Zootaxa 5777 (2): 201–241
https://www.mapress.com/zt/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

https://doi.org/10.11646/zootaxa.5777.2.1
http://zoobank.org/urn:lsid:zoobank.org:pub:D1206DDC-7A7E-4CDB-90FB-0FE5E222DA54

Eight new species of *Yoyetta* Moulds (Hemiptera: Cicadidae: Cicadettinae) from eastern Australia

LINDSAY W. POPPLE
Biodiversity & Geosciences, Queensland Museum, South Brisbane Qld 4101, Australia
lindsay.popple@uq.net.au; https://orcid.org/0000-0001-8630-3114

Abstract

Eight new cicada species from the eucalypt forests of eastern Australia are described in the genus *Yoyetta* Moulds, 2012. *Yoyetta argentea* **sp. nov.** is found in the central highlands of Queensland; *Y. burwelli* **sp. nov.** is widespread in south-eastern Queensland and also occurs in far northern New South Wales; *Y. clara* **sp. nov.** occurs in the central highlands and in inland south-eastern Queensland; *Y. eastwoodi* **sp. nov.** is found in subcoastal central and south-eastern Queensland; *Y. longirostra* **sp. nov.** is restricted to south-eastern Queensland; *Y. penetrans* **sp. nov.** is known from coastal north-eastern New South Wales; *Y. wrightae* **sp. nov.** is distributed patchily through coastal and inland south-eastern Queensland; *Y. zagona* **sp. nov.** occurs in inland southern Queensland, inland New South Wales and north-western Victoria. The new species are broadly all allied to *Y. tristrigata* (Goding & Froggatt) and males of all species produce simple ticking or clicking songs and generally remain inconspicuous in the canopy. Within each species a description, as well as a section on distinguishing features, distribution, habitat and behaviour, and calling song structures are provided and illustrated where available. A revised key to species for the genus *Yoyetta* Moulds is also provided.

Key words: Australia, behaviour, cicada, Cicadidae, *Yoyetta*, distribution, habitat, taxonomy

Introduction

Small, thin-bodied cicadas of the tribe Cicadettini are more diverse in Australia than on any other continent (Marshall *et al.*, 2016). The genus *Yoyetta* Moulds, 2012 is endemic to Australia and is the genus with the highest number of species. Numerous taxonomic studies have been undertaken since the genus was introduced (Emery *et al.*, 2015, 2019; Moulds & Popple 2018; Moulds *et al.*, 2020; Popple & Emery, 2020, 2022; Emery *et al.*, 2025; Emery, 2025). This study documents eight new species from eastern Australia that are broadly allied to *Y. tristrigata* (Goding & Froggatt, 1904), and which brings the total number of described species in *Yoyetta* to 47. Calling song descriptions are given for each of the new species that have confirmed song recordings available and a revised morphological key to species in the genus is provided.

Methods and Terminology

Anatomical terminology follows Moulds (2005, 2012). The higher classification adopted in this paper follows Marshall *et al.* (2018). Measurements (in mm) are given as ranges and means (in parentheses) and include the largest and smallest specimens. Head width spans across the eyes; pronotum width across the extremities of the lateral angles; abdomen width is measured across the outer edges of the auditory capsules.

Abbreviations: Material sourced for this taxonomic work is located in collections abbreviated as follows: AM—Australian Museum, Sydney; ANIC—Australian National Insect Collection, Canberra; CBG—Centre for Biodiversity Genomics, University of Guelph, Ontario; QM—Queensland Museum, Brisbane; DE—private collection of D. L. Emery, Sydney; LWP—private collection of L.W. Popple, Cairns; MSM—private collection of M.S. Moulds, Kuranda; iNat—iNaturalist platform (https://www.inaturalist.org/) (limited to a subset of observations

Accepted by A. Sanborn: 9 Feb. 2026; published: 18 Mar. 2026

containing definitive audio recordings and/or images that have had their identification checked and confirmed by the author during the course of this study).

Genitalia preparation: Male genitalia were removed using a pair of surgical scissors and placed in a solution of 10% potassium hydroxide. The solution was left overnight at room temperature to clear the soft tissues and provide a clean dissection. Following clearing, the specimens were washed with ethanol and placed into a solution of 70% ethanol. To facilitate close examination of internal structures, the aedeagus was examined and images were taken of the pygofer and associated structures were taken using a Leica dissecting microscope under 10x magnification. Measurements were taken using a pair of Toledo callipers (accurate to 0.1 mm).

Distribution maps: SimpleMappr (https://www.simplemappr.net/) was used to plot the geographical distributions.

Calling song terminology and analysis: The description of calling songs uses terminology adapted from Ewart & Marques (2008) and Popple & Emery (2022). A "pulse" is defined as a single complete movement (brief muscle contraction and at least partial relaxation) of the timbals. The term "syllable" is used for the smallest grouping of pulses (these are typically 5–10 ms duration). A bout of syllables is referred to as "clicking". A longer duration of continuous sound (≥10 syllables) is referred to as an "echeme".

Field recordings obtained with professional audio equipment have been used to generate the figures, with a preference given to recordings obtained as close as possible to the type locality. Further detail on the specific audio equipment is provided with each individual recording illustration. All recordings were taken from a distance of at least 20cm from the calling insect to reduce the chances of near-field effects. None of the recordings displayed signs of amplitude clipping due to microphone overload. Processing and analyses of recordings were undertaken with Cool Edit Pro (Version 2.1) software.

List of *Yoyetta* species

Yoyetta aaede (Walker, 1850)
Yoyetta abdominalis (Distant, 1892)
Yoyetta argentea **sp. nov.**
Yoyetta australicta Popple & Emery, 2022
Yoyetta burwelli **sp. nov.**
Yoyetta bushi Emery, 2025
Yoyetta celis (Moulds, 1988)
Yoyetta clara **sp. nov.**
Yoyetta corbinorum Emery, 2025
Yoyetta corindi Popple & Emery, 2022
Yoyetta crepita Emery, 2025
Yoyetta cumberlandi Emery, Emery & Popple, 2015
Yoyetta darug Emery, Emery & Popple, 2025
Yoyetta delicata Popple & Emery, 2022
Yoyetta denisoni (Distant, 1893)
Yoyetta douglasi Popple & Emery, 2020
Yoyetta eastwoodi **sp. nov.**
Yoyetta electrica Emery, Emery & Popple, 2019
Yoyetta enigmatica Popple & Emery, 2020
Yoyetta fluviatilis Emery, Emery & Popple, 2015
Yoyetta fumea Emery, Emery & Popple, 2025
Yoyetta grandis Emery, Emery & Popple, 2019
Yoyetta humphreyae Moulds & Popple, 2018
Yoyetta hunterorum (Moulds, 1988)
Yoyetta ignita Popple & Emery, 2022
Yoyetta incepta (Walker, 1850)
Yoyetta kershawi (Goding & Froggatt, 1904)

Yoyetta landsboroughi (Distant, 1882)
Yoyetta loftyensis Popple & Emery, 2020
Yoyetta longirostra **sp. nov.**
Yoyetta nathani Emery, 2025
Yoyetta ngarabal Popple & Emery, 2020
Yoyetta nigrimontana Emery, Emery & Popple, 2015
Yoyetta penetrans **sp. nov.**
Yoyetta psammitica Emery, Emery & Popple, 2025
Yoyetta regalis Emery, Emery & Popple, 2019
Yoyetta repetens Emery, Emery & Popple, 2015
Yoyetta robertsonae Moulds, Popple & Emery, 2020
Yoyetta robusta Popple & Emery, 2020
Yoyetta serrata Emery, Emery & Popple, 2019
Yoyetta spectabilis Emery, Emery & Popple, 2019
Yoyetta subalpina Emery, Emery & Popple, 2019
Yoyetta timothyi Emery, Emery & Popple, 2019
Yoyetta tristrigata (Goding & Froggatt, 1904)
Yoyetta verrens Emery, Emery & Popple, 2019
Yoyetta wrightae **sp. nov.**
Yoyetta zagona **sp. nov.**

Systematics

Family Cicadidae Batsch, 1789

Subfamily Cicadettinae Buckton, 1890

Tribe Cicadettini Buckton, 1890

Genus *Yoyetta* Moulds, 2012

Yoyetta argentea sp. nov.

(Plates 1A–C; Figs 1A, 2A, 3, 4, 5)

Types. *Holotype* ♂, Rangers HQ, Mt Moffatt NP, Queensland, 25°01'14"S 147°50'08"E, 13–15.i.2005, L.W. Popple, mv lamp, 469-0011, QM registration no. T262538 (**QM**).

Paratypes. QUEENSLAND. 7♂, Australia Qld, Yeppoon dist., 31.xii.1992, J. Bugeja (**ANIC**). 3♂, 1♀, Ranger HQ, Mt Moffatt Nat. Pk., 25°01'S 147°57'E, 30.xi.1997, S. Evans, C. Lambkin, J. Skevington, mv lamp; 1♀, Carnarvon NP, Mt Moffatt section, HQ (MMHQ), 25.0209°S 147.9522°E, 729 m, 4.xi.2010, Starick & Lambkin, mv lamp, open *Eucalyptus* grassland, 19405; 1♂, Mt Moffatt NP HQ, 25.020°S 147.951°E, 15–16.i.2013, G. Monteith, mv light, 35451; 14♂, 1♀, Mt Moffatt Nat. Pk, Park Headquarters, 25°01'S 147°47'E, 740 m, 18.xi.1995, C.J. Burwell, mv lamp; 1♂, 1.5 km NW of Bondoola, 23°10'Sx150°41'E, 22.i.2001, 60 m, D.J. Cook, at MV light; 5♂, 1♀, MEQ: 23°12'Sx149°45'E, Boomer Range, Site 3, 21.iii.2000, G.B. & S.R. Monteith, at MV light, 9266; 1♀, R'ton Q., L. Franzen; 5♂, 1♀, Rangers stn, Mt Moffatt sect[ion], Carnarvon Nat. Pk, 25°01'06"S 147°57'08"E, 720 m, 25.xi.1999, G. Daniels, mv lamp; 1♂, nr One Mile Creek, 1 km WSW of Mt Moffatt, Mt Moffatt sect[ion], Carnarvon Nat. Pk, 25°03'S 148°02'E, 840 m, 22.xi.1999, G. Daniels, on tall grass; 7♂, 1♀, Carnarvon National Park: Mount Moffatt Section, Ranger Headquarters, 25°01'22"S 147°56'59"E, 1.xii.1997, J. Skevington, C. Lambkin, S. Evans, mv Light; 3♂, same data as previous, 2.xii.1997; 2♂, Carnarvon National Park, Mount Moffatt Area, 30.xi.1997, J. Skevington, C. Lambkin, S. Evans (**QM**). 13♂, 2♀, same data as holotype (**DE**). 16♂, 6♀, same data as holotype, 469-0001 to 469-0010, 469-0012 to 469-0017, 469-0020 to 469-0025; 9♂, 2♀, Rangers HQ, Mt Moffatt NP, 25°01'14"S 147°50'08"E, 7.i.2005, C. Eddie, to light, 469-0027 to 469-0037 (469-0034 ♂ genitalia prep.); 1♂, NNW Roma, 26°12'30"S 147°50'08"E, 14.ii.2004, C. & T. Eddie, 469-0038; 1♀,

NNW Roma, 26°12’41”S 148°42’02”E, 8.xii.2000, C. Eddie, 469-0039; 1♂, Canoona, 23°01’49”S 150°08’39”E, xii.2012, P. Lloyd, L. Weber, 472-0020 (**LWP**). 1♂, Marlborough Caravan Park, Qld, 22°49’28”s 149°53’42”E, 3.xii.2021, A.J. Emmott, S.K. Wilson, R. Coupland; 5♂, 1♀, Duaringa, xii.1983, E.E. Adams; 5♂, 9♀, 1 km W of Mourangee, 17.xi.1984, on tree trunks, E.E. Adams; 1♂, Mourangee nr Edungalba, 10.ii.1983, E.E. Adams, at light; 1♂, Mourangee nr Edungalba, 28.xi.1983, E.E. Adams; 1♂, Mourangee nr Edungalba, 5.xii.1983, E.E. Adams; 1♂, Mourangee nr Edungalba, xii.1983, E.E. Adams; 1♂, Mourangee nr Edungalba, 7.xii.1983, E.E. Adams; 8♂, Mourangee Hsd nr Edunglaba, 31.x.1986, E.E. Adams; 3♂, Edungalba, 5.xii.1979, M.S. & B. J. Moulds; 1♀, Mourangee Hsd nr Edunglaba, 26.xii.1979, E.E. Adams; 7♂, 2♀, Mourangee Hsd nr Edungalba, 17.xii.1985, E. E. Adams (1♂ genitalia prep.); 6♂, 5♀, 1 km SW of Mourangee, 19.xii.1985, on grey box, E.E. Adams; 1♂, 0.75 km W of Mourangee nr Edungalba, 24.xi.1986, E.E. Adams; 11♂, 2♀, Rangers Stn Mt Moffatt Sect, Carnarvon National Park, 25°01’06”S 147°57’08”E, 720 m, 29.xi.2005, G. Daniels, mv lamp; 23♂, 5♀, Rangers Stn Mt Moffatt Sect, Carnarvon National Park, 25°01’06”S 147°57’08”E, 720 m, 23–26.xii.2005, G. & A. Daniels, *Eucalyptus populnea* woodland, mv lamp; 1♀, 85 km S of Rolleston, 20.xii.1983, M.S. & B.J. Moulds; 7♂, 5mi S of Mount Larcom, 9.xi.1974, G. Daniels; 1♂, Bee Creek, 25 km SW of Nebo, 6.ii.1981, M.S. & B.J. Moulds (**MSM**).

Audio records. QUEENSLAND. Rangers HQ, Mt Moffatt NP, 25°01’14”S 147°50’08”E, 14.i.2005; Mount Larcom, 23°48’55”S 150°58’54”S, 19.xii.2022 (**LWP**).

Description of Adult Male (Plates 1A, 1B; Figs 1A, 2A, 3).

Head about as wide as pronotum. Compound eyes brown (colour retained in dry specimens); ocelli pale pink; distance between lateral ocelli similar to distance between each lateral ocellus and adjacent compound eye. Vertex brown, darker between ocelli, with variable dark brown markings on outer sides of lateral ocelli and a similar marking sometimes along epicranial suture; frons brown; supra-antennal plates brown; dorsal side of postclypeus pale brown with dark brown anterior margins; dorsal side of head with sparse silver pubescence; long silver pubescence on lateral areas posterior to compound eyes. Mandibular plates brown with dense long silver pubescence; gena brown; ventral side of postclypeus brown, darker along transverse grooves; anteclypeus brown; rostrum pale brown, dark brown to black towards apex, extending to distal margin of hind coxae. Antennae brown.

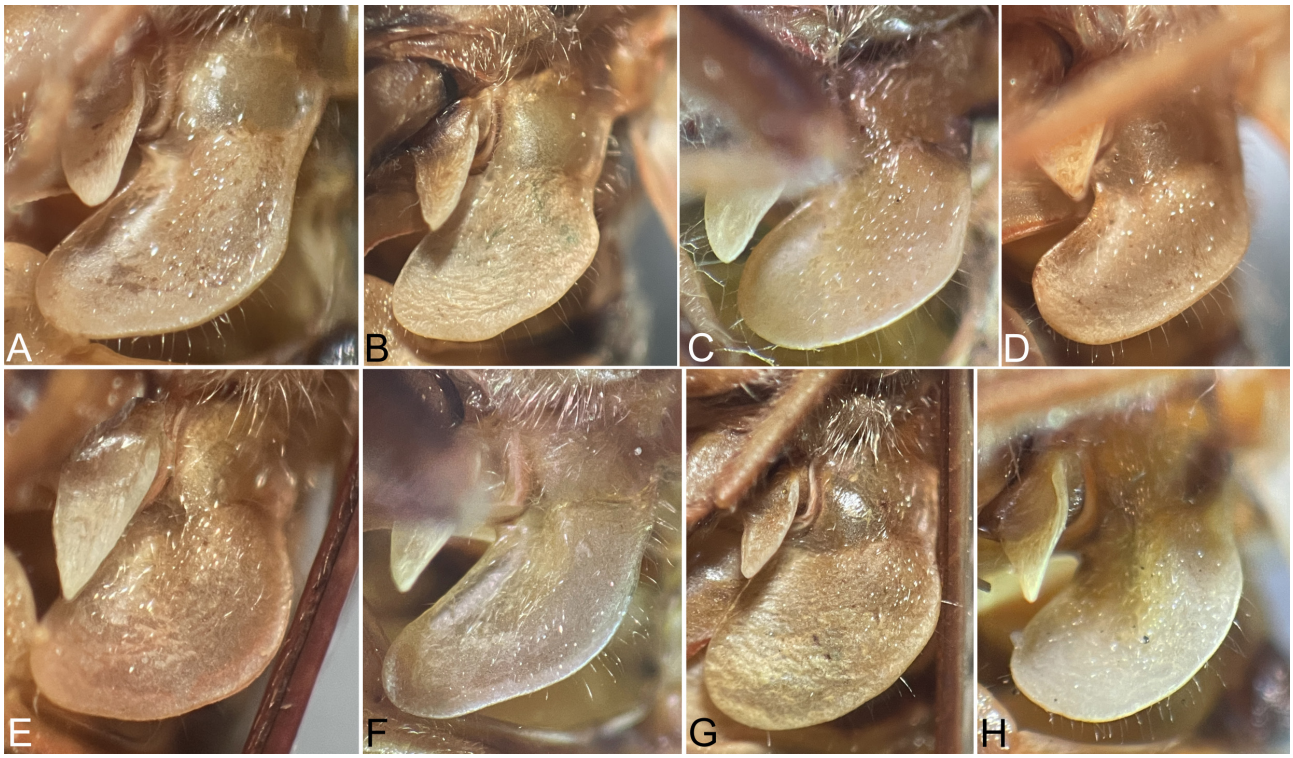


FIGURE 1. Photos of male left opercula, with lateral edge on right and posterior margin at bottom: (A), *Yoyetta argentea* **sp. nov.**, paratype, Rangers HQ, Mt Moffatt NP (25°01’14”S 147°50’08”E); (B), *Y. burwelli* **sp. nov.**, paratype, Austin Road, Crows Nest, (27°11’35”S 152°04’04”E); (C), *Y. clara* **sp. nov.**, paratype, Expedition Range NP, “Amphitheatre” camp (25°12’S 148°59’E); (D), *Y. eastwoodi* **sp. nov.**, holotype; (E), *Y. longirostra* **sp. nov.**, paratype, “Possum Park” (26°30’19”S 150°12’31”E); (F), *Y. penetrans* **sp. nov.**, paratype, Kremnos (30°00’31”S 152°58’43”E); (G), *Y. wrightae* **sp. nov.**, paratype, Belmont Hills (27°30’42”S 153°06’53”E); (H), *Y. zagona* **sp. nov.**, holotype.

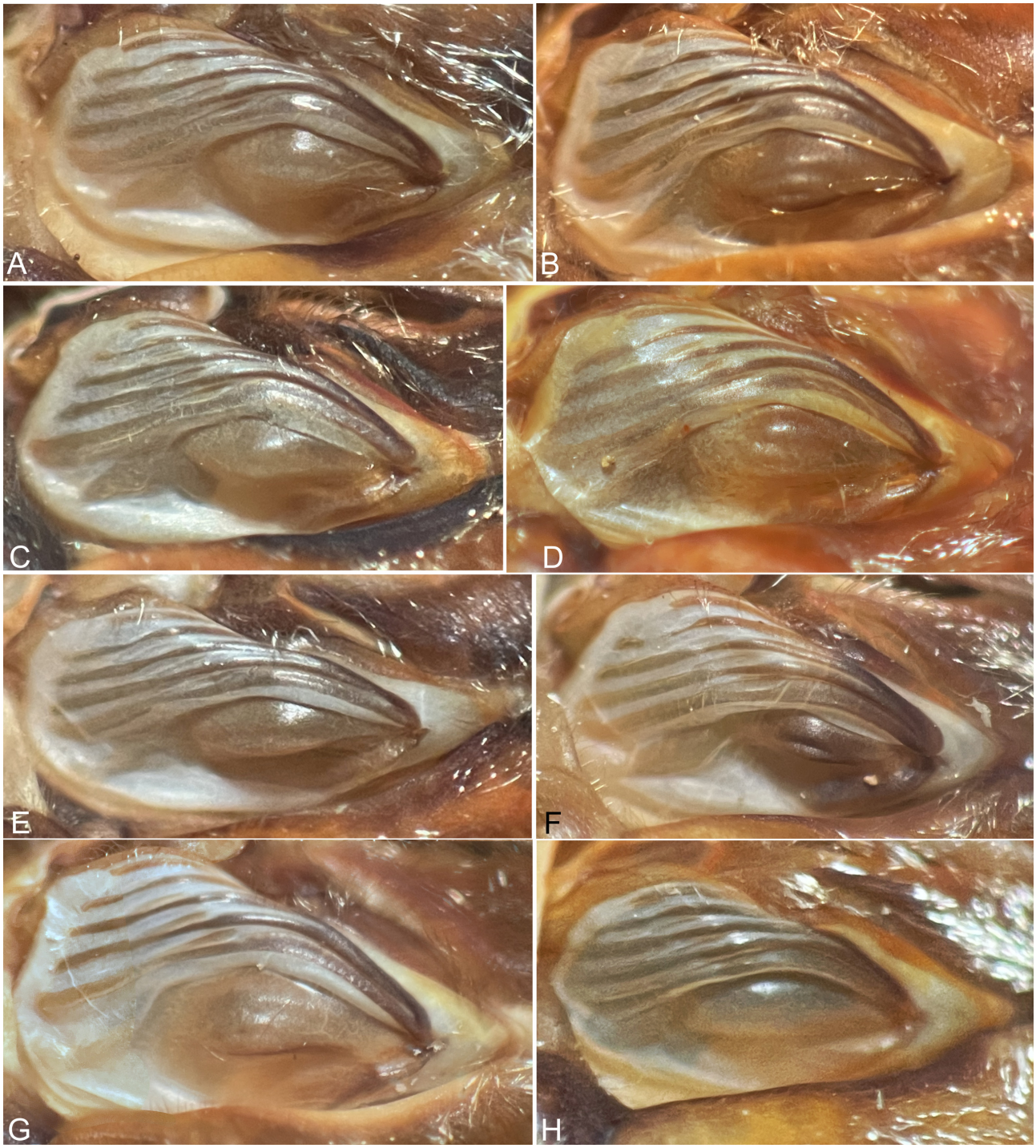
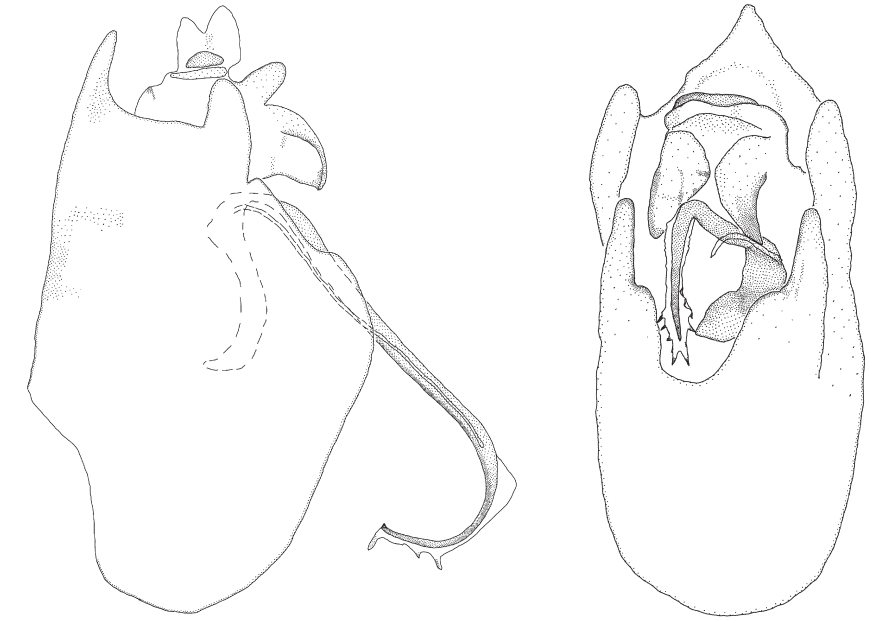


FIGURE 2. Photos of male left timbals, with dorsal edge on right and posterior margin at bottom: (A), *Yoyetta argentea* **sp. nov.**, paratype, Rangers HQ, Mt Moffatt NP (25°01'14"S 147°50'08"E); (B), *Y. burwelli* **sp. nov.**, paratype, Austin Road, Crows Nest (27°11'35"S 152°04'04"E); (C), *Y. clara* **sp. nov.**, holotype; (D), *Y. eastwoodi* **sp. nov.**, holotype; (E), *Y. longirostra* **sp. nov.**, holotype; (F), *Y. penetrans* **sp. nov.**, paratype, Kremnos (30°00'31"S 152°58'43"E); (G), *Y. wrightae* **sp. nov.**, holotype; (H), *Y. zagona* **sp. nov.**, holotype.

