

# AN IMPRESSIVE NEW SPECIES OF *EUACANTHELLA* EVANS FROM WESTERN AUSTRALIA (HEMIPTERA: CICADELLIDAE: EUACANTHELLINAE)

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## Summary

The new species *Euacanthella impressa* sp. nov. (Hemiptera: Cicadellidae: Euacanthellinae) is described from Barrow Island and Lorna Glen Station in Western Australia. The species is distinctive because of the huge ovipositor which makes up about one third of the body length of the adult female.

**Keywords:** Auchenorrhyncha, ovipositor, Euacanthellini

## INTRODUCTION

The small leafhopper subfamily Euacanthellinae is represented in Australia by two species of *Euacanthella* Evans, placed in the tribe Euacanthellini, and seven species of *Myerslopella* Evans and *Sagmation* Hamilton placed in the tribe Sagmatiini (Hamilton 1999, Fletcher and Larivière 2001). *Euacanthella palustris* Evans has been recorded from New South Wales (NSW), Tasmania and New Zealand and occurs in both a macropterous and brachypterous form. *Euacanthella bicolor* Evans is only known from NSW and Tasmania.

Evans (1938) described three species, *E. palustris* Evans, *E. bicolor* Evans and *E. insularis* Evans. Later (Evans 1966), he synonymised all three names under *E. palustris* and added another species, *E. brunnea* Evans from New Zealand. Later again (Evans 1974), he reinstated *E. bicolor* and synonymised *E. brunnea* with *E. palustris*. At the same time, Knight (1974) also synonymised *E. brunnea*, but under the name *E. insularis*. As Evans (1966) was the first reviser, and was certainly the first to propose the synonymy between *E. palustris* and *E. insularis*, his use of the name *E. palustris* gives this name seniority over *E. insularis*.

As part of a survey of Barrow Island, Western Australia, specimens of an unusual new species of *Euacanthella* were found, the female having an enormously enlarged ovipositor. Additional specimens of this same species were collected on Lorna Glen Station in the central arid region of Western Australia. The species is described here as *Euacanthella impressa* sp. nov.

## Abbreviations

ASCU: Agricultural Scientific Collections Unit, NSW Department of Primary Industries, Orange  
WAM: Western Australian Museum, Perth

## TAXONOMY

*Euacanthella impressa* sp. nov.  
(Figures 1-14)

Holotype, male, Barrow Island, Western Australia, 20°52'01"S 115°24'19"E, 24.iv.2005. S. Callan, vacuum sampler "Site 52 (R1 AIR SUC AL)" (WAM). Paratypes: Western Australia. 2 males, 1 female, Bullimore, Lorna Glen Station, iii-v.2004, Melinda Moir, pitfall trap (1 male in ASCU, others in WAM); 1 female, same data as holotype (ASCU), 2 females (one with abdomen in vial), Barrow Island, Site N18, 20°50'29"S 115°23'23"E, 1.v.2007, S. Callan and K. Edwards (ASCU); 1 female, same data as preceding but Site N05a, 20°52'58"S 115°24'22"E (WAM); 1 female, same data as preceding but Site N07b, 20°49'06"S 115°23'09"E (WAM).

Other material examined: 2 nymphs, same data as holotype; 1 female (head missing), Barrow Island, Western Australia, Site N16, 20°47'49"S 115°21'10"E, 1.v.2007, S. Callan and K. Edwards; 16 nymphs, same data as preceding but various sites; 1 nymph, same data as preceding but 24.iv.2005, S. Callan, suction trap; 1 nymph, same data as preceding but 15.iii.2006, S. Callan and R. Graham (all in ASCU).

## Description of male (Figure 1)

Colour: Head and thorax pale brown with narrow dark stripe down centre of face, narrow dark stripe down centre of vertex and thorax to apex of scutellum and narrowly black anterior margin paling to dark brown and extending to eye laterally, then behind eye onto pronotum to base of wings. Ventral portion of pronotum with short dark brown bar near base of foreleg. Tegmen hyaline in cells with dark brown veins and brown suffusion over apical portion. Legs pale brown. Abdomen dark brown.

