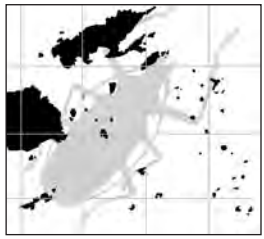
NUMBER 103, 68 pages 31 March 2009

BISHOP MUSEUM
OCCASIONAL PAPERS

FIJI ARTHROPODS XIII



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ISSN 0893-1348

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FIJI ARTHROPODS XIII

Editors' Preface

We are pleased to present the thirteenth issue of *Fiji Arthropods*, a series offering rapid publication and devoted to studies of terrestrial arthropods of the Fiji Group and nearby Pacific archipelagos. Most papers in this series are the results of collecting and research on the Fijian fauna deriving from the NSF-funded "Terrestrial Arthropods of Fiji" project. Two co-PIs and 15 specialists form the core team of scientists who have agreed to publish new taxa that result from collecting during this survey. However, as space allows, we welcome papers from any scientist who is currently working on arthropod taxonomy in Fiji.

This issue contains a review opf the specvies of Amblypsilopus of the SW Pacific, focusing on the radiation of species in Fiji and Vanuatu (Diptera—Bickel) and discovery of two new species of the large-sized tipulid genus Holorusia from the island of Vanua Levu (Diptera—Podenas & Evenhuis). Manuscripts are currently in press or in preparation on Cerambycidae, Ichneumonidae, Muscidae, Keroplatidae, Mycetophilidae, Mythicomyidae, Tipulidae, and Dolichopodidae, and will appear in future issues.

The editors thank the Government of Fiji (especially the Ministries of Environment and Forestry), the National Science Foundation (DEB 0425970), and the Schlinger Foundation for their support of this project. Types of new species deriving from this study and voucher specimens will be deposited in the Fiji National Insect Collection, Suva.

All papers in this series are available free of charge as pdf files downloadable from the following url:

http://hbs.bishopmuseum.org/fiji/fiji-arthropods/

We encourage interested authors to contact us before submitting papers.

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Fiji Arthropods XIII. Edited by Neal L. Evenhuis & Daniel J. Bickel. *Bishop Museum Occasional Papers* 103: 3–61 (2009).

Amblypsilopus (Diptera: Dolichopodidae: Sciapodinae) from the Southwest Pacific, with a Focus on the Radiation in Fiji and Vanuatu[1]

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Abstract. The genus *Amblypsilopus* Bigot is revised for the Southwest Pacific. Based on existing collections and newly collected material from Fiji and Vanuatu, 36 species are treated, 35 newly described. In addition, the nine previously described species in the *pulvillatus* group are included in a comprehensive key and analysed with the entire regional fauna

The *arenarius* group includes eight new species, *Amblypsilopus arenarius, A. navatadoi,* and *A. vusasivo* from Fiji, *A. dequierosi, A. elatus, A. penaoru* and A. *sounwari* from Vanuatu, and *A. honiarensis* from the Solomon Islands. The *cakaudrove* group includes five new species from Fiji, *A. brorstromae, A. cakaudrove, A. navukailagi, A. terriae* and *A. veisari.* The *gnathoura* group includes two new species from Fiji, *A. gnathoura* and *A. kotoi.* The *kilaka* group includes two new species from Fiji, *A. kilaka* and *A. sanjanae.* The *olsoni* group includes 12 new species from Fiji, *A. alipatei, A. batilamu, A. elaquarae, A. lakeba, A. laui, A. marikai, A. niphas, A. olsoni, A. qaraui, A. raculei, A. waivudawa,* and *A. waqai,* and two new species from Vanuatu, *A. ibiscorum* and *A. nivanuatorum.* A new species, *A. ratawai,* is described from Fiji, and belongs in the *pulvillatus* group which included nine previously described species. *Amblypsilopus pusillus* (Macquart) is redescribed and is recorded as a disjunct in Samoa, being otherwise known from the Indian subcontinent and Thailand. Three new species are unplaced and appear somewhat isolated, *A. asau* from Samoa, and *A. niupani* and *A. wolffi,* both from the Solomon Islands. Three species described from isolated females cannot be identified and are regarded as *nomina dubia: Sciapus parvulus* Parent and *Sciapus segnis* Parent, both from Fiji, and *Sciapus parallelinervis* Parent from the Solomon Islands.

