THE IDENTITY OF PASCOEPU S VIRIDICEPS (EVANS) BASED ON RECOGNITION OF THE MALE AND A NEW SPECIES OF ZALETTA FROM BARROW ISLAND, WESTERN AUSTRALIA (HEMIPTERA: CICADELLIDAE: IDIOCERINAE)

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Summary

The male of Pascoepus viridiceps (Evans) is described for the first time based on a series of specimens from Barrow Island, Western Australia. The male genitalia are illustrated and compared with those of other species of the genus. P. viridiceps shows affinity with P. hyleorais (Kirkaldy) and P. nymphias (Kirkaldy). Zaletta webbi sp. nov., also from Barrow Island, is described and compared with other species of the genus.

Keywords: Auchenorrhyncha, Idiocerinae

INTRODUCTION

The Australian Idiocerinae were revised by Webb (1983) who recognised 108 species. This more than doubled the known fauna. He also recognised 28 genera, many of them new, and confirmed that the Palaearctic genus Idiocerus Lewis was not represented in Australia. In fact, 22 of the genera recorded from Australia are endemic. Since 1983 there has been little published on the Australian fauna of the subfamily other than the addition of the exotic species of mango leafhoppers, Idioscopus nitidulus (Walker) by Day and Fletcher (1994) and Idioscopus clypealis (Lethierry) by Fletcher and Dangerfield (2002).

The genus Pascoepus Webb (1983) was created for ten species of endemic leafhoppers, four of which were described as new. In a key to the males, Webb (1983) omitted P. insularis (Evans) from Kangaroo Island, South Australia and P. viridiceps (Evans) from Western Australia since they were known only from the female.

A recent survey of Barrow Island, off the NW coast of Western Australia, has found a series of males and females of P. viridiceps allowing this species to be characterised for the first time on the basis of the male genitalia.

Also included in the Barrow Island survey material was a number of specimens representing a new species of the genus Zaletta Metcalf. Webb (1983) recognised 24 species of this endemic Australian genus, 12 of which were described as new in that work.

Abbreviations

ASCU: NSW Agricultural Scientific Collections Unit, Orange
BMNH: The Natural History Museum, London
WAM: Western Australian Museum, Perth

TAXONOMY

Pascoepus viridiceps (Evans)
(Figures 1-8)

Idiocerus viridiceps Evans 1942: 151
Pascoepus viridiceps (Evans), Webb 1983: 54.

Holotype: ♀, Western Australia, Dongarra, 23.viii-5.ix.1935, R.E. Turner (BMNH)

Material examined: 10 males 15 females, Western Australia, Barrow Island, 20°47′38″S 115°26′34″E, 24.iv.2005, S. Callan, suction sample; 23 males, 14 females, Barrow Island, WA, various localities, 15.iii.2006, S. Callan and R. Graham (all in ASCU).

Description: Length males (N=33) 2.30-2.62 mm (mean 2.45), females (N=29) 2.40-2.69 mm (mean 2.51). Colour pale greenish yellow (specimens mounted from ethanol), broadly wedge shaped. Head wider than pronotum. Tegmina and wings barely reaching apex of abdomen in males and females. Dorsal abdominal apodemes broad, long, reaching to about ½ length of abdomen, ventral apodemes short, rounded.

Male genitalia: Segment 10 (Figure 2) with small group of spinules ventrally. Pygofer (Figure 3) short, produced to an obtuse point dorsally. Subgenital plates (Figure 4) narrow, slightly wider towards rounded apex, bearing six to eight dorsal hair setae along dorsal margin at widest part of plate and an additional marginal row around apex. Parameres (Figures 5, 6) elongate, curving abruptly dorsally before strong lateral hook preapically. Apical section narrow, angled at about ½ distance from preapical hook, then directed mesally to acute apex. Aedeagus (Figures 7, 8) with very long basal connective, two broad lateral rounded flanges and a pair of recurved apical hooks.
Remarks: This species is identified by its small size and lack of any dark markings (Figure 1). Evans (1966) gave the female length as 2.8 mm while Webb (1983) gave 3.0 mm for the female. Both of these measurements are slightly above the range provided above for the specimens examined here from Barrow Island. It is possible that the measurements given above are inaccurate because the specimens have all been mounted from ethanol rather than the Barrow Island population comprising smaller individuals. On the other hand, the measurements given by these previous authors were of the single female holotype from further south on mainland Western Australia where the environmental conditions are not as harsh as they are on Barrow Island.