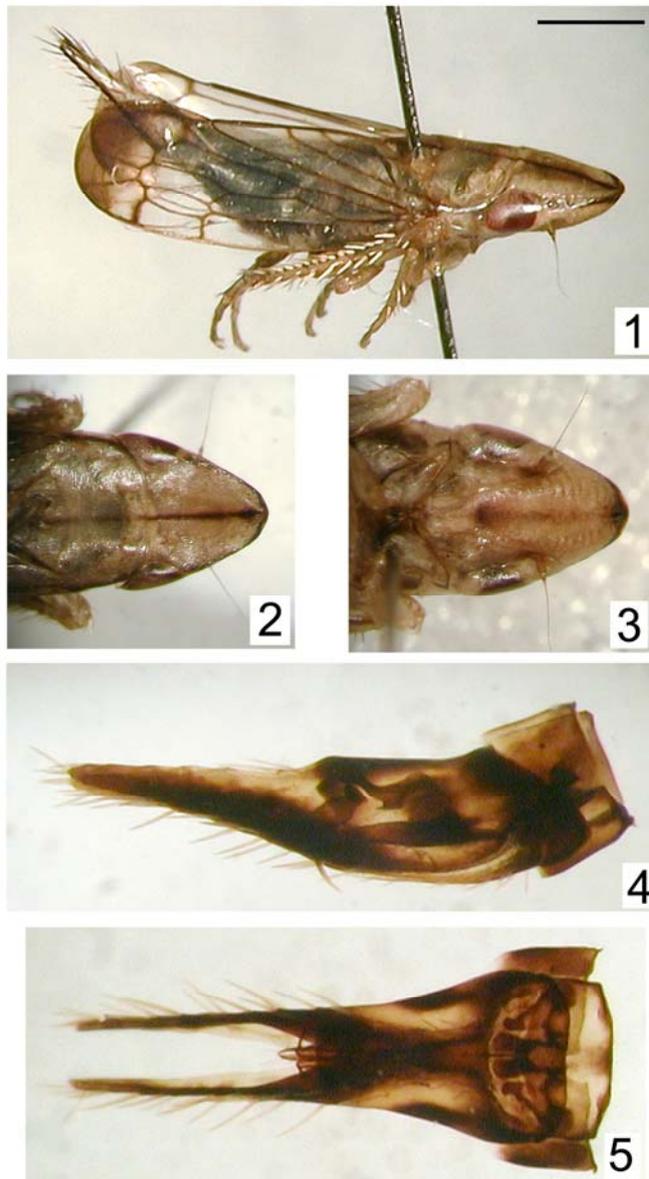
Morphology: Macropterous, total length (N=3) 5.5–6.0 mm. Vertex (Figure 2) broad triangular, evenly convex to lightly carinate anterior and lateral margins, anteriorly upturned. Surface shagreen medially,

obliquely striate laterally with striae parallel to lateral margins. Face (Figure 3) flat medially, curving up to anterior and lateral margins. Genal lobe recurved below eye. Pronotum with anterior margin evenly convex, posterior margin broadly, shallowly excavate. Surface shagreen anteriorly, transversely striate over posterior two thirds. Scutellum shagreen anteriorly, transversely striate posteriorly. Tegmen reaching to about half length of pygofer. Third pre-apical cell open basally. Appendix well developed. Hind tibia with six apical spines in oblique row. First hind tarsomere with three ventral and one dorsal pre-apical spines and pecten comprising eight short blunt spines and single, longer spine on interior margin. Second hind tarsomere with single pre-apical seta dorsally, single setae on

each side and short oblique pecten of three blunt spines.

Male genitalia: Pygofer (Figures 4–5) attenuated posteriorly forming two narrow triangular processes bearing regularly spaced setae and entirely enclosing anal segment. Sub-genital plates (Figure 6) triangular near base, then narrowed and attenuated to blunt tip, bearing five marginal setae on basal half. Paramere (Figure 7) short, apically blunt with rounded shoulder. Connective (Figure 8) with quadrate body and short sinuate arms. Aedeagus (Figures 9–10) with poorly developed basal apodeme, shaft tapered base to apex which bears two pairs of linear processes curving outwards. Gonopore apical.

Figures 1–5. *E. impressa*, male: 1, habitus. Scale = 1mm; 2, dorsum of head and thorax; 3, face; 4, terminalia, lateral view; 5, terminalia, ventral



**Description of female (Figure 11)**

Colour: Head and body pale brown, darker towards lateral margins of head and thorax which form a narrow darker stripe continuing along vein R to apex of tegmen. Immediately ventral to this marginal stripe, a pale stripe, tending to whitish on tegmen fading to pale brown on ventral surface.

