plants of Ethon fissiceps (Kirby) and other Ethon species (Coleoptera: Buprestidae). *Giornale Italiano di Entomologia* **6:** 169–174.

HAWKESWOOD T. J. & TURNER J. R. 1994: A new species of the genus Ethon Laporte & Gory, with observations on its biology and host plants (Coleoptera: Buprestidae). *Giornale Italiano di Entomologia* **7:** 165–179.

HOŁYNSKI R. 1988: Remarks on the general classification of Buprestidae Leach as applied to Maoraxiina Hol. *Folia Entomologica Hungarica* **49:** 49–54.

HOŁYNSKI R. 1993: A reassessment of the internal classification of the Buprestidae Leach (Coleoptera). *Crystal*, Series Zoologica (Göd) **No. 1:** 1–42.

[ICZN] 1999: International Code of Zoological Nomenclature (4th edidion). International Trust for Zoological Nomenclature, London, 273 pp.

JELÍNEK J. 1971: Revision of the genus Planidia Kerremans (Coleoptera, Buprestidae). *Opuscula Zoologica* **120:** 1–11.

JENDEK E. 2000: Studies in the Palaearctic and Oriental Agrilus (Coleoptera, Buprestidae). I. *Biologia* (Bratislava) **55:** 503–510.

KERREMANS C. 1892: Catalogue synonymique des Buprestides decrits de 1758 à 1890. *Mémoires de la Société Entomologique de Belgique* **1:** 1–304.

KERREMANS C.1893: Essai de groupement des Buprestides. *Annales de la Société Entomologique de Belgique* **37:** 94–122.

KERREMANS C. 1903: Coleoptera Serricornia. Fam. Buprestidae, Fasc. 12b, 12c, 12d. Pp. 49–338. In: WYTSMAN, P. (ed): Genera Insectorum. Verteneuil & Desmet, Bruxelles.

KOLIBÁČ J. in press: Classification and phylogeny of the Buprestoidea (Insecta: Coleoptera). *Acta Musei Moraviae, Scientiae Biologicae* (Brno) **85 (2000):** 113–184.

KUBÁŇ V. 1995a: Palaearctic and Oriental Coraebini (Coleoptera: Buprestidae). Part I. *Entomological Problems* **26:** 1–37.

KUBÁŇ V. 1995b: Palaearctic and Oriental Coraebini (Coleoptera: Buprestidae). Part II. *Entomological Problems* **26:** 93–109.

KUBÁŇ V. 1996: Palaearctic and Oriental Coraebini (Coleoptera: Buprestidae). Part III. *Entomological Problems* **27:** 1–29.

KUBÁŇ V. 1997: Palaearctic and Oriental Coraebini (Coleoptera: Buprestidae). Part IV. *Entomological Problems* **28:** 25–50.

KUKALOVÁ-PECK J. & LAWRENCE J. F. 1993: Evolution of the hind wing in Coleoptera. *Canadian Entomologist* **125:** 181–258.

KUROSAWA Y. 1953: Synonymies and identifications of genus Coraebus from eastern Asia, with descriptions of several new forms (Coleoptera, Buprestidae). *Bulletin of the National Science Museum* (Tokyo) **33:** 96–109.

LACORDAIRE M. T. 1857: Histoire naturelle des insectes. Genera des Coléoptères ou exposé méthodique de critique de tous les genres proposés jusqu'ici dans cet ordre d'insectes, Tome quatriéme contenant les familles des buprestides, throscides, eucnémides, élatérides, cébrionides, cérophytides, rhipicérides, dascyllides, malacodermes, clérides, lyméxylones, cupésides, ptiniores, bostrichides et cissides. Libraire encyklopédique de Roret, Paris, 554 pp.

LAPORTE DE CASTELNAU F. L. DE 1835: Études entomologiqes, ou descriptions d'insectes nouveaux et observations sur la synonymie. *Revue d'Entomologie* (Caen) **3:** 157–181.

LAPORTE DE CASTELNAU F. L. DE & GORY H. L. 1835: Histoire naturelle de iconographie des insectes coléoptères, publiée par monographies séparées. Tome I. Monographie des Psilocera, Eurydera, Nycteis, Eunostus, Buprestides (Chrysochroites et Agrilites). P. Duménil, Paris, (genera paged separately).

Laporte de Castelnau F. L. de & Gory H. L. 1836: Buprestis [general part], 12 pp.; Genre Buprestis, 64 pp. In: Histoire naturelle de iconographie des insectes coléoptères, publiée par monographies séparées. Monographie de la tribu des Buprestides. Tome I (livraisons 8–11). P. Duménil, Paris, (genera paged separately).

Laporte de Castelnau F. L. de & Gory H. L. [?]1837: 5. groupe. Agrilites, Agrilidae [key], 2pp. In: Histoire naturelle et iconographie des insectes Coléoptères, publiée par monographies séparées. Monographie de la tribu des Buprestides. Tome II (livraisons 12–16). P. Duménil, Paris, (genera paged separately).

Lawrence, J. F. & Newton, A. F. 1995: Families and subfamilies of Coleoptera (with selected genera, notes, references and data on family-group names). Pp. 779–1006 & 48 (Index). In: Pakaluk J. & Slipinski S. A. (eds): Biology, phylogeny, and classification of Coleoptera. Papers celebrating the 80th birthday of Roy A. Crowson. Muzeum i Instytut Zoologii PAN, Warszawa.

MacLeay W. S. sen. 1827: Catalogue of Insects from Australia. Capt. Philip King, Narrative of a Survey of the intertropical and western Coasts of Australia. Vol. 2. London, pp. 438–469.

Majer K. 1986: Comparative morphology of the labrum and labium of some Melyridae (Coleoptera). *Acta Entomologica Bohemoslovaca* **83:** 137–151.

Nelson, G. H. 1982: A new tribe, genus and species of North American Buprestidae with consideration of subfamilial and tribal categories. *The Coleopterists Bulletin* **35 (1981):** 431–450.

Nelson G. H. & Bellamy C. L. 1993: A clarification of authors and publication dates in the Histoire naturelle et iconographie des insectes coléoptères by F. L. de Laporte & H. L. Gory (Coleoptera: Buprestidae). *Giornale Italiano di Entomologia* **6:** 297–308.

Obenberger J. 1935: Buprestidae IV., pars 143. Pp. 783–934. In: Junk W. & Schenkling S. (eds): Coleopterorum Catalogus, Volumen XII. W. Junk, Gravenhage, 1714 pp.

Obenberger J. 1940: Revise rodu Sambomorpha Obenb. (Col. Bupr.). *Časopis České Společnosti Entomologické* **37:** 110–112 (in Latin).

Obenberger J. 1958a: Revise rodu Coraebina (Col. Bupr.). Revision du genre Coraebina Obenb. (Col. Bupr.). *Acta Entomologica Musaei Nationalis Pragae* **32:** 423–441.

Obenberger J. 1958b: Revise druhů rodu Vanroonia (Col. Bupr.). Révision des espèces du genre Vanroonia Obenb. (Col. Bupr.). *Acta Entomologica Musaei Nationalis Pragae* **32:** 503–512.

Ohmomo S. & Akiyama K. 1989: Notes on the Taiwanese Buprestidae (II). A revision of the genus Nalanda Théry, 1904 from Taiwan (Coleoptera, Buprestidae). *Entomological Review of Japan* **44:** 1–20.

Peng Z. 1992: Buprestidae. Pp. 387–408 (in Chinese with English summary). In: Peng Z. & Liu Y. (eds): Iconography of forest insects in Hunan China. Academia Sinica & Hunan Forestry Institute, Changsha (Hunan), 1473 pp.

Saunders E. 1868: A revision of the Australian Buprestidae described by the Rev. F. W. Hope. *Transactions of the Entomological Society of London* **26:** 1–67 & 4 pls.

Saunders E. 1871: Catalogus Buprestidarum Synonymicus et Systematicus. E. W. Janson, London, 171 pp.

Saunders W. W. 1849: On the gall formed by Diphicrania auriflua, Hope, a species of Buprestidae. *Transactions of the Entomological Society of London* **5:** 27–28 & pl. 2.

Schaefer L. 1949: Les Buprestides de France. Tableaux analytiques des Coléoptères de la faune franco-rhénane. France, Rhénane, Belgique, Hollande, Valais, Corse. Famille LVI. *Miscellanea Entomologica*, **Suppl. 1949:** 1–511 pp. & 25 pls.

Sharkey M. J. 1989: A hypothesis-independent method of character weighting for cladistic analysis. *Cladistics* **5:** 63–86.

Théry A. 1905: Revision des Buprestides de Madagascar. E. Deyrolle, Paris, 186 pp.

Théry A. 1929: Classification (tables and keys to sub-families, tribes, and genera), Observations. Pp. 266–275. In: Carter H. J.: A check list of the Australian Buprestidae. *Australian Zoologists* **5:** 265–304, pls 31–33.

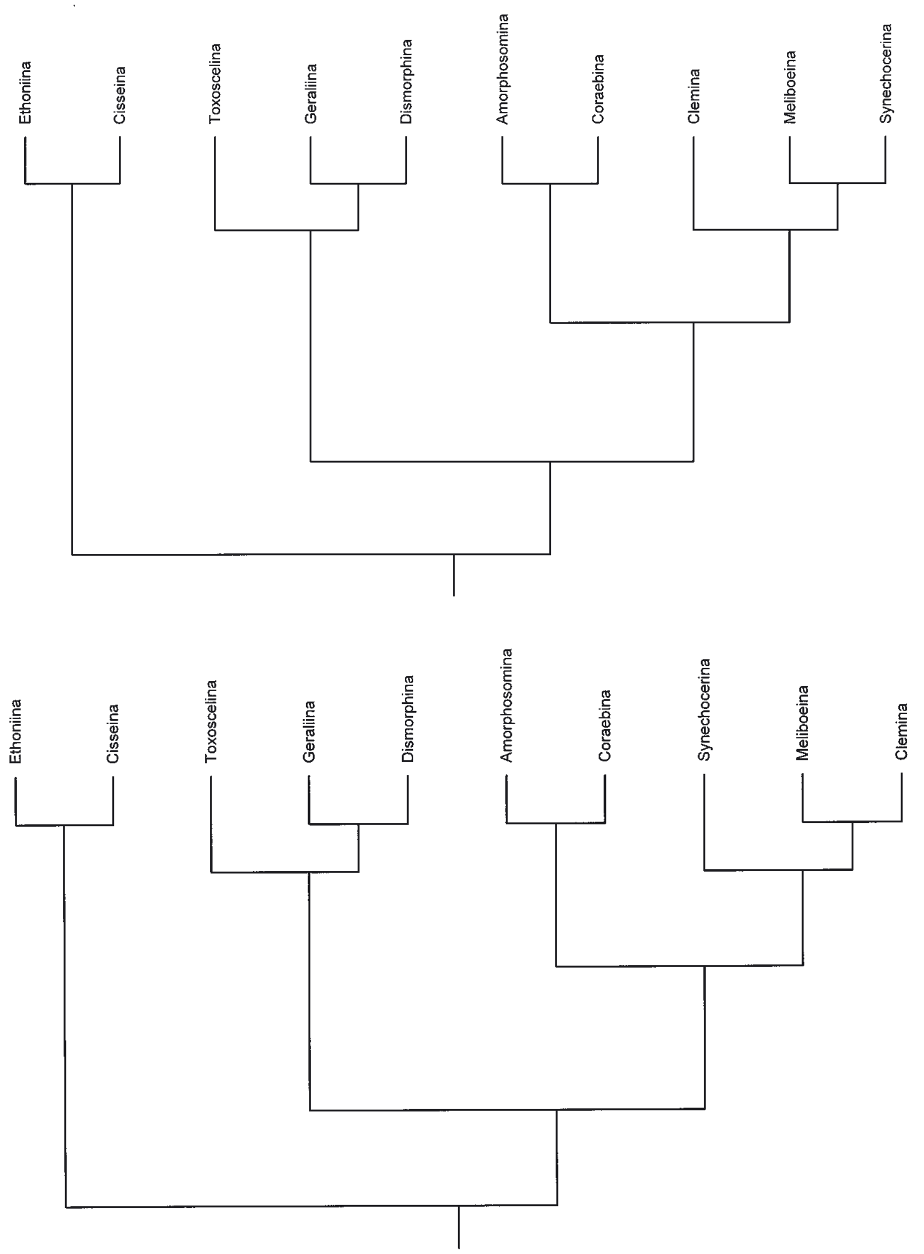
Théry A. 1942: Coléoptères Buprestides, Faune de France, 41. P. Lechevalier, Paris, 223 pp.

Théry A. 1947: Buprestides d'Angola. *Arquivos do Museo Boçage* **18:** 1–96.

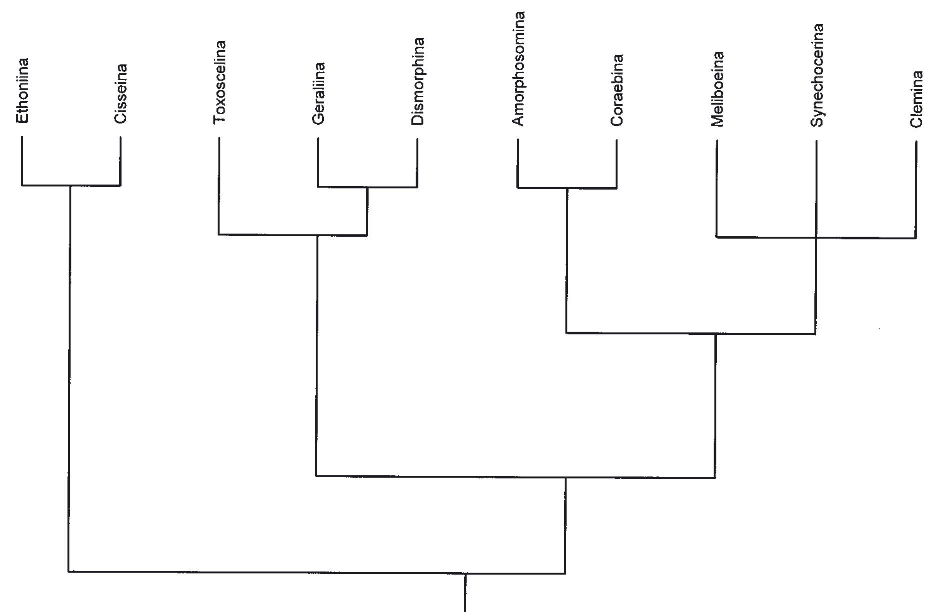
Velten R. K. & Bellamy C. L. 1987: A new genus and species of North American Coroebini Bedel with a discussion of its relationships within the tribe (Coleoptera: Buprestidae). *The Coleopterists Bulletin* **41:** 185–192.

Volkovitsh M. G. & Hawkeswood T. J. 1990: The larvae of Agrilus australasiae Laporte & Gory and Ethon affine Laporte & Gory (Insecta: Coleoptera: Buprestidae). *Spixiana* **13:** 43–59.

Appendices 1 and 2



Trees 1 and 2. Cladograms of subtribes of Coraebini. (l = 874, ci = 94, ri = 85.)



Tree 3. A consensus tree of the cladograms 1 and 2.

```
               1         2         3         4         5
      123456789012345678901234567890123456789012345678901234
Out   000000000000000000000000000000000000000000000000000000
Eth   020101001000030000100010022000000000120004000000110011
Cis   000013001000030000100010030000000000120003000000110011
Tox   20140010000111302010101013100001000002012511010101??????
Ger   200512123104140021130001010005001101012016010100??????
Dis   221416133100150020130011000004000011300000000100??????
Amo   101307000000101020130110010100000001020201000110201200
Cor   010300000000100010112010010110000001221000001010100120
Mel   000408000002100030112021231121102001020252021100100110
Syn   020224232213202230030101233233100200020036200000?????0
Cle   000405110000124130123020233122002200020046320000?????0
```

Character states matrix. All multistate characters (1, 2, 4–10, 12–17, 20–21, 23, 25–30, 33–34, 37–44, 49, 52–53) were treated as unordered (“non-additive” in TreeGardener 1.0). The unique autapomorphies 11, 18, 32, 35, 48, 51 were switched off for computing. Abbreviations: Out = Outgroup, Eth = Ethoniina, Cis = Cisseina, Tox = Toxoscelina, Ger = Geraliina, Dis = Dismorphina, Amo = Amorphosomina, Cor = Coraebina, Mel = Meliboeina, Syn = Synechocerina, Cle = Clemina.

Abbreviations used in the figures

(Major figures numbers with specifications are indicated in bold.)

Larva

Figs 1–4 (**1**). **Mandible: ath** – apical teeth, **mcd** – mandibular condyle, **prl** – prostheca.

Figs 5–8 (**8**). **Labrum: als** – anterolateral sensillae, **lbp** – lateral branch of palatine sclerite, **mbp** – median branch of palatine sclerite, **mlb** – medial sensillae of labrum.

Figs 9–12 (**10–12**). **Labiomaxillary complex: bss** – basal sclerite of stipes, **csc** – corner sclerite, **csl** – corner seta, **maa** – mala, **ml1**–**ml2** – maxillar palpomeres 1–2, **msl** – mental sclerites, **pll** – palpifer, **pml** – prementum, **stl** – stipes.

Figs 13–16. **Urogomphi**.

Adult

Figs 17–30 (**20–21**) (see also labium). **Cranium: ces** – cervical sclerites (Fig. 25), **cly** – clypeus, **eye** – eyes, **fcs** – frontoclypeal suture, **frf** – frontal fossa (Fig. 17, 22), **frs** – frons, **ocf** – ocular fossa (Fig. 22), **ocw** – ocular furrow, **ofo** – occipital foramen, **smr** – submental region (Figs 21, 24, 26–30), **tnt** – tentorium (Fig. 25, 28–30), **tem** – temples [temporae].

Figs 31–46 (**39–40**). **Antenna: am1** – antennomere 1 [scapus], **am2** – antennomere 2 [pedicel], **am3**–**am5 –** antennomeres 3–5, **a11** – antennomere 11, **fla** – flagellum, **sfl** – sensorial field(s).

Figs 47–74 (**60**). **Labrum: eph** – epipharynx, **ltp** – lateral tormal process, **mep** – medial tormal process.

Figs 78–91 (**82**). **Mandible: ade** – apical [anterior] dens, **mco** – mandibular condyle, **mde** – medial dens, **mho** – mandibular hole.

Figs 92–119 (**104**). **Maxilla: bsg** – basigalea, **bst** – basistipes, **car** – cardo, **dsg** – distigalea, **gal** – galea, **icp** – inner cardal process, **lac** – lacinia, **mds** – mediostipes, **mm1**–**mm3** – maxillary palpomeres 1–3, **mm4** – maxillary palpomere 4 [terminal maxillary palpomere], **ocp** – outer cardal process, **plf** – palpifer, **ppf** – pseudopalpifer.

Figs 120–151 (**135**). **Labium: dpm** – dorsal process of mental sclerite, **hyb** – hypopharyngeal bar (Fig. 132), **hyp** – hypopharynx, **lig** – ligula, **lp1**–**lp3** – labial palpomeres 1–3, **lpa** – labial palpus, **men** – mentum (Figs 26–27, 30), **mls** – mental sclerites, **pms** – premental sclerites, **vpm** – ventral process of mental sclerite.

Figs 152–153. **Prothorax: bap** – basal angles of pronotum, **hmc** – hypomeral carina, **hme** – hypomeron, **mnt** – mentonniere [apical margin of prosternum], **ple** – pronotal lateral edge, **pnc** – pronotal carina, **prn** – pronotum, **prs** – prosternum, **sps** – sternopleural suture.

Figs 154–167 (**161**) (see also legs). **Prothorax ventral: hme** – hypomeron, **hmp** – hypomeral process, **mnt** – mentonniere [apical margin of prosternum] (Figs 155–157), **pip** – prosternal intercoxal process, **ple** – pronotal lateral edge, **pra** – prosternal apophysis, **prs** – prosternum, **sps** – sternopleural suture.

Figs 168–180 (**175**). **Mesoscutellum: sca** – scutellar apophysis, **scl** – scutellum, **scu** – scutum.

Figs 181–192 (**187**) (see also legs). **Meso- and metasternum: acs** – antecoxal suture, **dil** – discriminal line, **mcc** – mesocoxal cavities, **msm** – mesepimeron, **msn** – mesepisternum, **msp** – mesothoracic intercoxal process, **mss** – mesosternum, **mtl** – metasternal transverse line, **mtm** – metepisternum, **mtp** – metathoracic intercoxal process, **mts** – metasternum, **mwp** – metapleural wing proces, **vco** – ventral condyle.

Figs 193–194. **Metanotum**.

Figs 195–196 (**195**). **Metendosternite: lan** – lamina, **mke** – medial keel, **sta** – stalk, **ten** – tendons.

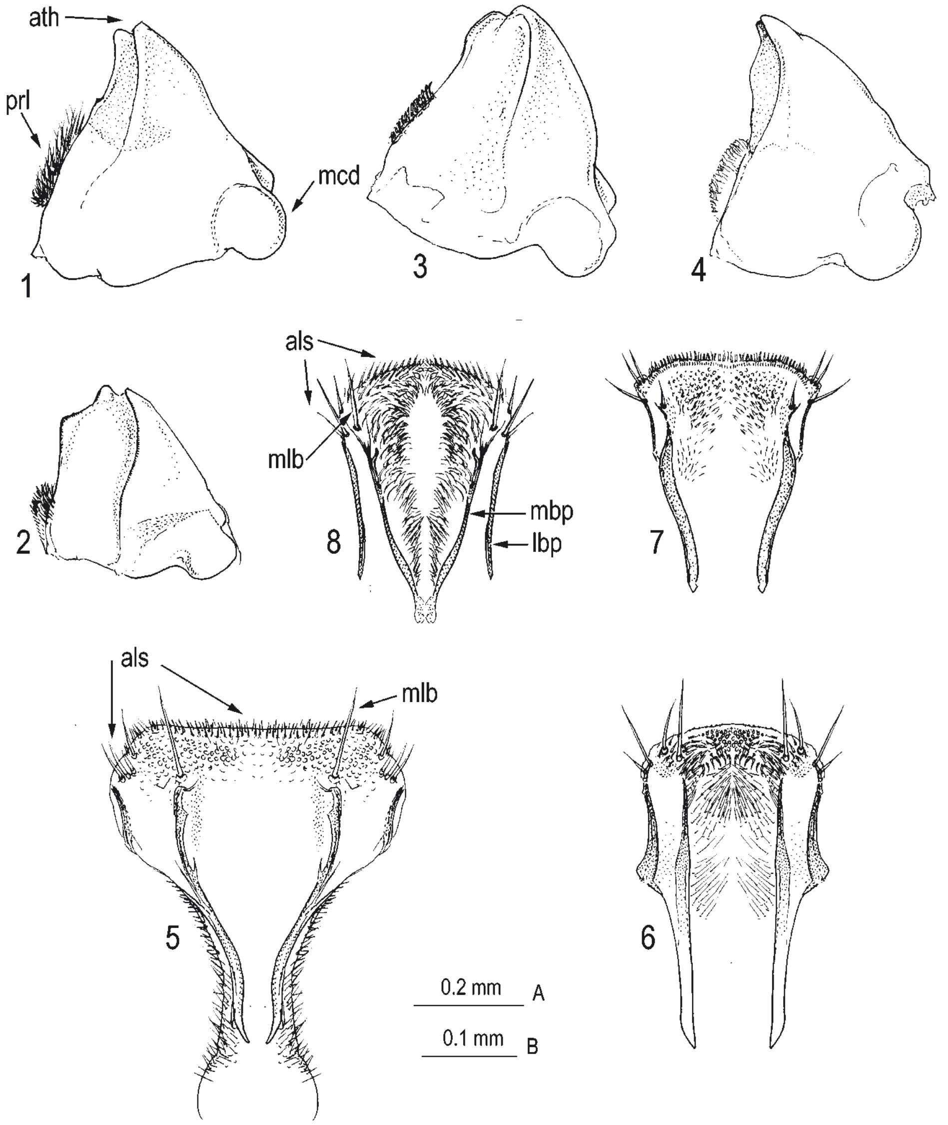
Figs 197–219 (**207**). **Wing: msr** – medial sector. Veins: AA, AA1+2, AA3+4, AP3+4, CuA, jg (jugal vein), M1+2 (medial spur), MP1+2 (medial bar), MP3+4, MP3a, MP3b, MP4a, MP4b, r3, r4, RP, RP1, RP2. Cells: cu-a1 [1st cu-a cell (cubito-anal cell)], cu-a2 [2nd cu-a cell (cubito-anal cell)], Rc (radial cell).

Figs 161, 187, 220–240 (**227**, **237**). **Legs: clp** – claw proper, **clw** – tarsal claws, **mcx** – mesocoxa, **met** – metatrochanter, **mfm –** mesofemur, **mst** – mesotrochanter, **mtb** – mesotibia, **mtc** – metacoxa, **mtf** – metafemur, **pcx** – procoxa, **pfm** – profemur, **prt** – praetarsus, **ptr** – protrochanter, **sam** – sclerotised appendages on mesotarsal claws, **ta1** – tarsomere 1 [basitarsus], **ta2**–**ta4** – tarsomeres 2–4, **tlo** – tarsal lobes, **tsp** – tibial spur.

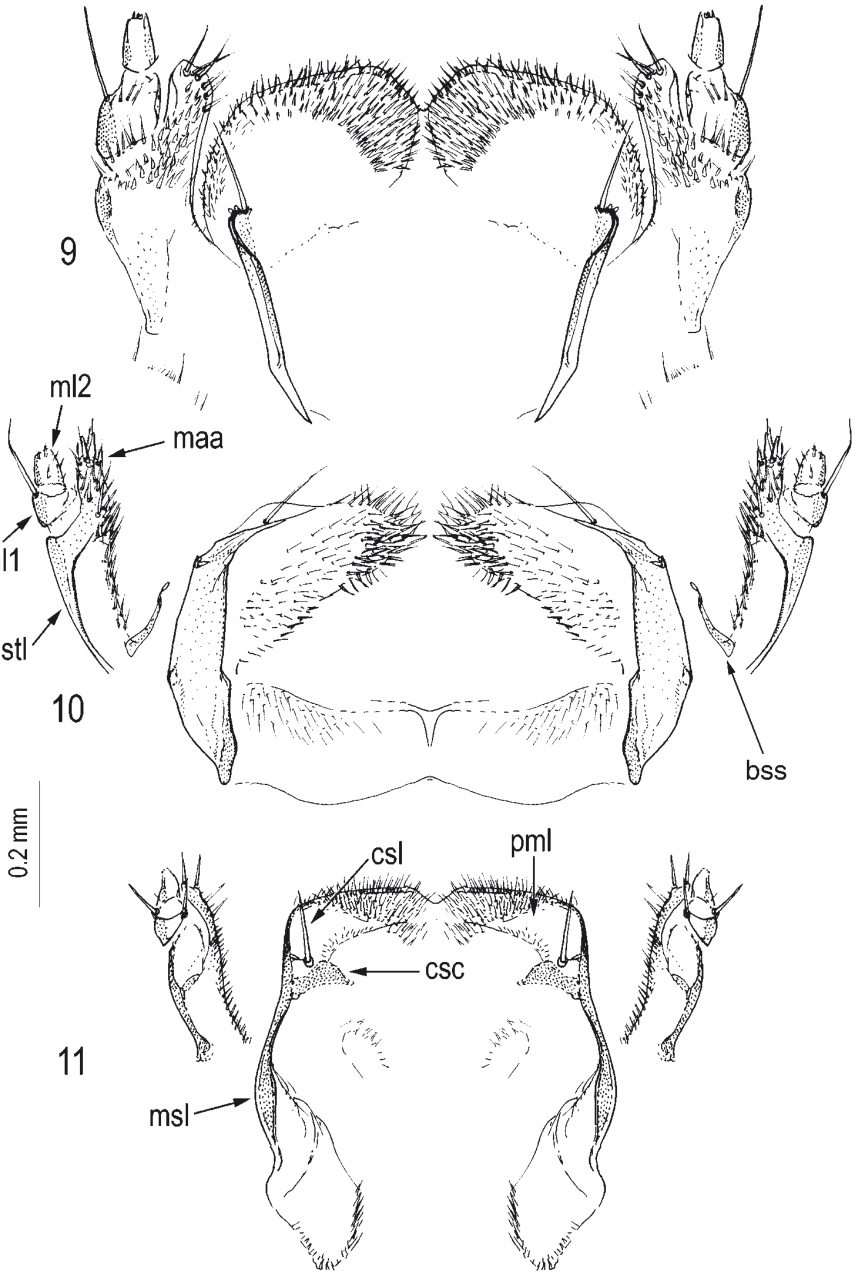
Figs 241–269, 304, 450, (**248, 263**). **Abdomen: as1**–**as7** – abdominal sternites 1–7, **at1**–**at7** – abdominal tergites 1–7, **ips** – intercoxal process on abdominal sternite 3, **pp1**–**pp3** – praeparatergites 1–3, **pp7** – praeparatergite 7, **ps3**–**ps4 –** parasternites 3–4, **ps7** – parasternite 7, **pt3–pt4** – paratergites 3–4, **pt7** – paratergite 7, **rrg** – rectal ring (Figs 304, 450), **si7** – sternal incision on sternite 7, **rsc** – rectal sclerites (Figs 304, 450), **sp2** – spiracles on praeparatergite 2, **sp4**–**sp5** – sternal pores on abdominal sternites 4–5, **tp3**–**tp5** – tergal pores 3–5.

Figs 270–405, (**282**, **313**, **371**, **395**) (see also abdomen). **Male terminalia: aph** – apex of phallus, **bm8** – basal corners of male tergite 8, **dnt** – dorsal notch, **mdm** – mesodorsal margin, **mpp** – male paraproct [basal part of male tergite 9], **mpt** – male epiproct [distal part of male tergite 9], **mrt** – median rib in basal corners of male tergite 8, **mvm** – mesoventral margin, **osl** – ostial lamellae (Fig. 387), **ost** – ostium [phallotreme] (Fig. 386), **pam** – parameres, **pap** – phallobasic apodeme, **phb** – phallobase, **phl** – phallic body [phallus proper], **phs** – phallic struts, **pmm** – parameral membrane, **tgs** – tegminal struts, **teg** – tegmen, **vnt** – ventral notch.

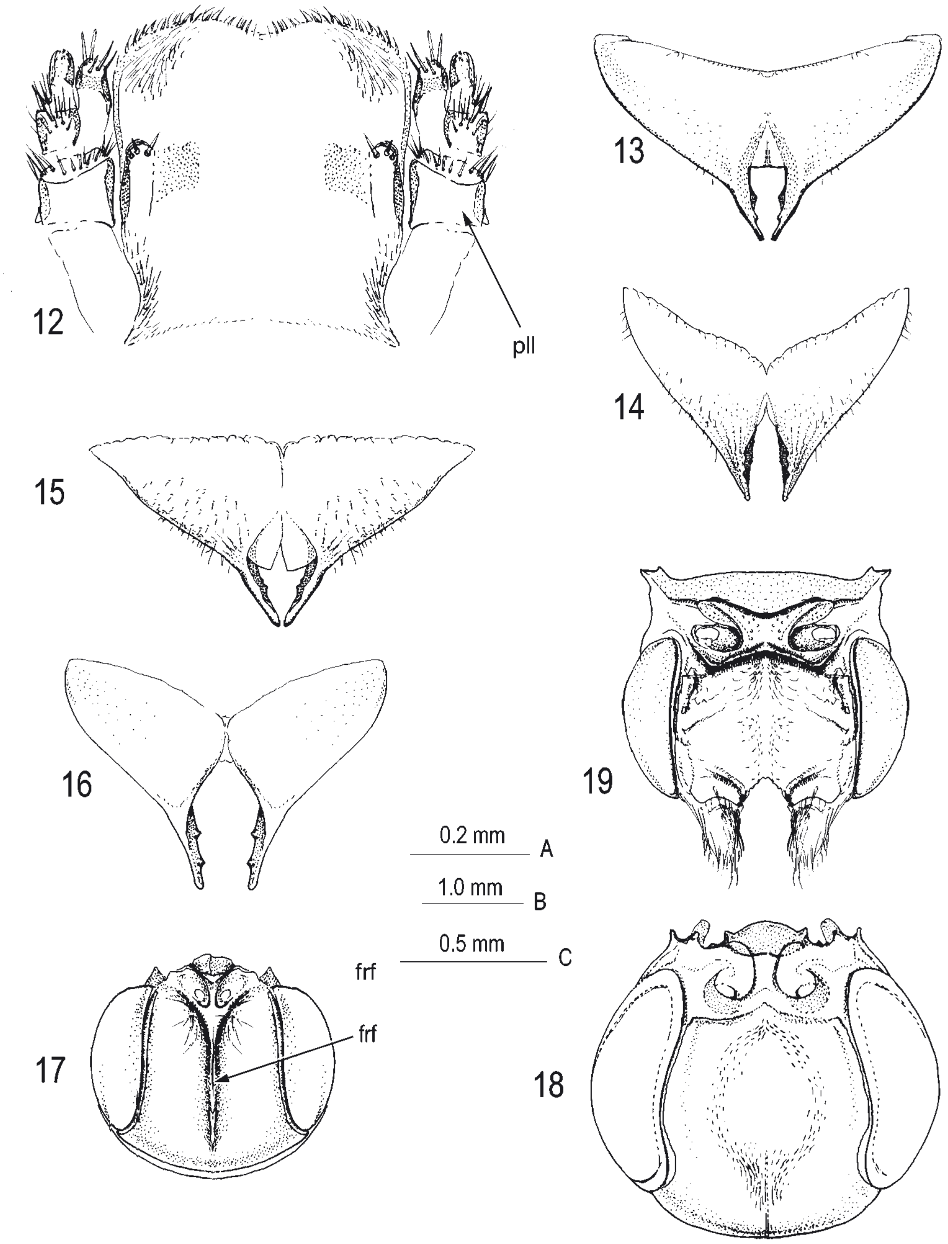
Figs 406–511, (**427**, **447**, **468**, **492–493, 502**). **Female terminalia: bco** – bursa copulatrix, **bdu** – bursal duct, **dvs** – dorsal valve setae in ovipositor, **fpp** – female paraproct, **frt** – median rib in basal corners of female tergite 8, **ft9** – female tergite 9 [female epiproct], **ovi** – oviduct, **prg** – proctiger (dorsal), **sbc** – sclerites in bursa copulatrix (Fig. 508), **spc** – spermathecal capsule, **spd** – spermathecal duct, **spg** – spermathecal gland, **spm** – spermatheca, **sty** – style [stylus], **ute** – uterus, **vag** – vagina, **vvf** – valvifer (ventral).