Most *Amblypsilopus* species are from single sites or adjacent sites suggesting a high level of local endemicity. Most of the major Southwest Pacific *Amblypsilopus* species groups are part of wider Oriental-Australasian fauna groupings. The *arenarius*, *olsoni*, and *pulvillatus* groups are found on both Fiji and Vanuatu, suggesting that these three groups radiated 6–8 Mya, when Fiji and Vanuatu were in much closer physical proximity.

INTRODUCTION

Amblypsilopus is a diverse and morphologically complex pan-tropical genus that acts as a "holding taxon" for many small and often delicate members of the Sciapodinae (Dolichopodidae). Although *Amblypsilopus* itself is poorly defined and probably polyphyletic, good monophyletic species groups can be defined based on male genitalic and secondary sexual characters, and thus provide basic units for further systematic study.

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1. Contribution No. 2009-004 to the NSF-Fiji Arthropod Survey.

The Australian *Amblypsilopus* fauna is the best documented of any region with 84 described species (Bickel 1994). However more species await both collection and description from the rich and poorly known Oriental and Australasian tropics. This work treats *Amblypsilopus* from the eastern end of the Australasian radiation, from Fiji and surrounding island groups, Vanuatu, Solomon Islands, Tonga, and Samoa. Most of species are from Fiji and Vanuatu, sites of intensive collecting activity with Malaise traps from the Fiji Terrestrial Arthropod Survey from 2003–2007; and the IBISCA altitudinal transect project in 2006 on Espiritu Santo, Vanuatu (http://www.ibisca.net/ibisca-santo.htm).

The entire known Southwest Pacific *Amblypsilopus* fauna is reviewed here, including the *pulvillatus* group, which was treated previously by Bickel (2006).

MATERIAL AND METHODS

Repositories of material in this study are referred to by the following acronyms: (AMS), Australian Museum, Sydney; (BMNH), Natural History Museum, London; (BPBM), Bishop Museum, Honolulu; (CNC), Canadian National Collection, Agriculture Canada, Ottawa; (FNIC), Fiji National Insect Collection, Suva (currently held in trust at the Bishop Museum); (MNHN), Muséum National d'Histoire Naturelle, Paris; (NZAC), New Zealand Arthropod Collection, Auckland; (USNM), National Museum of Natural History, Smithsonian Institution, Washington, D.C.; (ZMUC), Zoological Museum, University of Copenhagen.

Malaise trap specimens were collected directly into alcohol. Regarding material collected from Malaise traps as part of the NSF-funded Fiji Terrestrial Arthropod Survey, all unique males, type material, and some representatives from large samples were dry mounted out of alcohol.

The left lateral view of the hypopygium or male genital capsule is illustrated for most species. In describing the hypopygium, 'dorsal' and 'ventral' refer to morphological position prior to genitalic rotation and flexion. Thus, in figures showing a lateral view of the hypopygium, the top of the page is morphologically ventral, while the bottom is dorsal. Morphological terminology follows Bickel (1994). The CuAx ratio is the length of the dm-cu crossvein / distal section CuA. The position of features on elongate structures such as leg segments is given as a fraction of the total length, starting from the base. The relative lengths of the podomeres should be regarded as representative ratios and not measurements. The ratios for each leg are given in the following formula and punctuation: trochanter + femur; tibia; tarsomere 1/ 2/ 3/ 4/ 5. The following abbreviations and terms are used: MSSC - Male secondary sexual character(s), non-genitalic characters found only on the male body; I, II, III: pro- , meso-, metathoracic legs; C, coxa; T, tibia; F, femur; ac, acrostichal setae; ad, anterodorsal; av, anteroventral; dc, dorsocentral setae; dv, dorsoventral; pd, posterodorsal; pv, posteroventral; t, tarsus; t_{1-5}, tarsomeres 1 to 5.

Etymology. Unless otherwise noted, the specific epithets for newly described species are geographical place names of indigenous origin in Fiji, Vanuatu, Samoa and the Solomon Islands. These names should be regarded as nouns in apposition.