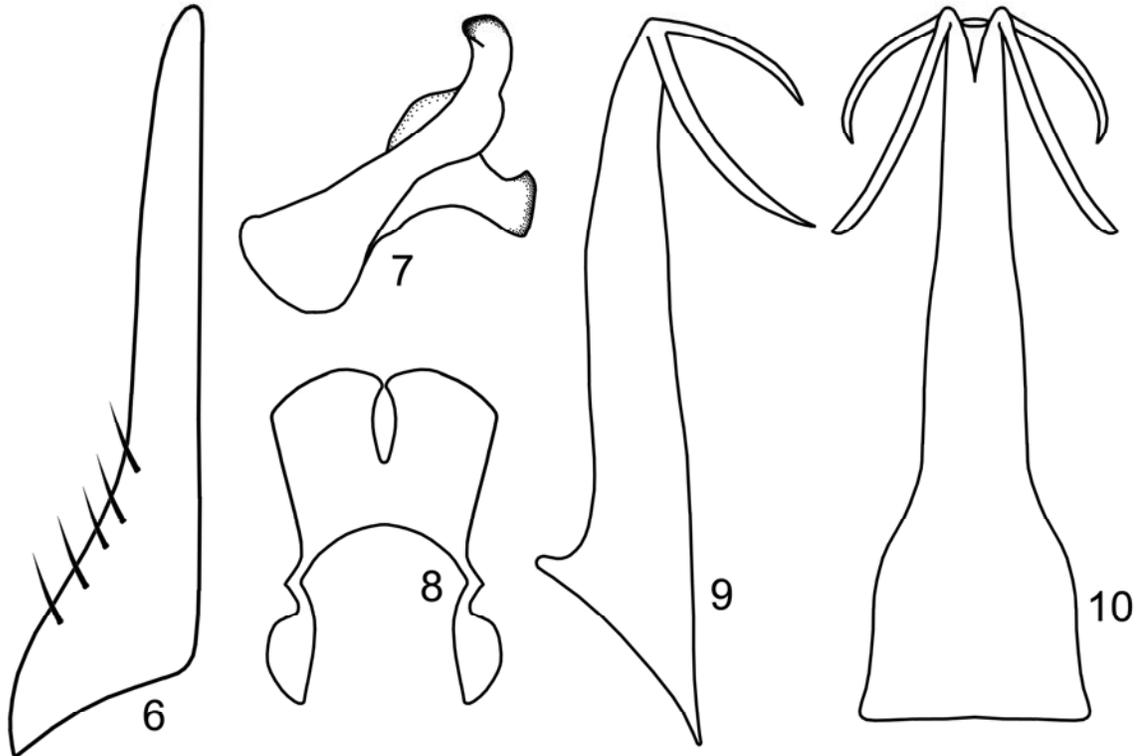
Morphology: Brachypterous, total length (N=5) 12.0–13.8 mm; length of ovipositor (from apex of pre-genital sternite to apex of ovipositor) 3.9–4.8 mm. Vertex (Figure 12) long, triangular, bluntly rounded and slightly upturned at apex. Surface shagreen, evenly curved between lateral margins with median longitudinal carina distinct from base for about half length of vertex. Face (Figure 13) concave medially, then curved up to margins. Pronotum quadrate, slightly rugose on anterior half, transversely striate on posterior half. Scutellum flat anteriorly, transversely striate posteriorly. Tegmen quadrate, reaching to about half length of first abdominal tergite. Venation reduced to two main longitudinal veins. Clavus relatively large with two

sub-parallel anal veins. Hind tibia with pre-apical row of six spines and apical oblique row of three platellae (whitish blunt spines) plus one or two lateral spines on each side. First hind tarsomere with two dorsal, and row of five lateral spines and oblique apical pecten of six platellae bordered by single lateral spine on each side. Second hind tarsomere with apical pecten of three platellae offset to outer half between single lateral spine on each side.

