The Australian Genera of Mymaridae (Hymenoptera: Chalcidoidea)

NAI-QUAN LIN, JOHN T. HUBER & JOHN La SALLE

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Table of contents

Abstract .................................................................................................................. 4
Introduction .......................................................................................................... 4
Material and Methods .......................................................................................... 5
Key to genera of Australian Mymaridae. Females. .............................................. 10
Key to genera of Australian Mymaridae. Males. ................................................ 15
Genus Acropolyneuma Ogloblin (Figs. 1–6) ......................................................... 19
Genus Agalmopolynema Ogloblin (Figs. 195–197) ............................................ 20
Genus Alaptus Westwood (Figs. 7–13) ............................................................ 20
Genus Allanagrus Noyes & Valentine (Figs. 14–20) ......................................... 21
Genus Anagroidea Girault (Figs. 21–29) ........................................................ 22
Genus Anagrus Haliday (Figs. 30–35) ............................................................... 22
Genus Anaphes Haliday (Figs. 36–41) ............................................................... 23
Genus Arescon Walker (Figs. 42–46) ............................................................... 25
Genus Australomymar Girault (Figs. 47–53) .................................................... 25
Genus Bocaccioymar S. Triapitsyn & Berezovskiy ........................................ 26
Genus Boudienyia Girault (Figs. 54–59) .......................................................... 27
Genus Camptoptera Förster (Figs. 60–65) ...................................................... 27
Genus Camptopteroides Viggiani (Figs. 66–71) ............................................... 28
Genus Ceratanaphes Noyes & Valentine (Figs. 72–76) .................................... 28
Genus Cleruchus Enock (Figs. 83–88) ............................................................ 29
Genus Cybomyrma Noyes & Valentine (Figs. 89–91) ...................................... 30
Genus Dicopomorpha Ogloblin (Figs. 92–98) .................................................. 30
Genus Dicopus Enock (Figs. 99–103) .............................................................. 30
Genus Dorya Noyes & Valentine (Figs. 104–113) ............................................. 31
Genus Eofoersteria Mathot (Figs. 114–116) ..................................................... 31
Genus Erythmelius Enock (Figs. 117–122) ....................................................... 32
Genus Eubroncus Yoshimoto, Kozlov & Trjapitzin (Figs. 123–128) .......... 33
Genus Eastochomorpha Girault (Figs. 129–134) .............................................. 33
Genus Gonatocerus Nees (Figs. 135–146) ....................................................... 33
Genus Himopolyneuma Taguchi (Figs. 147–152) ............................................ 37
Genus Kikiki Huber (Figs. 153–157) .............................................................. 37
Genus Mimalaptus Noyes & Valentine (Figs. 158–164) .................................. 38
Genus Mymar Curtis (Figs. 165–169) .............................................................. 38
Genus Myrmecomyrma Yoshimoto (Figs. 170–178) ......................................... 39
Genus Nesomyrma Valentine (Figs. 179–182) ............................................... 39
Genus Omyomyrma Schauf (Figs. 183–189) ..................................................... 40
Genus Palaeoneura Waterhouse (Figs. 77–82, 190–194) ............................ 40
Genus Paracmotemnus Noyes & Valentine (Figs. 195–204) .......................... 43
Genus Paranaphoidea Girault (Figs. 205–212) .............................................. 43
Genus Polynema Haliday (Figs. 213–215) ....................................................... 44
Genus Polynemoidea Girault (Figs. 216–220) ................................................. 45

Accepted by M. Gates: 29 Jun. 2007; published: 28 Sept. 2007
Genus Prionapes Hincks (Figs. 221–224, 274–279) ................................................................. 46
Genus Pseudanaphes Noyes & Valentine (Figs. 225–229) .......................................................... 47
Genus Pitilomyrma Annecke & Doult (Figs. 230–236) ............................................................... 47
Genus Richteria Girault (Figs. 237–241) ..................................................................................... 48
Genus Schizophragma Ogloblin (Figs. 242–246) ...................................................................... 48
Genus Stephanodes Enoch (Figs. 247–253) .............................................................................. 49
Genus Stethynium Enoch (Figs. 254–259) .................................................................................. 49
Kompsomymar Lin & Huber, gen. nov. (Figs. 260–265) .............................................................. 51
Cleruchoides Lin & Huber, gen. nov. (Figs. 266–273) ................................................................. 53
Parastethynium Lin & Huber, gen. nov. (Figs. 280–284) ............................................................. 56
Acknowledgements ..................................................................................................................... 57
Literature Cited ............................................................................................................................ 58
Figures 1–284 .............................................................................................................................. 65–111

Abstract

The genera of Mymaridae occurring in Australia are keyed and a diagnosis for each is given. Forty-five nominal genera are recognized, including three new ones: Kompsomymar Lin and Huber, gen. nov., with type species K. bicoloratum Lin and Huber, sp. nov., Cleruchoides Lin and Huber, gen. nov., with type species C. noackae Lin and Huber, sp. nov., and Parastethynium Lin and Huber, gen. nov., with type species Parastethynium maxwelli (Girault), comb. nov. from Stethynium. The Australian genera are placed in twelve informal groups. Three new generic synonymies are proposed: Haplochaeta, syn. nov. under Cleruchus, Idiocentrus, syn. nov. under Paranaphoidea, and Nesetaerus syn. nov. under Australomymar. Twenty-six new combinations, are proposed: Allanagrus aurum (Girault), A. gladius (Girault) and A. mayeri (Girault) from Stethynium; Arescon nigriceps (Girault) from Anthems; Australomymar gressitti (Doutt) from Nesetaerus and A. incerta (Girault) from Polynemoidea; Ceratanaphes laplacei (Girault) and C. wallacei (Girault) from Erythmelus; Cleruchus schilleri (Girault) and C. tintoreti (Girault) from Erythmelus, and Cleruchus mandibularis (Noyes and Valentine) from Haplochaeta; Erythmelus emersoni (Girault) from Anthems; Gonatocerus aureinotum (Dodd), G. bellus (Girault), G. centaurus (Girault), G. citriscapus (Girault), G. flavipes (Girault), G. gigas (Girault), G. ignipes (Girault), G. iona (Girault); G. mirus (Girault), and G. prometheus (Girault) from Octotonus; Mimalaptus victoriae (Girault) from Dicopus; Paranaphoidea harveyi (Girault) from Erythmelus; Pseudanaphes lincolni (Girault) and P. particoxae (Girault) from Polynemoidea. The species occurring in Australia are listed for each genus and their type localities are given.

Key words: Mymaridae, Chalcidoidea, Hymenoptera, egg parasitoids, Australia, genera, identification

Introduction

Mymarids, or fairy flies, are small parasitic wasps, with some members being the smallest of all insects. The family Mymaridae is among the best defined of any chalcidoid family. Its members are abundant and easily collected using a variety of trapping methods. Schaff (1984) and Gibson (1986) discussed their relationships, giving evidence that mymarids are among the most primitive of chalcidoids and apparently the sister group to the rest of the Chalcidoidea. Huber (1986) reviewed the history, systematics, biology and hosts of Mymaridae, and Huber (2005) listed the 181 genus-group and 18 family group names.

All mymarids are egg parasitoids, with two known exceptions (Huber et al. 2006), but only about one quarter of the genera have hosts reported for them. The most common hosts are Hemiptera Auchenorrhyncha, but Coleoptera, Psocoptera, Diptera and Orthoptera are also attacked (Huber 1986). Although egg parasitoids have often been considered as unsuitable for biological control programs, a few species of mymarids have been responsible for biological control successes. The Australian species Anaphes nitens (Girault) was used successfully to control Gonipterus scutellatus Gyllenhall (Coleoptera: Curculionidae), a pest of Eucalyptus in
South Africa (DeBach & Rosen 1991, as Patasson nitens) and other countries. Huber (1986) and Bin (1994) discussed other attempts to use mymarids in biological control. The lack of species-level taxonomic work on mymarids has impeded their use in biological control programmes (Triapitsyn 2002).

The family Mymaridae is well represented in Australia, with about 270 nominal species, most of which were described by A.A. Girault. Dahms (1978, 1983, 1984, 1986) catalogued the Girault literature and species of Australian Mymaridae, among other Chalcidoidea. The few remaining species of Mymaridae described by authors other than Girault may be found in Noyes (2002). In most cases species limits still need to be determined more accurately and almost all the species require adequate redescription and illustration based on freshly collected and properly preserved material that can then be compared with the usually poorly preserved and slide-mounted types. Although a given mymarid species may be widely distributed in Australia there has been so little study of the family there that most species are still known only from the type locality. Because Girault was based in Queensland, most of his type localities (about 60) are from that state. At most four localities are given for each of the remaining states, giving a total of just under 80 localities for the described species. Clearly, much remains to be done to determine, even approximately, the distributions of most Australian mymarid species.

Despite their abundance, diversity, and economic importance, no key has ever been produced to the Australian genera of Mymaridae. Generic keys exist for other geographic realms but these are often outdated and are, in any case, only partially applicable to the Australian fauna so they cannot be relied upon to identify correctly a mymarid genus from Australia. These keys are: world genera (Annecke & Doutt 1961); Europe (Kryger 1950); Holarctic genera (Schauff 1984); Palearctic genera (Triapitsyn & Huber 2000); Nearctic genera (Huber 1997); African genera (Debauche 1949), New World genera (Yoshimoto 1990); Oriental genera (Subba Rao & Hayat 1983); and New Zealand genera (Noyes & Valentine 1989). In order to fill the gap and to complement existing keys to genera of most other Chalcidoidea families for Australia (Bouček 1988), we present here the first key to Australian mymarid genera. We are aware of several species that do not fit in the existing generic concepts and, consequently, they will not key out correctly to any of the genera included in the key. These species may well represent new genera but until the generic limits for many genera in Australia are better understood it is best not to describe them; proliferation of new generic names for species that don’t quite seem to fit in existing genera is not a useful solution. Proper definition of the numerous nominal genera with 4-segmented tarsi and those (relatively few, so far) represented by wingless or short-winged species is especially required.

In addition to a generic key, we present brief generic diagnoses (female features followed by male features), a checklist of Australian species by genus and the associated literature, and the type locality (or localities for species with syntypes), including the nine species that have type localities outside of Australia. Several new species combinations in various genera and three new generic synonymies are proposed. The Australian fauna is certainly much richer than the approximately 270 species listed here would suggest but it will be many years before the fauna is well known taxonomically.

**Material and Methods**

At least 7,000 mostly well prepared, card-mounted specimens have accumulated in Australian collections, particularly the Australian National Insect Collection, Canberra (ANIC) and Queensland Museum, Brisbane (QMB), since Girault’s time. Most were sorted as well as possible to genus by one of us (JTH) and S. Triapitsyn (University of California, Riverside – UCRC) in 1999, and thus were available for this study. JTH also examined most of the mymarid primary types housed in QMB in 1999 to confirm generic placement of Girault’s species. Several thousand other Australian specimens in collections outside Australia, particularly the Canadian National Collection, Ottawa (CNC) and UCRC, have also been sorted to genus (a few tenta-
tively so) by JTH and S. Triapitsyn, respectively. Others, including some type specimens, are in the Natural History Museum, London (BMNH) and National Museum of Natural History, Washington, DC (USNM). About 300 slides, representing all the genera, were prepared for study of characters and for illustration. Diagnoses are deliberately kept short, with comparisons to related genera only. The range of body lengths are based on measurements of critical point dried specimens in the CNC (or UCRC for *Agalmopolynema* and *Palaeoneura*) that represent one or more species, most not yet identified, for each genus. As much as possible, the smallest and largest individuals were chosen. Measurements are given in micrometers (µm). In the species lists the abbreviation TL = Type locality. Morphological terms are from Gibson (1997) and, for wing setae, Huber (1988). The numerous references by Girault are cited with the paper number in brackets after the year, following the list in Dahms (1978).

The digital images are of slide mounts. Most of the slides were prepared by the senior author and a few by the second author. For as many genera as possible, the wings, male and female antennae, fore leg, and male genitalia are illustrated. Other body parts in various views are shown to illustrate many of the features used in the keys or to show the general form of part of the body. Male genitalia for many genera are illustrated for the first time. Although considerable diversity in genital structure exists among the genera a better understanding of their structure and variation is needed so little use is made of them in the keys and diagnoses. Multiple images at different focal planes were produced with a high-resolution digital camera mounted on a compound microscope. These were combined with Automontage and enhanced using Adobe Photoshop. Only the relevant focal planes were included in the final, composite image so as to eliminate unnecessary or confusing details, e.g. internal structures. Images with a darker background were prepared using phase contrast.

**Use of key**

In order to use the key successfully for identification to genus, cleared and properly slide mounted specimens are needed. This is because the structure of the propodeum, mesophragma, and petiole, and the number of tarsal or antennal segments cannot easily be determined otherwise, especially on specimens less than 0.5 mm long. Methods for proper preparation of slide mounts for Chalcidoidea are given in Noyes (1982, 1990). The figures illustrating a particular couplet show the particular character state and do not necessarily show the same sex or genus as indicated in the couplet (or, sometimes, the following couplets as well).

**Species lists**

A list of the described Australian species for each genus is given, with all the Australian references pertaining to each species. Synonyms are listed only if they are Australian species. For example, none of the synonyms of *Anagrus avalae* Soyka are listed because all are species occurring outside Australia. Extralimital synonyms, lists of host species, and other biological information on the world species are given in Noyes (2002) or in the references cited below for a particular species. Extralimital references are given only when they include information (usually taxonomic) about Australian specimens. Because *Anaphes nitens* has almost 300 citations in the literature as a result of its success as a biological control agent, only those pertaining to its taxonomy are cited here. Hosts have not been reported for most Australian species. If hosts are recorded for extralimital species, only the most common ones are listed. Noyes (2002) records all hosts, including many single records from host families that appear to be rather unlikely and therefore need to be confirmed.

**Higher classification and species groups**

The subfamilial and tribal classification of Mymaridae is not by any means fully resolved. Because it is still not determined adequately the treatment of genera and species presented here is mainly alphabetical. In the last formal classification of Mymaridae on a world basis Annecke & Doutt (1961) place the genera formally into tribes and subfamilies. Since then the genera have mostly been grouped into informal clusters, because it is evident that the tribes and subfamilies as circumscribed by Annecke and Doutt were polyphyl-
etic. Schauff (1984) provided an analysis of 26 genera for the Holarctic region, indicating relationships but not proposing formal groups. Viggiani (1989, 2003) placed about 30 genera into formal tribes based on male genitalia, and Noyes and Valentine (1989) placed 42 New Zealand genera (including three not formally named) into informal groups and subgroups. Huber (2002) discussed the primitive genera of Mymaridae and proposed an intuitive cladogram of relationships for some groups. None of these papers treat more than about 40% of the world genera.

The Australian fauna contains the most primitive extant genus known as well as a considerable diversity of other genera, representing all the informal groups proposed so far. The Australian genera are placed in 12 groups here, characterized briefly mainly on the basis of Australian species examined. The groups are based almost entirely on females. The placement of some genera is still uncertain.

The first six groups listed below contain species with 5-segmented tarsi, except for *Eofoersteria* and *Ptilomymar* in the *Camptoptera* group, which have 4-segmented tarsi (segments 4 and 5 fused), and *Kikiki*, place tentatively in the *Alaptus* group, which has 3-segmented tarsi (segments 4 and 5 fused). The first three of these six groups included primitive genera, i.e., genera whose species have an 8-segmented funicle in females; they are mostly relatively large individuals. The next three groups include mostly small to minute species with a 5- to 7-segmented funicle in females. The six groups correspond approximately to the divisions suggested by Schauff (1984) for the Holarctic genera, a relatively depauperate assemblage of genera compared to the Australian fauna.

**Eustochomorpha group.** Female funicle 8-segmented, clava 2 or 3-segmented (Figs. 129, 133); postmarginal vein present and distinct, and venation extending at least ¾ length of wing (Fig. 131). This group includes the most primitive mymarid species, based on the same number (11) of flagellar segments in females and males (where these are known) and the long, thick postmarginal vein.

   Included Australian genus: *Eustochomorpha*.

**Gonatocerus group.** Female funicle 8-segmented, clava entire (Figs. 138, 144); hypochaeta about midway between proximal and distal macrochaeta (Fig. 135); pronotum divided longitudinally into two lobes, either abutting medially or separated by median more or less sclerotized area; propodeum sometimes with longitudinal submedian lines or carinae but without transverse carinae (Figs. 139, 145). The unique male genitalia distinguish this group, which Viggiani (1988) placed in its own tribe, We can accept this, but we cannot accept Viggiani’s idea of including it in a subfamily together with *Stethynium* (in another tribe).

   Included Australian genus: *Gonatocerus*.

**Ooctonus group.** Female funicle 8-segmented, clava entire (Fig. 56); hypochaeta next to proximal macrochaeta (Fig. 55); pronotum entire (Fig. 59); petiole much longer than wide; gastral tergum 1 in lateral view as long as remaining terga. Schauff recognized that *Ooctonus* was related to *Gonatocerus* on the basis of primitive features, and thus an artificial grouping at the base of his cladogram. Noyes and Valentine (1989) followed Schauff and suggested several other features that are either convergent or primitive, to unite the group. We consider that *Ooctonus*, and its sister genus *Boudiennyia*, belong in their own group, near the base of what eventually gave rise to the *Polynema* group of genera (Huber 2002). Viggiani (1988) also determined this relationship, based on similarity of their male genitalia.

   Included Australian genus: *Ooctonus*.

**Arescon group.** Female fully winged (*Arescon*): fore wing with venation extending about ¾ wing length, with marginal vein much longer than submarginal vein (Fig. 44); ocelli on quadrate stemmaticum (an apparently separate sclerite on the vertex surrounded by fine lines); protibial spur not pectinate; petiole narrow, longer than wide; funicle 5-segmented, clava entire (Fig. 42). Male fully winged, the venation extending ¾ wing
length; funicle 11-segmented, each segment with setae shorter than segment (Fig. 45). Female wingless (Myrmecomymar): ocelli and stemmaticum absent; eye small with few facets; petiole as for Arescon; female funicle 7-segmented, clava entire (Fig. 171). Male fully winged, the venation extending ¾ wing length (Fig. 174); funicle 11-segmented, each segment with setae about twice as long as segment (Fig. 175). We follow Schauff (1984) and Noyes and Valentine (1989) by placing Arescon in its own group. Its relationship to Gonatocerus and the next three groups is uncertain, despite derived features suggested by Schauff (1984). Viggiani (1988) may be correct in relating this group (whose members have 5-segmented tarsi) together with groups that have 4-segmented tarsi. Huber (2002) suggested this possibility as well.

Included Australian genera: Arescon, Myrmecomymar.

**Camptoptera group.** Body usually minute but sometimes (Camptopteroides) moderately large, with distinct, narrow but short petiole (Figs. 65, 116) so mesophragma not projecting into gaster; fore wing narrow, usually distinctly curved apically (e.g., Fig. 60) (straight in Camptopteroides, Fig. 71); mandible with 1 or 2 teeth; funicle 6- (Fig. 114) or 7-segmented, if 7-segmented then funicle segment 2 often minute, ring-like (Figs. 5, 63, 70), or, rarely (Ptilomymar), 8-segmented (Fig. 236). Huber and Lin (1999) reviewed the group but did not include Ptilomymar, which at time was not considered to be a member of the group. This distinct group includes species with a narrow, short petiole and head usually with sharply margined occiput dorsally. It is related to the next group, on the basis of the narrow fore wings. We accept Schauff’s (1984) placement of members of this group near the Alaptus group, but disagree with Noyes and Valentine’s (1989) placement of this group as a subgroup within their Anaphes group of genera. Viggiani (1988) suggested placing this group in its own tribe, which we would agree with, but we would not go as far as placing this group in its own subfamily.

Included Australian genera: Camptoptera, Camptopteroides, Eofoersteria, Ptilomymar.

**Alaptus group.** Body minute, bullet-shaped, without apparent constriction between mesosoma and metasoma (petiole wide and almost indistinguishable from remaining terga), and mesophragma projecting well into gaster (Figs. 9, 95, 164); mandible with 2 teeth; funicle 5- to 7-segmented, clava entire (Figs. 8, 97, 100, 102, 163); fore wing very narrow (Figs. 7, 92, 101, 158); scutellum divided by transverse suture into distinctly separate, strongly transverse anterior and posterior scutellum (Figs. 9, 164). Schauff (1984), Viggiani (1988), and Noyes and Valentine (1989) all agree on this well defined group (they did not have information on all the genera, however), though we disagree with the latter three authors as to its relationships to other groups.

Included Australian genera: Alaptus, Dicopomorpha, Dicopus, Kikiki, Mimalaptus.

The following six groups have genera with 4-segmented tarsi. The first four groups are reasonably well defined. In contrast, the last two (Anaphes and Australomymar groups) are not and the relationships of their constituent genera need further investigation, taking into account genera from other regions that do not occur in Australia.

**Anagroidea group.** Mandibles pointing ventrally so capable of moving forward and backward but not in and out (= towards or away from longitudinal axis of body), with teeth on ventral (= posterior) surface (Figs. 22, 26); protibial spur pectinate along inner margin (Figs. 25, 125); hind wing relatively wide with broadly rounded apex (Figs. 21, 123). This group has a unique head structure. Its was not treated by other authors except, partly, by Noyes and Valentine (1988), who placed it in their subgroup d, together with members of the Cleruchus group (as defined below) and several other genera not yet reported from Australia. The relationships of the Anagroidea group are uncertain, though the pectinate fortibial spur suggests one with the Anagrus group.

Included Australian genera: Anagroidea, Eubroncus.
**Polynema group.** Gracile species with relatively long appendages (e.g., Figs. 160, 180), with body well sclerotized and usually dark coloured (Fig. 215, cleared specimen), sometimes yellow; petiole narrow, distinct, tubular, and longer than wide (Fig. 215), usually very much so (Fig. 192); fore wing venation short, the marginal vein almost punctiform, much less than half length of submarginal vein (Figs. 1, 77, 147, 190, 213, 215, 248). We agree with Schauf (1984), Viggiani (1988), and Noyes and Valentine (1989) on the contents of this group, except that Viggiani (1988) incorrectly included *Omyomymar* and *Anneckia* in the group and excluded *Richteria*.

Included Australian genera: *Acmopolynema*, *Agalmopolynema*, *Boccacciomymar*, *Himopolynema*, *Mymar*, *Palaeoneura*, *Polynema*, *Richteria*, *Stephanodes*.

**Anagrus group.** Posterior scutellum longitudinally divided medially (Figs. 212, 246) (sometimes incompletely, and apparently not at all in *Parastethynium*) and often lighter in colour than anterior scutellum (Fig. 283); face often with subantennal grooves (Figs. 16, 265); body usually poorly sclerotized and often pale coloured. This group and the following two groups intergrade to some extent, and a reasonable case could be made for including them all in one or, at most, two groups, based mainly on mesosomal structure. Schauf (1984) used the longitudinally divided posterior scutellum to define the composite group (but with reversal in at least two genera) and Noyes and Valentine (1989) included the genera of our three groups into two groups (their subgroups c and d). Viggiani (1988) placed the genera in three, unrelated tribes (Anagrini, Anaphini and Stethynini).

Included Australian genera: *Allanagrus*, *Anagrus*, *Omyomymar*, *Paranaphoidea*, *Schizophragma*, *Stethynium*, *Kompsomymar*, *Parastethynium*.

**Cleruchus group.** Face in lateral view usually strongly angular, receding abruptly below toruli to mouth; stigmal vein usually widened (Fig. 88), sometimes wider than long (Fig. 75); funicle segments often quadrate to wider than long (Figs. 83, 87, 89, 180, 221) but sometimes longer than wide (Figs. 72, 203); ocelli often in low and wide triangle with the lateral ocelli almost touching eye margins; mesosoma often depressed; fore wing often narrow with parallel sides (Fig. 88) but sometimes wider, with diverging sides (Figs. 198, 223), ovipositor often very short, originating in apical half of gaster (Figs. 181, 224, 266). The group is difficult to define because no genus has all these features and any genus may lack one or more of them (Donev & Huber 2002).