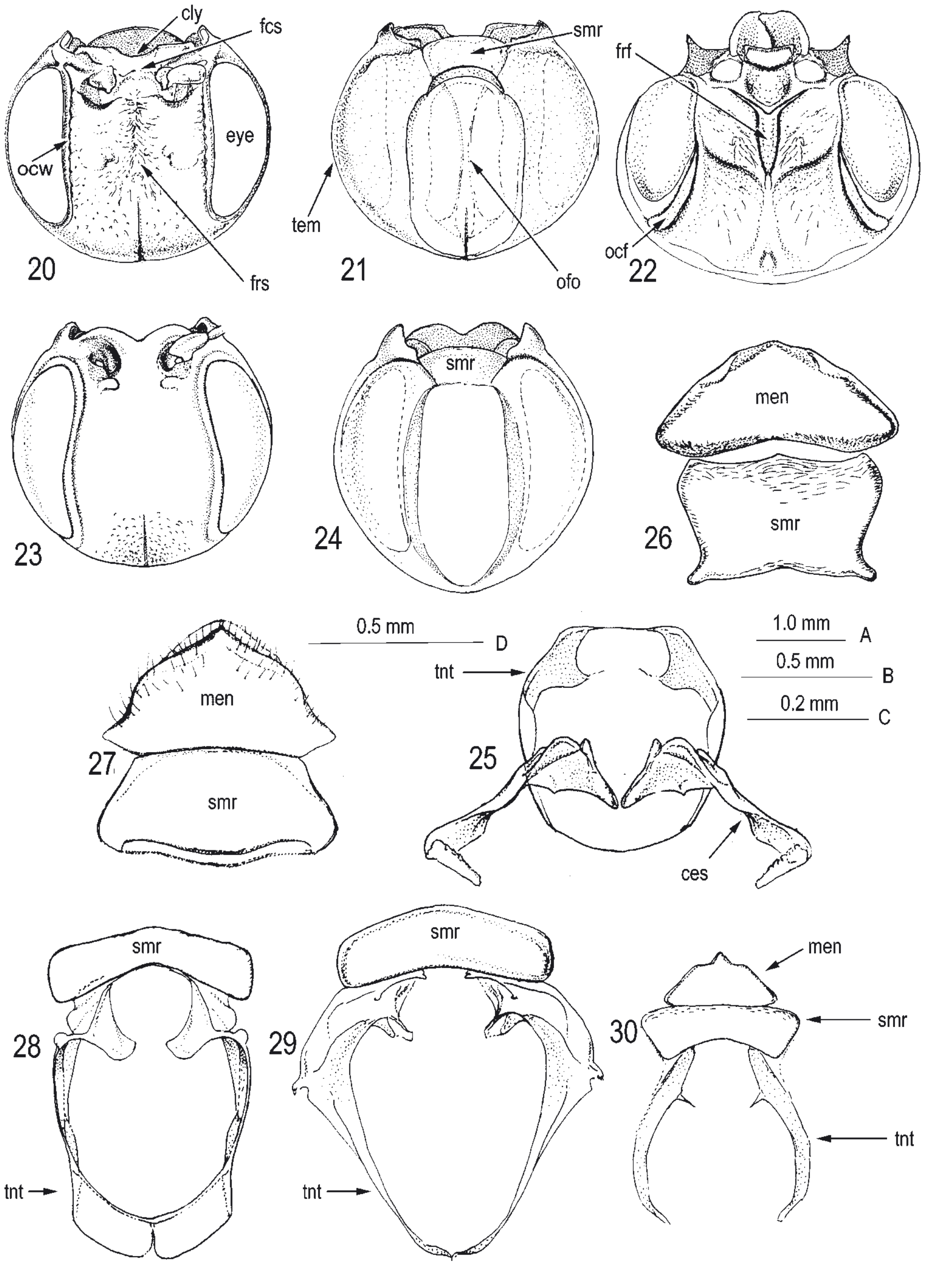
Figs 1–8. Mandible (1–4), labrum (5–8) (larva). 1, 5: *Anocisseis danieli*; 2, 6: "*Coraebus*" *aculeatus*; 3, 7: *Coraebus undatus*; 4, 8: *Agrilus guerini*. Scales: A: 1–4, B: 5–8.



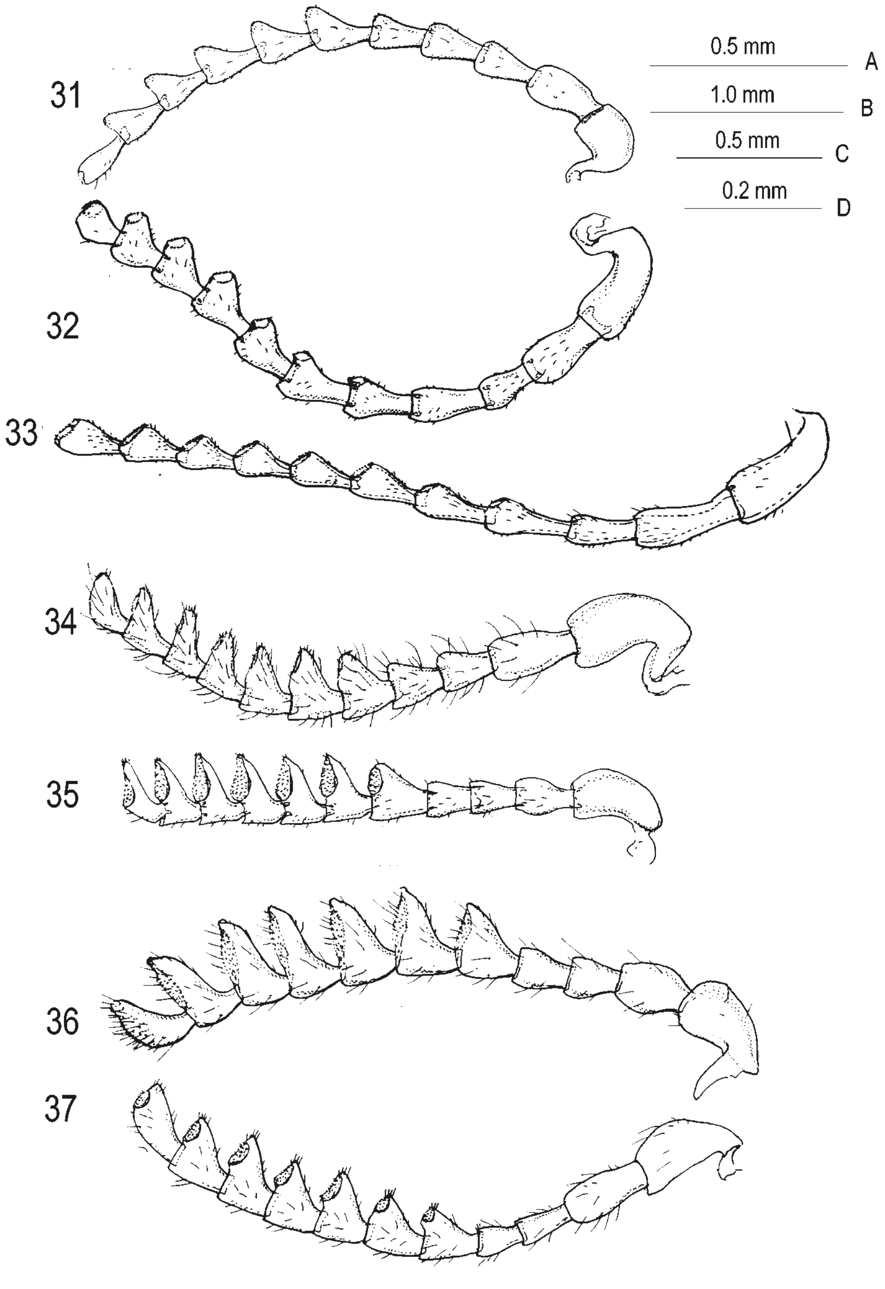
Figs 9–11. Larval labiomaxillary complex. 9: *Anocisseis danieli*; 10: "*Coraebus*" *aculeatus*; 11: *Coraebus undatus*.



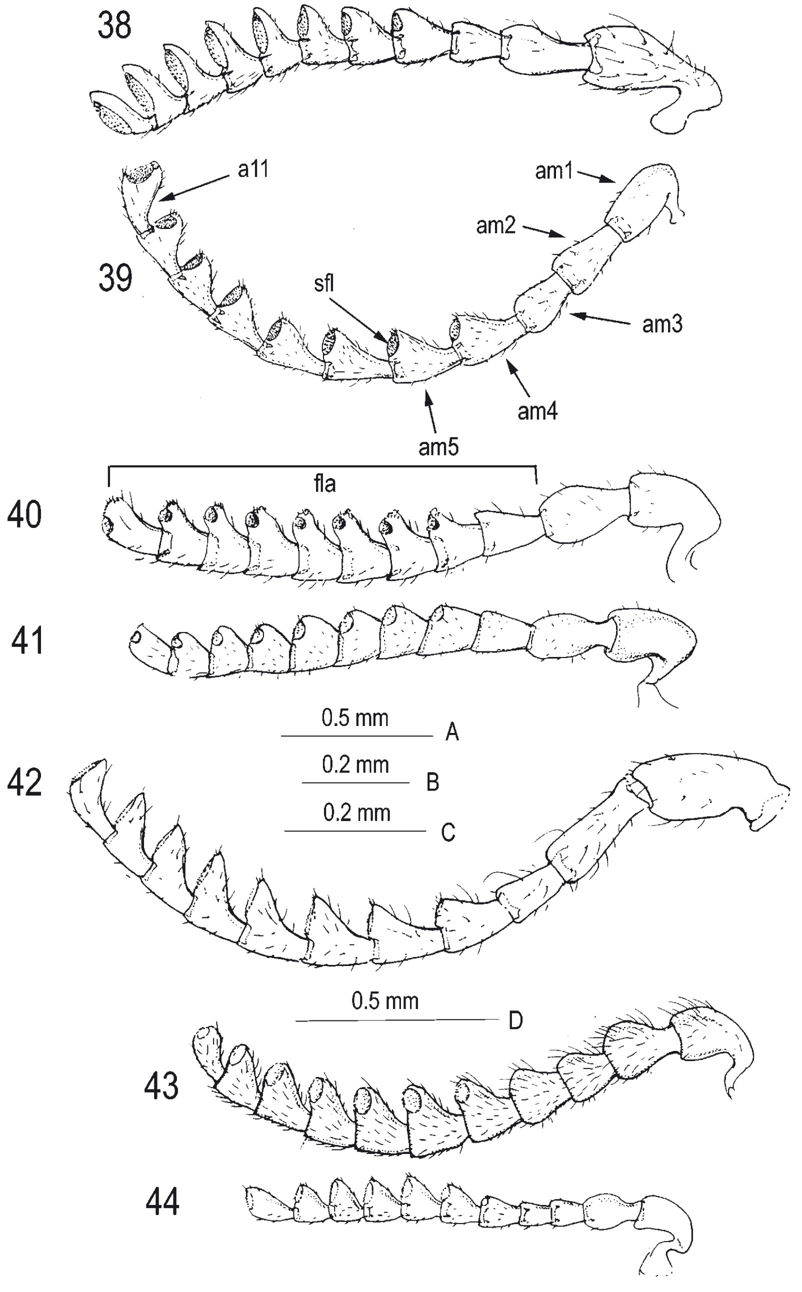
Figs 12–19. Larval labiomaxillary complex (12), urogomphi (13–16). Adult: cranium dorsal (17–19). 12, 16: *Agrilus guerini*; 13: *Anocisseis danieli*; 14: "*Coraebus*" *aculeatus*; 15: *Coraebus undatus*; 17: *Ethonion* cf. *reichei*; 18: *Toxoscelus auriceps*; 19: *Amorphosoma penicillatum*. Scales: A: 12, B: 13–16, C: 17–19.



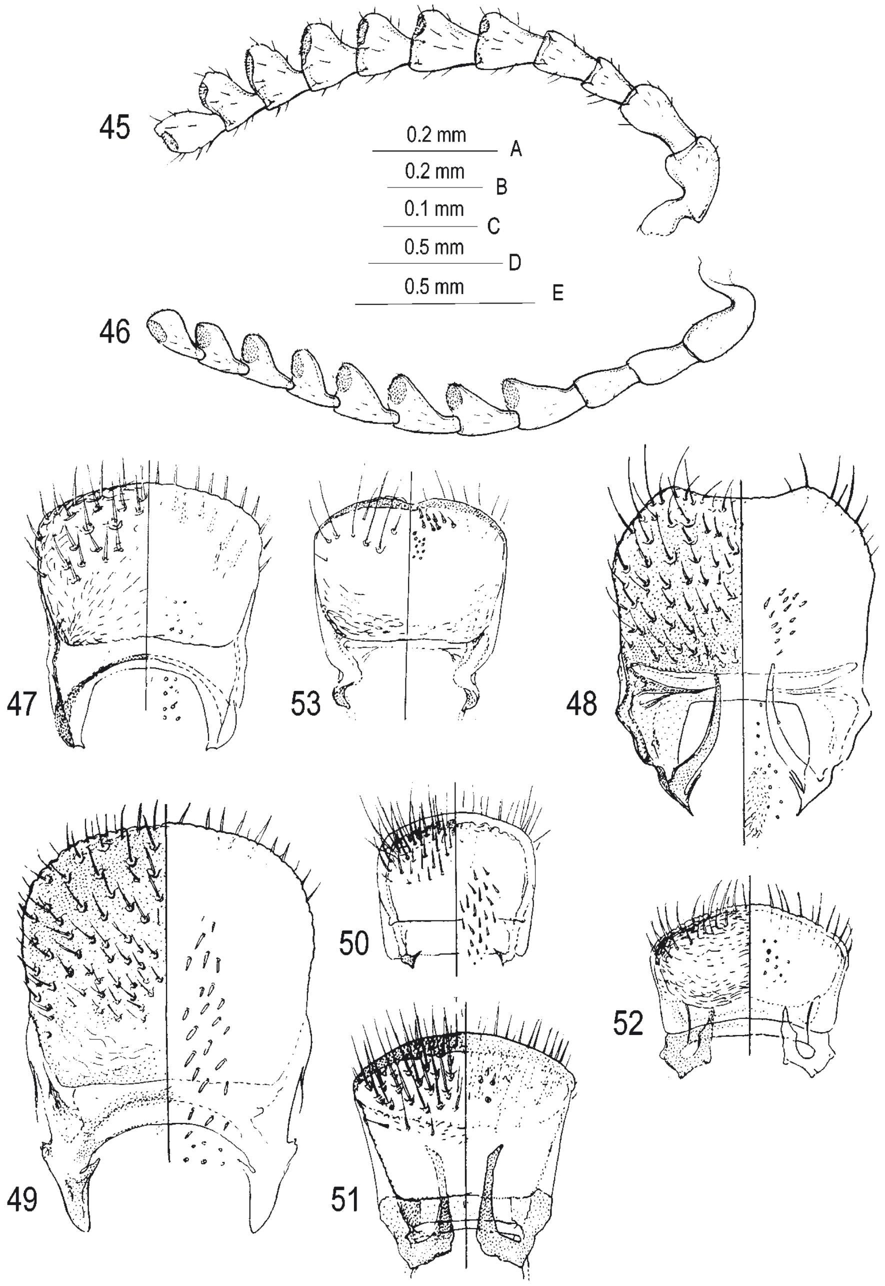
Figs 20–30. Cranium dorsal (20, 22–23), cranium ventral (21, 24), cervical sclerites (25), tentorium (25, 28–30), submental region (21, 24, 26–30), mentum (26–27, 30). 20–21, 25: *Coraebus undatus*; 22: *Dismorpha* cf. *diffusa*; 23–24: *Agrilus viridis*; 26: *Cisseis* cf. *duodecimmaculata*; 27: *Brachycoraebus viridis*; 28: *Metasambus* cf. *hoscheki*; 29: *Amorphosoma coomani*; 30: *Clema deserti*. Scales: A: 20–24, B: 25–26, C: 27, D: 28–30.



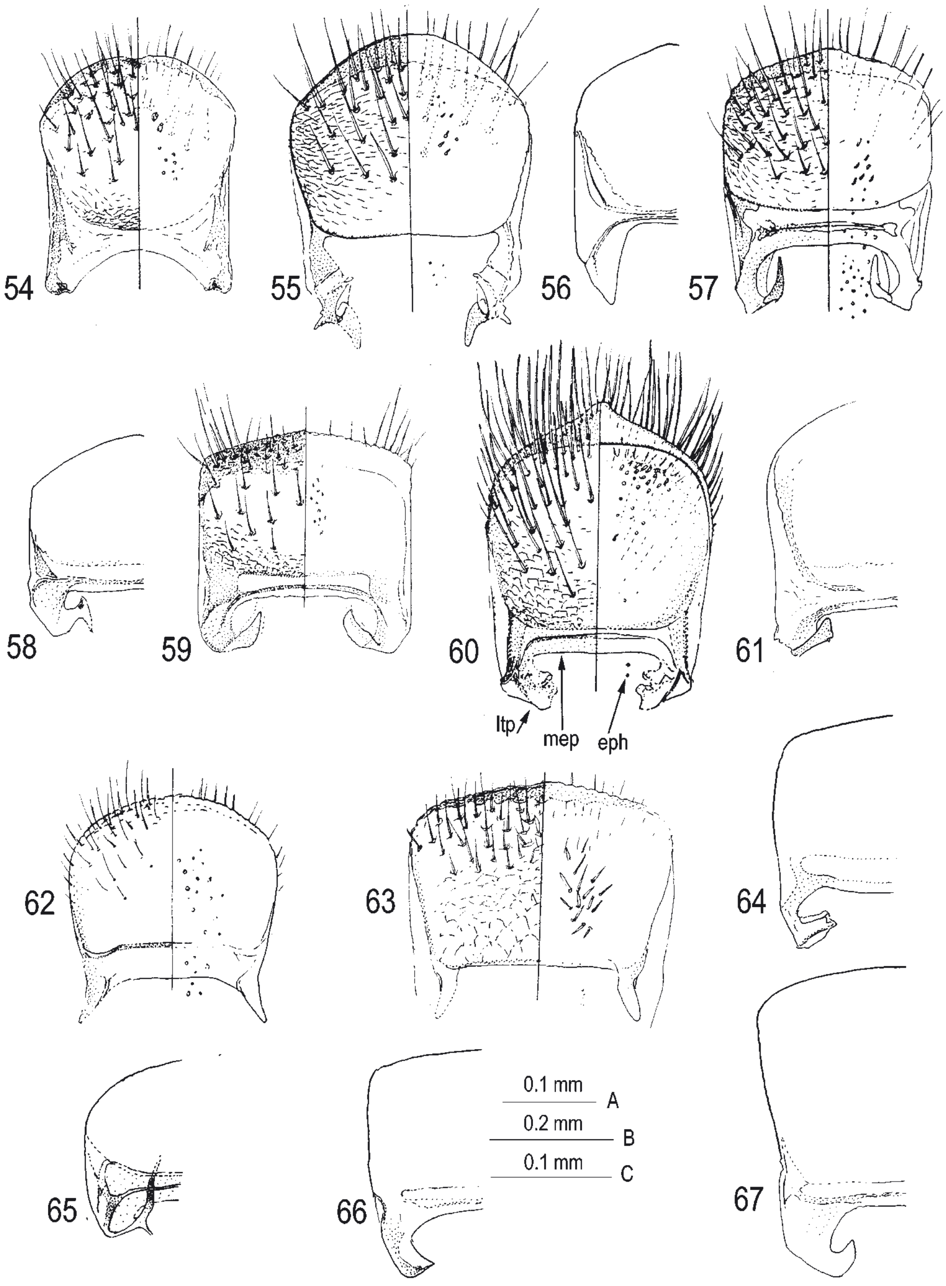
Figs 31–37. Antenna. 31: *Synechocera tasmanica*; 32: *Ethonion* cf. *reichei* 33: *Cisseis* cf. *duodecimmaculata*; 34: *Polyonychus mucidus*; 35: *Cryptodactylus kerremansi*; 36: *Toxoscelus auriceps*; 37: *Metasambus* cf. *hoscheki*. Scales: A: 31, 34–35, B: 32, C: 33, D: 36–37.



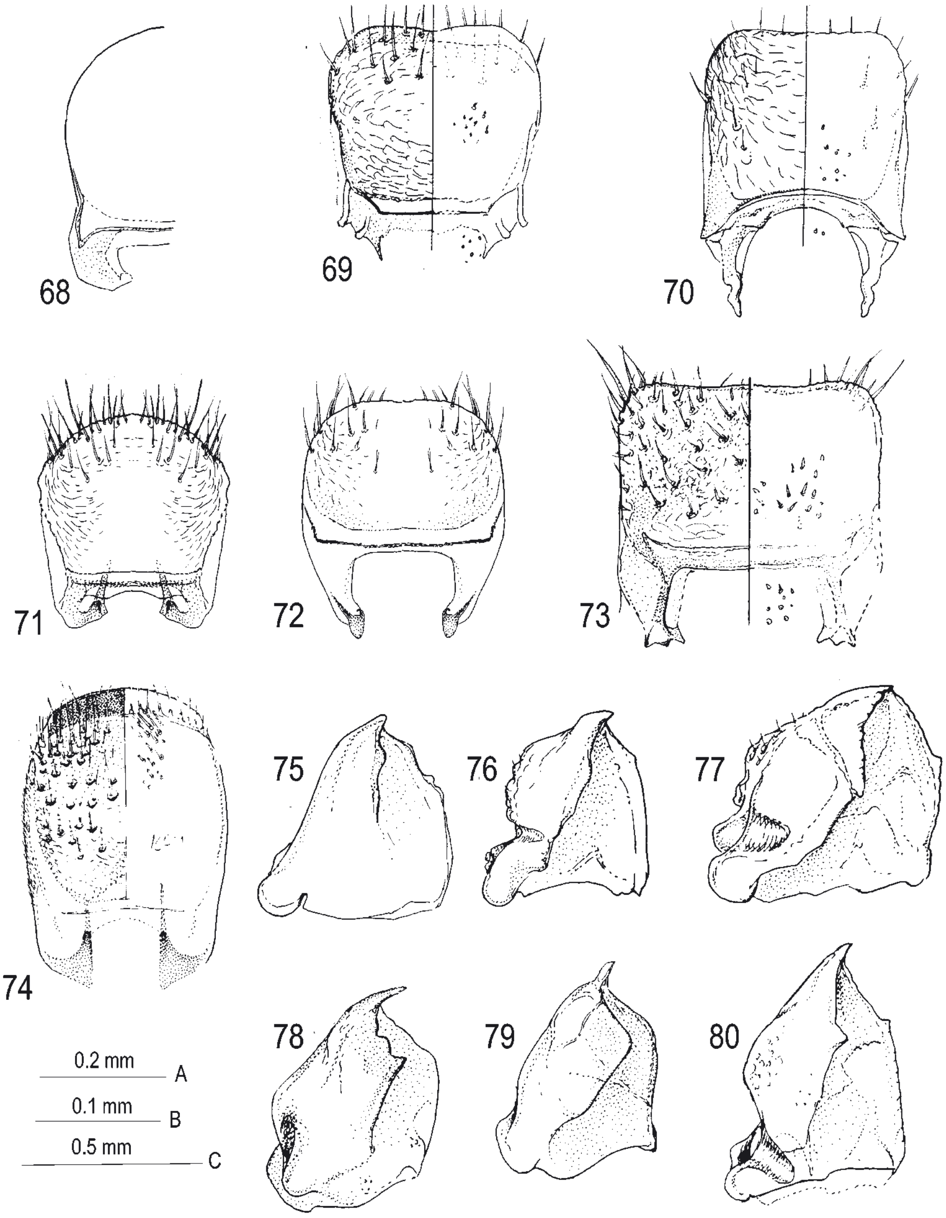
Figs 38–44. Antenna. 38: *Vanroonia coraeboides*; 39: *Coraebus undatus*; 40: *Brachycoraebus viridis*; 41: *C. jendeki*; 42: *Mundaria typica*; 43: *Meliboeus episcopalis*; 44: *M. fulgidicollis*. Scales: A: 38, 42, B: 39, 44, C: 40, D: 41, 43.



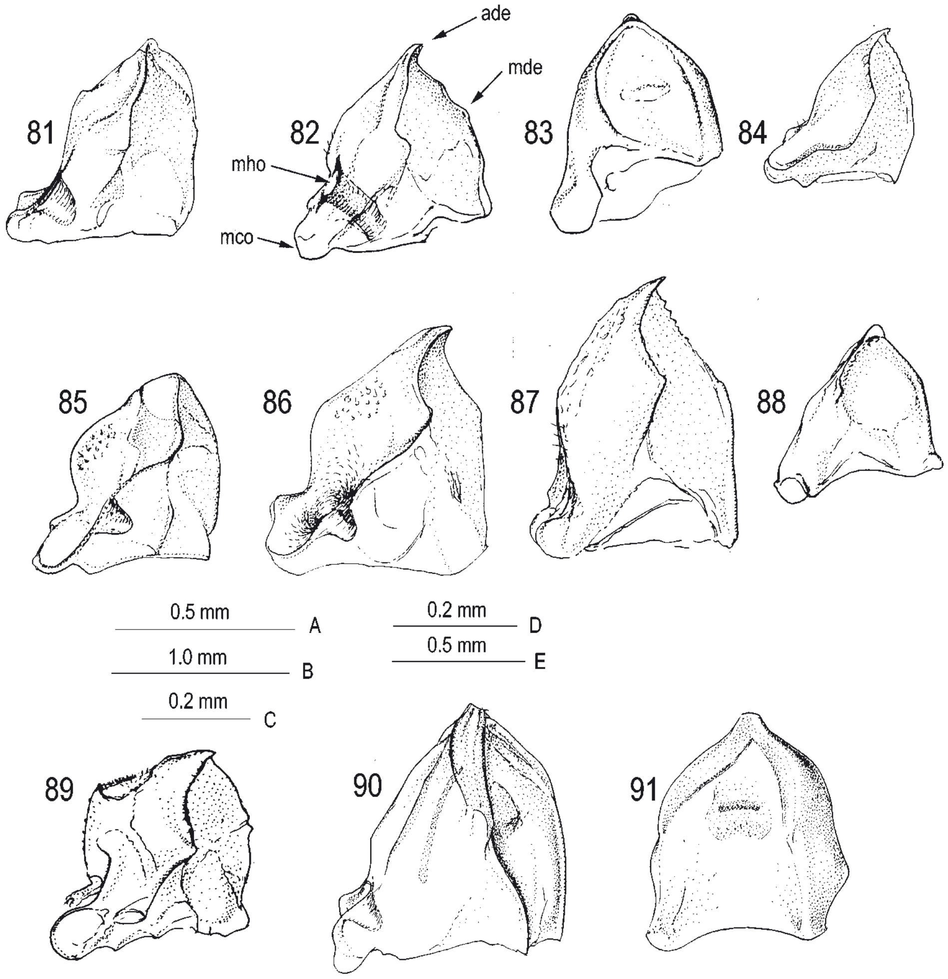
Figs 45–53. Antenna (45–46), labrum (47–53). 45: *Clema deserti*; 46: *Agrilus viridis*; 47: *Synechocera tasmanica*; 48: *Ethonion* cf. *reichei*; 49: *Cisseis* cf. *duodecimmaculata*; 50: *Polyonychus mucidus*; 51: *Cryptodactylus kerremansi*; 52: *Toxoscelus auriceps*; 53: *Metasambus* cf. *hoscheki*. Scales: A: 45, 48, 51, B: 46, C: 47, 52, 53, D: 49, E: 50.



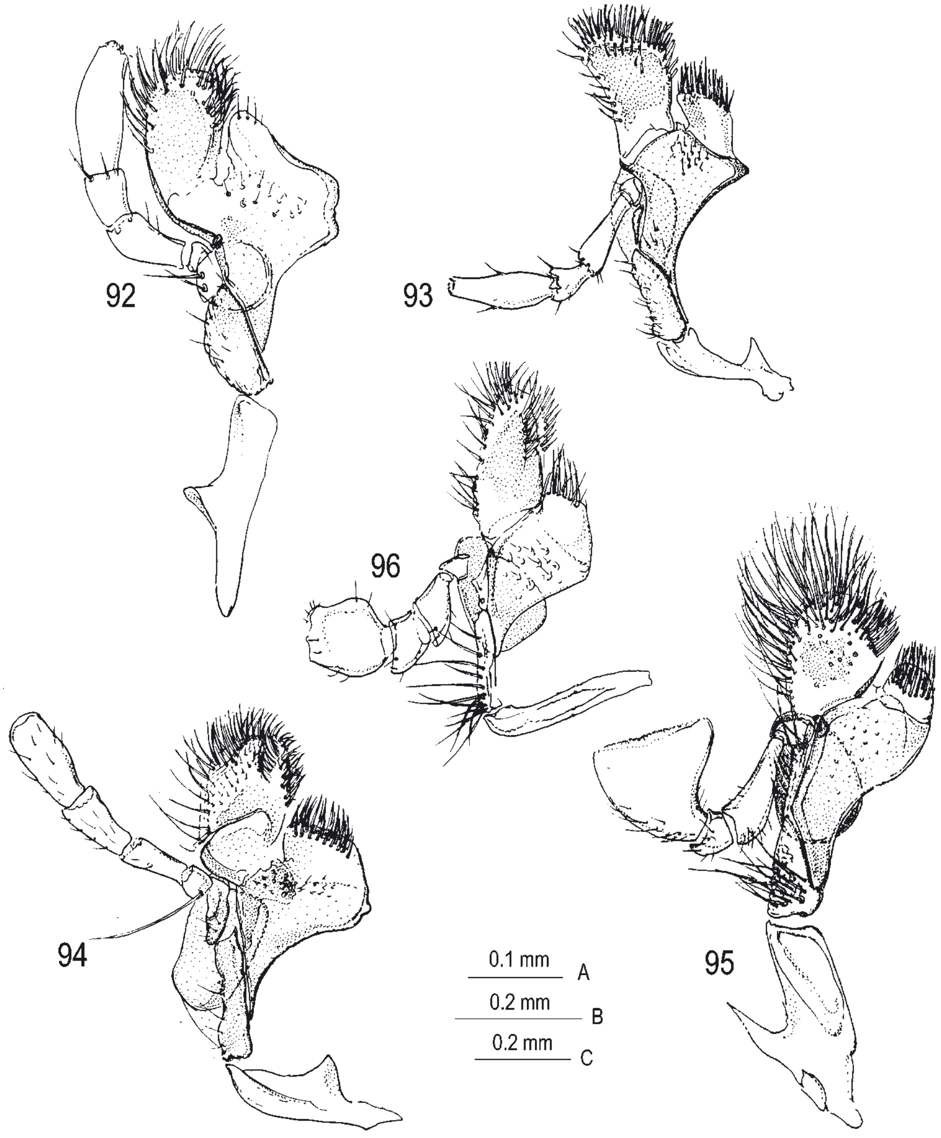
Figs 54–67. Labrum. 54: *Coroebina* cf. *fulgidiceps*; 55: *Amorphosoma coomani*; 56: *Eupristocerus cogitans*; 57: *Coraebus collaris*; 58: *Cisseicoraebus retrolatus*; 59: *Coraebus rubi*; 60: *C. undatus*; 61: *C. andrewesi*; 62: *Brachycoraebus viridis*; 63: *B. helferi*; 64: *Philocoroebus azureipennis*; 65: *C. jendeki*; 66: *Cisseicoraebus* cf. *opaculus*; 67: *Coraebus mirus*. Scales: A: 54, 55, B: 56, 57–62, 64–67, C: 63.