Sister species or species assemblages with shared synapomorphies are noted in the text, but a detailed phylogenetic analysis is not provided. *Amblypsilopus* species are defined by a mosaic of male characters many of which are highly plastic in expression and lack evident polarities. Also, describing the large number of new taxa is a much more pro-

ductive use of time than attempting to obtain a meaningful cladogram from a mass of equivocal data.

TAXONOMY

Genus *Amblypsilopus* Bigot

Amblypsilopus Bigot, 1888: xxiv. Type species: *Psilopus psittacinus* Loew, 1861 (as *psitacinus* Fabricius), orig. des.

Diagnosis.
Head: vertex distinctly excavated; head width almost always greater than height; strong postvertical seta as dorsalmost postorbital setae, and strong diverging ocellar setae; male vertical seta usually weak and reduced; female vertical always strong; male face flat to only slightly bulging; male clypeus narrowed and distinctly free from eye margin in most species (MSSC); female clypeus almost always adjacent to sides of eyes; pedicel with short dorsal and ventral setae; first flagellomere usually subrectangular to subtriangular, sometimes modified in males; arista usually distinctly dorsal and arising from base of first flagellomere, rarely dorsoapical or apical; arista usually short, not much longer than head width, and rarely with apical flags.

Thorax: ac setae variable, from biseriate to absent; 4–5 pairs dc, almost always sexually dimorphic: in females, all setae strong, only slightly decreasing in size anteriad; in males posterior two dc always strong, and anterior dc variously reduced and hair-like (MSSC); median scutellar setae strong, laterals always reduced to weak hairs or absent.

Legs: legs often elongate and "delicate"; femora almost always without strong ventral setae; many characters diagnostic in defining species and species groups developed on legs, such as the following MSSC: a) tibiae and/or tarsomeres elongated or shortened, b) tarsomeres I and II flattened, c) $IIIt_{3–5}$ flattened and padlike, d) tibiae and tarsi I and II with short erect or crocheted setae, e) male TI or It_1 with pale curved posterior hairs.

Wing: usually hyaline, but sometimes with apical maculations, vein M_1 usually with elbow-shaped bend, crossvein dm-cu straight and usually forming right angle with vein M.

Abdomen: relatively long in male; terga sometimes translucent yellow; hypopygial peduncle (segment 7 of abdomen) not greatly prolonged; hypandrium usually asymmetrical, with narrow left lateral arm, arising near base of hypandrium; phallus with dorsal angle; epandrial lobe with 2 strong apical bristles; surstylus and cercus various.

Remarks. *Amblypsilopus* is a diverse pan-tropical genus of mostly delicate Sciapodinae. The genus is not strongly defined, and is possibly polyphyletic or paraphyletic. However, *Amblypsilopus* can be split into useful species groups defined by putative apomorphies in male genitalia and secondary sexual characters. Sometimes there is homoplasy in character expression between the species groups, and variable phenotypic expression of a character within a group. These and other matters, such as nomenclatorial history are discussed at length in Bickel (1994).

KEY TO MALES OF *AMBLYPSILOPUS* SPECIES FROM EASTERN MELANESIA AND THE CENTRAL PACIFIC

(For figures of previously described *pulvillatus* group species, see Bickel 2006).

1. Tibia I with single long curved posterior seta variously positioned, but usually along distal half (Fig. 9b), or if lacking long seta on TI, present on base of It_1; TI on distal fifth to sixth slightly expanded with white ventral pile; male vertical seta usually reduced and weak; legs usually elongate and yellow; abdominal segments sometimes partially translucent yellow 2
-. Tibia I without long posterior seta, or with series of short posterior setae; other features various 30

2. Tibia I with ventral pad at apex; coxa I with strong anterior seta near 1/2 (Fig. 9b); male face & clypeus wide, close to eye margin; surstylus as curved lobate excavation .. *kilaka* group 3
-. Tibia I without ventral apical pad; coxa I without such outstanding setae; male face & clypeus narrowed and free from eye margin; surstylus various 4

3. Hypopygium (Fig. 9a); surstylus with main ventral arm bearing large and small blade-like setae; cercus expanded distally, subtriangular with abundant setae as figured; tergum 7 with distal excavation (Fiji) ..... **kilaka** Bickel **n**. **sp**.
-. Hypopygium (Fig. 9c); surstylus with main ventral arm curved and bearing 2 large blade-like setae; cercus digitiform with abundant setae as figured (Fiji) .... **sanjanae** Bickel **n**. **sp**.