Included Australian genera: *Ceratanaphes*, *Cleruchus*, *Cybomymar*, *Nesomymar*, *Paracmotemnus*, *Prionaphes*, *Cleruchoides*.

**Anaphes group.** Face in lateral view flat or slightly rounded (unlike the *Cleruchus* group); mesophragma not projecting into gaster (e.g., Fig. 39) or, if so, projecting at most into petiole; propodeum without sculpture, at most with a longitudinal groove medially (Fig. 39) (unlike *Australomymar* group); scutellum entire (Fig. 39), not divided by medially by longitudinal suture (unlike *Anagrus* group). This group is not easy to characterize. It is defined more by exclusion from other groups than by common similarities of the four included genera. The genera can be grouped into two subgroups, each containing two genera based on their general similarity, *Anaphes* and *Pseudanaphes* in one and *Dorya* and *Erythmelus* in the other. Schauf (1984) placed *Anaphes* and *Erythmelus* together and related them to *Cleruchus*, *Stethynium* and *Anagrus* (i.e., the *Cleruchus* and *Anagrus* groups, as defined here). Noyes and Valentine (1989) placed *Anaphes* and *Dorya* together with several other genera, including *Cleruchus*, in subgroup d of their *Anaphes* group, but placed *Pseudanaphes* in their *Australomymar* group. At least one species of *Dorya* has a fore wing venation similar to some *Cleruchus*-group genera and the funicle segments are usually quadrature, suggesting that it may better be placed in the
Cleruchus group. But the wing form and arrangement of microtrichia also suggests a close relationship to Erythmelus.

Included Australian genera: Anaphes, Erythmelus, Dorya, Pseudanaphes.

Australomymar group. Ovipositor usually extremely long, forming a large loop inside gaster and distinctly exserted beyond its apex (Figs. 52, 218). Noyes and Valentine (1988) included Australomymar together with 11 other genera in this group, based on a long venation. This feature is primitive and in our opinion it unites genera that are better placed elsewhere on the basis other features, e.g., head shape, stigmal vein shape. We place only two genera in the group, based on a long, exserted ovipositor. While this may also be a primitive feature, we consider it better reflects their relationships (see also Huber, 2002). Because the genera in this group are mainly southern hemisphere in distribution, neither Schauff (1984) nor Viggiani (1988) treated them. On the basis of male genitalia, Viggiani (2003) supported Noyes and Valentine (1989) in grouping Australomymar and Scleromymar, at least (among the genera found in Australia), in their tribe Australomymarini but they did not support the inclusion of three other genera.

Included Australian genera: Australomymar, Polynemoidea.

Key to genera of Australian Mymaridae. Females. (Antenna with distinct clava of 1–3 segments and funicle with 4–8 segments)

Note. Females of Kikiki have not yet been found in the Australian fauna but must be present so are included in the key.

<table>
<thead>
<tr>
<th>1</th>
<th>Tarsi 5-segmented (Figs. 140–142)</th>
<th>2</th>
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<tr>
<td>-</td>
<td>Tarsi 4-segmented (Figs. 209–211) or, exceptionally (Kikiki), 3-segmented (Figs. 155, 156)</td>
<td>14</td>
</tr>
<tr>
<td>2(1)</td>
<td>Gaster with petiole distinct, narrow, at most about one third width of propodeal apex (Figs. 59, 139), and varying in length from shorter than wide (Fig. 132) to distinctly longer than wide (Figs. 65, 233); mesophragma not projecting into gaster</td>
<td>3</td>
</tr>
<tr>
<td>-</td>
<td>Gaster broadly joined to propodeum, the petiole indistinct (Fig. 9) and apparently almost as wide as propodeal apex or gaster (actually only about half as wide) (Fig. 164), much shorter than wide, ring-like (Fig. 164); mesophragma projecting into gaster (Fig. 95)</td>
<td>10</td>
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<tr>
<td>3(2)</td>
<td>Funicle 8-segmented (Figs. 56, 129, 133, 138, 144)</td>
<td>4</td>
</tr>
<tr>
<td>-</td>
<td>Funicle at most 7-segmented (Figs. 8, 97, 171)</td>
<td>6</td>
</tr>
<tr>
<td>4(3)</td>
<td>Clava 2- (Fig. 129) or 3-segmented (Fig. 133); fore wing venation greater than half the wing length, the marginal vein extending halfway toward wing apex and postmarginal vein well developed, extending almost to wing apex (Fig. 131)</td>
<td>Eustochomorpha Girault</td>
</tr>
<tr>
<td>-</td>
<td>Clava entire (Figs. 56, 138, 144); fore wing venation at most almost half the wing length, postmarginal vein absent (Figs. 55, 136, 143)</td>
<td>5</td>
</tr>
<tr>
<td>5(4)</td>
<td>Fore wing venation distinctly less than half the wing length, the marginal + stigmal veins together shorter than submarginal vein (Figs. 135, 143); hypochaeta about midway between proximal and distal macrochaetae (Fig. 135); pronotum divided into two lobes, either abutting medially (sulphuripes species group) or separated by a membranous or sclerotized area (litoralis species group) and without transverse carina separating collar from neck; metanotum smooth, with dorsellum distinct and either strap-like (Fig. 139) (litoralis species group) or diamond-shaped (Fig. 145) (sulphuripes species group); propodeum either with two parallel longitudinal submedian lines (Fig. 139) (litoralis species group), or sometimes with a faint median or two faint submedian, longitudinal carinae (sulphuripes species group)</td>
<td>Gonatocerus Nees</td>
</tr>
<tr>
<td>-</td>
<td>Fore wing venation about half wing length, the marginal + stigmal veins together longer than submarginal vein (Fig. 55); hypochaeta much closer to proximal than to distal macrochaeta (Fig. 55); pronoto...</td>
<td></td>
</tr>
</tbody>
</table>
Wings absent .......................................................................................................................... 7
- Wings present, but sometimes (some Camptopteroides) extremely short (Fig. 69) ........... 8

Funicle 7-segmented (Fig. 171); protibial spur (calcar) comb-like along inner margin (Fig. 172) ....
- Funicle 7-segmented or, apparently, 6-segmented (segment 2 ring-like and easily overlooked); fore wing venation much less than half wing length ......................................................... Camptopteridae Viggiani

Fore wing without dark areas contrasting with hyaline areas, and slightly but distinctly curved apically, the posterior margin slightly concave, especially towards apex, and apex rounded (Fig. 60); mandible apparently with one tooth; head and mesosoma with faint reticulate sculpture and setae short, inconspicuous in lateral view ................................................................................................ Camptopteridae Viggiani
- Fore wing with dark areas, and not curved apically, the posterior margin straight or slightly convex (strongly so in short-winged species) and its apex pointed (Figs. 69, 71); mandible with two equal-sized teeth; head and mesosoma with heavy, reticulate sculpture and setae longer, conspicuous in lateral view .................................................................................................................. Camptopteridae Viggiani

Funicle 5-segmented (Fig. 8), but if sometimes 6-segmented then the extra segment minute........ 11
- Funicle 7-segmented (some Dicopomorpha) then the extra segment normal in size ................ Dicopus Enock

Fore wing abruptly narrowing and sometimes slightly recurved behind marginal vein (Fig. 7), and posterior margin thereafter usually straight to wing apex .............................................. Alaptus Westwood
- Fore wing slightly narrowing behind marginal vein, and posterior margin thereafter slightly and evenly concave medially and then somewhat straighter almost to wing apex (Fig. 101) ....................... Dicopus Enock

Posterior scutellum divided medially by longitudinal sulcus (Fig. 164) .................................... Mimalaptus Noyes & Valentine
- Posterior scutellum entire ...................................................................................................... 13

Head in anterior view relatively long and narrow below eyes, together with ventrally-pointing mandibles giving head a beak-like appearance; mandible with one longer and one shorter tooth; scape either relatively short, widest medially and with two ventral, setate denticles (Figs. 101, 102) or very long (greatly surpassing vertex) swollen apically and without denticles; funicle 10-segmented (Fig. 103); fore wing very narrow medially, with posterior margin evenly curved medially and almost straight towards apex (Fig. 101) ........................................................................................................ Dicopomorpha Ogloblin
- Head in anterior view shorter and wider below eyes, not beak-like (as in Fig. 159); mandibles pointing towards each other and with two subequal teeth; scape with ventral setae not on denticles; funicle 9-segmented (Fig. 93); fore wing slightly wider medially than above, with posterior margin straight medially and more abruptly curved towards apex (Fig. 92) .................................................................... Dicopomorpha Ogloblin

Tarsi 3-segmented (Figs. 155, 156) ......................................................................................... Kikiki Huber & Beardsley
- Tarsi 4-segmented (Figs. 209–211) or apparently so (Fig. 115) ........................................... 15

Funicle 8-segmented (Fig. 236); propodeum with submedian longitudinal pair of tall, translucent, areolate carinae (Fig. 235) and propodeal seta branched; gastral tergum 1 anteriorly with sublateral pair
of translucent, areolate carinae (Fig. 233) ........................................................ Ptilomymar Annecke & Doutt

- Funicle at most 6-segmented; propodeum and gaster without such carinae and propodeal seta not branched; gastal tergum 2 without carinae .................................................. 16

16(15) Gaster petiolate, the petiole tube-like and slightly to considerably longer than wide (Figs. 192, 215), rarely somewhat wider than long (Fig. 23); phragma usually projecting at least slightly into gaster (Figs. 20, 212, 283); body often poorly sclerotized, the head and metasoma non-collapsing when air-dried (Figs. 23, 215); scutellum usually not clearly divided into anterior and posterior scutellum and often with a transverse row of fovea in posterior half (Figs. 191, 215) .................................................. 17

- Gaster appearing sessile or subsessile, the petiole ring-like, wider than long and barely recognizable (Figs. 182, 224, 273, 278) or narrower and distinguishable (Figs. 39, 120); phragma usually projecting at least slightly into gaster (Figs. 20, 212, 283); body often poorly sclerotized, the head and metasoma collapsing when air-dried; scutellum often clearly divided into anterior and posterior scutellum (Figs. 212, 246, 265, 273, 278, 283) and without a transverse row of fovea .............................................. 28

17(16) Body minute (about 0.3 mm) (Fig. 116), fore wing very narrow, and slightly but distinctly curved apically, as in Camptoptera; mandible apparently with only one tooth, sharply-pointed; tarsi apparently 4-segmented but actually 5-segmented, with the apical two segments broadly fused (Fig. 115) .............. Eofoersteria Mathot

- Body longer (usually more than 0.5 mm), fore wing wider and not curved apically; tarsi distinctly 4-segmented (e.g., Fig. 25) ................................................................. 18

18(17) Mandibles pointing ventrally, not crossing each other medially (mandibular condyles transverse, so mandibles move forwards and backwards) (Figs. 23, 26), with several, small teeth on ventral surface (Figs. 22, 126); hind wing relatively wide, with rounded apex (Figs. 21, 123) and its membrane extending narrowly to base of wing along venation (Fig. 123); protibial spur (calcar) comb-like along inner margin (Figs. 25, 125) ................................................................. 19

- Mandibles pointing towards each other, crossing each other medially (mandibular condyles in line with long axis of body, so mandibles move in and out) (Figs. 16, 284), with usually three equal, normal-sized teeth on inner surface (Figs. 150, 220, 265); hind wing width and apex various but its membrane beginning towards apex of venation so vein without membrane for at least half its length; protibial spur not comb-like on inner surface (Fig. 17) ................................................................................................. 20

19(18) Head in lateral view only slightly triangular, not longer than high and with small projection between toruli (Fig. 23); mandible not longer than width of mouth opening (Fig. 26); antenna double geniculate and funicle segment 1 longer than any other and about as long as pedicel (Fig. 24) ...................... Anagroidea Girault

- Head in lateral view strongly and sharply triangular (Fig. 126), much longer than high and with large, distinct shelf projecting between toruli (Fig. 124); mandible as long as height of head (Fig. 126); antenna not double geniculate and funicle segment 1 shortest of all and shorter than pedicel (Fig. 124) ...................................................... Eubroncus Yoshimoto, Kozlov & Trjapitzin

20(18) Fore wing oar-shaped, with a long, narrow petiole and short, oval, partly infuscate blade; hind wing filamentous, very short (Fig. 165) to almost 2/3 as long as fore wing; toruli at extreme dorsolateral angle of face, touching transverse trabecula (a transverse, thickened bar of dark cuticle) separating face from vertex; scape constricted medially (Fig. 166) ........................................ Mymar Curtis

- Fore wing not oar-shaped; hind wing not filamentous, though sometimes membrane very narrow (Fig. 237); toruli usually lower on face, separated from trabecula by at least half a torulus diameter (Fig. 5), but sometimes at extreme dorsolateral angle; scape not constricted medially (Figs. 5, 6) ............. 21

21(20) Petiole attached to gastral tergum ......................................................... 22

- Petiole attached to gastral sternum ................................................................. 24

22(21) Face with small pit submedially next to each torulus (Fig. 150) ............. Himopolyneuma Taguchi
- Face without a pit next to each torulus (Figs. 5, 214) ............................................................... 23
23(22) Propleura abutting each other anteriorly along midline, the prosternum thus open anteriorly (Fig. 191, faintly visible through pronotum and mesonotum); fore wing usually narrow and often slightly narrowing just beyond apex of venation (Fig. 77) but sometimes wider (Fig. 190); propodeum smooth, without carinae ................................................................. 24
- Propleura not abutting anteriorly along midline, the prosternum thus open anteriorly; fore wing usually wider just beyond apex of venation than at marginal vein; propodeum with at least an incomplete median carina [but smooth in the introduced P. saga (Girault) (Fig. 215)] ............ Polynema Haliday

24(21) Fore wing very narrow basally and very wide distally, usually with two or three wide transverse brown bands (Fig. 237); hind wing very narrow and about half as long as fore wing (Fig. 237); head and thorax (except metathorax) with distinct, areolate sculpture ........................................ Richteria Girault
- Wings not as above, fore wing usually without bands but, if banded, head and thorax at most with inconspicuous, reticulate sculpture; hind wing almost as long as fore wing (Figs. 1, 77, 248) even when very narrow .............................................................. 25
25(24) Vertex with wide, shallow depression outside each ocellus (Fig. 252); scape with imbricate (rasplike) sculpture on inner surface (Figs. 247, 252); prothoracic spiracle advanced forward, near anterior apex of notauli (Fig. 253); propodeum without median carina ................................................. Stephanodes Enoch
- Vertex usually without a depression outside each ocellus (Fig. 150); scape at most with fine reticulate sculpture on inner surface (Fig. 5); prothoracic spiracle at posterolateral angle of pronotum (Figs. 191, 215); propodeum with median or submedian carinæ ...................................................... 26
26(25) Face without a pit next to each torulus (Fig. 5); propodeum either with V-shaped submedian carinæ (Fig. 3) or with a complete median carina .......................................................................................... 27
- Face with a pit submedially next to each torulus (as in Fig. 150); propodeum with subparallel submedian carinæ, these often incomplete, present at posterior margin of propodeum only................................. 28
27(26) Propodeum with V-shaped, submedian carinæ (Fig. 3) .................................................. Acmopolynema Ogloblin
- Propodeum with a single, complete median carina ................................................. Agalmopolynema Ogloblin
28(16) Wings very short, not extending past propodeum (Figs. 107, 202, 182) or absent............................ 29
- Wings well developed (Figs. 105, 198), extending at least to apex of gaster ........................................................... 30
29(28) Funicle 4-segmented (Fig. 89); gastral terga 1 and 2 enlarged, covering about half of gaster (Fig. 91) .
- Funicle 6-segmented; gastral terga 1 and 2 similar in length to remaining terga ........................................ 30
30(29) Clava entire (Fig. 83) .................................................................................. Cleruchus Enoch
- Clava 3-segmented (Fig. 180) ................................................................................ Nesonymar Valentine
31(28) Posterior scutellum usually divided medially by a longitudinal sulcus (sometimes only in half or less in some Omyomymar and apparently not at all in Parastethynium) and often differently coloured from anterior scutellum (Figs. 212, 246, 273, 283); gaster appearing sessile with only a slight dorsal or lateral constriction between mesosoma and metasoma, the wide but short petiole barely recognizable or distinguishable from gastral tergum 1; phragma usually projecting into gaster (Figs. 20, 30, 185, 212, 246, 283) .................................................................................................................................................. 32
- Posterior scutellum entire and usually the same colour as anterior scutellum (contrasting colour in Cleruchoides); gaster usually appearing sub sessile, with a more definite dorsal and lateral constriction between mesosoma and metasoma, the petiole ring-like, usually easily distinguishable from gastral tergum 1 (Figs. 39, 52, 120, 224, 273); phragma usually not projecting into gaster or only slightly so (Figs. 39, 182, 224, 265, 278) ........................................................................................................................................................................................................... 33
32(31) Clava entire (Fig. 31); protibial spur comb-like (Fig. 32) .................................................. Anagrus Haliday
- Clava 2 or 3-segmented; protibial spur not comb-like................................................................. 33

THE AUSTRALIAN GENERA OF MYMARIDAE
Zootaxa 1596 © 2007 Magnolia Press · 13
33(32) Clava 2-segmented (Figs. 184, 205, 243) ............................................................................ 34
- Clava 3-segmented (Figs. 19, 255, 281) .................................................................................. 36
34(33) Mesoscutum uniformly coloured; hind wing normal, relatively narrow and not widened apically
(Figs. 186, 242); ovipositor not projecting forward under mesosoma ........................................... 35
- Mesoscutum medially usually with a pale midlongitudinal line (Fig.212); hind wing often extremely
wide (Fig. 206) or, if relatively narrow, wider apically than basally and with rounded apex; ovipositor
often projecting forward under mesosoma ........................................................ Paranaephoidae Girault
35(34) Ovipositor strongly exserted (for almost length of metasoma) beyond apex of metasoma (Fig. 185) ...
- Ovipositor at most only slightly exserted beyond apex of metasoma (Fig. 245) ......................... Schizophragma Ogloblin
36(33) Eye with numerous short setae among ommatidia (Fig. 284); fore wing apex distinctly truncate (Fig.
280) ......................................................................................................................... 38 Parastethynium Lin & Huber, gen. nov.
- Eye with very few, inconspicuous setae among ommatidia; fore wing apex rounded .................. 37
37(36) Clava compact, with sutures usually oblique (Fig. 255) (sometimes the sutures indistinct or incom-
plete so clava apparently 2-segmented); fore wing with characteristic shape, having a distinct rounded
lobe on hind margin behind venation, narrowing just beyond venation, then widening evenly towards
rounded to slightly pointed apex (Figs. 254, 256) ................................................................. Stethynium Enock
- Clava loose, with transverse or only slightly oblique, complete and distinct sutures (Fig. 19); fore
wing without distinct lobe on hind margin behind venation (Fig. 14) .. Allanagrus Noyes & Valentine
38(31) Ovipositor much shorter than length of gaster, arising in apical half at about level of gastral tergum 4
or beyond (Fig. 224) ............................................................................................................. 39
- Ovipositor about length of gaster, arising near base usually at or before level of gastral tergum 2
(Figs. 52, 120) ................................................................................................................. 40
40(39) Funicle segments 4–6 at most 2 times as long as wide, often shorter and almost globular (Figs. 83, 87,
221, 268) .................................................................................................................................. 40
- Funicle segments 4–6 at least 3 times as long as wide (Fig. 72) .... Ceratanaphes Noyes & Valentine
41(40) Fore wing blade mostly bare, with only one or two rows of microtrichia (Figs. 88, 269) ........ 41
- Fore wing blade entirely covered with microtrichia (Figs. 223, 274) .................................. Prionaphes Hincks
42(38) Clava entire (Fig. 51) ........................................................................................................ 43
- Clava 2- or 3-segmented (Figs. 40, 226) .................................................................................. 46
43(42) Fore wing venation at most about one-third wing length (Figs. 36, 105, 118; ovipositor not or barely
exserted and sheaths without setae .................................................. Australomyrmex Girault
- Fore wing venation at least half wing length (Fig. 49); ovipositor distinctly exserted, often for at least
length of gaster and sheaths with at least a few setae along length (Fig. 52) .. Australomyrmex Girault
44(43) Clava at least as long as four or five preceding funicle segments, widest in basal third and tapering to
apex (Figs. 109, 110) .................................................. Presbyomyrmex Girault
- Clava shorter, symmetrical, and more broadly rounded apically, usually appearing oval (Figs. 117,
268) ........................................................................................................................................... 45
45(44) Hypopygium short, inconspicuous; head in lateral view relatively thick, the gena relatively wide so
posterior margin of eye separated along entire length from back of head; mandibles normal, crossing
medially and with 3 equal sized teeth; fore wing with a single, socketed seta on posterior margin near
apex of retinaculum and basal to the marginal setae (Fig. 36); body usually black or dark brown ......
### Key to genera of Australian Mymaridae. Males.