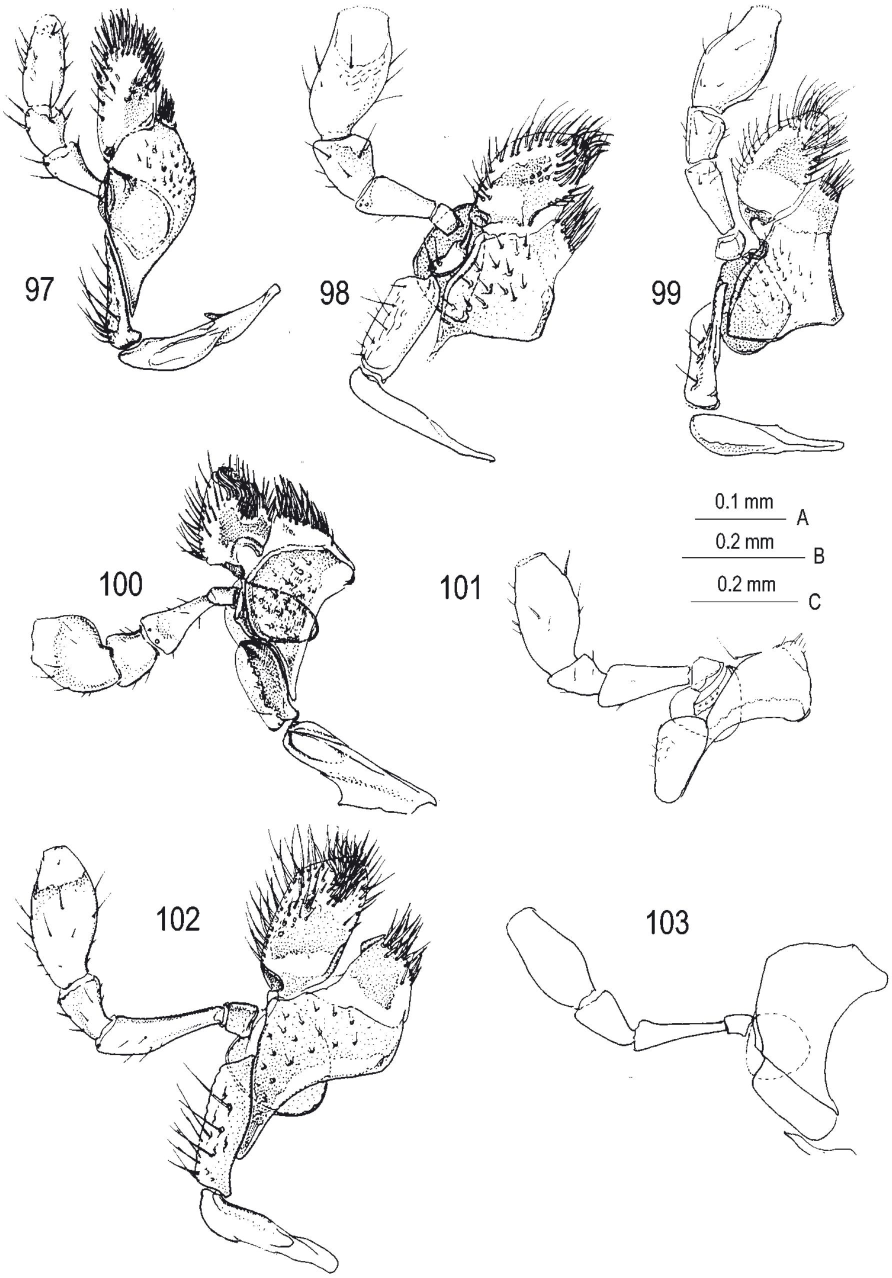
Figs 68–80. Labrum (68–74), mandible ventral (75–80). 68: *Coraebosoma samarense*; 69: *Meliboeus episcopalis*; 70: *Clema deserti*; 71: *Geralius furciventris*; 72: *Cyphothorax gibber*; 73: *Dismorpha* cf. *diffusa*; 74: *Agrilus viridis*; 75: *Synechocera tasmanica*; 76: *Ethonion* cf. *reichei*; 77: *Cisseis* cf. *duodecimmaculata*; 78: *Cryptodactylus kerremansi*; 79: *Toxoscelus auriceps*; 80: *Metasambus* cf. *hoscheki*. Scales: A: 68–69, 73–75, 78–80, B: 70–72, C: 76–77.



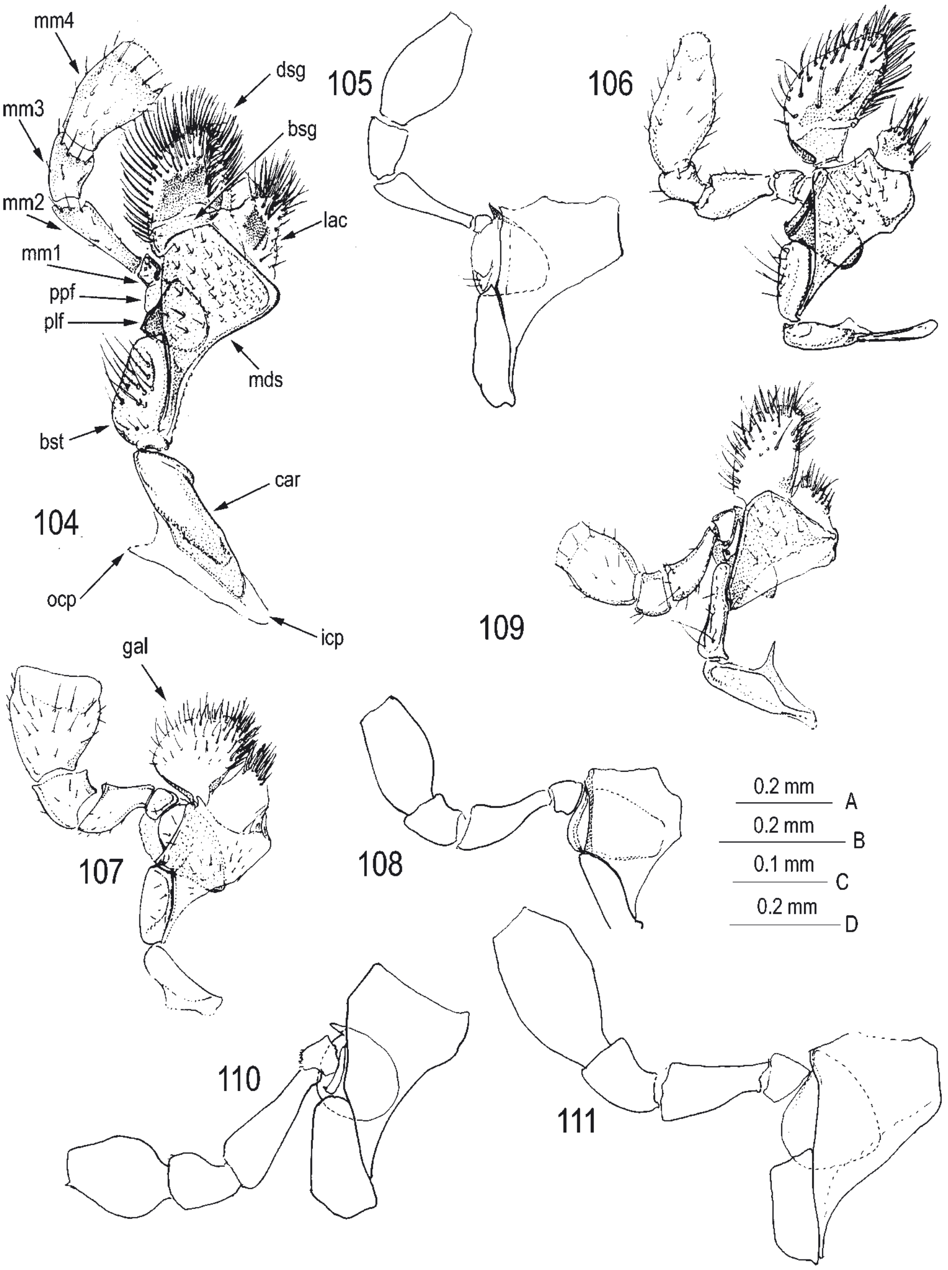
Figs 81–91. Mandible ventral (81–82, 84–90), mandible innerside (83, 91). 81: *Coraebus rubi*; 82–83: *C. undatus*; 84: *C. jendeki*; 85: *Brachycoraebus viridis*; 86: *B. helferi*; 87: *Meliboeus episcopalis*; 88: *Clema deserti*; 89: *Dismorpha* cf. *diffusa*; 90–91: *Agrilus viridis*. Scales: A: 81, 88, B: 82–83, C: 84, D: 85–86, E: 87, 89–91.



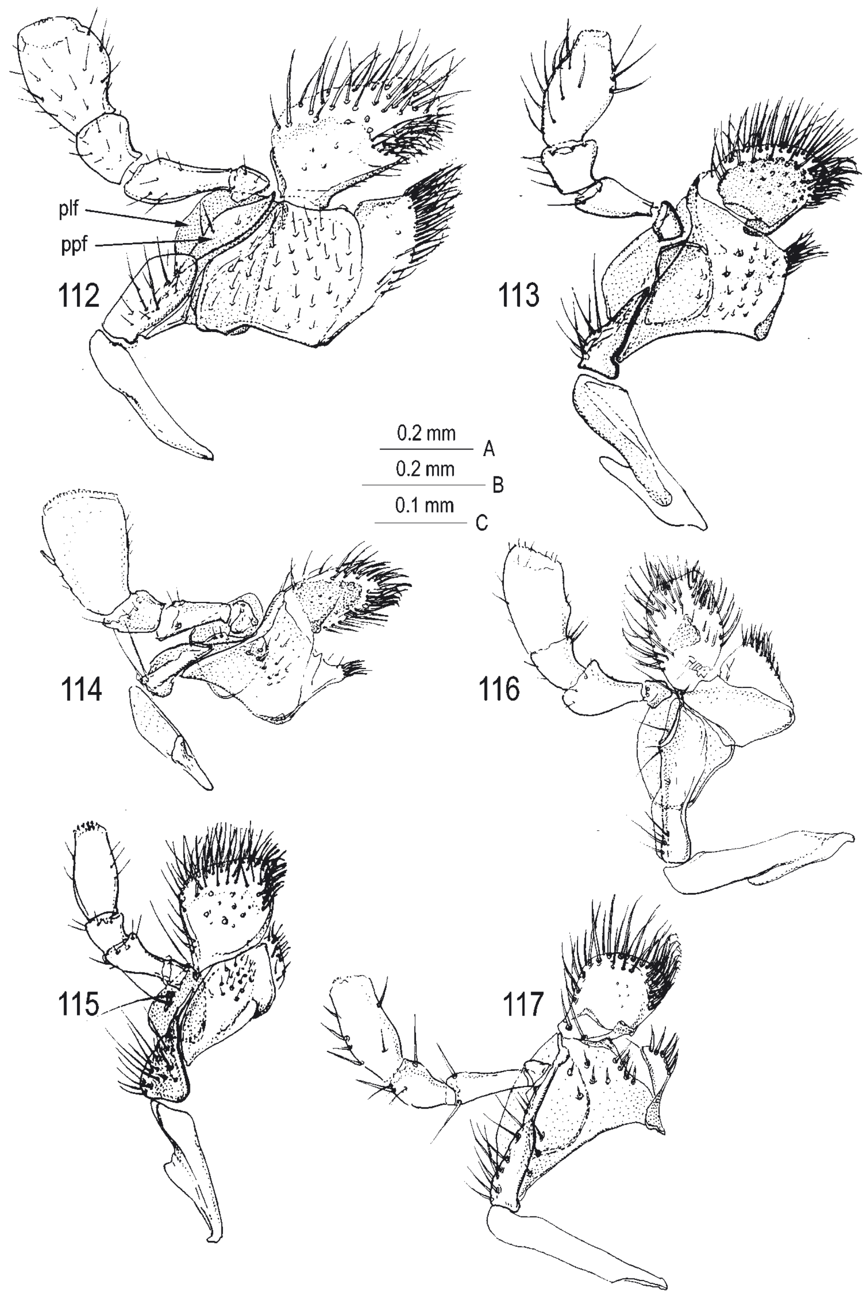
Figs 92–96. Maxilla. 92: *Synechocera tasmanica*; 93: *Ethonion* cf. *reichei*; 94: *Cisseis* cf. *duodecimmaculata*; 95: *Polyonychus mucidus*; 96: *Cryptodactylus kerremansi*. Scales: A: 92, B: 93, 95–96, C: 94.



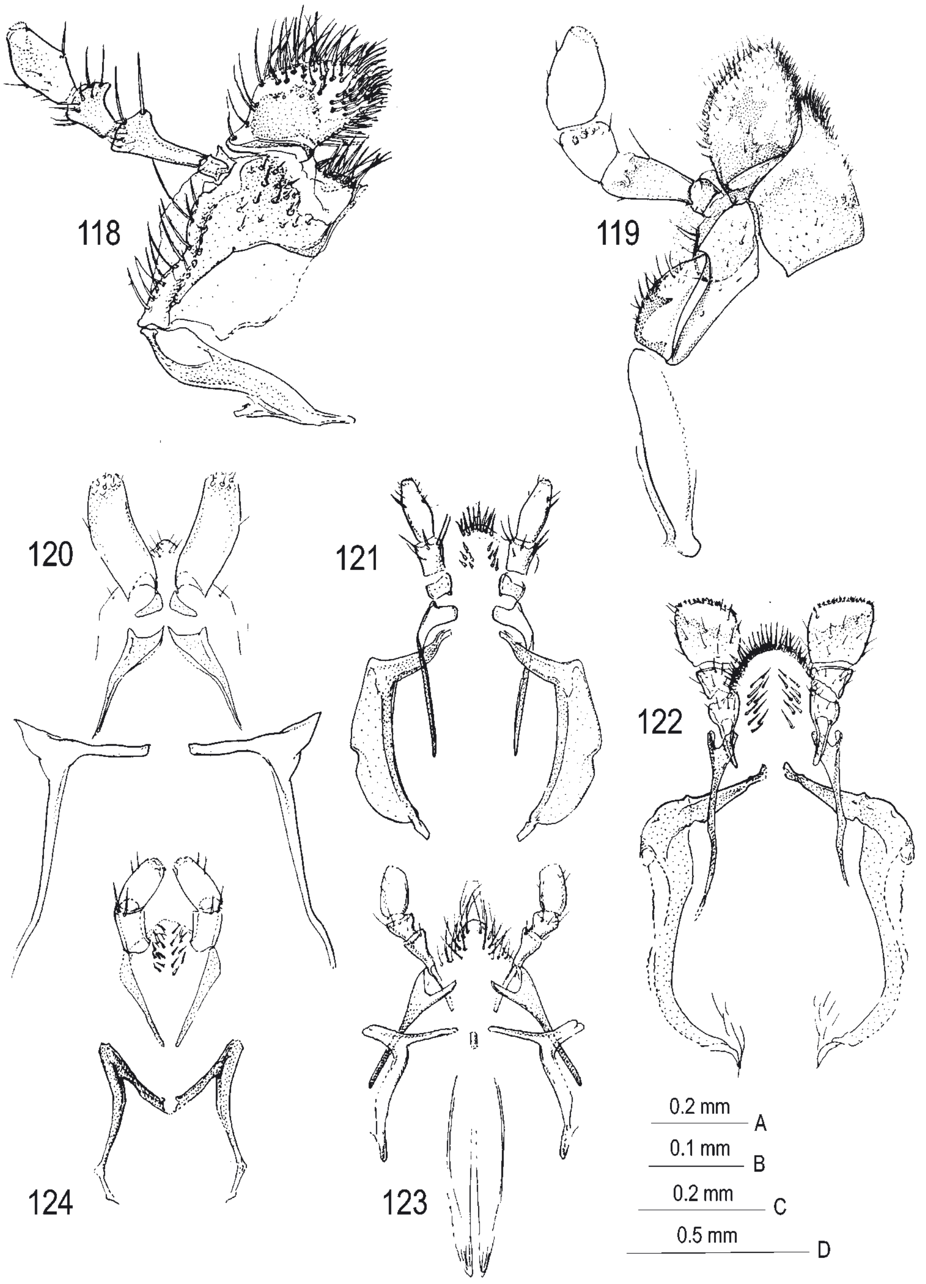
Figs 97–103. Maxilla. 97: *Toxoscelus auriceps*; 98: *Metasambus* cf. *hoscheki*; 99: *Coroebina* cf. *fulgidiceps*; 100: *Amorphosoma coomani*; 101: *Coraebus inornatus*; 102: *C. collaris*; 103: *C. rubi*. Scales: A: 97–99, B: 100–101, 103, C: 102.



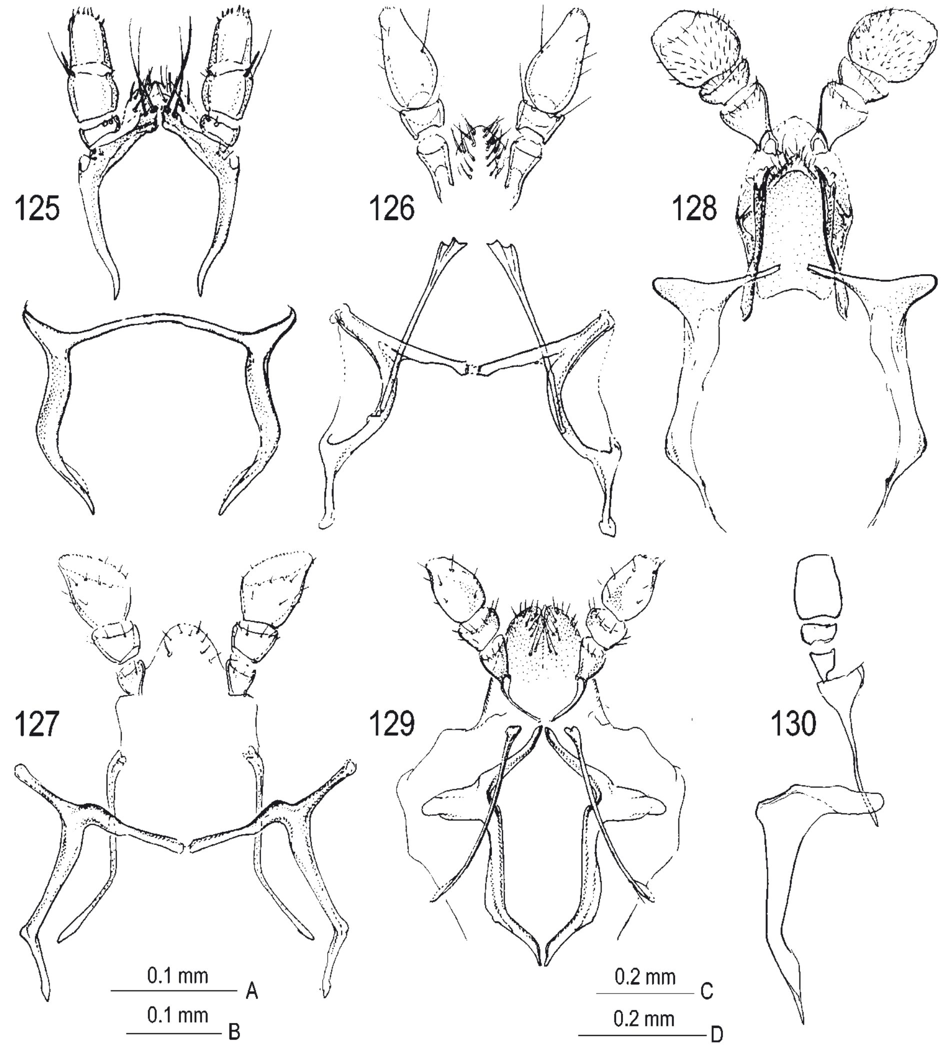
Figs 104–111. Maxilla. 104: *Coraebus undatus*; 105: *C. cingulatus*; 106: *C. blandus*; 107: *Brachycoraebus viridis*; 108: *Philocoroebus azureipennis*; 109: *C. jendeki*; 110: *Cisseicoraebus* cf. *opaculus*; 111: *Coraebus mirus*. Scales: A: 104, B: 105, 108, 110–111, C: 106–107, D: 109.



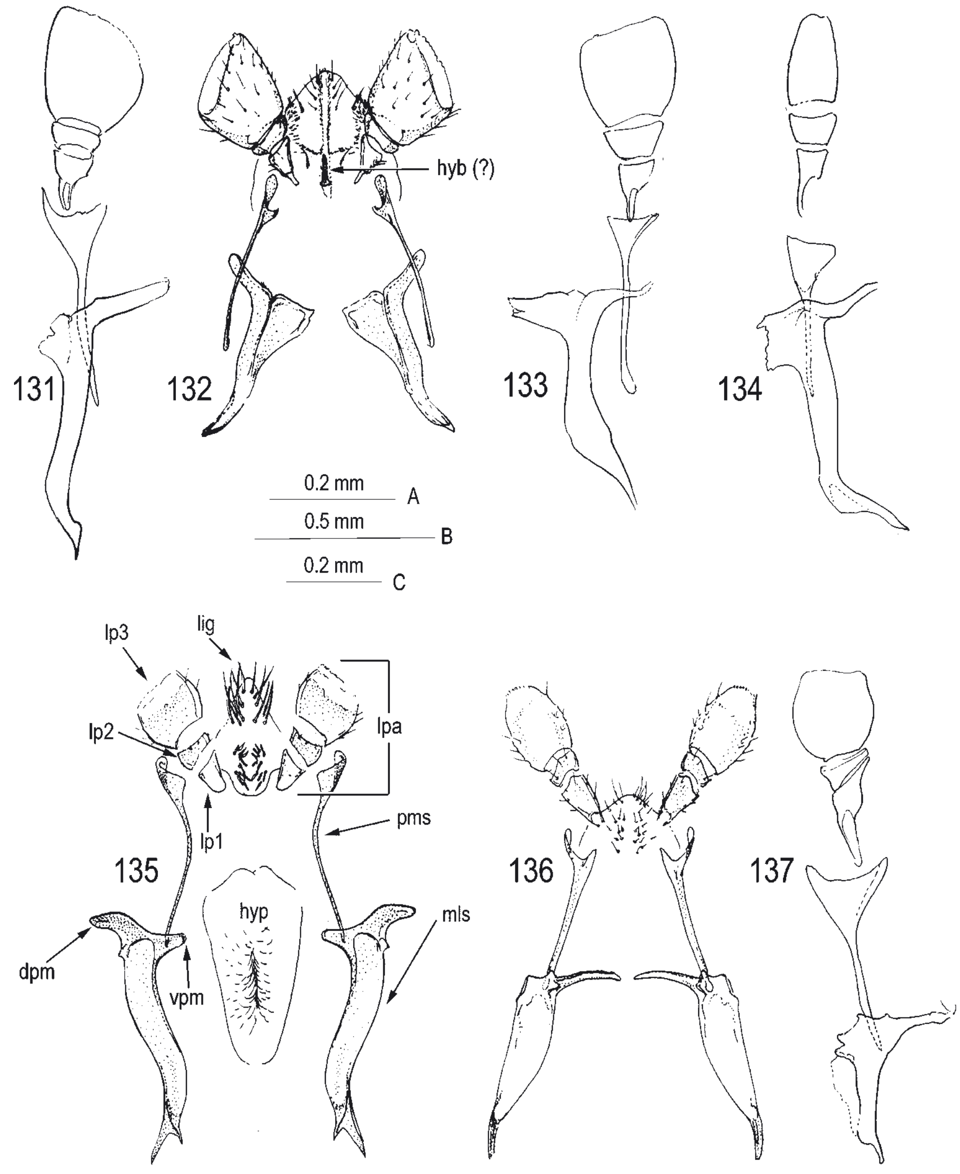
Figs 112–117. Maxilla. 112: *Mundaria typica*; 113: *Meliboeus episcopalis*; 114: *M. fulgidicollis*; 115: *Clema deserti*; 116: *Geralius furciventris*; 117: *Cyphothorax gibber*. Scales: A: 112, B: 113, C: 114–117.



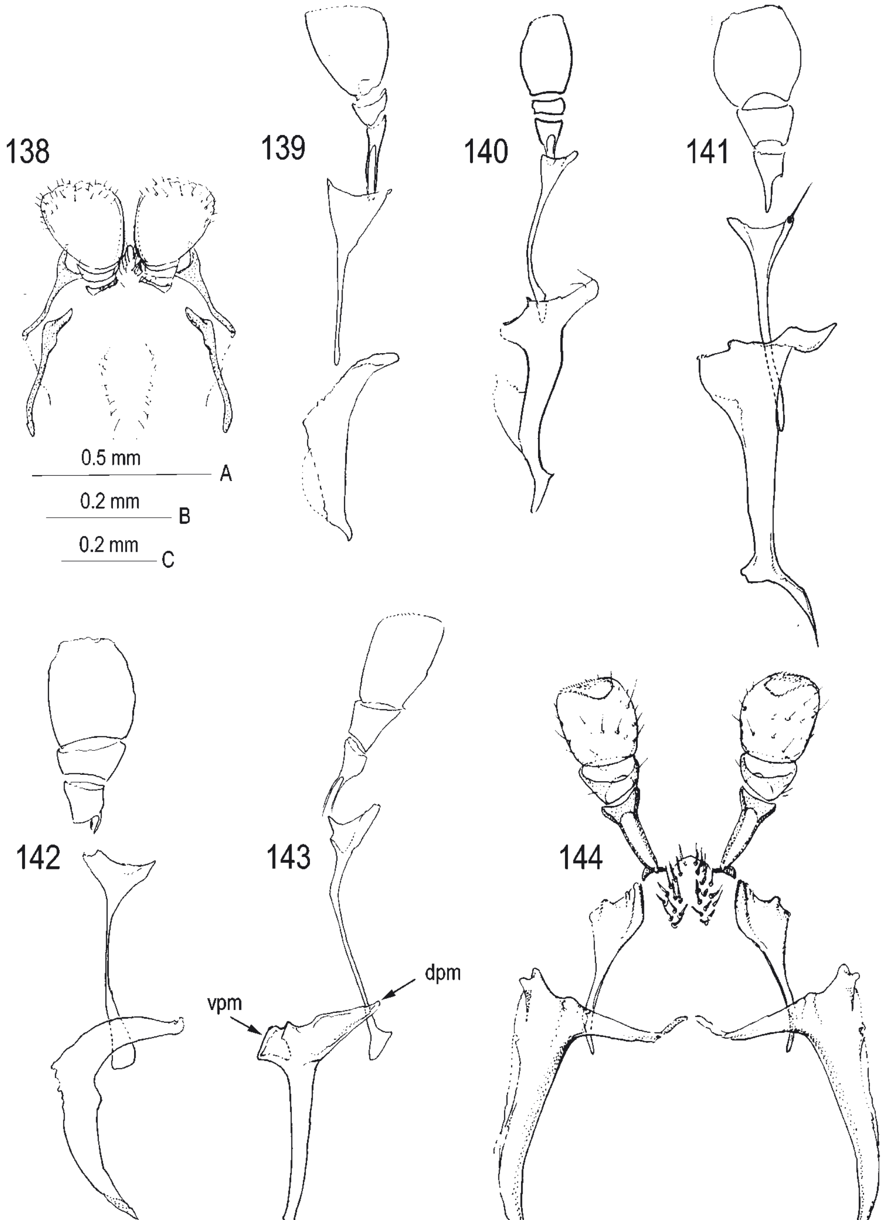
Figs 118–124. Maxilla (118–119), labium (120–124). 118: *Dismorpha* cf. *diffusa*; 119: *Agrilus biguttatus*; 120: *Synechocera tasmanica*; 121: *Ethonion* cf. *reichei*; 122: *Cisseis* cf. *duodecimmaculata*; 123: *Polyonychus mucidus*; 124: *Cryptodactylus kerremansi*. Scales: A: 118, 122, B: 119–120, C: 121, 124, D: 123.



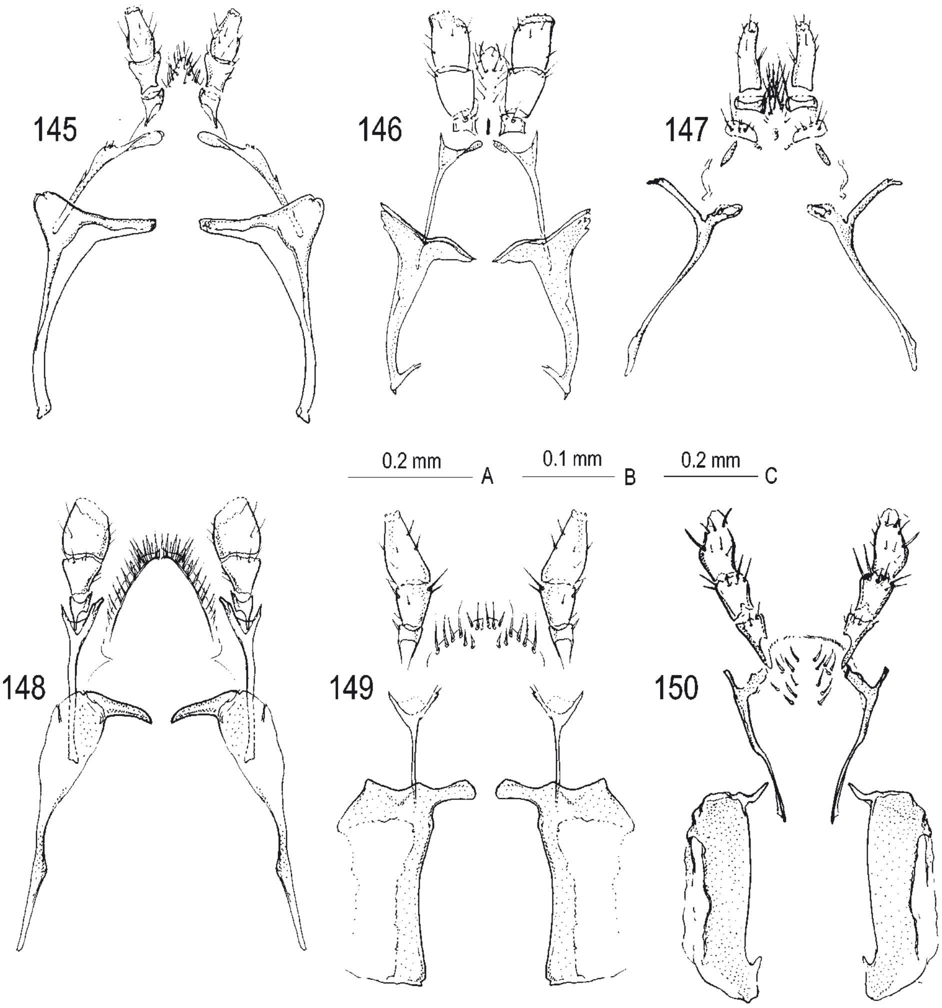
Figs 125–130. Labium. 125: *Toxoscelus auriceps*; 126: *Metasambus* cf. *hoscheki*; 127: *Coroebina* cf. *fulgidiceps*; 128: *Vanroonia coraeboides*; 129: *Amorphosoma coomani*; 130: *Eupristocerus cogitans*. Scales: A: 125, B: 126–127, C: 128, D: 129–130.