4. Cercus elongate, basally digitiform, but distally (usually subapically) forked, with medially directed branch of fork usually narrower than its base (Figs 5–8); tibia II without anterior seta at 4/5; surstylus not branched or excavated .. *olsoni* group 5
-. Cercus various but without subapical medially directed branch; tibia II with anterior seta at 4/5; surstylus various 18

5. Surstylus curved and tapering as in bird's beak; epandrial lobe fused mesad of surstylus, with curved apical and subapical seta (Fig. 3a); cercus basally with 5–6 ventral setae, with subapical mound bearing fan of 5 long setae, with short apicomedian arm; TI strongly bowed, with pale posterior seta at 1/2 (Fiji) ..... **alipatei** Bickel **n**. **sp**.
-. Surstylus not curved, but subrectangular or lobate .. 6

6. Surstylus subrectangular with irregular outline (Fig. 8a–c) and relatively weak setae; phallus without subapical barb 7
-. Surstylus distally rounded, lobate, with strong median or lateral setae (Figs 5–7); phallus always with subapical barb 10

7. It_1 with pale curved ventral seta near join with TI; hypopygium (Fig. 8c); cercus elongate and forked midway, lateral arm curved with apical blade like setae, and ventral arm shorter but thicker, with 8–9 strong apical bladelike setae (Fiji) .... **qaraui** Bickel **n**. **sp**.
-. It_1 without curved ventral seta; cercus with only shallow fork, and without strong apical bladelike setae 8

8. Hypopygium (Fig. 8b); cercus L-shaped, with strong seta at "bend of L," and median arm with modified apical setae, and without basal constriction; TI with pale curved posterior seta at 1/2, distad of which is pv row of 15 fine pale curved, almost crocheted hairs to apex (Fiji) ..... **marikai** Bickel **n**. **sp**.
-. Hypopygium (Fig. 8a); cercus distally excavated into U-shape, with lateral arm bearing long apical setae, and median arm constricted near 1/4 and bearing some apical setae; TI setation not as above 9

9. It_5 as ovate ivory-coloured and slightly expanded flag; TI with curved posterior seta at 1/2, immediately distad of which is pv row of 15 fine pale curved, almost crocheted hairs to apex; longest hair near 4/5 (Fiji) ..... **elaquarae** Bickel **n**. **sp**.
-. It_5 brownish; TI also with pale curved posterior pale seta at 1/2, but starting at 2/3 is pv row of 12 fine pale curved, almost crocheted hairs to apex, with longest hair near 4/5 (Fiji) ..... **waivudawa** Bickel **n**. **sp**.

10. IIt_1 distinctly longer than TII 11
-. IIt_1 shorter than or subequal to TII 16

11. It_5 flattened and expanded into flag 12
-. It_5 unmodified 15

12. It_5 entirely dark brown to black (Vanuatu) 13
-. It_5 with rounded white arolium (Fig. 5c), even if small (Fiji) 14

13. It_5 subtriangular, and dark brown; hypopygium (Fig. 6b); surstylus enlarged and lobate with strong marginal setae; hypandrium with smooth surface; cercus relatively short, with short apical branch offset to the median plane. ..... **ibiscorum** Bickel **n**. **sp**.
-. It_5 flattened into black triangular flag, pinnate along margins; hypopygium (Fig. 6a) surstylus lobate with strong median seta; hypandrium with shagreened ventral surface; cercus elongate with elongate apical branch offset to the median plane .... **nivanuatorum** Bickel **n**. **sp**.

14. It_5 flattened into pinnate black flag, with expanded semicircular white arolium at apex (Fig. 5c); hypopygium (Fig. 5b); surstylus clavate with group of strong lateral setae; cercus elongate with 2 strong apical setae, with subapical median arm with some distal setae ..... **niphas** Bickel **n**. **sp**.
-. It_5 flattened into pinnate black flag with tiny white arolium at apex; hypopygium (similar to Fig. 7c); surstylus lobate with strong median seta; cercus elongate with 2 strong apical setae, and L-shaped, with subapical median arm bearing distal setae ..... **laui** Bickel **n**. **sp**.