Thorax. Pronotum brown to pale brown, with median longitudinal area surrounded by dark brown; lateral fissures and sometimes paramedian fissures dark brown; pronotal collar brown; covered in short silver pubescence in fresh specimens. Mesonotum brown; submedian and lateral sigilla dark brown; cruciform elevation pale brown with a dark brown central marking broadening laterally on anterior and posterior sides; scutal depressions dark brown to black; wing grooves brown to pale brown with long silver pubescence. Metanotum dark brown.



FIGUREs 3–4. *Yoyetta argentea* **sp. nov.**, (3A) male genitalia in lateral view, specimen from Mt Moffatt NP (25°01'14"S 147°50'08"E); (3B) same in ventral view; (4) distribution in mainland Australia.

Wings. Fore wings hyaline, lacking infuscations. Costa pale orange-brown; pterostigma orange-brown; veins 2A+3A dark brown; other veins brown; basal membranes orange. Hind wing venation brown; plaga brown; ac3 partly brown, tending pale grey-brown proximally.

Legs pale brown, with dark brown narrow longitudinal markings on inner and anterior sides of fore femora and on anterior side of mid femora; fore tibia brown, mid and hind tibia mainly pale brown; spines and pretarsi dark brown; meracantha pale brown, about twice as long as basal area of opercula, slightly overlapping opercula.

Opercula (Fig. 1A). Basal area raised and somewhat bubble-like; plates undulating, broadly rounded, when viewed from ventral side, occupying tympanal cavity; pale brown throughout.

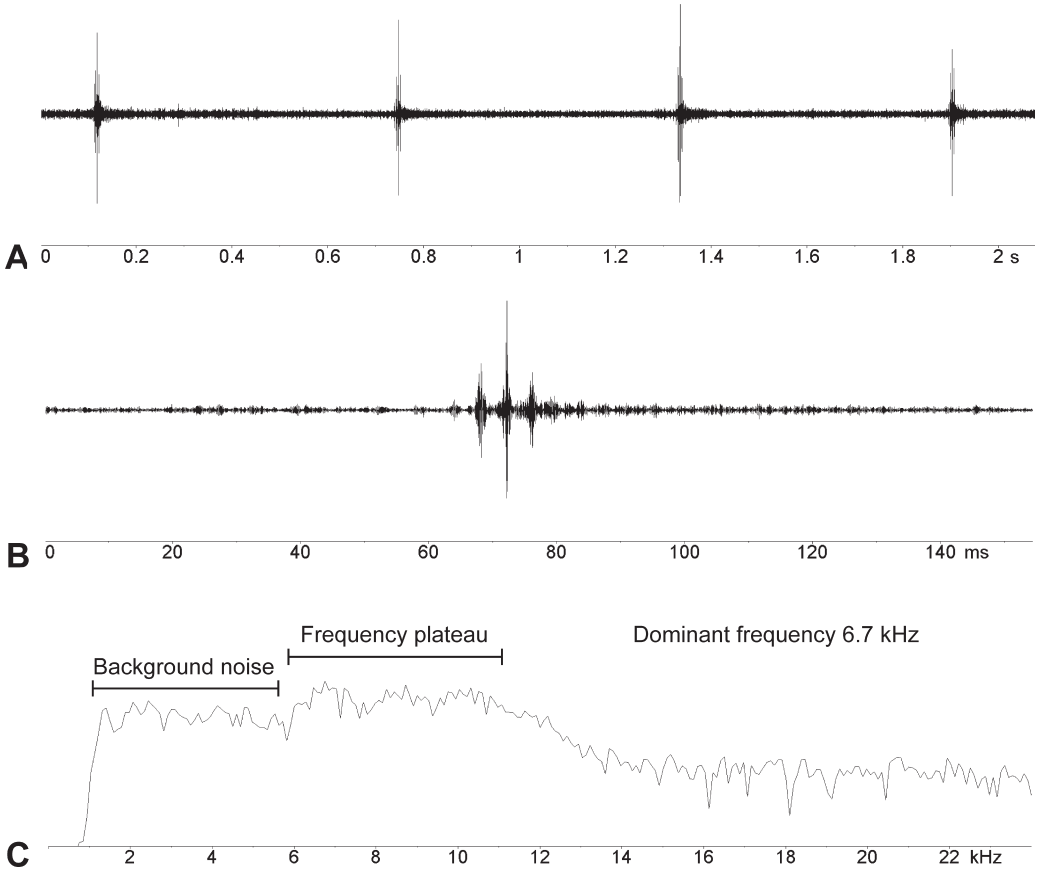


FIGURE 5. Male calling song structure of *Yoyetta argentea* **sp. nov.**, including: (A), a 2 s waveform plot showing four clicks produced in flight; (B), a 150 ms waveform plot illustrating a single click (syllable) with three prominent pulses; (C), a power spectrum illustrating song frequency. The specimen was recorded in the field by LWP at Rangers HQ, Mt Moffatt NP (25°01'14"S 147°50'08"E) using a Marantz PMD670 recorder and Telinga Pro 6 parabolic microphone.

Timbals (Fig. 2A). Five long ribs, all occupying timbal membrane apart from anteriormost long rib, which is slightly shorter, extending across approximately four fifths width of timbal membrane; long ribs unattached ventrally and attached to basal spur apart from the anteriormost long rib; intercalary ribs between each long rib; ribs brown to pale brown; apodeme brown.

Abdomen. Tergite 1 mainly brown; tergite 2 orange-brown with a dark brown central marking and sometimes with dark brown spot along the anterior margin on either side of midline; tergites 3–7 pale orange-brown to orange-brown with brown to dark brown central markings that narrow slightly posteriorly, all covered with short silver pubescence in fresh specimens; tergite 8 orange-brown with dark brown dorsolateral markings on anterior margin. Sternites and epipleurites yellow-brown.

Genitalia (Figs 3A, 3B). Pygofer orange-brown, tending dark brown towards anterior margin; dorsal beak narrowly tapering; upper lobes prominent, rounded, broader than dorsal beak, in lateral view projecting to about two-thirds of the extent of the dorsal beak, in ventral view broadly rounded; lower lobes developed, weakly expressed in lateral view, in ventral view with base somewhat bulbous and apex rounded. Median lobe of uncus conspicuous, in lateral view apically rounded, extending to a similar extent as claspers, in ventral view rounded. Claspers well developed, hooked, in ventral view restraining aedeagus, with apices turned outwards. Aedeagus recurved distally through 155 degrees, the vesica with one large spine on either side subapically, another pair of large spines apically and 1–2 shorter spines in between; apex of theca with a pair of minute dorsal spines; pseudoparameres long, reaching to about point of recurvature, transparent, slender, hair-like and weakly lobed apically.

Description of Adult Female (Plate 1C). Similar to male.

Head often slightly narrower than pronotum, mainly pale brown with dark brown to black markings surrounding ocelli and extending to supra-antennal plates; a black spot on anterior side of each compound eye; dorsal side of

postclypeus brown with dark brown anterior lateral margins and a narrow pale brown central marking, dark brown on ventral side with pale brown margins and with a pale brown central spot anteriorly; gena dark brown; mandibular plates mainly brown, with dark brown areas broadly on interior margins, long silver pubescence; anteclypeus brown; rostrum pale brown, dark brown apically.

Thorax. Pronotum mainly brown with dark brown to black markings along fissures and surrounding midline; pronotal collar brown to pale brown. Mesonotum brown; submedian and lateral sigilla dark brown to black; cruciform elevation mainly pale grey-brown, central posterior area dark brown, with longer silver pubescence; wing grooves brown to pale brown with long silver pubescence; metanotum dark brown.

Wings match description given for male, with costa tending pale brown.

Legs match description given for male.

Abdomen. Tergites 1–7 brown to pale brown with dark brown extending along midline, conspicuous short silver pubescence; tergite 8 mainly pale brown, dark brown laterally along anterior margin; epipleurites pale brown to orange-brown; sternite II pale brown; sternites III–VI pale orange-brown with discontinuous narrow brown midline; sternite VII pale orange-brown; abdominal segment 9 brown to pale brown with two longitudinal dark brown stripes either side of midline, joined anteriorly; dorsal beak dark brown; ovipositor sheath extending 2.0–3.5 mm beyond apex of abdominal segment 9 (slightly more than three quarters the length of abdominal segment 9); anal styles pale brown.

Measurements. N=14♂, 14♀. Ranges and means (in parentheses). Body length: ♂ 16.7–20.4 (19.17); ♀ 20.4–25.5 (23.34). Fore wing length: ♂ 21.1–23.7 (22.34); ♀ 22.8–27.9 (25.59). Head width: ♂ 4.7–5.2 (4.98); ♀ 5.0–5.9 (5.54). Pronotum width: ♂ 4.8–5.3 (5.06); ♀ 5.0–6.2 (5.64). Abdomen width: ♂ 4.7–5.9 (5.12); ♀ 4.8–6.2 (5.64); Ovipositor length (♀): 8.6–12.2 (10.40).

Morphological distinguishing features. Males of *Y. argentea* **sp. nov.** can be distinguished from all other species in the genus, apart from *Y. eastwoodi* **sp. nov**, with the following combination of characters: (1) hind wing plaga brown, (2) rostrum extends to distal margin of hind coxae (not beyond), (3) median lobe of uncus short, in lateral view not protruding substantially beyond the claspers, (4) base of opercula raised and somewhat bubble like (Fig. 1A), and (5) colour around cruciform elevation distinctly paler than remainder of mesonotum. They can be distinguished from *Y. eastwoodi* **sp. nov.** by having the anteriormost timbal rib extending across approximately four fifths the length of the timbal membrane and well beyond the lower end of the adjacent short intercalary rib (Fig. 2A). In *Y. eastwoodi* **sp. nov.**, the anteriormost rib is shorter, not extending beyond the lower end of the adjacent short intercalary rib (Fig. 2D).

Females can be distinguished from all other species in the genus with the following combination of characters: (1) hind wing plaga brown, (2) rostrum extends to distal margin of hind coxae (not beyond), (3) ovipositor sheath extends 2.0–3.5 mm beyond the anal styles, and (4) central marking of pronotum surrounded by a distinct black outline or almost entirely black. The superficially similar *Y. wrightae* **sp. nov.** differs by having a shorter rostrum (extending to middle of hind coxae, cf. distal margin of hind coxae in *Y. argentea* **sp. nov.**).

Distribution, habitat and behaviour (Fig. 4). Known from near Nebo south to Mount Larcom in the east and Roma in the west. Localities include Duaringa, Edungalba, Boomer Range, Canoona, Marlborough, Yeppoon, Bondoola, 85 km S of Rolleston and Mount Moffatt. It occurs in open eucalypt woodland where the adults are found high up on the trunks and upper branches of eucalypts. Specimens have been collected between November and March, with most records from December. Many specimens have been taken at light.

Etymology. Latin adjective meaning "silvery", referring to the extensive covering of silver pubescence in fresh specimens of this species, which is most conspicuous in specimens from the type locality.

Calling song. The description of the call is based on field recordings from the localities listed under *Audio records* above (*n*=4 recordings in total). A calling song from the type locality was selected for illustration.

The calling song of *Y. argentea* **sp. nov.** is a simple clicking call, produced both while stationary and in flight. Each click is a syllable comprising three prominent pulses and a weaker preceding pulse (12–14 ms duration). There are gaps of 0.5–0.8 s duration between each click, with the click emission rate being 1–2 per second. The sound energy ranges from 6 to 13 kHz, with a dominant frequency between 6.5 and 7.5 kHz. Based on preliminary information, the song is closely similar to *Y. eastwoodi* **sp. nov.**, but that species appears to lack the weaker preceding pulse.

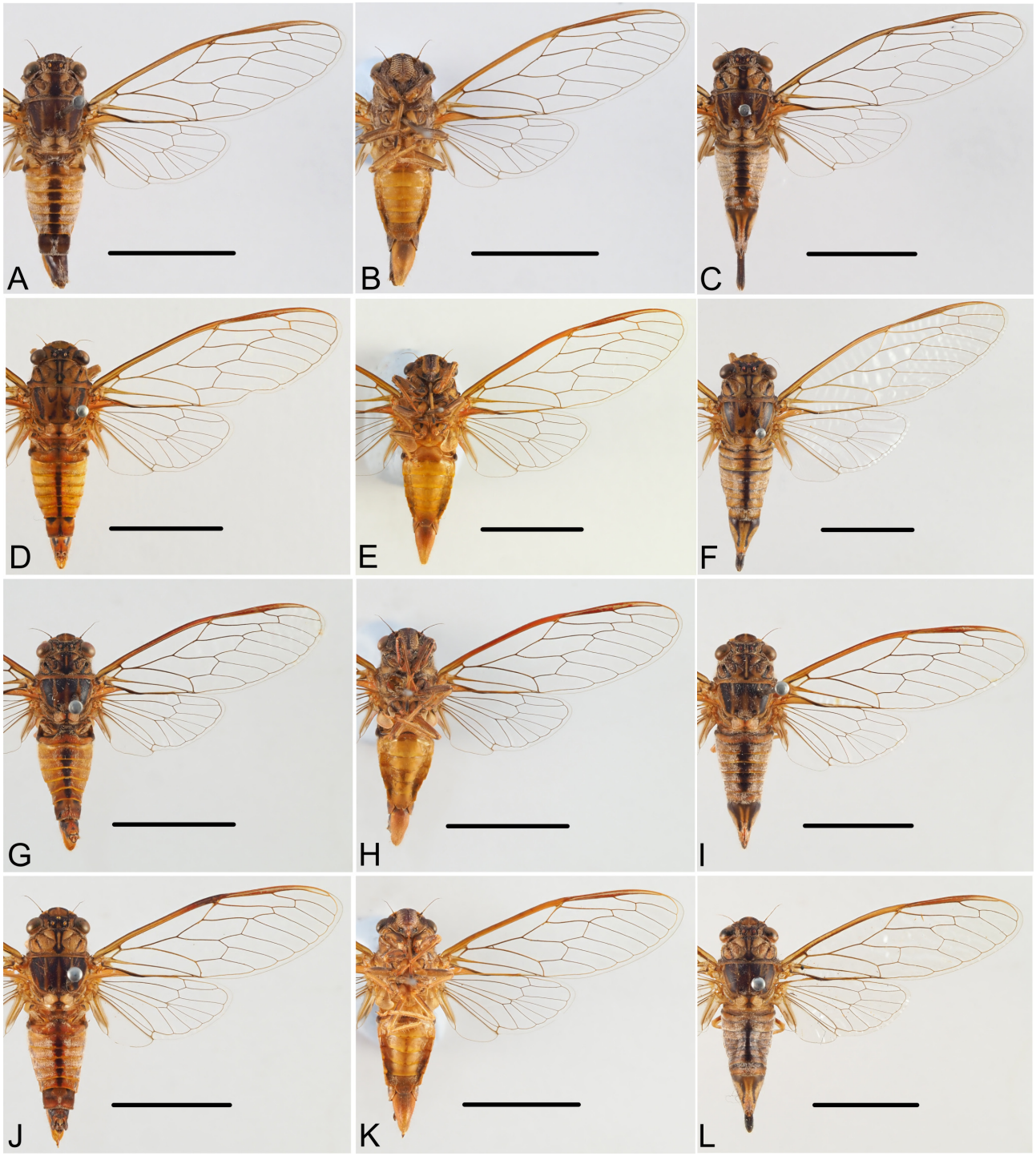


PLATE 1. (A), *Yoyetta argentea* **sp. nov.**, holotype male, dorsal; (B), *Y. argentea* **sp. nov.**, holotype male, ventral; (C), *Y. argentea* **sp. nov.**, paratype female, dorsal, Rangers HQ, Mt Moffatt NP (25°01'14"S 147°50'08"E); (D), *Y. burwelli* **sp. nov.**, holotype male, dorsal; (E), *Y. burwelli* **sp. nov.**, holotype male, ventral; (F) *Y. burwelli* **sp. nov.**, paratype female, dorsal, Austin Road, Crows Nest, (27°11'35"S 152°04'04"E); (G), *Y. clara* **sp. nov.**, holotype male, dorsal; (H), *Y. clara* **sp. nov.**, holotype male, ventral; (I) *Y. clara* **sp. nov.**, paratype female, dorsal, Expedition Range NP, "Amphitheatre" camp (25°12'S 148°59'E); (J), *Y. eastwoodi* **sp. nov.**, holotype male, dorsal; (K), *Y. eastwoodi* **sp. nov.**, holotype male, ventral; (L) *Y. eastwoodi* **sp. nov.**, paratype female, dorsal, Mt Scoria, (24°32'S 150°36'E). Scale bars = 10 mm.

***Yoyetta burwelli* sp. nov.**
(Plates 1D–F; Figs 1B, 2B, 6, 7, 8)

Cicadetta sp. nr *tristrigata* Treetop Ticker: Popple & Ewart, 2002: p. 116; Sanborn 2014, 556.

Types. *Holotype* ♂, Austin Road, Crows Nest, Queensland, [27°11'35"S 152°04'04"E], 26.xii.2001, L. Popple, A. Strange, 470-0007, QM registration no. T262539 (**QM**).

Paratypes. QUEENSLAND. 1♂, Biggenden Qld, 4.i.1972, H. Frauca, schlphl forest; 1♀, Mt Walsh Nat. Park, 7 km S. by E of Biggenden Qld, 17.ii.1978, H. Frauca; 1♂, Jamboree Heights, 20.xi.2004, T.A. Lambkin; 1♂, Jamboree Heights, Brisbane, 2.xi.2003, T.A. Lambkin; 1♂, St Lucia, Brisbane, 26.ii.1990, A.I. Knight; 1♀, same data as previous, 17.xi.1990; 1♀, Indooroopilly, Brisbane, 10.i.1993, T.A. Lambkin (**ANIC**). 1♂, Imbil, 26.444°S 152.698°E, 90 m, 2.xii.2011, I. McMillan (**CBG**). 1♂, Mt Nebo, 17.i.1992, S. Wilson, to light, *Cicadetta* c.f. *tristrigata*; 1♂, 3 km SW of Wetheron, 25°34'S 151°42'E, 150 m, 18.xii.[19]98–27.i.[19]99, Monteith & Gough, vine scrub intercept, 7585, [teneral]; 1♂, St Lucia, 16.x.1965, D.E. Harrison; 1♂, Ipswich, i.1979, K. Williams; 1♀, Highvale, Qld, iv.1961, I.L. Gordon, beating etc. in eucalypt sp.; 1♂, Binjour Plateau, Swains Rd, 25°32'S 151°30'E, 21.xii.1997, 340 m, C.J. Burwell, S. Evans, softwood scrub; 9♂, 5♀, Crows Nest NP, Perseverance Section, Site 2, 27°19'Sx152°06.6'E, 540 m, 4.xii.2003, QM Party, at light, eucalypt forest, 51771; 1♂, Stockyard Creek, 27.675°S 152.040°E, 333 m, 9.i.2016, Monteith & Ebert, malaise trap, open forest, 38262; 1♂, Nipping Gully site 1, 300 m, 25°41'E 151°26'E, 16.i.2003, G.B. Monteith, mv lamp, open forest, 12399; 1♂, 1♀, Mt Glorious, 635 m, 24.xii.1981, Anthony Hiller, eucalypt forest, [♂ damaged: head loose]; 2♂, 2♀, Nipping Gully, site 2, 25°40'S 151°26'E, 300 m, 26.i.1999, Monteith, Gough, Thompson, mv light, open for., 7460; 1♂, Nipping Gully, Site 6, 25°42'S 151°26'E, 200 m, 18–19.xii.1998, G. Monteith, C. Gough & G. Maywald, 7532; 1♀, Gold Creek Reservoir, 27.ii.2004, G. Monteith, mv lamp, 11551; 3♂, Boombana Nat. Pk, site 1, 27°24.1'S 152°47.2'E, 440 m, 7.xi.2003, QM Party, day hand collecting, rainforest, 51695; 4♂, 2♀, Wonga Hills, site 3, 26°04'S 150°49'E, 520 m, 11.xii.2001, Monteith, Cook & Wright, mv light, vine scrub, 10257; 2♀, Cobbs Hill, Site 1, 26°02'S 151°54'E, 19.xii.[19]92–iii.[19]93, S. Hamlet, Pitfall & Intercept; 1♀, Enoggera Reservoir, Site 1, 27°27'S 152°55'E, 16.x–21.xii.1999, G.B. Monteith, intercept trap, open forest, 9060; 2♀, Enoggera Reservoir, site 2, 27°27'S 152°55'E, 16.x–21.xii.1999, G.B. Monteith, intercept trap, open forest, 9062; 1♂, Enoggera Reservoir, site 3, 27°27'S 152°55'E, 110 m, 10.xi.1999, rainforest, Qld Mus. Party, 7928; 1♂, Enoggera Reservoir, site 10, 27°27'Sx152°54'E, 80 m, 27.i.2000, G.B. Monteith, mv lamp, 50268; 1♀, Gatton, 28.ii.1965, J. Bishop; 2♂, 2♀, Mt Coot-tha, 27°29'S 152°57'E, 260 m, 10.i.2002, G.B. Monteith, mv light, open forest, 10350; 1♂, Mt Nebo Road, 27°26'S 152°53'E, 250 m, 31.i.2003, G. Monteith, mv light, 11293; 1♂, Brisbane, 24.x.1956, I. Bonner; 1♂, Brisbane, 21.iii.1959, A. Cameron; 1♀, Brisbane, 14.i.[19]56, B.R. Grant, QM Registration No. T204469; 1♂, Ladybrook, 17.ii.[19]57, D.J.T.; 1♂, Brisbane, 7.iv.[19]59, V. Mungomery; 1♂, Toowoomba, 10.x.[19]59, D.R. Petty; 1♀, Redland Bay, 17.xi.[19]62, G. Shaw; 3♂, 1♀, Planted Creek via Tansey, 12.xii.1976, G.B. & S.R. Monteith; 1♂, 46 Cassandra St Chapel Hill, 27.4988°S 152.9568°E, 13.xi.2025, C.J. Burwell; 3♂, Binjour Plateau, picnic area, 21.xii.1997, 25°31.97'S 151°29.99'E, [A.] Ewart; 1♂, Kenmore, Brisbane, 22.xi.[19]78, [A. Ewart]; 1♂, Indooroopilly Golf Course, 16.ii.[19]78, [A. Ewart]; 2♂ Ipswich, i.1979, K. Williams; 2♂, Doolandella, 18–19.xii.[19]95, [A. Ewart] (**QM**). 1♂, same data as holotype, 470-0001; 3♂, Murrumba Downs, 27°15'09"S 153°00'39"E, 19.x.2022, T.J. Eales; 2♂, Tinana, Maryborough, 25°35'20"S 152°39'58"E, 10.xi.2021, N. Main (1♂ genitalia prep.); 1♂, same locality as previous, 20.xi.2023, N. Main (**DE**). 4♂, 1♀, Bellbird Grove, 27°25'S 152°53'E, 1.ii.2004, L. & W. Popple, 467-0001 to 467-0005 (467-0003 ♂ genitalia prep.); 14♂, 3♀, Austin Road, Crows Nest, 26.xii.2001, L. Popple, A. Strange, 470-0002 to 470-0006, 470-0008 to 470-0018; 1♂, 2 km S of Crows Nest, 26.xii.2001, L. Popple, A. Strange, 470-0019; 4♂, 2♀, base of Blackbutt Range W of Moore, 9.i.2002, L. Popple, M. Moulds, J. Moss, J. Cooley, D. Marshall, K. Hill, mv lamp, 470-0020 to 470-0025; 1♀, Anstead Reserve, lookout, 27°32'37"S 152°51'22"E, 4.ii.2012, L.W. Popple & A. McKinnon, 467-0046 [right fore wing missing] (**LWP**). 21♂, 4♀, foot of Blackbutt Rg, 13 km E of Blackbutt, 26°53.34'S 152°12.88'E, 9.i.2002, Cooley, Cowan, Hill, Marshall; 1♂, Dunmore S.F., 8 km W of Cecil Plains, 10.i.1985, A. Hiller; 2♂, Jimna, N of Kilcoy, 17x.ii.1979, A. Hiller; 2♂, Mt Nebo, 500 m, 7.i.1986, A. Hiller; 2♂, 1♀, Mt Nebo, 500 m, 15.xii.1984, A. Hiller; 1♀, Moggill, 3.iii.1982, J. North; 1♂, Bellbowrie, Brisbane, 23.xi.1978, A. Hiller; 1♂, Brookfield, Brisbane, 11.x.1969, J. North; 1♀, The Grange, Clontarf, 19.iii.1979, J. North; 1♂, Brisbane, 20.x.1979, D. Yeates; 1♂, Brisbane, 14.x.1984, J. North; 1♂, St Lucia, Brisbane, 20.ix.1983, R. de Keyzer; 1♂, St Lucia, Brisbane, 22.ix.1984, J.T. North; 1♂, St Lucia, Brisbane,

29.x.1984, J.T. North; 1♀, St Lucia, Brisbane, 3.x.1984, R. de Keyzer; 2♀, St Lucia, Brisbane, 20.x.1983, J. T. North; 1♂, Coorparoo, B[risba]ne, 8.x.1980, K. Smith; 1♀, Jamboree Heights, Brisbane, 10.xi.1985, G. Daniels; 1♂, Jamboree Heights, Brisbane, 20 m, 27°33'10"S 152°55'50"E, 12.xii.2004, G. Daniels; 1♂, Jindalee, 20.xii.1977, A. Hiller; 1♂, Teviot Brook nr Wilson's Peak, 28°13'S 153°31'E, 17–18.xi.1980, G. Daniels, M.A. Schneider; 1♂, 2♀, Biggenden, 65 km W of Maryborough, i.2014, T.A. Lambkin (♂, genitalia prep.) (**MSM**).