(Antenna without clava; with flagellum of 8–11 segments similar in width. In *Anagrus*-group genera the apical two flagellomeres are usually widely joined together, clava-like, but are not wider than the preceding segments)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Note</th>
<th>Genera</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tarsi 5-segmented (Figs. 140–142)</td>
<td></td>
<td>Anaphes Haliday</td>
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<tr>
<td>-</td>
<td>Tarsi 4-segmented (Figs. 209–211) or, exceptionally (<em>Kikiki</em>), 3-segmented (Figs. 155, 156)</td>
<td>11</td>
<td>Anaphes Haliday</td>
</tr>
<tr>
<td>2(1)</td>
<td>Flagellum 11-segmented (Figs. 58, 136)</td>
<td>3</td>
<td>Paracmotemnus Noyes &amp; Valentine</td>
</tr>
<tr>
<td>-</td>
<td>Flagellum at most 10-segmented (Figs. 12, 93, 103)</td>
<td>7</td>
<td>Polynemoidea Girault</td>
</tr>
<tr>
<td>3(2)</td>
<td>Fore wing venation at least half wing length, usually much more (Figs. 44, 55, 131)</td>
<td>4</td>
<td>Pseudanaphes Noyes &amp; Valentine</td>
</tr>
<tr>
<td>-</td>
<td>Fore wing venation less than half wing length (Figs. 135, 143)</td>
<td>Gonatocerus Nees</td>
<td></td>
</tr>
<tr>
<td>4(3)</td>
<td>Flagellomeres each with at least 10 longitudinal sensilla (Fig. 133)</td>
<td>Eustochomorpha Girault</td>
<td><em>Note</em>: Male of <em>Eustochomorpha haeckeli</em> is unknown; males that key here are conspecific with females of undescribed species having a 3-segmented funicle</td>
</tr>
<tr>
<td>-</td>
<td>Flagellomeres each with at most 5 longitudinal sensilla</td>
<td>5</td>
<td>Myrmecomymar Yoshimoto</td>
</tr>
<tr>
<td>5(4)</td>
<td>Flagellomeres with setae long, about twice length of flagellomere (Fig. 175); protibial spur (calcar) comb-like along inner margin (Figs. 172, 176)</td>
<td>6</td>
<td>Boudiennyia Girault</td>
</tr>
<tr>
<td>-</td>
<td>Flagellomeres with setae normal, shorter than length of flagellomere (Fig. 66); protibial spur (calcar) smooth along inner margin (Fig. 67)</td>
<td>6</td>
<td>Arescon Walker</td>
</tr>
<tr>
<td>6(5)</td>
<td>Propodeum medially with H-shaped pattern of carinae (Fig. 59)</td>
<td>8</td>
<td>Anagrus Haliday</td>
</tr>
<tr>
<td>-</td>
<td>Propodeum without such a pattern of carinae</td>
<td>6</td>
<td>Enock</td>
</tr>
<tr>
<td>7(2)</td>
<td>Gaster with petiole distinct, narrow (less than one third width of propodeal apex) and slightly longer than wide; mesophragma not projecting into gaster (Fig. 65)</td>
<td>9</td>
<td>Haliday</td>
</tr>
<tr>
<td>-</td>
<td>Gaster broadly joined to propodeum, the propodeal foramen over half as wide as propodeal apex or gaster, and gastral petiole much shorter than wide, ring-like (Fig. 164); mesophragma projecting into gaster (Fig. 9)</td>
<td>8</td>
<td>Dicopomorpha Girault</td>
</tr>
<tr>
<td>8(7)</td>
<td>Fore wing not curved apically, the posterior margin straight so wing widening slightly towards apex</td>
<td>7</td>
<td>Eusceps Yoshimoto</td>
</tr>
</tbody>
</table>

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**Note:** Mymarid males are less common than females. Males of *Cybomymar*, *Eofoersteria*, *Polynemoidea* and *Parastethynium* are unknown or (*Dicopomorpha*) exceedingly rare and therefore not included in the key. Males of several genera have not yet been found in the Australian fauna but are likely to be present so they are included in the key.
(wider than in female, Fig. 71); wing blade with dark and light pattern and with numerous microtrichia (as in female, Fig. 71); propodeum with distinct reticulate sculpture

- Fore wing curved apically, the posterior margin concave and paralleling anterior margin; wing blade hyaline and usually with few microtrichia, often in single median row (Fig. 60); propodeum without sculpture or with faint reticulate sculpture and sometimes with carinae

  9(7) Flagellum (Fig. 12) 8 or 9-segmented, rarely with an additional minute ring segment between segments 1 and 2 ......................................................................................................................... Camptopteroides Viggiani

  - Flagellum 10-segmented (Figs. 103, 159) ........................................................................................................... Alaptus Westwood

  10(9) Fore wing extremely narrow medially, with posterior margin slightly and evenly concave along much of its length, and with few microtrichia on blade (Fig. 101); posterior scutellum shorter than anterior scutellum and not divided medially by longitudinal suture

  - Fore wing wider medially, the posterior margin concave mainly towards apex (Fig. 158), and often with several rows of microtrichia on blade; posterior scutellum longer than anterior scutellum and divided by mediolongitudinal suture (Fig. 164) ........................................................................... Dicopus Enock

  - Flagellum 10-segmented (Figs. 103, 159) ........................................................................................................... Mimalaptus Noyes & Valentine

  11(1) Tarsi 3-segmented (Figs. 155, 156); flagellum 9-segmented (Fig. 154) .......... Kikiki Annecke & Doutt

  - Tarsi 4-segmented (Fig. 231); flagellum usually 11-segmented (Fig. 232) but sometimes 10- or 9-segmented

  12(11) Propodeum with longitudinal submedian pair of tall, translucent, areolate carinae (Fig. 235) and propodeal seta branched; gastral tergum 1 anteriorly with sublateral pair of translucent, areolate carinae (Fig. 233) ................................................................................................................... Ptilomymar Annecke & Doutt

  - Propodeum and gaster without such carinae and propodeal seta not branched; gastral tergum 1 without carinae

  13(12) Gaster petiolate, the petiole tube-like, slightly to considerably longer than wide (Figs. 23, 192); mesophragma not projecting into gaster (Figs. 23, 191); body often well sclerotized, the head and metasoma non-collapsing when air-dried (Figs. 23, 191); scutellum usually not clearly divided into anterior and posterior scutellum and often with a transverse row of fovea in posterior half (Figs. 191, 215) ......................................................................................................................... Anagroidea Girault

  - Gaster appearing sessile, the petiole ring-like, wider than long, either about half as wide as apex of propodeum and barely recognizable (Fig. 212) or narrower, about one-third width of propodeal apex, and distinguishable (Fig. 39); mesophragma usually projecting a least slightly into gaster (Fig. 212); body often poorly sclerotized, the head and metasoma collapsing when air-dried; scutellum often clearly divided into anterior and posterior scutellum (Fig. 273) but usually without a transverse row of fovea

  14(13) Mandibles pointing ventrally, not crossing each other medially (mandibular condyles transverse, so mandibles move forewards and backwards) (Figs. 23, 26), with several, small teeth on ventral surface (Figs. 22, 126); hind wing relatively wide, with rounded apex (Figs. 21, 123) and membrane extending narrowly to base of venation (Fig. 123); protibial spur (calcar) comb-like along inner margin (Figs. 25, 125)

  - Mandibles pointing towards each other, crossing each other medially (mandibular condyles in line with long axis of body, so mandibles move in and out), with usually three equal, normal-sized teeth on inner surface (Figs. 150, 220, 265); hind wing width and apex various, but its membrane beginning towards apex of venation so venation without membrane for at least half its length (Fig. 1); protibial spur not comb-like on inner surface (Fig. 17)

  15(14) Head in lateral view only slightly triangular, not longer than high and with small projection between toruli (Fig. 23); mandible not longer than width of mouth opening (Fig. 26) ........ Anagroidea Girault

  - Head in lateral view strongly and sharply triangular (Fig. 126), much longer than high and with large,
distinct shelf projecting between toruli (Fig. 124); mandible as long as head height (Fig. 126).............

Eubroncus Yoshimoto, Kozlov & Triapitzin

16(14) Fore wing oar-shaped, with a long, narrow petiole and short, oval, partly infuscate blade; hind wing filamentous, very short (Fig. 165) to almost 2/3 as long as fore wing; toruli at extreme dorsolateral angle of face, touching transverse trabecula (a transverse, thickened bar of dark cuticle) separating face from vertex; scape constricted medially (Fig. 166) ........................................ Mymar Curtis

- Fore wing not oar-shaped; hind wing not filamentous, though sometimes membrane very narrow (Fig. 237); toruli usually lower on face, separated from trabecula by at least half a torulus diameter (Fig. 5), but sometimes at extreme dorsolateral angle; scape not constricted medially (Figs. 5, 6) .......... 17

17(16) Petiole attached to gastral sternum ........................................................................................................ 20

- Petiole attached to gastral tergum ........................................................................................................ 18

18(17) Face with small pit submedially next to each torulus (Fig. 150) ................. Himopolynema Taguchi

- Face without a pit submedially next to each torulus (Figs. 5, 214) .......................................................... 19

19(18) Propleura abutting each other anteriorly along midline, the prosterum thus closed anteriorly (Fig. 191); fore wing usually narrow and often slightly narrowing just beyond apex of venation (Fig. 77) but sometimes wider (Fig. 190); propodeum without carinae ............... Palaeoneura Waterhouse

- Propleura not abutting anteriorly along midline, the prosterum thus open anteriorly; fore wing usually wider just beyond apex of venation than at marginal vein; propodeum with at least an incomplete median carina [but smooth in the introduced P. saga (Girault)] ............... Polynema Haliday

20(17) Fore wing very narrow basally and very wide distally, usually with two or three wide transverse brown bands (Fig. 237); hind wing very narrow and about half as long as fore wing (Fig. 237); head and thorax (except metathorax) with distinct, areolate sculpture .................. Richteria Girault

- Wings not as above, fore wing usually without bands but, if banded, head and thorax at most with inconspicuous, reticulate sculpture; hind wing almost as long as fore wing (Figs. 1, 77, 248) even when very narrow .......................................................................................... 21

21(20) Vertex with wide, shallow depression outside each ocellus (Fig. 252); scape with imbricate (rasplike) sculpture on inner surface (Figs. 247, 252); prothoracic spiracle advanced forward, near anterior apex of notaulli (Fig. 253); propodeum without median carina ....................................................... Stephanodes Enoch

- Vertex usually without a depression outside each ocellus (Fig. 150); scape at most with fine reticulate sculpture on inner surface (Fig. 5); prothoracic spiracle at posterolateral angle of pronotum (Figs. 191, 215); propodeum with median or submedian carinae .......................................................... 22

22(21) Face without a pit submedially next to each torulus (Fig. 5); propodeum either with V-shaped submedian carinae (Fig. 3) or with a complete median carina ...................................................... 23

- Face with a submedian pit next to each torulus; propodeum with subparallel submedian carinae, these often incomplete, present at posterior margin of propodeum only ................................................................. Boccacciomymar S. Triapitsyn & Berezovskiy

23(22) Propodeum with V-shaped, submedian carinae (Fig. 3) ........................................ Acmopolynema Ogglolin

- Propodeum with a single, complete median carina ................................... Agalmopolynema Ogglolin

24(13) Wings very short, not extending past propodeum (Figs. 107, 182, 202) or wings absent .............. 25

- Wings well developed, extending at least to apex of gaster (Figs. 105, 198) ........................................... 26

25(24) Head in lateral view angular, strongly receding from toruli towards mouth margin. Cleruchus Enoch

- Head in lateral view slightly bulging but not strongly receding towards mouth margin ........................ Nesopatasson Valentine

26(24) Posterior scutellum divided medially by a longitudinal sulcus (sometimes only in partly divided in some Omyomymar specimens) (Figs. 212, 246, 273, 283); gaster appearing sessile with only a slight dorsal or lateral constriction between mesosoma and metasoma, the extremely short petiole about half as wide as apex of propodeum or gastral tergum 1 and barely recognizable or distinguishable from

THE AUSTRALIAN GENERA OF MYMARIDAE

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gastral tergum 1; mesophragma usually projecting at least slightly into metasoma (Figs. 20, 30, 185, 212, 246, 283) ................................................................................................................................. 27
- Posterior scutellum entire; gaster appearing subsessile, with a distinct dorsal and lateral constriction between mesosoma and metasoma, the petiole ring-like, about one-third width of propodeal apex at junction with propodeum (but over half as wide in Cleruchoides) and usually easily distinguishable from gastral tergum 1 (Figs. 39, 52, 120, 224, 273); mesophragma not projecting into gaster or scarcely so ........................................................................................................................................... 32

27(26) Scape with numerous short, stout setae covering inner surface (Fig. 187); gena in lateral view massive, twice width of relatively small eye .................................................. *Omyomymar* Schauff
- Scape without setae on inner surface or, if with setae (*Allanagrus*), these longer, thin and hair-like; gena in lateral view narrower, less than twice width of eye, the eye of normal size ............... 28

28(27) Protibial spur comb-like, with row of sete along inner margin in addition to apical bifurcation (Fig. 32); fore wing narrow, especially just beyond venation (Figs. 32, 33) ................. *Anagrus* Haliday
- Protibial spur not comb-like; fore wing wider .............................................................................................................................. 29

29(28) Genitalia not encapsulated in saclike phallobase, asymmetrical (Fig. 259, and fig. 3 in Viggiani 1989); fore wing characteristically shaped, with a distinct, rounded lobe behind venation, narrowing just beyond venation, then widening evenly towards rounded to slightly pointed apex ................................................................. *Stethynium* Enoch
- Genitalia encapsulated in saclike phallobase, symmetrical (Fig. 208); fore wing without a distinct lobe behind venation (Fig. 206) ........................................................................................................ 30

30(29) Hind wing often extremely wide or, if relatively narrow, wider apically than basally and with rounded apex (Fig. 206) .................................................. *Paranaphoidea* Girault
- Hind wing normal, not unusually narrow or wide, and somewhat pointed apically (Figs. 14, 242) ..31

31(30) Face with subantennal grooves extending to mouth margin (Fig. 16); scape with numerous hairlike setae on inner surface; mesophragma in dorsal view rounded apically (Fig. 20) .............................................................................................................................. *Allanagrus* Noyes & Valentine
- Face without subantennal grooves; scape without setae but with transverse striations on inner surface; mesophragma in dorsal view notched apically (as in Fig. 212).............. *Schizophragma* Ogloblin

32(26) Fore wing venation at least half wing length, the marginal vein at least as long as submarginal vein (Figs. 49, 198) .......................................................... 33
- Fore wing venation at most 0.4 wing length, the marginal vein distinctly shorter than submarginal vein ......................................................................................................................... 34

33(32) Fore wing usually with a more or less defined oblique line of microtrichia extending from apex of venation to posterior margin of wing at about one-quarter wing length from wing apex (Fig. 49) or, if microtrichia row absent, a fold present ........................................... *Australomymar* Girault
- Fore wing without such a line of microtrichia or fold ....................... *Paracmotemnus* Noyes & Valentine

34(32) Fore wing venation about 0.4 wing length and with curved brown suffusion behind relatively long marginal vein, and apex of blade symmetrically rounded (Fig. 225) ................................................................................................................................. 35
- Fore wing venation usually shorter and usually without suffusion as above, though sometimes with brown bands beyond venation, but if as above then apex of blade often at least slightly asymmetrical ...................................................................................................................... 36

35(34) Head in lateral view with face rounded to flat, barely receding from toruli to mouth margin; toruli directed forward .............................................................................. 36
- Head in lateral view with face angular, strongly receding from toruli to mouth margin; toruli often directed obliquely upward .................................................................................. 39

36(35) Pronotum entire .................................................................................. *Anaphes* Haliday
- Pronotum longitudinally divided medially (by distinct suture or pale line) into two lobes ............... 37

37(36) Scape with strong, isodiametric cellulate sculpture on inner surface (Fig. 263) ................................. 38

Kompsonymar Lin & Huber. gen. nov.

- Scape at most only faintly sculptured on inner surface ........................................................................ 38

38(37) Head in lateral view thin, the gena very narrow so posterior margin of eye, at least dorsally, touching or almost touching back of head ................................................................. Erythmelus Enock

- Head in lateral view relatively thick, the gena relatively wide, so posterior margin of eye separated along entire length from back of head ................................................................. Dorya Noyes & Valentine

39(35) Flagellar segments at least 2.5X as long as wide (Fig. 74) ...................... Ceratanaphes Noyes & Valentine

- Flagellar segments shorter, at least some not much longer than wide (Fig. 85) ................................. 40

40(39) Fore wing blade entirely covered with microtrichia (Figs. 223, 274) ................................. Prionaphes Gahan

- Fore wing blade with one or two rows of microtrichia but otherwise bare (Fig 88) ........................... 41

41(40) Fore wing parallel-sided or almost so, knife-like, at least 8X as long as wide, and posterior margin with weak lobe behind apex of venation (Fig. 88) .................................................. Cleruchus Enock

- Fore wing with anterior and posterior margins diverging, about 6X as long as wide, and posterior margin distinctly lobed behind apex of venation (Fig. 269)...... Cleruchoides Lin & Huber. gen. nov.

Genus Acmopolynema Ogloblin (Figs. 1–6)

Acmopolynema Ogloblin, 1946: 286. Type species: Stichothrix bifasciatiennis Girault, by original designation.


Diagnosis. Acmopolynema belongs to the Polynema group of genera. It is distinguished from other genera in the group as follows: propodeum medially with a V-shaped carina (Fig. 3); fore wing (Fig. 1) with discal microtrichia often thickened at their base or sometimes otherwise modified (see Schauff 1981), though this does not appear to be evident in Australian species; face (Fig. 5) without pits between toruli; and petiole attached to gastral sternum. Female antenna as in Fig. 5. Fore leg as in Fig. 2. Male genitalia as in Fig. 4. Acmopolynema is most likely to be confused with Himopolynema, which also has two submedian carinae joined posteroventrally, but in Himopolynema the shape of the carinae is different, the thoracic setae are blunt apically (Taguchi 1977) the face has a pit next to each torulus, and the petiole is attached to the gastral tergum.

Body length. 1090–1450 μm.


Hosts. Unknown for Australian species. Elsewhere reported from Gryllidae, Cercopidae, and Cicadellidae.


Australian species (3):


Saigon (now Ho Chi Minh City).

**A. sp.** (undescribed but illustrated in Triapitsyn & Berezovskiy, 2007: 37).

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**Genus Agalmopolynema Ogloblin (Figs. 195–197)**

*Agalmopolynema* Ogloblin, 1960: 2 (as subgenus of *Barypolynema*). Type species: *Barypolyema* (*Agalmopolynema*) *succineum* Ogloblin, by original designation.

**Diagnosis.** *Agalmopolynema* belongs to the *Polynema* group of genera. It is distinguished from other genera in the group as follows: face without pits next to toruli, propleura abutting anteriorly, mesosoma with rather quadrate anterolateral corners, fore wing without microtrichia behind and just beyond venation, propodeum with complete median carina, petiole attached to gastral sternum, clava and at least funicle segment 6 of female and flagellomeres of male with numerous short longitudinal sensilla.

**Body length.** 1500–2400 μm.

**Distribution.** Australia, South America.

**Hosts.** Unknown.

**Important references.** Fidalgo (1988); Huber and Fidalgo (1997).

Australian species (5):

**A. elatum** (Girault, 1929 [428]: 29) (*Polynema*); New, 1976: 6 (redescription), 21 (key); Dahms, 1983: 240 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer). **TL:** Qld, Cairns.

**A. glabricorpus** (Girault, 1929 [428]: 29) (*Polynema*); New, 1976: 8 (redescription); Dahms, 1984: 650 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer). **TL:** Qld, Cairns.

**A. grotiusi** (Girault, 1913 [165]: 122, 128 [key]) (*Polynema*); New, 1976: 8 (redescription), 22 (key); Dahms, 1984: 668 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer). **TL:** Qld, Harvey’s Creek.

**P. lodgei** (Girault, 1913 [165]: 123) (*Polynema*); Girault, 1915 [228]: 166 (typographical correction); New, 1976: 10 (redescription), 22 (key); Dahms, 1984: 762 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer). **TL:** Qld, Meerewa.

**P. wallacei** (Girault, 1915 [228]: 166) (*Polynema*); New, 1976: 19 (redescription), 22 (key); Dahms, 1986: 648 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer). **TL:** Qld, Babinda.

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**Genus Alaptus Westwood (Figs. 7–13)**

*Alaptus* Westwood, 1839: 79. Type species: *Alaptus minimus* Westwood, by monotypy.


**Diagnosis.** *Alaptus* belongs to the *Alaptus* group of genera. It is distinguished from other genera in the group as follows: female funicle 5-segmented (Fig. 8) but, exceptionally, a minute additional segment may occur; fore wing with posterior margin behind venation usually deeply and abruptly excised (Fig. 7) and its hind margin usually straight so the fore wing beyond basal excision widens evenly and continuously towards wing apex. Fore leg as in Fig. 13. Male flagellum 8-segmented (Fig. 12) and genitalia as in Figs. 10, 11.

The apparently wingless *A. apterus* may be an artifact. Neither of the two known specimens has wings but it is possible they were broken off and lost before slide mounting (none was found on the Girault slide). *Alaptus* is
most likely to be confused with *Dicopomorpha*, whose species have the funicle 7-segmented and the fore wing posterior margin slightly curved apically.

**Body length.** 228–445 μm.

**Distribution.** Worldwide.

**Hosts.** Unknown for Australian species. Elsewhere reported from Psocoptera and perhaps Coccoidea. The records from Coccoidea need confirmation.

**Important references.** Girault (1908 [51]), Soyka (1939), Hincks (1959).

Australian species (15 + 4 subspecies):

*A. ah* Girault, 1930 [432]: 2; Dahms, 1983: 26 (types). **TL:** Qld, Indooroopilly.

*A. animus* Girault, 1913 [165]: 109; Girault, 1914 [219]: 110 (redescription); Dahms, 1983: 43. **TL:** Qld, Nelson [= Gordonvale].

*A. apterus* Girault, 1920 [353]: 99; Dahms, 1983: 77 (types). **TL:** Qld, Nel-son [= Gordonvale].


*A. bidentatus aethiops* Girault, 1938 [452]: 395; Dahms, 1983: 135 (types). **TL:** Qld, Indooroopilly.

*A. bidentatus* Girault, 1938 [452]: 395; Dahms, 1983: 135 (types). **TL:** Qld, Indooroopilly.


*A. globosicornis* Girault, 1908 [51]: 188; Girault, 1913 [135]: 10 (distribution). **TL:** USA, FL, Orlando.

*A. globosicornis australiensis* Girault, 1912 [120]: 124; Girault, 1915 [228]: 169 (occurrence); Girault, 1916 [274]: 207 (correction); Dahms, 1984: 652 (types). **TL:** Qld, Nelson [= Gordonvale].

*A. immaturus* Perkins, 1905: 197; Perkins, 1910: 661 (host); Girault, 1913 [135]: 9 (distribution); Girault, 1914 [219]: 111 (comparison with *maccabei*). **TL:** Qld, Bundaberg.

*A. inciliatus* Girault, 1930 [432]: 2; Dahms, 1984: 714 (types). **TL:** Qld, Roma.

*A. maccabei* Girault, 1913 [165]: 109; Girault, 1914 [219]: 111 (description); Dahms, 1984: 779 (types). **TL:** Qld, Nelson [= Gordonvale].

*A. muelleri* Girault, 1912 [120]: 122, 127; Dahms, 1984: 834 (types). **TL:** WA, Swan River.

*A. newtoni aurizona* Girault, 1938 [452]: 395; Dahms, 1986: 326 (types). **TL:** Qld, Ashgrove.

*A. newtoni* Girault, 1912 [120]: 125, 127; Dahms, 1986: 325 (types). **TL:** Qld, Nelson [= Gordonvale].

*A. oh* Girault, 1930 [432]: 3; Dahms, 1986: 368 (types). **TL:** Qld, Indooroopilly.


*A. quadratus* Girault, 1929 [429]: 3; Dahms, 1986: 452 (types). **TL:** Qld, Taringa.


**Genus Allanagrus** Noyes & Valentine (Figs. 14–20)


**Diagnosis.** *Allanagrus* belongs to the *Anagrus* group of genera. It is distinguished from other genera in the group as follows: clava 3-segmented and rather loose, with the sutures between segments almost transverse (Fig. 19); posterior scutellum divided medially by a longitudinal groove; fore wing with posterior margin scarcely lobed behind venation (Fig. 14). Fore leg as in Fig. 17. Male flagellum 11-segmented (Fig. 15) and genitalia as in Fig 18.

*Allanagrus* is most likely to be confused with *Stethynium*, but *Stethynium* species have the fore wing posterior margin more distinctly lobed behind the venation and the clava is more compact and oval, usually with partly oblique and less distinct sutures between the segments. *Allanagrus* males are much more easily sepa-
rated from *Stethynium* males than are females because *Stethynium* has unique, asymmetrical and complex genitalia and the apical two flagellar segments are fused, clublike, whereas *Allanagrus* has relatively simple genitalia (Fig. 18), and the apical two flagellar segments (Fig. 15) are similar to the preceding segments, not fused.

**Body length.** 465–841 μm.

**Distribution.** Australian region.

**Hosts.** Unknown.


Australian species (3):

*A. aurum* (Girault, 1938 [452]: 388); Dahms, 1983: 85 (types). **Comb. nov.** from *Stethynium*. **TL:** Vic., Canterbury.

*A. gladius* (Girault, 1915 [228]: 162); Dahms, 1984: 651 (types). **Comb. nov.** from *Stethynium*. **TL:** Qld, Gordonvale.

*A. mayeri* (Girault, 1912 [120]: 161, 166 [key]); Dahms, 1984: 801 (types). **Comb. nov.** from *Stethynium*. **TL:** Qld, Nelson (= Gordonvale).

**Genus Anagroidea** Girault (Figs. 21–29)

*Anagroidea* Girault, 1915 [228]:164. Type species: *Eustochus dubius* Girault, by original designation.


**Diagnosis.** *Anagroidea* belongs to the *Anagroidea* group of genera. It is distinguished from *Eubroncus*, the only other genus in the group, as follows: funicle segment 1 much longer than any other (Fig. 24); head short, with face in lateral view rounded (Fig. 23); mandibles much shorter than height of head (Fig. 23), directed ventrally and not crossing each other (Figs. 22, 26); body often with long, erect setae (Fig. 23). Fore leg as in Fig. 25, with protibial spur comblike. Male flagellum 11-segmented (Fig. 28) and genitalia as in Figs. 27 and 29.

**Body length.** 589–947 μm.

**Distribution.** Worldwide, except Europe and Africa.

**Hosts.** Unknown.

**Important reference.** Triapitsyn & Berezovskiy (2002b).

Australian species (2):


*A. dubia* (Girault, 1913 [165]: 128) (*Eustochus*); Girault, 1915 [228]: 164 (female described); Viggiani, 1973: 253 (redescription); Dahms, 1983: 232, 235 (types). **TL:** Qld, Kuranda.