15. Hypopygium (Fig. 7b) dark brown with yellow cercus and white surstylus; surstylus lobate with strong median seta; cercus elongate, swollen basally, with strong apical setae and curved median arm branching at 3/4, and bearing large bladelike seta (Fiji) ..... **raculei** Bickel **n**. **sp**.
-. Hypopygium (Fig. 5a) surstylus expanded and lobate, with abundant basal microtrichia, some marginal setae and single strong distal lateral seta; cercus elongate with 2 strong apical setae, and subapical curved median arm (Fiji) ..... **olsoni** Bickel **n**. **sp**.

16. $IIIt_1$ distinctly white, in contrast to adjacent yellow podomeres; hypopygium (Fig. 7a); surstylus lobate with strong median seta; cercus with modified leaf-like setae along distal half, with median curved arm which is constricted basally (Fiji)..... ..... **batilamu** Bickel **n**. **sp**.
-. $IIIt_1$ yellow, similar to adjacent podomeres 17

17. Hypopygium (Fig. 5d); surstylus lobate with strong median seta and other short setae; cercus elongate, apically excavated in U-shape, ventral arm with strong apical seta, and subapical median arm with some apical barbed setae (Fiji) .... **lakeba** Bickel **n**. **sp**.
-. Hypopygium (Fig. 7d); surstylus lobate with strong 3 strong curved marginal setae, and single long basal seta; cercus thickened along basal two thirds, with subapical median arm curved with bladelike seta at mid-length (Fiji) .. **waqai** Bickel **n**. **sp**.

18. Surstylus deeply forked and /or dorsal margin of surstylus and lateral epandrium with abundant setae (Figs 4a–d) .. *cakaudrove* group 19
-. Surstylus never forked, but tapering or lobate; surstylar margin and lateral epandrium bare .. *arenarius* group 23

19. It_1 longer than TI; hypopygium (Fig. 4a); surstylus deeply forked, V-shaped, with dorsal arm straight and longer than ventral arm .. (Fiji) 20
-. It_1 shorter than TI; other features various 21

20. It_5 flattened with pinnate lateral hairs .. (Fiji) ..... **cakaudrove** Bickel **n**. **sp**.
-. It_5 unmodified .. (Fiji) ..... **veisari** Bickel **n**. **sp**.

21. Abdominal terga 4, 5 & 6 each with 6–8 strong black lateral setae which hang over abdominal venter; hypopygium (Fig. 4b); surstylus deeply forked, U-shaped, with dorsal arm longer and bent at right angle .. (Fiji) ..... **brorstromae** Bickel **n**. **sp**.
-. Abdominal terga without such strong black lateral setae; surstylus at most only shallowly excavated 22

22. Hypopygium (Fig. 4c); surstylus with distinct apical notch with strong ventroapical seta, and dorsal margin with abundant short setae (Fiji) ..... **terriae** Bickel **n**. **sp**.
-. Hypopygium (Fig. 4d); surstylus elongate and subrectangular, without apical notch; epandrial lobe elongate, lying adjacent to surstylus .. (Fiji) .... **navukailagi** Bickel **n**. **sp**.

23. It_1 elongate, distinctly longer than TI; It_5 distinctly flattened, subtriangular, and dark brown; vertical and postvertical setae pale yellow, but ocellar setae black 24
-. It_1 subequal to or shorter than TI; other features various 25

24. IIt_1 distinctly longer than TII; TI distinctly bowed, with long yellow posterior seta at 2/5, and distally with comb of fine yellow hairs to apex; hypopygium (Fig. 1d); cercus elongate, digitiform, and as long as epandrium (Vanuatu) ..... **elatus** Bickel **n**. **sp**.
-. IIt_1 distinctly shorter than TII; TI with long yellow posterior seta at 1/2, and row of pale posterior hairs from 1/4 to apex; hypopygium (Fig. 1a); with surstylus curved and tapering, epandrial lobe mediad of surstylus, and cercus shorter than epandrium; (Vanuatu) ..... **sounwari** Bickel **n**. **sp**.