Audio records. QUEENSLAND. Anstead Reserve, 27°32'37"S 152°51'22"E, 15.xi.2014; Brookfield, 27°30'S 152°55'E, 2.xii.2001; 5 km ESE of Mt Nebo, 27°25'S 152°50'E, 21.xi.2003; 4 km W of Binjour, 25°31'S 151°25'E, 2.xi.2002; base of Blackbutt Range W of Moore, 26°53'13"S 152°12'49"E, 10.xii.2007; Benarkin State Forest, 26°53'21"S 152°08'19"E, 5.xii.2006; Cleveland, 27°31'38"S 153°15'04"E, 29.i.2015; base of Mt Maroon, 28°11'53"S 152°44'19"E, 3.i.2015; Picnic Point (Toowoomba), 27°35'S 151°59'E, 19.x.2003 (**LWP**). Binjour Plateau, 25°31.97'S 151°29.99'E, 21.xii.1997 (**A. Ewart**).

Other records. QUEENSLAND. Kippa Ring, 27.22360°S 153.07599°E, 29.xi.2025, N. Taylor, iNat 329427910; Laidley, 27.64062°S 152.43648°E, 22.xii.2025, B. McBurney, iNat 331631979. NEW SOUTH WALES. Urbenville, 28.45551°S 152.57059°E, 23.xi.2025, B. McBurney, iNat 328047537 (**iNat**).

Description of Adult Male (Plates 1D, 1E; Figs 1B, 2B, 6).

Head about as wide as pronotum. Compound eyes pale brown to brown (colour similar in live and dry specimens); ocelli pink; distance between lateral ocelli similar to distance between each lateral ocellus and adjacent compound eye. Vertex mainly brown, brown to black between ocelli, with variable dark brown to black markings on outer sides of lateral ocelli and dark brown to black spots on inside of compound eyes; frons mainly brown to dark brown, paler yellow-brown medially; supra-antennal plates brown to yellow-brow; dorsal side of postclypeus pale muddy brown; dorsal side of head with sparse silver pubescence; long silver pubescence on lateral areas posterior to compound eyes. Mandibular plates reddish-brown to brown with a dark brown blotch on the inner margin, medial area with sparse short silver pubescence, distal portion with dense long silver pubescence; gena orange-brown to brown; ventral side of postclypeus orange-brown to reddish-brown, darker along transverse grooves; anteclypeus orange-brown; rostrum pale brown, tending dark brown towards apex, extending to middle of hind coxae. Antennae brown.

Thorax. Pronotum brown to orange-brown, with median longitudinal area surrounded by dark brown; lateral fissures and sometimes paramedian fissures dark brown; pronotal collar orange-brown. Mesonotum brown; outer margins of submedian sigilla dark brown, rarely entirely black; lateral sigilla to a variable extent dark brown; cruciform elevation pale orange-brown with a dark brown central marking broadening laterally on anterior and posterior sides; scutal depressions dark brown; wing grooves brown with long silver pubescence. Metanotum dark brown.

Wings. Fore wings hyaline, lacking infuscations. Costa orange-brown; pterostigma brown; veins 2A+3A dark brown; other veins brown; basal membranes orange. Hind wing venation brown; plaga brown; ac3 partly brown, tending pale grey-brown proximally.

Legs pale brown, with dark brown narrow longitudinal markings on inner and anterior sides of fore femora and on anterior side of mid femora; spines and pretarsi dark brown; meracantha pale brown, conspicuously longer than swollen basal area of opercula, apex overlapping opercula.

Opercula (Fig. 1B). Basal area swollen and bubble-like; plates undulating, broadly round, when viewed from ventral side, occupying tympanal cavity; pale brown throughout.

Timbals (Fig. 2B). Five long ribs, all occupying timbal membrane apart from anteriormost long rib, which is shorter, extending to near the lower end of the adjacent short (intercalary) rib; long ribs unattached ventrally; posterior three long ribs attached to basal spur; intercalary ribs between each long rib; ribs brown to pale brown; apodeme brown.

Abdomen. Tergite 1 orange-brown; tergite 2 orange-brown, sometimes dark brown on central anterior; tergites 3–7 brown to yellow-brown with dark brown central markings that narrow posteriorly, the areas surrounding these markings sometimes tending orange-brown; tergite 8 orange-brown with dark brown dorsolateral markings on anterior margin. Sternites and epipleurites yellow-brown.

Genitalia (Figs 6A, 6B). Pygofer orange-brown, tending dark brown towards anterior margin; dorsal beak broadly tapering; upper lobes prominent, broader than dorsal beak, in lateral view projecting a little over half of the extent of the dorsal beak, in ventral view narrow, slightly splayed; lower lobes developed, in lateral view broadly rounded, in ventral view broad and angular with rounded edges. Median lobe of uncus conspicuous, in lateral view

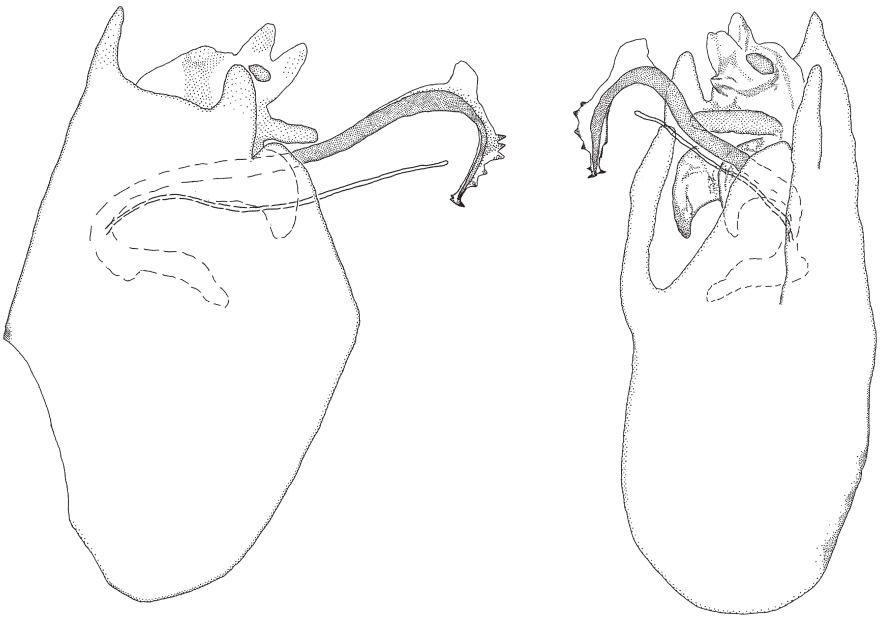
apically rounded, extending a little beyond claspers, in ventral view broadly rounded. Claspers well developed, hooked, in ventral view restraining aedeagus, with apices turned outwards. Aedeagus recurved distally through 135 degrees, the vesica with a series of subapical ventrolateral spines, reducing towards apex, apex with two small dorsal spines and a small ventral spine; pseudoparameres extending to about halfway along theca, transparent, slender, hair-like and weakly lobed apically.

Description of Adult Female (Plate 1F). *Head* matches description provided for male.

Thorax as per male, except submedian sigilla are always partly brown.

Wings match description given for male.

Legs match description given for male.



FIGURES 6–7. *Yoyetta burwelli* **sp. nov.**, (6A) male genitalia in lateral view, specimen from Bellbird Grove (27°25'S 152°53'E); (6B) same in ventral view; (7) distribution in mainland Australia.

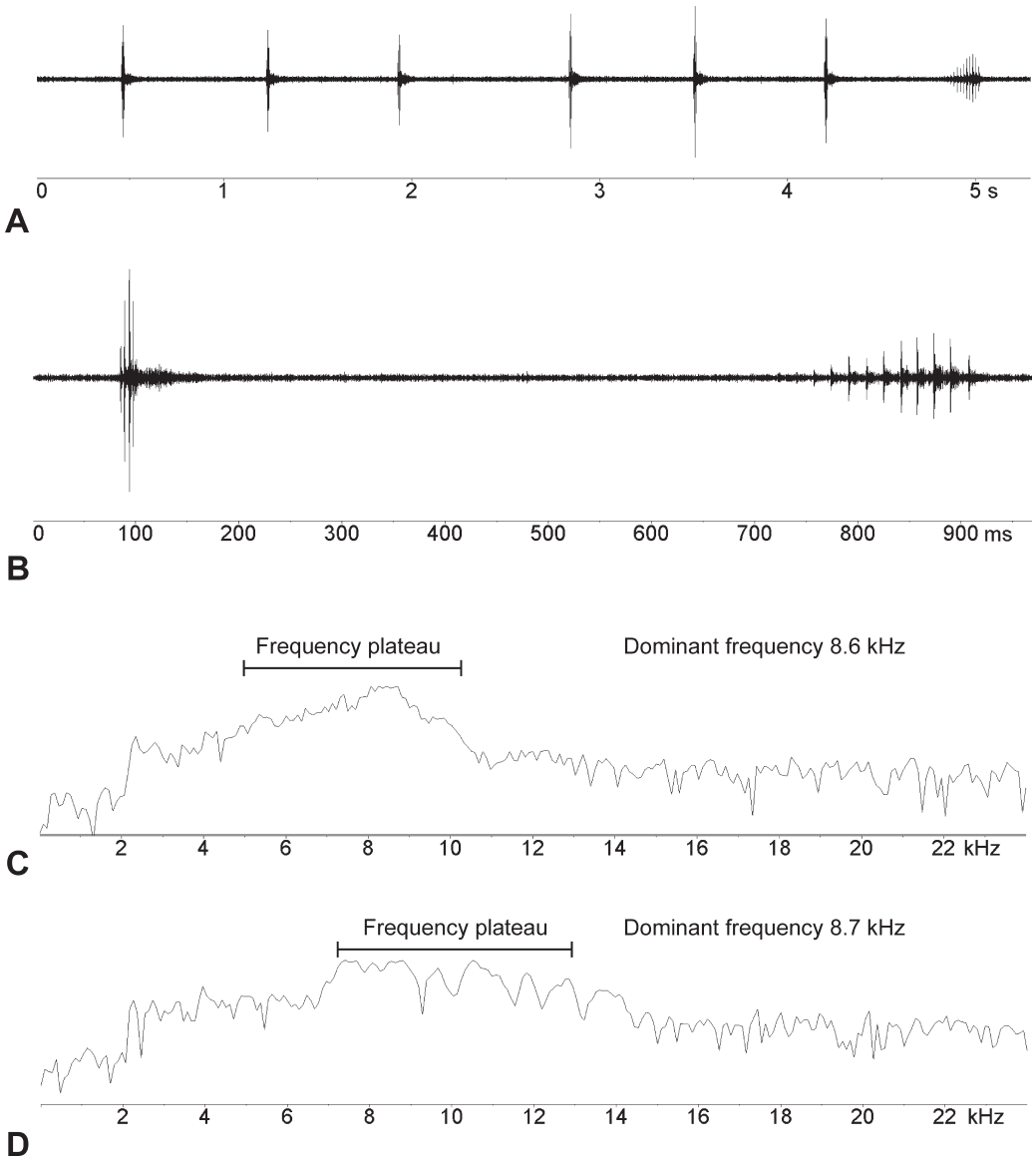


FIGURE 8. Male calling song structure of *Yoyetta burwelli* **sp. nov.**, including: (A), a 5 s waveform plot showing six clicks followed by a soft echeme, produced while stationary; (B), a 950 ms waveform plot illustrating a single click (syllable) with four prominent pulses and the soft echeme; (C), a power spectrum illustrating song frequency of a single click; (D) a power spectrum illustrating song frequency of the soft echeme. The specimen was recorded in the field by LWP at Anstead Reserve (25°33'S 152°51'E) using a Tascam DR-40 recorder and Sennheiser K6/ME67 microphone.

Abdomen. Tergites 1 and 2 mainly brown to orange-brown; tergites 3–7 brown with dark brown to black dorsal anterior margins, extending continuously along medial line, and diffuse dark brown spots extending in a line along lateral sides, with short silver pubescence; tergite 8 mainly brown to orange-brown, dark brown along dorsal and dorsolateral anterior margin; epipleurites mainly brown, sometimes with diffuse dark brown areas along margins; sternite II brown to orange-brown; sternites III–VI orange-brown to yellow-brown with diffuse dark brown blotches along midline; sternite VII orange-brown; abdominal segment 9 brown to orange-brown with two longitudinal dark brown to black stripes either side of midline, joined anteriorly; dorsal beak dark brown; ovipositor sheath extending 1.0–1.5 mm beyond apex of abdominal segment 9; anal styles brown to orange-brown.

Measurements. N=14♂, 12♀. Ranges and means (in parentheses). Body length: ♂ 19.7–23.4 (21.13); ♀ 20.1–24.9 (22.83). Fore wing length: ♂ 22.7–26.7 (24.66); ♀ 24.8–30.3 (28.04). Head width: ♂ 5.0–5.8 (5.41); ♀ 5.6–6.5 (6.04). Pronotum width: ♂ 5.1–6.1 (5.56); ♀ 5.9–6.9 (6.35). Abdomen width: ♂ 4.7–5.8 (5.50); ♀ 4.8–6.6 (5.95); Ovipositor length (♀): 6.9–10.1 (8.27).

Morphological distinguishing features. Males of *Y. burwelli* **sp. nov.** can be distinguished from all other species in the genus, apart from *Y. wrightae* **sp. nov**, with the following combination of characters: (1) hind wing plaga brown, (2) rostrum extends to middle of hind coxae, (3) median lobe of uncus short, in lateral view not protruding substantially beyond the claspers, (4) base of opercula raised and somewhat bubble like (Fig. 1B) and (4) colour around cruciform elevation closely similar to remainder of mesonotum. They can be distinguished from *Y. wrightae* **sp. nov.** by having the theca with apical spines that are all conspicuously smaller than the largest subapical spines (Fig. 6A). In *Y. wrightae* **sp. nov.**, the apical spines are prominent and similar in size to the largest subapical spines (Fig. 19A).

Females can be distinguished from all other species in the genus with the following combination of characters: (1) hind wing plaga brown, (2) dorsal side of body mainly brown, (3) rostrum extends to middle of hind coxae, and (4) ovipositor sheath extends 1.0–1.5 mm beyond the apex of the abdomen. Females differ from the superficially similar *Y. darug* by having the submedian sigilla always partly brown (cf. entirely black). Specimens of *Y. darug* also have a slightly shorter rostrum, which extends to the base of the hind coxae (cf. middle of hind coxae).

Distribution, habitat and behaviour (Fig. 7). The southern half of Queensland, from Biggenden and Binjour Plateau near Gayndah south to the Queensland-New South Wales border region. It is common and widespread through much of south-eastern Queensland. Localities include Crows Nest, Toowoomba, Laidley, Mt Nebo, Enoggera Reservoir, Redcliffe Peninsula, Brisbane City, Indooroopilly, St Lucia, Moggill, Bellbowrie, Brookfield, Anstead, Jamboree Heights, Jindalee, Coorparoo, Cleveland, Redland Bay, base of Mt Maroon and Teviot Brook (near Boonah). There is also an isolated record in far northern New South Wales at Urbenville. Populations are associated with open forest where adults sit on the trunks and upper branches of eucalypts. Specimens have been taken between September and April. Adults have mostly been captured at light.

Etymology. Named after Dr Christopher J. Burwell, who has contributed many valuable cicada records throughout his entomological career, including specimens of this species.

Calling song. The description of the call is based on field recordings from the localities listed under *Audio records* above (*n*=33 recordings in total). A recording from Anstead Reserve (Fig. 8) was selected for illustration as it represents the clearest and most complete recording available.

The calling song of *Y. burwelli* **sp. nov.** is a simple clicking call, produced both while stationary and in flight. Each click is a syllable comprising four distinct pulses (12–19 ms duration). There are gaps of approximately 0.3–0.9 s duration between each click. When stationary, calling males intermittently produce a soft echeme at the end of a bout of clicks (Figs 8A, 8B). Based on only a single recording, the soft echeme lasts 0.17 s and contains 11 separate pulses, the first few pulses being particularly low amplitude. The clicking call exhibits a frequency plateau from 5 to 10 kHz, with a dominant frequency between 8 and 9 kHz (Fig. 8C). The soft echeme has a similar dominant frequency; however, the plateau is higher and broader, between 7 and 13 kHz (Fig. 8D). The song of *Y. burwelli* **sp. nov.** is closely similar to *Y. wrightae* **sp. nov**.; it differs in generally having a slightly faster click repetition rate and in the production of the soft echeme (which does not form part of the song of *Y. wrightae* **sp. nov.).**

Yoyetta clara **sp. nov.**

(Plates 1G–I; Figs 1C, 2C, 9, 10, 11)

Types. *Holotype* ♂, Expedition Range NP, "Amphitheatre" camp, Queensland, 25°12'S 148°59'E, 560 m, 17.xii.1997, Ewart, Burwell, Evans, mv lamp, open forest, QM registration no. T262540 (**QM**).

Paratypes. QUEENSLAND. 1♂, Bin Bin Range via Didcot, 4–5.xii.1974, H. Frauca; 2♂, same data as previous 15.xii.1974; 1♂, same data as previous, 19.xii.1974; 1♀, The Pinnacles, Mt Walsh, Nat. Park, 10 km SE of Biggenden, 2.x.1976, H. Frauca (**ANIC**). 3♀, same data as holotype; 1♂, same data as holotype, 24°54'S 148°59'E, 18.xii.1997; 6♂, 4♀, The Amphitheatre, NW Robinson Gorge NP, 25°12.07'S 148°59.43'E, 17.xii.1997, [A. Ewart], open forest (camp) (1♂ genitalia prep.) (**QM**).

Audio records. QUEENSLAND. Forest Hills Road near Isla Gorge National Park (25°03'34"S 149°51'27"E), 30.xii.2022; Dykehead Crossing near Mundubbera, 25°40'18"S 151°14'39"E, 4.ii.2005; Blackdown Tableland, 23°44'24"S 149°07'12"E, 2.i.2023; Mt Moffatt, 24°54'S 148°03'E, 16.i.2005 (**LWP**).

Description of Adult Male (Plates 1G, 1H; Figs 1C, 2C, 9).

Head about as wide as pronotum. Compound eyes brown (colour retained in dry specimens); ocelli pink; distance between lateral ocelli slightly greater than distance between each lateral ocellus and adjacent compound

eye. Vertex brown to orange-brown adjacent to compound eyes and in central portion adjacent to posterior margin, dark brown to black otherwise; frons medium brown or orange-brown to dark brown; supra-antennal plates mainly dark brown, orange-brown near base of antennae; dorsal side of postclypeus mostly orange-brown with a slightly paler medial line, dark brown on anterior margin; dorsal side of head with scattered short silver pubescence and long dense silver pubescence on lateral areas posterior to compound eyes. Mandibular plates medium brown to dark brown, distal portion with long silver pubescence; gena dark brown with short silver pubescence; ventral side of postclypeus dark brown centrally with orange-brown along margins; anteclypeus reddish-brown; rostrum mainly orange, becoming dark brown towards apex, extending to near middle of hind coxae. Antennae dark brown.

Thorax. Pronotum mainly brown to orange-brown, with central marking surrounded by black or dark brown; lateral fissures and paramedian fissures black; pronotal collar orange-brown to reddish-brown. Mesonotum orange-brown; submedian and lateral sigilla black; cruciform elevation orange with a black central marking broadening laterally on anterior and posterior sides; scutal depressions dark black; wing grooves dull orange-brown with silver pubescence. Metanotum dark orange-brown.

Wings. Fore wings hyaline, lacking infuscations. Costa orange-brown to almost red; pterostigma dark reddish-brown; veins 2A+3A dark brown; other veins mainly brown; basal membranes orange. Hind wing venation mainly brown; plaga pale greyish-brown; ac3 brown.

Legs orange-brown to reddish-brown, with dark brown narrow longitudinal markings on inner and anterior sides of fore femora and on anterior side of mid femora; spines dark brown; meracantha very pale brown, slightly longer than flattened base of opercula, almost reaching or barely overlapping opercula margin.

Opercula (Fig. 1C). Basal area flat; plates small, separated by about double their width, undulating, spatulate, with somewhat rounded margins, when viewed from ventral side, not occupying all of tympanal cavity; mainly very pale brown or pale reddish-brown.

Timbals (Fig. 2C). Five long ribs, all occupying timbal membrane apart from anteriormost long rib, which is shorter, occupying about two thirds of the membrane; long ribs unattached ventrally; posterior three long ribs attached to basal spur; intercalary ribs between each long rib; ribs pale brown to dark brown; apodeme pale orange-brown.

Abdomen. Tergite 1 dark brown; tergite 2 mainly orange-brown with a dark brown anterior margin, which broadens to encompass the lateral portions, and sometimes a narrow dark brown posterior margin; tergites 3–7 yellow-brown to orange-brown with dark brown to black central markings, each narrowing posteriorly; tergite 8 orange-brown with dark brown dorsolateral markings on anterior margin. Sternites and epipleurites yellow-brown.

Genitalia (Figs 9A, 9B). Pygofer mainly dull orange-brown, often reddish dorsally; dorsal beak dark brown, anal styles orange or reddish-brown; upper lobe broadly rounded, extending to same extent as dorsal beak; basal lobe, in lateral and ventral views, relatively short and broadly rounded. Uncus in lateral view narrow and gradually curved downwards, produced to about same extent as claspers; Claspers well developed, directed downwards, hooked with apices turned outwards. Aedeagus with theca recurved ventrally at 155° towards apex, the vesica serrated along ventral edge, narrow and mostly smooth subapically, with a small, almost club-like, apical veil; pseudoparameres short, extending about one third length of theca, transparent slender, and weakly knobbed apically.

Description of Adult Female (Plate 1I). Closely similar in appearance to male.

Head matches description provided for male.

Thorax as per male. Pronotal collar orange-brown tending dark brown on lateral angles.

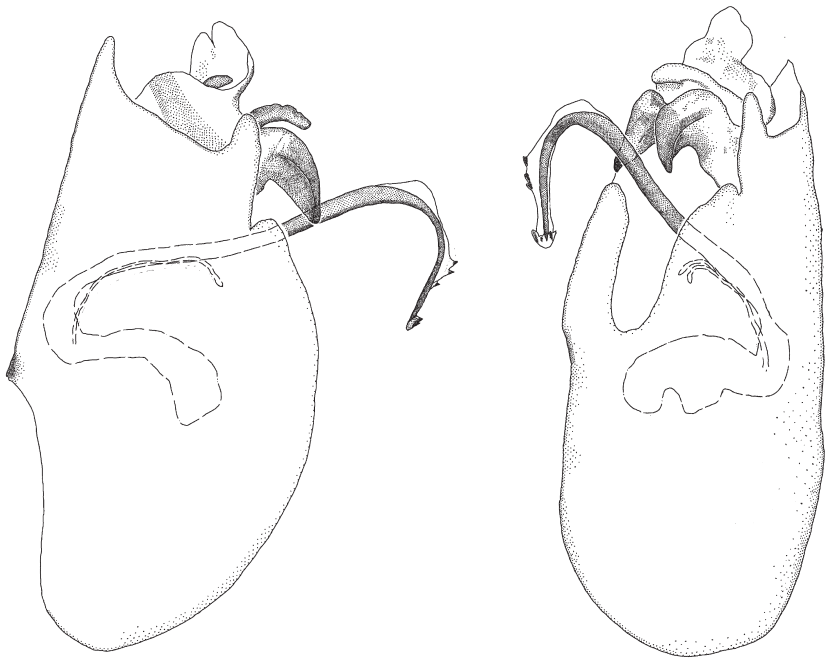
Wings match description given for male.

