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RESEARCH PAPER

First record of the tribe Oecleini in Australia (Hemiptera: Auchenorrhyncha: Fulgoromorpha: Cixiidae) with the description of a new genus and species

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Abstract. A new genus and species, *Apollo maculiceps* gen. & sp. nov., in the planthopper family Cixiidae is described from south Western Australia. It can be distinguished from all other Australian Cixiidae by the presence of a denticle on the distal part of the fore coxa, a character that is shared with some other Oecleini genera. Large numbers of *Apollo maculiceps* gen. & sp. nov. were observed feeding on a native Australian cycad *Macrozamia riedlei* (family Zamiaceae). This is the first record of the economically important tribe Oecleini from Australia. A revised key to the tribes of the Australian Cixiidae is presented.

Zusammenfassung. Eine neue Gattung und Art, *Apollo maculiceps* gen. & sp. nov., in der Familie Cixiidae (Glasflügelzikaden) wird aus der Umgebung von Perth (südliches Westaustralien) beschrieben. Diese Art unterscheidet sich von allen anderen australischen Cixiiden durch das Vorhandensein eines Dorns auf dem distalen Ende der Vordercoxa – ein Merkmal das sie mit einigen anderen Gattungen der Oecleini teilt. Die Art wurde in großer Anzahl auf einem endemischen Palmfarn *Macrozamia riedlei* (Familie Zamiaceae) gefunden. Es handelt sich um den ersten Nachweis eines Vertreters der Oecleini aus Australien. Ergänzend wird ein neuer Bestimmungsschlüssel für die acht Triben der Cixiidae in Australien präsentiert.

Key words. Hemiptera, Delphacoidea, Fulgoroidea, Cicadina, host plant, planthopper, taxonomy, Zamiaceae, Western Australia

Zoobank: http://zoobank.org/urn:lsid:zoobank.org:pub:0F5B4376-B52A-4D89-ACB2-E6B8368FC2C3

Introduction

The Oecleini are a large tribe within the Cixiidae planthoppers, comprising about 300 species in 25 genera and known from almost all zoogeographical regions (Holzinger et al. 2002, Bartlett 2022, Bourgoin 2022). However, the Oecleini of the Pacific and Australian Regions (sensu Holt et al. 2013) are poorly known. Myers (1924) described the monotypic, endemic genus *Tiriteana* from New Zealand. Metcalf (1954) described a new genus, *Myndorus* Metcalf, 1954 (type species *Myndorus apicalis* Metcalf, 1954), and four species from Micronesia. Fennah revised the fauna of Fiji (Fennah 1950), New Caledonia and the Loyalty Islands (Fennah 1969) and described many Fulgoromorpha, including several species of Oecleini. He accepted only *Tiriteana* Myers, 1924 and the cosmopolitan genus *Myndus* Stål, 1862 as valid genera, included *Colvanalia* Muir, 1925 (type species *Brixia concinnula* Walker, 1868) as a subgenus of *Myndus* and considered *Myndorus* Metcalf, 1954 as a synonym of *Colvanalia*. Later, Bonfils (1982), Wilson (1988) and Bourgoin & Wilson (1992) added three more *Myndus* species from Vanuatu, Solomon Islands and New Caledonia.

Most species feed on palms, several of them have been recorded from coconut, and some of them are of economic importance as they transmit the virus that causes foliar decay (Bonfils 1982, Julia 1982, Wilson

1988). In the American tropics and subtropics, *Haplaxius crudus* (Van Duzee, 1907) is an important vector of *Candidatus* Phytoplasma palmae, the causal agent of coconut (or palm) lethal yellowing (LY) (Howard & Thomas 1980, Howard 1987).

With more than 200 species in more than 50 genera, Cixiidae are the largest family of planthoppers in Australia (in terms of the number of described species). With the exception of the Cajetini, all tribes of the Australian Cixiidae have recently been revised (Löcker et al. 2006a,b,c, 2007a,b, 2010; Löcker 2014a,b, 2015, 2020a,b; Löcker & Holzinger 2019, 2020). Although the group was expected, the tribe Oecleini was not recorded from Australia until the examination of thousands of specimens of Cixiidae held in Australian and overseas collections revealed the presence of a new species of Oecleini from Western Australia, representing a new genus. Here we describe this genus and species and present a revised key to the tribes of Cixiidae in Australia.

Material and methods

The preparation of the specimens was carried out as described by Löcker & Holzinger (2019). Insects were examined and measured using an Olympus SZH10 stereo microscope with eyepiece graticule. Photographs were taken with a digital SLR camera (Canon EOS 5D Mark III, 65 mm macro lens with up to 5× zoom; Canon Utility software) through a Leica M165 dissecting microscope and later stacked with Helicon Focus. The photographs taken with the digital SLR camera attached to the dissecting microscope served as the basis for the line drawings.

The morphological terms used here follow Löcker et al. (2006a); the terminology of tegminal veins follows Bourgoin et al. (2015), as illustrated by Löcker & Holzinger (2019). The following is a list of the measurements taken in this study:

Body length: tip of head to posterior margin of forewing.

Length of vertex: distance between basal emargination and apical carina in midline.

Width of vertex: at level of basal emargination.

Length of frons: apical transverse carina to frontoclypeal suture, in midline.

Width of frons: at level of frontoclypeal suture.

Width of forewing: at level of apex of clavus.

Length of forewing: base to posterior margin of forewing.

Abbreviations:

AMS	Australian Museum, Sydney, Australia;
BMNH	The Natural History Museum, London, United Kingdom;
CAS	California Academy of Sciences, San Francisco, USA;
MLM	Melinda Moir Private Collection, Perth, Australia;
QDPI	Queensland Department of Primary Industries, Brisbane, Australia;
WA	Western Australia;
WAM	Western Australian Museum, Perth, Australia.

Results

Family Cixiidae Spinola, 1839
Subfamily Cixiinae Spinola, 1839
Tribe Oecleini Muir, 1922

Apollo gen. nov.