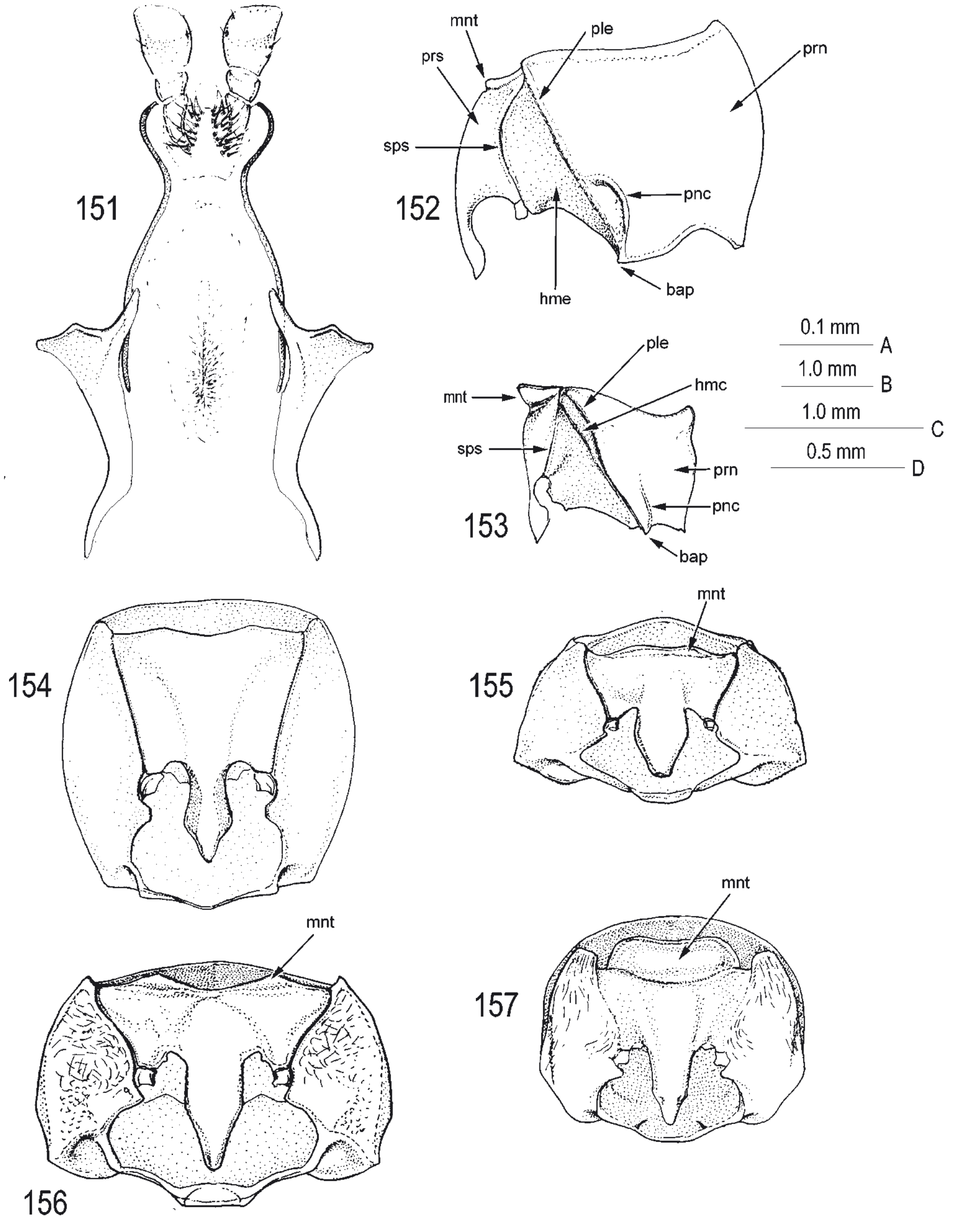
Figs 131–137. Labium. 131: *Coraebus inornatus*; 132: *C. collaris*; 133: *Cisseicoraebus retrolatus*; 134: *Coraebus rubi*; 135: *C. undatus*; 136: *C. blandus*; 137: *Philocoroebus azureipennis*. Scales: A: 131, 133–134, 136–137, B: 132, C: 135.



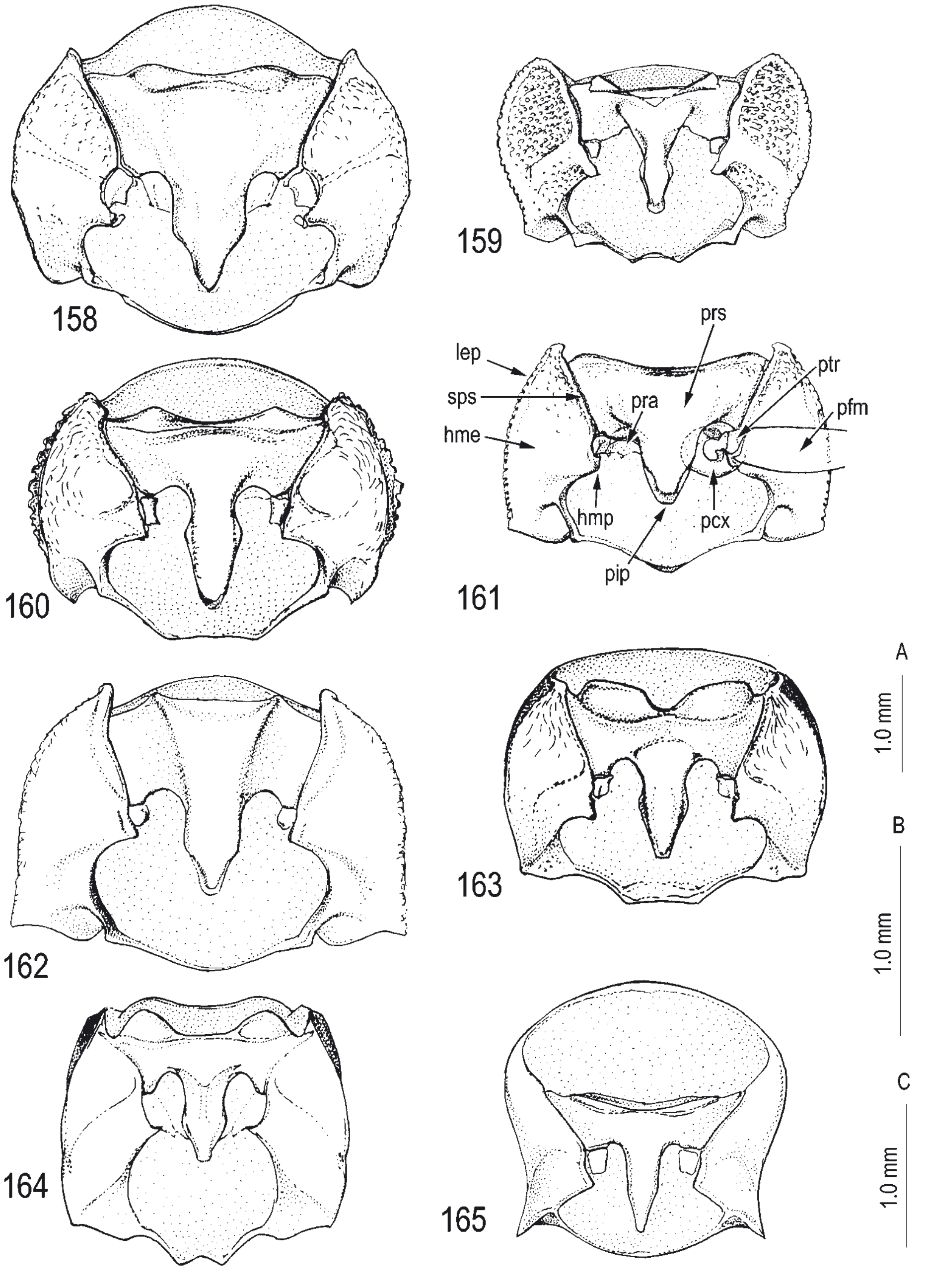
Figs 138–144. Labium. 138: *Brachycoraebus viridis*; 139: *B. helferi*; 140: *Coraebus jendeki*; 141: *Cisseicoraebus* cf. *opaculus*; 142: *Coraebus mirus*; 143: *Coraebosoma samarense*; 144: *Mundaria typica*. Scales: A: 138, B: 139–143, C: 144.



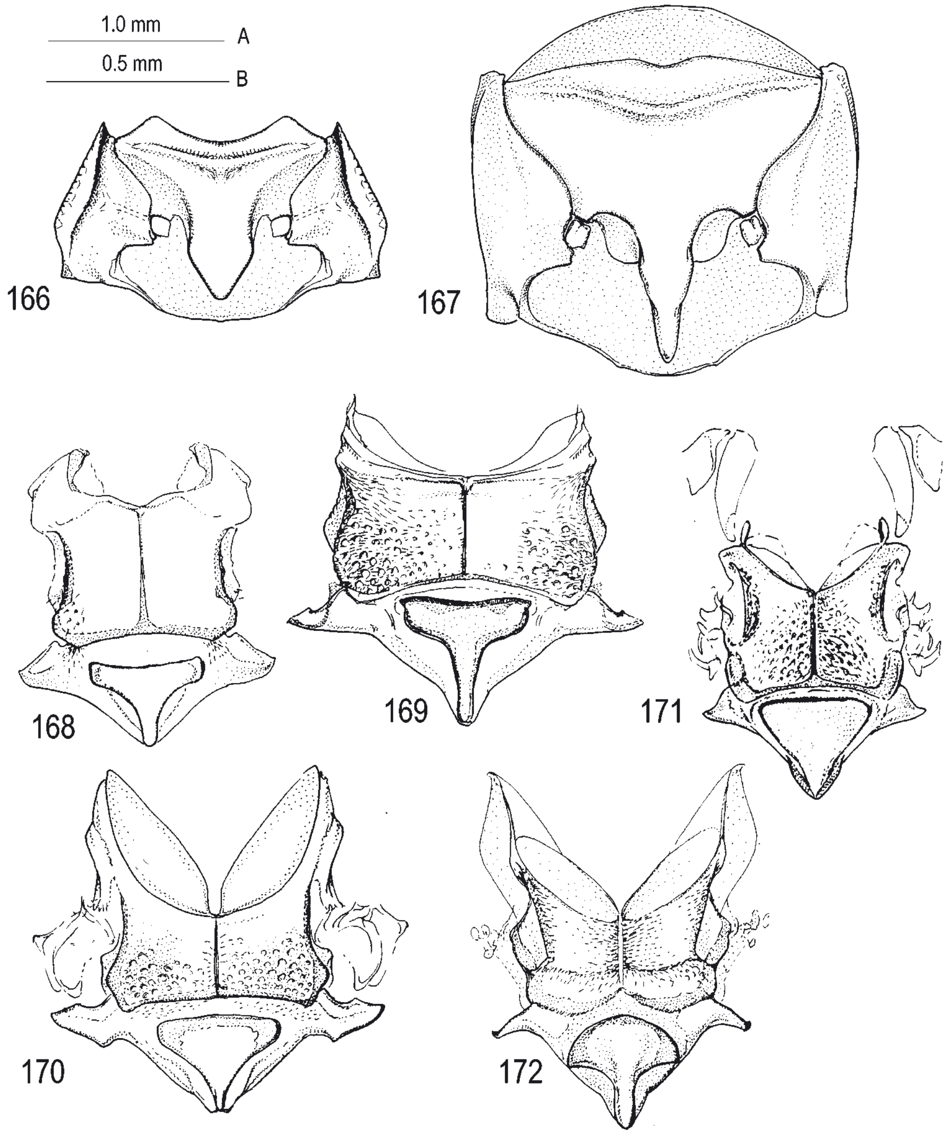
Figs 145–150. Labium. 145: *Meliboeus episcopalis*; 146: *M. fulgidicollis*; 147: *Clema deserti*; 148: *Geralius furciventris*; 149: *Cyphothorax gibber*; 150: *Dismorpha* cf. *diffusa*. Scales: A: 145, B: 146–149, C: 150.



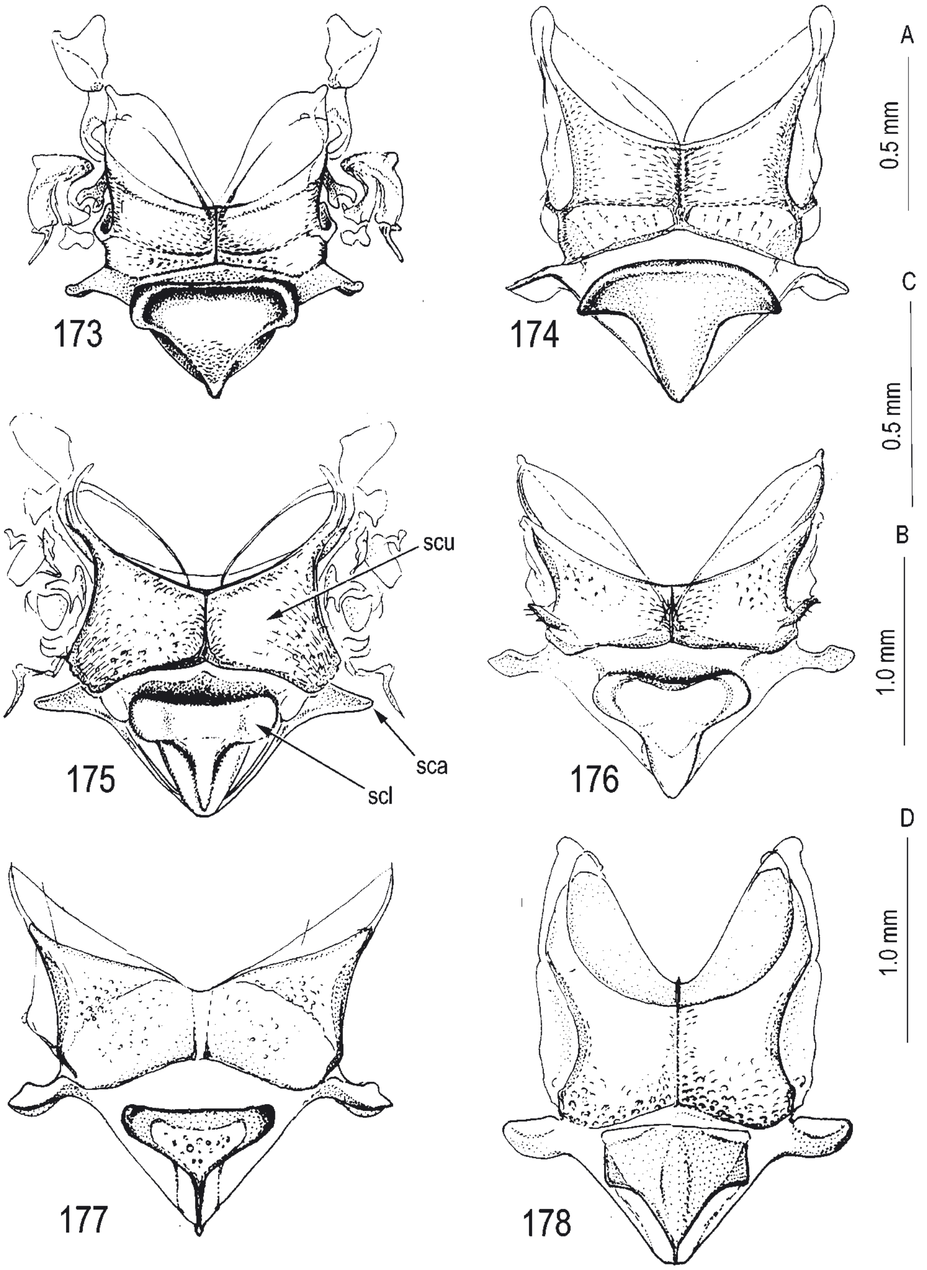
Figs 151–157. Labium (151), prothorax lateral (152–153), prothorax ventral (154–157). 151: *Agrilus biguttatus*; 152: *Coraebus rubi*; 153: *A. viridis*; 154: *Synechocera tasmanica*; 155: *Ethonion* cf. *reichei*; 156: *Cisseis* cf. *duodecimmaculata*; 157: *Polyonychus mucidus*. Scales: A: 151, B: 152–153, 155, 157, C: 154, D: 156.



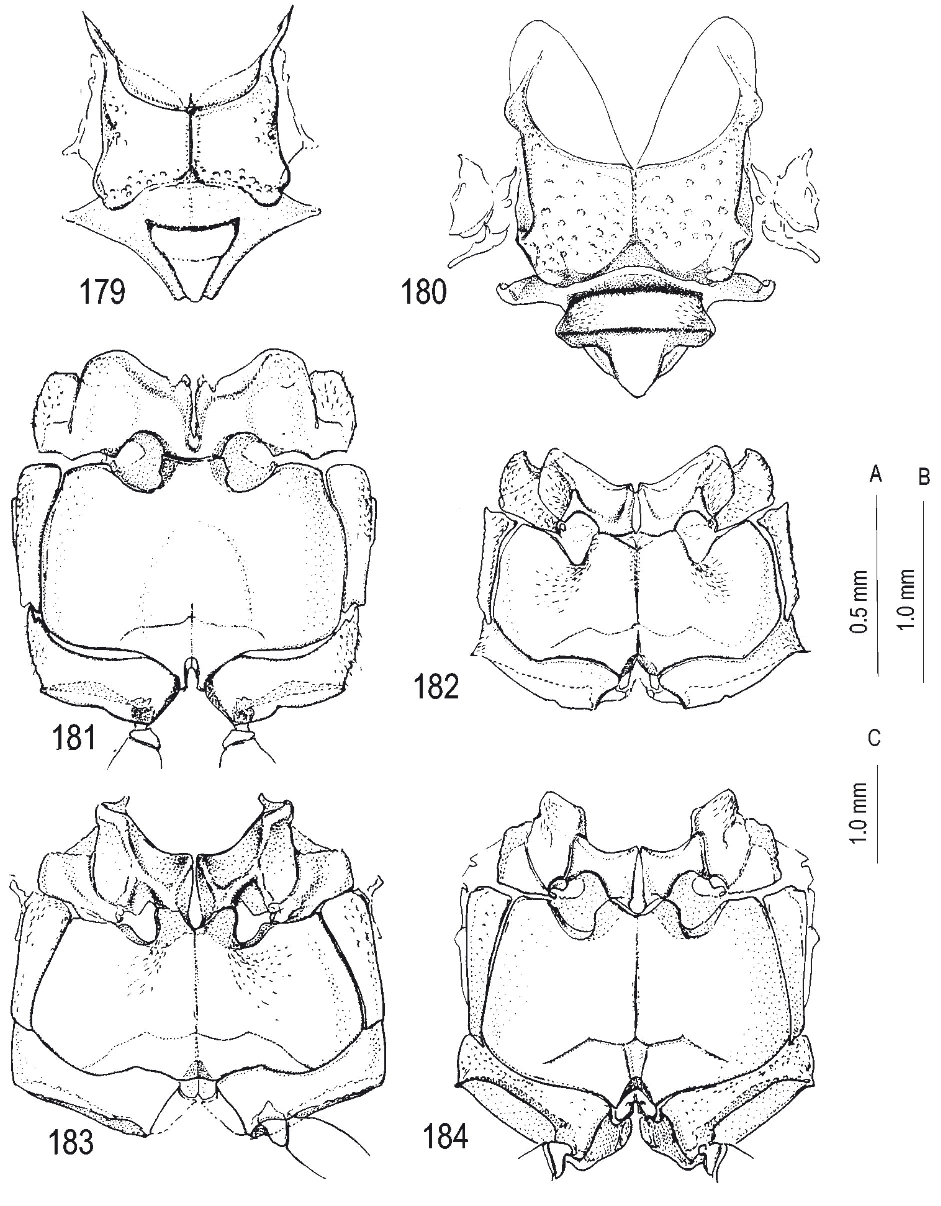
Figs 158–165. Prothorax ventral. 158: *Toxoscelus auriceps*; 159: *Metasambus* cf. *hoscheki*; 160: *Amorphosoma coomani*; 161: *Coraebus undatus*; 162: *Mundaria typica*; 163: *Meliboeus episcopalis*; 164: *M. fulgidicollis*; 165: *Clema deserti*. Scales: A: 158, 161–162, B: 159–160, 163, 165, C: 164.



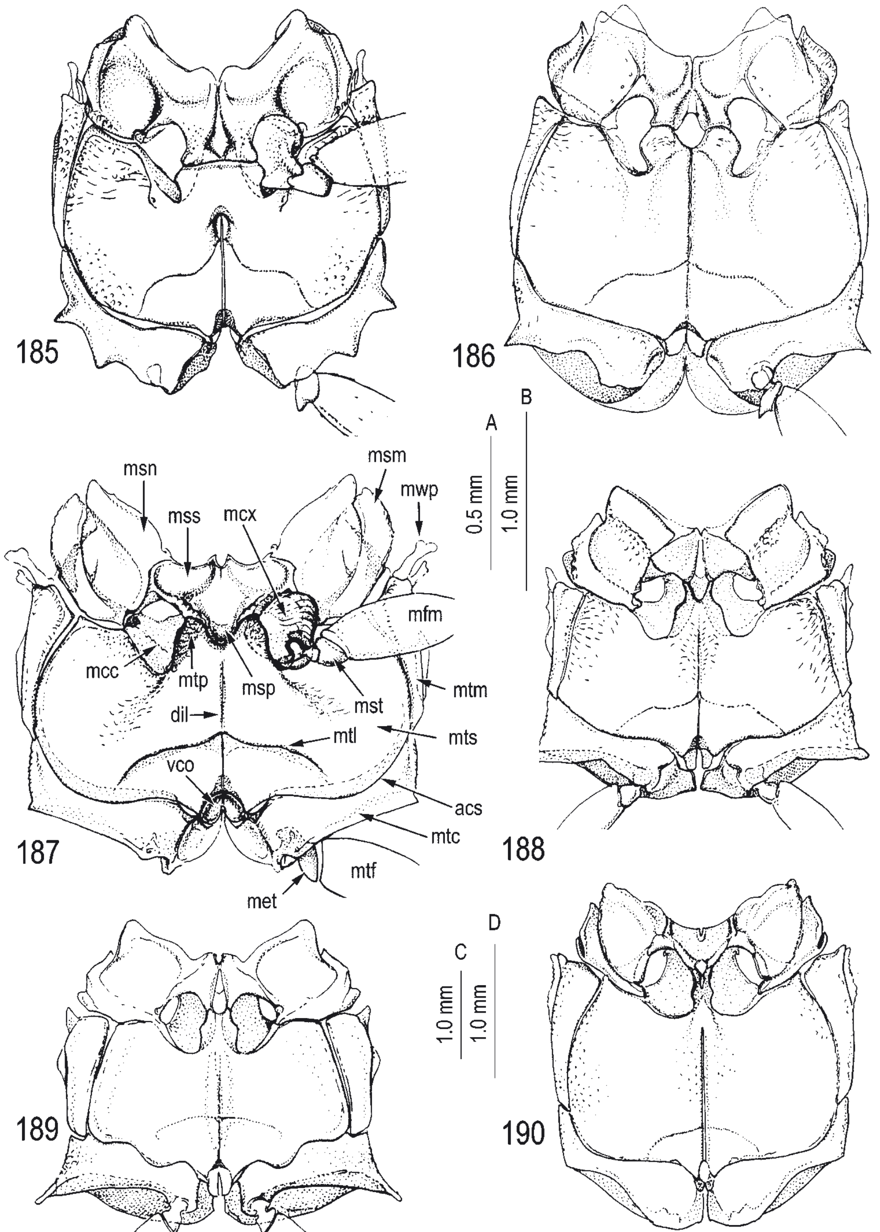
Figs 166–172. Prothorax ventral (166–167), mesoscutellum (168–172). 166: *Geralius furciventris*; 167: *Agrilus viridis*; 168: *Synechocera tasmanica*; 169: *Ethonion* cf. *reichei*; 170: *Cisseis* cf. *duodecimmaculata*; 171: *Toxoscelus auriceps*; 172: *Metasambus* cf. *hoscheki*. Scales: A: 166–167, 169–170, B: 168, 171–172.



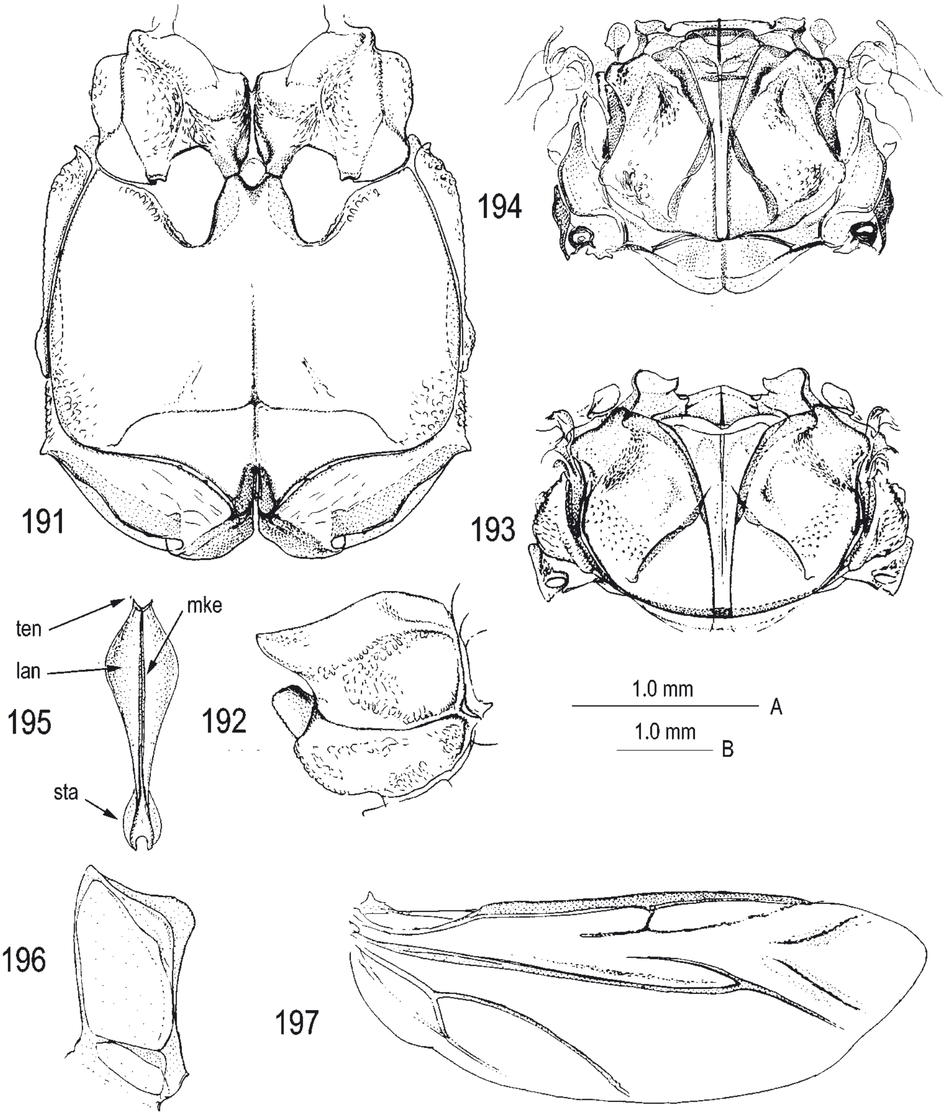
Figs 173–178. Mesoscutellum. 173: *Vanroonia coraeboides*; 174: *Amorphosoma coomani*; 175: *Coraebus undatus*; 176: *Brachycoraebus viridis*; 177: *B. helferi*; 178: *Meliboeus episcopalis*. Scales: A: 173–174, 178, B: 175, C: 176, D: 177.



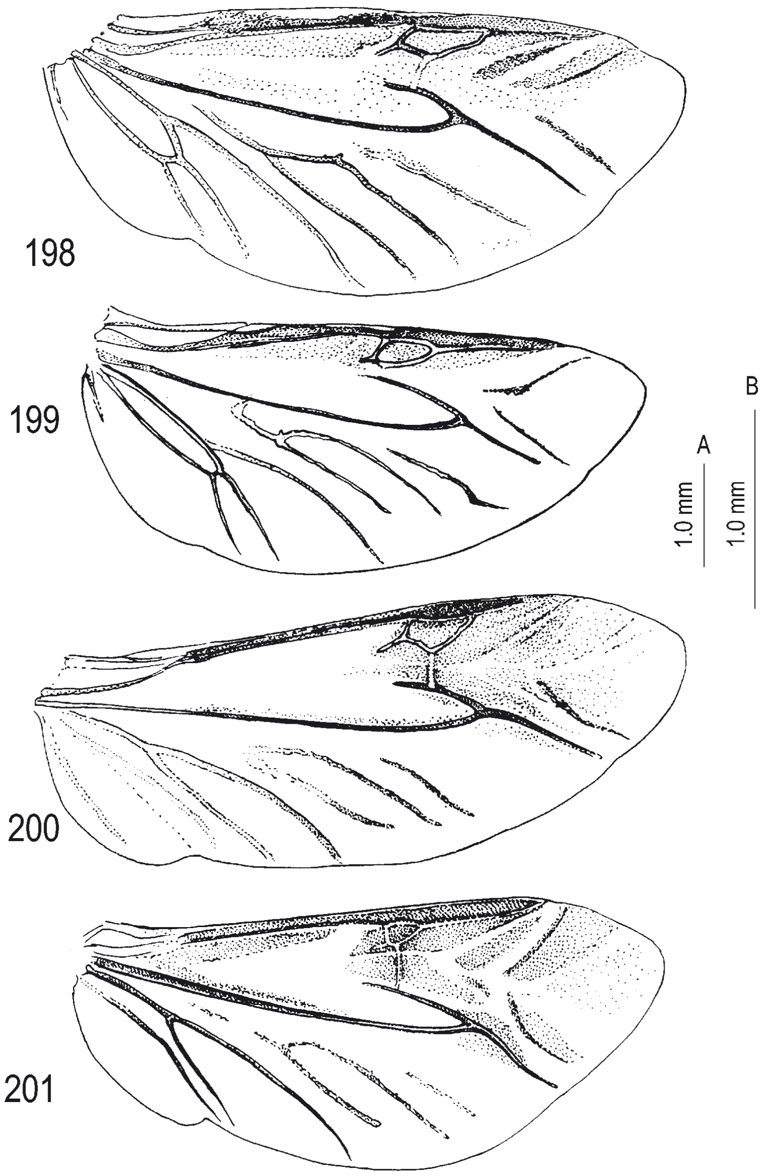
Figs 179–184. Mesoscutellum (179–180), meso– and metasternum (181–184). 179: *Clema deserti*; 180: *Agrilus viridis*; 181: *Synechocera tasmanica*; 182: *Ethonion* cf. *reichei*; 183: *Cisseis* cf. *duodecimmaculata*; 184: *Toxoscelus auriceps*. Scales: A: 179–180, B: 181–182, 184, C: 183.



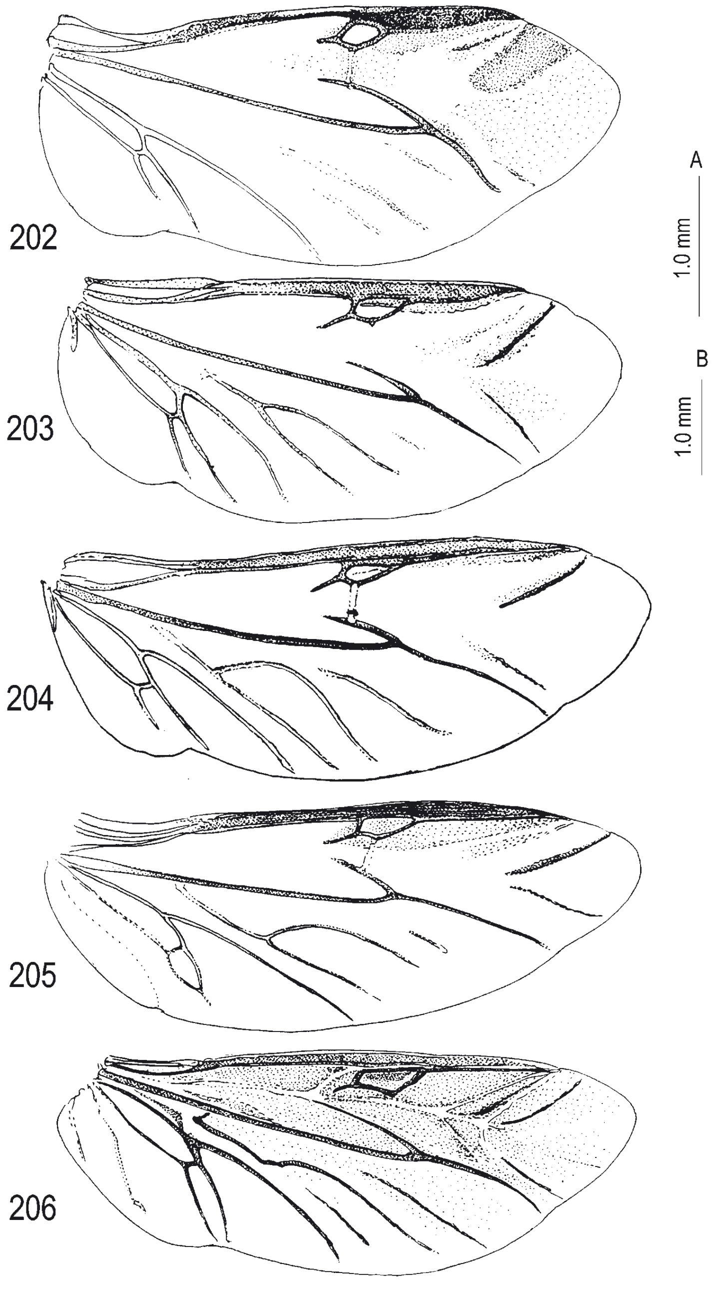
Figs 185–190. Meso- and metasternum. 185: *Metasambus* cf. *hoscheki*; 186: *Coroebina* cf. *fulgidiceps*; 187: *Coraebus undatus*; 188: *Meliboeus episcopalis*; 189: *M. fulgidicollis*; 190: *Clema deserti*. Scales: A: 185, B: 186, 189–190, C: 187, D: 188.