Legs match description given for male.

Abdomen. Tergite 1 mainly dull orange-brown, with a dark brown posterior margin; tergite 2 mostly orange-brown, darker centrally; tergites 3–7 orange-brown with dark brown to black central markings, each being broadest on the anterior half of each tergite, conspicuous silver pubescence; tergite 8 dark brown along anterior margin, orange-brown over remainder; epipleurites orange-brown; sternite II–VII orange-brown; abdominal segment 9 mainly orange-brown, with a dark brown medial line and two broad dark brown stripes either side of midline that narrow posteriorly, all joined anteriorly; dorsal beak brown; ovipositor sheath protruding no more than 0.5 mm beyond apex of abdominal segment 9; anal styles orange.

Measurements. N=8♂, 7♀. Ranges and means (in parentheses). Body length: ♂ 17.4–18.7 (18.04); ♀ 17.5–19.8 (18.40). Fore wing length: ♂ 20.6–22.3 (21.63); ♀ 21.5–24.4 (23.10). Head width: ♂ 4.6–5.0 (4.79); ♀ 4.9–5.5 (5.20). Pronotum width: ♂ 4.7–5.1 (4.91); ♀ 4.9–5.5 (5.20). Abdomen width: ♂ 4.7–5.3 (5.04); ♀ 4.5–5.4 (4.93); Ovipositor length (♀): 5.3–7.0 (6.17).

Morphological distinguishing features. Males of *Y. clara* **sp. nov.** can be distinguished from all other species in the genus, apart from *Y. bushi*, *Y. tristrigata* and *Y. zagona* **sp. nov.**, using the following combination of characters: (1) hind wing plaga brown, (2) rostrum extends to distal margin of hind coxae (not beyond), (3) median lobe of uncus short, in lateral view not protruding substantially beyond the claspers, (4) base of opercula flat (Fig. 1C), (5) body length <19 mm and fore wing length ≥20 mm, (7) thorax (excluding sigilla) mainly orange-brown, and (8) tergite 1 dark brown. They can be distinguished from *Y. bushi*, *Y. tristrigata* and *Y. zagona* **sp. nov.** by having the pseudoparameres short, extending along approximately half the length of theca (Fig. 9A) (cf. long and extending to at least the margin of recurvature) and by having the apex of the theca straight (rather than directed upward or downward), with a small veil that is conspicuous in ventral view (Fig. 9B). They also differ from *Y. bushi* by having less extensive dark markings on the lateral tergites.



FIGURES 9–10. *Yoyetta clara* **sp. nov.**, (9A) male genitalia in lateral view, specimen from The Amphitheatre, NW Robinson Gorge NP (25°12.07'S 148°59.43'E); (9B) same in ventral view; (10) distribution in mainland Australia.

Females can be distinguished from all other species in the genus, apart from *Y. tristrigata*, by the following combination of characters: (1) hind wing plaga brown, (2) rostrum extends to distal margin of hind coxae (not beyond), (3) ovipositor sheath protrudes ≤0.5 mm beyond anal styles, (4) thorax mainly brown, with well-defined black submedian and lateral sigilla, (5) fore wings <27 mm long, hyaline and without infuscations or smoky infusions, (6) sternites without dark central markings, (7) tergite 2 mainly orange-brown without a central marking or with central marking diffuse and inconspicuous, and (8) Colour around cruciform elevation distinctly paler than remainder of mesonotum. They cannot be reliably distinguished from *Y. tristrigata*, although most specimens of *Y. tristrigata* have a pronotum that is almost entirely brown with very few (or narrow and inconspicuous) black markings, whereas in *Y. clara* **sp. nov.**, the pronotum always has conspicuous black markings surrounding the brown central marking and along the lateral and paramedian fissures.

Distribution, habitat and behaviour (Fig. 11). Southern Queensland where it is known from Mt Moffatt east to Didcot and Mt Walsh near Biggenden. Other localities include Cania Gorge near Monto, Eidsvold, Mundubbera, Binjour near Gayndah, and the type locality at Expedition Range. It occurs in open eucalypt forest and woodland where the adults are active in or near the canopy. Specimens have been collected between September and March, with most records from November and December. Many specimens have been taken at light.

Etymology. Latin adjective meaning "bright", referring to bright coloured appearance and lively ticking song of this species.

Calling song. The description of the call is based on field recordings from the localities listed under *Audio records* above (*n*=6 recordings in total). The Forest Hills Road recording (Fig. 11) was chosen for illustration as it represents the clearest recording available.

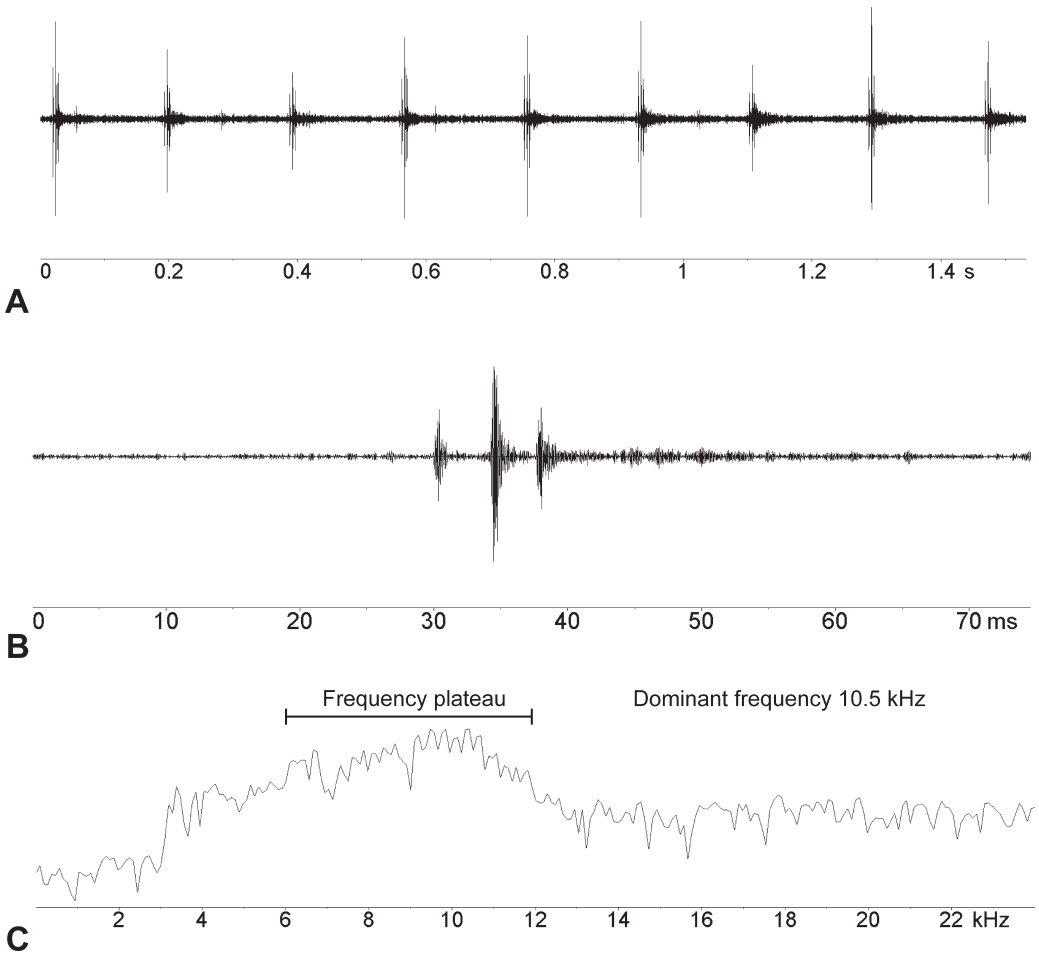


FIGURE 11. Male calling song structure of *Yoyetta clara* **sp. nov.**, including: (A), a 1.5 s waveform plot showing nine clicks produced in flight; (B), a 75 ms waveform plot illustrating a single click (syllable) with three prominent pulses; (C), a power spectrum illustrating song frequency. The specimen was recorded in the field by LWP on Forest Hills Road near Isla Gorge NP (25°04'S 149°51'E) using a Tascam DR-40 recorder and Sennheiser K6/ME66 microphone.

The calling song of *Y. clara* **sp. nov.** is a clicking call, produced predominantly in flight but also at times when stationary. The clicking rate typically varies between 6 to 9 clicks/s (Fig. 11A); however, it can start as low as 2 to 3 clicks/s when warming up. Each click contains three prominent pulses with a weaker preceding pulse (9–15 ms total duration; Fig. 11). The second prominent pulse exhibits the highest amplitude (Fig. 11B). There are gaps of 0.09–0.16 s duration between each click (occasionally up to 0.31 s). The frequency plateau of the song ranges from approximately 6 to 12 kHz, with a dominant frequency between 9 and 11 kHz (Fig. 11C). The song is similar in structure to *Y. argentea* **sp. nov.** and *Y. eastwoodi* **sp. nov.**, but is readily distinguished by its much more rapid emission rate. *Y. crepita* has a similar song pattern and repetition rate; however, detailed inspection of the song reveals single pulse ticks (rather than clicks with three prominent pulses).

Yoyetta eastwoodi sp. nov.

(Plates 1J-L; Figs 1D, 2D, 12, 13)

Types. *Holotype* ♂, base, Mount Scoria, 8 km S of Thangool, Queensland, 24°32'S 150°36'E, 10.ii.1991, G. & A. Daniels, C. Burwell, QM registration no. T262541 (**QM**).

Paratypes. Queensland. 1♂, Miriam Vale QLD, 16.xii.1976, G.B. Monteith; 7♂, 7♀, L[ake] Awoonga, 12 km SE of Calliope, Q., 11–14.xi.1985, R. Leggett; 1♂, Planted Creek via Tansey, 12.xii.1976, G.B. & S.R. Monteith (**QM**). 14♂, 2♀, Mount Scoria near Thangool, 24°32'S 150°36'E, 6.xi.1987, R. Eastwood (1♂ genitalia prep.); 4♂, 1♀, same data as holotype; 1♀, Gladstone, 15.xii.1977, A. Hiller; 20♂, 7♀, Kinbombi Falls near Goomeri, 19.xii.1976, M.S. & B. J. Moulds (**MSM**).

Description of Adult Male (Plates 1J, 1K; Figs 1D, 2D, 12).

Head about as wide as pronotum. Compound eyes brown (colour retained in dry specimens); ocelli pale pink; distance between lateral ocelli similar to distance between each lateral ocellus and adjacent compound eye. Vertex mainly brown, dark brown around lateral ocelli and along epicranial suture; frons brown; supra-antennal plates dark brown; dorsal side of postclypeus brown; lateral areas posterior to compound eyes with long silver pubescence. Mandibular plates yellow-brown; gena brown; ventral side of reddish-brown, darker along transverse grooves; anteclypeus brown; rostrum mainly pale brown, dark brown at apex, extending to distal margin of hind coxae. Antennae brown.

Thorax. Pronotum muddy yellow-brown, with narrow brown median longitudinal area surrounded by dark brown; lateral fissures and sometimes paramedian fissures dark brown; pronotal collar brown; fresh specimens with sparse covering of short silver pubescence. Mesonotum brown; submedian and lateral sigilla dark reddish-brown to black; cruciform elevation with a dark brown central marking broadening laterally on anterior and posterior sides, contrasting with pale brown on lateral areas; scutal depressions black; wing grooves brown with long silver pubescence. Metanotum dark brown.

Wings. Fore wings hyaline, lacking infuscations. Costa pale brown, sometimes darker distally; pterostigma brown; veins 2A+3A dark brown; other veins brown; basal membranes orange. Hind wing venation brown; plaga brown; ac3 partly brown, tending pale grey-brown proximally.

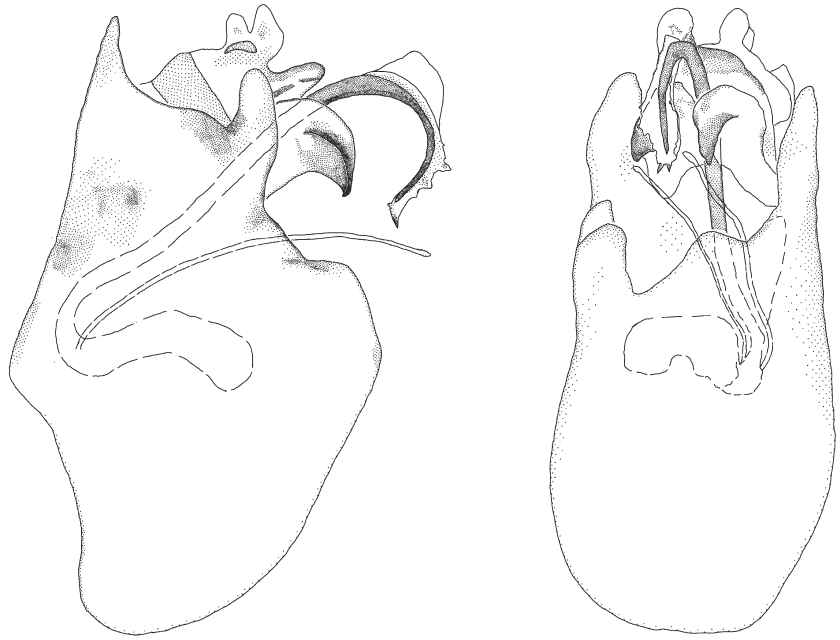
Legs pale brown, with dark brown narrow longitudinal markings on inner and anterior sides of fore femora and on anterior side of mid femora; fore tibia brown, mid and hind tibia mainly pale brown; spines and pretarsi dark brown; meracantha pale brown, a little longer than basal area of opercula, barely overlapping opercula.

Opercula (Fig. 1D). Basal area slightly raised into a small bubble-like shape; plates undulating, narrowing distally and rounded apically, when viewed from ventral side, occupying approximately two thirds of tympanal cavity; pale brown throughout.

Timbals (Fig. 2D). Five long ribs, all occupying timbal membrane apart from anteriormost long rib, which is shorter and occupies approximately two thirds of the timbal membrane; long ribs unattached ventrally and attached to basal spur apart from the anteriormost long rib; intercalary ribs between each long rib; ribs brown to pale brown; apodeme brown.

Abdomen. Tergite 1 mainly brown; tergite 2 orange-brown with a dark brown central marking and sometimes with dark brown spot along the anterior margin on either side of midline, along with a diffuse brown spot near lateral margin; tergites 3–7 yellow-brown with brown to dark brown central markings and diffuse brown lateral markings that broaden posteriorly, all with a variable extent of short silver pubescence in fresh specimens; tergite 8 orange-brown to dark brown. Sternites and epipleurites yellow-brown edged orange.

Genitalia (Figs 12A, 12B). Pygofer mainly dark brown; dorsal beak evenly tapering; upper lobes prominent, rounded, broader than dorsal beak, in lateral view projecting to about the same extent as the dorsal beak, in ventral view broadly rounded; lower lobes developed, positioned well apart from upper lobes, with edges relatively flat in lateral view, broad in ventral view. Median lobe of uncus conspicuous, in lateral view apically rounded, extending roughly to same extent as claspers, in ventral view broadly rounded. Claspers well developed, hooked, in ventral view restraining aedeagus, with apices directed downwards. Aedeagus recurved distally through about 180 degrees, the vesica with two broad larger spines several shorter spines on either side subapically, with a large flange along the margin of recurvature; apex of theca with a pair of minute dorsal spines and a pair of broad large spines directed downwards at an angle less than 90 degrees; pseudoparameres long, extending almost to same extent as the flange on the vesica, transparent, slender, hair-like and weakly lobed apically.



12A 12B

13

FIGURES 12–13. *Yoyetta eastwoodi* **sp. nov.**, (12A) male genitalia in lateral view, specimen from Mt Scoria (24°32'S 150°36'E); (12B) same in ventral view; (13) distribution in mainland Australia.

Description of Adult Female (Plate 1L). Features match description of male, except abdomen.

Abdomen. Tergites 1 and 2 mainly brown; tergites 3–7 brown with dark brown extending along midline, and a diffuse dark brown spots laterally, covered in conspicuous short silver pubescence in fresh specimens; tergite 8 mainly brown; epipleurites pale orange-brown to orange-brown; sternite II mainly brown; sternites III–VI pale orange-brown with discontinuous narrow brown midline; sternite VII pale orange-brown; abdominal segment 9 brown to pale brown with two dark brown longitudinal stripes either side of midline, joined anteriorly; dorsal beak dark brown; ovipositor sheath extending 1.1–1.8 mm beyond apex of abdominal segment 9; anal styles orange-brown.

Measurements. N=12♂, 14♀. Ranges and means (in parentheses). Body length: ♂ 18.2–21.3 (19.19); ♀ 19.8–23.5 (21.53). Fore wing length: ♂ 20.7–23.1 (21.92); ♀ 22.8–26.5 (24.75). Head width: ♂ 4.7–5.2 (4.94); ♀ 5.2–5.8 (5.47). Pronotum width: ♂ 4.8–5.6 (5.10); ♀ 5.2–6.1 (5.67). Abdomen width: ♂ 4.6–5.5 (5.10); ♀ 4.5–5.9 (5.51); Ovipositor length (♀): 7.6–9.8 (8.71).

Morphological distinguishing features. Males of *Y. eastwoodi* **sp. nov.** can be distinguished from all other species in the genus, apart from *Y. argentea* **sp. nov**, with the following combination of characters: (1) hind wing plaga brown, (2) rostrum extends to distal margin of hind coxae (not beyond), (3) median lobe of uncus short, in lateral view not protruding substantially beyond the claspers, (4) base of opercula raised and somewhat bubble like (Fig. 1D), and (5) colour around cruciform elevation distinctly paler than remainder of mesonotum. They can be distinguished from *Y. argentea* **sp. nov.** by having the anteriormost timbal rib extending across approximately two thirds the length of the timbal membrane and not beyond the lower end of the adjacent short intercalary rib (Fig. 2D). In *Y. argentea* **sp. nov.**, the anteriormost rib is longer, extending well beyond the lower end of the adjacent short intercalary rib (Fig. 2A).

Females can be distinguished from all other species in the genus with the following combination of characters: (1) hind wing plaga brown, (2) dorsal side of body mainly brown, (3) rostrum extends to distal margin of hind coxae (not beyond), and (4) ovipositor sheath extends 1.1–1.8 mm beyond the apex of the abdomen. The superficially similar *Y. darug* and *Y. burwelli* **sp. nov.** differ by having a slightly shorter rostrum (extending to the base of the hind coxae in *Y. darug* and to the middle of the hind coxae in *Y. burwelli* **sp. nov.**).

Distribution, habitat and behaviour (Fig. 13). All known specimens have been collected from central Queensland near Gladstone, apart from a large series from Kinbombi Falls near Goomeri. Localities around Gladstone, include Lake Awoonga, Mt Scoria near Thangool and Miriam Vale near Calliope. It occurs in eucalypt woodland, particularly on volcanic soils, and often with patches of vine thicket nearby. Specimens have been collected in November, December and February, with most records from December. Many specimens have presumably been taken at light.

Etymology. Named after Dr Rodney G. Eastwood, a professional entomological researcher who collected a large series of specimens of this species from the type locality.

Calling song. Unknown; however, a *Yoyetta* song recording obtained by B. McBurney from Lake Awoonga (24°04’11”S 151°17’59”E) that may represent this species has a song similar to *Y. argentea* **sp. nov.**, with three prominent pulses, though without a preceding weaker pulse. A high quality recording of this species would need to be obtained alongside a specimen for confirmation.

Yoyetta longirostra sp. nov.

(Plates 2A-C; Figs 1E, 2E, 14, 15)

Types. *Holotype* ♂, “Possum Park” [20 km N of Miles], Queensland, 26°30’19”S 150°12’31”E, 28.xii.2011–1.i.2012, L. Popple & A. McKinnon, 472-0017, QM registration no. T262542 (**QM**).

Paratypes. QUEENSLAND. 1♂, St Bernard’s, Mt Tamborine, 26.i.1961, C. W. Frazier, at light, University of New England coll[ection], donated 1983 (**ANIC**). 2♂, Planted Creek via Tansey, 12.xii.1976, G.B. & S.R. Monteith; 1♂, “Glen Witheren” via Canungra, 28°03’S 153°07’E, 120 m, 19–20.i.2000, G. Monteith, mv light, 9450; 2♂, 1♀, “Glen Witheren”, general, 28°03’S 153°07’E, 26–29.xii.2001, G.B. Monteith, mv light, 10352; 1♂, Mt Coot-tha, site 3, 27°28’S 152°57’E, 260 m, 19.i.2003, G.B. Monteith, open forest, 10351 1♀, Mt Coot-tha, 27°29’Sx152°57’E, 260 m, 10.i.2002, mv light, G.B. Monteith, open forest, 10350; 1♂, Lower Kennedy Rd (S1), 27.667°S 152.068°E, 366 m, 9.i.2016, Monteith, open forest, mv light, 38263; 1♂, Eastern Escarpment Cons. Area, general, 27.598°S

153.213°E, 75 m, 8.ii.2010, QM Party, night hand collected, 19703; 1♂, Chelsea Road Reserve, 27°29'Sx153°11'E, 2.iii.2004, G. Monteith, mv lamp; 1♀, Coominya, 6.xii.[19]96, A. Hiller collection, to light; 2♂, Coominya, i.[19]98, A. Hiller collection to light; 1♀, Karawatha Forest, site 6, 27°37.6'S 153°05.4'E, 60 m, 17.ii.2004, QM party, day hand coll[ected], eucalypt woodland, 51844;1♂, Mt Greville base nr Boonah, 28°03.9'S 152°30.7'E, 240 m, 28.xii.2016–5.i.2017, N. Starick, C. Lambkin, at light, 37294; 3♂, Doolandella, 18–19.xii.1995, [A. Ewart]; 1♂, Doolandella, 10–29.i.[19]96, [A. Ewart]; 1♂, Doolandella, 9.xi.[19]83, [A. Ewart]; 1♂, Doolandella, 28.xii.[19]81, [A. Ewart]; 1♂, P. Marks Pty, Samford, SEQ, 5.xii.1987, [A. Ewart]; 2♂, 1♀, "Kragra", Monogorilby, N. Chinchilla, 25.xii.[19]94, [G. Lithgow]; 1♂, "Powter Pty", Old Gympie Rd, Beerwah–Landsborough, 26°49.60'S 152°56.53'E, 25.i.1998, [A. Ewart]; 1♂, "Possum Park", ~20 km N of Miles, 26°30.30"S 150°06.03"E, 20.i.2011, A. E[wart], Ironbark-Lancewood woodland (**QM**). 3♂, Glenwood, 25°57'02''S 152°36'09''E, 5.xii.2005, B. Mallet; 2♂, same locality as previous, 18.xi.2008, B. Mallet (**DE**). 3♂, Doolandella, 18–19.xii.[19]95, [A. Ewart]; 1♂, Belmont Hills, 17.x.1998, J. Moss, L. Popple, mv lamp, 472-0001; 4♂, Austin Road, Crows Nest, 26.xii.2001, L. Popple, A. Strange, 472-0004 to 472-0007; 4♂, 1♀, Base of Blackbutt Range W of Moore, 9.i.2002, L. Popple, M. Moulds, J. Moss, J. Cooley, D. Marshall, K. Hill, mv lamp, 472-0002, 472-0003, 472-0008 to 472-0010 (472-0008 ♂ genitalia prep.); 1♀, Laidley, 27°30'S 153°01'E, 16.ii.2004, J.J. Beard, 472-0011; 1♂, Coominya, 27°24'S 152°30'E, 14.iii.2004, A. Hiller, mv lamp, 472-0012; 1♂, Upper Brookfield, 9.xi.2005, L. Popple, S. Schmidt, mv lamp, 472-0013; 1♂, 1♀, "Possum Park", 19 km N of Miles, 25.xi.2005, L. Popple, N. Hando, mv lamp, 472-0014, 472-0015; 2♂, 1♀, same data as holotype, 472-0016, 472-0018, 472-0019 (**LWP**). 28♂, 11♀, Kinbombi Falls near Goomeri, 19.xii.1976, M.S. & B.J. Moulds; 1♂, Bellbowrie, Brisbane, 2.xii.1978, R. Zieteck; 1♂, Toowoomba, scrub below escarpment, 18.xii.1976, M.S. & B.J. Moulds; 1♂, Doolandella, Brisbane, 11.i.1985, M.S. & B.J. Moulds; 1♂, 34.61 km SSW of Mundubbera, 25°53'34.00"S 151°10'34.70"E, 307 m, 16.ii.2016, A.M Sundholm, J. Bugeja (**MSM**).

