

# A new species of *Micronecta* KIRKALDY (Heteroptera, Corixidae) from Fiji with notes on Australasian congeners<sup>1</sup>

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**Abstract:** *Micronecta jenniferae* nov.sp., is described from Viti Levu, Fiji. Diagnostic morphology is illustrated and the relationship of this species with Oceanian and Australasian micronectine faunas is briefly discussed.

**Key words:** Corixidae, Fiji, Micronectinae, *Micronecta*, new species, Oceania.

## Introduction

While examining the rich holdings of Micronectinae (Corixidae) held at the Bernice P. Bishop Museum (BPBM), Honolulu, Hawaii, USA, a series of 10 specimens of an undescribed micronectine from Fiji was discovered. This taxon marks the eastern-most distribution of the subfamily within the eastern hemisphere. Until now, Micronectinae were known eastward to the Solomon Islands (TINERELLA & POLHEMUS 2004). *Micronecta jenniferae* nov.sp. is described from Fiji to provide a name for inclusion in a forthcoming systematic treatment of Australasian and Oceanian Micronectinae. The species is compared to other Australasian taxa and its systematic position is discussed. Systematics of Australasian Micronectinae have received little attention in recent years. The treatments of CHEN (1960, 1965) and WRÓBLEWSKI (1962, 1970, 1972, 1977) stand as the most recent for the region. Preliminary data from examination of the Bishop Museum collections are presented here, contributing to the foundation for comprehensive treatment of the micronectine fauna of this region.

All measurements are in millimeters. Measurements were made with a Leica MZ-12 stereomicroscope equipped with an ocular graticule. Line drawings at 100x and

160x magnification were made with a drawing tube. Metrics are presented for nine specimens (5♂♂, 4♀♀). One additional disarticulated male specimen exists on a scanning electron microscope stub and was not measured. The SEM stub is deposited in the BPBM. The ranges of measurement values are given with the description. Complete metric data are included in Table 1. Metrics pertaining to the holotype (♂), are given in brackets [ ]. Type material is deposited in the Bernice P. Bishop Museum, Honolulu, Hawaii, USA, and the collection of the author (PPTC).

## *Micronecta jenniferae* nov.sp. (Figs 1-16)

**Description.** Brachypterous form, based on nine dried specimens on point cards and one disarticulated male on scanning electron microscope stub.

**Measurements:** 5♂♂, 4♀♀. Length (♂♂): 2.26-2.47, [2.26]; (♀♀): 2.40-2.48; Width (♂♂): 1.23-1.30, [1.23]; (♀♀): 1.30-1.34; Width of head (♂♂): 0.89-0.93, [0.89]; (♀♀): 0.92-0.94; Synthlipsis: (♂♂): 0.33-0.39, [0.33]; (♀♀): 0.38-0.39; Width of eye (♂♂): 0.30-0.32, [0.31]; (♀♀): 0.28-0.31; Width of pronotum (♂♂): 0.84-0.86, [0.84]; (♀♀): 0.86-0.90; Length of pronotum (♂♂): 0.18-0.25, [0.18]; (♀♀): 0.22-0.23.

<sup>1</sup> With great pleasure, this paper is dedicated to Dr. Ernst Heiss for his kind encouragement and numerous contributions to Heteropterology.