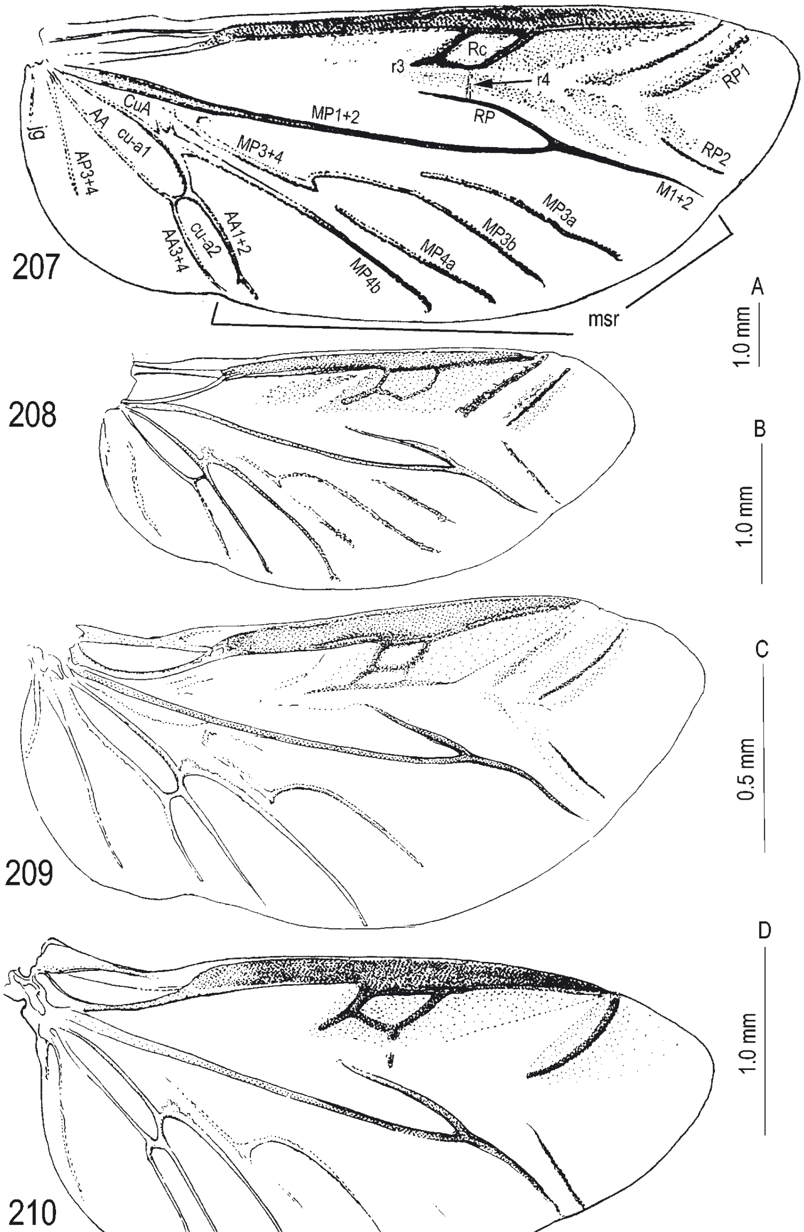
Figs 191–197. Meso- and metasternum (191), mesosternum and mesepisternum (192), metanotum (193–194), metendosternite dorsal (195) and lateral (196), metathoracic wing (197). 191, 194: *Agrilus viridis*; 192: *Mundaria typica*; 193, 195–196: *Coraebus undatus*; 197: *Synechocera tasmanica*. Scales: A: 191, 195–196, B: 192–194, 197.



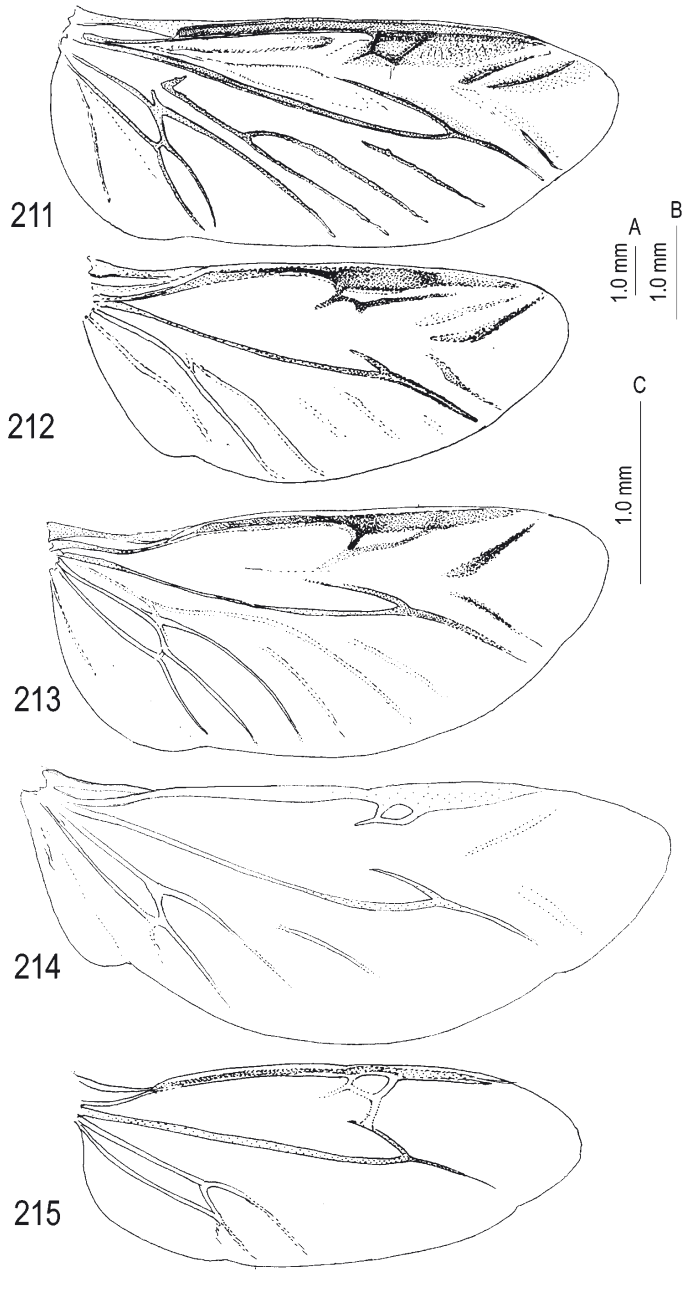
Figs 198–201. Metathoracic wing. 198: *Ethonion* cf. *reichei*; 199: *Cisseis* cf. *duodecimmaculata*; 200: *Polyonychus mucidus*; 201: *Cryptodactylus kerremansi*. Scales: A: 198–199, 201, B: 200.



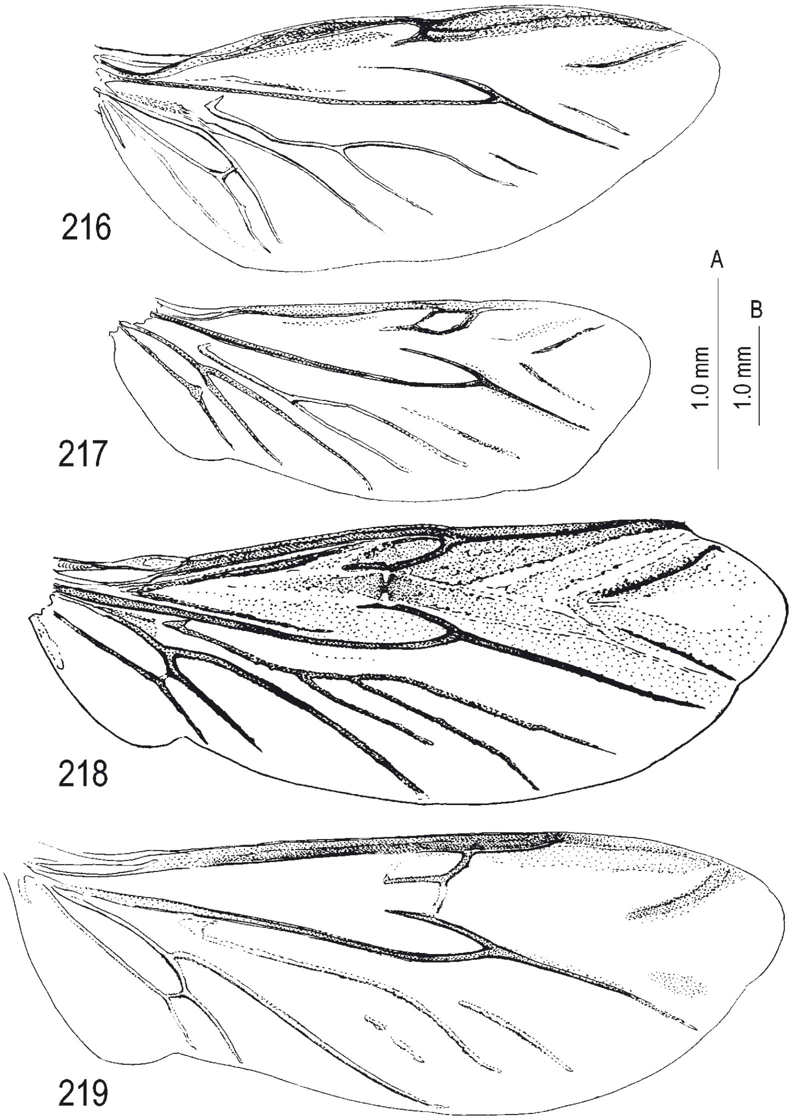
Figs 202–206. Metathoracic wing. 202: *Toxoscelus auriceps*; 203: *Metasambus* cf. *hoscheki*; 204: *Coroebina* cf. *fulgidiceps*; 205: *Amorphosoma coomani*; 206: *Coraebus collaris*. Scales: A: 202–203, B: 204–206.



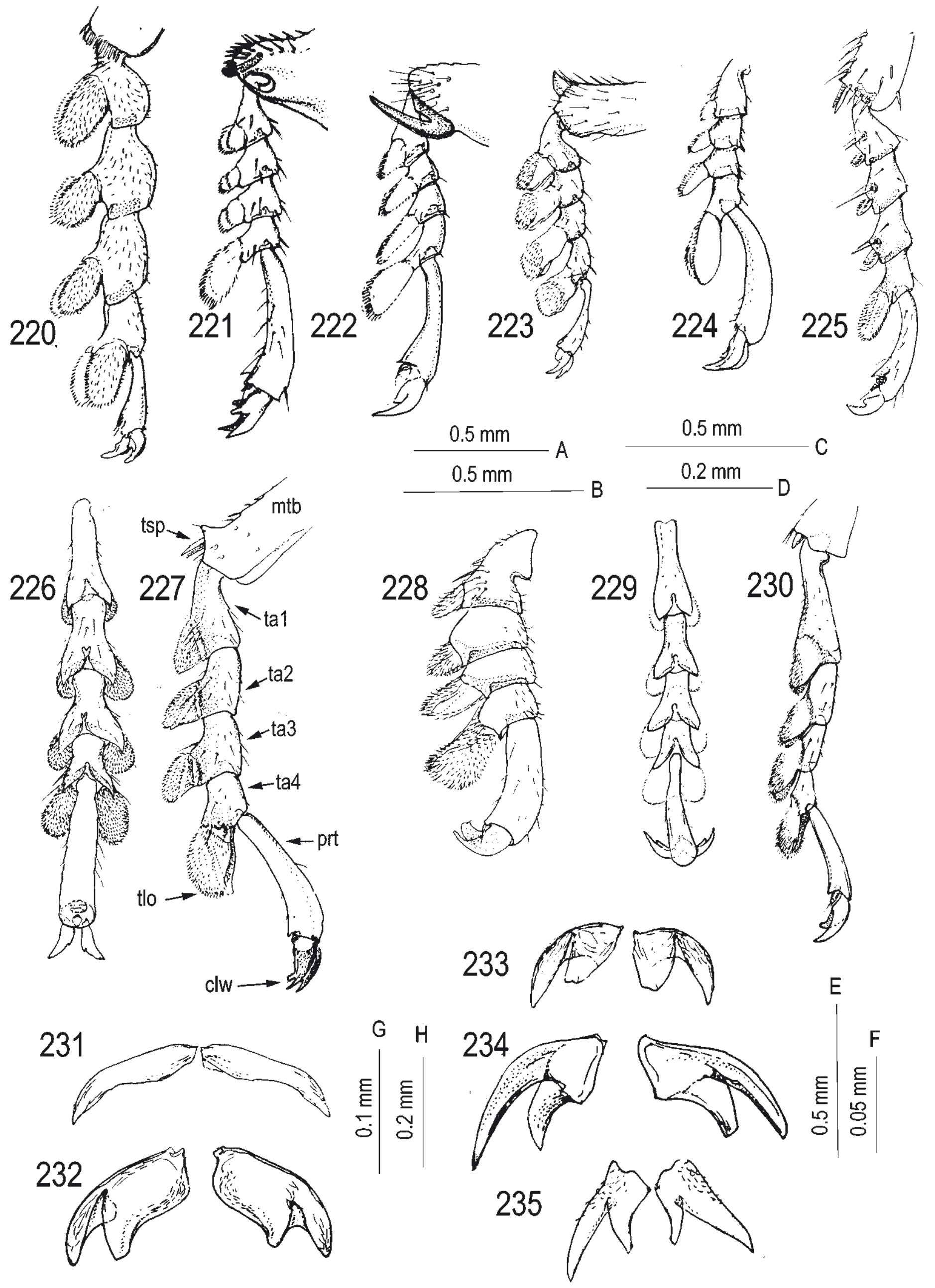
Figs 207–210. Metathoracic wing. 207: *Coraebus undatus*; 208: *C. blandus*; 209: *Brachycoraebus viridis*; 210: *B. helferi*. Scales: A: 207, B: 208, C: 209, D: 210.



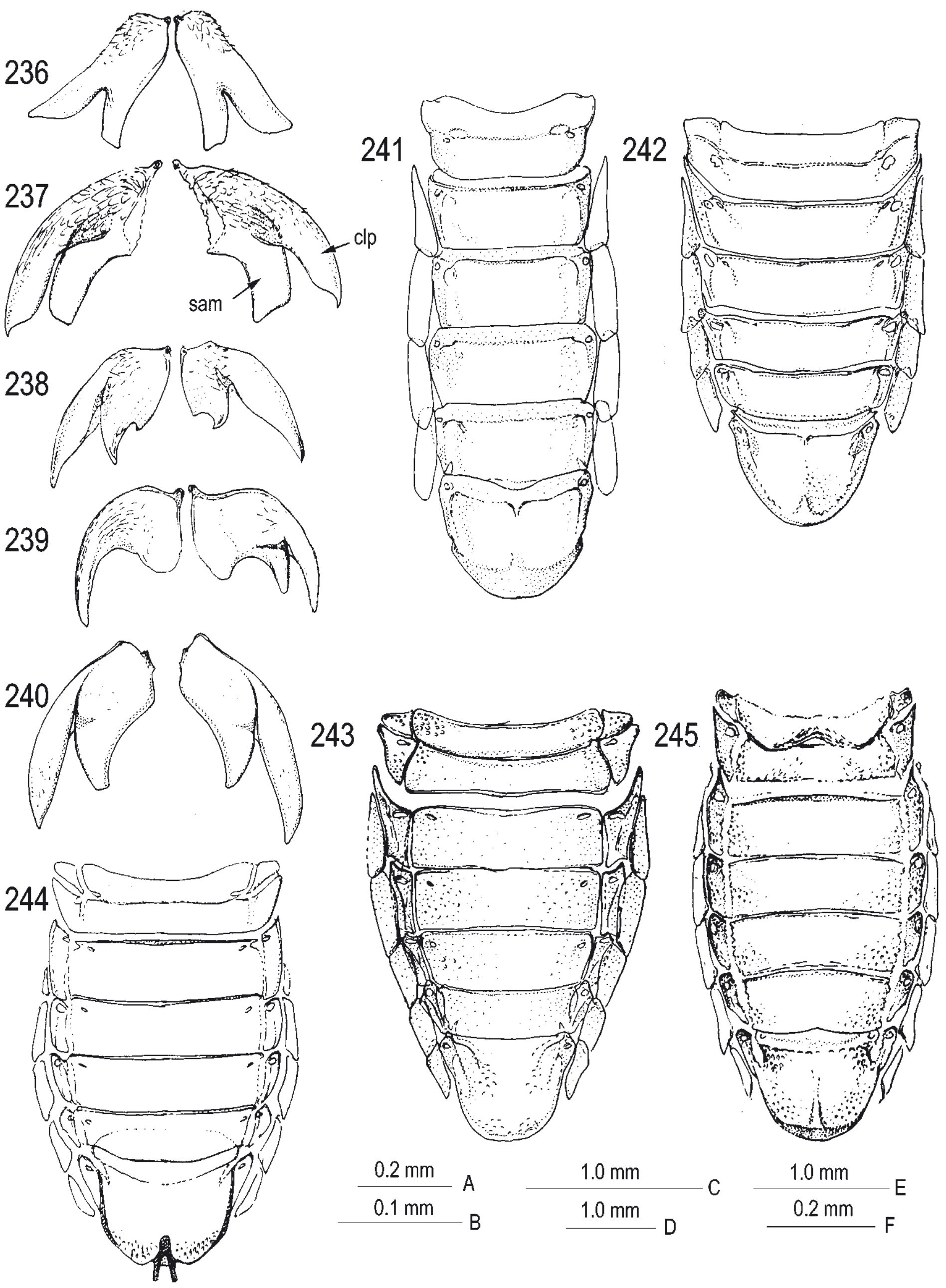
Figs 211–215. Metathoracic wing. 211: *Mundaria typica*; 212: *Meliboeus episcopalis*; 213: *M. fulgidicollis*; 214: *Pseudoclema transvaalensis*; 215: *Clema deserti*. Scales: A: 211, B: 212, C: 213–215.



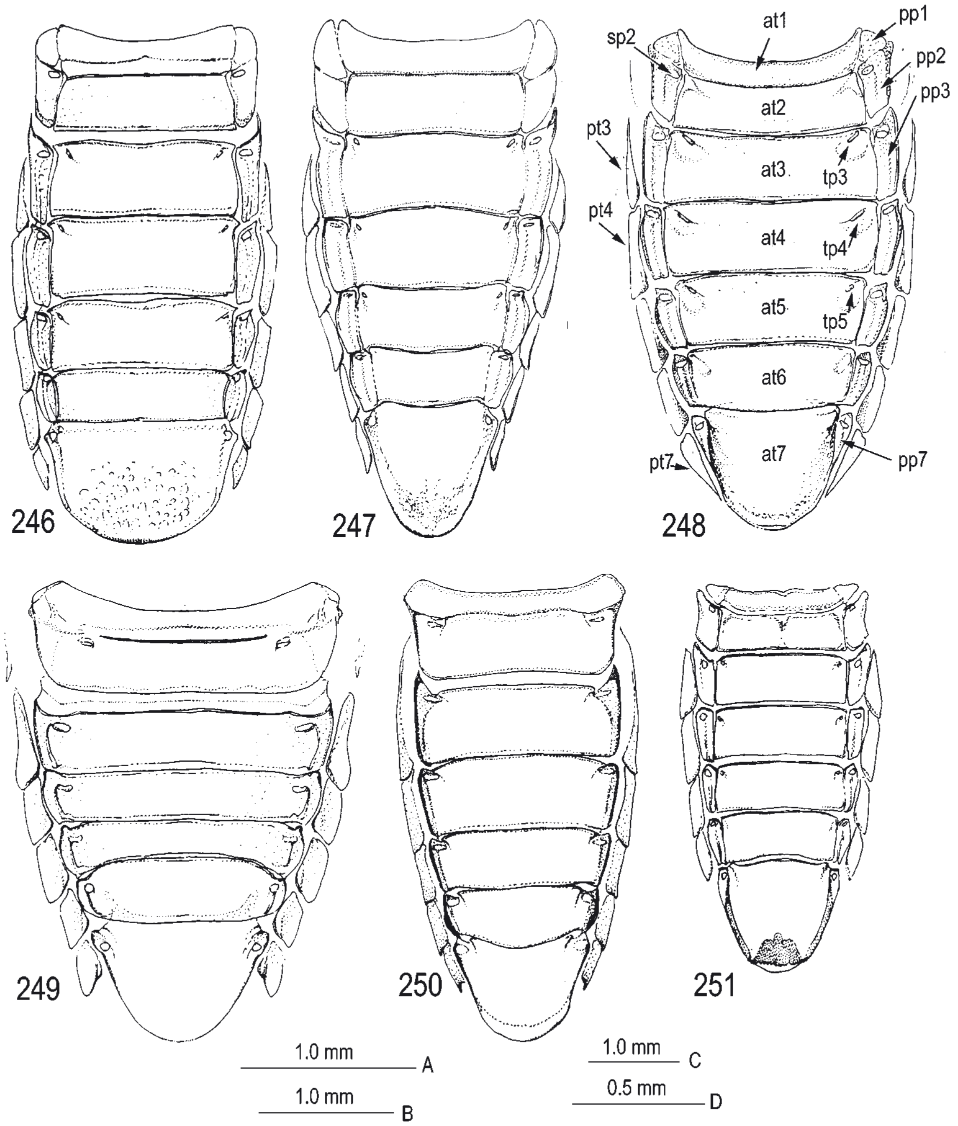
Figs 216–219. Metathoracic wing. 216: *Geralius furciventris*; 217: *Cyphothorax gibber*; 218: *Dismorpha* cf. *diffusa*; 219: *Agrilus biguttatus*. Scales: A: 216–217, 219, B: 218.



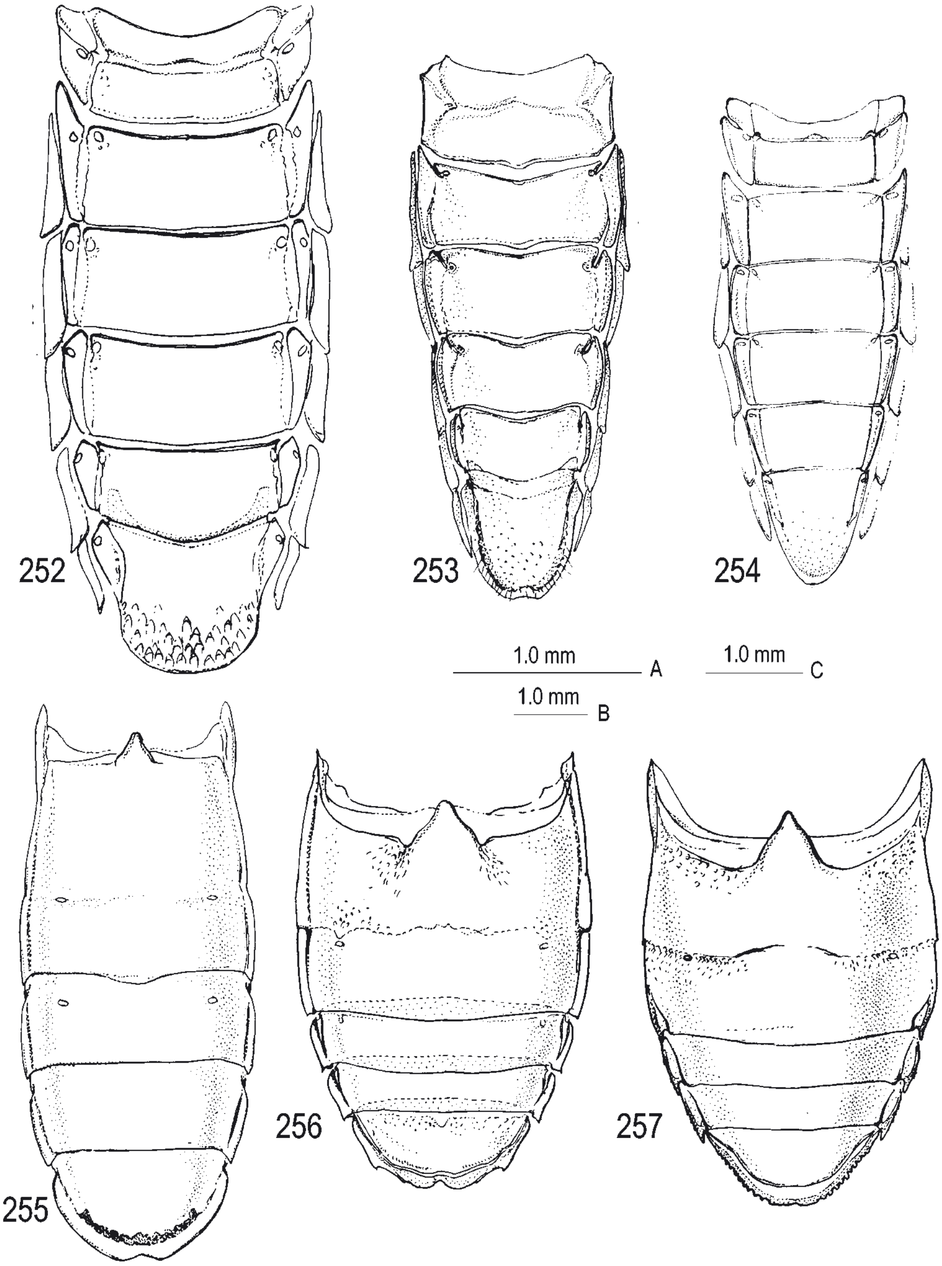
Figs 220–235. Mesotarsi lateral (220–225, 227–228, 230) and dorsal (226, 229), mesotarsal claws (231–235). 220, 232: *Cisseis* cf. *duodecimmaculata*; 221: *Polyonychus mucidus*; 222: *Cryptodactylus kerremansi*; 223, 233: *Toxoscelus auriceps*; 224, 234: *Metasambus* cf. *hoscheki*; 225: *Coraebus rubi*; 226–227: *C. undatus*; 228: *Brachycoraebus viridis*; 229–230: *Agrilus biguttatus*; 231: *Synechocera tasmanica*; 235: *Vanroonia coraeboides*. Scales: A: 220, B: 221, 225–229, C: 222–223, D: 224, E: 230, F: 231, G: 232, H: 233–235.



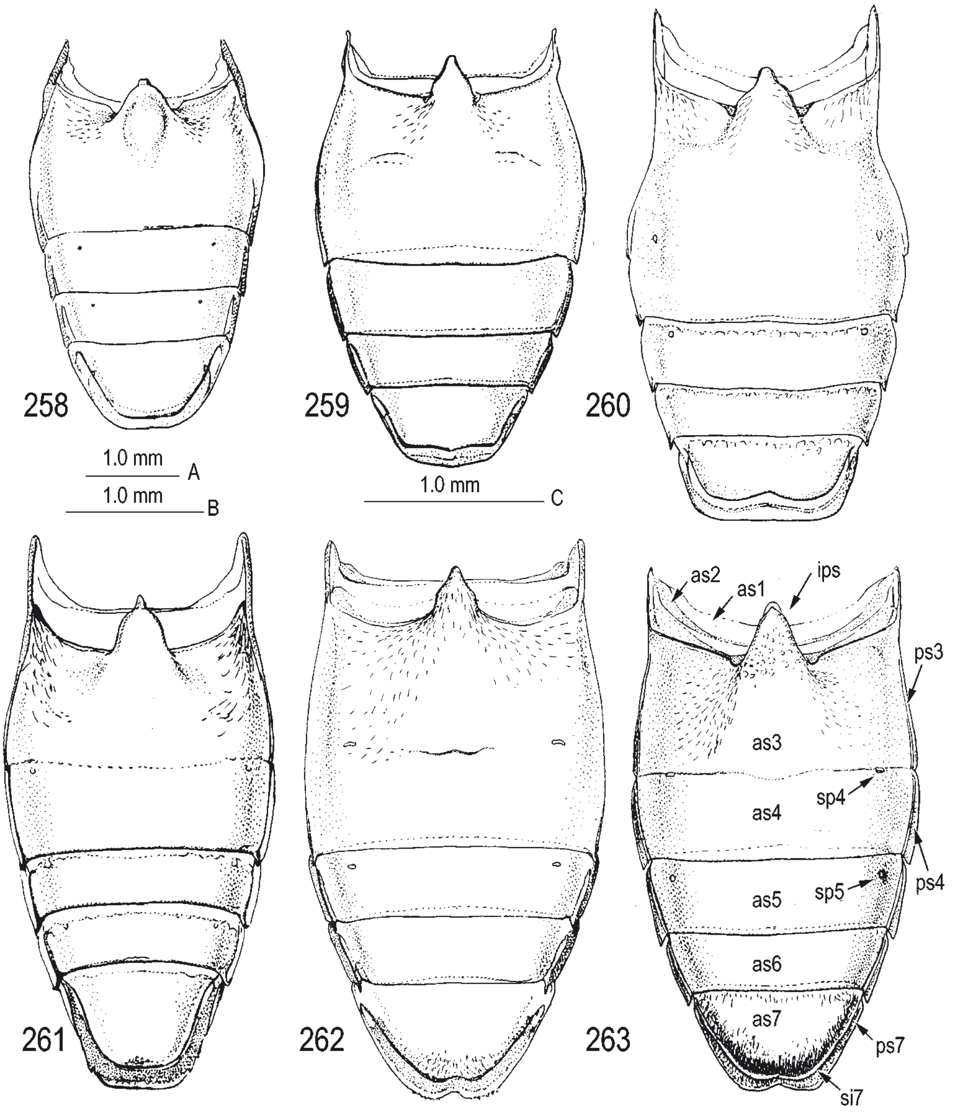
Figs 236–245. Mesotarsal claws (236–240), abdominal tergites (241–245). 236: *Coraebus rubi*; 237: *C. undatus*; 238: *C. jendeki*; 239: *Mundaria typica*; 240: *Agrilus biguttatus*; 241: *Synechocera tasmanica*; 242: *Ethonion* cf. *reichei*; 243: *Cisseis* cf. *duodecimmaculata*; 244: *Polyonychus mucidus*; 245: *Toxoscelus auriceps*. Scales: A: 236, 240, B: 237, C: 239, 242–243, D: 241, 244, E: 245, F: 238.



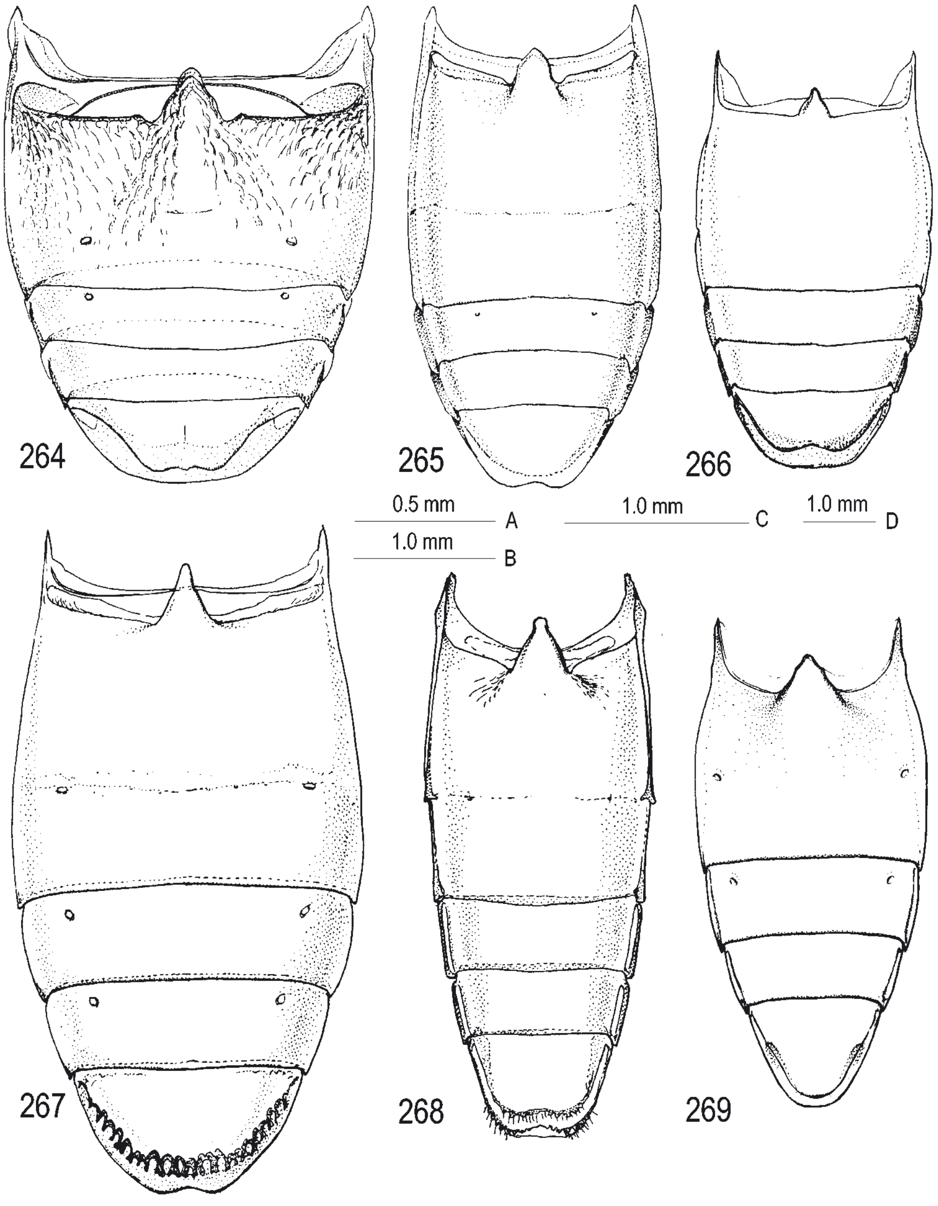
Figs 246–251. Abdominal tergites. 246: *Metasambus* cf. *hoscheki*; 247: *Amorphosoma coomani*; 248: *Coraebus undatus*; 249: *Brachycoraebus viridis*; 250: *Mundaria typica*; 251: *Meliboeus episcopalis*. Scales: A: 246, 251, B: 247, 250, C: 248, D: 249.