**Genus Anagrus** Haliday (Figs. 30–35)


*Pteratomus* Packard, 1864: 137. Type species: *Pteratomus putnamii* Packard, by monotypy. Synonymy formalized by


**Diagnosis.** *Anagrus* belongs to the *Anagrus* group of genera. It is distinguished from other genera in the group as follows: female clava entire (Fig. 34); protibial spur comblike (Fig. 32); axillae advanced forward of posterior margin of mesoscutal midlobe; posterior scutellum short, with each lobe at most as long as wide; fore wing with posterior margin behind venation only slightly lobed (Fig. 33). Male antenna filiform, with an 11-segmented flagellum and apical two segments not fused, their junction similar to preceding segments (Fig. 34). Male genitalia (subgenus *Paranagrus* is illustrated) as in Fig. 35.

**Body length.** 376–683 μm.

**Distribution:** Worldwide.

**Hosts.** Cicadellidae and Delphacidae reported for Australian species. Elsewhere reported also from Cer- copidae, Tingidae, and Odonata (Zygoptera).


Australian species (11):

*A. antipodus* Triapitsyn, 2001: 284. **TL:** Qld, Cockeyo Cr. Xing, 17 km NW Heathlands.


*A. baeri* Girault, 1912 [120]: 155; Dahms, 1983: 115 (types); Triapitsyn, 1996: 106 (redescription); Triapitsyn, 2001: 281 (distribution); Triapitsyn & Freebairn, 2004: 157 (hosts, redescription). **TL:** Qld, Babinda.


*A. frequens* Perkins, 1905: 198; Triapitsyn, 2001: 278 (distribution, synonymy, type validation). **TL:** Qld, Bundaberg.

= *A. armatus australiensis* Girault, 1912 [120]: 158; Girault, 1913 [155]: 256 (paratype data); Girault, 1913 [165]: 115 (paratype data); Dahms, 1983: 56 (types); Triapitsyn, 1996: 106 (synonymy). **TL:** Qld, Nelson [= Gordonvale].


**Genus Anaphes Haliday (Figs. 36–41)**


*Panthus* Walker, 1846: 50. Type species: *Panthus crassicornis* Walker, by subsequent designation (Gahan & Fagan


**Anaphoidea** Girault, 1909 [61]: 167. Type species: *Anaphoidea sordidata* Girault, by original designation. Synonymy by Debauche (1949: 64).

**Clinomymar** Kieffer, 1913: 100. Type species: *Clinomymar peyerimhoffi* Kieffer, by original designation. Synonymy by Debauche (1949: 63) but suggested as a synonym by Ogloblin (1935).

**Yungaburra** Girault, 1933 [440]: 5. Type species: *Anaphoidea nitens* Girault, by original designation. Synonymy formalized by Huber (1992: 32).


**Stammeriella** Soyka, 1950: 120. Type species: *Stammeriella wolfsthali* Soyka, by original designation. Synonymy formalized by Annecke & Doutt (1961: 19).


**Diagnosis.** *Anaphes* belongs to the *Anaphes* group of genera. It is distinguished from other genera in the group as follows: body black or very dark brown; funicle segment 1 conspicuously shorter than remaining segments (Fig. 40); fore wing with a single, suberect seta at apex of retinaculum (just at base of marginal fringe of setae) (Fig. 36) and often with a conspicuous line of micrtotrichia extending from stigmal vein towards wing apex that separates a clear area (marginal space) along anterior margin beyond venation from another clear area (medial space) behind stigmal vein; propodeum divided medially by a sulcus (Fig. 39). Fore leg as in Fig. 41. Male flagellum 11-segmented or apparently 10-segmented (in fact, 11-segmented but segment 1 minute and barely visible in some species, e.g. *A. nitens*) (Fig. 37). Male genitalia as in Fig. 38.

Some *Anaphes* species bear a superficial resemblance to *Pseudanaphes*, but the latter have a 3-segmented clava as well as several other distinguishing features, as listed under the latter genus. In Australia, no *Anaphes* species with 3-segmented clava have yet been found.

**Body length.** 346–1357 μm.

**Distribution.** Worldwide.

**Hosts.** Curculionidae reported for Australian species (Huber & Prinsloo, 1990). Elsewhere reported mainly from Curculionidae and Chrysomelidae; also from Argidae, Brentidae, Byrrhidae, Ephydridae, Gerridae, Miridae, Tephritidae, and Tipulidae.

**Important references.** Ferrière (1930), Huber (1992, 2006).

Australian species (8):

- **A. australia** (Girault, 1920 [353]: 97) (*Anaphoidea*); Dahms, 1983: 86 (types). **TL:** Qld, Nelson [= Gordonvale].


- **A. galtoni** (Girault, 1912 [120]: 152) (*Anaphoidea*); Girault, 1914 [215]: 288 (male description); Girault,
1915 [228]: 164 (male description); Ferrière, 1930: 39 (key); Dahms, 1984: 644 (types). TL: Qld, Roma.

**A. inexspectatus** Huber & Prinsloo, 1990: 340, 335 (key). TL: Tas., Hobart or Fingal.

**A. linnaei** (Girault, 1912 [120]: 153) (Anaphoidea); Ferrière, 1930: 39 (key); Dahms, 1984: 757 (types). TL: Qld, Nelson [= Gordonvale].

**A. nitens** (Girault, 1928 [420]: 262) (Anaphoidea); Dahms, 1985: 348 (types); Huber & Prinsloo, 1990: 333 (key), 336 (redescription); Huber, 1992: 53 (types, distribution). TL: Vic., Ferntree Gully. Almost 300 references to this species exist in the world literature.

= **A. gonipteri** (Ferrière, 1930: 38) (Anaphoidea); Girault 1930 [433]: 4 (synonymy). TL: South Africa, Pretoria.

**A. saintpierrei** Girault, 1913 [165]: 117; Girault, 1915 [228]: 179 (listed); Dahms, 1986: 494 (types). TL: Qld, Cairns, Harvey’s Creek.


**Genus Arescon** Walker (Figs. 42–46)


**Diagnosis.** *Arescon* belongs to the *Arescon* group of genera. It is distinguished from *Myrmecomymar*, the only other genus in the group, as follows: ocelli enclosed by stemmaticum (series of lines connecting outer margins of ocelli); funicle 5-segmented (Fig. 42); wings present and fully developed, with venation about 2/3 wing length and marginal vein much longer than submarginal vein (Fig. 44); protibial spur not comblike along inner margin (Fig. 43). Male flagellum 11-segmented (Fig. 45) and genitalia as in Fig. 46.

**Body length.** 416–594 μm.

**Distribution.** Worldwide.

**Hosts.** Unknown for Australian species. Elsewhere reported from Cicadellidae.


Australian species (4):


**A. hilaris** (Girault, 1936 [446]: 1) (*Leimacis*); Dahms, 1984: 691 (types). TL: Qld, Indooroopilly.


**A. nigriceps** (Girault, 1934 [443]: 2); Noyes & Hayat, 1984: 233 (transfer to Mymaridae). **Comb. nov.** from *Anthemus*. TL: Vic., Canterbury.

**Genus Australomymar** Girault (Figs. 47–53)

*Australomymar* Girault, 1929 [431]: 343. Type species: *Australomymar aurigerum* Girault, by monotypy.

**Nesetaerus** Doutt, 1955: 12. Type species: *Nesetaerus gressitti* Doutt, by monotypy. **Syn. nov.**

**Diagnosis.** *Australomymar* belongs to the *Australomymar* group of genera. It is distinguished from other genera in the group as follows: clava entire (Fig. 51); fore wing with a diagonal fold and line of microtrichia
(rarely both absent) extending from apex of stigmal vein to posterior wing margin (Fig. 49); ovipositor usually strongly exserted and sheaths bearing at least a few setae along exserted portion (Fig. 52). Fore leg as in Fig. 47. Male flagellum 11-segmented (Fig. 48) and genitalia as in Figs. 50 and 53.

One of us (JTH) examined the holotype of *Nesetaerus gressitti* (in USNM) and concluded it belonged to *Australomymar*. In 1999, JTH examined the holotype of *Polynemoidea incerta* Girault and realized that it also belonged to *Australomymar*. Viggiani (1973) independently had noted that *P. incerta* was incorrectly placed in *Polynemoidea* and might belong to *Nesetaerus*. The above generic synonymy is therefore proposed, and *A. gressitti* (Doutt) from the Caroline Islands is **comb. nov.** from *Nesetaerus*.

**Body length.** 690–1690 μm.

**Distribution.** Australian, Oriental, and Neotropical regions.

**Hosts.** Unknown.

**Important reference.** New (1974).

Australian species (2):

*A. aurigerum* Girault, 1929 [431]: 343; New, 1974: 229 (redescription); Dahms, 1983: 80 (types). **TL:** Vic., Warragul.

*A. incerta* (Girault, 1938 [452]: 391); Viggiani, 1973: 261 (redescription); Doutt, 1973: 219 (redescription); Dahms, 1984: 714 (types). **Comb. nov.** from *Polynemoidea*. **TL:** Qld, no locality specified.

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**Genus Boccacciomymar S. Triapitsyn & Berezovskiy**

*Boccacciomymar* S. Triapitsyn & Berezovskiy, 2007: 44. Type species: *Palaeoneura turneri* Waterhouse, by original designation.

**Diagnosis.** *Boccacciomymar* belongs to the *Polynema* group of genera. It is distinguished from other genera in the group as follows: face with pits between (next to) toruli; prosternum closed anteriorly by propleura, which abut in front of prosternum; propodeum with short, subparallel, submedian carinae; petiole attached posteriorly to gastral sternum.

**Body length.** Ca. 600–1400 μm.

**Hosts.** Unknown.

**Distribution.** Australia.

**Important Reference.** Triapitsyn & Berezovskiy (2007).

Australian species (8):

*B. conquistador* S. Triapitsyn & Berezovskiy, 2007: 51. **TL:** Qld, Brisbane Forest Park.

*B. decameron* S. Triapitsyn & Berezovskiy, 2007: 48. **TL:** ACT, Canberra, Black Mountain, CSIRO.


= *B. quadrripetiolum* (Girault, 1938 [452]: 392) (*Polynema*); New, 1976: 13 (redescription), 23 (key); Dahms, 1986: 457 (types); Triapitsyn & Berezovskiy, 2007: 47 (generic transfer, synonymy). **TL:** Qld, Redland Bay.

= *B. schumanni* (Girault, 1932 [438]: 1) (*Polynema*); Girault, 1934 [443]: 2 (description); New, 1976: 14 (redescription), 23 (key); Dahms, 1986: 508 (types); Triapitsyn & Berezovskiy, 2007: 47 (generic transfer, synonymy). **TL:** Qld, Cedar Creek.

*B. aligherini* (Girault, 1915 [228]: 167) (*Polynema*); New, 1976: 3 (redescription), 23 (key); Dahms, 1983: 38


**Genus Boudiennyia** Girault (Figs. 54–59)

*Boudiennyia* Girault, 1937 [448]: 2. Type species: *Octonus saintpierrei* Girault, by original designation.

**Diagnosis.** *Boudiennyia* belongs to the *Octonus* group of genera. It is the only Australian genus of the group and is distinguished from the superficially similar genus *Gonatocerus*, whose species also have an 8-segmented funicle and entire clava, as follows: propodeum with a distinct transverse carina (costula) joining the longitudinal submedian carinae (Fig. 59); fore wing with venation more than half wing length and hypochaeta much closer to proximal macrochaeta than to distal macrochaeta (Fig. 55); gaster distinctly petiolate, the petiole at least 3x as long as wide. Fore leg as in Fig. 54. Male flagellum 11-segmented (Fig. 58) and genitalia as in Fig. 57.

**Body length.** 717–1203 μm.

**Hosts.** Unknown.

**Distribution.** Australia.

**Important Reference.** Huber (2002).

Australian species (1):

**B. saintpierrei** (Girault, 1913 [158]: 80) (*Octonus*); Girault, 1913 [165]: 107 (description); Girault, 1937 [448]: 2 (generic transfer); Dahms, 1986: 497 (types). **TL**: Qld, Kuranda.

**Genus Camptoptera** Förster (Figs. 60–65)

*Camptoptera* Förster, 1856: 116, 119. Type species: *Camptoptera papaveris* Förster, by monotypy.


**Diagnosis.** *Camptoptera* belongs to the *Camptoptera* group of genera. It is distinguished from other genera in the group as follows: body small to minute; head and mesosoma weakly reticulate; funicle 7-segmented, with segment 2 usually very short, ringlike (Fig. 63); mandible with 1 tooth; fore wing narrow, with posterior margin usually distinctly concave towards wing apex so wing appearing more or less distinctly curved apically
Camptopteroides Viggiani (Figs. 66–71)

Camptopteroides Viggiani, 1974a: 3. Type species: Camptopteroides armata Viggiani, by original designation.  

Diagnosis. Camptopteroides belongs to the Camptoptera group of genera. It is distinguished from other genera in the group as follows: funicle usually 7-segmented with segment 2 ringlike (Fig. 70), but sometimes 6-segmented with the ring segment absent; mandible with 2 teeth; head and mesosoma strongly reticulate; fore wing parallel-sided, with almost no microtrichia on blade, and more or less distinctly patterned with dark areas (Figs. 69, 71). Fore leg as in Fig. 67. Male flagellum 10-segmented, including the minute ring segment (Fig. 66); fore wing in macropterous forms widening slightly towards apex; genitalia as in Fig. 68.

Body length. 538–1485 μm.

Distribution. Australian, Oriental, Neotropical, and Nearctic regions.

Hosts. Unknown.


Australian species (at least 1):
Camptopteroides sp.
parallel-sided, about 5.5x as long as wide, almost transparent (Fig. 75); metasoma laterally compressed, about twice as long as mesosoma. Fore leg as in Fig. 73. Male flagellum 11-segmented (Fig. 74) and genitalia as in Fig. 76.

**Body length.** 896–1228 μm.

**Distribution.** Australia and New Zealand.

**Hosts.** Unknown.


Australian species (2):

*C. laplacei* (Girault, 1912 [120]: 150) (*Anaphes*); Girault, 1915 [229]: 179 (generic transfer to *Enaesius* [a synonym of *Erythmelus*]); Dahms, 1984: 745. **TL:** Qld, near Hughenden. **Comb. nov.** from *Erythmelus*.

*C. wallacei* (Girault 1912 [120]: 147) (*Anaphes*); Girault, 1915 [229]: 179 (generic transfer to *Enaesius* [a synonym of *Erythmelus*]); Dahms, 1986: 648. **Comb. nov.** from *Erythmelus*. **TL:** Qld, Nelson [= Gordon-vale].

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**Genus Cleruchus** Enock (Figs. 83–88)

*Cleruchus* Enock, 1909: 453. Type species: *Cleruchus pluteus* Enock, by monotypy.


*Haplochaeta* Noyes & Valentine, 1989: 35. Type species: *Haplochaeta mandibularis* Noyes & Valentine, by original designation. **Syn. nov.**

**Diagnosis.** *Cleruchus* belongs to the *Cleruchus* group of genera. It is distinguished from other genera in the group as follows: body dorsoventrally flattened; femora slightly swollen (Fig. 84); fore wing, when present, parallel-sided, knifelike, at least about 8x as long as wide, nowhere wider than at marginal vein (Fig. 88); ovipositor short and arising in apical third of gaster. Male flagellum 11-segmented (Fig. 85) and genitalia as in Fig. 86.

*Haplochaeta* was previously known only from New Zealand but several specimens from Australia were found, representing one species very similar to the type species. We consider that the features distinguishing *Haplochaeta* from *Cleruchus*, i.e. the large mandibles, peculiar head shape and the fore wing marginal vein with very long distal macrochaeta, are not sufficient for generic status, hence the above synonymy. The only described species (from New Zealand) is transferred here to *Cleruchus* as *C. mandibularis*, **comb. nov.** The head in particular can vary considerably in shape, depending on the size of the mandibles. Other genera (e.g., *Anaphes*) have species with huge mandibles and consequently a peculiar head shape but otherwise are typical for their genus. At most, *Haplochaeta* could represent a subgenus within *Cleruchus* but it is probably better to treat it as a species group.

**Body length.** 396–683 μm.

**Distribution.** Worldwide.

**Hosts.** Unknown for Australian species. Elsewhere reported from Curculionidae and Tettigoniidae.

**Important reference.** Donev & Huber (2002).

Australian species (3):

*C. lutulentus* (Girault, 1911 [89]: 135) (*Anagrus*); Girault, 1912 [120]: 154 (type locality); Triapitsyn, 2001: 286 (generic transfer). **TL:** WA, Perth.
**Genus Cybomymar** Noyes & Valentine (Figs. 89–91)


**Diagnosis.** *Cybomymar* is tentatively placed in the Cleruchus group of genera, based on its apparent relationship to Scleromymar, which contains both winged and wingless species. The winged species of Scleromymar has a relatively long venation, somewhat resembling that of Paracmotemnus, which is placed in the Cleruchus group. The relatively thick profemur (Fig. 90) and compact legs resemble Cleruchus, but may be convergent modifications for crawling through soil. Cybomymar is distinguished from other genera in the group as follows: funicle 4-segmented (Fig. 89), ovipositor extending length of gaster and projecting slightly under mesosoma (Fig. 91). Male unknown.

- **Body length.** 1002 µm (from one slide-mounted specimen).
- **Distribution.** Australia (Norfolk Island) and New Zealand.
- **Hosts.** Unknown.

Australian species (1):
Cybomymar sp.

**Genus Dicopomorpha** Ogloblin (Figs. 92–98)

Dicopomorpha Ogloblin, 1955: 387. Type species: *Dicopomorpha macrocephala* Ogloblin, by original designation.


**Diagnosis.** *Dicopomorpha* belongs to the Alaptus group of genera. It is distinguished from other genera in the group as follows: funicle 7-segmented (Fig. 97), mandibles crossing each other medially (not ventrally directed), with 2 teeth; fore wing relatively narrow, with posterior margin slightly curved towards apex but relatively straight medially (Fig. 92). Fore leg as in Fig. 98. Male flagellum 9-segmented (Fig. 93) and genitalia as in Figs. 94 and 96.

*Dicopomorpha* is distinguished from *Dicopus* by the genae, in face view, much less convergent (strongly narrowing in *Dicopus*), and the mandibles crossing each other and with two equal-sized teeth (projecting ventrally and with one tooth smaller than other tooth in *Dicopus*).

- **Body length.** 228–425 µm.
- **Distribution.** Worldwide, except western Palearctic.
- **Hosts.** Unknown for Australian species. Elsewhere reported from Psocoptera.

Australian species (1):
*D. schleideni* (Girault, 1912 [120]: 127) (*Litus*); Dahms, 1986: 507 (types); Triapitsyn & Berezovskiy, 2004:
16 (generic transfer). **TL:** Qld, Herberton.

**Genus Dicopus Enock** (Figs. 99–103)


**Diagnosis.** *Dicopus* belongs to the *Alaptus* group of genera. It is distinguished from other genera in the group as follows: fore wing extremely narrow medially, with posterior margin evenly curved medially and somewhat straighter towards apex (Fig. 101); funicle usually 7-segmented (Fig. 102) but rarely 5-segmented (Fig. 100) and usually with two or three widely-spaced ventral ‘teeth’; face beaklike, the genae converging strongly below eyes; mandibles projecting ventrally, not crossing, and one tooth larger than other. Fore leg as in Fig. 99. Male flagellum 10-segmented (Fig. 103).

**Body length.** 287–376 μm.

**Distribution.** Worldwide.

**Hosts.** Unknown.


Australian species (2):

*D. bidentiscapus* Girault, 1931 [435]: 2; Dahms, 1983: 136 (types). **TL:** Vic., Canterbury.

*D. psyche* Girault, 1912 [108]: 22; Girault, 1912 [120]: 128 (distribution); Girault, 1915 [228]: 169 (occurrence); Dahms, 1986: 428. **TL:** Fiji, Suva.

**Genus Dorya Noyes & Valentine** (Figs. 104–113)


**Diagnosis.** *Dorya* belongs to the *Anaphes* group of genera. It is distinguished from other genera in the group as follows: clava more or less strongly produced into long, tapering, more or less pointed apex (Figs. 109, 110); fore wings with reduced number of microtrichia arranged in indistinct rows (Figs. 105, 107, 108, 111); funicle segments without longitudinal sensilla. Fore leg as in Fig. 112. Male flagellum 11-segmented (Fig. 113) and genitalia as in Figs. 104 and 106.

**Body length.** 589–1100 μm.

**Distribution.** Australia and New Zealand.

**Hosts.** Unknown.


Australian species (1):

*Dorya* sp.

**Genus Eofoersteria Mathot** (Figs. 114–116)


**Diagnosis.** *Eofoersteria* belongs to the *Camptoptera* group of genera. It is distinguished from other genera in the group as follows: funicle 6-segmented, without a ringlike segment (Fig. 114); tarsi 4-segmented, with the apical two segments almost fused (Fig. 115). In habitus (Fig. 116), *Eofoersteria* is basically a *Camptoptera*...
with reduced or apparently reduced numbers of antennal and tarsal segments, perhaps as a result of its minute size.

**Body length.** 206 µm (slide-mounted type of *E. vasta*).

**Distribution.** Ethiopian, Neotropical, Oriental, and Australian regions.

**Hosts.** Unknown.

**Important reference.** Huber & Lin (1999).

Australian species (1):

*E. vasta* (Girault, 1920 [353]: 98) (*Camptoptera*); Huber & Lin, 1999: 37 (generic transfer); Dahms, 1986: 628 (types). **TL:** Qld, Nelson [= Gordonvale].

**Genus Erythmelus** Enock (Figs. 117–122)


*Anthemiella* Girault, 1911 [90]: 185. Type species: *Anthemiella rex* Girault, by original designation. Synonymy by Schauff (1984: 45); previous synonymy by Girault (1912 [112]: 297) under *Parallelaptera*.


**Diagnosis.** *Erythmelus* belongs to the *Anaphes* group of genera. It is distinguished from other genera in the group as follows: mandibles minute, with a considerable gap between them and with only one tooth; maxillae enlarged, elongate; hypopygium prominent, extending to apex of gaster, ploughshare-shaped (Fig. 120). Fore wing usually with very few microtrichia (Fig. 118). Antenna as in Fig. 117. Fore leg as in Fig. 119, with inner margin of protibial spur comblike. Male flagellum 11-segmented (Fig. 121) and genitalia (Fig. 122) often exerted in dead specimens.

**Body length.** 347–1059 µm.

**Distribution.** Worldwide.

**Hosts.** Unknown for Australian species. Elsewhere reported mainly from Tingidae and Miridae.

**Important reference.** Triapitsyn (2003).

Australian species (11 + 2 subspecies):

**Note.** Two species, *amperei* and *mirus*, are incorrectly placed in *Erythmelus*. Until their correct placement can be determined confidently they are left in *Erythmelus*.

*E. amperei* Girault, 1938 [452]: 390; Dahms, 1983: 40 (types). **TL:** Qld, Indooroopilly.

*E. cinctus* Girault, 1938 [452]: 390; Dahms, 1983: 180 (types). **TL:** Qld, Meringa.

*E. emersoni* (Girault, 1920 [353]: 98); Noyes & Hayat, 1984: 233 (transfer to Mymaridae). **Comb. nov.** from *Anthemus*. **TL:** Qld, Nelson.

*E. kantii* (Girault, 1912 [120]: 148) (*Anaphes*); Girault, 1915 [229]: 179 (generic transfer); Dahms, 1984: 735 (types). **TL:** Qld, Yungaburra.

*E. kantii maculiscapus* Girault, 1938 [452]: 390; Dahms, 1984: 736 (types). **TL:** Qld, Brisbane.

*E. kantii solis* Girault, 1938 [452]: 390; Dahms, 1984: 736 (types). **TL:** Qld, Indooroopilly.

*E. mazzinini* (Girault, 1915 [228]: 164) (*Anaphes*); Girault, 1915 [229]: 179 (generic transfer); Dahms, 1984: 802 (types). **TL:** Qld, Capeville.

*E. mirus* Girault, 1938 [452]: 390; Dahms, 1984: 827 (types). **TL:** Qld, Indooroopilly.