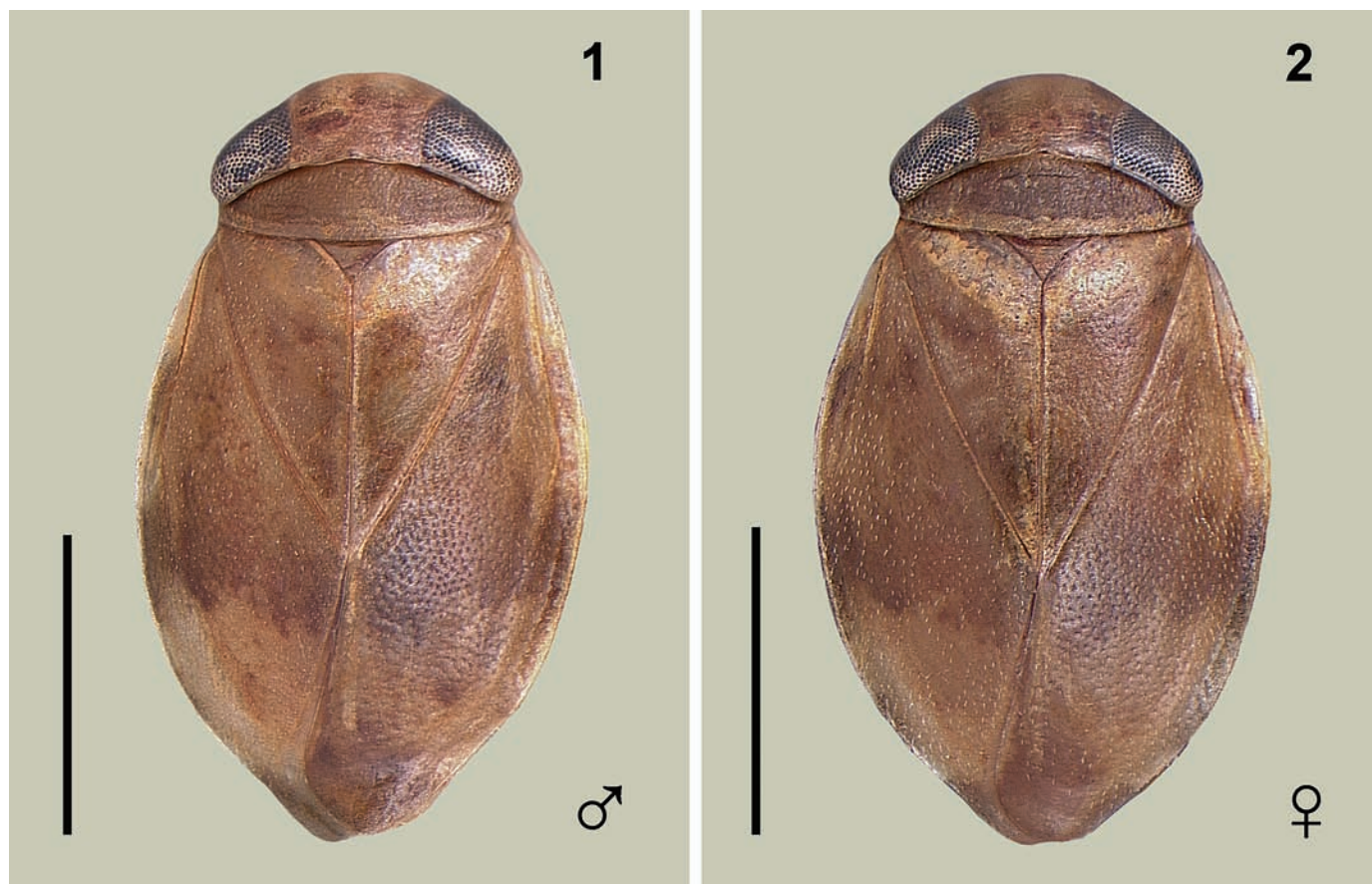
**Table 1:** Measurement data for nine specimens of *Micronecta jenniferae* nov.sp. L= length, LP= length of pronotum, W= body width, WH= width of head, S= synthlipsis, WE= width of eye, WP= width of pronotum, L:W= ratio body length to width, S:E= ratio of synthlipsis to eye width, Ocl= Ocular index.