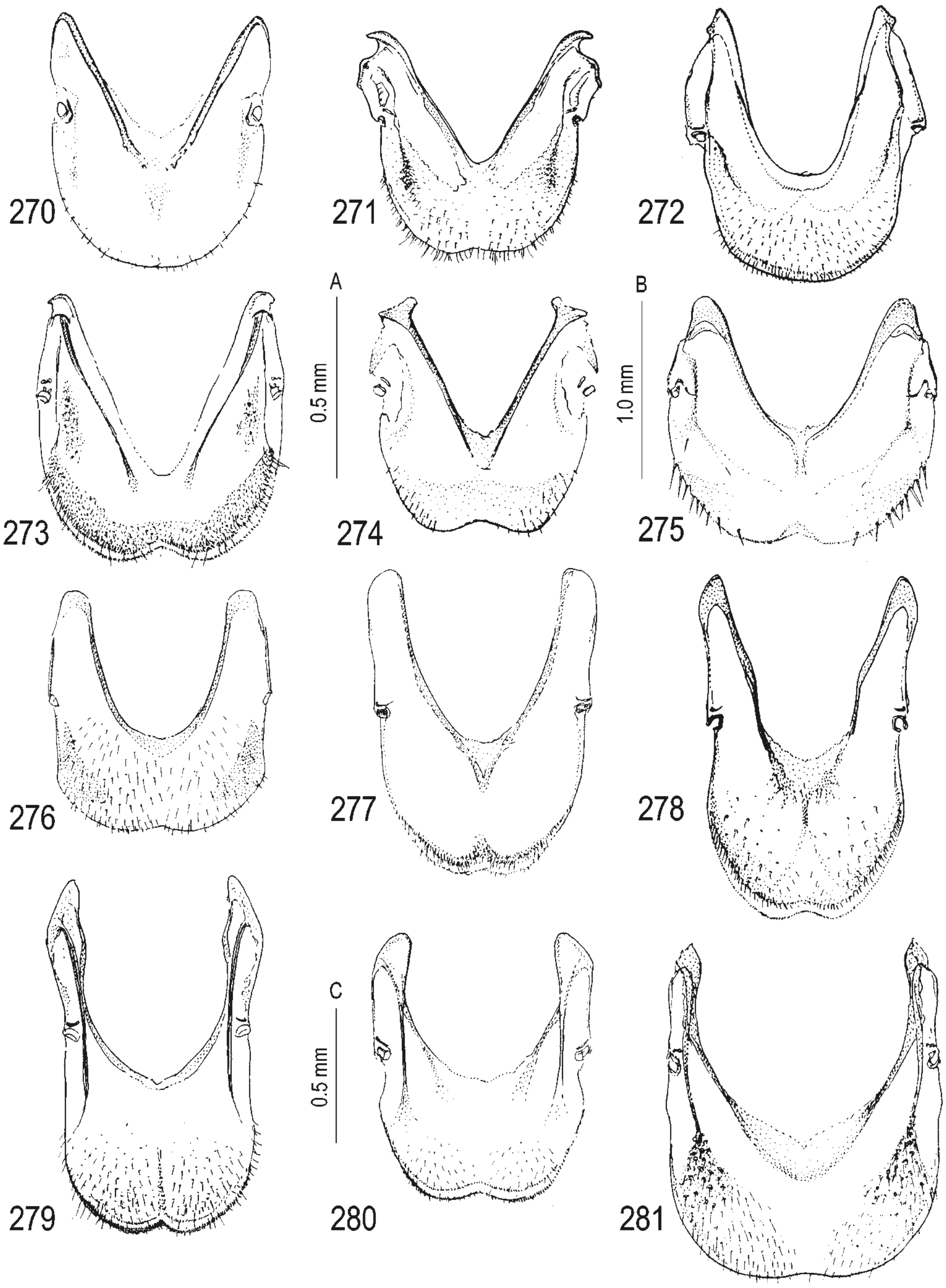
Figs 252–257. Abdominal tergites (252–254), abdominal sternites (255–257). 252: *Clema deserti*; 253: *Dismorpha* cf. *diffusa*; 254: *Agrilus biguttatus*; 255: *Synechocera tasmanica*; 256: *Ethonion* cf. *reichei*; 257: *Cisseis* cf. *duodecimmaculata*. Scales: A: 252, 254, 256, B: 253, C: 255, 257.



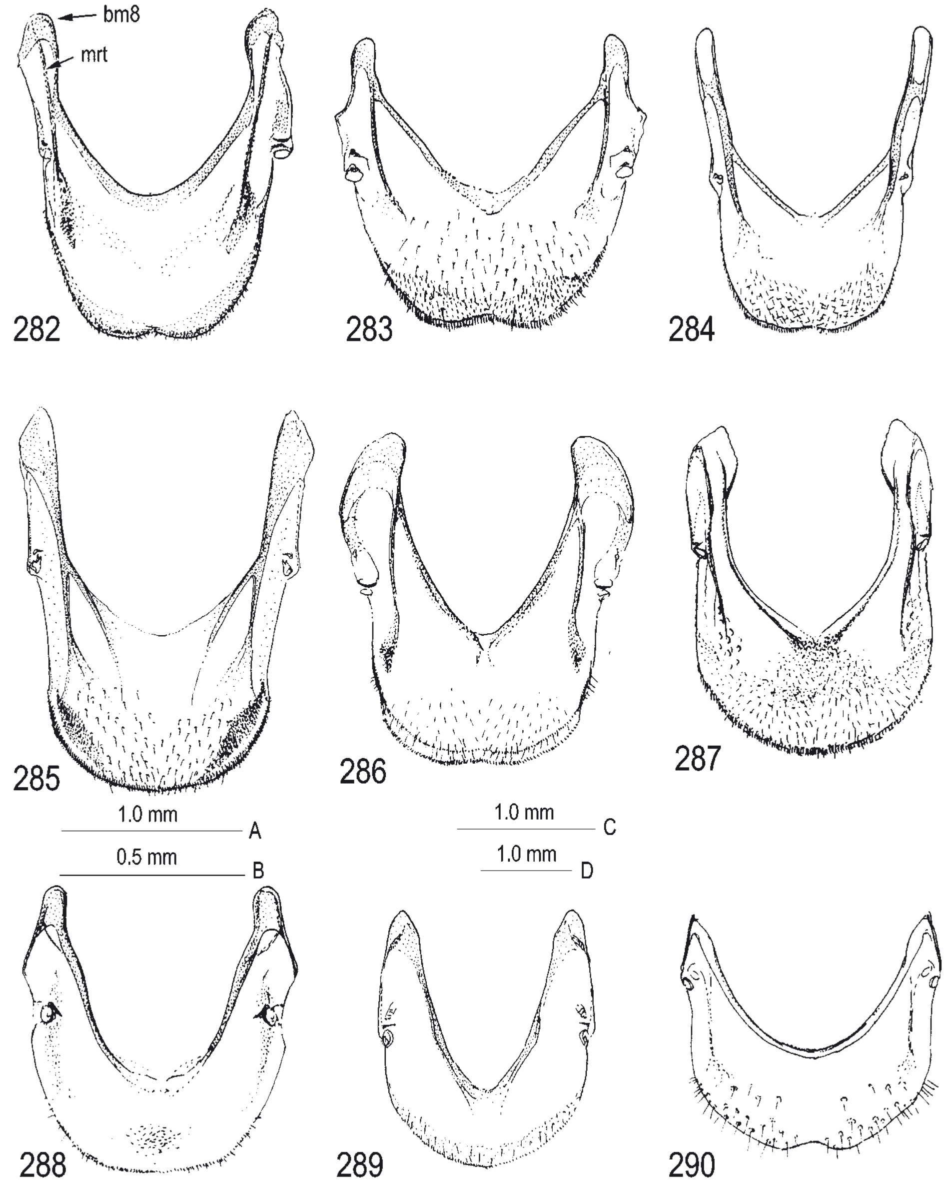
Figs 258–263. Abdominal sternites. 258: *Polyonychus mucidus*; 259: *Toxoscelus auriceps*; 260: *Metasambus* cf. *hoscheki*; 261: *Amorphosoma coomani*; 262: *Coraebus rubi*; 263: *C. undatus*. Scales: A: 258, 263, B: 259, 261, C: 260, 262.



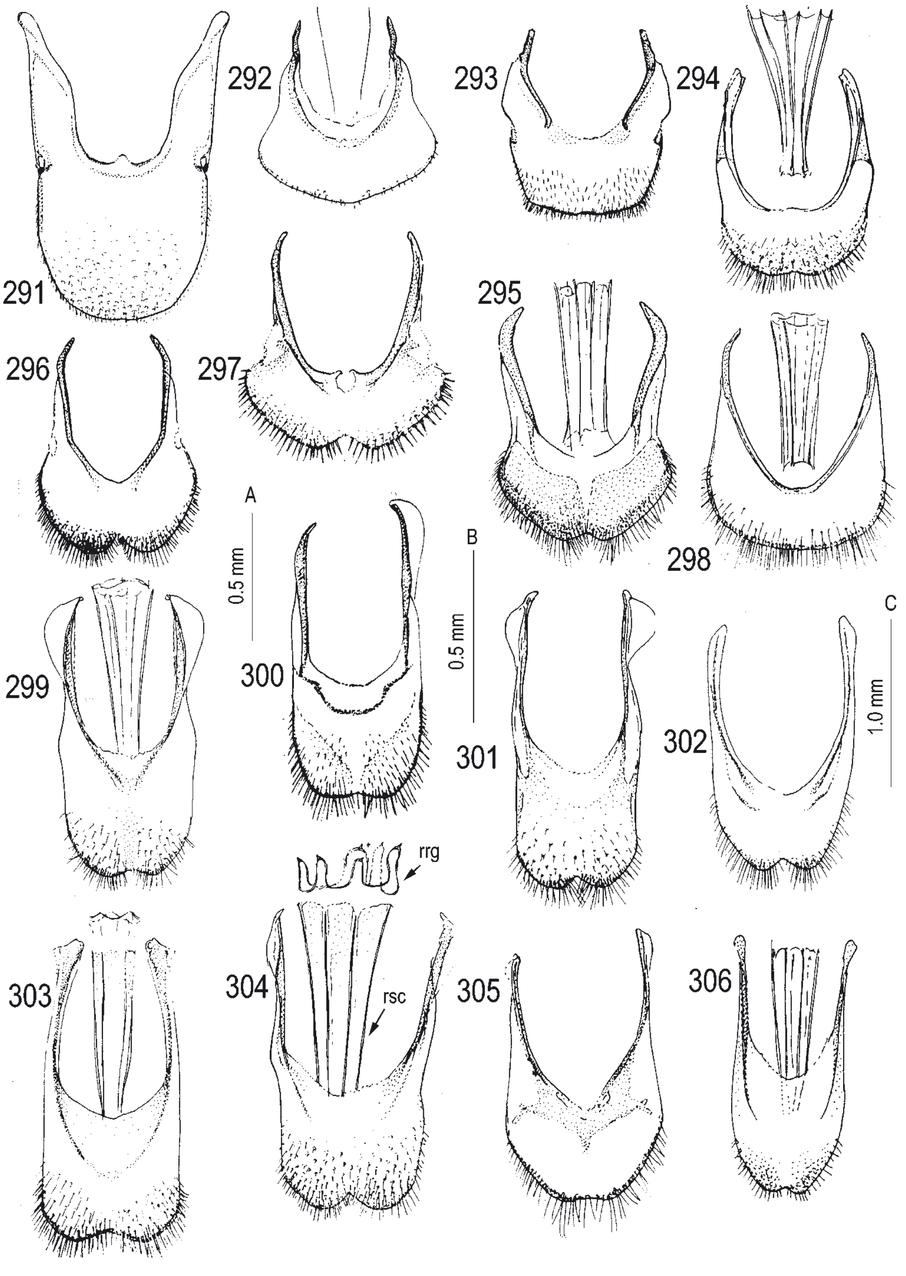
Figs 264–269. Abdominal sternites. 264: *Brachycoraebus viridis*; 265: *Mundaria typica*; 266: *Meliboeus episcopalis*; 267: *Clema deserti*; 268: *Dismorpha* cf. *diffusa*; 269: *Agrilus biguttatus*. Scales: A: 264, B: 265, C: 266–267, 269, D: 268.



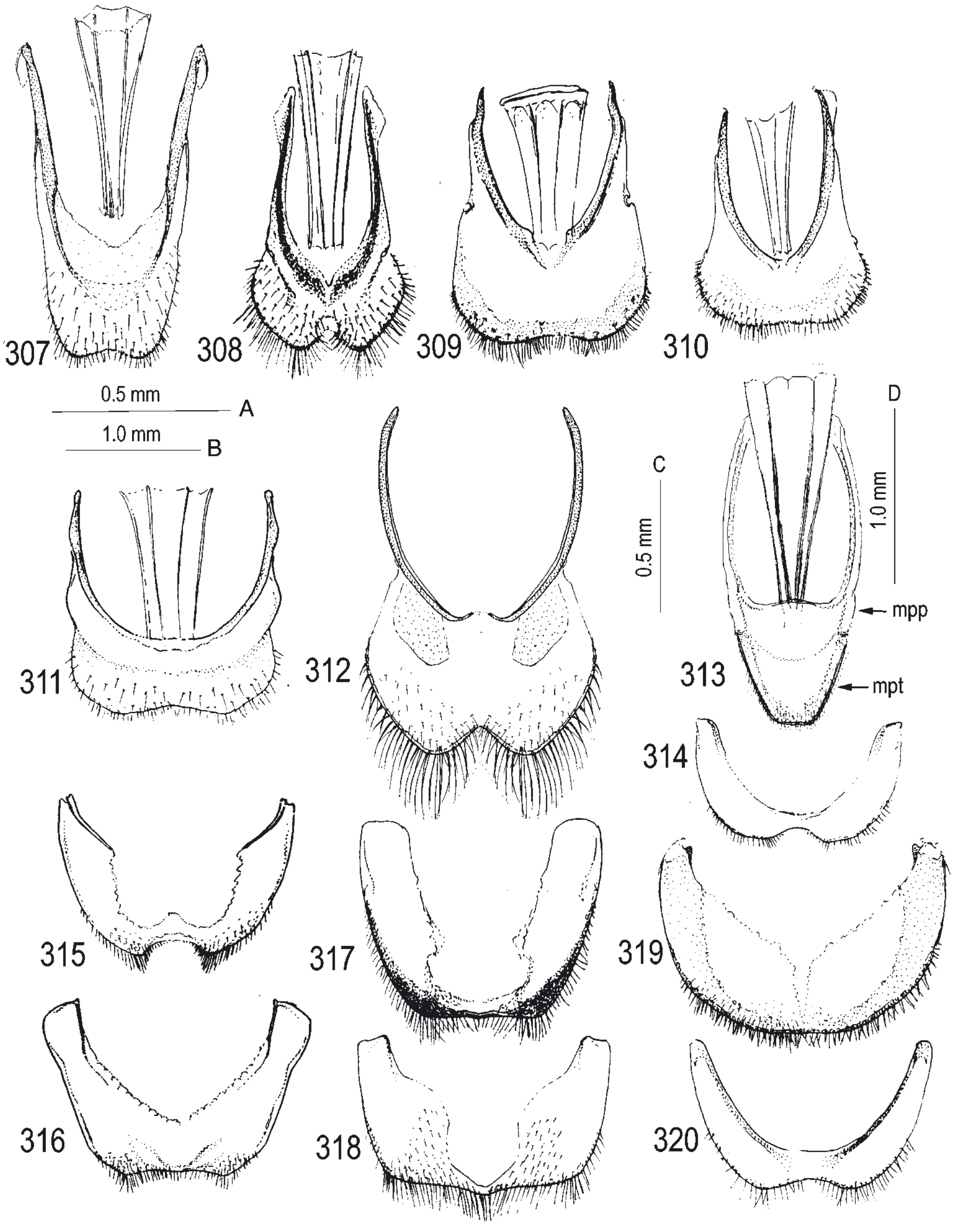
Figs 270–281. Male tergite 8. 270: *Synechocera tasmanica*; 271: *Ethonion* cf. *reichei*; 272: *Cisseis* cf. *duodecimmaculata*; 273: *Polyonychus mucidus*; 274: *Cryptodactylus kerremansi*; 275: *Toxoscelus auriceps*; 276: *Metasambus* cf. *hoscheki*; 277: *Coroebina* cf. *fulgidiceps*; 278: *Amorphosoma coomani*; 279: *Coraebus collaris*; 280: *Cisseicoraebus retrolatus*; 281: *Coraebus rubi*. Scales: A: 270, 275, B: 271–274, 277–280, C: 276, 281.



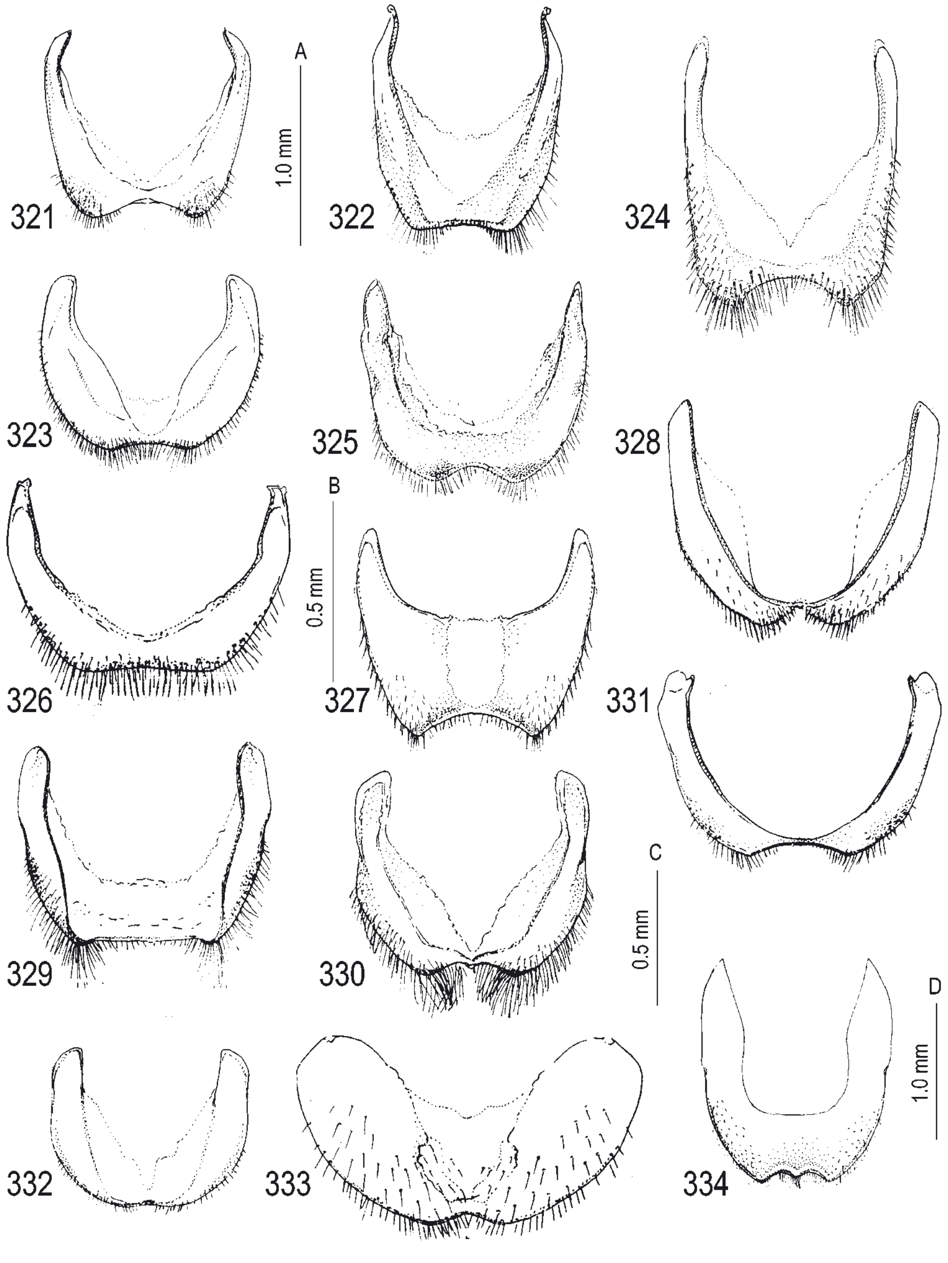
Figs 282–290. Male tergite 8. 282: *Coraebus undatus*; 283: *C. blandus*; 284: *Brachycoraebus viridis*; 285: *B. helferi*; 286: *C. jendeki*; 287: *Mundaria typica*; 288: *Meliboeus episcopalis*; 289: *M. fulgidicollis*; 290: *Clema deserti*. Scales: A: 282, 286, 288, B: 283–285, C: 287, D: 290.



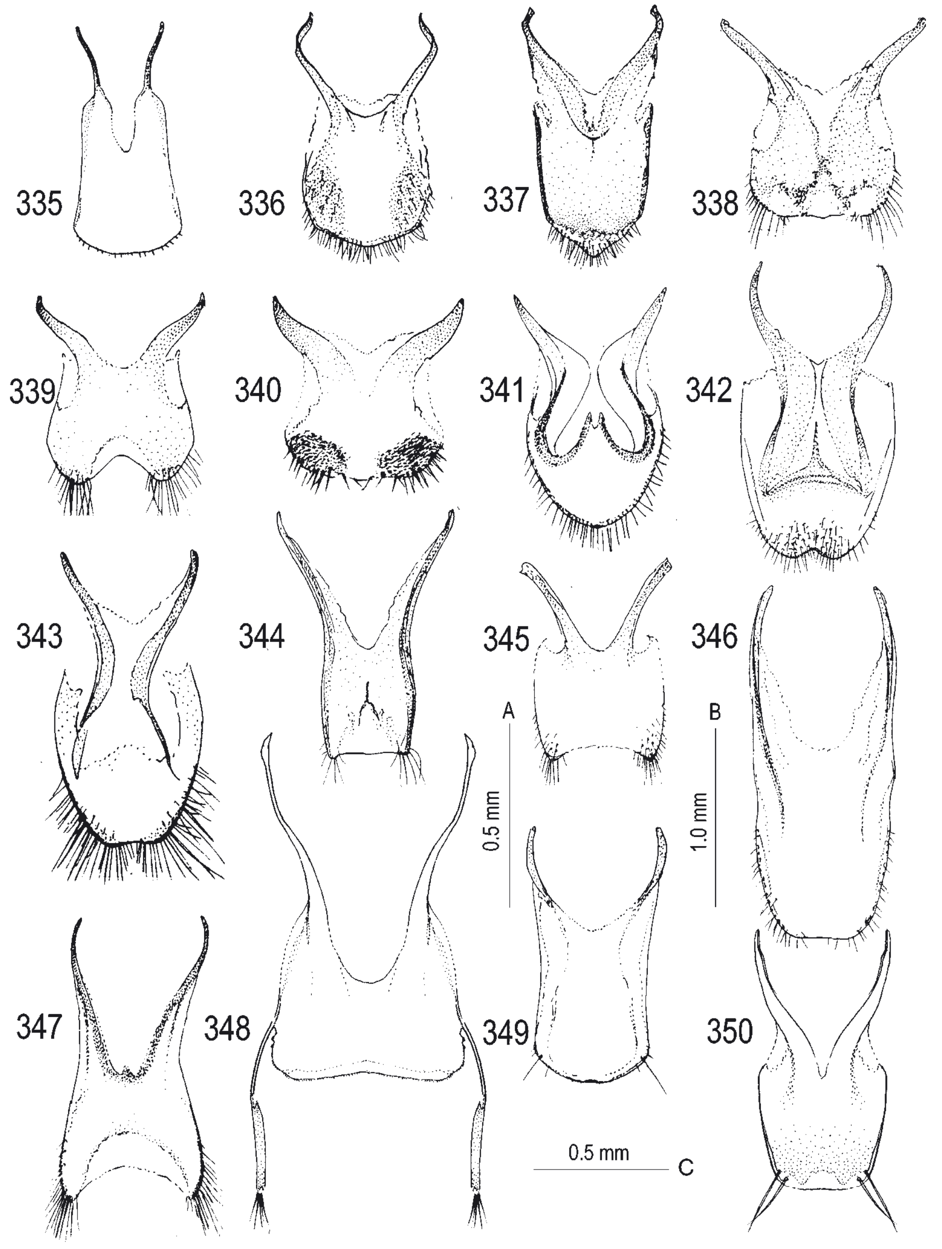
Figs 291–306. Male tergite 8 (291), male tergite 9 (292–306). 291: *Agrilus biguttatus*; 292: *Synechocera tasmanica*; 293: *Ethonion* cf. *reichei*; 294: *Cisseis* cf. *duodecimmaculata*; 295: *Polyonychus mucidus*; 296: *Cryptodactylus kerremansi*; 297: *Toxoscelus auriceps*; 298: *Metasambus* cf. *hoscheki*; 299: *Coroebina* cf. *fulgidiceps*; 300: *Amorphosoma coomani*; 301: *Coraebus collaris*; 302: *Cisseicoraebus retrolatus*; 303: *Coraebus rubi*; 304: *C. undatus*; 305: *C. blandus*; 306: *Brachycoraebus viridis*. Scales: A: 291, 298, 303, B: 292, 297, 305–306, C: 293–296, 229–302, 304.



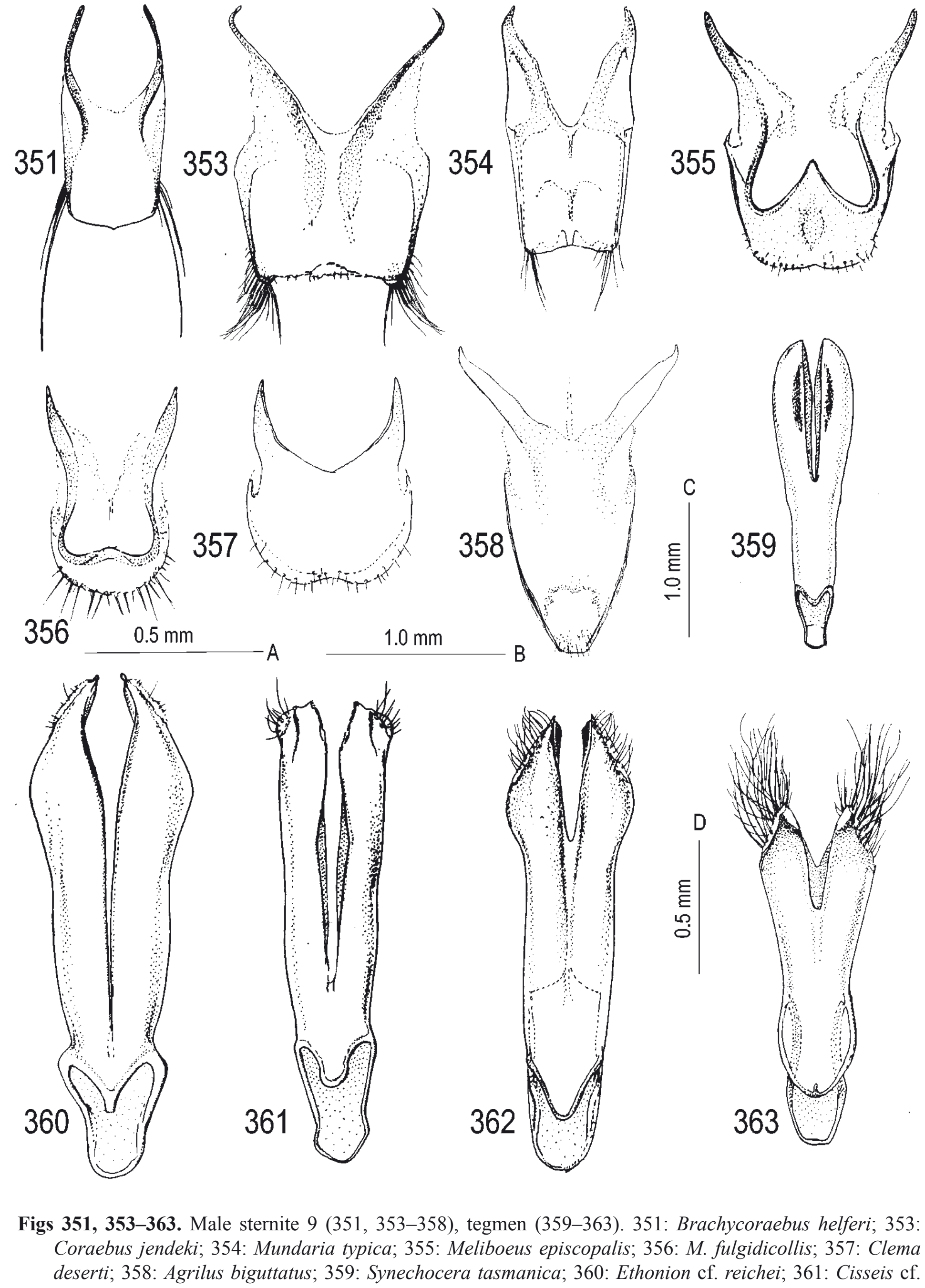
Figs 307–320. Male tergite 9 (307–313), male sternite 8 (314–320). 307: *Brachycoraebus helferi*; 308: *Mundaria typica*; 309: *Meliboeus episcopalis*; 310: *M. fulgidicollis*; 311: *Clema deserti*; 312: *Geralius furciventris*; 313: *Agrilus biguttatus*; 314: *Synechocera tasmanica*; 315: *Ethonion* cf. *reichei*; 316: *Cisseis* cf. *duodecimmaculata*; 317: *Polyonychus mucidus*; 318: *Cryptodactylus kerremansi*; 319: *Toxoscelus auriceps*; 320: *Metasambus* cf. *hoscheki* Scales: A: 307, 309, 318–319, B: 308, 315–317 C: 310, 314, D: 311–313, 320.



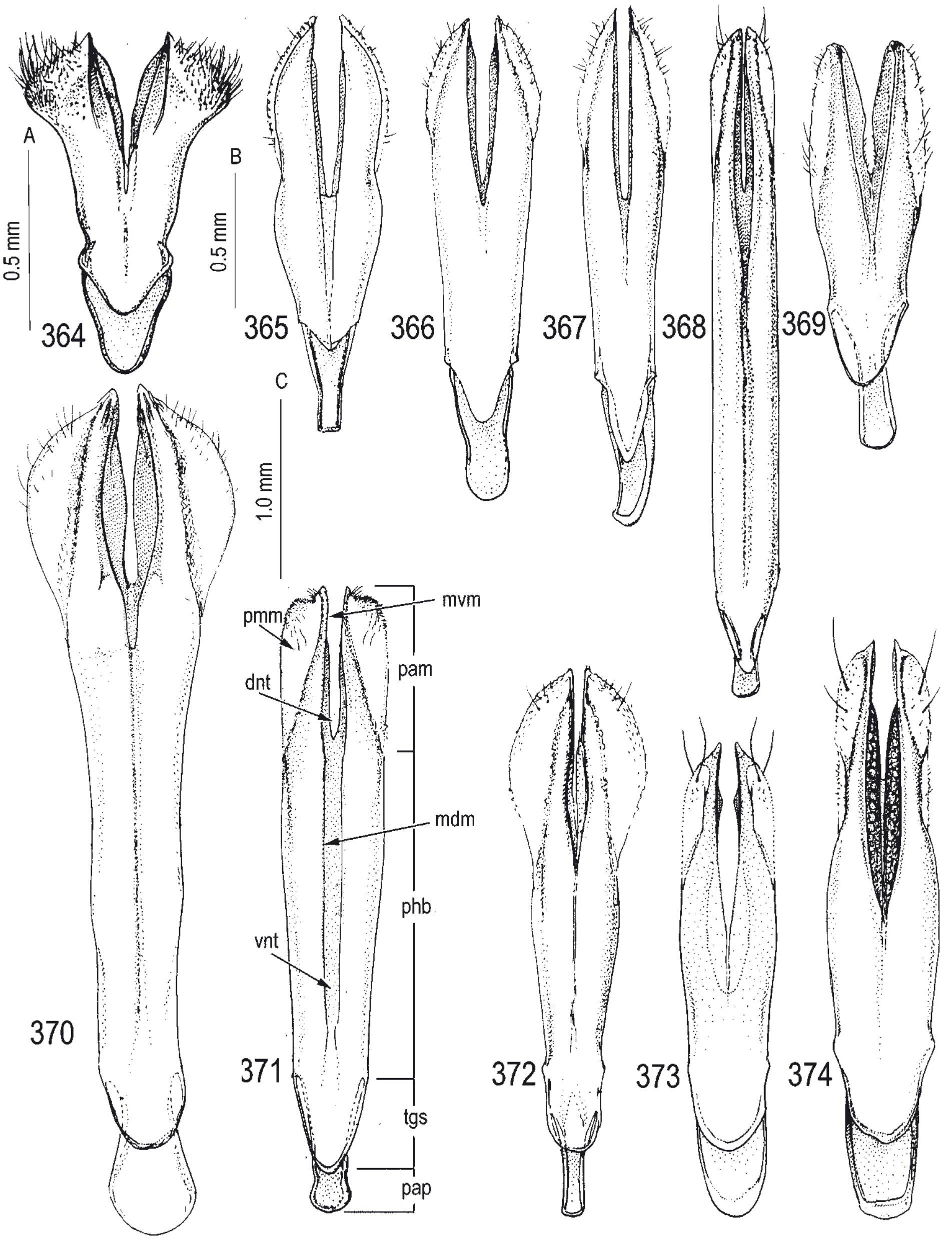
Figs 321–334. Male sternite 8. 321: *Coroebina* cf. *fulgidiceps*; 322: *Amorphosoma coomani*; 323: *Cisseicoraebus retrolatus*; 324: *Coraebus rubi*; 325: *C. undatus*; 326: *C. blandus*; 327: *Brachycoraebus viridis*; 328: *B. helferi*; 329: *C. jendeki*; 330: *Mundaria typica*; 331: *Meliboeus episcopalis*; 332: *M. fulgidicollis*; 333: *Clema deserti*; 334: *Agrilus biguttatus*. Scales: A: 321–325, 329, 331, 334, B: 326–328, 332, C: 333, D: 330.