*E. painei* (Girault, 1912 [120]: 149) (*Anaphes*); Girault, 1915 [229]: 179 (generic transfer); Dahms, 1986: 375 (types). **TL:** Qld, Thursday Island.
**E. pauciciliatus** Girault, 1938 [452]: 390; Dahms, 1986: 389 (types). **TL:** Qld, no locality specified.

**E. quadrimaculatus** Girault, 1920 [353]: 98; Dahms, 1986: 457 (types). **TL:** Qld, Meringa.

**E. spinozai** (Girault, 1913 [165]: 117) (*Anaphes*); Girault, 1915 [229]: 179 (generic transfer to *Enaesius*); Dahms, 1986: 557 (types). **TL:** Qld, Halifax.

**E. superbus** Girault, 1920 [353]: 97; Dahms, 1986: 575 (types). **TL:** Qld, Ravenshoe.

**Genus Eubroncus** Yoshimoto, Kozlov & Trjapitzin (Figs. 123–128)

*Eubroncus* Yoshimoto, Kozlov & Trjapitzin, 1972: 879. Type species: *Eubroncus orientalis* Yoshimoto, Kozlov & Trjapitzin, by original designation.


**Diagnosis.** *Eubroncus* belongs to the *Anagroidea* group of genera. It is distinguished from *Anagroidea*, the only other genus in the group, as follows: head strongly angular (subtriangular) in lateral view (Fig. 126), with acute angle between face and vertex, and a subrectangular projection between toruli (Fig. 124). Hind wing wide and bluntly rounded apically (Fig. 123) Antenna with short funicle segments (Fig. 124); mandibles not crossing medially, extremely long and narrow, with a strong apical tooth and row of denticles on ventral margin (Fig. 126). Fore leg with inner margin of protibial spur distinctly comlike (Fig. 125). Male flagellum 11-segmented (Fig. 127) and genitalia as in Fig. 128.

**Body length.** 812–910 μm.

**Distribution:** Eastern Palaearctic, Oriental, Australian, and Afrotropical regions.

**Hosts.** Unknown.

**Important reference.** Triapitsyn & Berezovskiy (2002b).

Australian species (1):

*Eubroncus* sp.

**Genus Eustochomorpha** Girault (Figs. 129–134)

*Eustochomorpha* Girault, 1915 [228]: 156. Type species: *Eustochomorpha haeckeli* Girault, by monotypy.

**Diagnosis.** *Eustochomorpha* belongs to the *Eustochomorpha* group of genera. It is distinguished as follows: funicle 8-segmented, clava 2- or 3-segmented (Figs. 129, 133); fore wing with marginal vein extending more than halfway towards wing apex and stigmal vein well developed, as thick as marginal vein and extending almost to wing apex (Fig. 131); hypochaeta extremely small or sometimes absent; ovipositor exserted well beyond apex of gaster (Fig. 130) or, in undescribed species, forward under mesosoma (Fig. 132) to level of head or beyond. Fore leg as in Fig. 134.

Females of the undescribed species have a 3-segmented clava and may represent at least a different subgenus (Huber 2002), one of whose species is the largest mymarid known.

**Body length.** 1280–5500 μm.

**Distribution.** Australia.

**Hosts.** Unknown.

**Important references.** Huber (2002).

Australian species (1):

*E. haeckeli* Girault, 1915 [228]: 156; Dahms, 1984: 675 (types). **TL:** Qld, Gordonvale.
Genus *Gonatocerus* Nees (Figs. 135–146)

*Gonatocerus* Nees, 1834: 192. Type species: *Gonatocerus longicornis* Nees, by monotypy.


*Cosmocomoidea* Howard, 1908: 68. Type species: *Cosmocomoidea morrilli* Howard, by monotypy. Synonymy by Bouček & Graham (1972: 127); originally a subgenus of *Lymaenon* (Ogloblin 1959).


*Agonatocerus* Girault, 1913 [149]: 276. Type species: *Agonatocerus humboldti* Girault, by original designation. Synonymy by Girault (1915 [228]: 156).

*Gonatoceroides* Girault, 1913 [155]: 255. Type species: *Gonatocerus (Gonatoceroides) australicus* Girault, by original designation. Synonymy by Girault (1915 [228]: 156).


**Diagnosis.** *Gonatocerus* belongs to the *Gonatocerus* group of genera. It is distinguished as follows: funicle 8-segmented (Figs. 138, 144); face with subantennal grooves; marginal vein with hypochaeta about midway between proximal and distal macrochaetae (Fig. 135); pronotum longitudinally divided medially into two lobes. Fore, middle, and hind legs as in Figs. 140–142. The two Australian species groups are distinguished as follows: Pronotal lobes abutting and dorsellum rhomboidal (Fig. 145) (*sulphuripes* group); pronotal lobes clearly separated by a gap and dorsellum straplike (Fig. 139) (*litoralis* group). Male flagellum 11-segmented (Figs. 136, 146) and genitalia attached directly to apical sternite, not encapsulated in phallobase (Fig. 137).

The only genera likely to be confused with *Gonatocerus* are *Boudiennyia* and *Eustochomorpha*, which also have an 8-segmented funicule in females. *Eustochomorpha* has a 2- or 3-segmented clava (entire in *Gonatocerus*) and *Boudiennyia* has a long, slender petiole (similar to *Polynema*) and a horizontal costula between the submedian carinae (petiole shorter and wider and propodeum without costula joining the submedian carinae in *Gonatocerus*). Both these genera are extremely rare compared to *Gonatocerus*, whose species are abundant and often relatively large. *Gonatocerus* is perhaps the most frequently noticed mymarid genus in Australia because of the relatively large size of many of its species.

**Body length.** 666–1200 µm (*sulphuripes* group species); 663–2660 µm (*litoralis* group species).

**Distribution.** Worldwide.

**Hosts.** Unknown for Australian species. Elsewhere reported from Cicadellidae and Membracidae.


Australian species (76 + 7 subspecies):

**G. angustiventris** Girault and Dodd, in Girault, 1915 [228]: 158; Dahms, 1983: 42 (types). **TL:** Qld, Kuranda.

**G. aureinotum** (Dodd, 1917: 351). **Comb. nov.** from *Octonus*. **TL:** Qld Yungaburra.

**G. australicus** Girault, 1913 [155]: 255 (*Gonatoceroides* [as subgenus]); Girault, 1913 [165]: 109 (redescription); Girault, 1915 [228]: 159 (redescription); Dahms, 1983: 90 (types). **TL:** Qld, Ayr.

**G. australensis** (Perkins, 1905: 195) (*Octonus*); Girault, 1915 [228]: 156 (generic transfer) **TL:** Qld, Cairns.

**G. ayrensis** Girault, 1913 [155]: 257; Girault, 1913 [165]: 110 (redescription); Dahms, 1983: 114 (types). **TL:** Qld, Ayr.

**G. baconi** Girault, 1912 [120]: 129, 146 (key); Dahms, 1983: 115 (types). **TL:** Qld, Mackay, Pioneer River.

**G. bellus** (Girault, 1938 [452]: 396). Dahms, 1983: 121 (types). **Comb. nov.** from *Octonus*. **TL:** Qld, Kingston.

**G. bicolor** Girault, 1913 [147]: 216; Girault, 1913 [165]: 111 (redescription); Girault, 1915 [228]: 156 (descriptive note); Dahms, 1983: 129 (types). **TL:** Qld, Nelson [= Gordonvale].
G. boswelli Girault, 1915 [228]: 158; Dahms, 1983: 146 (types). **TL:** Qld, Cooktown.

G. brunoii Girault 1912 [120]: 142, 146 (key); Dahms, 1983: 155 (types). **TL:** Qld, Nelson [= Gordonvale].

G. brunoii lyelli Girault, 1913 [147]: 218; Girault, 1913 [165]: 111 (redescription); Dahms, 1983: 156 (types). **TL:** Qld, Nelson [= Gordonvale].

G. carlylei Girault, 1913 [165]: 114; Dahms, 1983: 167 (types). **TL:** Qld, Nelson [= Gordonvale].

G. centaurus (Girault, 1920 [352]: 45); Girault, 1920 [353]: 97 (descriptive note); Dahms, 1983: 170 (types). **Comb. nov.** from **Ooctonus.** **TL:** Qld, Goondi.

G. cingulatus Perkins, 1905: 196; Girault, 1912 [120]: 146 (key). **TL:** Qld, Brisbane.

G. circumvagus Girault, 1915 [228]: 159; Dahms, 1983: 181 (types). **TL:** Qld, Kuranda.

G. citriscapus (Girault, 1930 [433]: 5); Dahms, 1983: 182 (types). **Comb. nov.** from **Ooctonus.** **TL:** Qld, Mt. Coot-tha.

G. comptei Girault, 1912 [120]: 135, 146 (key); Girault, 1913 [155]: 256 (redescription); Girault, 1913 [165]: 110 (descriptive notes, *lapsus as competi*); Girault, 1915 [228]: 160 (descriptive note); Dahms, 1983: 193 (types). **TL:** Qld, Nelson [= Gordonvale].

G. darwini Girault, 1912 [120]: 130, 145 (key); Dahms, 1983: 211 (types). **TL:** Qld, Mackay, Pioneer River.

G. davinci Girault, 1912 [120]: 138, 145 (key); Dahms, 1983: 212 (types). **TL:** Qld, near Nelson [= Gordonvale].

G. dies Girault, 1913 [165]: 111; Girault, 1913 [173]: 50; Dahms, 1983: 222 (types). **TL:** Qld, Capeville.


G. ella Girault, 1931 [435]: 4; Dahms, 1983: 243 (types). **TL:** Qld, Indooroopilly.

G. fasciaventris Girault, 1913 [147]: 217; Girault, 1913 [165]: 111 (redescription); Girault, 1915 [228]: 159 (note); Dahms, 1984: 586 (types). **TL:** Qld, Nelson [= Gordonvale].

G. flavipes (Girault and Dodd, in Girault, 1915 [228]: 154); Dahms, 1984: 608 (types). **Comb. nov.** from **Ooctonus.** **TL:** Qld, Kuranda.

G. flosculus Girault, 1915 [228]: 160; Dahms, 1984: 621 (types). **TL:** NSW, Tweed River, Tweed Heads.

G. fulgor Girault, 1913 [155]: 259; Girault, 1913 [165]: 111 (description); Dahms, 184: 627 (types). **TL:** Qld, Ayr.

G. gigas (Girault, 1915 [228]: 154); Dahms, 1984: 649 (types). **Comb. nov.** from **Ooctonus.** **TL:** Qld, Kuranda.

G. goethei Girault, 1912 [120]: 139, 145 (key); Dahms, 1984: 654 (types). **TL:** Qld, Nelson [= Gordonvale].

G. gregi Girault, 1915 [228]: 160; Dahms, 1984: 662 (types). **TL:** NSW, Murwillumbah.

G. grotiusi (Girault, 1913 [165]: 108, 110, footnote) (*Cosmocomoidea*); Girault, 1915 [228]: 155 (generic transfer); Dahms, 1984: 666 (types). **TL:** Qld, Nelson [= Gordonvale].

G. hackeri Girault, 1938 [452]: 394; Dahms, 1984: 673 (types). **TL:** Qld, Brisbane, Clayfield.

G. haeckeli Girault, 1912 [120]: 131, 145 (key); Dahms, 1984: 675 (types). **TL:** Qld, Port Douglas.


G. heinei Girault, 1938 [452]: 394; Dahms, 1984: 683 (types). **TL:** Qld, no locality specified.

G. helmholztii Girault, 1912 [120]: 142, 145 (key); Girault, 1938 [452]: 395; Dahms, 1984: 684 (types). **TL:** Qld, near Mackay.

G. helmholztii christi Girault, 1938 [452]: 393; Dahms, 1984: 685 (types). **TL:** Qld, Indooroopilly.

G. humboldti (Girault, 1913 [149]: 276) (*Agonatocerus*); Girault, 1913 [165]: 109 (description); Girault, 1915 [228]: 159 (description); Dahms, 1984: 700 (types). **TL:** Qld, Nelson [= Gordonvale].

G. huxleyi Girault, 1912 [120]: 134, 145 (key); Dahms, 1984: 701 (types). **TL:** Qld, Roma.

G. huyghensi Girault, 1912 [120]: 143, 145 (key); Dahms, 1984: 701 (types). **TL:** Qld, near Kuranda.

G. huyghensi gratia Girault, 1938 [452]: 393; Dahms, 1984: 701 (types). **TL:** Qld, Indooroopilly.

G. ignipes (Girault, 1930 [433]: 5); Dahms, 1984: 706 (types). **Comb. nov.** from **Ooctonus.** **TL:** Qld,
Amamoor.

*G. indigenus* Girault, 1938 [452]: 394; Dahms, 1984: 717 (types). **TL**: Qld, no locality specified.


*G. io* Girault, 1915 [245]: 360; Girault, 1938 [452]: 393 (description); Dahms, 1984: 727 (types). **TL**: Qld, Capeville.

*G. i o* Girault, 1915 [245]: 360; Girault, 1938 [452]: 393 (description); Dahms, 1984: 727 (types). **TL**: Qld, Indooroopilly.

*G. ipswichia* Girault, 1922 [361]: 104; Dahms, 1984: 727 (types). **TL**: Qld, Ipswich.

*G. ipswichia variguttus* Girault, 1938 [452]: 393; Dahms, 1984: 729 (types). **TL**: Qld, Ashgrove.

*G. kochi* Girault, 1936 [446]: 1; Dahms, 1984: 740 (types). **TL**: Vic., Canterbury.

*G. lamarki* Girault, 1912 [120]: 138, 146 (key); Dahms, 1984: 743 (types). **TL**: Qld, Cooktown.

*G. lamonosoffi* Girault, 1913 [158]: 79; Girault, 1915 [228]: 156 (redescription); Dahms, 1984: 762 (types). **TL**: Qld, Kuranda.


*G. mazzinini* Girault, 1913 [165]: 114; Dahms, 1984: 803 (types); Dahms, 1986: 739 (correction to type data). **TL**: Qld, mainland opposite Double Island.

*G. m er ces* Girault, 1913 [165]: 113; Dahms, 1984: 808 (types). **TL**: Qld, Nelson [= Gordonvale].


*G. mirissimus* Girault, 1913 [165]: 112; Girault, 1938 [452]: 396 (comparison); Dahms, 1984: 826 (types). **TL**: Qld, Nelson [= Gordonvale].

*G. m ir u s* (Girault, 1938 [452]: 396); Dahms, 1984: 827 (types). **Comb. nov.** from *Ooctonus*. **TL**: Qld, Kuranda.

*G. m ose si* Girault, 1938 [452]: 396; Dahms, 1984: 827 (types). **Comb. nov.** from *Ooctonus*. **TL**: Qld, Babinda.


*G. musa bayardi* Girault, 1938 [452]: 393; Dahms, 1984: 840 (types). **TL**: Qld, Mt. Coot-tha.


*G. perdi x* Girault, 1938 [452]: 393; Dahms, 1986: 399 (types). **TL**: Qld, Dayboro.


*G. poincarei* Girault, 1913 [165]: 113; Girault, 1938 [452]: 396 (comparison under *mirus*); Dahms, 1986: 419 (types). **TL**: Qld, Harvey’s Creek.

*G. prometheus* (Girault, 1915 [228]: 155); Dahms, 1986: 426 (types). **Comb. nov.** from *Ooctonus*. **TL**: Qld, Babinda.

*G. renani* (Girault, 1913 [160]: 327) (*Cosmocomoidea*); Girault, 1913 [165]: 108 (description); Girault, 1913: [173]: 51 (male description); Girault, 1915 [228]: 155 (generic transfer); Dahms, 1986: 471 (types). **TL**: Qld, Nelson [Gordonvale].


*G. romae boiar dini* Girault, 1938 [452]: 392; Dahms, 1986: 479 (types). **TL**: Qld, Gatton.

*G. saintpierrei* Girault, 1913 [165]: 112; Girault 1913 [173]: 50 (description); Dahms, 1986: 496 (types). **TL**: Qld, Kuranda.

= *G. langlandi* (Girault, 1938 [452]: 395) (*Ooctonus*). Unnecessary replacement name for *G. saintpierrei*, not
Ooctonus (now Boudiennyia) saintpierrei.

**G. shakespearei** Girault, 1915 [228]: 158; Dahms, 1986: 527 (types). **TL**: NT, Port Darwin; Qld, Cloncurry.

**G. spinozai** Girault, 1912 [120]: 140, 146 (key); Girault, 1913 [147]: 217 (male description); Girault, 1913 [165]: 110 (male description); Dahms, 1986: 557 (types). **TL**: Qld, Nelson [Gordonvale].

**G. sulcatus** Girault, 1915 [228]: 157; Dahms, 1986: 572 (types). **TL**: Qld, Cloncurry.

**G. taringae** Girault, 1938 [452]: 394; Dahms, 1986: 577 (types). **TL**: Qld, Taringa.

**G. terrigena** Girault, 1938 [452]: 393; Dahms, 1986: 584 (types). **TL**: Qld, Dayboro.

**G. tolstoi** Girault, 1915 [228]: 156 (description); Dahms, 1986: 590 (types). **TL**: Qld, Nelson [Gordonvale].

**G. tricolor** Girault, 1913 [165]: 112; Girault, 1915 [228]: 160 (correction); Dahms, 1986: 596 (types). **TL**: Qld, Nelson [Gordonvale].

**G. yerongae** Girault, 1938 [452]: 394; Dahms, 1986: 659 (types). **TL**: Qld, Brisbane.

Genus Himopolynema Taguchi (Figs. 147–152)

**Himopolynema** Taguchi, 1977: 137. Type species: **Himopolynema hishimonus** Taguchi, by original designation.

**Diagnosis.** **Himopolynema** belongs to the **Polynema** group of genera. It is distinguished from other genera in the group as follows: propodeum with oval median area defined by U-shaped submedian carinae (Fig. 152); axilla with strong, blunt seta (Fig. 152); face with a pit next to each torulus (Fig. 150); petiole attached to gastric tergum. Wings and antenna as in Figs. 147, 148. Male flagellum 11-segmented (Fig. 149) and genitalia as in Fig. 151.

**Himopolynema** is most likely to be confused with **Acmopolynema** or some **Palaeoneura** (those formerly in **Chaetomymar**); with the former because of the similar propodeal carina and with the latter because of the relatively long, apically blunt axillar seta. These two features occur together only in **Himopolynema**.

**Body length.** About 800 µm (S. Triapitsyn, pers. comm.).

**Distribution.** Eastern Palaearctic, Oriental, Australian regions.

**Hosts.** Unknown for Australian species. Elsewhere recorded from Cicadellidae.


Australian species (1):

**H. aequum** (Girault, 1920 [353]: 96) (**Polynema**); New, 1976: 2 (redescription), 23 (key); Dahms, 1983: 19 (types); Triapitsyn & Berezovskiy, 2002a: 5 (generic transfer). **TL**: Qld, Nelson [Gordonvale].

Genus Kikiki Huber & Beardsley (Figs. 153–157)

**Kikiki** Huber & Beardsley, 2000: 66. Type species: **Kikiki huna** Huber, by original designation.

**Diagnosis.** **Kikiki** is tentatively assigned to the **Alaptus** group of genera, mainly on the basis of its minute size, narrow wings, and reduced number of flagellomeres in both sexes. It is distinguished from other genera in the group as follows: funicle 4-segmented; clava 2-segmented; back of head with semicircular sulcus separating lower from upper occiput; mandible with 4 teeth; fore wing venation about 0.7x fore wing length (Fig. 153); tarsi 3-segmented (Figs. 155, 156). Male flagellum 9-segmented (Fig. 154) and genitalia as in Fig. 157.

**Kikiki** is unique among extant Mymaridae in having 3-segmented tarsi. Only one specimen, a male, has been collected in Australia. Whether it is the same as the Hawaiian species cannot be determined until females
are collected from the same locality as the male.

**Body length.** 305 µm (slide-mounted specimen).

**Distribution.** Australia and Hawaii.

**Hosts.** Unknown.

**Important reference.** Huber & Beardsley (2000).

Australian species (1):

*Kikiki* sp.

**Genus Mimalaptus** Noyes & Valentine (Figs. 158–164)


**Diagnosis.** *Mimalaptus* belongs to the *Alaptus* group of genera. It is distinguished from other genera in the group as follows: funicle 7-segmented (Fig. 163), posterior scutellum distinctly longer than anterior scutellum and clearly divided by mediolongitudinal suture (Fig. 164); fore wing relatively wide, with posterior margin distinctly concave, especially towards apex (Fig. 158). Fore leg as in Fig. 161. Male flagellum 10-segmented (Fig. 159) and genitalia as in Figs. 160, 162.

**Body length.** 297–396 µm.

**Distribution.** Australia and New Zealand.

**Hosts.** Unknown.


Australian species (2):

*M. victoria* (Girault, 1920 [353]: 97); Dahms, 1986: 633 (types). **Comb. nov.** from *Dicopus*. **TL:** Qld, Herberton.

*M. maximus* (Girault, 1916 [274]: 209) (*EomyKar*); Girault, 1920 [353]: 97 (comparison under *victoria*); Dahms, 1984: 800 (types); Huber & Lin, 1999: 28 (generic transfer). **TL:** NSW, Brooklyn (Hawkesbury River).

**Genus Mymar** Curtis (Figs. 165–169)


**Diagnosis.** *Mymar* belongs to the *Polynema* group of genera. It is distinguished from other genera in the group as follows: scape longer than width of head and constricted medially (Fig. 166); fore wing oar-shaped, with a long, very slender petiole consisting of submarginal vein only, and expanded, membranous apex dark brown in apical half beyond venation (Fig. 165); hindwing filamentous, without membrane (Fig. 165). Fore leg as in Fig. 168. Male flagellum 11-segmented (Fig. 167) and genitalia as in Fig. 169.

**Body length.** 589–1024 µm.

**Distribution.** Worldwide.

**Hosts.** Unknown for Australian species. Elsewhere reported from Delphacidae and Cicadellidae.

Australian species (2):

*M. schwanni* Girault, 1912 [120]: 166; Blackbourn, 1935: 215 (photograph); New, 1973: 119 (redescription); Dahms, 1986: 508 (types); Triapitsyn & Berezovskiy, 2001: 6 (key), 7 (extralimital references). **TL:** Qld, Brisbane.


= *M. tyndalli* Girault, 1912 [120]: 168; New, 1973: 122 (redescription); Girault, 1913 [155]: 256 (descriptive note); Girault, 1913 [165]: male description); Dahms, 1986: 606 (types); Annecke, 1961a: 547 (synonymy). **TL:** Qld, Nelson [Gordonvale].

**Genus Myrmecomymar** Yoshimoto (Figs. 170–178)


**Diagnosis.** *Myrmecomymar* belongs to the *Arescon* group of genera. It is distinguished from *Arescon*, the only other genus in the group, as follows: female wingless; toruli almost touching transverse trabecula; funicle 7-segmented (Fig. 171); eye small and round, with about 15 ommatidia; ocelli absent; scutellum oval, without placoid sensilla but with two strong, erect seta instead (Fig. 173); coxae, petiole and base of gastral sternum 1 strongly reticulate (Fig. 170), rest of body almost smooth (Fig. 173); protibial spur with inner margin comb-like (as in Fig. 176); gastral terga 1 and 2 subequal and occupying most of gaster (Fig. 170). Male fully winged, with fore wing venation extending almost 2/3 wing length (Fig. 174); flagellum 11-segmented, each segment with setae distinctly longer than length of segment (Fig. 175); scutellum with placoid sensilla and two small, erect setae anterior to them (Fig. 178); eye normal, with numerous ommatidia; ocelli present. Fore leg as in Fig. 172 and protibial spur with inner margin comblike (Fig. 176). Genitalia as in Fig. 177.

The generic limits of *Myrmecomymar* are widened to include the single, undescribed Australian species. This species is perhaps better placed in its own genus because it differs in several features from typical *Myrmecomymar* specimens, even though it bears a striking superficial resemblance to *Myrmecomymar* from the Western Hemisphere. In contrast to the Australian species, *Myrmecomymar* species from the New World have a more compact mesosoma with a rectangular mesoscutum, and the scutellum lacks both setae and placoid sensilla. More material of both sexes is needed to evaluate the differences better.