	L	LP	W	WH	S	WE	WP	L:W	S:E	Ocl
♂	2.26	0.18	1.23	0.89	0.33	0.31	0.84	1.84	1.05	1.18
♂	2.37	0.24	1.29	0.90	0.34	0.32	0.86	1.84	1.07	1.23
♂	2.47	0.25	1.31	0.93	0.39	0.30	0.89	1.89	1.31	1.44
♂	2.36	0.22	1.30	0.91	0.37	0.32	0.86	1.82	1.14	1.35
♂	2.42	0.23	1.35	0.90	0.37	0.29	0.87	1.87	1.26	1.37
♀	2.43	0.22	1.30	0.92	0.38	0.31	0.86	1.91	1.22	1.43
♀	2.48	0.23	1.30	0.93	0.38	0.30	0.88	1.81	1.26	1.34
♀	2.42	0.23	1.34	0.94	0.39	0.28	0.90	1.82	1.38	1.42
♀	2.40	0.23	1.32	0.94	0.38	0.31	0.90	1.79	1.22	1.37
Mean	2.40	0.23	1.30	0.92	0.37	0.31	0.87	1.84	1.21	1.35
SD	0.07	0.02	0.03	0.02	0.02	0.01	0.02	0.04	0.11	0.09

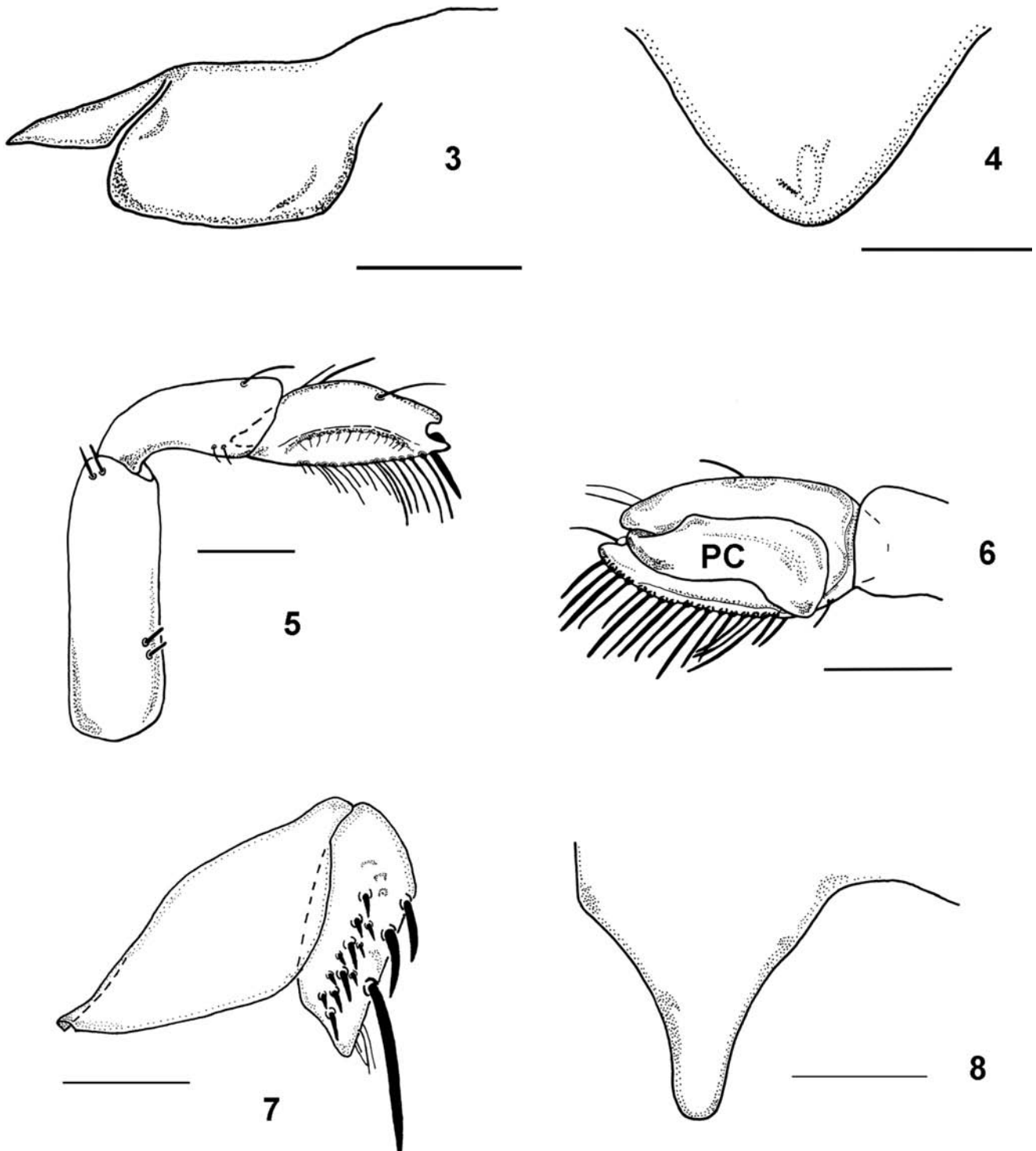
**Color:** Ground color light reddish-brown (Figs 1 & 2). Head darker reddish brown, vertex with widened whitish circular area, fronto-clypeal area darker, genae punctulate, dark brown to black, eyes black. Pronotum brown with narrow apical pale band spanning width. Hemelytra: clavus with basal diagonal pale area, reddish area medially, latero-apical portion lighter, brownish-yellow; corium with basal darker