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Type species. *Apollo maculiceps* sp. nov., here designated.
Diagnosis. *Apollo* gen. nov. is distinctive among the Australian Cixiidae, as it has a number of unique characters or characters shared only with a few other taxa, e.g. angle formed by caudal border of vertex almost 180°; frontoclypeal suture straight or only very slightly bent; submedian (= postocular) carinae very faintly raised (barely visible, only noticeable through dark colouration compared to light coloured pronotum); presence of a denticle on the distal part of the fore coxa; rostrum very short (reaching mid coxae but not hind coxae); fork of ScP+RA and RP distinctly basad of and far away from fork of CuA1 and CuA2; subapical carina of vertex absent; anal style in males and females long, remainder of segment 11 minute, sometimes barely protruding from the apex of the anal tube; female anal tube ventrally at base with a longitudinal groove covering more than half of its length. Other important characters for diagnosis are the frons which is widest distinctly dorsad of centre of frontoclypeal suture, and the median ocellus of frons absent.
Description. *Head.* Vertex slightly wider at base than at apical carina; lateral carinae slightly to moderately elevated; angle formed by caudal border of vertex V-shaped, strongly obtuse (almost 180°); apical carina slightly bent (almost straight); subapical transverse carina absent; median longitudinal carina covering 1/2 to 1/3 of length of vertex. In dorsal view, head including eyes distinctly narrower than pronotum. Frons invisible in dorsal view. Maximum width of frons more than twice apical width, steadily broadening; frons widest distinctly dorsad of centre of frontoclypeal suture. Lateral carinae of frons slightly elevated, foliaceous, moderately extending laterally, concealing base of antennae. Median ocellus of frons absent. Frontoclypeal suture straight to only very slightly bent, median part not reaching lower margin of antennal scape. Postclypeus with median carina and lateral carinae absent or very weakly developed. Anteclypeus without carinae. Rostrum very short, not reaching hind coxae (only reaching mid coxae). Apical and subapical rostrum segments subequal in length.

Thorax. Pronotum with median carina absent; hind margin of pronotum strongly obtusely angled; pronotum much longer laterally than in middle; submedian carinae very faintly raised (barely visible, only noticeable through dark colouration compared to light coloured pronotum). Mesonotum with median carina weakly developed, evanescent or absent near anterior margin, absent near posterior margin; lateral carinae of mesonotum weakly developed. Forewings moderately tectiform; surpassing tip of abdomen; widest slightly distad of apex of clavus; concavity at costal border barely visible; no tubercles in

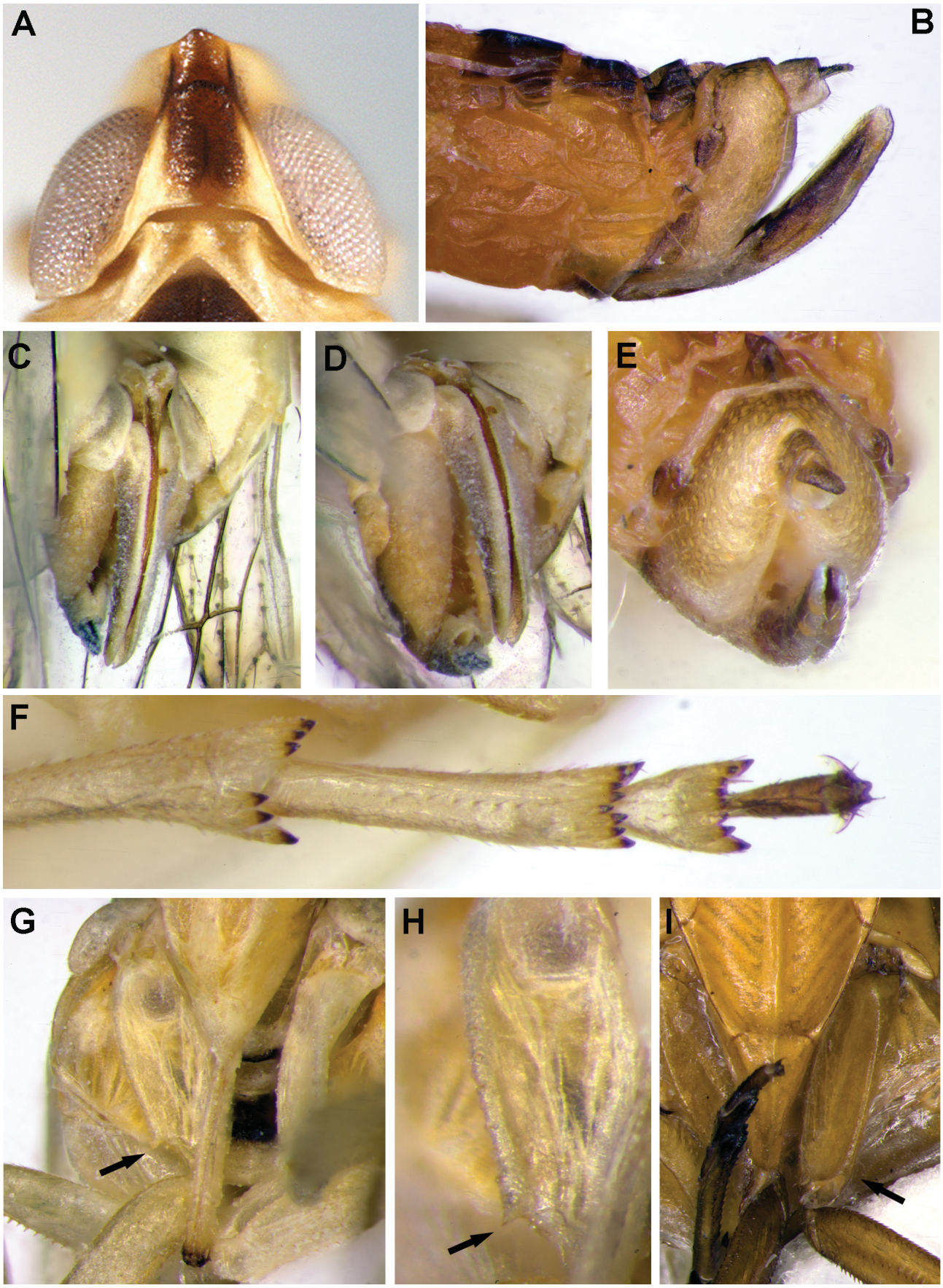

Fig. 1. *Nesochlamys contrarius* Löcker, 2010: A – vertex (from Löcker et al. 2010). *Apollo maculiceps* sp. nov.: B–E – female genitalia; F – hind leg; G–H – denticle on fore coxa. *Latissima isleyensis* Löcker, 2020: I – fore coxa without denticle.

cells at apex of wing, only along veins or in pterostigma; ScP+R+MP forming a very long common stem distad of basal cell; crossvein r-m_1 at same level or slightly distad of fork MP1+2 and MP3+4; nodus of y-vein (fork PCu and A1) central to slightly basad within clavus. Hind wing with MP and CuA connected in I-type (cf. Le Cesne et al. 2022). Fore leg with a denticle on distal part of fore coxa. Hind leg: tibia without lateral spines, with six apical spines, grouped in two groups with a large gap (= diastema) in between; outermost spine the largest.

Differential diagnosis. *Apollo* gen. nov. can be distinguished from all other Oecleini by the following combination of characters: median ocellus missing; subapical transverse carina (in the middle of vertex) absent (carina always present in *Myndus* Stål, 1862, but missing in *Myndorus* Metcalf, 1954). A denticle on the distal part of the fore coxa is present as in *Myndus* s.l. (lacking in *Haplaxius* Fowler, 1904 and *Myxia* Bahder et al., 2019). The rostrum is very short, with apical and subapical segments subequal in length (in *Myndus*, the subapical segment is more than twice as long as the apical segment; Emeljanov 1992). The transverse keel between frons and vertex is weak, no elevated lateral "trigones" are present (as in *Myndodus* Emeljanov, 1992 and *Trigonocranus* Fieber, 1875).