Description of Adult Male (Plates 2A, 2B; Figs 1E, 2E, 14). *Head* about as wide as pronotum. Compound eyes pale brown to brown (colour retained in dry specimens); ocelli dark pink; distance between lateral ocelli similar to distance between each lateral ocellus and adjacent compound eye. Vertex mainly dark brown, often black around ocelli, with a brown central marking on posterior half; frons brown to dark brown; supra-antennal plates brown to dark brown; dorsal side of postclypeus brown with a pale brown central marking; dorsal side of head with sparse silver pubescence; long silver pubescence on lateral areas posterior to compound eyes. Mandibular plates mainly brown with black medial area, distal portion with dense long silver pubescence; gena brown with short silver pubescence; ventral side of postclypeus brown, dark brown along transverse grooves; anteclypeus brown to dark brown; rostrum brown, tending dark brown towards apex, extending beyond hind coxae. Antennae brown.

Thorax. Pronotum mainly brown to dark brown, with central marking brown or orange-brown, surrounded by black; lateral fissures and paramedian fissures black; pronotal collar brown to orange-brown. Mesonotum brown to dark brown, sometimes dark reddish-brown; submedian and lateral sigilla black; cruciform elevation reddish-brown with a dark brown to black central marking broadening laterally on anterior and posterior sides; scutal depressions black; wing grooves dark brown with long silver pubescence. Metanotum dark brown.

Wings. Fore wings hyaline, lacking infuscations. Costa orange-brown; pterostigma brown; veins 2A+3A dark brown; other veins brown; basal membranes orange or yellow-brown. Hind wing venation brown; plaga brown; ac3 partly brown, tending pale grey-brown proximally.

Legs pale brown, with dark brown narrow longitudinal markings on inner and anterior sides of fore femora and on anterior side of mid femora; spines and pretarsi dark brown; meracantha pale brown, similar in length to slightly swollen basal area of opercula, reaching opercula margin but not overlapping opercula.

Opercula (Fig. 1E). Basal area weakly swollen; plates undulating, broadly round, when viewed from ventral side, occupying tympanal cavity; very pale brown throughout.

Timbals (Fig. 2E). Five long ribs, all occupying timbal membrane apart from anteriormost long rib, which is shorter, occupying about two thirds of the membrane; long ribs unattached ventrally; posterior three long ribs attached to basal spur; intercalary ribs between each long rib; ribs pale brown; apodeme pale orange-brown.

Abdomen. Tergite 1 brown; tergite 2 orange-brown, sometimes with dark brown central marking; tergites 3–7 yellow-brown with dark brown to black central markings that narrow posteriorly, the areas surrounding these markings sometimes tending orange-brown, particularly on tergite 3; tergite 8 orange-brown with dark brown dorsolateral markings on anterior margin. Sternites and epipleurites orange-brown.

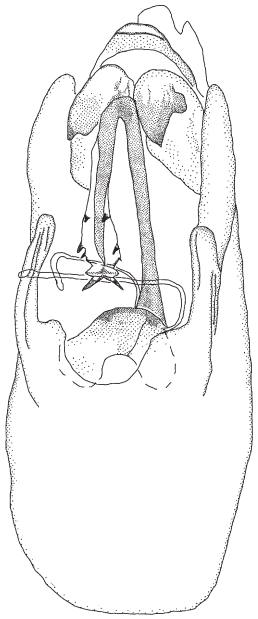
Genitalia (Figs 14A, 14B). Pygofer mainly brown, dark brown to black near anterior margin; dorsal beak narrowly tapering; upper lobes prominent, broader than dorsal beak, in lateral view projecting to about the same

extent as the dorsal beak, in ventral view relatively narrow and parallel; lower lobes developed, in lateral view broadly tapered, in ventral view rounded. Median lobe of uncus conspicuous, in lateral view apically rounded, not extending to the same extent as claspers, in ventral view broadly rounded. Claspers well developed, hooked, in ventral view restraining aedeagus, with apices turned outwards. Aedeagus recurved distally through 160 degrees, the vesica with two prominent spines and two smaller spines on either side subapically; apex with two broad spines and a pair of minute dorsal spines; pseudoparameres not reaching point of recurvature, transparent, slender, hair-like and narrowly rounded apically.

Description of Adult Female (Plate 2C). Similar to male, but often slightly duller in appearance.

Head mainly brown with black markings surrounding ocelli and extending to supra-antennal plates; a black spot on anterior side of each compound eye; dorsal side of postclypeus brown with dark brown anterior lateral margins and a narrow pale brown central marking, brown on ventral side with dark brown along transverse grooves and with

14A



14B

15

FIGURES 14–15. *Yoyetta longirostra* **sp. nov.**, (14A) male genitalia in lateral view, specimen from base of Blackbutt Range (26°53'S 152°13'E); (14B) same in ventral view; (15) distribution in mainland Australia.

a pale brown to yellow-brown central spot; gena brown to dark brown; mandibular plates mainly brown, with black areas broadly on interior margins, long silver pubescence; anteclypeus brown; rostrum pale brown, becoming dark brown apically.

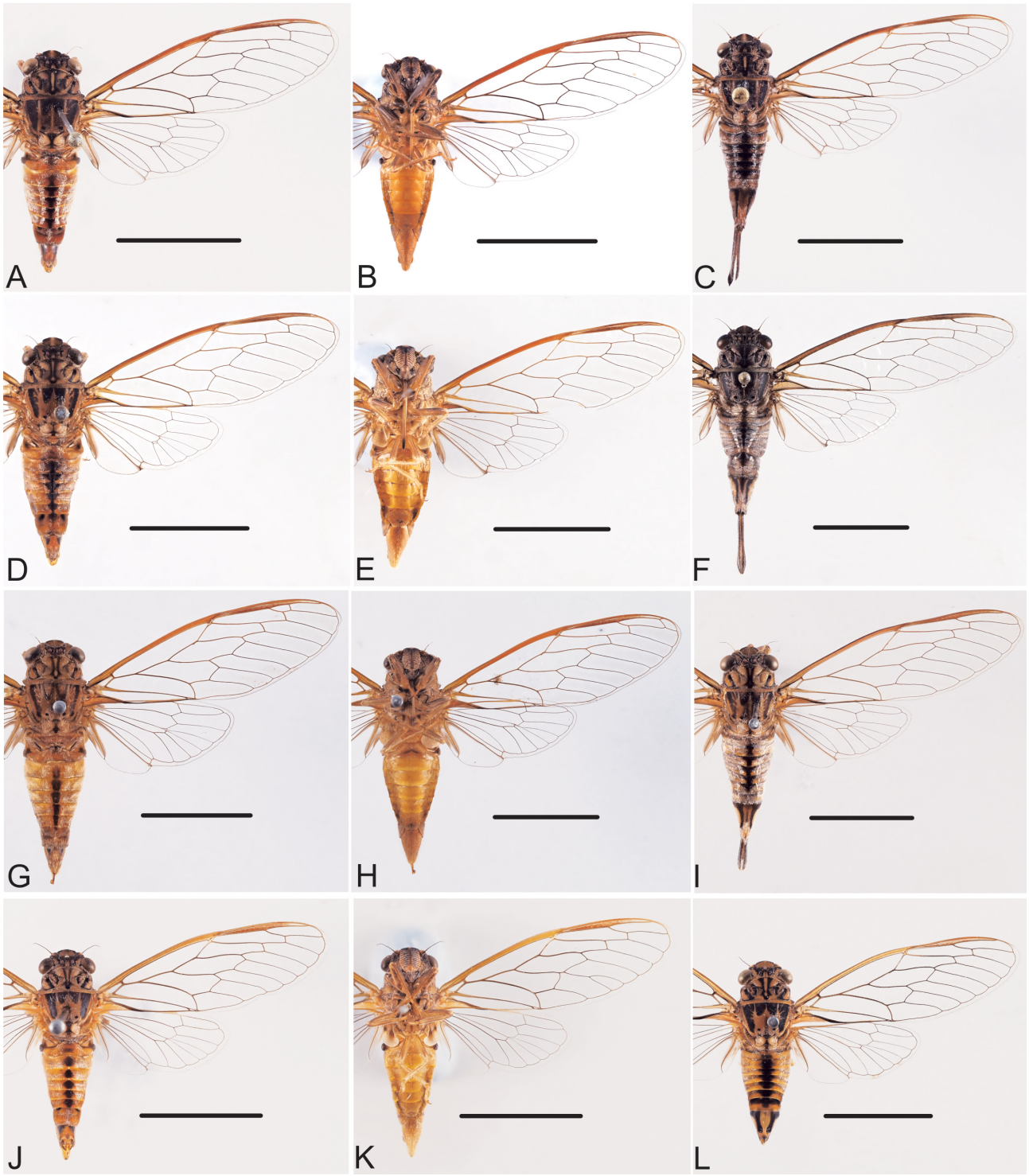


PLATE 2. (A), *Yoyetta longirostra* **sp. nov.**, holotype male, dorsal; (B), *Y. longirostra* **sp. nov.**, holotype male, ventral; (C), *Y. longirostra* **sp. nov.**, paratype female, dorsal, Laidley (27°30'S 153°01'E); (D), *Y. penetrans* **sp. nov.**, holotype male, dorsal; (E), *Y. penetrans* **sp. nov.**, holotype male, ventral; (F) *Y. penetrans* **sp. nov.**, paratype female, dorsal, Kremnos (30°00'31"S 152°58'43"E); (G), *Y. wrightae* **sp. nov.**, holotype male, dorsal; (H), *Y. wrightae* **sp. nov.**, holotype male, ventral; (I) *Y. wrightae* **sp. nov.**, paratype female, dorsal, Belmont Hills (27°30'42"S 153°06'53"E); (J), *Y. zagona* **sp. nov.**, holotype male, dorsal; (K), *Y. zagona* **sp. nov.**, holotype male, ventral; (L) *Y. zagona* **sp. nov.**, paratype female, dorsal, Southwood NP, (27°50'05"S 150°06'47"E). Scale bars = 10 mm.

Thorax. Pronotum mainly brown with a reddish-brown midline; black markings occupy fissures and surround the midline; pronotal collar reddish-brown. Mesonotum brown to reddish-brown; submedian and lateral sigilla black; cruciform elevation pale brown with dark brown midline, pitted areas with longer silver pubescence; wing grooves brown with dark brown central interior areas, long silver pubescence; metanotum dark brown.

Wings match description given for male, with costa tending reddish-brown.

Legs match description given for male.

Abdomen. Tergites 1 and 2 mainly brown, reddish-brown on central dorsum; tergites 3–7 brown with dark brown anterior margins, midline dark brown surrounded by reddish-brown, conspicuous short silver pubescence; tergite 8 mainly brown, dark brown along anterior margin; epipleurites mainly brown to reddish-brown, sometimes with diffuse dark brown blotches centrally; sternite II brown to pale brown; sternites III–VI orange-brown sometimes with a broken, narrow, brown midline; sternite VII orange-brown; abdominal segment 9 mainly brown, orange-brown dorsally, with two longitudinal dark brown stripes either side of midline, joined anteriorly; dorsal beak orange-brown; ovipositor sheath extends 3.6–5.3 mm beyond apex of abdominal segment 9; anal styles orange.

Measurements. N=16♂, 10♀. Ranges and means (in parentheses). Body length: ♂ 16.5–19.3 (18.12); ♀ 21.4–25.8 (24.03). Fore wing length: ♂ 19.8–23.4 (21.23); ♀ 21.7–25.8 (24.18). Head width: ♂ 4.2–5.0 (4.64); ♀ 4.8–5.4 (5.13). Pronotum width: ♂ 4.0–5.3 (4.83); ♀ 4.9–5.8 (5.50). Abdomen width: ♂ 4.0–5.2 (4.63); ♀ 4.5–5.5 (4.96); Ovipositor length (♀): 11.2–13.8 (12.31).

Morphological distinguishing features. This species can be distinguished from all other species in the genus *Yoyetta*, apart from *Y. penetrans* **sp. nov.** by having a rostrum that extends distally beyond the posterior margin of the thorax. The rostrum of *Y. longirostra* **sp. nov.** is marginally longer than in *Y. penetrans* **sp. nov.**, extending to about the middle of sternite III (in *Y. penetrans* **sp. nov.** the rostrum extends only to the posterior margin of sternite II. It also differs from *Y. penetrans* **sp. nov.** in being slightly smaller (male body length <19.5 mm and female head width <5.5 mm). Other key features include hind wing plaga brown, fore wing basal membranes orange or yellow-brown, thorax brown to dark brown sometimes with reddish-brown highlights, abdomen yellow-brown or brown with dark brown central markings (surrounded by orange-brown in males), and the female ovipositor is exceptionally long, conspicuously longer than abdominal segment 9 (a characteristic shared only with *Y. penetrans* **sp. nov.**).

Distribution, habitat and behaviour (Fig. 15). Restricted to southern Queensland where it is known from 34.61 km SSW of Mundubbera, Planted Creek near Tansey and Glenwood near Gympie south to Mt Tamborine, Canungra and Mt Greville, and west to "Possum Park" north of Miles. Localities include "Kragra" north of Chinchilla, Kinbombi Falls near Goomeri, the base of the Blackbutt Range west of Moore, Crows Nest, Toowoomba, Laidley, Coominya, the Old Gympie Road between Beerwah and Landsborough, and bushland areas around Brisbane, including Samford, Mt Coot-tha, Upper Brookfield, Bellbowrie, Doolandella, Belmont, Chelsea Road Reserve and Karawatha Forest. It is a rarely observed species and most specimens have been taken at light. Populations are associated with open forest on loam or sandy soils where the adults sit high on the trunks and upper branches of eucalypts. Adults have been collected between October and March, with most records from December to February.

Etymology. A Latin adjective meaning "long-beaked", referring to the exceptionally long rostrum relative to the body length of this species.

Calling song. No confirmed recordings have been obtained from this species; however, field observations indicate a sharp ticking call, similar to the call of *Y. penetrans* **sp. nov.** but with a higher dominant frequency.

Yoyetta penetrans sp. nov.

(Plates 2D–F; Figs 1F, 2F, 16, 17, 18).

Types. *Holotype* ♂, Lorikeet Tourist Park, Arrawarra, New South Wales, 30.0446°S 153.1921°E, 6.xii.2015, L. Popple & A. McKinnon, 721-0003, AM registration no. K.628073 (**AM**).

Paratypes. NEW SOUTH WALES. 1♀, Kremnos, 30°00'31"S 152°58'43"E, 12.xii.2023, T.J. Bush, 721-0007 (**AM**). 1♂, Arrawarra, North Coast, 7.xii.1962, C. W. Frazier, at light, University of New England coll[ection], donated 1983; 1♂, Mackellar Ra. Rd, Bungabbee S[tate] F[orest], 15 km SE of Kyogle, 11.x.1999, mv light, Watkins, elev. 180 m (**ANIC**). 4♂, 2♀, "Buccarumbi" via Grafton, 29°50'S 152°35'E, 12–13.i.2001, D.J. Cook, 160 m, mv light, open forest, 9591 (**QM**). 1♂, Boundary Rd., Kremnos, 30°00'08"S 152°58'34"E, 1.xii.2023, D. Emery & T. Bush, EME0721-001; 3♂, same locality as previous, 2.xii.2023, D. Emery & T. Bush, EME0721-

002–4; 5♂, 1♀, same locality as previous, 13–17.xii.2023, T.J. Bush, EME0721-006–11; 1♀, Sherwood Ck Rd, Sherwood, 30°01’19”S 153°02’00”E, 2.xii.2023, D. Emery & T. Bush, EME0721-005 (**DE**). 1♂, Trustums Hill district, 29°07’12”S 153°19’39”E, 18.xi.2014, L.W. Popple, 372-0021; 1♂, Corindi Beach district, 30°00’59”S 153°10’40”E, 20.xi.2014, L.W. Popple, 472-0022; 1♂, Kremnos, 30°00’31”S 152°58’43”E, 6.xii.2023, T.J. Bush, 721-0004 (♂ genitalia prep.); 1♂, 1♀, same data as previous, 11.xii.2023, 721-0005, 721-0006; 1♂, same data as previous, 13.xii.2023, 721-0008; 1♂, 1♀, same data as previous, 14.xii.2023, 721-0009, 721-0010 (**LWP**).

Audio records. NEW SOUTH WALES. Lorikeet Tourist Park, Arrawarra, 30°02’41”S 153°11’32”E. 6.xii.2015; Trustums Hill, 29°07’S 153°20’E, 18.xi.2014, Coolgardie, 28°54’S 153°28’E, 14.ii.2013; Uralba Nature Reserve, 28°53’39”S 153°28’09”E, 23.xi.2017 (**LWP**).

Other records. NEW SOUTH WALES. Nana Glen, 30.12041°S 153.00297°E, 2.xii.2023, T.J. Bush, iNat 192762395; Nana Glen, 30.16124°S 153.00294°E, 3.xii.2023. T.J. Bush, iNat 192896243; Braunstone, 29.77913°S 152.94427°E, 28.xii.2023, T.J. Bush, iNat 195041725; Pillar Valley, 29.77419°S 153.13640°E, 17.x.2025, T.J. Bush, iNat 321384629; Wooli, 29.84023°S 153.26099°E, 3.xii.2023, T.J. Bush, iNat 192896243; Bookram, 29.78611°S 153.19844°, 21.xi.2025, T.J. Bush, iNat 329412157; Chambigne, 29.80765°S 152.72136°E, 1.xi.2024, T.J. Bush, iNat 249982696; Stockyard Creek, 29.53162°S 152.79934°E, 7.xi.2024, T.J. Bush, iNat 250765453; Coaldale, 29.38643°S 152.77109°E, 30.x.2024, T.J. Bush, iNat 249737315; Dilkoon, 29.52273°S 152.94862°E, 4.xi.2024, iNat 250407487; Ashby, 29.42307°S 153.16807°E, 6.xi.2024, T.J. Bush, iNat 250664075; Busbys Flat, 29.01772°S 152.75757°E, 5.x.2024, T.J. Bush, iNat 250536558; Boorook, 28.92799°S 152.33657°E, 2.xii.2025, B. McBurney, iNat 329266460; Girard State Forest, 28.88679°S 152.31181°E, 7.xii.2023, T.J. Bush, iNat 193368801 (**iNat**).

Description of Adult Male (Plates 2D, 2E; Figs 1F, 2F, 16).

Head slightly narrower than pronotum. Compound eyes pale brown to brown (colour retained in dry specimens); ocelli pink; distance between lateral ocelli similar to distance between each lateral ocellus and adjacent compound eye. Vertex mainly brown, black around ocelli, with a brown traingular central marking on posterior half; frons dark brown; supra-antennal plates brown to dark brown; dorsal side of postclypeus dull brown sometimes with a pale brown central marking; dorsal side of head with sparse silver pubescence; long silver pubescence on lateral areas posterior to compound eyes. Mandibular plates mainly brown with small black markings and sparse silver pubescence; gena brown with short silver pubescence; ventral side of postclypeus brown, dark brown along transverse grooves; anteclypeus brown with small black markings; rostrum brown, tending dark brown towards apex, extending beyond hind coxae. Antennae brown.

Thorax. Pronotum mainly brown to dark brown or orange-brown, with central marking brown or orange-brown, surrounded by black; lateral fissures and paramedian fissures black; pronotal collar brown to dark brown. Mesonotum mainly brown; submedian and lateral sigilla black; cruciform elevation brown to pinkish-brown with a black central marking; scutal depressions black; wing grooves brown with long silver pubescence. Metanotum dark brown.

Wings. Fore wings hyaline, lacking infuscations. Costa reddish-brown to dark brown; pterostigma dark reddish-brown; veins 2A+3A dark brown; other veins brown; basal membranes orange. Hind wing venation brown; plaga brown; ac3 partly brown, whitish on proximal half.

Legs pale brown to brown, with dark brown narrow longitudinal markings on inner and anterior sides of fore femora and on anterior side of mid femora; spines and pretarsi dark brown; meracantha very pale brown, relatively broad, similar in length to flattened basal area of opercula, reaching opercula margin and barely overlapping opercula.

Opercula (Fig. 1F). Basal area flat; plates undulating, broadly round, when viewed from ventral side, almost occupying tympanal cavity; very pale brown throughout.

Timbals (Fig. 2F). Five long ribs, all occupying timbal membrane apart from anteriormost long rib, which is shorter, occupying just over half of the membrane; long ribs unattached ventrally; posterior three long ribs attached to basal spur; intercalary ribs between each long rib; ribs pale brown; apodeme brown.

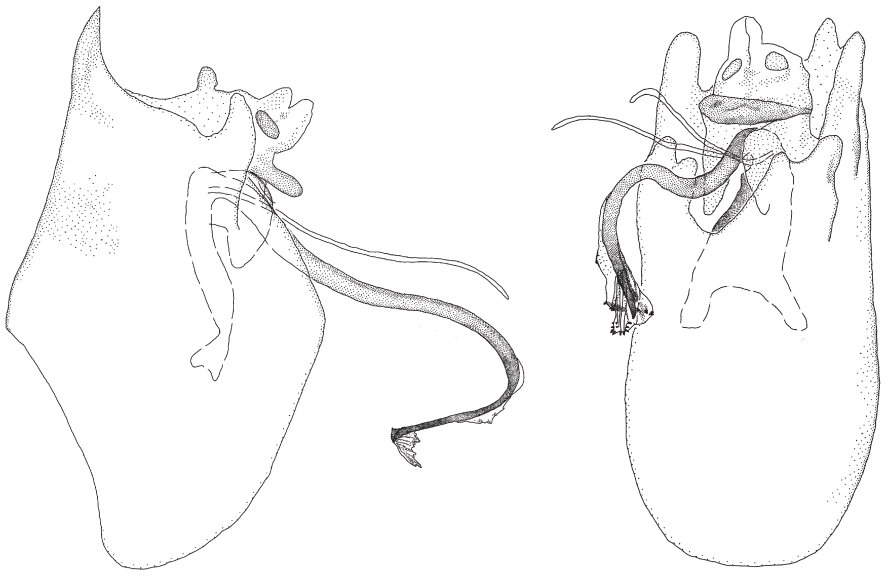
Abdomen. Tergite 1 brown, tending dark brown laterally; tergite 2 orange-brown, sometimes with a small dark brown central marking; tergites 3–7 orange-brown with dark brown central markings that narrow posteriorly; tergite 8 dull orange-brown with dark brown dorsolateral markings on anterior margin. Sternites and epipleurites yellow-brown.

Genitalia (Figs 16A, 16B). Pygofer mainly orange-brown, dark brown to black near anterior margin; dorsal beak narrowly tapering; upper lobes developed, in lateral view projecting to about two thirds the extent of the

dorsal beak, in ventral view rounded and parallel; lower lobes developed, inconspicuous in lateral view, in ventral view presented as a larger outer lobe and a smaller inner lobe. Median lobe of uncus conspicuous, in lateral view apically rounded, extending to the same extent or slightly further than claspers, in ventral view broadly rounded. Claspers well developed, weakly hooked, in ventral view restraining aedeagus, with apices turned slightly outwards. Aedeagus recurved distally through 155 degrees, the vesica with a small ventral flange subapically and a veil-like covering with weak ornamentation over the apical area; pseudoparameres reaching point of recurvature, transparent, slender, hair-like and narrowing apically.

Description of Adult Female (Plate 2F). Similar to male, but more grey-brown in overall appearance.

Head mainly brown with black markings surrounding ocelli and extending to supra-antennal plates, conspicuous silver pubescence; a black spot on anterior side of each compound eye; dorsal side of postclypeus brown with dark brown anterior lateral margins and a narrow pale brown central marking, brown on ventral side with dark brown



16A 16B

17

FIGURES 16–17. *Yoyetta penetrans* **sp. nov.**, (16A) male genitalia in lateral view, specimen from base of Kremnos (30°00’31”S 152°58’43”E); (16B) same in ventral view; (17) distribution in mainland Australia.

along transverse grooves and with a brown central spot; gena brown to dark brown; mandibular plates mainly brown, with black areas broadly on interior margins, long silver pubescence; anteclypeus brown with silver pubescence; rostrum dark brown, becoming black apically.