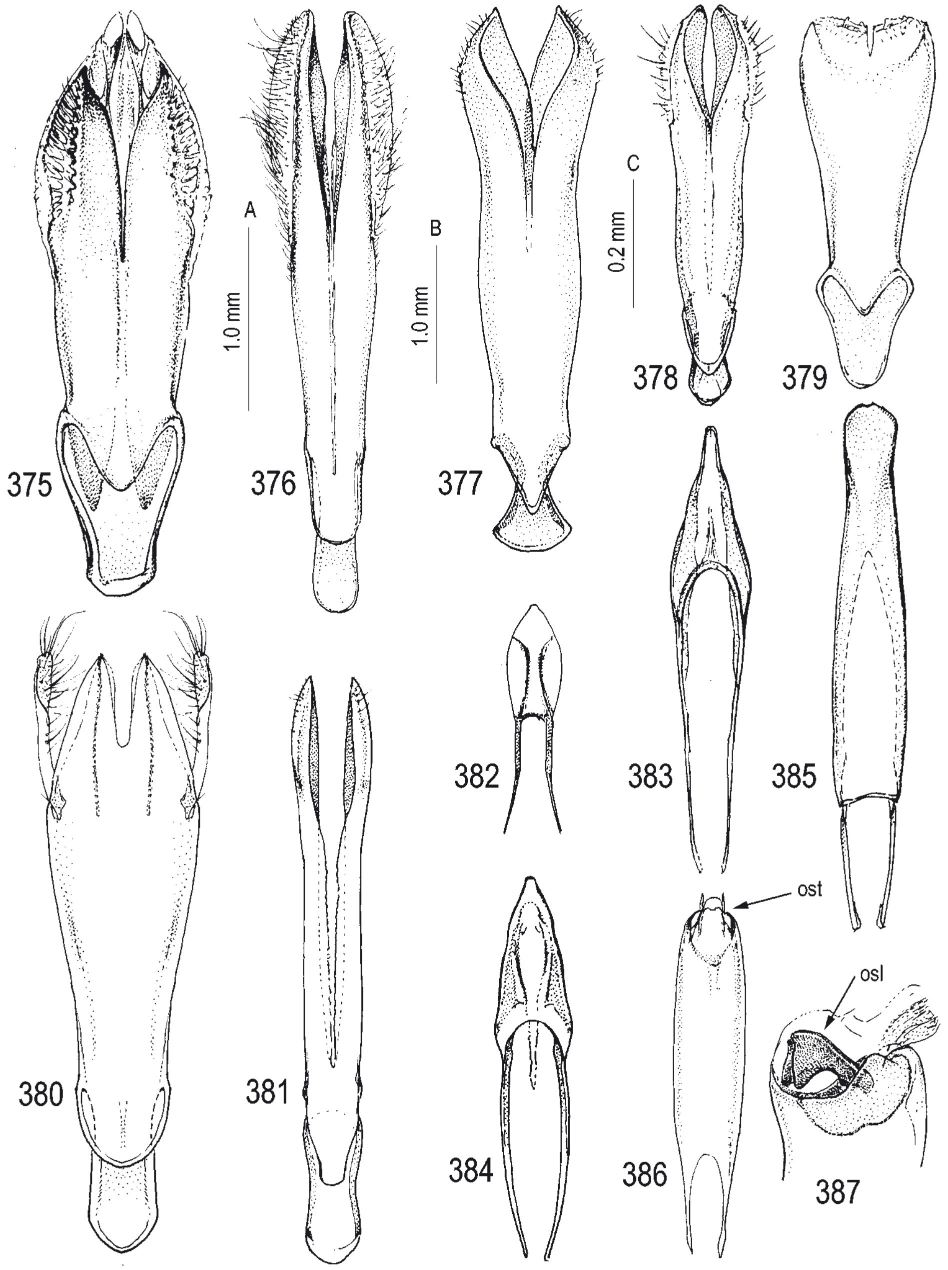
Figs 335–350. Male sternite 9. 335: *Synechocera tasmanica*; 336: *Ethonion* cf. *reichei*; 337: *Cisseis* cf. *duodecimmaculata*; 338: *Polyonychus mucidus*; 339: *Cryptodactylus kerremansi*; 340: *Toxoscelus auriceps*; 341: *Metasambus* cf. *hoscheki*; 342: *Coroebina* cf. *fulgidiceps*; 343: *Amorphosoma coomani*; 344: *Coraebus collaris*; 345: *Cisseicoraebus retrolatus*; 346: *Coraebus rubi*; 347: *C. undatus*; 348: *C. cyaneopictus*; 349: *C. blandus*; 350: *Brachycoraebus viridis*. Scales: A: 335, 340, 349–350, B: 336–339, 342–348, C: 341.



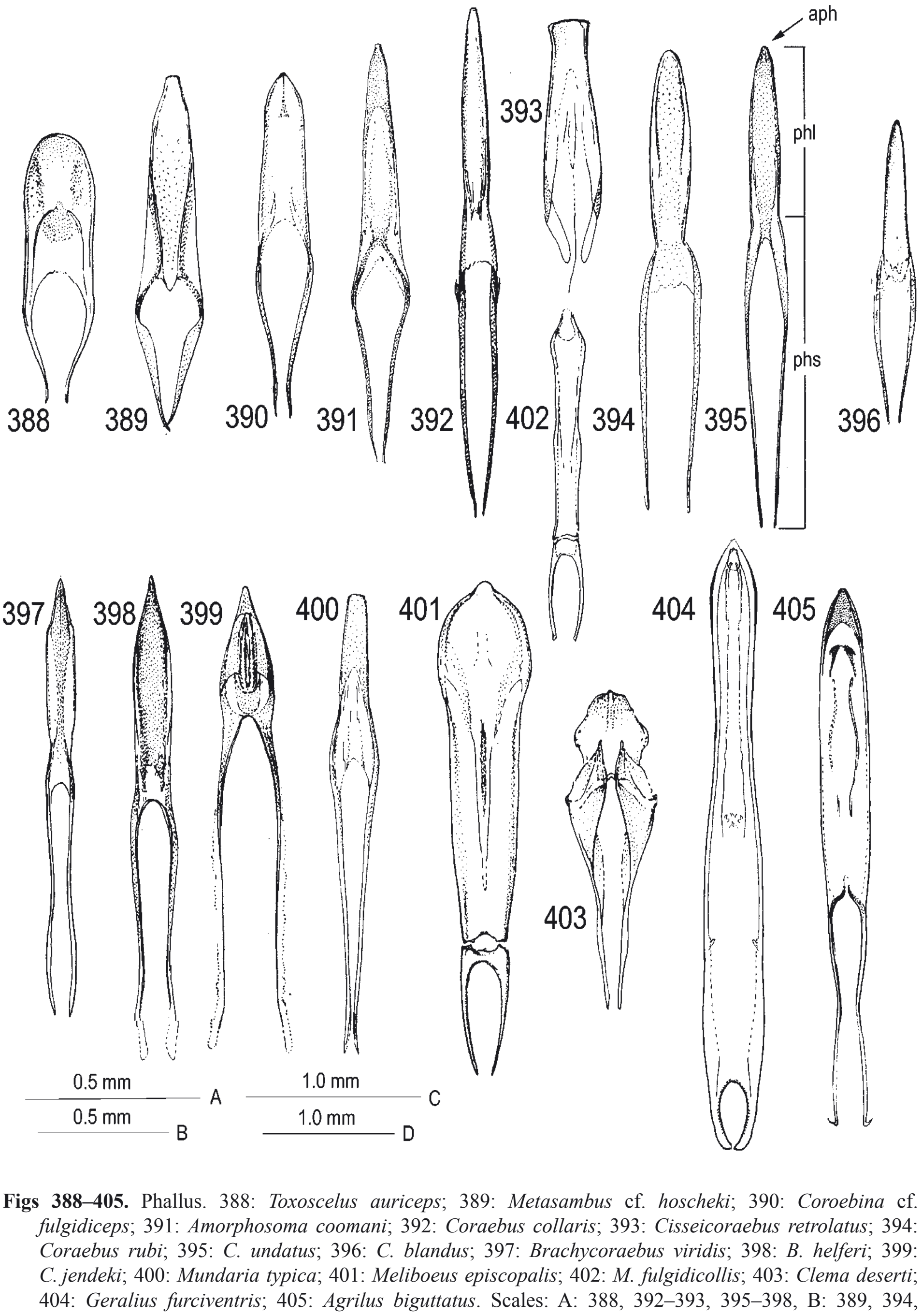
Figs 351, 353–363. Male sternite 9 (351, 353–358), tegmen (359–363). 351: *Brachycoraebus helferi*; 353: *Coraebus jendeki*; 354: *Mundaria typica*; 355: *Meliboeus episcopalis*; 356: *M. fulgidicollis*; 357: *Clema deserti*; 358: *Agrilus biguttatus*; 359: *Synechocera tasmanica*; 360: *Ethonion* cf. *reichei*; 361: *Cisseis* cf. *duodecimmaculata*; 362: *Polyonychus mucidus*; 363: *Cryptodactylus kerremansi*. Scales: A: 351, 356, B: 353, 355, 359–363, C: 354, D: 357, 358.



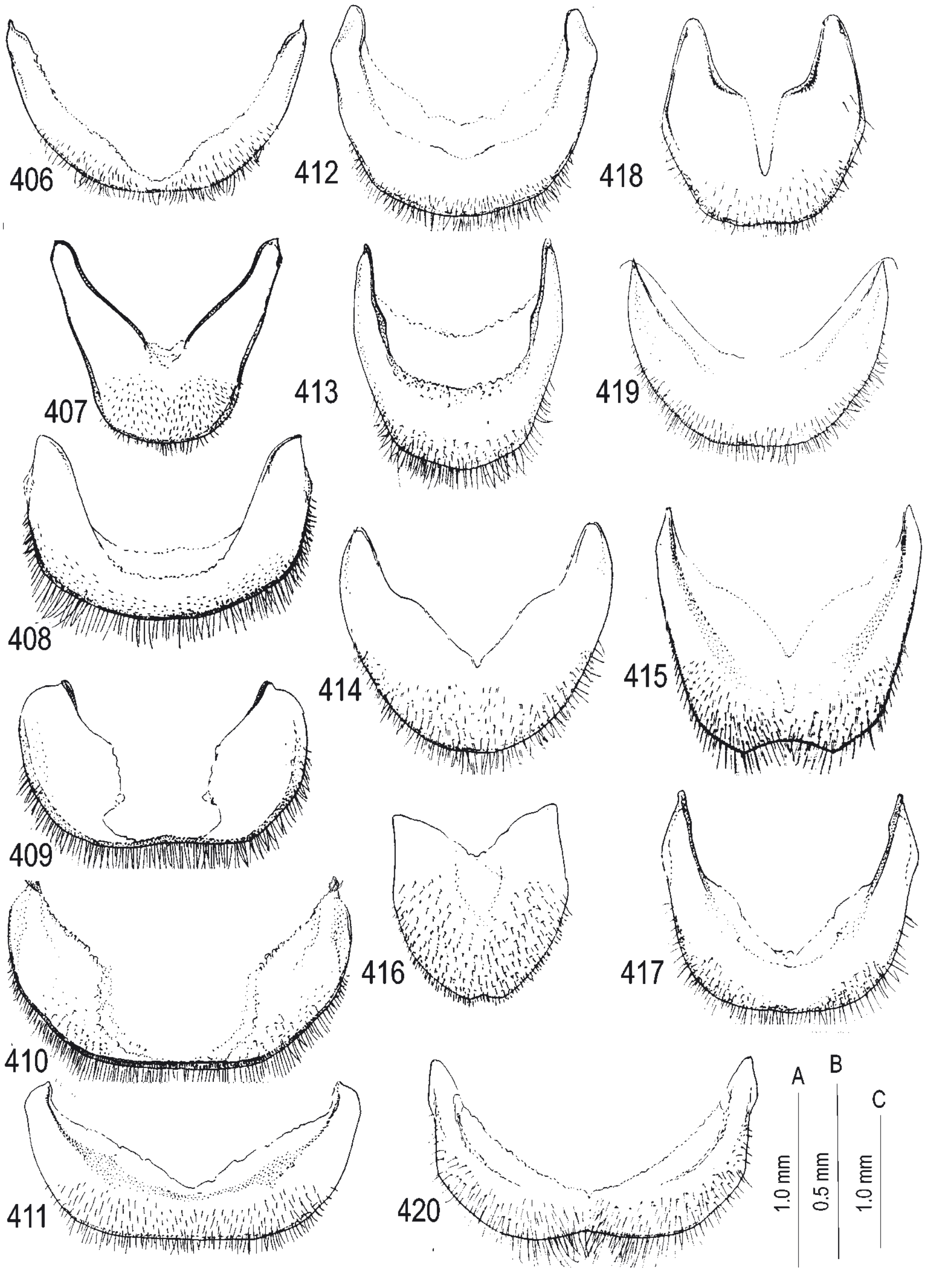
Figs 364–374. Tegmen. 364: *Toxoscelus auriceps*; 365: *Metasambus* cf. *hoscheki*; 366: *Coroebina* cf. *fulgidiceps*; 367: *Amorphosoma coomani*; 368: *Coraebus collaris*; 369: *Cisseicoraebus retrolatus*; 370: *Coraebus rubi*; 371: *C. undatus*; 372: *C blandus*; 373: *Brachycoraebus viridis*; 374: *B. helferi*. Scales: A: 364, 372–374, B: 365, 370, C: 366–369, 371.



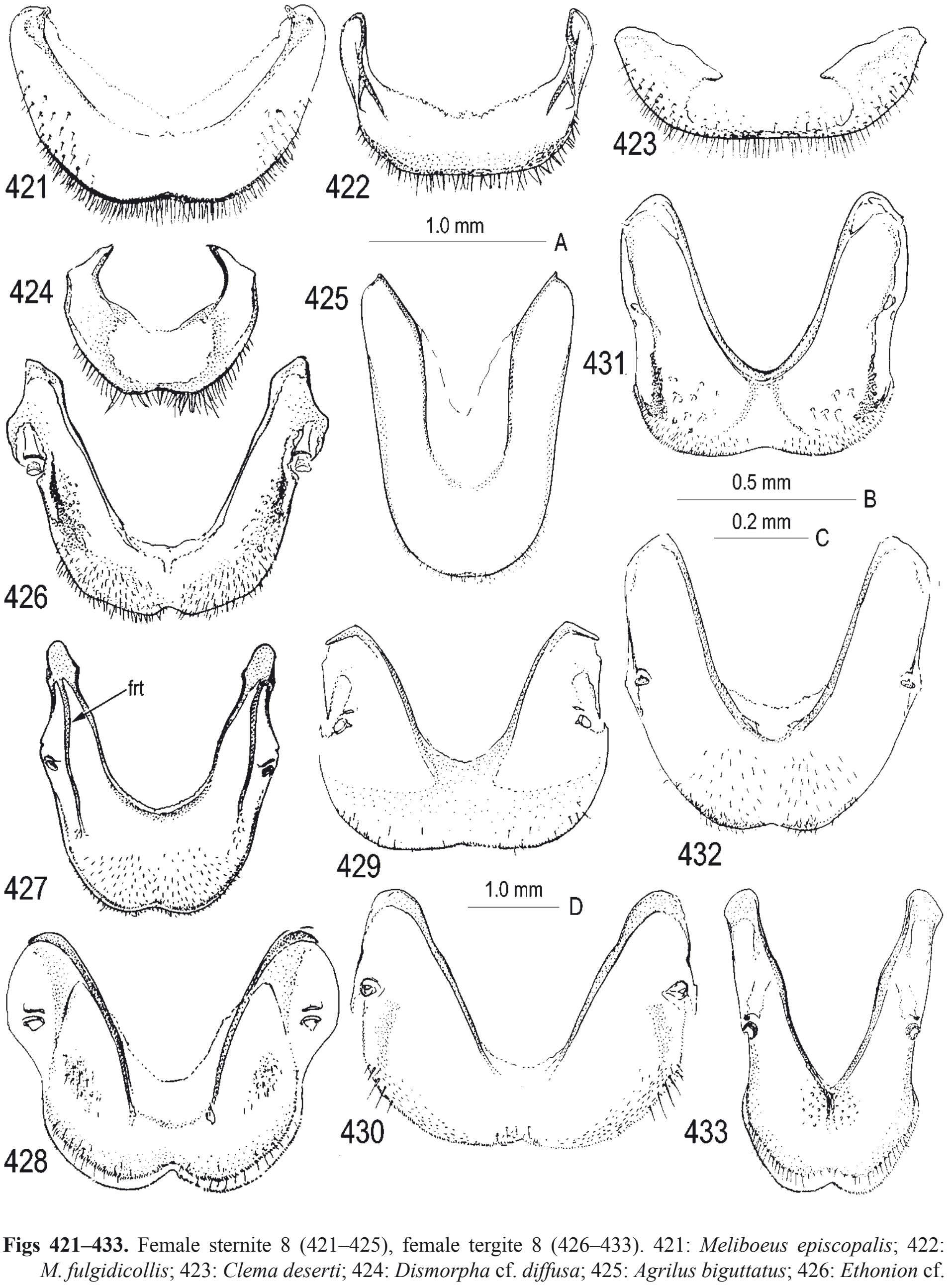
Figs 375–387. Tegmen (375–381), phallus (382–386), ostium (387). 375: *Coraebus jendeki*; 376: *Mundaria typica*; 377: *Meliboeus episcopalis*; 378: *M. fulgidicollis*; 379: *Clema deserti*; 380: *Geralius furciventris*; 381: *Agrilus biguttatus*; 382: *Synechocera tasmanica*; 383: *Ethonion* cf. *reichei*; 384: *Cisseis* cf. *duodecimmaculata*; 385: *Polyonychus mucidus*; 386–387: *Cryptodactylus kerremansi*. Scales: A: 375, 377–378, 382–385, 386–387, B: 376, C: 379–381.



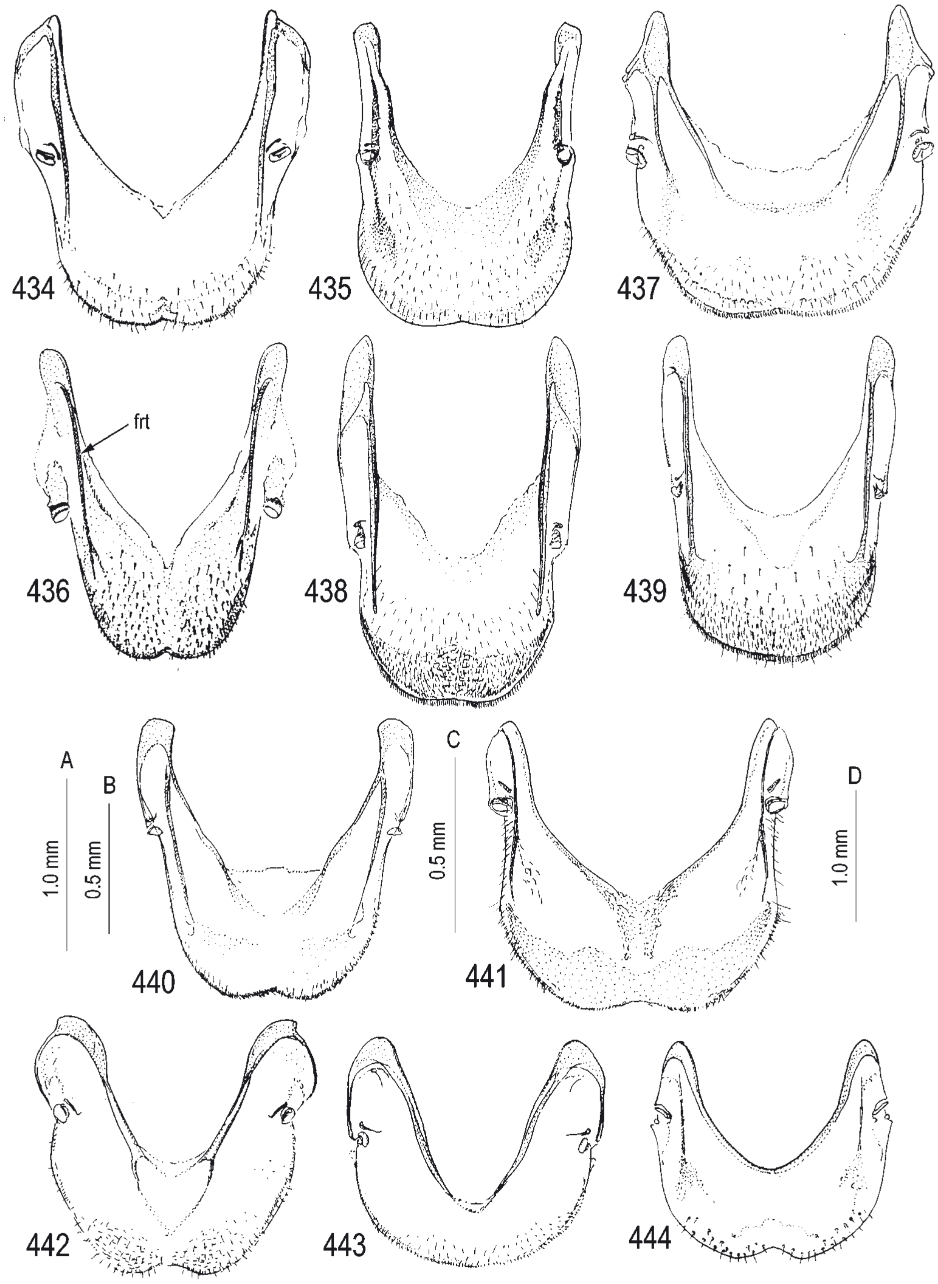
Figs 388–405. Phallus. 388: *Toxoscelus auriceps*; 389: *Metasambus* cf. *hoscheki*; 390: *Coroebina* cf. *fulgidiceps*; 391: *Amorphosoma coomani*; 392: *Coraebus collaris*; 393: *Cisseicoraebus retrolatus*; 394: *Coraebus rubi*; 395: *C. undatus*; 396: *C. blandus*; 397: *Brachycoraebus viridis*; 398: *B. helferi*; 399: *C. jendeki*; 400: *Mundaria typica*; 401: *Meliboeus episcopalis*; 402: *M. fulgidicollis*; 403: *Clema deserti*; 404: *Geralius furciventris*; 405: *Agrilus biguttatus*. Scales: A: 388, 392–393, 395–398, B: 389, 394, C: 390–391, 399, 401–405, D: 400.



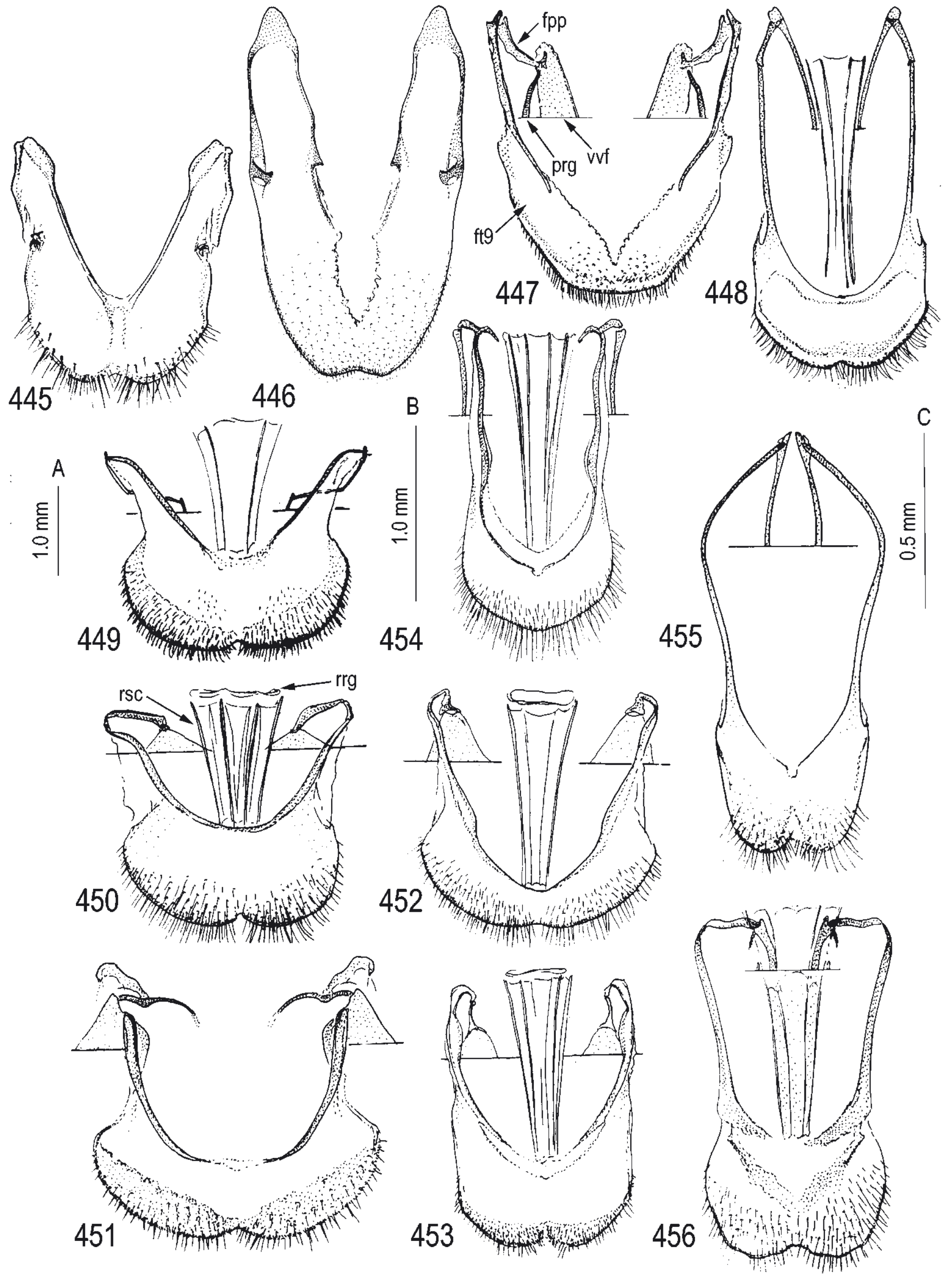
Figs 406–420. Female sternite 8. 406: *Ethonion* cf. *reichei*; 407: *Cisseis* cf. *duodecimmaculata*; 408: *Polyonychus mucidus*; 409: *Cryptodactylus kerremansi*; 410: *Toxoscelus auriceps*; 411: *Metasambus* cf. *hoscheki*; 412: *Coroebina* cf. *fulgidiceps*; 413: *Amorphosoma coomani*; 414: *Coraebus collaris*; 415: *C. rubi*; 416: *C. undatus*; 417: *C. blandus*; 418: *Brachycoraebus viridis*; 419: *C. jendeki*; 420: *Mundaria typica*. Scales: A: 406–409, 412–416, 419, B: 410–411, 417–418, C: 420.



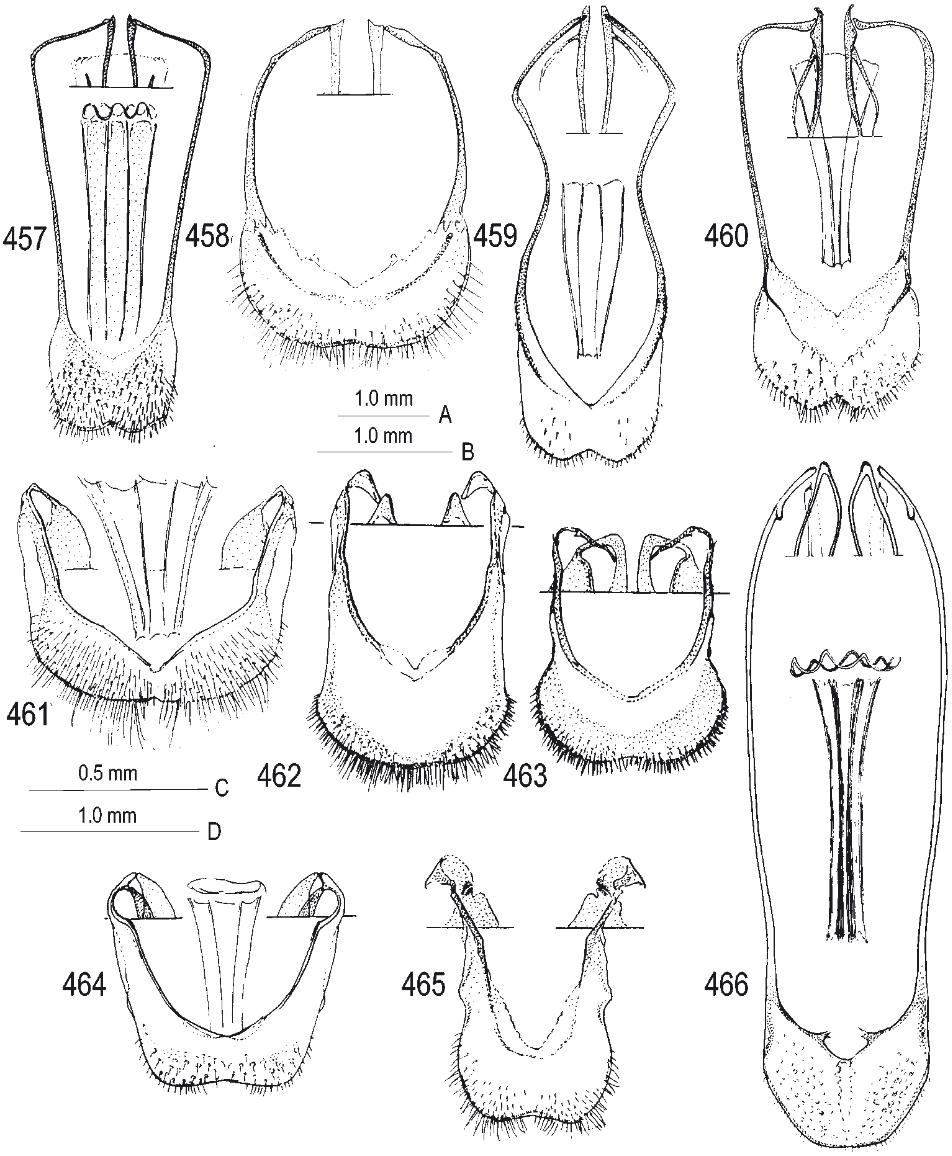
Figs 421–433. Female sternite 8 (421–425), female tergite 8 (426–433). 421: *Meliboeus episcopalis*; 422: *M. fulgidicollis*; 423: *Clema deserti*; 424: *Dismorpha* cf. *diffusa*; 425: *Agrilus biguttatus*; 426: *Ethonion* cf. *reichei*; 427: *Cisseis* cf. *duodecimmaculata*; 428: *Polyonychus mucidus*; 429: *Cryptodactylus kerremansi*; 430: *Toxoscelus auriceps*; 431: *Metasambus* cf. *hoscheki*; 432: *Coroebina* cf. *fulgidiceps*; 433: *Amorphosoma coomani*. Scales: A: 421, 426, 429–430, 432–433, B: 422–423, 431, C: 424–425, D: 427–428.