**Body length.** 515 μm.

**Distribution.** Nearctic, Neotropical, and Australian regions.

**Hosts.** Unknown.

**Important reference.** Yoshimoto (1990).

Australian species (1):

*Myrmecomymar* sp.

**Genus Nesomymar** Valentine (Figs. 179–182)


**Diagnosis.** *Nesomymar* belongs to the *Cleruchus* group of genera (not the *Australomymar* group as classified by Noyes and Valentine, 1989). It is distinguished from the other genera in the group as follows: clava 3-seg-
mented (Fig. 180); eye large and extending to back of head, so gena absent dorsally (Fig. 182); wings reduced to minute, sack-shaped stubs, with the fore wing only as long as the humeral plate and the hind wing longer than the fore wing (Fig. 182). Fore leg and gaster as in Figs. 179, 181. Male unknown for Australian species.

_Nesomymar_ is closest to _Nesopepatasson_. Their general habitus, minute wings, short ovipositor arising in apical half of gaster, and rather short antennae with funicle segments not much longer than wide suggest placement in the _Cleruchus_ group of genera, though the head is not particularly triangular (with strongly receding face) in lateral view, as in many _Cleruchus_-group genera. _Nesomymar_ is likely a synonym of _Nesopepatasson_ but a formal synonymy is not proposed until more material becomes available to determine better the variability within both genera.

**Body length.** About 705–725 µm (from slide mounted specimens).

**Distribution.** Australia and New Zealand.

**Hosts.** Unknown.


Australian species (1):

_Nesomymar_ sp.

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**Genus Omyomymar Schauff (Figs. 183–189)**


**Diagnosis.** _Omyomymar_ belongs to the _Anagrus_ group of genera. It is distinguished from other genera in the group as follows: clava 2-segmented (Fig. 184) and sometimes with a variably distinct nipplelike process at apex of second segment (in one species this process is actually a separate but very small third segment); fore wing narrow and somewhat pointed at apex, with one or two parallel lines of microtrichia on membrane beyond venation extending to uniformly setose apical part of wing (Fig. 186); ovipositor distinctly exserted and sheaths with one subapical seta each (Fig. 185); mesophragma widely and deeply notched at apex and not projecting into gaster. Fore leg as in Fig. 183. Male with flagellum 11-segmented and scape with inner surface appearing spiny, with several enlarged sensilla basiconica (Fig. 187). Eye small, gena huge, almost twice as wide as eye width. Genitalia as in Figs. 188, 189.

_Omyomymar_ is most similar to _Schizophragma_, which also has a 2-segmented clava (but without nipple-like process) and mesophragma widely notched apically in females. _Schizophragma_ has a wider fore wing with rounded apex (Fig. 242) and the ovipositor is at most only slightly exserted (Fig. 245).

**Body length.** 594–841 µm.

**Distribution.** Worldwide, except western Palaearctic region.

**Hosts.** Unknown.


Australian species (1):

_Omyomymar_ sp.

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**Genus Palaeoneura Waterhouse (Figs. 77–82, 190–194)**


_Chaetomymar_ Ogloblin, 1946: 277. Type species: _Chaetomymar kusetzovi_ Ogloblin, by original designation. Synonymy

Diagnosis. Palaeoneura belongs to the Polynema group of genera. It has the general appearance of Polynema but differs as follows: fore wing usually narrow (Fig. 77) (but sometimes wide distally, Fig. 190) and slight narrowing beyond apex of venation, and usually with a slight yet conspicuous fine, dark, veinlike line extending close to and parallel with anterior margin (Fig. 190); marginal vein slightly longer and more parallel-sided than in Polynema; propleura abutting anteriorly; petiole attached to gastral tergum; face without pits next to toruli; Male with flagellum 11-segmented (Figs. 81, 193). Fore leg as in Fig. 80 and genitalia as in Figs. 78, 82, 194 and 197.

Huber (2003) treated the species of Chaetomymar (Figs. 77–82) and synonymized Acanthomymar under Polynema. Chaetomymar includes species with a pronotum having strong, apically truncated setae and axilla with a long, blunt setae extending at least half length of scutellum. The synonymy given above reflects the views of Triapitsyn & Berezovskiy (2007) about relationships among genera of the Polynema group. Within this group, Palaeoneura and Polynema are very similar indeed and the new features found by these two workers to define them need to be examined for all the previously described species (worldwide) to test their reliability.

Body length. 560–1500 μm.

Distribution. Worldwide, but rare in Neotropical and absent in Nearctic and western Palaearctic regions.

Hosts. Unknown for Australian species. Elsewhere reported from Cicadellidae.


Australian species (34):

P. australiense (Girault, 1913 [165]: 119) (Polynema); Girault, 1913 [173]: 49; New, 1976: 3 (redescription), 23 (key); Dahms, 1983: 95 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer). TL: Qld, Capeville (Pentland).

P. breviscapus (Girault, 1938 [452]: 392) (Polynema); New, 1976: 4 (redescription), 24 (key); Dahms, 1983: 150 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer). TL: Qld, Woodridge.

P. darwini (Girault, 1913 [165]: 122, 126 [key]) (Polynema); New, 1976: 4 (redescription), 22 (key); Dahms, 1983: 211 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer). TL: Qld, Proserpine.

P. dei (Girault, 1922 [361]: 104) (Polynema); New, 1976: 5 (redescription), 22 (key); Huber, 2003: 88 (redescription, as Chaetomymar); Dahms, 1983: 215 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer from Chaetomymar). TL: Qld, Proserpine.

P. devriesi (Girault, 1913 [147]: 218) (Polynema); Girault, 1913 [165]: 118 (redescription), 128 (key); New, 1976: 5 (redescription), 23 (key); Dahms, 1983: 220 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer). TL: Qld, Nelson [Gordonvale].

P. filia (Girault, 1920 [353]: 96) (Polynema); New, 1976: 7 (redescription), 23 (key); Dahms, 1984: 598 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer). TL: Qld, Nelson [Gordonvale].

P. franklini (Girault, 1913 [158]: 79) (Polynema); Girault, 1913 [165]: 120 (description); Girault, 1915 [228]: 166 (comparison with rousseau); New, 1976: 7 (redescription), 22 (key); Dahms, 1984: 622 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer). TL: Qld, Kuranda.

P. goldsmithi (Girault, 1938 [452]: 391) (as subspecies of silvifilia) (Polynema); New, 1976: 17 (redescription, 23 (key); Dahms, 1986: 540 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer and species status). TL: Qld, Indooroopilly.

P. haecckeli (Girault, 1913 [165]: 123, 126 [key]) (Polynema); New, 1976: 8 (redescription), 22 (key); Dahms, 1984: 676 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer). TL: Qld, Meerawa.

P. hegeli (Girault, 1915 [228]: 167) (Polynema); New, 1976: 9 (redescription), 22 (key); Dahms, 1984: 683
(types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer). **TL:** Qld, Harvey’s Creek.


**P. joulai** (Girault, 1918 [341]: 197) (*Polynema*); New, 1976: 9 (redescription), 22 (key); Dahms, 1984: 733 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer). **TL:** Qld, forest near Cairns.

**P. mendeleevi** (Girault, 1913 [165]: 124) (*Polynema*); New, 1976: 10 (redescription), 22 (key); Dahms, 1984: 807 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer). **TL:** Qld, Nelson [Gordonvale].

**P. nigrithorax** (Girault, 1915 [228]: 165, as subspecies of *poincarei* (*Polynema*)); New, 1976: 12 (redescription), 22 (key); Dahms, 1986: 421 (types); Triapitsyn & Berezovskiy, 2007: 41 (generic transfer and species status). **TL:** Qld, Nelson [Gordonvale].

**P. nordau** (Girault, 1913 [147]: 219) (*Polynema*); Girault, 1913: 119 (description), 127 (key); New, 1976: 11 (redescription), 24 (key); Dahms, 1986: 353 (types); Triapitsyn & Berezovskiy, 2007: 41 (generic transfer). **TL:** Qld, Kuranda.

**P. notabilissima** (Girault, 1913 [165]: 121, 126 [key]) (*Polynema*); New, 1976: 11 (redescription), 21 (key); Dahms, 1986: 354 (types); Triapitsyn & Berezovskiy, 2007: 41 (generic transfer). **TL:** Qld, Little Mulgrave River.

**P. pax** (Girault, 1913 [165]: 119, 127 [key]) (*Polynema*); Girault, 1913 [173]: 49 (description); New, 1976: 12 (redescription), 24 (key); Dahms, 1986: 395 (types); Triapitsyn & Berezovskiy, 2007: 41 (generic transfer). **TL:** Qld, Kuranda.

**P. poincarei** (Girault, 1913 [159]: 99) (*Polynema*); Girault, 1913 [165]: 119 (description), 126 (key); Girault, 1915 [228]: 165 (additional specimen); New, 1976: 12 (redescription), 22 (key); Dahms, 1986: 420 (types); Triapitsyn & Berezovskiy, 2007: 41 (generic transfer). **TL:** Qld, Nelson [Gordonvale].

**P. romanesi** (Girault, 1912 [120]: 174) (*Polynema*); Girault, 1915 [228]: 166 (redescription); New, 1976: 13 (redescription), 23 (key); Dahms, 1986: 479 (types); Triapitsyn & Berezovskiy, 2007: 41 (generic transfer). **TL:** Qld, Daradgee.

**P. rousseaui** (Girault, 1913 [158]: 79) (*Polynema*); Girault, 1913 [165]: 120 (description), 126 (key); New, 1976: 13 (redescription), 23 (key); Dahms, 1986: 480 (types); Triapitsyn & Berezovskiy, 2007: 41 (generic transfer). **TL:** Qld, Nelson [Gordonvale].

**P. sappho** (Girault, 1913 [165]: 120, 126 [key]) (*Polynema*); Girault, 1915 [228]: 166 (descriptive note); New, 1976: 13 (redescription), 22 (key); Dahms, 1986: 504 (types); Triapitsyn & Berezovskiy, 2007: 41 (generic transfer). **TL:** Qld, Nelson [Gordonvale].

**P. shakespearei** (Girault, 1920 [352]: 44) (*Polynema*); New, 1976: 15 (redescription), 23 (key); Dahms, 1986: 528 (types); Triapitsyn & Berezovskiy, 2007: 41 (generic transfer). **TL:** Qld, Brisbane.

**P. sieboldi** (Girault, 1912 [120]: 173) (*Polynema*); Girault, 1913 [165]: 126 (key, footnote on male); New, 1976: 15 (redescription), 24 (key); Dahms, 1986: 532; Triapitsyn & Berezovskiy, 2007: 41 (generic transfer). **TL:** Qld, Goondi.


**P. silvifilia** (Girault, 1925 [387]: 1) (*Polynema*); New, 1976: 16 (redescription), 23 (key); Dahms, 1986: 540 (types); Triapitsyn & Berezovskiy, 2007: 41 (generic transfer). **TL:** Qld, Flaxton.

**P. speciosissima** (Girault, 1913 [165]: 120, 125 [key]) (*Polynema*); Girault, 1915 [226]: 19 (description); New, 1976: 17 (redescription), 22 (key); Dahms, 1986: 550 (types); Triapitsyn & Berezovskiy, 2007: 41 (generic transfer). **TL:** Qld, Nelson [Gordonvale].

**P. spenceri** (Girault, 1912 [120]: 171) (*Polynema*); New, 1976: 17 (redescription), 23 (key); Dahms, 1986: 555 (types); Triapitsyn & Berezovskiy, 2007: 41 (generic transfer). **TL:** Qld, Cooktown.
P. stupenda (Girault, 1938 [452]: 391) (*Polynema*); New, 1976: 18 (redescription), 24 (key); Dahms, 1986: 564 (types); Triapitsyn & Berezovskiy, 2007: 41 (generic transfer). **TL:** Qld, Gympie.

P. sublesta (Girault, 1938 [452]: 392) (*Polynema*); New, 1976: 18 (redescription), 23 (key); Dahms, 1986: 569 (types); Triapitsyn & Berezovskiy, 2007: 41 (generic transfer). **TL:** Not given.


**Genus Paracmotemnus** Noyes & Valentine (Figs. 198–204)

*Paracmotemnus* Noyes & Valentine, 1989: 42. Type species: *Paracmotemnus potanus* Noyes & Valentine, by original designation.

**Diagnosis.** *Paracmotemnus* belongs to the *Cleruchus* group of genera (not the *Australomymar* group, as classified by Noyes and Valentine, 1989). It is distinguished from other genera in the group as follows: mandible with one or two large ventral teeth and a wide dorsal tooth bearing 5–6 apical serrations. Clava usually 3-segmented (Fig. 203) but sometimes 1-segmented (Fig. 204). Fore wing not parallel-sided (except in short-winged forms), with numerous microtrichia on membrane, and venation extending at least half wing length (Figs. 198, 202). Ovipositor arising in basal half of gaster. Fore leg as in Fig. 199. Male flagellum 10- or 11-segmented (Fig. 201) and genitalia as in Fig. 200.

**Body length.** 485–822 μm.

**Distribution.** Australia and New Zealand.

**Hosts.** Unknown.


Australian species (2):

*Paracmotemnus* spp.

**Genus Paranaphoidea** Girault (Figs. 205–212)


**Diagnosis.** *Paranaphoidea* belongs to the *Anagrus* group of genera. It is distinguished from other genera in the group as follows: clava 2- (Fig. 205) or 3-segmented; back of head with a distinct, curved groove extending from dorsal margin of foramen to ventral margin of eye; subantennal grooves present and extending almost to mouth margin; posterior scutellum much longer than anterior scutellum and divided by a median longitudinal sulcus (Fig. 212); mesosphragma narrowly but distinctly notched apically (Fig. 212); hind wing
usually extremely wide (Fig. 206); protibial spur with inner margin comblike (Fig. 209), midtibial spur long and also comblike (Fig. 210). Hind leg as in Fig. 211. Male antenna as in Fig. 207 and genitalia as in Fig. 208.

One of us (JH) compared specimens of *Idiocentrus mirus* Gahan from New Zealand with *Paranaphoidea elongata* and a species close to or the same as *P. egregia*. Most features of these three species are the same or very similar. The notable differences are that females of *mirus* have a 3-segmented clava (2-segmented in described Australian species), the apex of the mesophagma is barely sinuate (distinctly notched in described Australian species), and males have the apical flagellar segment distinctly separated from the penultimate segment, similar to the previous segments (broadly joined in the Australian species). Noyes & Valentine (1989) suggested that the two genera might be synonymous and we agree. However, the differences noted here are considered to be sufficient to retain *Idiocentrus* as a separate subgenus within *Paranaphoidea*. The hosts are quite different, apparently Cicadidae for *Idiocentrus* (Gahan 1927) and Cicadellidae (Eurymelinae) for the only species of *Paranaphoidea* with a host record, *Eurymeloides punctata* (Signoret). At least one, undescribed species of *Paranaphoidea* (*Idiocentrus*) occurs in Australia. All the species listed below belong to the nominate subgenus.

**Body length.** 614–3600 μm.

**Distribution.** Australia and New Zealand.

**Hosts.** Cicadellidae (Eurymelinae). Elsewhere (New Zealand) reported from Cicadidae.


Australian species (11 + 1 subspecies):

- **P. auriipes** Girault, 1925 [387]: 2; Viggiani, 1973: 258 (descriptive note); Dahms, 1983: 81 (types). **TL:** Qld, Mulgowie.

- **P. caudata** Girault, 1915 [228]: 161; Doutt, 1973: 186 (contrast with *egregia*); Viggiani, 1973: 257 (descriptive note); Schauff, 1983: 543 (type examined); Dahms, 1983: 168 (types). **TL:** Qld, Cooktown.

- **P. densiciliata** Girault, 1938 [452]: 391; Doutt, 1973: 186 (illustration); Viggiani, 1973: 258 (descriptive note); Dahms, 1983: 217 (types). **TL:** Vic., Canterbury.

- **P. densiciliata nostra** Girault, 1938 [452]: 391; Dahms, 1983: 217 (types). **TL:** Qld, Chinchilla.

- **P. egregia** Girault, 1913 [165]: 115; Girault, 1914 [219]: 112 (description); Schauff, 1983: 543 (type examined); Doutt, 1973: 186 (contrast with *caudata* and *intermedia*); Viggiani, 1983: 256 (redescription); Dahms, 1983: 239 (types). **TL:** Qld, Nelson [Gordonvale].

- **P. elongata** Girault, 1923 [371]: 3; Doutt, 1973: 186 (descriptive note); Viggiani, 1973: 258 (descriptive note); Dahms, 1984: 244 (types). **TL:** Qld, Wynnum.

- **P. eucalypti** Girault, 1925 [384]: 94; Dahms, 1983: 244 (types); Dahms, 1986: 738 (correction to type data). **TL:** Qld, Banyo.

- **P. harveyi** (Girault, 1912 [120]: 151) (Anaphoidea); Doutt, 1973: 186 (generic placement); Dahms, 1983: 115 (types). **Comb. nov.** from *Erythmelus*. **TL:** Qld, Nelson [Gordonvale].

- **P. intermedia** Girault, 1915 [228]: 161; Schauff, 1983: 543 (type examined); Doutt, 1973: 186 (contrast with *egregia*); Viggiani, 1973: 257 (contrast with *egregia*); Dahms, 1984: 723 (types). **TL:** Qld, Gordonvale.

- **P. nigriclava** Girault, 1915 [229]: 179; Doutt, 1973: 187 (mention); Viggiani, 1973: 258 (descriptive note); Schauff, 1983: 543 (type examined); Dahms, 1986: 333 (types). **TL:** Qld, Burnett Heads.

- **P. ponderosa** Girault, 1913 [165]: 115; Viggiani, 1973: 257 (contrast with *egregia*); Schauff, 1983: 543 (type examined); Dahms, 1986: 423 (types). **TL:** Qld, Nelson [Gordonvale].

- **P. tennysoni** Girault, 1920 [353]: 98; Viggiani, 1973: 258 (comparison with *eucalypti*); Dahms, 1986: 582 (types). **TL:** Qld, Cairns.
Genus *Polynema* Haliday (Figs. 213–215)


*Dorypolynema* Hayat & Anis, 1999: 318. Type species: *Polynema mendeli* Girault, by original designation. Subgenus of *Polynema*.


**Diagnosis.** *Polynema* belongs to the *Polynema* group of genera. Useful features to help distinguish it from other genera in the group are as follows: fore wing venation short, extending about one-quarter length of wing, with marginal vein punctiform, its posterior margin convex, not parallel with anterior margin (Fig. 213); face without pit next to each torulus (Fig. 214); propodeum not abutting anteriorly; propodeum often with a median carina, either short (Fig. 215) or extending to dorsellum; body colour dark brown to black (Fig. 215, cleared specimen). Male with flagellum 11-segmented.

*Polynema saga* (Girault) is reported here from Australia, based on one female collected in Victoria (Figs. 213–215). This Nearctic species is not included in the species list below until more Australia specimens are collected to confirm conclusively its presence there.

**Body length.** 600–2475 μm.

**Distribution.** Worldwide.

**Hosts.** Unknown for Australian species. Elsewhere reported from Cicadellidae, Lestidae, Membracidae, Miridae and Nabidae.

**Important reference.** New (1976), Triapitsyn and Berezovskiy (2007).

Australian species (4):

*P. draperi* Girault, 1912 [120]: 172; New, 1976: 6 (redescription), 23 (key); Dahms, 1983: 231 (types). **TL:** Qld, Cooktown.

*P. editha* Girault, 1938 [452]: 391; New, 1976: 6 (redescription), 23 (key); Dahms, 1983: 238. **TL:** Qld, Wynnum.

*P. frater* Girault, 1913 [165]: 124; Girault, 1915 [228]: 166 (sex of type); New, 1976: 7 (redescription), 23 (key); Dahms, 1984: 624. **TL:** Qld, Ingham.

*P. mendeli* Girault, 1913 [147]: 219; Girault, 1913 [159]: 99 (description, additional specimen); Girault, 1913 [165]: 118 (description), 128 (key); New, 1976: 10 (redescription), 23 (key); Sveum, 1982: 83 (synonymy of *P. oophaga* (Subba Rao), redescription); Dahms, 1984: 807; Hayat & Anis, 1999: 318 (in subgenus *Dorypolynema*). **TL:** Qld, Nelson [Gordonvale].
Genus *Polynemoidea* Girault (Figs. 216–220)

*Polynemoidea* Girault, 1913 [165]: 116. Type species: *Polynemoidea varicornis* Girault, by original designation.


**Diagnosis.** *Polynemoidea* is placed tentatively in the *Australomymar* group of genera. It differs from *Australomymar*, the only other genus in the group, as follows: antennal scape with inner surface imbricate and clava 3-segmented or partially so (divisions between segments not complete) (Fig. 217); fore wing venation extending less than 0.4x wing length (Fig. 216); ovipositor without setae along sheath (Fig. 218). Fore leg as in Fig. 219. Male unknown.

- **Body length.** 1510 µm (from one specimen of *P. varicornis*).
- **Distribution.** Australia.
- **Hosts.** Unknown.

**Note.** *P. domestica* is incorrectly placed in this genus. Until its correct placement can be determined confidently it is left in *Polynemoidea*. The wing shape and setation (fig. 5 in Viggiani 1973) resembles that of genus C in Noyes and Valentine (1989, fig. 184), suggesting that *P. domestica* may belong there.

Australian species (2):

- **P. domestica** Girault, 1931 [435]: 3; Viggiani, 1973: 260 (redescription); Doutt, 1973: 219 (redescription), 220 (key); Dahms, 1983: 230 (types). **TL:** Qld, Indooroopilly.
- **P. varicornis** Girault, 1913 [165]: 116; Girault, 1913 [174]: 65 (description); Viggiani, 1973: 259 (description); Doutt, 1973: 215 (description), 220 (key); Dahms, 1986: 621 (types). **TL:** Tas., Hobart.

Genus *Prionaphes* Hincks (Figs. 221–224)

*Prionaphes* Hincks, 1961: 159. Type species: *Prionaphes depressus* Hincks, by original designation.

**Diagnosis.** *Prionaphes* belongs to the *Cleruchus* group of genera. It is distinguished from other genera of the group as follows: funicle 5- or 6-segmented, each segment short and subglobular and clava entire (Fig. 221) or partly 2-segmented with suture between segments faint and incomplete. Wings present or absent; when present, fore wing relatively wide, with anterior and posterior margins not parallel and with numerous microtrichia on membrane (Fig. 223). Fore leg as in Fig. 222.

An unusual species of *Prionaphes* with reduced mandibles was initially thought to represent a new genus (Figs. 274–279) on the basis of its small, unidentate mandibles that do not meet medially. The only known male is a gynandromorph, with antenna malelike, funicle 6-segmented, clava enlarged (Fig. 275) and male genitalia, Fig. 276.

- **Body length.** 535–584 µm (ca. 680 for the gynandromorph male).
- **Distribution.** Australia and New Zealand.
- **Hosts.** Unknown for Australian species. Elsewhere (New Zealand) reported from Cerambycidae.
- **Important references.** Hincks (1961), Noyes & Valentine (1989).

Australian species (1):

- **Prionaphes** sp.

46  ·  Zootaxa 1596  © 2007 Magnolia Press  LIN ET AL.
Genus *Pseudanaphes* Noyes & Valentine (Figs. 225–229)

**Pseudanaphes** Noyes & Valentine, 1989: 47. Type species: *Pseudanaphes hirtus* Noyes & Valentine, by original designation.

**Diagnosis.** *Pseudanaphes* belongs to the *Anaphes* group of genera. It is probably better placed here than in *Australomymar* group, as classified in Noyes and Valentine (1989). *Pseudanaphes* is distinguished from the other genera in the group as follows: antennal clava large, 3-segmented (Fig. 226); fore wing apex evenly rounded, with venation extending at least 0.4 x wing length and membrane fairly uniformly covered in microtrichia (Fig. 225). Fore leg as in Fig. 227. Male antenna 11-segmented (Fig. 228) and genitalia as in Fig. 229. Superficially, *Pseudanaphes* strongly resembles several species of *Anaphes* but can be separated by the marginal vein longer (shorter in *Anaphes*), fore wing apex evenly rounded (asymmetrical in *Anaphes*), ovipositor relatively short (at least as long as gaster in many *Anaphes*), and propodeum without a longitudinal median groove (groove present in *Anaphes*).