Thorax. Pronotum mainly dull brown; black markings occupy fissures and surround the midline; pronotal collar dull brown to dark brown. Mesonotum brown to dull brown with a scattering of silver pubescence; submedian and lateral sigilla black; cruciform elevation brown with dark brown midline posterior portion, pitted areas with longer silver pubescence; wing grooves brown with long silver pubescence; metanotum dark brown.

Wings match description given for male, with costa dull brown becoming darker distally.

Legs match description given for male.

Abdomen. Tergites 1 and 2 mainly dull brown; tergites 3–7 brown with dark brown anterior margins, midline dark brown, conspicuous short silver pubescence; tergite 8 mainly dull brown, dark brown along anterior margin; epipleurites brown; sternite II dull brown, darker centrally; sternites III–VI dull yellow-brown sometimes with an inconspicuous, diffuse brown midline; sternite VII dull yellow-brown; abdominal segment 9 mainly brown, with two longitudinal dark brown to black stripes either side of midline, joined anteriorly; dorsal beak dull brown; ovipositor sheath extending 5.5–6.0 mm beyond apex of abdominal segment 9; anal styles dark brown.

Measurements. N=10♂, 4♀. Ranges and means (in parentheses). Body length: ♂ 19.8–21.6 (20.48); ♀ 27.5–29.0 (28.10). Fore wing length: ♂ 22.5–25.2 (24.21); ♀ 27.5–28.9 (28.15). Head width: ♂ 5.0–5.5 (5.23); ♀ 5.7–6.1 (5.93). Pronotum width: ♂ 5.2–6.0 (5.61); ♀ 6.0–6.7 (6.43). Abdomen width: ♂ 5.1–6.0 (5.67); ♀ 5.6–6.7 (6.03); Ovipositor length (♀): 13.8–14.6 (14.13).

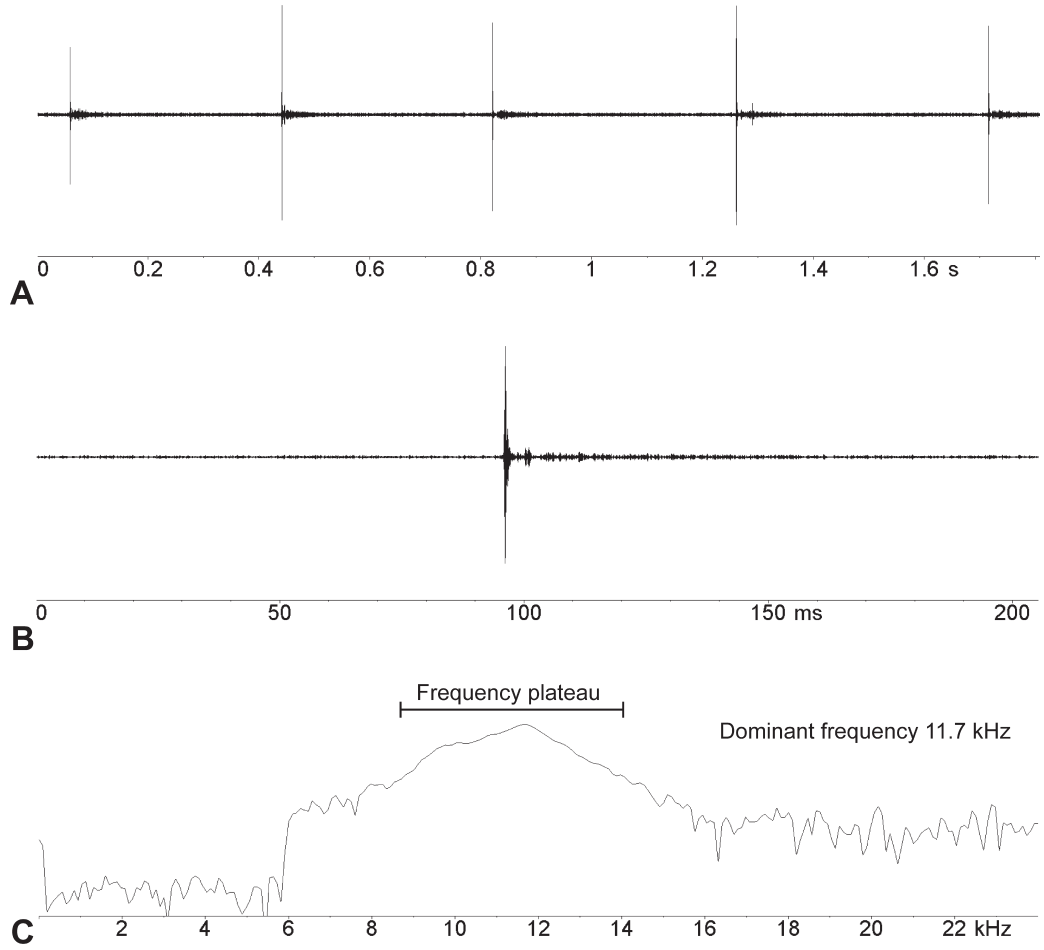


FIGURE 18. Male calling song structure of *Yoyetta penetrans* **sp. nov.**, including: (A), a 1.8 s waveform plot showing nine clicks produced in flight; (B), a 200 ms waveform plot illustrating a single prominent pulse (tick); (C), a power spectrum illustrating song frequency. The specimen was recorded in the field by LWP at Trustums Hill (29°07'S 153°20'E) using a Tascam DR-04 recorder and Audio Technica ATR-55 microphone.

Morphological distinguishing features. This species can be distinguished from all other species in the genus *Yoyetta*, apart from *Y. longirostra* **sp. nov.** by having a rostrum that extends distally beyond the posterior margin of the thorax. The rostrum of *Y. penetrans* **sp. nov.** is marginally shorter than in *Y. longirostra* **sp. nov.** in that it extends only to the posterior margin of sternite II (the rostrum of *Y. longirostra* **sp. nov.** extends to about the middle of sternite III). It also differs from *Y. longirostra* **sp. nov.** in being a slightly larger size (male body length >19.5 mm and female head width >5.5 mm). Other key features include a brown hind wing plaga, orange fore wing basal membranes, thorax and abdomen with an overall dull brown appearance (and a covering of silver pubescence is conspicuous in females) and the female ovipositor is longer than abdominal segment 9 (a characteristic shared only with *Y. longirostra* **sp. nov.**).

Distribution, habitat and behaviour (Fig. 17). Restricted to northern New South Wales, from the Alstonville to Wardell area near Ballina west to Girard State Forest near Tenterfield and south to Nana Glen in the Orara Valley west of Coffs Harbour. It can be a locally common species. Populations are associated with open forest where the adults sit high on the trunks and upper branches of eucalypts, especially Grey Ironbark (*Eucalyptus siderophloia*). Adults have been observed between October and February.

Etymology. From Latin, meaning "piercing", referring to the sharp ticking song produced by this species (a noun in apposition).

Calling song. The description of the call is based on field recordings from the localities listed under *Audio records* above (*n*=7 recordings in total). The Trustums Hill recording (Fig. 18) was chosen for illustration as it represents the clearest recording available.

The calling song of *Y. penetrans* **sp. nov.** is a sharp ticking call, produced both while males are stationary and in flight (Fig. 18A). Each tick is a single pulse (1 ms duration; Fig. 18B). There are gaps of 0.4–0.6 s duration between each tick. In flight, ticking is produced continuously in short bouts for 30 s to 60 s at a time. At rest, the males produce ticks in sets of 3–5 with intervals of 10 seconds or longer between bouts. The song has is an ill-defined frequency plateau from about 9 to 14 kHz, with a dominant frequency between 11 and 12 kHz. As described above, preliminary information suggests that the song of *Y. longirostra* **sp. nov.** is similar but higher in frequency (this has yet to be confirmed). The song is very similar to *Y. australicta*; however, it is unlikely to be confused with that species given that they do not overlap in distribution (*Y. australicta* is found in southern Australia; Popple & Emery, 2022).

Yoyetta wrightae sp. nov.

(Plates 2G–I; Figs 1G, 2G, 19, 20, 21).

Types. *Holotype* ♂, Belmont Hills, Queensland, [27°30'42"S 153°06'53"E], 17.xii.1998, J. Moss, L. Popple, mv lamp, 471-0004, QM registration no. T262543 (**QM**).

Paratypes. QUEENSLAND. 1♀, Thunderbird Park, Tamborine Mtn, 23-29.x.1983, S. A. Slipinski & J. F. Lawrence coll[ection], general collecting (**ANIC**). 1♂ 0.5 km S of Dayboro, 27°12'S 152°49'E, 7.xi.2006, 60 m, S. Wright, at light; 1♂, 0.5 km S of Dayboro, 27°12'S 152°49'E, 60 m, 10.xi.2004, S. Wright; 1♂, 0.5 km S of Dayboro, 27°12'S 152°49'E, [no date], S. Wright; 4♂, 1♀, Chelsea Rd Bushlands Res., 27°29.0'S 153°11.3'E, 10.xi.2003, G.B. Monteith, mv light, ironbark open forest, 51756; 2♂, Belmont Hills Bushlands, site 1, 27°30'S 153°07.1'E, 3.xi.2003, 80 m, QM Party, day hand coll[ected], eucalypt forest, 51659; 1♂, Tarragindi, 11.xii.1987, D.M. Reeves, at light; 3♂, Tarragindi, 12.xii.1987, D.M. Reeves; 1♂, Tarragindi, 3.x.1980, D.M. Reeves, at light; 1♂, Brisbane [no other data]; 1♂, Brisbane, H. Hacker, 20.xi.[19]11 [abdomen glued upside down]; 1♂, Belmont, 9.x.[19]52, R.O.; 1♀, Belmont, 9.x.1970, [no other data]; 1♂, Brisbane, 4.ii.[19]51, C. Brett; 2♂, Canungra 30.i.1982, [A. Ewart], [1 with head missing; genitalia prep.]; 1♂, Tarragindi, 21.xi.1978, [A. Ewart]; 1♂, Tarragindi, Brisbane, 24.xi.1978, D.M. Reeves; 1♂, Tarragindi, Brisbane, 12.xii.1978, D.M. Reeves; 2♂, Tarragindi, Brisbane, 10.xii.1985, D.M. Reeves (**QM**). 4♂, 4♀, Belmont Hills, 31.x.1999, L.W. Popple, mv lamp; 1♀, Wellington Point, 9.xi.2000. D. Emery; 5♂, Worongary, 5–8.xii.2024, T. & E. Burrows, mv lamp, EME0471-001 to EME0471-005 (**DE**). 5♂, 1♀, same data as holotype, 471-0001 to 471-0003, 471-0005, 471-0006, 471-0042; 8♂, 4♀, Belmont Hills, SEQ, 26.xi.1998, L. Popple, mv lamp, 471-0028 to 471-0040, 471-0044; 18♂, 3♀, Belmont Hills, 31.x.1999, L.W. Popple, mv lamp, 471-0008 to 471-0027, 471-0043 (471-0010 ♂ genitalia prep.); 1♂, Tamborine SF, 15.xi.2003, mv lamp, L. Popple, A. Yaku, 471-0045; 1♀, Tingalpa, Brisbane, 27.iii.1999, C. Jansen (**LWP**); 1♂, Coominglah Range, 20

km N of Monto, 6.i.1975, M.S. Moulds; 1♂, Monto 18.xii.1979, A. Hiller; 1♂, Mt Gravatt, 19.ix.1982, J. North; 1♂, Sedgley Pk, Brisbane, 24.x.1965, F.T. South; 1♀, Kilkivan, 14.i.1994, M.S. & B.J. Moulds (**MSM**).

Audio records. QUEENSLAND. Belmont Hills Reserve, 27°30'24"S 153°07'03"E, 9.xi.2014; Toohey Forest, 27°32'S 153°02'E, 21.ix.2008; Stirling Road Reserve, Rosewood, 27°36'34"S 152°36'37"E, 4.x.2015 (**LWP**).

Other records. QUEENSLAND. Burbank, 27.58826°S 153.15993°E, 26.x.2024, S.G. Dickinson, iNat 249453623; Daisy Hill, 27.62455°S 153.15681°E, 31.x.2022, C. Wilson, iNat 140644342 (**iNat**).

Description of Adult Male (Plates 2G, 2H; Figs 1G, 2G, 19).

Head about as wide as pronotum. Compound eyes pale brown to brown (colour retained in dry specimens); ocelli dark pink; distance between lateral ocelli similar to distance between each lateral ocellus and adjacent compound eye. Vertex brown, darker between ocelli, with variable dark brown markings on outer sides of lateral ocelli and a similar marking sometimes along epicranial suture; frons brown to dark brown; supra-antennal plates brown; dorsal side of postclypeus pale brown; dorsal side of head with sparse silver pubescence; long silver pubescence on lateral areas posterior to compound eyes. Mandibular plates orange-brown to brown with a dark brown blotch on the inner margin, medial area with sparse short silver pubescence, distal portion with dense long silver pubescence; gena orange-brown to brown; ventral side of postclypeus brown, darker along transverse grooves; anteclypeus brown; rostrum pale brown, tending dark brown towards apex, extending to middle of hind coxae. Antennae brown.

Thorax. Pronotum brown to pale brown, with median longitudinal area surrounded by dark brown; lateral fissures and sometimes paramedian fissures dark brown; pronotal collar brown. Mesonotum brown, sometimes partially orange-brown, with outer margins of submedian and lateral sigilla variably dark brown, sometimes diffuse; cruciform elevation pale brown with a dark brown central marking broadening laterally on anterior and posterior sides; scutal depressions dark brown; wing grooves brown to pale brown with long silver pubescence. Metanotum dark brown.

Wings. Fore wings hyaline, lacking infuscations. Costa orange-brown; pterostigma brown; veins 2A+3A dark brown; other veins brown, tending pale brown proximally; basal membranes orange. Hind wing venation brown; plaga brown; ac3 partly brown, tending pale grey-brown proximally.

Legs pale brown, with dark brown narrow longitudinal markings on inner and anterior sides of fore femora and on anterior side of mid femora; spines and pretarsi dark brown; meracantha pale brown, similar in length to swollen basal area of opercula, reaching opercula margin but not overlapping opercula.

Opercula (Fig. 1G). Basal area swollen and bubble-like; plates undulating, broadly round, when viewed from ventral side, occupying tympanal cavity; pale brown throughout.

Timbals (Fig. 2G). Five long ribs, all occupying timbal membrane apart from anteriormost long rib, which is shorter, extending to near the lower end of the adjacent short (intercalary) rib; long ribs unattached ventrally; posterior three long ribs attached to basal spur; intercalary ribs between each long rib; ribs brown to pale brown; apodeme brown to orange-brown.

Abdomen. Tergite 1 orange-brown, sometimes tending brown to dark brown posteriorly; tergite 2 orange-brown, sometimes dark brown on central anterior; tergites 3–7 yellow-brown with dark brown central markings that narrow posteriorly, the areas surrounding these markings sometimes tending orange-brown, particularly on tergite 3; tergite 8 orange-brown with dark brown dorsolateral markings on anterior margin. Sternites and epipleurites yellow-brown.

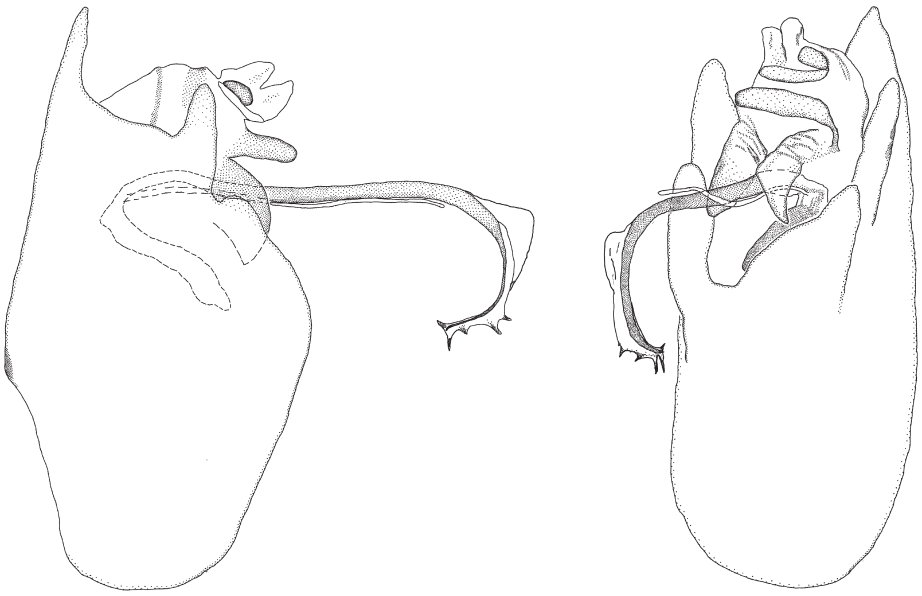
Genitalia (Figs 19A, 19B). Pygofer orange-brown, tending dark brown towards anterior margin; dorsal beak narrowly tapering; upper lobes prominent, broader than dorsal beak, in lateral view projecting to about two-thirds of the extent of the dorsal beak, in ventral view narrow, slightly splayed; lower lobes developed, in lateral view broadly rounded, in ventral view basally somewhat bulbous. Median lobe of uncus conspicuous, in lateral view apically rounded, extending a little beyond claspers, in ventral view broadly rounded. Claspers well developed, hooked, in ventral view restraining aedeagus, with apices turned outwards. Aedeagus recurved distally through 135 degrees, the vesica with three broad spines on either side subapically, apex with two large prominent and acute spines and a pair of shorter dorsal spines; pseudoparameres long, reaching to about point of recurvature, transparent, slender, hair-like and weakly lobed apically.

Description of Adult Female (Plate 2I). Similar to male, but with an overall more contrasting, grey-brown appearance.

Head mainly pale brown with dark brown to black markings surrounding ocelli and extending to supra-antennal plates; a black spot on anterior side of each compound eye; dorsal side of postclypeus brown with dark brown

anterior lateral margins and a narrow pale brown central marking, dark brown to black on ventral side with pale brown margins and with a pale brown central spot anteriorly; gena black, tending dark brown laterally; mandibular plates mainly brown, with black areas broadly on interior margins, long silver pubescence; anteclypeus dark brown; rostrum pale brown, black apically.

Thorax. Pronotum mainly brown with a pale brown midline; black markings along fissures and surrounding midline; pronotal collar brown, with lateral angles and outer anterior margins dark brown. Mesonotum brown; outer margins of submedian and lateral sigilla dark brown to black, remainder of sigilla diffuse brown, with pale greenish-brown areas in between; cruciform elevation mainly pale grey-brown, central posterior area dark brown, with longer silver pubescence; wing grooves brown with dark brown central interior areas, long silver pubescence; metanotum dark brown.



19A 19B

20

FIGURES 19–20. *Yoyetta wrightae* **sp. nov.**, (19A) male genitalia in lateral view, specimen from Belmont Hills (27°30’42”S 153°06’53”E); (19B) same in ventral view; (20) distribution in mainland Australia.

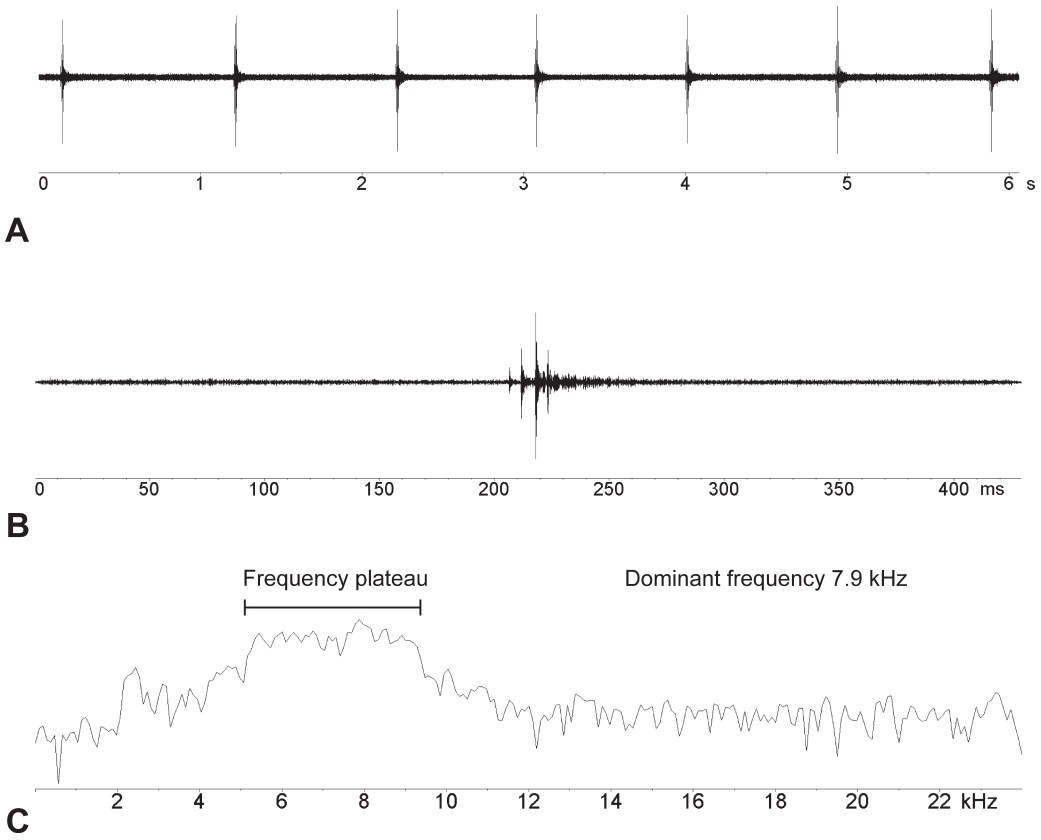


FIGURE 21. Male calling song structure of *Yoyetta wrightae* **sp. nov.**, including: (A), a 6 s waveform plot showing seven clicks produced in flight; (B), a 430 ms waveform plot illustrating a single click (syllable) with four prominent pulses; (C), a power spectrum illustrating song frequency. The specimen was recorded in the field by LWP at Belmont Hills (27°30'42"S 153°06'53"E) using a Tascam DR-04 recorder and Audio Technica ATR-55 microphone.

Wings match description given for male, with costa tending pale orange-brown, pale brown or pale greenish-brown.

Legs match description given for male, though tending paler brown or greenish-brown.

Abdomen. Tergites 1 and 2 mainly brown to pale brown; tergites 3–7 brown with dark brown anterior margins, extending continuously to posterior margins along midline, conspicuous short silver pubescence; tergite 8 mainly brown to pale brown, dark brown along anterior margin; epipleurites mainly brown, sometimes with diffuse dark brown blotches centrally; sternite II brown to pale brown; sternites III–VI orange-brown with narrow dark brown midline; sternite VII orange-brown; abdominal segment 9 brown, tending paler laterally with two longitudinal dark brown stripes either side of midline, joined anteriorly; dorsal beak dark brown; ovipositor sheath extending 2.5–3.2 mm beyond apex of abdominal segment 9; anal styles brown to pale brown.

Measurements. N=14♂, 10♀. Ranges and means (in parentheses). Body length: ♂ 19.2–22.8 (21.21); ♀ 21.7–25.7 (24.08). Fore wing length: ♂ 21.3–25.4 (24.11); ♀ 25.7–29.7 (27.68). Head width: ♂ 4.9–5.7 (5.34); ♀ 5.5–6.2 (5.86). Pronotum width: ♂ 4.5–5.9 (5.39); ♀ 5.4–6.4 (5.94). Abdomen width: ♂ 4.5–6.2 (5.56); ♀ 4.9–6.5 (5.73); Ovipositor length (♀): 9.3–11.7 (10.56).

Morphological distinguishing features. Males of *Y. wrightae* **sp. nov.** can be distinguished from all other species in the genus, apart from *Y. burwelli* **sp. nov.**, with the following combination of characters: (1) hind wing plaga brown, (2) rostrum extends to middle of hind coxae, (3) median lobe of uncus short, in lateral view not protruding substantially beyond the claspers, (4) base of opercula raised and somewhat bubble like (Fig. 1G) and (4) colour around cruciform elevation closely similar to remainder of mesonotum. They can be distinguished from *Y. burwelli* **sp. nov.** by having a theca with prominent apical spines that are similar in size to the largest subapical spines (Fig. 19A). In *Y. burwelli* **sp. nov.**, the apical spines are conspicuously shorter than the largest subapical spines (Fig. 6A).