broad area extending laterally to embolium, apical portion yellowish brown; membrane dark brown apically, apico-medial portion of left membrane hyaline, right membrane similar to corium, with setae absent from apical portion. Hemelytra evenly clothed with short, stout setae. Abdomen infuscated, darker, legs brown with metatarsal natatorial setae black.

**Structural Characteristics:** Ratio of body length/width = 1.8 (males and females). Head slightly wider than pronotum, synthlipsis 1.2 times as wide as posterior width of an eye. Ocular index: 1.3 (males and females). Habitus of male and female as in Figures 1 & 2. General facies of head (frons and labium) proportionate. Third antennal segment long, inflated, densely pubescent, antennal segments 1 and 2 very short. Prothoracic lobe (Fig. 3) rectangular, with scattered setae, distal angle rounded, lower margin broadly rounded. Pronotum (Figs 1-2) short, nearly six times as wide as long (W/L: ♂♂ 1.30/0.23, ♀♀ 1.32/0.23), densely rugose, narrowing laterally, basal portion with median transverse carina.



**Figs 1-2:** *Micronecta jenniferae* nov.sp., dorsal habitus. (1) Male. (2) Female. Scale bars = 1.0 mm.



**Figs 3-8:** *Micronecta jenniferae* nov.sp., (3) Prothoracic lobe, female. (4) Metaxyphus. (5) Left male foreleg, posterior aspect. (6) Left male pala (tarsus), anterior aspect, palar claw folded in. (PC = palar claw). (7) Prestrigilar flap of abdominal segment V. (8) Sternal process of abdominal segment VII. Scale bars = 0.1 mm.

Metathoracic wings short, narrow, reaching to apex of abdominal segment VI. Lateral spines on abdominal segments IV-VIII; IV: one short stout spine, two long narrow spines; V: two short stout spines, one stout long spine, one long hair-like spine; VI: two short stout spines, one stout long spine; VII:

two short spines, three long; VIII: two short stout spines, two long stout spines. Metaxyphus short, triangular, apex rounded (Fig. 4). Male foreleg (Figs 5-6): Femur with two spines in basal third towards ventral surface, Pala with 13-15 setae in lower palmar row, lower row more pronounced than upper row.