**Body length.** 640–1127 μm.

**Distribution.** Australian, Oriental, and eastern Palearctic regions.

**Hosts.** Unknown.

**Important references.** Noyes & Valentine (1989).

Australian species (2):

*P. lincolni* (Girault, 1913 [165]: 116); Viggiani, 1973: 259 (mention); Doutt, 1973: 216 (redescription), 220 (key); Dahms, 1984: 756 (types). **TL:** Qld, Nelson [Gordonvale]. **Comb. nov.** from *Polynemoidea*.

*P. particoxae* (Girault, 1938 [452]: 390); Viggiani, 1973: 262 (generic placement); Doutt, 1973: 217 (redescription), 220 (key); Dahms, 1986: 383 (types). **TL:** Qld, Gatton. **Comb. nov.** from *Polynemoidea*.

Genus *Ptilomymar* Annecke & Doutt (Figs. 230–236)


**Diagnosis.** *Ptilomymar* belongs to the *Camptoptera* group of genera despite having only four tarsal segments – a result of fusion of tarsomeres 4 and 5. It has many distinctive features, presumably adaptations to its putatively aquatic habits. *Ptilomymar* is distinguished from other genera in the group as follows: funicle 8-segmented (Fig. 236), tarsi 4-segmented, propodeum sublaterally with large, areolate, translucent lamina (Fig. 235) and propodeal seta branched; petiole ventrally and gastral tergum 1 sublaterally with areolate, translucent lamina (Fig. 233); mandible bidentate. Fore leg as in Fig. 231. Male flagellum 11-segmented (Fig. 232) but segment 1 sometimes very short so appearing 10-segmented. Gentitalia as in Fig. 234.

**Body length.** 465–644 μm.

**Distribution.** Worldwide, except western Palearctic.

**Hosts.** Unknown. Probably an aquatic insect because *Ptilomymar* spp. are almost always collected with pan traps set on or beside running or standing water.

**Important reference:** Annecke & Doutt (1961).

Australian species (1): *Ptilomymar* sp.
Genus *Richteria* Girault (Figs. 237–241)

*Richteria* Girault, 1920 [356]: 2. Type species: *Richteria lamennaisi* Girault, by original designation.

**Diagnosis.** *Richteria* belongs to the *Polynema* group of genera. It is distinguished from other genera in the group as follows: vertex and mesoscutum with distinct isodiametric to elongate, cellulate sculpture; fore wing wide, oval, usually with 2 wide, dark cross bands, and venation extremely short, extending less than 0.2x wing length (Fig. 237); hind wing usually almost filamentous and about half as long as fore wing, with marginal setae shorter that width of membrane (Fig. 237); propodeum with 2 parallel, submedian carinae usually extending to about half way towards dorsellum. Fore leg as in Fig. 239. Male flagellum 11-segmented (Fig. 240) and genitalia as in Fig. 241.

**Body length.** 691–947 μm.

**Distribution:** Australia and New Zealand.

**Hosts.** Unknown.


Australian species (3):

*R. ara* (Girault, 1920 [352]: 44) (*Polynema*); Girault, 1920 [353]: 96 (description); New, 1976: 3 (redescription), 21 (key); Dahms, 1983: 48 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer). **TL:** Qld, Gordonvale.


= *R. helena* (Girault, 1925 [387]: 1) (*Polynema*); New, 1976: 9 (redescription), 21 (key); Dahms, 1984: 684 (types); Triapitsyn & Berezovskiy, 2007: 40 (generic transfer and species synonymy). **TL:** Qld, Stanthorpe.

*R. bicornuta* Girault, 1930 [434]: 1; Viggiani, 1973: 265 (redescription); Dahms, 1983: 133 (types). **TL:** Qld, Indooroopilly.

*R. lamennaisi* Girault, 1920 [356]: 2; Viggiani, 1973: 263 (redescription); Dahms, 1984: 744 (types). **TL:** Qld, Manly.

Genus *Schizophragma* Ogoblin (Figs. 242–246)

*Schizophragma* Ogoblin, 1949: 345. Type species: *Schizophragma basalis* Ogoblin, by original designation.

**Diagnosis.** *Schizophragma* belongs to the *Anagrus* group of genera. It is distinguished from other genera in the group as follows: scape with distinct cross striations, clava 2-segmented (Fig. 243); fore wing with posterior margin behind venation not lobed (Fig. 242); mesophragma broadly and deeply notched posteriorly (Fig. 246); ovipositor forming large basal loop inside gaster (Fig. 245). Fore leg as in Fig. 244. Male flagellum 11-segmented.

One species of *Dorya* also has a wide, deep, posterioly notched mesophragma to make room for the large basal loop of its ovipositor.

**Body length.** 545–683 μm.

**Distribution.** Nearctic, Neotropical, Oriental, and Australian regions.

**Hosts.** Unknown for Australian species. Elsewhere reported from Membracidae.

**Important reference.** Huber (1987).
Australian species (1):
*Schizophragma* sp.

**Genus Stephanodes** Enoch (Figs. 247–253)


**Diagnosis.** *Stephanodes* belongs to the *Polynema* group of genera. It is distinguished from other genera in the group as follows: scape with inner surface rasplike, with imbricated sculpture (Fig. 247, 252); vertex with large, shallow depressions outside each ocellus (Fig. 252); mesosoma smooth, shiny, somewhat higher than wide, and in lateral view fairly convex dorsally (Fig. 253); prothoracic spiracle advanced forward of postero-lateral margin of pronotum and flush with surface (Fig. 253). Fore leg as in Fig. 249. Male flagellum 11-segmented (Fig. 250) and genitalia as in Fig. 251.

- **Body length.** 819–1050 μm.
- **Distribution.** Worldwide.
- **Hosts.** Unknown for Australian species. Elsewhere reported from Nabidae.


Australian species (1):
*S. reduvioli* (Perkins, 1905: 196); Girault, 1913 [135]: 12 (descriptive note, Australian record); New, 1976: 1 (mention); Huber & Fidalgo, 1997: 37 (key), 41 (redescription, extralimital synonym); Beardsley & Huber, 2000: 17 (distribution); Triapitsyn & Berezovskiy 2002a: 7 (distribution, notes). **TL:** Hawaiian Is. no locality specified.

**Genus Stethynium** Enoch (Figs. 254–259)

*Stethynium* Enoch, 1909: 452. Type species: *Stethynium triclavatum* Enoch, by monotypy.

**Diagnosis.** *Stethynium* belongs to the *Anagrus* group of genera. It is distinguished from other genera in the group as follows: Clava 3-segmented, compact, the sutures usually oblique at least in part (Fig. 255); posterior scutellum about twice as long as width of each lobe; mesophagma broadly rounded apically; fore wing with a distinct, rounded basal lobe and smoothly rounded apex (Figs. 254, 256); stigmal vein, and marginal vein at level of distal macrochaeta distinctly thicker than at level of hypochaeta (Fig. 256). Fore leg as in Fig. 258. Male flagellum 11-segmented, the two apical segments broadly joined (Fig. 257) and genitalia distinctively complex and asymmetrical (Fig. 259).

- **Body length.** 347–881 (1536?) μm.
- **Distribution.** Worldwide, except Afro-tropical.
- **Hosts.** Cicadellidae, gall-forming Eulophidae.
- **Note.** Not all the species listed below, e.g. *obscurum*, *thalesi*, belong in *Stethynium*. Until their correct placement can be determined confidently they are left in *Stethynium*.

**Important references.** Huber (1988), Huber et al. (2006).
Australian species (47 + 2 subspecies):

*S. alternatum* Girault, 1938 [452]: 386; Dahms, 1983: 39 (types). **TL:** Qld, Stanthorpe.

*S. ariostoni* Girault, 1938 [452]: 389; Dahms, 1983: 55 (types). **TL:** Qld, Indooroopilly.

*S. atriclavum* Girault, 1938 [452]: 386; Dahms, 1983: 64 (types). **TL:** Qld, Gympie.

*S. atriclavum ella* Girault, 1938 [452]: 386; Dahms, 1983: 64 (types). **TL:** Qld, Indooroopilly.

*S. atrum* Girault, 1928 [422]: 4; Dahms, 1983: 72 (types); Dahms, 1986: 734 (correction to type data). **TL:** Qld, Tingoora.

*S. auricolor* Girault, 1938 [452]: 387; Dahms, 1983: 78 (types). **TL:** Vic., Canterbury.

*S. auriscutellum* Girault, 1938 [452]: 389; Dahms, 1983: 82 (types). **TL:** Qld, Indooroopilly.

*S. bidentatum* Girault, 1938 [452]: 386; Dahms, 1983: 135 (types). **TL:** Qld, Stanthorpe.

*S. breviovipositor* Huber in Huber et al., 2006: 1916. **TL:** NSW, Wagga Wagga.

*S. catulli* Girault, 1938 [452]: 388; Dahms, 1983: 168 (types). **TL:** Qld, Indooroopilly.

*S. centaurus* Girault, 1938 [452]: 387; Dahms, 1983: 171 (types). **TL:** Qld, Indooroopilly.

*S. cinctiventris* Girault, 1914 [215]: 288; Girault, 1915 [228]: 161 (description); Dahms, 1983: 180 (types). **TL:** Qld, Nelson [Gordonvale].

*S. cuvieri* Girault, 1912 [120]: 163; Girault, 1913 [155]: 256 (additional specimens, descriptive notes); Girault, 1915 [228]: 169 (occurrence); Dahms, 1983: 204 (types); Dahms, 1986: 737 (correction to type data). **TL:** Qld, Nelson [Gordonvale].

*A. daltoni* (Girault), 1912 [120]: 160, 166 [key]; Dahms, 1983: 208 (types). **TL:** Qld, Roma.


*S. engelsi* Girault, 1938 [452]: 389; Dahms, 1983: 249 (types). **TL:** Qld, Indooroopilly.


*S. funiculatum* Girault, 1938 [452]: 386; Dahms, 1984: 634 (types). **TL:** ACT, Black Mountain.

*S. griegi* Girault, 1938 [452]: 387; Dahms, 1984: 663 (types). **TL:** Vic., Canterbury.

*S. heracliti* Girault, 1938 [452]: 389; Dahms, 1984: 687 (types). **TL:** Qld, Indooroopilly.

*S. hinnuleus* Girault, 1938 [452]: 386; Dahms, 1983: 135 (types). **TL:** Qld, Indooroopilly.

*S. ibyci* Girault, 1938 [452]: 389; Dahms, 1984: 706 (types). **TL:** Qld, Indooroopilly.

*S. immaculatum* Girault, 1924 [373]: 9; Dahms, 1984: 710 (types). **TL:** Qld, Coopers Plains, Indooroopilly, Mt. Coot’tha, Stanthorpe.

*S. imperator* Girault, 1938 [452]: 388; Dahms, 1984: 712 (types). **TL:** Vic., Canterbury.

*S. iridos* Girault, 1938 [452]: 387: Dahms, 1984: 730 (types). **TL:** Qld, Indooroopilly.

*S. latipenne* Girault, 1913 [155]: 256; Girault, 1913 [165]: 115 (description); Girault, 1915 [228]: 163 (descriptive notes); Dahms, 1984: 747 (types). **TL:** Qld, Proserpine.

*S. lavosieri* Girault, 1912 [120]: 162, 166 (key); Girault, 1913 [155]: 256 (descriptive notes); Girault, 1915 [228]: 169 (occurrence); Dahms, 1984: 750 (types). **TL:** Qld, Nelson [Gordonvale], Herberton.

*S. levipes* Girault, 1938 [452]: 388; Dahms, 1984: 755 (types). **TL:** Vic., Canterbury.

*S. longfellowi* Girault, 1920 [353]: 100; Dahms, 1984: 764 (types). **TL:** Qld, Watsonville.

*S. lutheri* Girault, 1929 [429]: 3; Dahms, 1984: 779 (types). **TL:** Qld, Mt. Coot-tha.

*S. mutatum* Girault, 1920 [353]: 100; Dahms, 1984: 841 (types). **TL:** Qld, Irvinebank.

*S. notatum* Girault, 1915 [228]: 163; Dahms, 1986: 354 (types). **TL:** Qld, Brisbane.

*S. nubiliceps* Girault, 1931 [436]: 1; Girault, 1933 [440]: 4 (description); Dahms, 1986: 360 (types). **TL:** Vic., Canterbury.

*S. obscurum* Girault, 1931 [436]: 1; Dahms, 1986: 364 (types). **TL:** Vic., Canterbury.

*S. ophe limi* Huber in Huber et al., 2006: 1912. **TL:** NSW, Wagga Wagga.
S. peccavum Girault, 1938 [452]: 389; Dahms, 1986: 396 (types). **TL:** Qld, Indooroopilly.

S. peregrinum Girault, 1911 [82]: 121, 123 (key); Girault, 1912 [120]: 165 (type locality), 166 (key); Girault, 1913 [165]: 115 (misspelling as *peregrinium*, under S. latipenne); Girault, 1915 [228]: 168 (correction of misspelling); Dahms, 1986: 400 (types). **TL:** WA, Perth.

S. poema Girault, 1927 [416]: 309; Dahms, 1986: 416 (types). **TL:** SA, Melrose.

S. poema poeta Girault, 1938 [452]: 389; Dahms, 1986: 416 (types). **TL:** Qld, Indooroopilly.

S. pygmaeum Girault, 1938 [452]: 388; Dahms, 1986: 451 (types). **TL:** Qld, Indooroopilly.

S. quinquedentatum Girault, 1938 [452]: 386; Dahms, 1986: 461 (types). **TL:** Qld, Indooroopilly.

S. shakespearei Girault, 1920 [353]: 100; Dahms, 1986: 528 (types). **TL:** Qld, Wynnum.

S. speciosum Girault, 1938 [452]: 387; Dahms, 1986: 552 (types). **TL:** Vic., Canterbury.

S. tenerum Girault, 1920 [353]: 100; Dahms, 1986: 581 (types). **TL:** Qld, Irvinebank.

S. thalesi Girault, 1938 [452]: 388; Dahms, 1986: 585 (types). **TL:** Qld, Indooroopilly.

S. tridentatum Girault, 1938 [452]: 388; Dahms, 1986: 597 (types). **TL:** Qld, Indooroopilly.

S. varidentatum Girault, 1938 [452]: 387; Dahms, 1986: 622 (types). **TL:** Qld, Indooroopilly.

S. vesalii Girault, 1912 [120]: 164, 166 (key); Dahms, 1986: 631 (types). **TL:** Qld, Roma, Nelson.

S. xenophonii Girault, 1938 [452]: 387; Dahms, 1986: 658 (types). **TL:** Qld, Indooroopilly.

**Kompsomymar, gen. nov.** Lin and Huber (Figs. 260–265)

**Type species:** *Kompsomymar bicoloratum* Lin and Huber (described below).

**Diagnosis.** *Kompsomymar* appears to belong to the *Anagrus* group of genera though it does not have the longitudinally divided posterior scutellum characteristic of that group. It is distinguished from other genera in the group by the following combination of features: posterior scutellum entire, pedicel almost as narrow as a basal funicle segment, the funicle thus appearing 7-segmented, and hind wing relatively wide and covered with numerous microtrichia, especially towards the wider apex. *Kompsomymar* is similar to *Paranaphoidea* on the basis of the divided clava in females, presence of subbental grooves, and relatively wide hind wing but differs by the undivided scutellum.

**Description. Female.** Head in anterior view with height slightly less than width, and length about 0.6 x width. Setae short and inconspicuous. Face with subbental grooves (Fig. 265). Toruli separated from transverse trabecula by their height. Ocelli in moderately high triangle, LOL = 4, POL = 7.5, OOL = 5. Eye large and round, its posterior margin dorsally extending almost to back of head so gena in dorsal view very narrow. Malar space slightly more than half height of eye. Antenna (Fig. 261) with numerous, short, dense setae from funicle segment 3 to apex; radicle fused to scape and scape relatively short, its inner surface with scalelike sculpture; pedicel narrow, not much wider than first funicle segment; funicle 6-segmented; clava partially divided into 3 segments by fine, incomplete sutures. Mandibles tridentate (Fig. 265).

Mesosoma slightly wider than high and about 1.75 x as long as wide, with dorsal margin fairly flat in lateral view. Pronotum visible in dorsal view, about 0.25 x length of mesoscutum and longitudinally divided medially, each lobe with 2 anterior setae and 2, more widely separated, posterior setae. Spiracle normal, at posteralateral angle of pronotum. Prosternum diamond-shaped, almost completely divided, except anteriorly, by median longitudinal groove, and with two submedial setae at about midlength. Mesoscutum about 1.7 x as wide as long, its midlobe with 2 setae in posterior fifth next to notauli and each lateral lobe with a seta at posteralateral angle. Notauli distinct and percurrent. Scutellum about 1.7 x as long as scutellum; anterior scutellum about half as long as undivided posterior scutellum, with placoid sensilla close together in anterior third (Fig. 265); axilla with a small setae medially, though sometimes the seta displaced to anterior scutellum at junction with each axilla. Mesophragma (Fig. 265) extending posteriorly into base of gaster. Dorsellum very
short and inconspicuous (scarcely visible except in slide mounts), with short submedial setae. Propodeum almost in same plane as scutellum and about half its length; propodeal spiracle minute and propodeal seta short, at posterolateral angle of propodeum next to outer margin of metacoxa.

Fore wing (Fig. 260) about 4.3 x as long as wide, broadly rounded apically; blade with microtrichia absent behind venation and a little beyond, then short, dense, and evenly distributed to wing apex; longest setae of marginal fringe about 0.2 x maximum wing width; venation about 0.3 x wing length, with marginal vein (measured as distance between the macrochaetae) almost 0.4 x length of submarginal vein, and stigmal vein almost 0.66 x length of marginal vein; hypochaetae just basal to proximal macrochaeta. Hind wing (Fig. 260) about 9 x as long as wide, distinctly wider distally than proximally at apex of venation and with a broadly rounded apex; blade with discal microtrichia numerous beyond venation except along most of posteriormargin, and dense in apical quarter; setae of marginal fringe less than maximum wing width.

Legs with tarsi 4-segmented and each basitarsus 0.4–0.6 x as long as entire tarsus; fore leg (Fig. 262) with a line of about 5–8 peglike sensilla on outer surface of tibia; protibial spur apically bifurcate, its inner surface not comblike, its outer surface near apex with about 3 setae. Middle and hind legs with tibial spurs longer than half length of basitarsus.

Metasoma about 1.6 x as long as mesosoma, with very short, inconspicuous petiole (Fig. 265). Gastral ter-gum 4 the longest. Gastral spiracle absent. Ovipositor slightly shorter than gaster, arising at its base and slightly exserted beyond gastral apex.

**Male.** Similar to female. Flagellum 11-segmented (Fig. 263). Gaster slightly shorter than mesosoma. Meso- and metatibia with spurs shorter than in female. Genitalia (Fig. 264) with phallobase about 2.5 x as long as aedeagal apodemes, with parameres just over half as long as aedeagus, and with volsellar digitii distinct, narrowly triangular, about half as long as parameres, and without teeth.

**Distribution.** Australia.

**Derivation of genus name.** From kompos, Greek for elegant or pretty, referring to the pleasing appearance of the type species, which has various body parts bicoloured. Gender: neuter.

**Kompsomyrm bicoloratum** Lin and Huber (Figs. 260–265)

**Diagnosis.** Funicle with segment 4 white (Fig. 261) and forewing with wide brown bands (Fig. 260).

**Description. Female.** Body length 1280–1450 µm (critical point dried specimens). Colour generally dark brown; mesoscutum with a faint bluish tinge; head, anterior scutellum, a narrow line between pro- and mesocoaxa, scape, pedicel, and first two funicle segments light brown to yellow-brown; funicle segment 4, pro- and metacoxa, basal three tarsomeres, and gastral segment 1 white to cream coloured. Eye grey, with a pink tinge (critical point dried specimens). Fore wing (Fig. 260) with three brown bands extending width of wing: a pale, indistinct band behind apex of submarginal and base of marginal vein, one dark band beginning behind stigmal vein and a second dark band in apical third of wing, the bands separated by three, narrower white areas, including wing apex. Hind wing with apical third of membrane brownish.

Head with fine engraved reticulation, isodiametric on vertex and face medially, more elongate on face laterally, gena, and occiput; face laterally with 9 or 10 setae between subantenal grooves and preoccipital sutures and medially with 2 setae at lower level of toruli; vertex with 2 setae between hind ocelli and 2 well in front of them; occiput with 4 setae above foramen; gena with 15–20 setae. Antenna with length/width measurements (from holotype) and number of longitudinal sensilla (in parentheses) as follows: scape 132/61, pedicel 77/38, funicle segments 1–6 175/44, 145/64 (1), 87/74 (2), 82/89 (2), 66/95 (2), entire clava 241/35 (6); the longitudinal sensilla short, only present in apical part of segment.

Mesosoma with sculpture on pronotum, mescutum and axilla distinct, the cells isodiametric to slightly elongate; scutellum and propodeum with much less distinct, slightly elongate sculpture.
Wings. Fore wing measurements (from holotype): length 1304, width 306, longest marginal setae 31, venation length 518; hind wing length 783, width 122, longest marginal setae 116, venation length 452.

Legs. Relative proportion of segments (from holotype):
Fore leg: coxa 189, trochanter 86, femur 297, tibia 309, entire tarsus 376, tarsomeres 1–4 167, 91, 61, 58.
Middle leg: coxa 164, trochanter 86, femur 297, tibia 481, entire tarsus 335, tarsomeres 1–4 137, 80, 61, 49.
Hind leg: coxa 239, trochanter 110, femur 380, tibia 578, entire tarsus 365, tarsomeres 1–4 163, 91, 62, 50.

Metasoma. Relative lengths of gastral terga 1–6 (dorsally along midline, from a critical point dried specimen) 8, 10, 9, 17, 12, 9; terga submedially with longitudinal striations. Ovipositor about 1.1 x as long as metatibia.

Male. Similar to female. Antenna with scape and pedicel orange brown except narrowly along dorsal margin, and flagellum uniformly dark brown; each flagellar segment about 4 x as long as wide, and with about 10 longitudinal sensilla. Genitalia as in generic description.

Hosts. Unknown.

Derivation of species name. Latin for bicoloured, referring to the colour pattern of the antenna, wings, legs and metasoma, each of which has a white area (clear area on the wings).


Paratypes. 17 females and 4 males on card mounts, and 3 females and 3 males on slides, as follows: ACT: 35.35S 149.00E, Honeysuckle Creek, 11–22.iv.1985, I.D. Naumann & J.C. Cardale, Malaise trap (1 female, ANIC); Namadgi Nat. Park, Brindabella Range, 3.5 km E Picadilly Circus (power line out from), 1337m, 35°21′38″S 148°48′00″E, 14–28.ii.1999, S. Schmidt & G. Gibson, MT (1 female, CNC); 35.27S 148.48E, 17 km S by W Picadilly Circus, Brindabella Range, 24.xi.1981, I.D. Naumann (1 male, ANIC). NSW: Monga State Forest, W of Monga off Burma road, 35°34′31″S 49°50′01″E, 19.ivi and 9.v.1999, G. Gibson, sweeping (1 female & 2 males, CNC); Monga State Forest, 13.i.1999, J.S. Noyes (1 female, BMNH); Sawpit Creek, Kosciusko Nat. Park, 11.iii.1978, Z. Liepa (1 male, ANIC). SA: 500 ft. over Adelaide, 12.xi.1964, T.C.R. White (2 females, ANIC). TAS: 41.21S 147.22E, Barrow Ck., 8 km NE Nunamara, 11.i.1983, I.D. Naumann, J.C. Cardale (1 female, ANIC); 42.13S 146.02E, 8 km SW by W Derwent Bridge, 22.i.1983, I.D. Naumann, J.C. Cardale (2 females, ANIC); 42.10S 146.08E, 9 km WSW Derwent Bridge, 21.i.1983, I.D. Naumann, J.C. Cardale, ex yellow tray (1 female, ANIC); 42.49S 146.23E, Frodshams Pass, 24–25.i.1983, I.D. Naumann & J.C. Cardale (1 male, FAFU); 42.52S 146.22E, 6 km S by W Frodshams Pass, 25.i.1983, I.D. Naumann, J.C. Cardale (1 female, ANIC); 43.07S 146.47E, Hartz Mts (Edwards Road), 4.ii.1983, I.D. Naumann, J.C. Cardale (2 females, ANIC); 41.06S 147.53E, 1 km E by N Herrick, 29 & 30.i.1983, I.D. Naumann, J.C. Cardale (1 female, ANIC); 41.50S 146.03E, Pelion Hut, 3 km S Mt. Oakleigh, closed forest (W.E.B.S.), Malaise 2, 11.ii – 1.iii.1990 (3 females, 2 males) and 5–9.iv.1991, J.A. Berry (1 female, ANIC); 41.10S, 147.38E, 9 km E Scottsdale, 12.i.1983, I.D. Naumann & J.C. Cardale (1 female, FAFU). WA: near Boddington, 24.iii–1.iv.1984, A. Postle (1 female, ANIC).