Females can be distinguished from all other species in the genus with the following combination of characters: (1) hind wing plaga brown, (2) rostrum extends to middle of hind coxae, (3) ovipositor sheath extends approximately 3 mm beyond the apex of the abdomen, and (4) central marking of pronotum surrounded by a distinct black outline or almost entirely black. The closely similar *Y. argentea* **sp. nov.** differs by having a slightly longer rostrum (extending to distal margin of hind coxae, cf. middle of hind coxae in *Y. wrightae* **sp. nov.**).

Distribution, Habitat and Behaviour (Fig. 20). Restricted to southern Queensland where it is known from Monto and Kilkivan south to the Gold Coast hinterland. Localities include Dayboro, Tamborine and bushland areas around Brisbane, including in the suburbs of Alderley, Tarragindi, Mount Gravatt, Belmont, Tingalpa, Ransome and Burbank. It is locally common within its narrow distribution. Populations are associated with open forest usually on shallow, stony duplex soils where the adults sit high on the trunks and upper branches of eucalypts. Specimens have been taken between October and March, with most records from October and November, though males have been heard calling in September (*pers. obs.*). Specimens are generally taken at light.

Etymology. Named after Mrs Susan G. Wright (née Evans), who has collected and preserved some of the best specimen examples of this species and who has contributed considerably to entomology in Queensland.

Calling song. The description of the call is based on field recordings from the localities listed under *Audio records* above (*n*=8 recordings in total). The Belmont Hills Reserve recording (Fig. 21) was chosen for illustration as it is in the same area of bushland as the type locality.

The calling song of *Y. wrightae* **sp. nov.** (Fig. 21) is a simple clicking call, produced both while males are stationary and in flight. Each click is a syllable comprising four distinct pulses (15–20 ms total duration). There are gaps of approximately 1 s duration between each click. The song has a frequency plateau from 5 to 9.5 kHz, with a dominant frequency close to 8 kHz. The structure of the call is closely similar to *Y. burwelli* **sp. nov.**; differences are discussed in the calling song description for that species.

Yoyetta zagona **sp. nov.**

(Plates 2J–L; Figs 1H, 2H, 22, 23, 24)

Cicadetta **sp. nov.** Small Treetop Ticker: Popple & Strange, 2002: 30, Table 1; Sanborn 2014: 514.

Types. *Holotype* ♂, Brigalow Creek, 5 km E of Goondiwindi, Queensland, 28°30.48’S 150°20.09’E, 8.xii.2001, A. E[wart], [song] recorded, QM Reg. No. T262544 (**QM**).

Paratypes. QUEENSLAND. 1♂, 1♀, Qld: 27°50.2’Sx150°06.7’E, Southwood NP, camp, 8–11.xii.2005, G. Monteith, S. Wright, mv light, 255 m, sandy soil, 12468; 21♂, 3♀, same data as holotype, [1♂ genitalia prep.]; 2♂, 1♀, 6.4 km SW R[obert] Wicks R[esearch] S[tation], Bringalily S[tate] F[orest] via Inglewood, 28°18.23’S 151°05.31’E, 20.xi.2007, A. E[wart], [1♂, song recorded]; 1♂, Triple Tracks J[un]ct[ion], 9 km NNE of Information Centre, Mt Moffatt NP, 24°57.29’S 147°59.12’E, 15.xii.2006, A. E[wart], light, silver-leaved ironbark woodland (**QM**). 1♂, Myall Park, 8 km N of Glenmorgan, 27–28.xii.2001, L. Popple, A. Strange, mv lamp, 475-0003; 4♂, 4♀, Southwood NP via Moonie, 27°50’05”S 150°06’47”E, 5–10.xii.2005, L. Popple, A. Ewart, light, 475-0004, 475-0005, 475-0007 to 475-0011, 475-0013; 4♂, 1♀, Expedition NP, Amphitheatre, 25°17’16”S 149°04’14”E, 24.ix.2002, C. Eddie, 473-0001 to 473-0005 (**LWP**). 12♂, Dogwood R xing 30 km W of Condamine, 18.xii.1987, M.S. & B.J. Moulds, light brown eyes; 1♂, 1♀, Chesterton Range Nat Pk, 9.xii.1995, C. Dollery (**MSM**). NEW SOUTH WALES. 3♂, Oxley Caravan Pk, Coonabarabran, 31°13’34”S 149°16’41”E, 12.i.2014, C. & D. Emery; 2♂, same locality as previous, 18.xi.2014, D. Emery; 1♀, same locality as previous, 8.xi.2015, D. Emery; 11♂, 8♀, same locality as previous, 14.xi.2020, N., C. & D. Emery, C. Foster, EME475-001 to EME475-019 (**DE**). 1♂, Coonabarabran Caravan Pk, 31°17.23’S 149°17.23’E, xi.2014, D. Emery, 475-0014; 1♂, 1♀, Coonabarabran Caravan Park, 14.xi.2020, N., C. & D. Emery, C. Foster, EME475-0002, EME475-0006, 475-0015, 475-0016 (**LWP**). 1♀, Hay, 20.xi.1911, W.W. F[roggatt]; 1♂, Hay, 1911, [handwritten label similar to previous W.W. Froggatt specimen]; 1♂, Cobar, 3.xi.1984, G.R. Brown & H.M. Holmes, mv lamp, *Cicadetta* sp. det. M.S. Moulds, 1985; 1♂, Wilcannia, 10.xi.1984, J.A. Humphreys, at light, *Cicadetta* sp. det. M.S. Moulds, 1985 (**MSM**).

Audio records. QUEENSLAND. Brigalow Ck, 5 km E of Goondiwindi, 28°30.48’S 150°20.09’E, 5.xii.2001, 8.xii.2001; 6.4 km SW of Robert Wicks Research Station, Bringalily State Forest, 28°18.23’S 151°05.31’E, 20.xi.2007 (**A. Ewart**).

Other records: VICTORIA. Rupanyup, 36.63729°S 142.6329°E, xii.2015, T. Leitch, iNat 25671720; Rainbow, 35.90301°S 141.87428°E, 30 xii.2024, J. Lenagan, iNat 257679507 (**iNat**).

Description of Adult Male (Plates 2J, 2K; Figs 1H, 2H, 22).

Head about as wide as pronotum. Compound eyes brown (colour retained in dry specimens); ocelli dark pink; distance between lateral ocelli similar to distance between each lateral ocellus and adjacent compound eye. Vertex brown to orange-brown adjacent to compound eyes and medially, dark brown to almost black over the remainder, often black around ocelli; frons brown or orange-brown to dark brown; supra-antennal plates brown to dark brown, palest near base of antennae; dorsal side of postclypeus mainly brown to orange-brown; dorsal side of head with sparse silver pubescence; dense silver pubescence on lateral areas posterior to compound eyes. Mandibular plates orange-brown to dark brown, distal portion with silver pubescence; gena dark brown with short silver pubescence; ventral side of postclypeus orange-brown along margins, dark brown medially; anteclypeus dark brown; rostrum brown, becoming dark brown towards apex, extending to distal margin of hind coxae. Antennae brown.

Thorax. Pronotum mainly brown to orange-brown, with central marking surrounded by black or dark brown; lateral fissures and paramedian fissures black; pronotal collar orange-brown. Mesonotum orange-brown; submedian and lateral sigilla dark brown to black; cruciform elevation orange-brown with a dark brown central marking broadening laterally on anterior and posterior sides; scutal depressions dark brown to black; wing grooves orange-brown with silver pubescence. Metanotum orange-brown.

Wings. Fore wings hyaline, lacking infuscations. Costa orange-brown to yellow-brown; pterostigma orange-brown to reddish-brown; veins 2A+3A dark brown; other veins brown; basal membranes orange. Hind wing venation mainly brown becoming pale brown distally; plaga pale greyish-brown; ac3 brown.

Legs orange-brown, with dark brown narrow longitudinal markings on inner and anterior sides of fore femora and on anterior side of mid femora; spines dark brown; meracantha pale brown, similar in length to slightly longer than flattened base of opercula, almost reaching or barely overlapping opercula margin.

Opercula (Fig. 1H). Basal area flat; plates small, separated by almost double their width, weakly undulating, with rounded margins, when viewed from ventral side, not occupying all of tympanal cavity; mainly very pale brown.

Timbals (Fig. 2H). Five long ribs, all occupying timbal membrane apart from anteriormost long rib, which is shorter, extending to near the lower end of the adjacent short (intercalary) rib; long ribs unattached ventrally; posterior three long ribs attached to basal spur; intercalary ribs between each long rib; ribs pale brown; apodeme pale orange-brown.

Abdomen. Tergite 1 dark brown; tergite 2 mainly orange-brown with a dark brown to dark orange-brown central marking and a narrow dark brown anterior margin, which broadens to encompass the lateral portions; tergites 3–7 yellow-brown with dark brown to black almost arrow-shaped central markings (with blunt anterior facing apices), the areas surrounding these markings often tending orange-brown; tergite 8 orange-brown with dark brown dorsolateral markings on anterior margin. Sternites and epipleurites yellow-brown.

Genitalia (Figs 22A, 22B). Pygofer mainly orange-brown, black on dorsolateral anterior half; dorsal beak narrowly tapering, dark brown; upper lobes prominent, broader than dorsal beak, in lateral view projecting to about the same extent as the dorsal beak, in ventral view rounded and parallel; lower lobes developed, rounded in both lateral and ventral views. Median lobe of uncus short, apically rounded, extending to almost the same extent as claspers, in ventral view broadly rounded. Claspers well developed, directed downwards, slightly hooked, in ventral view restraining aedeagus, with apices turned outwards. Aedeagus recurved distally through 170 degrees, the vesica relatively narrow, aligned closely with the outer contour of theca, crenulate; apex short and acute, directed upwards; pseudoparameres long, reaching close to point of recurvature, transparent, slender, hair-like and rounded apically.

Description of Adult Female (Plate 2L). Similar to male.

Head matches description provided for male.

Thorax as per male. Pronotal orange-brown tending dark brown on lateral angles.

Wings match description given for male, with costa tending yellow-brown.

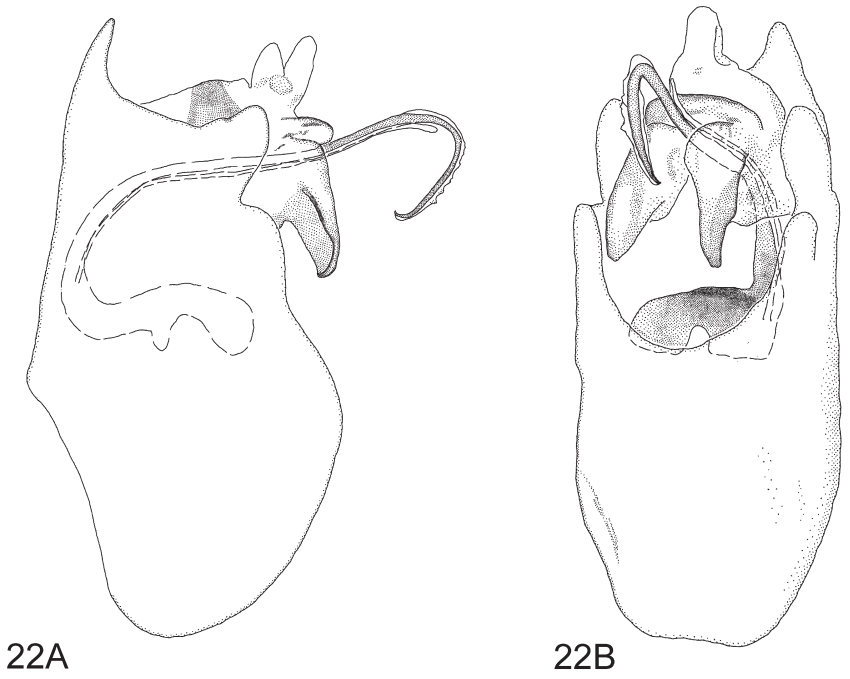
Legs match description given for male.

Abdomen. Tergite 1 mainly dull brown, with a dark brown line centrally; tergite 2 mainly yellow-brown, with a dark brown area medially on posterior half; tergites 3–7 yellow-brown with dark brown to black central markings, each being broadest on the anterior half of each tergite, conspicuous silver pubescence; tergite 8 mainly orange-brown on posterior half, dark brown to black over remainder; epipleurites yellow-brown; sternite II yellow-brown;

sternites III–VI yellow-brown, sometimes with subtle, diffuse brown patches along midline; sternite VII yellow-brown to orange-brown; abdominal segment 9 mainly brown, orange-brown dorsally, with two longitudinal dark brown stripes either side of midline, joined anteriorly; dorsal beak orange-brown; ovipositor sheath protruding <0.5 mm beyond apex of abdominal segment 9; anal styles orange.

Measurements. N=13♂, 11♀. Ranges and means (in parentheses). Body length: ♂ 16.0–18.1 (17.01); ♀ 16.0–17.9 (17.00). Fore wing length: ♂ 18.4–21.9 (19.83); ♀ 20.4–22.9 (21.68). Head width: ♂ 4.1–4.8 (4.45); ♀ 4.3–5.0 (4.80). Pronotum width: ♂ 4.1–5.1 (4.57); ♀ 4.5–5.3 (4.97). Abdomen width: ♂ 4.1–5.0 (4.48); ♀ 4.5–5.2 (4.68); Ovipositor length (♀): 4.6–5.5 (5.05).

Morphological distinguishing features. Males of *Y. zagona* **sp. nov.** can be distinguished from all other species in the genus, apart from *Y. fluviatilis* and *Y. tristrigata*, using the following combination of characters: (1) hind wing plaga brown, (2) pronotum mainly brown, (3) rostrum extends to distal margin of hind coxae (not beyond), (4)



FIGURES 22–23. *Yoyetta zagona* **sp. nov.**, (22A) male genitalia in lateral view, specimen from Brigalow Creek near Goondiwindi (28°30.48'S 150°20.09'E); (22B) same in ventral view; (23) distribution in mainland Australia.

median lobe of uncus short, in lateral view not protruding substantially beyond the claspers, (5) base of opercula flat (Fig. 1H), (6) body length <19 mm, (7) thorax (excluding sigilla) mainly brown, (8) tergite 1 dark brown and (9) pseudoparameres long, extending to at least the margin of recurvature of the theca. They can be distinguished from *Y. tristrigata* and most specimens of *Y. fluviatilis* by having the lateral sides of tergites 3–7 yellow-brown rather than orange. They can be distinguished from specimens of *Y. fluviatilis* with yellow-brown tergites by having tergite 2 mainly orange-brown. In *Y. fluviatilis*, tergite 2 is mainly black with orange or yellow colouration restricted to the dorsolateral areas.

Females of *Y. zagona* **sp. nov.** can be distinguished from all other species in the genus by the following combination of characters: (1) hind wing plaga brown, (2) rostrum extends to distal margin of hind coxae (not beyond), (3) ovipositor sheath protrudes <0.5 mm beyond anal styles, (4) thorax mainly brown, with well-defined black submedian and lateral sigilla, (5) fore wings much less than 27 mm long, hyaline and without infuscations or smoky infusions, (6) sternites without dark central markings, and (7) lateral sides of tergites mainly yellow-brown (rather than orange or orange-brown).

Distribution, habitat and behaviour (Fig. 23). Known from Mt Moffatt and Chesterton Range east to the Expedition Range and south to Brigalow Creek near Goondiwndi and Bringalily State Forest in southern Queensland, then south-west through inland New South Wales, including Coonabarabran, Cobar, Wilcannia and Hay, to Rupanyup and Rainbow in western Victoria. It is a patchy species but can be locally common. Many specimens have been taken at light or emerging after dusk (Coonabarabran). Populations are associated with dry open forest, woodland and shrublands containing short to medium-sized box-ironbark eucalypts (Section *Adnataria*). Adults have been collected in November and December, but they likely occur in other months after rainfall.

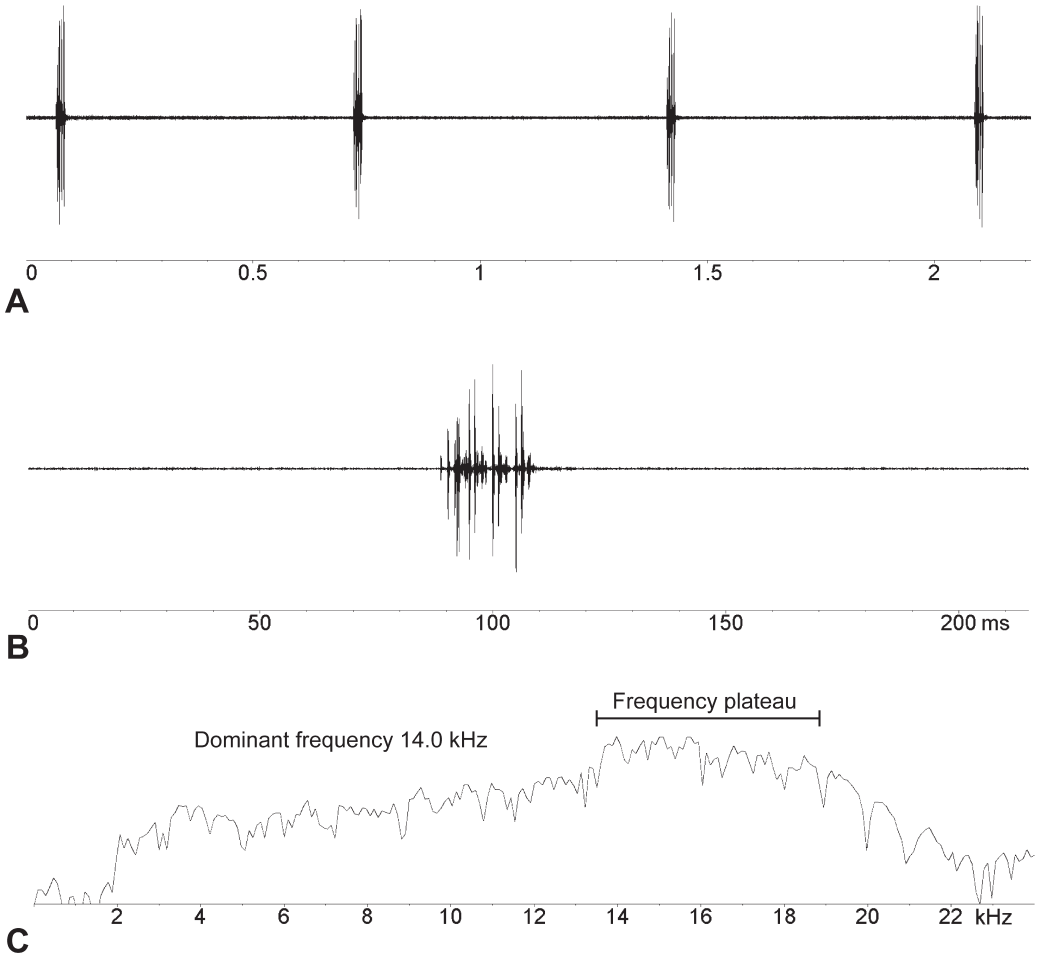


FIGURE 24. Male calling song structure of *Yoyetta zagona* **sp. nov.**, including: (A), a 2.2 s waveform plot showing four clicks produced when stationary; (B), a 210 ms waveform plot illustrating a single click (syllable), which contains two single pulses followed by four prominent double pulses; (C), a power spectrum illustrating song frequency. The specimen was recorded by A. Ewart in a fabric net bag at Bringalily State Forest via Inglewood (28°18.23'S 151°05.31'E) with a Sony (Hi-MD) Minidisc Recorder and Sennheiser K6/ME66 microphone.

Etymology. A Latin adjective meaning "diagonal", referring to broadly diagonal lines of geographical distribution of this species from southern Queensland to western Victoria.

Calling song. This calling song description is based on recordings made by A. Ewart from two localities, the type locality (Brigalow Creek) and Bringalily State Forest. The Bringalily recording (Fig. 24) is illustrated because the recordings from the type locality show poorly resolved pulse structure due to being recorded in a plastic container; however, recordings from both localities have remarkably similar timing characteristics and frequency spectra (n=17 recordings in total).

The calling song of *Y. zagona* **sp. nov.** is composed of simple repeated syllables (clicks) of just below 20 ms duration separated by gaps of close to 0.6 s duration. The clicking rate is about 1.5 clicks per second (Fig. 24A). Each syllable comprises 2 single pulses followed by 4 prominent double pulses (Fig. 24B). This detailed pulse structure is unique within the genus *Yoyetta*. The song has a frequency plateau from 14 to 19 kHz, with a dominant frequency between 14 and 16 kHz.

Morphological key to species of *Yoyetta* cicadas

Specimens must be set with wings spread to begin using this key. A vernier calliper is required to check measurements. Male specimens must often be examined microscopically and may require dissection of the genitalia in some instances. The key is adapted from Emery *et al.* (2025) and incorporates species described subsequently by Emery (2025) as well as the new species described in this paper.

Key to males

1.	Hind wing plaga white	2
-	Hind wing plaga pale brownish, pinkish or grey	20
2.	Abdominal tergites mainly orange	*Y. robertsonae*
-	Abdominal tergites mainly black	3
3.	Abdominal tergites 2–8 and sternites II–VII uniformly black or brown without orange-brown or yellow-brown markings; intersegmental membranes dark and inconspicuous	4
-	Abdominal tergites 2–8 mainly black with contrasting orange-brown or yellow-brown markings, or contrasting intersegmental membranes; sternites II–VII mainly yellow-brown or orange	6
4.	Fore wing basal membranes orange or pale orange-white	*Y. timothyi*
-	Fore wing basal membranes red	5
5.	When viewed from ventral side, tip of aedeagus strongly bifurcate, with apical arms splayed laterally, sometimes in a weak "v" shape, at an angle of 150–180 degrees	*Y. denisoni*
-	When viewed from ventral side, tip of aedeagus undivided or weakly divided, without distinct lateral arms…	*Y. kershawi*
6.	Tergites 5–7 partly black with contrasting, orange or yellow markings	7
-	Tergites 5–7 entirely dark brown to black with yellow or orange coloration restricted to the intersegmental membranes	12
7.	Opercula mainly pale grey to dark grey-brown	8
-	Opercula mainly red or orange	11
8.	Dorsal surface of head, pronotum and mesonotum typically covered with dense gold pubescence; fore wing basal membranes orange or pink	9
-	Head, pronotum and mesonotum not covered in conspicuous gold pubescence; fore wing basal membranes pale grey	10
9.	Hind wing plaga narrow on ac2(v) (along vein 3); apex of theca blunt and club-like	*Y. abdominalis*
-	Hind wing plaga broad on ac2 (along vein 3), though not quite as broad as on jugum; apex of theca tapered and angled 30° ventrally	*Y. loftyensis*
10.	Lateral sides of tergites 3–7 mainly orange; tergite 8 with orange markings on anterodorsal side	*Y. aaede*
-	Lateral sides of tergites 3–7 mainly black (with yellow dorsolateral markings); anterodorsal side of tergite 8 black	*Y. serrata*
11.	Body length <23 mm; sternites III–VII bright reddish-orange without a continuous dark brown to black central marking	*Y. spectabilis*
-	Body length ≥23 mm; sternites II–VII yellowish-orange or reddish-brown with a continuous dark brown to black central marking	*Y. regalis*
12.	Fore wing length ≤26 mm	13
-	Fore wing length >26 mm	15
13.	Head width ≥6 mm	*Y. enigmatica*
-	Head width <6 mm	13a
13a.	Opercula mainly black on basal half, pale dull yellow over remainder; meracantha orange	*Y. incepta*
-	Opercula almost entirely pale reddish-brown or pale grey; meracantha pale brown	14