Apollo can be distinguished from all other Australian Cixiidae by the presence of a denticle on the distal part of the fore coxa (Figs 1G, H) and by its distinct colouration: head yellowish with a large dark spot on the frons near top of head and two dark longitudinal stripes on vertex which continue on mesonotum (Figs 2A, C–E).

Etymology. Named after the god of light, music, medicine, poetry and more from Greek and Roman mythology, for *Apollo* is a handsome Cixiidae genus, perhaps resembling a moon rocket in shape. Gender: masculine.

Apollo maculiceps sp. nov.

(Figs 1B–H, 2, 3, 4, 5A–C, 6, 7)

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Type material. Holotype: ♂, **AUSTRALIA, WA:** Yanchep Nat Pk, N of Perth, caught in spiderweb, 15.x.2003, M. Moir (WAM, ASCTHE025998). Paratypes: **AUSTRALIA, WA:** 1 ♂ 2 ♀♀, same data as holotype (1 ♀ WAM; 1 ♂ 1 ♀ MLM); 2 ♂♂, Yanchep, 32 mls N of Perth, 13–23.xi.1935, R. E. Turner (BMNH); 1 ♂, Yarragil 4P Catchment via Dwellingup, Malaise trap, 20–27.xi.1980, A. Postle (QDPI); 2 ♂♂ 1 ♀, same data except for 11–18.xii.1980 (QDPI); 2 ♀♀, same data except for 11–18.i.1981 (QDPI); 28 ♂♂ 43 ♀♀ 1 ex. (abdomen missing), Wal[y]unga Natl. Park, 40 km NE of Perth, 22–24.x.1987, Mike E. Irwin (26 ♂♂ 43 ♀♀ CAS; 2 ♂♂ originally CAS, donated to ASCU); 39 ♂♂ 137 ♀♀ 2 exx. (abdomen missing), same data except for 26–29.x.1987 (33 ♂♂ 127 ♀♀ 2 exx. CAS; 3 ♂♂ 5 ♀♀ originally CAS, donated to ASCU; 3 ♂♂ 5 ♀♀ originally CAS, donated to ANIC); 5 ♂♂ 17 ♀♀, same data except for 24.xi.1987 (CAS); 2 ♀♀, same data except for 5.xi.1987, M.E. Irwin & E.I. Schlinger (CAS); 1 ♀, Yalgorup Nat. Park, Martins Tank C[a]mpgr[ou]nd, 15 m, 32°50′41″S 115°40′08″E, *Gahnia trifida*, 14.xii.1997, Schuh, Cassis, Brailovsky (AMS).

Description. ***Colour.*** Head and pronotum yellowish, mesonotum orange-yellowish, with the following dark markings (dark brown or black): vertex with two dark longitudinal stripes which extend onto mesonotum, pronotum with dark areas anterior to submedian (= postocular) carinae, frons with a dark spot near top of head. Legs and body yellowish apart from mid to dark brown tergites. Forewing hyaline light brown; tubercles and veins concolorous with cells; dark markings on ScP, several marks near apical margin of wing and a large, ovoid mark around branches of MP that is connected to several darkened sections of the veins MP and CuA.

Morphology. Body length: ♂♂ 3.4–4.0 mm; ♀♀ 3.5–4.3 mm.

Head. Vertex 1.3–1.7× longer than wide. Frons 1.4–1.6× longer than wide; median carina of frons well developed in most parts of frons but absent or evanescent near frontoclypeal suture; lateral carinae of frons in facial view convex, evenly rounded.

Thorax. Forewing 3.4–3.7× longer than wide; costal margin with 5–12 tubercles; fork of ScP+RA distinctly basad of fork CuA1 and CuA2; tubercles of forewing dark or pale, concolorous with veins; icu, where it inserts at CuA, slightly to distinctly basad of apex of clavus; icu, where it inserts at CuP (clavus), at same level as apex of clavus; RA apically unforked; RP trifid; MP1+2 trifid, MP3+4 unforked; CuA unforked (CuA2 branch absent). Hind leg: first tarsomere with 9 (rarely 8) apical teeth and without platellae. All teeth in a row except for 4th and 6th set back. Second tarsomere with 8 apical teeth and without platellae, but with up to 3 very fine setae.

Male genitalia. Anal tube with anal style long; remainder of segment 11 minute, sometimes barely protruding from the apex of anal tube (Figs 3F, 4D–E). Pygofer and genital styles as in Figs 3E–G and 4F–G, ventromedian process very thin and long, protruding almost as far as genital styles (Figs 3E, 4F). Aedeagus (Figs 3A–D, 4A–C) with phallotheca (= periandrium) left laterally with large curved spine (Figs 4A–C: a) directed caudally, arising at midlength of phallotheca; ventrally at midlength with a thin sclerotised ridge. Flagellum (= endosoma) short, directed caudo-laterally; dorsally with spine (Figs 4B, C: c) with a thick base and spine (Figs 4A–C: b) with a thin base.

Female genitalia. Ovipositor, pygofer (tergite IX) and anal tube as in Figs 1B–E. Ovipositor sabre-shaped (curved upwards), protruding as far as or slightly further than anal style. Anal style (= epiproct) long; remainder of segment 11 minute, sometimes barely protruding from the apex of the anal tube. Anal tube ventrally at base with a longitudinal groove covering more than half of the length of anal tube. Pygofer orthopteroid, with a deep longitudinal groove; wax plate absent.

Etymology. From Latin *macula* = spot and *-ceps* = referring to the head; noun in apposition. The species is very distinctive because of the black apex of the head.

Ecology. Jean and Fred Hort photographed large numbers of *Apollo maculiceps* feeding on *Macrozamia riedlei* (Fischer ex Gaudich.) C.A. Gardner, the "Zamia palm", a cycad species (Zamiaceae, Cycadales) endemic to southern Western Australia (Fig. 7). The species could therefore be monophagous or oligophagous on Zamiaceae. The only other plant record associated with *A. maculiceps* is from a single specimen found on *Gahnia trifida* Labill., a native tussock-forming perennial sedge (Cyperaceae).

Distribution. Coastal and inland areas of south Western

Australia (IBRA Bioregions: Swan Coastal Plain, Jarrah Forest) (Fig. 6).

Discussion

The forewing venation is unique in *Apollo*: the fused ScP+R branch is very long (much longer than in many other Oecleini, see e.g. Holzinger 2009 and Le Cesne et al. 2022), the posterior branch of MP is not forked, and the diamond-shaped cell C5 is absent. The hindwing venation shows an "I-type" fusion of MP3+4 and CuA1 (sensu Le Cesne et al. 2022), and a – rather untypical – absence of the bifurcation of MP1 and MP2.