Cleruchoides, gen. nov. (Figs. 266–273)

Type species: Cleruchoides noackae Lin and Huber (described below).

Diagnosis. Cleruchoides belongs to the Cleruchus group of genera. It is distinguished from other genera in the group by the following combination of features: forewing with a widened and slightly recurved posterior margin behind apex of venation and face with subantennal grooves black (faintly visible in Fig. 267). Cleruchoides shares many features with Cleruchus and might eventually be shown to be a synonym of the latter.
**Description. Female.** Head (Fig. 267) in anterior view with height 0.5–0.6 x width, and length about 0.6 x width. Setae short and mostly inconspicuous. Face with conspicuous subantennal grooves. Toruli separated from transverse trabecula by about half their height. Ocelli in low triangle: LOL = 15, POL = 27, OOL = 8. Malar space about 0.5 x eye height. Eye large, its length slightly longer than height, its posterior margin not extending to back of head. Antenna (Fig. 268) with radicle separate from and about 0.2x as long as relatively long scape; pedicel normal, distinctly wider apically than basally; funicle 6-segmented; clava entire. Mandibles (Fig. 267) small, not meeting each other medially, essentially unidentate, with one, large blunt ventral tooth and a small, dorsal tooth (usually not visible in card-mounted specimens) far from and directed away from ventral tooth.

Mesosoma (as in Fig. 273, male) about 1.7 x as wide as high and about 2.1 x as long as wide, with dorsal margin fairly flat in lateral view. Pronotum visible in dorsal view, about 0.4 x length of mesoscutum and longitudinally divided medially, each lobe with 2 anterior setae and 2, less widely spaced, posterior setae. Spiracle normal, at posterolateral angle of pronotum. Prosternum somewhat lozenge-shaped, with anterior margin rounded, not longitudinally divided and without setae. Mesoscutum (Fig. 273) about 2.5 x as wide as long, its midlobe with two setae in posterior third next to notauli and each lateral lobe with a seta at posterolateral angle. Notauli distinct and percurrent. Scutellum about 1.6 x as long as mesoscutum; anterior scutellum about half as long as longitudinally divided posterior scutellum, with placoid sensilla close together in anterior quarter; axillae each with a seta near inner margin. Mesophragma extending posteriorly to past level of first gastral tergum. Dorsellum conspicuous, as long as anterior scutellum, with minute submedial setae almost midway between anterior and posterior margins. Propodeum in same plane as scutellum and slightly longer than dorsellum; propodeal spiracle inconspicuous and propodeal seta apparently absent.

Fore wing (Fig. 269) 7 x as long as wide and rounded apically, with posterior margin behind stigmal vein distinctly lobed; blade mostly bare, with one posterior and 2 anterior lines (one incomplete) of microtrichia; marginal fringe with longest setae about 2.2 x maximum wing width; venation about 0.3 x wing length, with marginal vein (measured as distance between the macrochaetae) 0.43 x length of submarginal vein, and stigmal vein 0.44 x length of marginal vein and about 3 x as wide; hypochaeta just distal to proximal macrochaeta. Hind wing (Fig. 269) about 14 x as long as wide, nearly parallel-sided, with rounded apex and a blade with two rows of microtrichia; setae of marginal fringe 4.6 x maximum wing width. Legs with tarsi 4-segmented and each basitarsus about 0.25 x as long as entire tarsus; fore leg (Fig. 271) without obvious peglike sensilla on outer surface and protibial spur with inner tine short and arising at about midpoint of spur; middle leg with short tibial spur; hind leg with tibial spur over half as long as basitarsus.

Metasoma (Fig. 266) about 0.75 x as long as mesosoma, with very short, inconspicuous petiole. Gastral terga subequal in length. Gastral spiracle absent. Ovipositor (Fig. 266) arising in apical half of gaster, about half its length and scarcely exserted beyond gastral apex.

**Male.** Similar to female. Flagellum 11-segmented (Fig. 272). Genitalia (Fig. 270, 273) with phallobase about 2.6 x as long as wide, with aedeagus as long as aedeagal apodemes, with parameres half as long as aedeagus, and with volsellar digit short, stout, with 3 apical teeth.

**Distribution.** Australia.

**Derivation of genus name.** From Cleruchus + -oides, Greek suffix meaning like or resembling, referring to the strong similarity to the genus Cleruchus. Gender: masculine.

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**Cleruchoides noackae** Lin and Huber, sp. nov. (Figs. 266–273)

**Diagnosis.** Subantennal grooves and mandibles black, contrasting sharply with light coloured head.

**Description. Female.** Body length 446–495 µm (critical point dried specimens). Colour generally brown to light brown dorsally except scutellum and whitish ventrally. Head light brown to yellowish, except for dark
brown or black subantennal grooves and mandibles. Eyes grey with a pink tinge and ocelli pink (critical point dried specimens). Antenna light brown, the scape and pedicel laterally and first few funicular segments whitish. Mesosoma brown, except pronotum laterally, lateral lobes of mesoscutum and entire venter lighter; posterior scutellum white to cream-coloured. Legs whitish. Wings hyaline, except slight brown suffusion behind venation. Metasoma light brown dorsally and whitish ventrally except for apical third.

Head almost smooth, at most with very faint transverse striations on vertex posteriorly and occiput; face laterally with 5 or 6 setae between subantennal grooves and preoccipital sutures, and medially with 2 widely spaced setae next to toruli and 3 setae along each subantennal groove; vertex with 2 setae between and slightly behind hind ocelli and 2 more closely spaced setae in front of them; occiput with 4 setae lateral to and above foramen; gena with 2 setae ventral to eye. Antenna with length/width measurements (from holotype) and number of longitudinal sensilla (in parentheses) as follows: scape 104/21, pedicel 36/23, funicle segments 1–6 (number of longitudinal sensilla) 20/14, 32/12, 29/13, 31/19 (1), 36/23 (2), 35/23 (2), entire clava 99/35 (5 or 6).

Mesosoma smooth.

Wings. Fore wing (from holotype) length 492, width 82, longest marginal setae 165, venation length 163; hind wing length 465, width 33, longest marginal setae 119, venation length 154.

Legs. Relative proportion of segments (from holotype):
Fore leg: coxa 83, trochanter 26, femur 149, tibia 158, entire tarsus 120, tarsomerses 1–4 32, 30, 26, 33.
Middle leg: coxa 56, trochanter 32, femur 149, tibia 158, entire tarsus 127, tarsomerses 1–4 28, 34, 30, 35.
Hind leg: coxa 93, trochanter 48, femur 149, tibia 158, entire tarsus 128, tarsomerses 1–4 26, 36, 32, 35.

Metasoma. Several gastral terga dorsally with one or two transverse rows of crenulate sculpture. Ovipositor length 110, about 0.7 x as long as metatibia.

Male. Similar to female. Colour of meso- and metasoma slightly darker. Each flagellar segment about 2.0 x as long as wide, and with 4 longitudinal sensilla. Genitilia as in generic description.

Variation. The number of longitudinal sensilla on the antenna varies. Female specimens from Sydney lack them on all funicle segments except funicle segment 6, and at least one Tasmanian specimen lacks longitudinal sensilla on funicle segment 4. Male specimens from Sydney have 4 sensilla on some segments but apparently only 3 or 2 on others, and these segments are also smaller. These differences are considered to represent intraspecific variation.


Derivation of species name. Named after Annie Noack, who reared specimens of this species during her studies of an outbreak of T. peregrinus (previously misidentified as T. australicus) on Eucalyptus nicholii in Sydney, and who kindly reared numerous additional specimens for taxonomic study by JTH.


Parastethynium Lin and Huber, gen. nov. (Figs. 280–284)

Type species: *Parastethynium maxwelli* (Girault), by present designation.

**Diagnosis.** *Parastethynium* belongs to the *Anagrus* group of genera. It is distinguished from other genera in the group by the following combination of features: eye conspicuously setose (Fig. 284) and fore wing with apex strongly truncate (Fig. 280).

**Description. Female.** Head (Fig. 284) with height about 0.85 x width, and length about 0.64 x width. Setae relatively long and conspicuous. Face with subantennal grooves (Fig. 284). Toruli separated from transverse trabecula by 1.5 x their height. Ocelli large, in equilateral triangle: LOL = 3.5, POL = 3.5, OOL = 2.0. Eye large, round, with numerous short setae among the ommatidia and its posterior margin dorsally not extending to back of head. Malar space 0.4 x eye height. Antenna (Fig. 281) with radicel fused to scape; pedicel normal, distinctly wider apically than basally; funicle 6-segmented; clava 3-segmented, with oblique sutures. Mandibles with 2 distinct ventral teeth and a broad, serrate dorsal ridge with 4 small teeth (Fig. 284).

Mesosoma (Fig. 283) as wide as high and about 1.4 x as long as wide, with dorsal margin flat except anteriorly where pronotum at lower level than mesoscutum. Pronotum almost vertical, scarcely visible in dorsal view, about 0.2 x length of mesoscutum and longitudinally divided medially, each lobe with 2 anterior setae and 2, more widely separated posterior setae. Spiracle moderate in size, at posterolateral angle of pronotum. Prosternum diamond-shaped, with trace of median longitudinal groove and with two setae in posterior half. Mesoscutum about 2.2 x as wide as long, the midlobe with two setae in posterolateral angle next to notauli and each lateral lobe with seta sublaterally. Notauli distinct and percurrent. Scutellum about 1.6 x as long as mesoscutum; anterior scutellum about 0.6 x as long as posterior scutellum, with placoid sensilla close together and in anterior half of anterior scutellum (in specimens from Indonesia, abutting each other and anterior margin of scutellum) and a long seta laterally at junction with axilla beside each placoid sensillum; posterior scutellum apparently undivided or only partly divided by a longitudinal suture in posterior half. Mesophragma widely truncate apically and extending posteriorly into base of gaster. Dorsellum extremely short, less than 0.1 x as long as posterior scutellum, with a short submedial seta sublaterally. Propodeum in same plane as scutellum and less than 0.2 x its length; spiracle small, propodeal seta near posterolateral angle of propodeum.

Fore wing (Fig. 280) about 2.5 x as long as wide and truncate apically; blade with discal microtrichia dense beyond venation and numerous behind venation; longest setae of marginal fringe about 0.05 x maximum wing width; venation slightly longer than 0.33 x wing length, with marginal vein (measured as distance between macrochaetae) about 0.4 x length of submarginal vein, and stigmal vein about 0.65 x length of marginal vein; hypochaeta just basal to proximal hypochaeta. Hind wing (Fig. 280) 7.5 x as long as wide, slightly wider apically than basally and with its apex rounded; blade with microtrichia numerous in apical half, more scattered posteriorly and with a distinct row anteriorly in basal half beyond venation; setae of marginal less than maximum wing width.

Legs with tarsi 4-segmented and each basitarsus about one-fifth as long as entire tarsus; fore leg (Fig. 282) without evident peglike sensilla on outer surface of tibia and tibial spur bifurcate, without setae on inner surface (Fig. 282). Middle leg with tibial spur slightly longer than basitarsus and hind leg with tibial spur slightly shorter than basitarsus.

Metasoma about 1.4 x as long as mesosoma, with very short, inconspicuous petiole, and gastral tergum 5 slightly the longest tergum. Gastral spiracle absent. Ovipositor as long as gaster and slightly exserted beyond gastral apex (Fig. 283).

**Male.** Unknown.

**Body length.** 565–922 μm.

**Distribution.** Australia, Indonesia.

**Hosts.** Unknown.
**Derivation of genus name.** From para-, Greek prefix meaning beside or near, + Stethynium, the genus in which the type species was originally described and referring to the similarity to *Stethynium*. Gender: neuter.

**Stethynium maxwelli** (Girault) (Figs. 280–283)

Descriptive notes and measurements of the type species are given based on the holotype and a card-mounted specimen.

Body length 845 (critical point dried specimen). Colour brown, with posterior scutellum almost white, contrasting strongly with rest of mesosoma (Fig. 283); antennal flagellum light brown; legs, scape and pedicel yellowish white. Eye grey, with a pink tinge. Fore wing (Fig. 280) with a faint brown suffusion behind venation, along anterior and posterior margins and across wing submedially, thus delimiting an oval clear area in apical half and a clear area just beyond venation. Hind wing (Fig. 280) with apical third and anterior margin having a faint brown suffusion.

Head with very indistinct sculpture, apparently almost smooth. Face laterally with about 15 setae in lower half between subantennal grooves and preoccipital sutures and medially with two setae between toruli; vertex with 2 setae behind hind ocelli and two well in front of them; occiput and gena with numerous, fairly long setae. Antenna with length proportions (in micrometers, from holotype) as follows: scape 82, pedicel 46, funicle segments 1–6 36, 35, 40, 34, 30, entire clava 80. Longitudinal sensilla not clearly visible on any specimen but apparently funicle segments 1–6 with 1, 1, 2, 1, 2, 1 and claval segments 1–3 with 2, 2, 2.

Mesosoma with sculpture very faint engraved, cellulate sculpture at least on mesoscutum and anterior scutellum.

Wings. Fore and hind wing proportions as given in generic description.

Legs. Proportions of segments, from holotype (in micrometers, fore legs missing):
- Middle leg : coxa 83, trochanter 51, femur 171, tibia 195, entire tarsus 149, tarsomeres 1–4 26, 41, 43, 37.
- Hind leg : coxa 119, trochanter 75, femur 189, tibia 270, entire tarsus 165, tarsomeres 1–4 32, 58, 47, 32.

Metasoma. Gaster with fine, longitudinal reticulation on all segments. Gastral tergum 5 the longest (Fig. 283). Gastral tergum 7 with a line of about 11, fairly conspicuous setae above ovipositor valves and about 7 setae laterally in front of cercus. Ovipositor 522 long, about 1.9 x as long as metatibia.

**Type material.** Holotype female (QMB), examined. The holotype is broken into several parts under a piece of cracked, dirty coverslip on the same, broken slide as the type of *Stethynium gladius* (under its own coverslip piece). Label data are given in Dahms (1984).

**Other material examined.** QLD: 11.45S 142.35E, Heathlands, 25.iv–7.vi.1992, T. McLeod, Malaise #2, dump, open forest (2 females on slides, ANIC); Daintree Prov., i. 1999, D. Quicke, secondary forest (1 female on card, CNC).

Three specimens of a second, smaller species of *Parastethynium* from Indonesia were examined that differs from the type species by the position of the placoid sensilla on the scutellum and its smaller size.

Australian species (1):

**P. maxwelli** (Girault, 1915 [228]: 162); Dahms, 1984: 801 (types). **Comb. nov.** from *Stethynium*. **TL:** Qld, Gordonvale.

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FIGURES 7–13. _Alaptus_ spp. **Female** (Qld, Heathlands, 11.45°S 142.35°E, 26.i–29.ii.1992, P. Feehney) 7, fore- and hind wings; 8, antenna; 9, body. **Male** (ACT, Blundells Creek, 3 km E. Piccadilly Circus, 850m, 35.22S 148.50E, xii.1984, Weir, Lawrence, Johnson) 10, genitalia dorsal. **Male** (Qld, 12 km SSE. Heathlands, 11.52°S 142.38°E, 22.iii–25.iv.1992, T. Mcleod) 11, genitalia lateral; 12, antenna; 13, fore leg.
FIGURES 42–46. *Arescon* sp. **Female** (Qld, 12 km SSE Heathlands, 11.51°S 142.38°E, 22.iii–25.iv.1992, T. Mcleod) 42, antenna; 43, fore leg. **Female** (same data as above but 1–21.iii) 44, fore- and hind wings. **Male** (same data as above) 45, antenna; 46, genitalia lateral.
FIGURES 66–71. *Camptopteroides* spp. Male (Qld, Mt. Edith, 1050m, 17.06°S 145.37°E, 4.ii–17.iii.1995, P. Zborowski) 66, antenna; 67, fore leg; 68: genitalia, lateral. Female, micropterous (Qld, Mt. Haig, 1150m, 16.06°S 145.36°E, 4.ii–17.iii.1995, P. Zborowski) 69, fore- and hind wings; 70, antenna. Female (Qld, Hugh Nelson River, 1150m, 17.27°S 145.29°E, i.xii.94–3.i.1995, P. Zborowski) 71, fore- and hind wings.
FIGURES 72–76. *Ceratanaphes* sp. **Female** (Qld, 16 km SSE. Musselbrook Camp, 18.44°S 138.12°E, 8–18.v.1995, I.D. Naumann) 72, antenna; 73, fore leg. **Male** (Qld, Musselbrook Camp, 18.36°S 138.08°E, 8–21.v.1995, I.D. Naumann) 74, antenna; 75, fore- and hind wings; 76, genitalia ventral.
FIGURES 83–88. Cleruchus spp. Female (ACT, Piccadilly Circus, 1240m, ii.1984, J. Lawrence, T. Weir, M.-L. Johnson) 83, antenna; 84, fore leg. Male (ACT, 3 km E. Piccadilly Circus, Blundells Creek, 850m, 35.22°S 148.50°E, viii.1985, J. Lawrence, T. Weir, & M.-L. Johnson) 85, antenna; 86, genitalia ventral. Female of C. (Haplochaeta) sp. (same data as male above) 87, antenna; 88, fore- and hind wings.
FIGURES 99–103. Dicopus spp. Female (ACT, Piccadilly Circus, 1240m, 35.22°S 148.4°E, v.1984, J. Lawrence, T. Weir & M.-L. Johnson) 99, fore leg; 100, antenna. Female (ACT, 3 km E. Piccadilly Circus, Blundells Creek, 850m, 35.22°S 148.50°E, i.1985, J. Lawrence, T. Weir, & M.-L. Johnson) 101, fore- and hind wings; 102, antenna. Male (ACT, Honeysuckle Creek, 35.35°S 149.00°E, 11–22.iv.1985, I. Naumann & J. Cardale) 103, antenna.
FIGURES 114–116. *Eofoersteria vasta* (Girault). Female, holotype (Qld, Nelson, A.A. Girault) 114, antenna; 115, middle leg; 116, body.
FIGURES 123–128. *Eubroncus* sp. **Female** (Qld, Wooroonoonan Nat. Park, 17°20'30"S 146°52'08"E, 85m, 24.ix.2004, L. Masner) 123, fore- and hind wings; 124, head and antenna dorsal; 125, fore leg. **Male** (Qld, Mt. Lewis, 20.xii.1986, H. & A. Howden) 126, antenna; 127, head lateral; 128, genitalia lateral (upsidedown).
FIGURES 135–142. Gonatocerus, litoralis group spp. Male (Tas., 3 km NE by E Wayatinah, 42.22°S 146.29°E, 23.i.1983, I. Naumann & J. Cardale) 135, fore- and hind wings; 136, antenna; 137, genitalia. Female (Tas., 12 km NNE, Bronte Park, 42.02°S 146.33°E, 20.i.1983, I. Naumann & J. Cardale) 138, antenna; 139, metanotum and propodeum; 140, fore leg; 141, middle leg; 142, hind leg.
FIGURES 143–146. *Gonatocerus, sulphuripes* group spp. **Female** (Qld, Hann River, 15.11°S 143.52°E, 20.iii–24.iv.1994, P. Zborowski) 143, fore-and hind wings; 144, antenna; 145, metanotum and propodeum dorsolateral. **Male** (Qld, 13 km E. by S. Weipa, 12.40°S 143.00°E, 16.xii.93–16.i.1994, P. Zborowski & D. Khalu) 146, antenna.
FIGURES 170–178. *Myrmecomymar* sp. Female (Qld, Massey Creek, 17.37°S 145.34°E, 1000m, 3.x.–2.xi.1995, L. Umback) 170, gaster lateral; 171, antenna; 172, fore leg; 173, mesosoma (crushed). Male (Qld, Lake Eacham Nat. Park, 17.17°S 145.37°E, 760m, 3–7.xi.1976, R.W. Taylor & T.A. Weir) 174, fore- and hind wings; 175, antenna; 176, protibial spur and tarsomere 1; 177, genitalia; 178, mesosoma.
FIGURES 179–182. *Nesonymar* sp. Female (Tas., 9 km S. Bronte Park, 42.12°S 146.30°E, 15.i–3.ii.1983, I.D. Nau mann & J.C. Cardale) 179, antenna; 180, fore leg. Female (same data as above) 181, gaster lateral; 182, head and mesosoma dorsal (note minute wings!).
FIGURES 216–220. *Polynemoidea varicornis* Girault. Female (Tas., Lake Chisholm Forest Reserve, 41°08’S 145°04’E, 180m, 12–29.i.1993, A. Newton & M. Thayer) 216, fore- and hind wings; 217, antenna; 218, gaster lateral; 219, fore leg; 220, head anterior.
FIGURES 221–224. *Prionaphes* sp. Female (ACT, 3 km E. Piccadilly Circus, Blundells Creek, 35.22°S 148.50°E, 850m, ii.1984, Weir, Lawrence & Johnson) 221, antenna; 222, fore leg. Female (ACT, Blundells Creek, 35.22°S 148.50°E, ii.1987, D. Colless) 223, fore- and hind wings. Female (same data as above) 224, propodeum and gaster dorsal.
FIGURES 225–229. *Pseudanaphes* sp. **Female** (NSW, 7 km ENE. Robertson, Macquarie Pass, 34.34°S 150.40°E, 8.ii.1984, I.D. Nauman) 225, fore- and hind wings; 226, antenna. **Female** (same data as above) 227, fore leg. **Male** (same data as above) 228, antenna; 229, genitalia lateral (upsidedown).
FIGURES 242–246. Schizophragma sp. Female (Qld, McIlwraith Range, 11 km W. by N. Bald Hill, 13.44°S 143.20°E, 500m, I. Naumann)  242, fore- and hind wings; 243, antenna. Female (Qld, Heathlands, 11.45°S 142.35°E, 25.iv–7.vi.1992, T. McLeod) 244, fore leg; 245, gaster lateral; 246, mesosoma dorsal
FIGURES 247–253. *Stephanodes* sp. **Female** (ACT, Piccadilly Circus, 35.22°S 148.48°E, 1240m, i. 1984, J. Lawrence, T. Wier, M.-L. Johnson) 247, antenna. **Male** (same data as above) 248, fore- and hind wings; 249, fore leg; 250, antenna; 251, genitalia; 252, head anterior; 253, mesosoma lateral.
FIGURES 260–265. Kompsomymar bicoloratum. Lin & Huber. Female (holotype) 260, fore-and hind wings; 261, antenna; 262, fore leg. Male (paratype, TAS, 3 km S. Mt. Oakleigh, Pelion Hut, 41.50°S 146.03°E, 11.ii–1.iii.1990) 263, antenna; 264, genitalia; 265, head and mesosoma dorsal.
FIGURES 274–279. *Prionaphes* sp. **Male** (Qld, Bunya Mts. National Park, 4–6.xii.1985, D. Bickel & G. Cassis) 274, fore- and hind wings; 275, antenna; 276, genitalia; 277, fore leg. **Female** (same data as above) 278, meso- and metasoma; 279, antenna.