14. Pronotum dark brown to black with contrasting yellow-brown central marking; fore wing basal membranes orange . . . . . *Y. electrica*
- Pronotum dark brown to black without contrasting yellow-brown central marking; fore wing basal membranes grey to smoky orange . . . . . *Y. hunterorum*
15. Dorsal surface of head, pronotum and mesonotum with an inconspicuous, sparse covering of pubescence; lateral depressions adjacent to cruciform elevation conspicuous, brown to pale brown . . . . . *Y. grandis*
- Dorsal surface of head, pronotum and mesonotum typically with dense, black pubescence; lateral depressions adjacent to cruciform elevation inconspicuous, typically dark brown to black 16
16. Hind wing plagas broad, extending over all or almost all of ac3. 17
- Hind wing plagas narrow, not occupying medial area of ac3 19
17. Tergite 8 black with a brown, reddish-brown or dark reddish-brown posterior lateral marking on each side; apex of theca distinctly club-shaped . . . . . *Y. regalis*
- Tergite 8 entirely dark brown to black without posterior lateral markings; apex of theca not club-shaped 18
18. More than 30% of theca extending apically beyond point of recurvature. . . . . *Y. enigmatica*
- Much less than 30% of theca extending apically beyond point of recurvature 18a
18a. Apex of theca tapering. . . . . *Y. douglasi*
- Apex of theca broad and blunt, not tapering . . . . . *Y. subalpina*
19. Fore wings conspicuously broad, with bend in ambient vein about equal to bend in costa; sternites III–VII typically with dark brown to black central markings . . . . . *Y. ngarabal*
- Fore wings not conspicuously broad, with bend in ambient vein more pronounced than bend in costa; sternites III–VII usually without dark brown to black central markings . . . . . *Y. verrens*
20. Rostrum extending distally beyond the posterior margin of the thorax. 21
- Rostrum not extending distally beyond the thorax 22
21. Rostrum extending to about middle of sternite III; body length <19.5 mm . . . . . *Y. longirostra* **sp. nov.**
- Rostrum extending to posterior margin of sternite III; body length >19.5 mm . . . . . *Y. penetrans* **sp. nov.**
22. Median lobe of uncus long, with apex in lateral view protruding posteriorly well beyond the claspers. 23
- Median lobe of uncus short, with apex in lateral view not protruding substantially beyond the claspers. 27
23. Abdomen with sternite VIII entirely orange-brown or light orange-brown . . . . . *Y. darug*
- abdomen with sternite VIII dark brown to black at base grading to orange-brown, becoming paler towards apex 24
24. Fore wings with weak to moderate infuscations along crossveins r and r-m; median lobe of uncus shorter than distance between dorsal beak and apex of upper pygofer lobe . . . . . *Y. fumea*
- Fore wings with or without infuscations along crossveins r and r-m (a weak infuscation may be present); median lobe of uncus about as long as the distance between the apices of the upper pygofer lobe and dorsal beak. 25
25. Median lobe of uncus narrow at base, widest around mid-length and tapering towards apex . . . . . *Y. humphreyae*
- Median lobe of uncus narrow at base, not widest around mid-length 26
26. Median lobe of uncus narrow slightly expanding distally, with rounded apex . . . . . *Y. corindi*
- Median lobe of uncus narrow at base, tapering distally to apex . . . . . *Y. crepita*
27. Base of opercula raised and somewhat bubble-like (Figs 1A, 1B, 1D, 1G) 28
- Base of opercula relatively flat or weakly undulating, not bubble-like. 31
28. Colour around cruciform elevation distinctly paler than remainder of mesonotum 29
- Colour around cruciform elevation closely similar to remainder of mesonotum 30
29. Anteriormost timbal rib extends across approximately four fifths the length of the timbal membrane (well beyond lower end of adjacent short intercalary rib) . . . . . *Y. argentea* **sp. nov.**
- Anteriormost timbal rib extends across approximately two thirds the length of the timbal membrane (not beyond lower end of the adjacent short intercalary rib) . . . . . *Y. eastwoodi* **sp. nov.**
30. Theca with apical spines conspicuously shorter than longest subapical spines. . . . . *Y. burwelli* **sp. nov.**
- Theca with apical spines prominent and similar in size to longest subapical spines. . . . . *Y. wrightae* **sp. nov.**
31. Body length <19.5 mm. 32
- Body length ≥19.5 mm. 45
32. Thorax (excluding sigilla) mainly brown to dark brown. 33
- Thorax (excluding sigilla) mainly black 39
33. Tergite 1 pale brown; pronotum mainly pale brown . . . . . *Y. celis*
- Tergite 1 black or dark brown; pronotum mainly brown or black. 34
34. Fore wing length <20 mm 35
- Fore wing length ≥20 mm 36
35. Tergite 2 mainly orange-brown; lateral sides of tergites 3–7 yellow-brown . . . . . *Y. zagona* **sp. nov.**
- Tergite 2 mainly dark brown to black; lateral sides of tergites 3–7 typically orange (rarely yellow-brown) . . . . *Y. fluviatilis*
36. Pseudoparameres short, extending along approximately half the length of theca; apex of theca straight with a small veil that is conspicuous in ventral view . . . . . *Y. clara* **sp. nov.**
- Pseudoparameres long, extending along the theca until at least the margin of recurvature; apex of theca turned upward or downward. 37
37. Lateral edges of tergites diffuse orange, with distinct and extensive dark markings along posterior margin . . . . . *Y. bushi*
- Lateral edges of tergites orange or yellow-brown, without dark markings 38

38. Lateral sides of tergites 3–7 orange; apex of theca turned downwards, with conspicuous ornamentation . . . . . *Y. tristrigata*
- Lateral sides of tergites 3–7 yellow-brown; apex of theca turned upwards, without ornamentation . . . . . *Y. zagona* **sp. nov.**
39. Pronotum mainly brown, contrasting with mesonotum . . . . . *Y. tristrigata* (dark specimen)
- Pronotum mainly dark brown to black, not distinctly paler than mesonotum 40
40. Lateral edges of tergites orange, with dark markings along posterior margin 41
- Lateral edges of tergites orange, without dark markings on posterior margin 42
41. Lateral edges of tergites diffuse orange, with distinct and extensive dark markings along posterior margin . . . . . *Y. bushi*
- Lateral edges of tergites orange, with diffuse to narrow dark markings along posterior margin 43
42. Fore wing length usually >20 mm; theca recurved distally through 180 degrees; apex weakly upturned . . . . . *Y. delicata*
- Fore wing length <20 mm; theca recurved distally through 120 degrees; apex elongated, lanceolate, strongly downturned . . . . . *Y. fluviatilis*
43. Fore wing length typically >20 mm; apex of theca weakly downturned 44
- Fore wing length <20 mm; apex of theca straight . . . . . *Y. landsboroughi*
44. Fore wing length >20 mm; timbal long rib 4 appearing discontinuous, with dorsal and ventral areas connected by only a very narrow medial area . . . . . *Y. nigrimontana*
- Fore wing length <20 mm; timbal long rib 4 clearly continuous, narrowing only slightly in medial area . . . . . *Y. fluviatilis*
45. Timbal with four long ribs; fourth (anteriormost) long rib fused to the anterior cuticle . . . . . *Y. ignita*
- Timbal with five long ribs, all separate from anterior cuticle and surrounded by pale timbal membrane 46
46. Timbal long rib 5 distinctly narrower than widest portion of adjacent long rib 4; apex of theca lanceolate . . . . . *Y. repetens*
- Timbal long rib 5 about equal in width to adjacent long rib 4 47
47. Fore wing length <26 mm 48
- Fore wing length ≥26 mm 50
48. Thecal apex simple and lanceolate (not trifurcate) . . . . . *Y. crepita*
- Thecal apex appearing trifurcate 49
49. Thecal apex weakly downturned; opercula broad (3–4 mm) . . . . . *Y. darug*
- Thecal apex weakly downturned; pseudoparameres with bulbous apices; opercula <3 mm wide . . . . . *Y. corindi*
50. Fore wings with smoky infusions over distal apical cells, often with an infuscation present on crossveins r and r-m without smoky infusions or infuscations 51
- Fore wings without smoky infusions or infuscations 54
51. Fore wings with smoky infusions over distal apical cells, without infuscations 52
- Fore wings with smoky infusions over distal apical cells, often with infuscations 53
52. Medial uncal lobe elongate, narrow at base, widest in middle . . . . . *Y. humphreyae* (mountain specimens)
- Medial uncal lobe moderate size, evenly wide over length . . . . . *Y. nathani*
53. Apex of theca appearing trifurcate, with downturned portion strongly downturned, thorax mainly pale brown . . . . . *Y. psammitica*
- Apex of theca appearing trifurcate, with downturned portion weakly downturned, thorax mainly dark brown . . . . *Y. fumea*
54. Thorax (excluding sigilla) mainly black 55
- Thorax (excluding sigilla) mainly brown to dark brown 59
55. Fore wing basal membrane red . . . . . *Y. corbinorum*
- Fore wing basal membrane orange 56
56. Thecal apex lanceolate (not trifurcate) . . . . . *Y. australicta*
- Thecal apex appearing trifurcate 57
57. Thecal apex straight (not downturned), opercula 2.5 mm . . . . . *Y. robertsonae*
- Thecal apex slightly downturned, opercula large (4 mm) 58
58. Depressions on outer side of cruciform elevation inconspicuous, dark brown . . . . . *Y. fumea*
- Depressions on outer side of cruciform elevation pale orange-brown, contrasting with remainder of mesonotum . . *Y. nathani*
59. Fore wing basal membrane red . . . . . *Y. corbinorum*
- Fore wing basal membrane orange 60
60. Medial uncal lobe moderate length, slightly bulbous, pronotal collar brown; tergites 3–7 yellow-brown with black markings . . . . . *Y. robusta* (dark specimen)
- Medial uncal lobe moderate to elongate 61
61. Medial uncal lobe elongate, narrow at base, widest in middle . . . . . *Y. humphreyae*
- Medial uncal lobe moderate size, evenly wide over length . . . . . *Y. nathani*

Key to females (excluding *Y. enigmatica* for which the female is unknown)

1. Hind wing plaga white to pale grey 2
- Hind wing plaga cream, brown or orange to dark grey 17
2. Ovipositor sheath extends <1 mm beyond apex of abdominal segment 9 3
- Ovipositor sheath extends ≥1 mm beyond apex of abdominal segment 9 13
3. Hind wing plaga narrow, covering about half of the jugum (ac3) 4
- Hind wing plaga broad, covering almost the entire jugum (ac3) 5

4. Fore wing length <22 mm . . . . . *Y. incepta*
- Fore wing length ≥22 mm (typically >25 mm) . . . . . *Y. robertsonae*
5. Pronotum mainly black or dark brown with a contrasting yellow-brown central marking 6
- Pronotum mainly black with central marking inconspicuous or similar in colour to other parts of pronotum, or brown with or without a pale brown central marking 10
6. Head width <6 mm. 7
- Head width ≥6 mm. 8
7. Tergites 6 and 7 orange anteriorly with broad black bands extending to posterior margins . . . . . *Y. aaede*
- Tergites 6 and 7 black or dark brown anteriorly and orange or orange-brown posteriorly . . . . . *Y. electrica*
8. Fore wings with basal membranes pale whitish-grey; tergite 8 mainly black, without a marking that is similar in shape to the yellow markings on tergites 5–7 . . . . . *Y. serrata*
- Fore wings with basal membranes orange, light orange or pink; tergite 8 with distinct orange lateral marking that is similar in shape to yellow markings on tergites 5–7 9
9. Dorsal surface of head, pronotum and mesonotum typically covered with dense gold pubescence . . . . . *Y. abdominalis*
- Dorsal surface of head, pronotum and mesonotum typically with sparse, black pubescence or without conspicuous pubescence . . . . . *Y. loftensis*
10. Tergites 5–7 black with distinctive, yellow triangular markings on dorsolateral sides, widening towards posterior margins . . . . . *Y. spectabilis*
- Tergites 5–7 mainly brown to reddish-brown, or black 11
11. Fore wing basal membranes red or pink . . . . . *Y. denisoni* or *Y. kershawi*
- Fore wing basal membranes pale orange-white or orange. 12
12. Tergites 3–8 brown, a combination of brown (or reddish-brown) and black or entirely black . . . . . *Y. timothyi*
- Tergites 3–8 black with orange coloration on dorsolateral posterior margins, with the orange most conspicuous on tergite 6 . . . . . *Y. subalpina*
13. Ovipositor sheath extends ≥2 mm beyond apex of abdominal segment 9. 14
- Ovipositor sheath extends <2 mm beyond apex of abdominal segment 9. 16
14. Hind wing plaga narrow, restricted to basal margins of anal cell 3 and vein 2A. . . . . *Y. verrens*
- Hind wing plaga broad, extending to cover almost the entire jugum 15
15. Ovipositor sheath extends up to 3 mm beyond apex of abdominal segment 9 . . . . . *Y. hunterorum*
- Ovipositor sheath extends approximately 4 mm beyond apex of abdominal segment 9. . . . . *Y. douglasi*
16. Fore wings distinctly angulated at costal nodes; costal veins mainly reddish-brown or orange-brown; dorsolateral sides of tergites mainly reddish-brown . . . . . *Y. regalis*
- Fore wings gradually curved at node; costal veins mainly dark brown; dorsolateral sides of tergites mainly dull brown to black, eyes red . . . . . *Y. grandis*
17. Rostrum extending distally beyond the posterior margin of the thorax. 18
- Rostrum not extending distally beyond the thorax 19
18. Rostrum extending to about middle of sternite III; head width <5.5 mm . . . . . *Y. longirostra* **sp. nov.**
- Rostrum extending to posterior margin of sternite III; head width ≥5.5 mm . . . . . *Y. penetrans* **sp. nov.**
19. Ovipositor sheath extends ≥2 mm beyond apex of abdominal segment 9. 20
- Ovipositor sheath extends <2 mm beyond apex of abdominal segment 9. 23
20. Body length (including ovipositor) >27 mm . . . . . *Y. ngarabal*
- Body length (including ovipositor) < 27 mm. 21
21. Central marking of pronotum pale and not surrounding by defined black outline; rostrum extending to part way between mid and hind coxae . . . . . *Y. bushi*
- Central marking of pronotum surrounded by a distinct black outline or almost entirely black; rostrum extending to at least middle of hind coxae 22
22. Rostrum extends to distal margin of hind coxae . . . . . *Y. argentea* **sp. nov.**
- Rostrum extends to middle of hind coxae . . . . . *Y. wrightae* **sp. nov.**
23. Ovipositor sheath extends ≥1 mm beyond apex of abdominal segment 9. 24
- Ovipositor sheath extends <1 mm beyond apex of abdominal segment 9. 27
24. Dorsal side of body mainly pale brown . . . . . *Y. celis*
- Dorsal side of body mainly brown. 25
25. Rostrum extends to distal margin of hind coxae . . . . . *Y. eastwoodi* **sp. nov.**
- Rostrum extends no further than middle of hind coxae 26
26. Submedian sigilla entirely black; rostrum extends to base of hind coxae . . . . . *Y. darug*
- Submedian sigilla partly brown; rostrum extends to middle of hind coxae. . . . . *Y. burwelli* **sp. nov.**
27. Mesonotum mainly brown to greenish-brown with both submedian and lateral sigilla ill-defined or diffuse . . . *Y. corbinorum*
- Mesonotum mainly brown, with well-defined black submedian and/or lateral sigilla, or mainly black. 28
28. Thorax (excluding sigilla) mainly black 29
- Thorax (excluding sigilla) mainly brown. 36
29. Fore wing length ≥27 mm 30
- Fore wing length <27 mm 32
30. Tergites 3–7 predominantly black . . . . . *Y. robertsonae*
- Tergites 3–7 predominantly orange 31

31.	Specimen from South Australia	*Y. australicta* (larger specimens)
-	Specimen from New South Wales	*Y. ignita*
32.	Fore wing length <22 mm	33
-	Fore wing length ≥22 mm	35
33.	Legs with fore and mid tibiae mainly dark ochraceous to black	*Y. nigrimontana*
-	Legs with fore and mid tibiae brown to orange-brown	34
34.	Eyes clearly red or dull red	*Y. fluviatilis*
-	Eyes not clearly red or dull red; instead black, brown, grey or faded	*Y. landsboroughi, Y. fluviatilis**
35.	Head width <5.2 mm	*Y. nigrimontana*
-	Head width ≥5.2 mm	*Y. australicta, Y. crepita*, *Y. delicata, Y. repetens**
36.	Fore wings with weak to moderate infuscations along crossveins r and r-m	37
-	Fore wings without infuscations along crossveins r and r-m	38
37.	Ovipositor sheath extends conspicuously beyond anal styles	*Y. psammitica*
-	Ovipositor sheath does not extend noticeably beyond anal styles	*Y. fumea*
38.	Fore wings with a weak to moderate smoky infusion over distal apical cells	39
-	Fore wings without a smoky infusion over distal apical cells	40
39.	Ventral side of abdominal segment 9 dark brown to black	*Y. humphreyae*
-	Ventral side of abdominal segment 9 orange-brown	*Y. psammitica*
40.	Sternites with dark triangular central markings (prominent or diffuse)	41
-	Sternites without dark triangular central markings	42
41.	Ovipositor sheath extends >0.5 mm–<1 mm beyond apex of abdominal segment 9	*Y. corindi, Y. humphreyae**
-	Ovipositor sheath extends ≤0.5 mm beyond apex of abdominal segment 9	*Y. nathani*, *Y. robusta*
42.	Ovipositor sheath extends >0.5 mm–<1 mm beyond apex of abdominal segment 9	*Y. corindi, Y. humphreyae**
-	Ovipositor sheath extends ≤0.5 mm beyond apex of abdominal segment 9	43
43.	Fore wing length ≥27 mm	*Y. ignita*
-	Fore wing length <27 mm	44
44.	Tergite 2 orange or yellow-brown with a well-defined dark brown to black central marking	45
-	Tergite 2 orange or orange-brown without a central marking or with central marking diffuse and inconspicuous	49
45.	Lateral sides of tergites mainly yellow-brown	*Y. zagona* **sp. nov.**
-	Lateral sides of tergites mainly orange or orange-brown	46
46.	Body length <17 mm and fore wing length <21 mm	*Y. fluviatilis*
-	Body length typically ≥17 mm; fore wing length ≥21 mm	47
47.	Abdominal tergites 3–7 with black lateral markings clearly defined	*Y. crepita*
-	Abdominal tergites 3–7 with dull brown lateral markings diffuse and faded	48
48.	Colour around cruciform elevation distinctly paler than remainder of mesonotum	*Y. tristrigata*
-	Colour around cruciform elevation not noticeably paler than remainder of mesonotum	*Y. repetens, Y. tristrigata**
49.	Colour around cruciform elevation distinctly paler than remainder of mesonotum	*Y. clara* **sp. nov.**, *Y. tristrigata**
-	Colour around cruciform elevation not noticeably paler than remainder of mesonotum	50
50.	Abdominal tergites 3–7 with black lateral markings clearly defined	*Y. cumberlandi*
-	Abdominal tergites 3–7 with dull brown lateral markings diffuse and faded	*Y. repetens, Y. tristrigata**

* These species cannot be reliably differentiated with female specimens alone. Male specimens are required. In some cases, checking information on geographical distributions may be helpful.

Acknowledgements

Queensland specimens from the protected estate were sampled under permits administered by the Entomological Society of Queensland. The study would not have been possible without the assistance of the entomological staff of the Queensland Museum, including access to collection resources and loan of specimens in their care. For the generous provision of additional specimens and access to song recordings, I thank Tony Ewart and Tony Bush. Max Moulds provided a large series of specimens on loan and David Emery also provided specimen data to support the study. I am grateful to Max Moulds, David Emery, Chris Burwell and Susan Wright for their helpful comments on the draft manuscript.

References

Batsch, A.J.G.K. (1789) *Versuch einer Anleitung zur Kenntniss und Geschichte der Thiere und Mineralien: für akademische Vorlesungen entworfen, und mit den nöthigsten Abbildungenversehen. Teil 2*. Akademischen Buchhandlung, Jena, 332 pp., 2 pls. [pp. 528–860, pls. 6–7, https://www.biodiversitylibrary.org/page/44299736]
https://doi.org/10.5962/bhl.title.79854

Buckton, G.B. (1890) *Monograph of the British Cicadae or Tettigidae. Vol. 1*. Macmillan and Co., London, 133 pp.
https://doi.org/10.5962/bhl.title.9473

Emery, D.L. (2025) Description of four new cicada species in the genus *Yoyetta* Moulds (Hemiptera: Cicadidae: Cicadettinae), from Eastern Australia. *Zootaxa*, 5665 (4), 509–542.
https://doi.org/10.11646/zootaxa.5665.4.2

Emery, D.L., Emery, N.J. & Popple, L.W. (2019) A revision of the *Yoyetta abdominalis* (Distant) species group of cicadas (Hemiptera: Cicadidae: Cicadettinae), introducing eight new species. *Records of the Australian Museum*, 71, 277–347.
https://doi.org/10.3853/j.2201-4349.71.2019.1720

Emery, N.J., Emery, D.L. & Popple, L.W. (2015) A redescription of *Yoyetta landsboroughi* (Distant) and *Y. tristrigata* (Goding & Froggatt) (Hemiptera: Cicadidae) and description of four new related species. *Zootaxa*, 3948 (3), 301–341.
https://doi.org/10.11646/zootaxa.3948.3.1

Emery, D.L., Emery, N.J. & Popple, L.W. (2025) Description of three new cicada species in the genus *Yoyetta* Moulds (Hemiptera: Cicadidae: Cicadettinae), from eastern Australia. *Zootaxa*, 5590 (2), 151–184.
https://doi.org/10.11646/zootaxa.5590.2.1

Ewart, A. & Marques, D. (2008) A new genus of grass cicadas (Hemiptera: Cicadoidea: Cicadidae) from Queensland, with descriptions of their songs. *Memoirs of the Queensland Museum*, 52, 149–202.

Goding, F.W. & Froggatt, W.W. (1904) Monograph of the Australian Cicadidae. *Proceedings of the Linnean Society of New South Wales*, 29 (3), 561–670, pls. XVIII + XIX.
https://doi.org/10.5962/bhl.part.20173

Marshall, D.C., Hill, K.B.R., Vanderpool, D., Cooley, J.R., Mohagan, A. & Simon, C. (2016) Inflation of molecular clock rates and dates: Biogeography, molecular phylogenetics, and diversification of a global cicada radiation from Australasia (Hemiptera: Cicadidae: Cicadettini). *Systematic Biology*, 65 (1), 16–34.
https://doi.org/10.1093/sysbio/syv069

Marshall, D.C., Moulds, M., Hill, K.B.R., Price, B.W., Wade, E.J., Owen, C.L., Goemans, G., Marathe, K., Sarkar, V., Cooley, J.R., Sanborn, A.F., Kunte, K. & Simon, C. (2018) A molecular phylogeny of the cicadas (Hemiptera: Cicadidae) with a review of tribe and subfamily classification. *Zootaxa*, 4424 (1), 1–64.
https://doi.org/10.11646/zootaxa.4424.1.1

Moulds, M.S. (1988) The status of Cicadetta and Melampsalta (Homoptera: Cicadidae) in Australia with the description of two new species. *General and Applied Entomology*, 20, 39–48.

Moulds, M.S. (2005) An appraisal of the higher classification of cicadas (Hemiptera: Cicadoidea) with special reference to the Australian fauna. *Records of the Australian Museum*, 57, 375–446.
https://doi.org/10.3853/j.0067-1975.57.2005.1447

Moulds, M.S. (2012) A review of the genera of Australian cicadas (Hemiptera: Cicadoidea). *Zootaxa*, 3287 (1), 1–262.
https://doi.org/10.11646/zootaxa.3287.1.1

Moulds, M.S. & Popple, L.W. (2018) A new species of *Yoyetta* (Hemiptera: Cicadidae: Cicadettini) from New South Wales. *Australian Entomologist*, 45, 177–189.

Moulds, M.S., Popple, L.W. & Emery, D.L. (2020) A new species of *Yoyetta* Moulds from south-eastern Australia with notes on relationships within the *Yoyetta tristrigata* species group (Hemiptera, Cicadidae, Cicadettini). *Australian Entomologist*, 47, 25–38.

Popple, L.W. & Emery, D.L. (2020) Four New Species of Cicadas in the *Yoyetta abdominalis* (Distant) Species Group (Hemiptera: Cicadidae: Cicadettinae) from Southeastern Australia. *Records of the Australian Museum*, 72, 123–147.
https://doi.org/10.3853/j.2201-4349.72.2020.1765

Popple, L.W. & Emery, D.L. (2022) Five new species of *Yoyetta* Moulds (Homoptera: Cicadidae) from south-eastern Australia. *Zootaxa*, 5141 (5), 401–441.
https://doi.org/10.11646/zootaxa.5141.5.1

Popple, L. & Ewart, A. (2002) Cicadas (Hemiptera: Auchenorrhyncha: Cicadidae). *In*: Horton, H. (Ed.), *A Brisbane Bushland: the history and natural history of Enoggera Reservoir and its environs*. Queensland Naturalists Club, Brisbane, pp. 113–118.

Popple, L.W. & Strange, A.D. (2002) Cicadas, and their songs, from the Tara and Waroo Shires, southern central Queensland. *Queensland Naturalist*, 40, 15–30.

Sanborn, A.F. (2014) *Catalogue of the Cicadoidea (Hemiptera: Auchenorrhynca)*. Academic Press, San Diego, 1001 pp.
https://doi.org/10.1016/B978-0-12-416647-9.00001-2