Oecleini species use a wide variety of host plants. Many species are mono- or oligophagous and feed on palms (Arecaceae) e.g. *Fipsianus* spp., *Haplaxius* spp., *Myndodus* spp., *Myndus* spp., *Myxia* sp., *Oecleus* spp., *Volcanalia* spp. – some of them transmit lethal yellowing (Julia 1982, Howard 1987, Wilson 1988, Holzinger

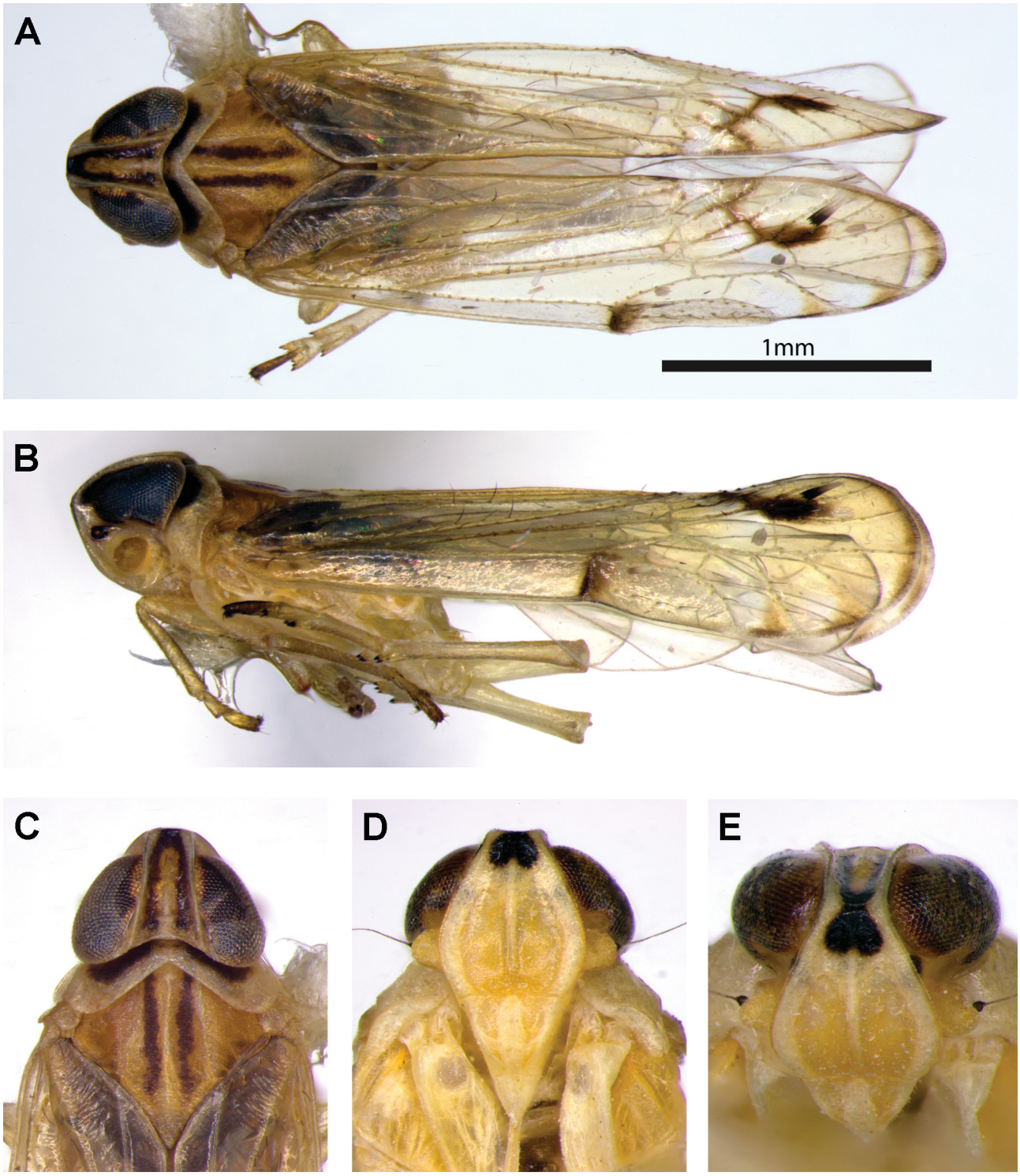

Fig. 2. *Apollo maculiceps* sp. nov.: A–B – habitus; C–E – head and thorax.