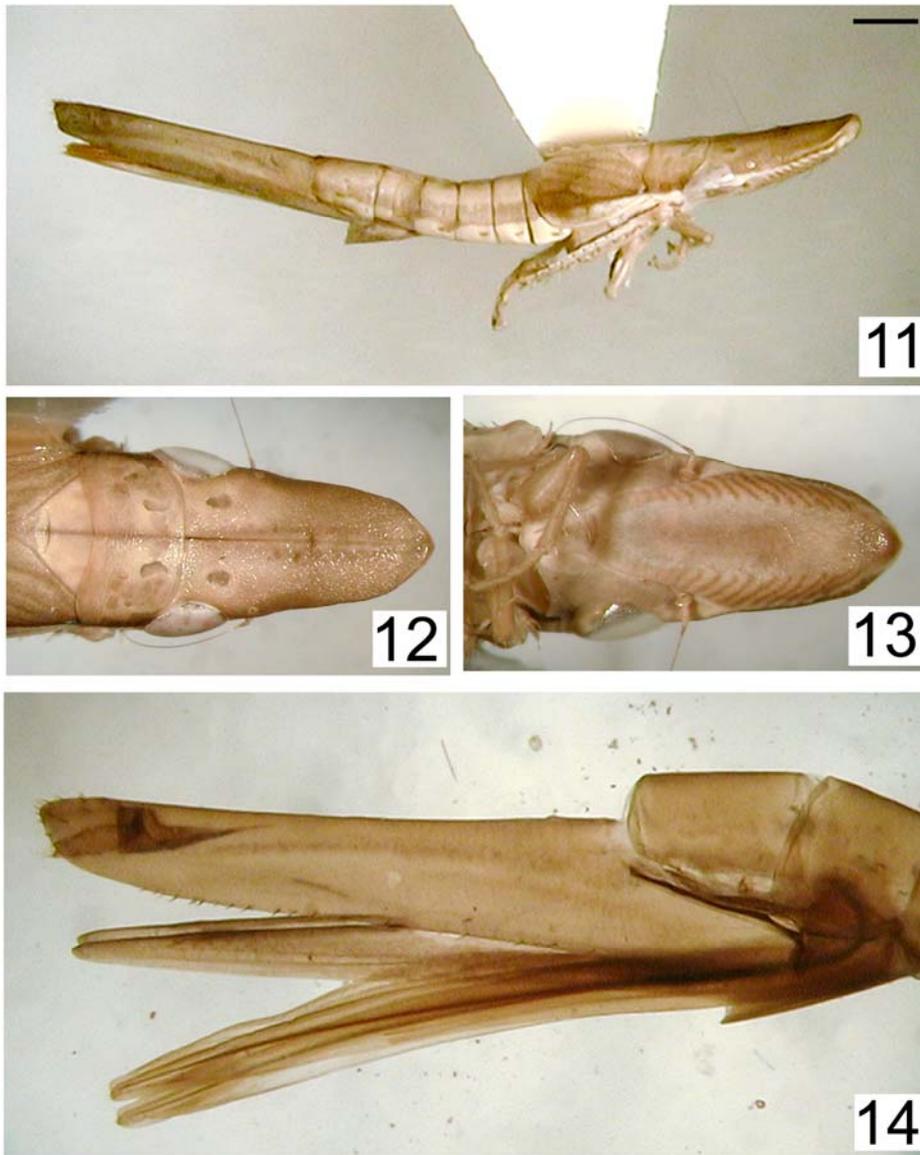
Female genitalia (Figure 14): Anal segment small, almost entirely enclosed within lateral apical lobes of pygofer. Pygofer very long, four to five times as long as pre-genital sternite, tapering towards apex, ventral margin and apical lobes bearing short dark setae. Ovipositor valves long. Third valve sheath like, broader over apical half. First and second valvulae closely apposed, bearing short teeth over basal half, tapered to apex.

Etymology: The species name is a derivate of the English word "impressive".

Figures 6–10. *E. impressa*, male genitalia: 6, sub-genital plate, ventral view; 7, paramere, ventral view; 8, connective, ventral view; 9, aedeagus, lateral view; 10, aedeagus, ventral view.



Figures 11–14. *E. impressa*, female: 11, habitus. Scale = 1mm; 12, dorsum of head and thorax; 13, face; 14, terminalia, lateral view.



#### DISCUSSION

This species is the third recognised in the genus *Euacanthella* which is the only genus recognised in the tribe Euacanthellini. Hamilton (1999) noted that the ovipositor of Euacanthellini was unknown so the description and illustration provided here of the ovipositor of *E. impressa* are the first for the tribe. The ovipositor of *E. palustris* is not developed to the same extent as the massive organ of *E. impressa* which implies a specialised egg-laying technique. Any hypothesis on this would be speculative but *E. impressa* has been collected using both suction and pitfall trapping implying that it lives at or near ground level. The regions in which it has been found are arid localities

dominated by spinifex (*Triodia* spp.) and wattle (*Acacia* spp.) and eggs may be laid either into the base of spinifex clumps or into the ground.

#### ACKNOWLEDGMENTS

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