Palar claw as in Figure 6. Female foreleg with same general setal arrangement as male. Tergum IV bilobed, asymmetric, lobes broadly rounded. Right lobe longer than left, each lobe with one row of six to eight setae along margin. Submarginal setae of tergite V absent. Prestrigilar flap of tergite V as in Figure 7. Strigil very long, narrow, and rectangular with numerous densely packed combs. Median lobe of sternite VII (Fig. 8) long, rounded apically, glabrous, with setae restricted to basal portion. Free lobe of tergite VIII (Fig. 9) long, parallel-sided, right side rounded, left side with pronounced apical lobe. Free lobe densely pubescent, with short setae except in medio-apical portion, about 15 long setae originating from apical lobe and 10-12 shorter setae in upper right angle. Pars stridens processus cleaner ridges of tergite VIII appearing as a fine ridged mat (Fig. 10). Right paramere (Figs 11-13) long, broadened apically, with shaft constricted towards base. Base of right paramere (Fig. 12) subquadrate, with about 36 ridges on pars stridens processus; ridges on lower, rounded portion of pars stridens processus spaced wider, those in upper flat portion packed closely. Left paramere (Figs 14-16) about 4/5 length of right paramere, shaft nearly parallel-sided, apex curved outward. Apical third of left paramere with large spine-like scales, tip with semi-circular notch. Aedeagus shown in Figures 11-13.

Types: Holotype, brachypterous male, (BPBM 16,620), FIJI: VITI LEVU; Vatuthere, near Nandarivatu, IX-8-1938, 2200 feet, stream, Coll. E.C. Zimmerman. Paratypes: 4♂♂, 5♀♀; same data as holotype. Holotype and 3♂♂, 4♀♀ paratypes deposited in BPBM and 1♂, 1♀ in PPTC.

**Etymology:** This species honors Jennifer L. Tinerella for her longstanding dedication, support, and encouragement of my research on systematics and zoogeography of Corixoidea.

**Habitat:** A stream inhabitant, according to label data.

## Discussion

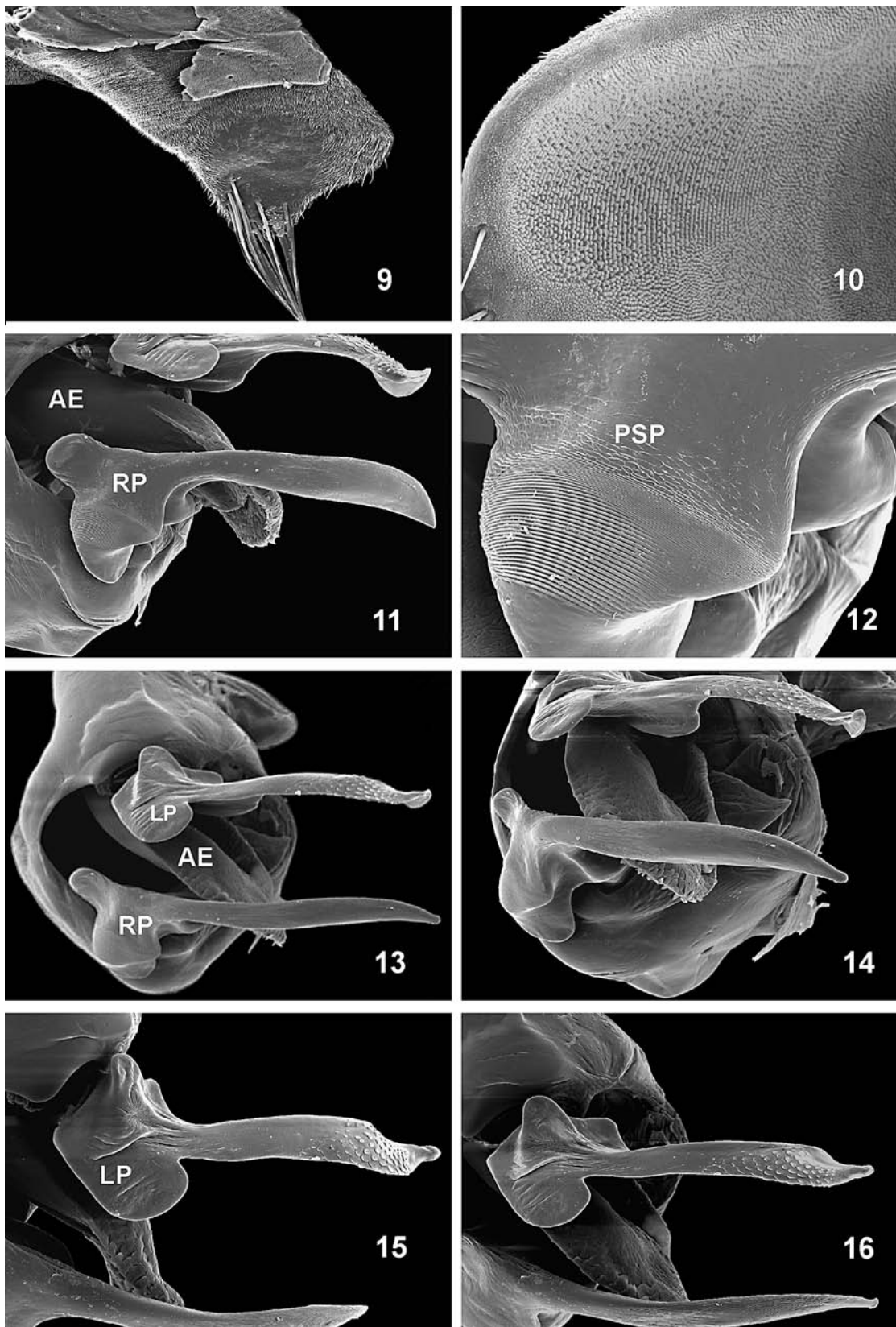
*Micronecta jenniferae* nov.sp., is the first micronectine recorded east of the Solomon Islands. Previous to this, *Micronecta virgata* HALE and *M. carbonaria* HORVÁTH marked the easternmost distribution of the subfamily (TINERELLA & POLHEMUS 2004). *Micronecta*