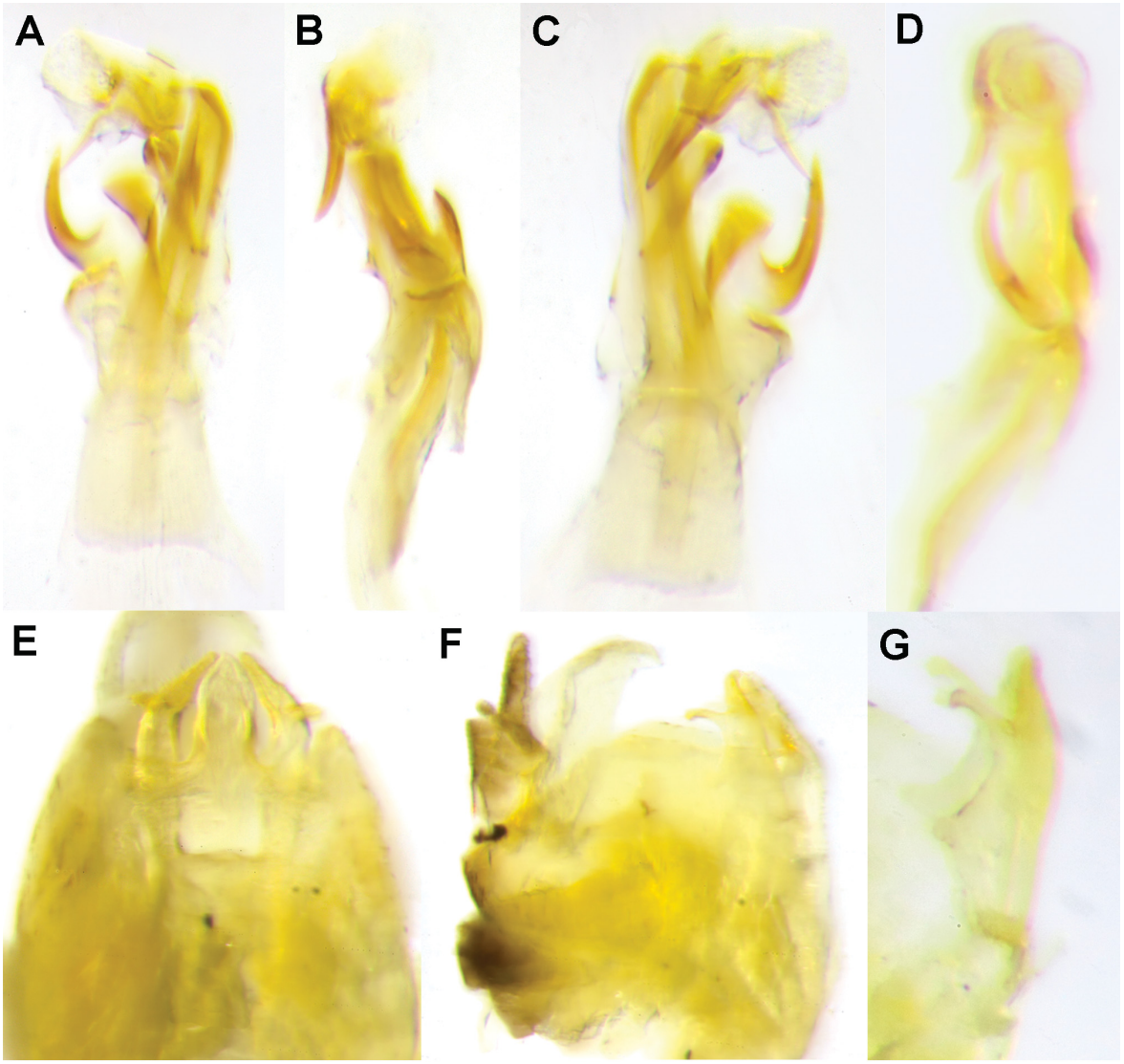

Fig. 3. *Apollo maculiceps* sp. nov.: A – aedeagus, ventral view; B – aedeagus, left lateral view; C – aedeagus, dorsal view; D – aedeagus, right lateral view; E – genital styles, ventral view; F – pygofer, left lateral view; G – genital styles, left lateral view.

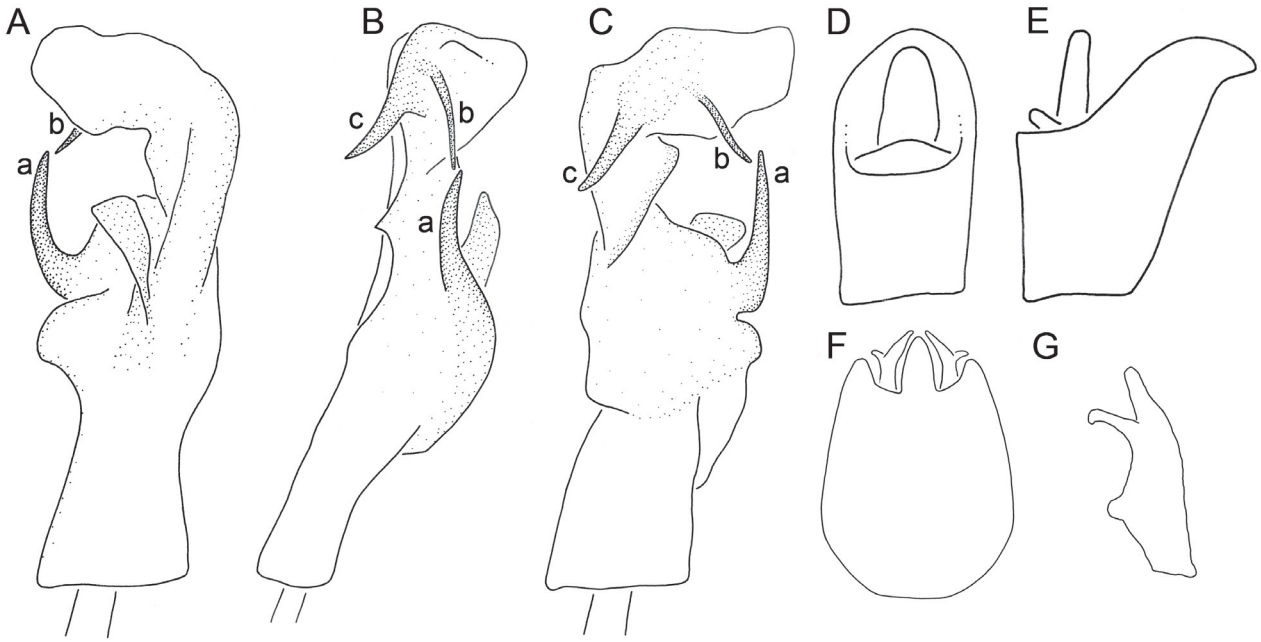

Fig. 4. *Apollo maculiceps* sp. nov.: A – aedeagus ventral; B – aedeagus left lateral; C – aedeagus dorsal; D–E – anal tube; F–G – genital styles.