Figs 434–444. Female tergite 8. 434: *Coraebus collaris*; 435: *C. rubi*; 436: *C. undatus*; 437: *C. blandus*; 438: *Brachycoraebus viridis*; 439: *B. helferi*; 440: *C. jendeki*; 441: *Mundaria typica*; 442: *Meliboeus episcopalis*; 443: *M. fulgidicollis*; 444: *Clema deserti*. Scales: A: 434, 440, 442, B: 435, C: 436–439, 443–444, D: 441.

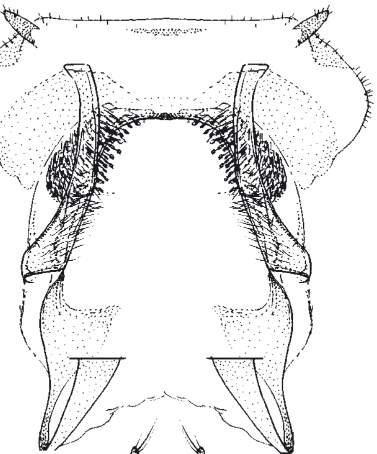


Figs 445–456. Female tergite 8 (445–446), female tergite 9 (447–456). 445: *Dismorpha* cf. *diffusa*; 446: *Agrilus biguttatus*; 447: *Ethonion* cf. *reichei*; 448: *Cisseis* cf. *duodecimmaculata*; 449: *Polyonychus mucidus*; 450: *Cryptodactylus kerremansi*; 451: *Toxoscelus auriceps*; 452: *Metasambus* cf. *hoscheki*; 453: *Coroebina* cf. *fulgidiceps*; 454: *Amorphosoma coomani*; 455: *Coraebus collaris*; 456: *C. rubi*. Scales: A: 445–446, B: 447–450, 452–456, C: 451.

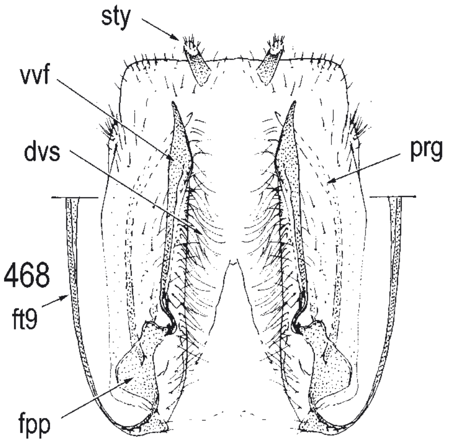


Figs 457–466. Female tergite 9. 457: *Coraebus undatus*; 458: *C. blandus*; 459: *Brachycoraebus viridis*; 460: *B. helferi*; 461: *Mundaria typica*; 462: *Meliboeus episcopalis*; 463: *M. fulgidicollis*; 464: *Clema deserti*; 465: *Dismorpha* cf. *diffusa*; 466: *Agrilus biguttatus*. Scales: A: 460, 465–466, B: 461, C: 458–459, 463–464, D: 462, 457.

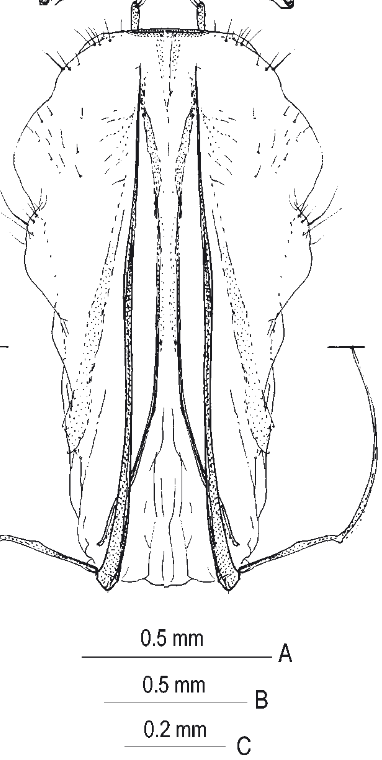
467



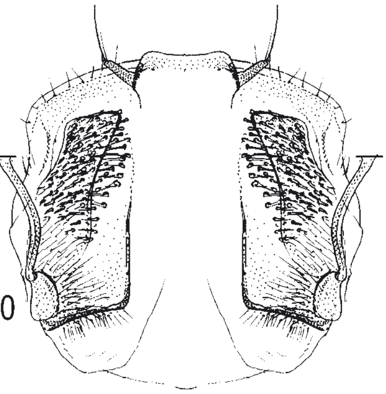
468



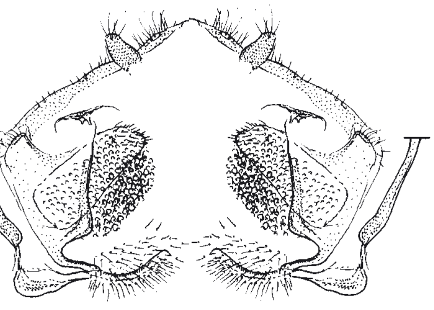
469



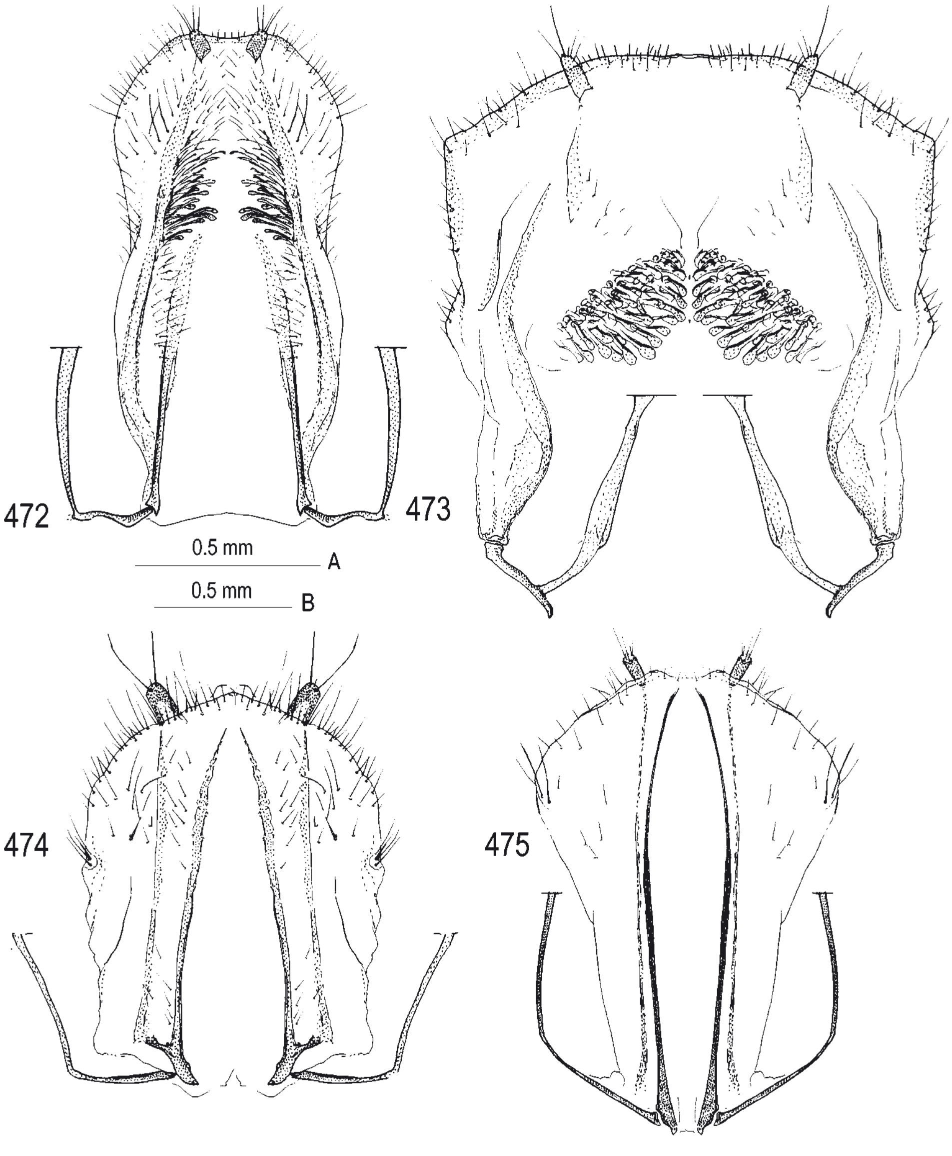
470



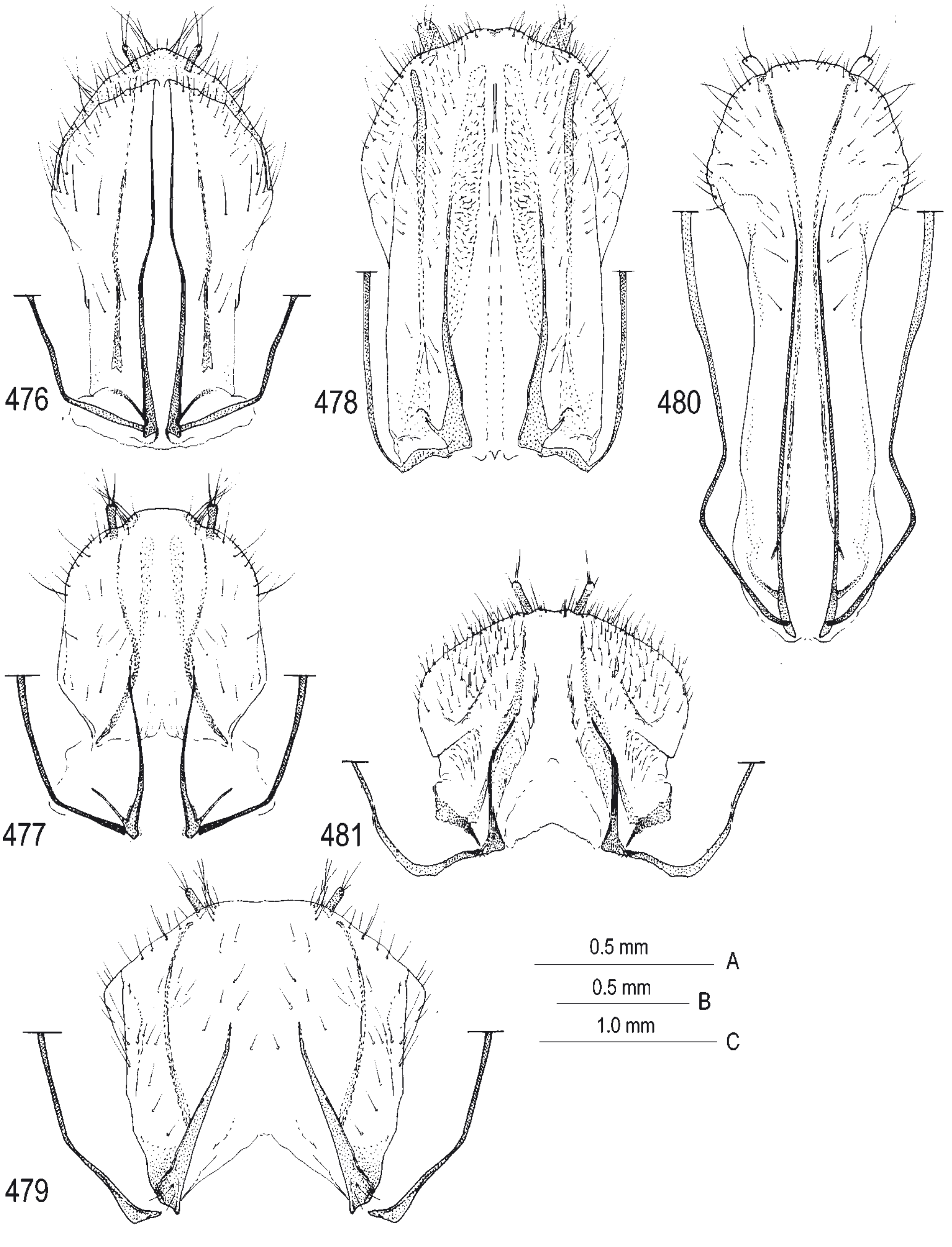
471



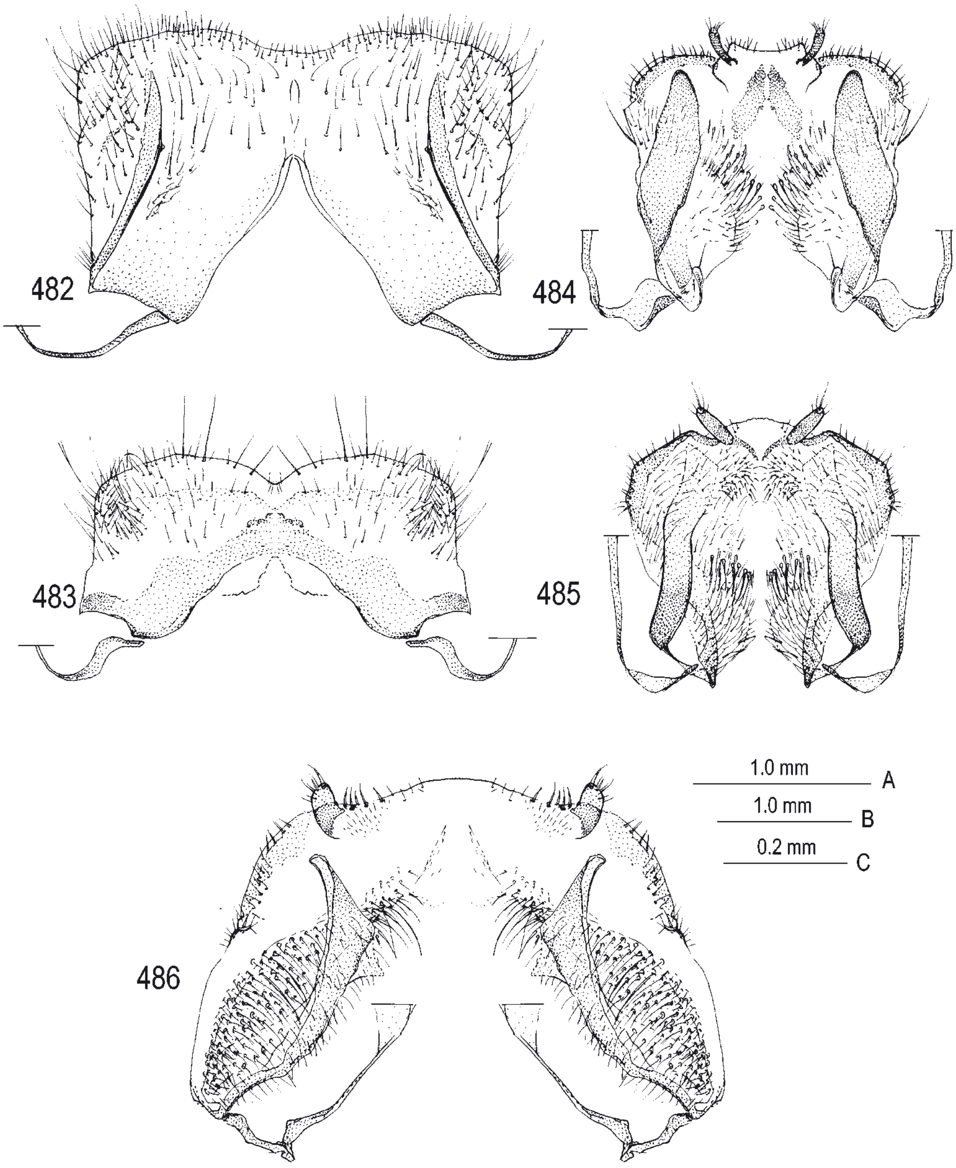
Figs 467–471. Ovipositor ventral. 467: *Synechocera tasmanica*; 468: *Ethonion* cf. *reichei*; 469: *Cisseis* cf. *duodecimmaculata*; 470: *Polyonychus mucidus*; 471: *Toxoscelus auriceps*. Scales: A: 467, 471, B: 468–469, C: 470.



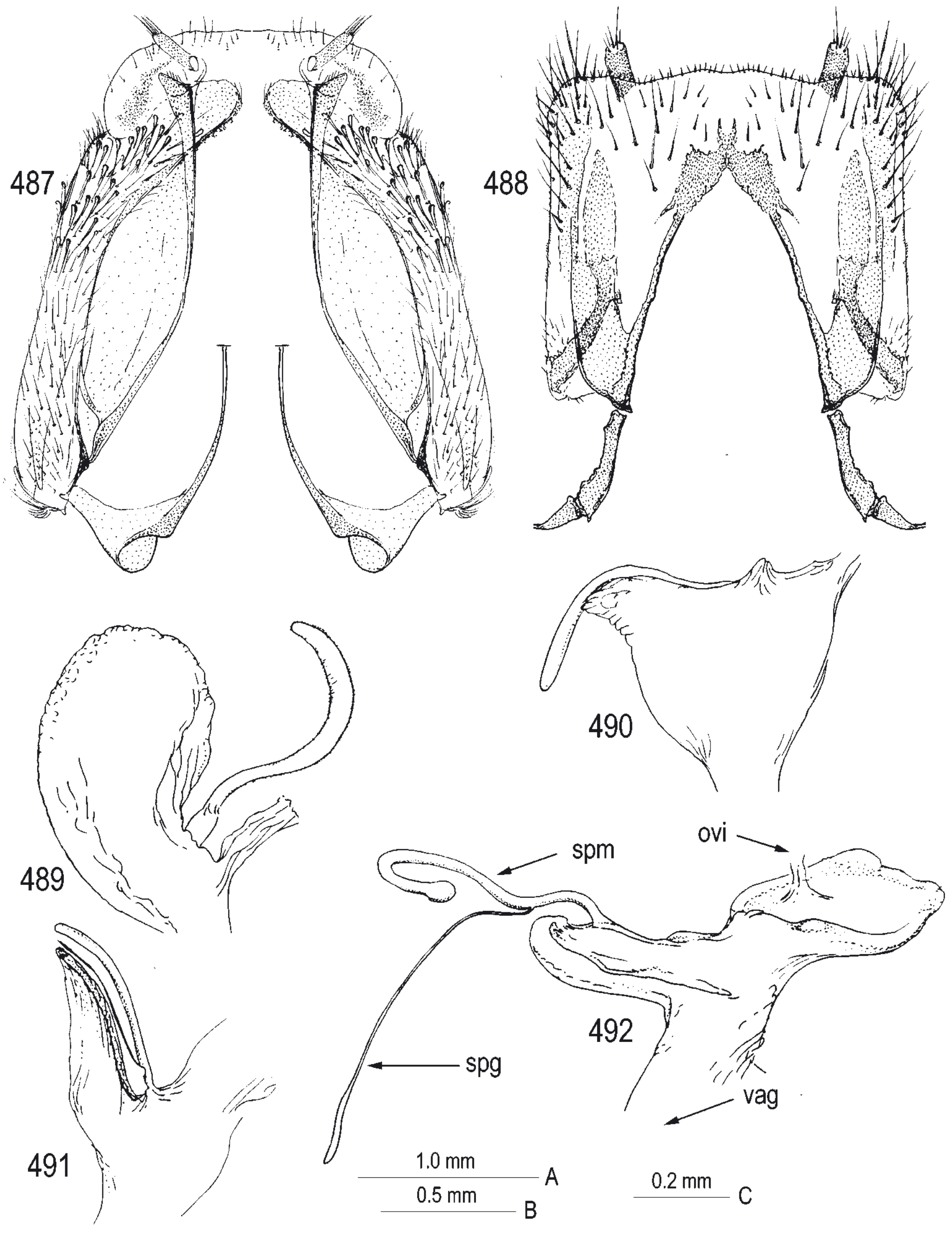
Figs 472–475. Ovipositor ventral. 472: *Amorphosoma coomani*; 473: *A. penicillatum*; 474: *Eupristocerus cogitans*; 475: *Coraebus collaris*. Scales: A: 472–474, B: 475.



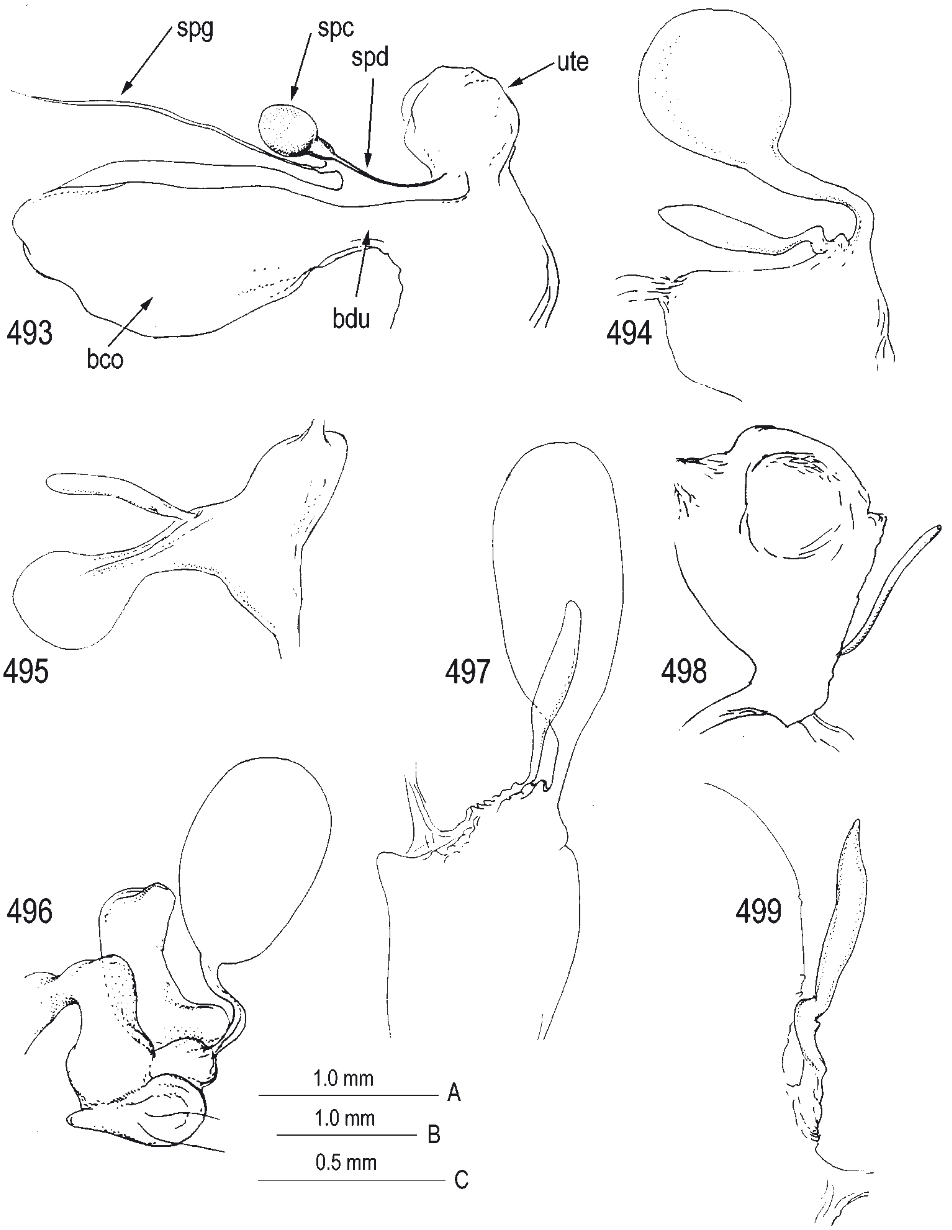
Figs 476–481. Ovipositor ventral. 476: *Coraebus magnus*; 477: *Cisseicoraebus retrolatus*; 478: *Coraebus rubi*; 479: *C. blandus*; 480: *Brachycoraebus viridis*; 481: *C. jendeki*. Scales: A: 476, B: 477–479, C: 480–481.



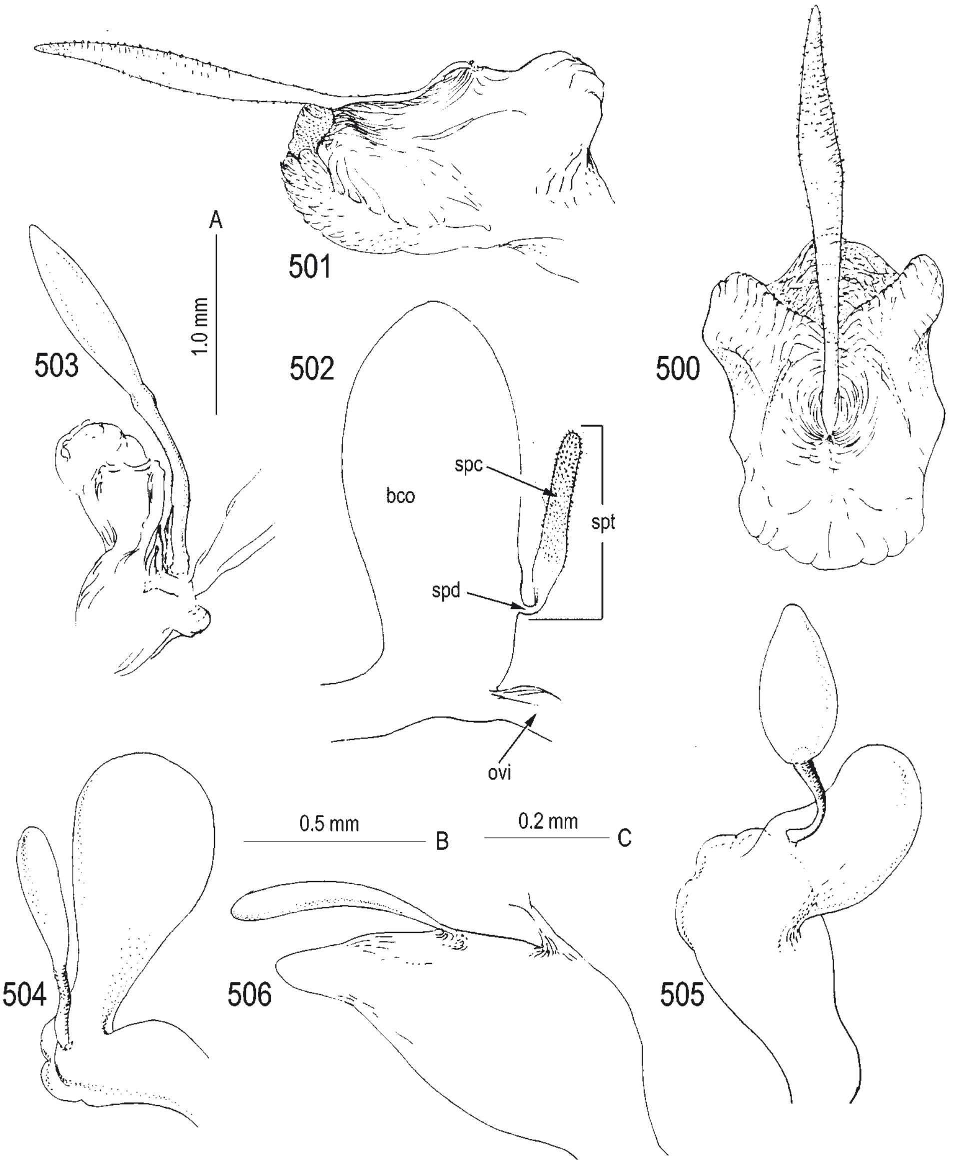
Figs 482–486. Ovipositor ventral. 482: *Coraebosoma samarense*; 483: *Mundaria typica*; 484: *Meliboeus episcopalis*; 485: *M. fulgidicollis*; 486: *Clema deserti*. Scales: A: 482–483, B: 484–485, C: 486.



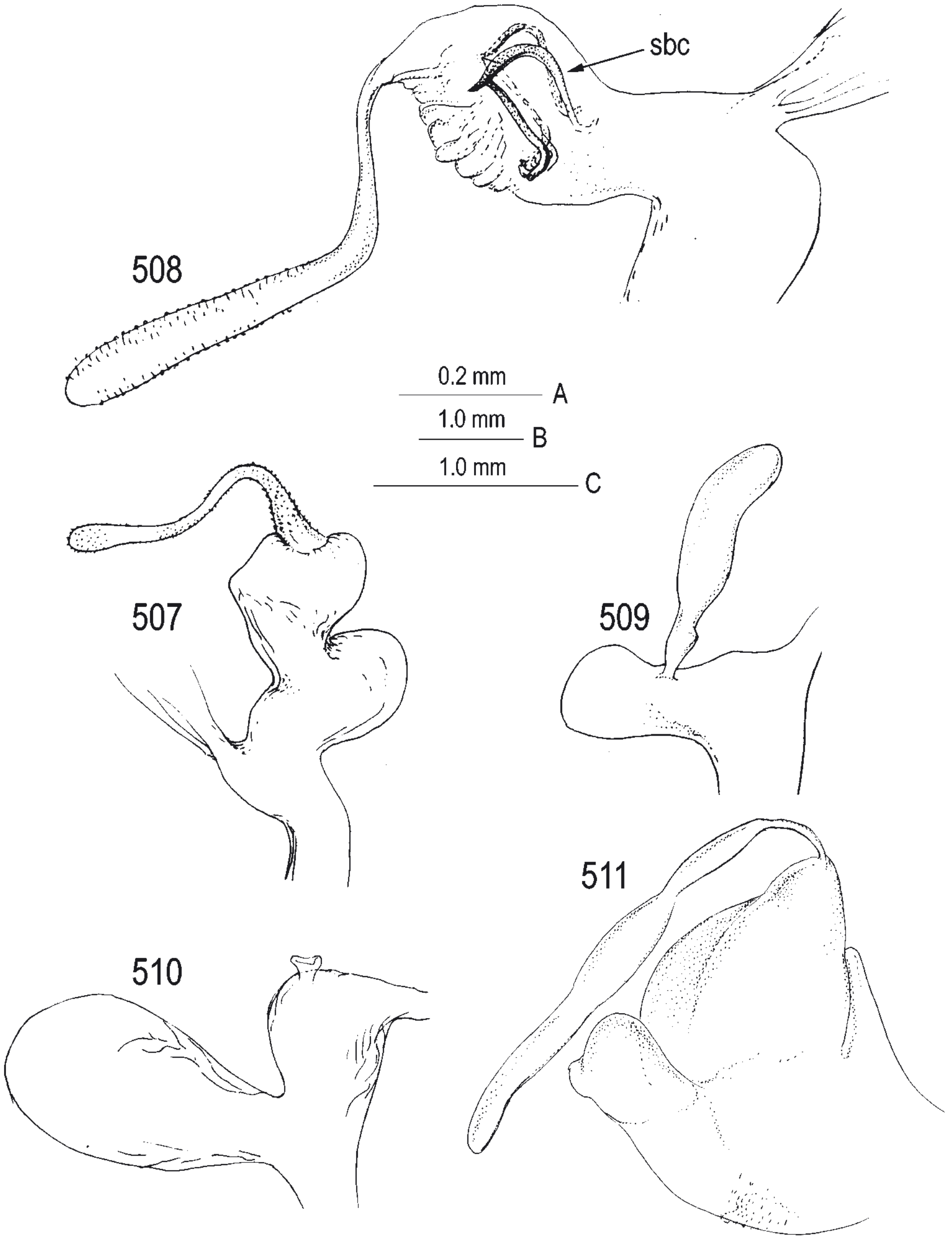
Figs 487–492. Ovipositor ventral (487–488), female internal genitals (489–492). 487: *Dismorpha* cf. *diffusa*; 488: *Agrilus viridis*; 489: *Ethonion* cf. *reichei*; 490: *Cisseis* cf. *duodecimmaculata*; 491: *Polyonychus mucidus*; 492: *Cryptodactylus kerremansi*. Scales: A: 489–491, B: 487–488, C: 492.



Figs 493–499. Female internal genitals. 493: *Toxoscelus auriceps*; 494: *Metasambus* cf. *hoscheki*; 495: *Coroebina* cf. *fulgidiceps*; 496: *Vanroonia coraeboides*; 497: *Amorphosoma penicillatum*; 498: *Coraebus collaris*; 499: *Cisseicoraebus retrolatus*. Scales: A: 495, 497, 499, B: 498, 496, C: 493–494.



Figs 500–506. Female internal genitals. 500–501: *Coraebus rubi* (dorsal and lateral); 502: *C. undatus*; 503: *C. blandus*; 504: *Brachycoraebus viridis*; 505: *B. helferi*; 506: *Mundaria typica*. Scales: A: 500–502, 506, B: 503, C: 504–505.



Figs 507–511. Female internal genitals. 507: *Meliboeus episcopalis*; 508: *M. fulgidicollis*; 509: *Clema deserti*; 510: *Dismorpha* cf. *diffusa*; 511: *Agrilus biguttatus*. Scales: A: 507–509, B: 510, C: 511.