*jenniferae* nov.sp., is closely allied with *M. virgata* HALE and *M. carbonaria* HORVÁTH. The distribution and larger sizes of *M. virgata* (2.94-3.36 mm) and *M. carbonaria* (2.96-3.44 mm), serve to distinguish these species, as does hemelytral patterning and structure. The ground color of *M. virgata* is brown to dark brown, with hemelytral patterning consisting of four dark longitudinal lines; ground color of *M. carbonaria* is typically black with hemelytral patterning absent.

*Micronecta jenniferae* nov.sp., represents the northeastern distributional limit of the typical 'Australian' clade, which includes *M. virgata* (northern Australia, Papua New Guinea, Solomon Islands), *M. carbonaria* (New Guinea), *M. annae* group (Australia), *M. halei* CHEN (Australia), *M. gracilis* HALE (Australia), *M. major* CHEN (Australia), and *M. robusta* HALE (Australia). This clade is united by the following synapomorphies: transverse basal carina of pronotum, rounded distal angle of free lobe of tergite VIII, apical scales of left paramere, and rectangular base, pars stridens processus, and apically expanded portion of right paramere. Further analyses of this Australian clade with a second group of endemic Australian species (most undescribed at present), will aid in resolution of Australasian micronectine relationships.

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**Figs 9-16:** *Micronecta jenniferae* nov.sp., male abdominal terminalia. (9) Free lobe of tergite VIII. (10) Cleaner ridges of abdominal segment VIII. (11) Right paramere, lateral aspect; left paramere, ventral aspect. (12) Pars stridens processus, base of right paramere. (13) Right paramere, dorsal aspect; left paramere, ventro-lateral aspect. (14) Right paramere, medio-lateral aspect; left paramere, ventral aspect. (15) Left paramere, lateral aspect (note tip, cf fig. 16); right paramere, dorso-medial aspect. (16) Left paramere, lateral aspect; right paramere dorsal aspect. (LP = left paramere, RP = right paramere, AE = aedeagus, PSP = pars stridens processus).

## Zusammenfassung

*Micronecta jenniferae* nov.sp., von Viti Levu, Fiji, wird neu beschrieben. Diagnostische Merkmale und die Beziehung der Art zu Ozeanischen und Australasiatischen Micronectinae werden diskutiert.

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