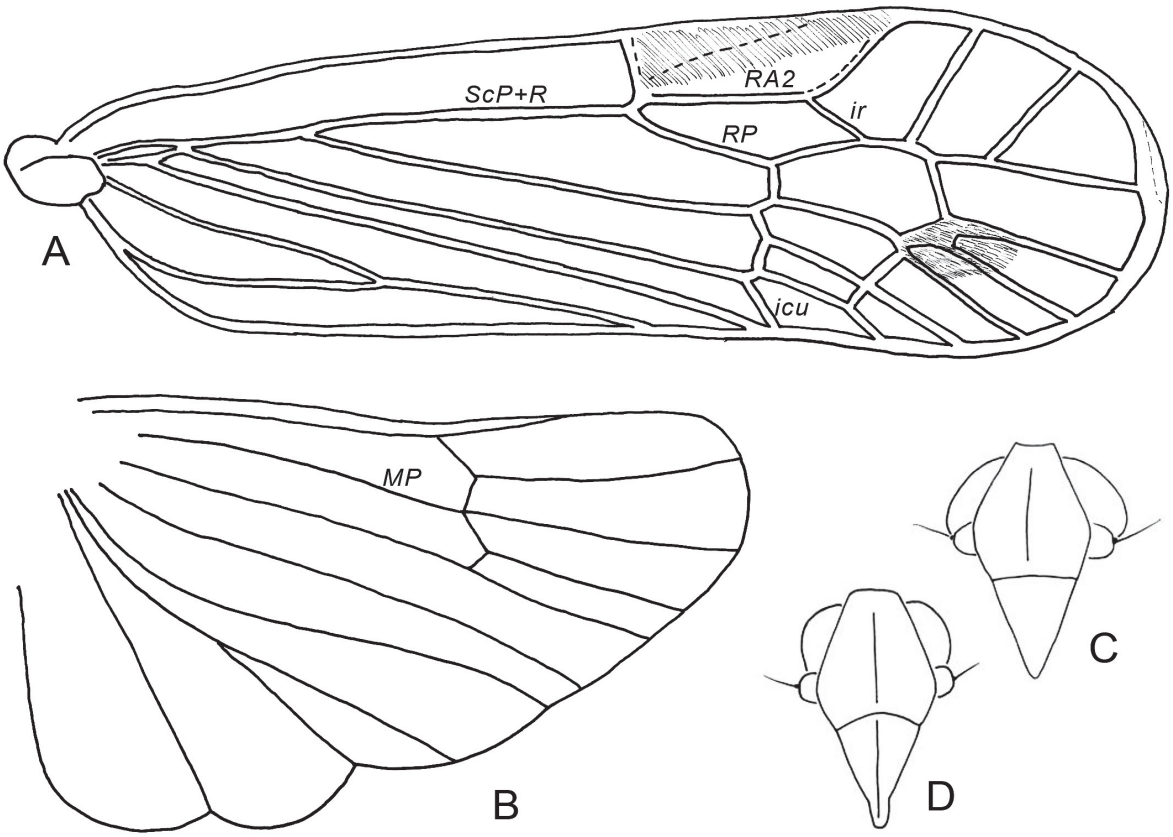

Fig. 5. *Apollo maculiceps* sp. nov.: A – forewing; B – hindwing; C – face. *Monomalpha fletcheri* Emeljanov, 2000: D – face.

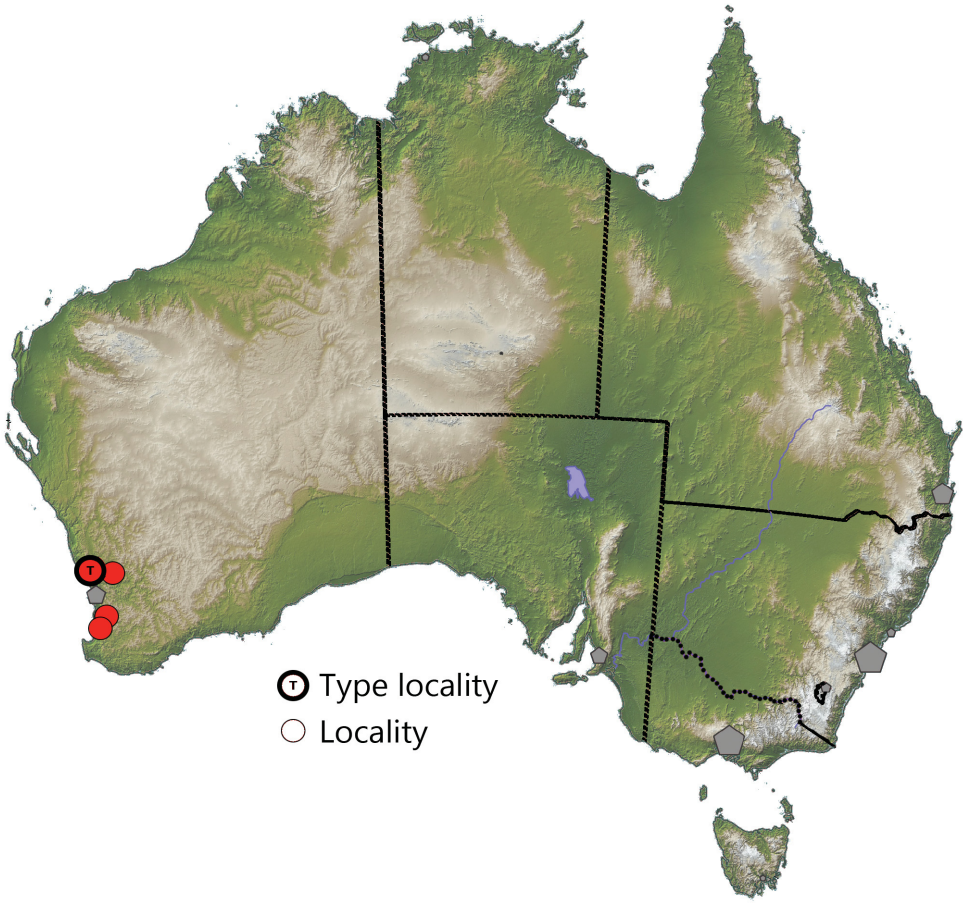

Fig. 6. Known distribution of *Apollo maculiceps* sp. nov.

Fig. 7. *Apollo maculiceps* sp. nov. in the field, on its host plant *Macrozamia riedlei* (Fischer ex Gaudich.) C.A. Gardner. Photographs by Jean and Fred Hort.