Webb (1983) noted that the female genitalia of *P. viridiceps* are similar to those of *P. candidus* (Evans), also from Western Australia. The male genitalia, however, indicate a closer affinity with *P. hyleorais* (Kirkaldy) which has a wide distribution across northern Australia from Western Australia to Queensland, and *P. nymphaes* (Kirkaldy) from Queensland and New South Wales. It differs from both species in its smaller size, in lacking dark markings and in the shape of the subgenital plates and aedeagus. It is similar in the structure of the paramere which has the apex acute and directed medially and a preapical process extending laterally.

Figure 1. *Pascoepus viridiceps* male, **habitus**. Scale=1 mm

Figures 2-8. *P. viridiceps* male genitalia: 2, anal segment; 3, pygofer; 4, subgenital plate; 5, paramere, lateral; 6, apex of paramere, ventral; 7, aedeagus, posterodorsal view; 8, aedeagus, lateral view.
Zaletta webbi sp. nov.

Holotype: male, Barrow Island, WA, Site CC2, 20°49’02”S 115°26’24”E, 15.iii.2006, S. Callan and R. Graham, mounted ex-ethanol 2007 (WAM)

Paratypes: 1 male Barrow Island, WA, Site GP8, 20°47’59”S 115°16’25”E, 15.iii.2006, S. Callan and R. Graham (ASCU); 5 males, 2 females, Barrow Island, WA, Site GP7, 20°47’51”S 115°26’27”E 15.iii.2006, S. Callan and R. Graham (1 male, 1 female: BMNH, remainder: ASCU), all mounted ex-ethanol, 2007; 1 male, Barrow Island, WA, Site 38 (R1 008 SUC AL), 20°47’38”S 115°26’34”E, 24.iv.2005, S. Callan (ASCU).

Description: Length males (N=6) 2.96-3.2 mm (mean 3.13) females (N=2) 3.2 mm. Pale yellow-cream, lacking any dark markings except for dark tip of rostrum in both sexes and reddish apex of ovipositor in females. Pronotum posteriorly and clavus very pale brown contrasting with cream scutellum. Narrowly wedge-shaped with tegmina extending beyond apex of abdomen. Abdominal apodemes short.

Male genitalia: Segment 10 (Figure 10, X) large with anterior margin folded inwards and sclerotised. Pygofer (Figure 10, PG) truncate apically, without setae or processes. Subgenital plate (Figure 11) broader

Figure 9. Zaletta webbi male, habitus. Scale=1 mm

Figures 10-14. Z. webbi, male genitalia: 10, terminalia; 11, subgenital plate; 12, paramere; 13, aedeagus, posteroventral view; 14, aedeagus, lateral view. X=segment 10, PG = pygofer.
medially than near base, narrowed to rounded apex, with outer margin inrolled and bearing setae over apical half with dense patch at mid-length and tuft at apex. Paramere (Figure 12) broad apically long-triangular wrinkled along inner margin and bearing corrugations towards prominent acute tip, lacking preapical processes or appendages. Aedeagus (Figures 13, 14) bearing pair of short apical processes posterior to apical gonopore and strongly sclerotised hook on anterior side of gonopore. In posteroverentral view (Figure 13), lateral wings on each side narrow to ventral triangular projections.

Remarks: This species shows similarity in aedeagus morphology to *Z. aulonias* (Kirkaldy) from Queensland but the proportions of the apical appendages, the single rather than paired process below the gonopore and lateral profile are quite distinct. The paramere is also different in *Z. webbi* from all other species of the genus.

**DISCUSSION**

These are the only two species of Idiocerinae recorded on Barrow Island, *Z. webbi* appearing to be endemic to the island. While most of the known specimens of *P. viridiceps* are also from Barrow Island, the original description was based on a single female from Dongara, north of Perth, which implies that the species may be more widespread in Western Australia.

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**REFERENCES**