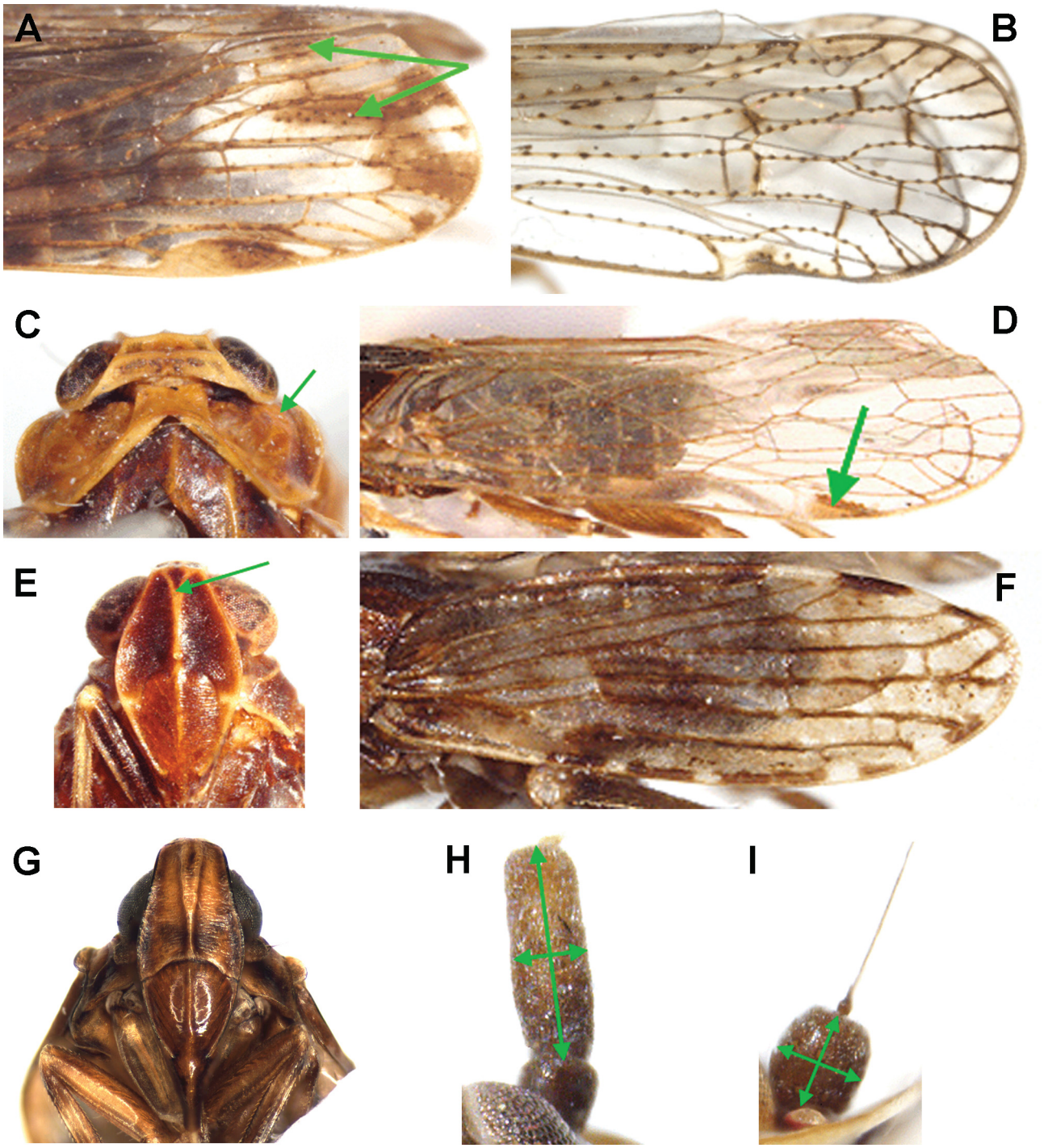

Fig. 8. *Mnemosyne* sp.: A – forewing with tubercles in cells and along veins. *Chidaea bobadeenensis* Löcker & Holzinger, 2019: B – forewing with tubercles only along veins. *Cajeta singularis*, Stål, 1866: C – pronotum with circular, inflated area. Pentastirini: D – forewing with distinct, large pterostigma; E – median carina bifurcated for less than half of length of frons. *Aka hardyi* Muir, 1931: F – forewing with indistinct, short pterostigma. *Yanganaka ariecornia* (Löcker, 2015): G – median carina bifurcated for more than half of length of frons. *Solonaima* sp.: H – pedicel at least three times longer than its diameter. Cixiidae: I – pedicel shorter than twice its diameter. All figures from online key (Löcker & Fletcher 2006 and updates), except for G from Löcker (2015).

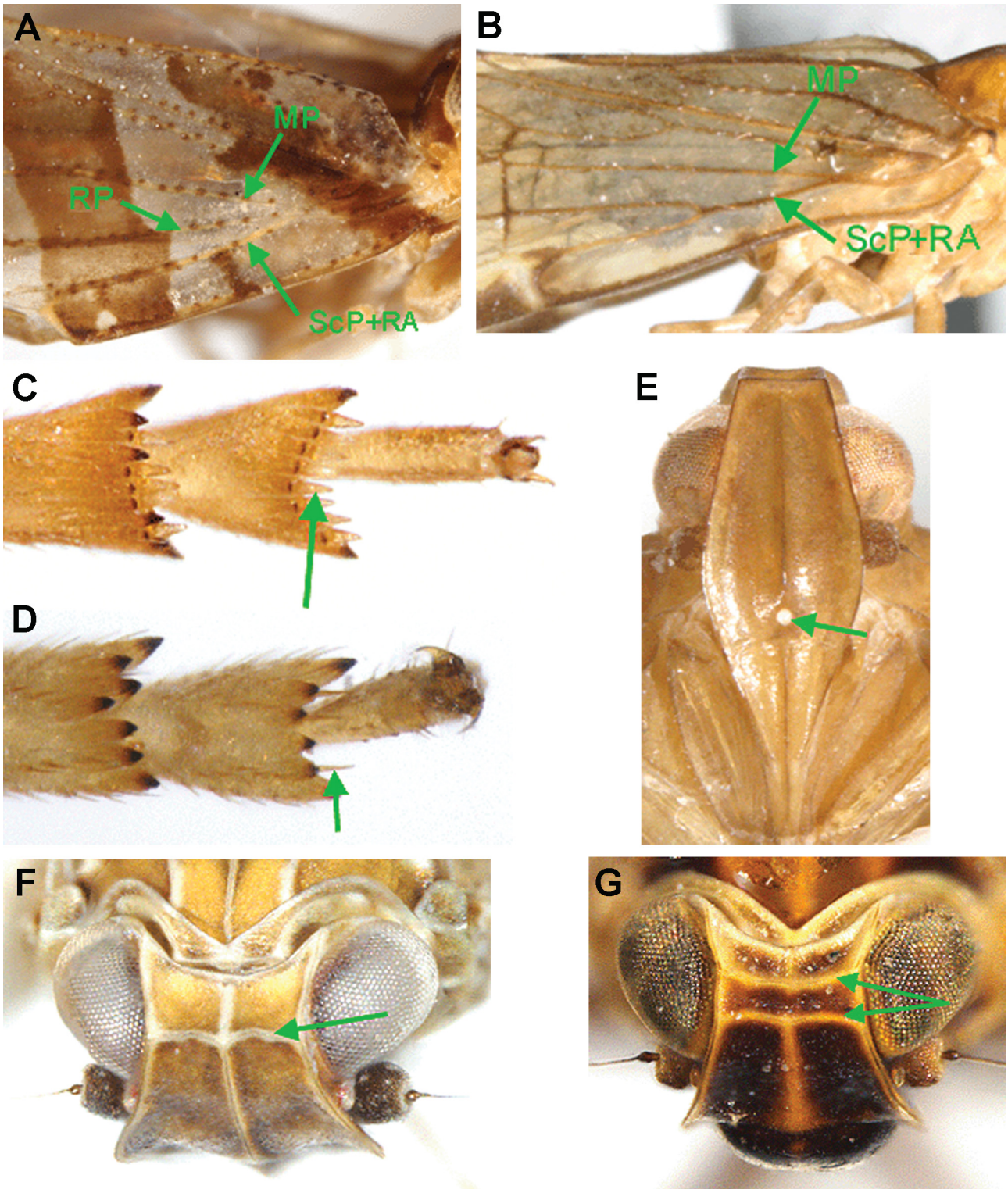

Fig. 9. *Andes* sp.: A – forewing with veins ScP+RA, RP and MP arising separately from a single common point. Cixiidae: B – forewing with veins ScP+RA forming a common stem. Cixiidae: C – second hind tarsomere with more than 5 platellae. *Monomalpha fletcheri* Emeljanov, 2000: D – second hind tarsomere with 3 fine setae (from Löcker 2020). *Innobindus unicornis* Löcker, 2007: E – frons with median ocellus (from Löcker et al. 2007). *Dilacreon* (*Dilacreon*) *granulinervis* (Muir, 1913): F – apex of head with a single transverse carina (from Löcker et al. 2010). *Tyligma dandavalex* Löcker & Holzinger, 2020: G – apex of head with two transverse carinae (from Löcker & Holzinger 2020).

et al. 2002, Holzinger 2009, Myrie et al. 2019). Other species from Indian Ocean islands are known to feed on Pandanaceae (e.g. *Borbonomyndus* spp., *Volcanalia* p.p.; Attié et al. 2008, Holzinger unpubl.). *Apollo maculiceps* is – as far as we know – the first Cixiidae species associated with a Zamiaceae species.

Key to the Cixiidae tribes in Australia

The phylogeny of the Cixiidae and the internal classification into subfamilies and tribes is still not clear. The "traditional" classification as presented by Emeljanov (2002) and Holzinger et al. (2002) has been questioned by several authors (e.g. Ceotto & Bourgoin 2008, Ceotto et al. 2008, Luo et al. 2021), but no satisfactory phylogeny has yet been generated using contemporary methods. We maintain the traditional classification until an accepted modern phylogeny is completed. The only subfamily of Cixiidae known from Australia is Cixiinae with nine tribes, see Table 1 for recent revisions and notes on Australian tribes. An updated key to these tribes, based on the key first presented by Löcker & Fletcher (2006 and updates), is provided here.

1 Vertex very broad (width more than 3× its median length). Pronotum expanded laterally, with a circular, inflated area on each side (Fig. 8C). Hind tibia usually with 7 or more apical spines. ..... **Cajetini**
– Vertex narrower, often as long as broad or longer than broad (Fig. 2C). Pronotum usually not expanded laterally, never with inflated circular areas. Hind tibia usually with 5–6 apical spines (Fig. 1F) (rarely with 7). 2
2(1) Forewing with tubercles both in cells and along veins (Fig. 8A). Mesonotum usually with five longitudinal carinae. ..... **Mnemosynini**
– Forewing with tubercles only along veins (Fig. 8B). Mesonotum with three or five longitudinal carinae. 3
3(2) Median carina of frons forked (Figs 8E, G). Mesonotum with three to five longitudinal carinae. 4
– Median carina of frons unforked (Figs 2D, 5C–D, 9E). Mesonotum with three longitudinal carinae (Fig. 2C). ... 5
4(3) Median longitudinal carina of frons bifurcated for less than half of length of frons (Fig. 8E). Pterostigma distinct and long, at least as long as basal cell (Fig. 8D). .... **Pentastirini**
– Median longitudinal carina of frons bifurcated for more than half of length of frons (Fig. 8G). Pterostigma absent or, if present, indistinct and shorter than basal cell (Fig. 8F). .....**Cixiini** (part): *Aka* White, 1879 and *Yanganaka* Löcker, 2015
5(3) Median ocellus of frons present (Fig. 9E) and/or pedicel of antenna at least three times longer than its diameter (Fig. 8H). 6
– Median ocellus of frons absent (Figs 2D, 8G) and pedicel of antenna not longer than twice its diameter (Fig. 8I). 7
6(5) Forewing with ScP+RA, RP and MP (sensu Bourgoin et al. 2014; Sc, R and M in previous terminology, as in Löcker et al. 2007) arising separately from a single common point on the basal cell (or forming a minute common stem up to 3× the diameter of a tubercle) (Fig. 9A). ..... **Andini**
– Forewing with ScP+RA, RP (and sometimes also MP) forming a short or long common stem (at least 6× the diameter of a tubercle) (Fig. 9B). ..... **Brixiini**
7(5) Coxa of fore leg with a distinct denticle on its distal part (Figs 1G, H). ..... **Oecleini**
– Coxa of fore leg without distal denticle (Fig. 1I). 8
8(7) Apex of head with a single transverse carina (Fig. 9F). 9
– Apex of head with two transverse carinae (Fig. 9G). 10
9(8) Second hind tarsomere with 5 or more platellae (Fig. 9C). ..... **Gelastocephalini**
– Second hind tarsomere with 3 or fewer platellae or very fine setae (Fig. 9D). ..... **Eucarpiini** (part)
10(8) Vertex longer than wide (Fig. 1A) and hind tibia with 5 apical spines. ..... **Eucarpiini** (part)
– Vertex wider than long (or, if longer than wide, hind tibia with 6 or more apical spines). ..... **Cixiini** (part): *Calamister* Kirkaldy, 1906, *Leptolamia* Metcalf, 1936, *Chidaea* Emeljanov, 2000, *Tyligma* Löcker & Holzinger 2020, *Yamirrina* Löcker, 2020, *Leades* Jacobi, 1928, *Latissima* Löcker, 2020, and *Monomalpha* Emeljanov, 2000.

Table 1. Tribes of Cixiidae present in Australia with short notes on their composition in Australia and references to recent taxonomic revisions.

Tribe	Comments
Andini	1 genus, 6 species: *Andes* Stål, 1866 (Löcker et al. 2007b)
Brixiini	3 genera, 28 species (of which 8 cavernicolous): *Innobindus* Jacobi, 1928 (Löcker et al. 2007a, Löcker 2023); *Undarana* Hoch & Howarth, 1989 and *Solonaima* Kirkaldy, 1906 (Hoch 1988, 2002; Hoch & Asche 1988; Hoch & Howarth 1989a,b,c; Erbe & Hoch 2004; Soulier-Perkins 2005)
Cajetini	1 genus, 1 species, *Cajeta singularis* Stål, 1866, which, however, is probably a species complex consisting of two to six species (Löcker 2007)
Cixiini	10 genera, 55 species: *Aka* White, 1879 and *Yanganaka* Löcker, 2015 (Löcker 2015); *Calamister* Kirkaldy, 1906 (Löcker 2014a); *Leptolamia* Metcalf, 1936 (Löcker 2014b); *Chidaea* Emeljanov, 2000 (Löcker & Holzinger 2019); *Tyligma* Löcker & Holzinger, 2020 (Löcker & Holzinger 2020); *Yamirrina* Löcker, 2020 and *Leades* Jacobi, 1928 (Löcker 2020a); *Latissima* Löcker, 2020 and *Monomalpha* Emeljanov, 2000 (Löcker 2020b)
Eucarpiini	5 genera, 9 species: *Nesochlamys* Kirkaldy, 1907; *Bajauana* Distant, 1907; *Dilacreon* Fennah, 1980; *Kirbyana* Distant, 1906; *Neocarpia* Tsaur & Hsu 2003 (Löcker et al. 2010)
Gelastocephalini	27 genera, 60 species (Löcker et al. 2006a)
Mnemosynini	1 genus, 2 species: *Mnemosyne* Stål, 1866 (Löcker et al. 2006c)
Oecleini	1 genus, 1 species: *Apollo maculiceps* sp. nov.
Pentastirini	7 genera, 56 species (Löcker et al. 2006b)

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