25. Thoracic ac and dc setae yellow; postvertical, vertical and ocellar setae yellow 26
-. Thoracic ac and dc setae black; color of head setae various 27

26. Hypopygium (Fig. 1b); surstylus curved as in bird's beak; cercus almost twice length of surstylus, and distally clavate; IIt_1 distinctly longer than TII (Fiji) .... **navatadoi** Bickel **n**. **sp**.
-. Hypopygium (Fig. 1c); surstylus almost straight; cercus short, only slightly longer than surstylus, and digitiform; IIt_1 shorter than TII (Fiji) ..... **arenarius** Bickel **n**. **sp**.

27. Postvertical and vertical setae yellow, but ocellar setae always black 28
-. All major head setae black 29

28. TI distinctly bowed with long pale posteriorseta at 1/4, and row of pale posterior hairs from 1/4 to apex (Fig. 1e); It_5 distinctly flattened, subtriangular (Vanuatu) ..... **dequierosi** Bickel **n**. **sp**.
-. TI distinctly bowed , with long yellow posterior seta near 1/2; It_5 dark brown, and only slightly flattened (Vanuatu) ..... **penaoru** Bickel **n**. **sp**.

29. CI mostly yellow; CII and CIII dark brown; all trochanters, femora, tibiae, and basal tarsomeres I and II yellow; $IIIt_1$ distinctly ivory white; hypopygium (Fig. 2b); surstylus broad, subrectangular with some strong setae as figured (Fiji) .... **vusasivo** Bickel **n**. **sp**.
-. All coxae, trochanters and basal femora brown; distal femora, tibiae, and basal tarsomeres yellow; hypopygium (Fig. 2c); surstylus digitiform (Solomon Is) .... **honiarensis** Bickel **n**. **sp**.

30. Tarsus I with either one or both claws enlarged and pulvilli usually enlarged; phallus unusually broad; vertical setae relatively short and curved .. *pulvillatus* group 31
-. Tarsus I with both claws and pulvilli short, subequal with those on other legs; pulvilli not greatly enlarged; other features various 40

31. Tarsus I with both claws and pulvilli distinctly enlarged and subequal; hypopygium (Fig. 11a); epandrial lobe greatly enlarged with strong tapering apical seta and shorter ventral seta; cercus lobate subrectangular, with 7–8 strong setae along ventral margin (Fiji) ..... **ratawai** Bickel **n**. **sp**.
-. Tarsus I with only anterior claw enlarged, posterior claw reduced or absent; pulvilli often enlarged; other features various 32

32. It_5 with pulvilli not enlarged, subequal to those of legs II & III; anterior tarsal claw distinctly enlarged, posterior claw short; hypopygium with L-shaped cercus; coxa I, all femora and tibiae yellow; halter yellow (Vanuatu) ..... **ambrym** Bickel
-. It_5 with enlarged pulvilli, distinctly larger than pulvilli of legs II & III; other features various 33

33. It_5 with pulvilli only slightly enlarged, with anterior claw enlarged and curved around tarsus; coxa I and remainder of legs mostly yellow; cercus elongate, narrow 34
-. It_5 with pulvilli at least half length of tarsomere, anterior claw variously enlarged, but not curving around tarsus; leg color and cercus various 35

34. Surstylus with strong subapical seta; cercus narrow, digitiform, with rather sparse setae; lateral scutellar setae absent. (Fiji) ..... **maulevu** Bickel
-. Surstylus with short setae; cercus with distinct basal mound; lateral scutellar setae reduced to short weak hairs (Samoa) ..... **upolu** Bickel

35. CI, all trochanters, femora, tibiae mostly yellow 36
-. CI, all trochanters, and at least part of some femora dark brown 38

36. It_1 with some curved ventral setae; It_5 with anterior claw enlarged but shorter than pulvilli, cercus tapering distally, with abundant strong ventral setae (Fiji) .... **waiseai** Bickel
-. It_1 bare of setae; It_5 with anterior claw enlarged and as long as pulvilli; cercus with distinct basoventral projection 37

37. TI with posterior row of fine slanted yellow hairs along entire length; It_5 with pulvilli as long as half tarsomere length; cercus with ventral lobate projection near base (Vanuatu) ..... **lenakel** Bickel
- . TI without posterior row of hairs; It_5 with pulvilli enlarged, as long as tarsomere, cercus elongate, with ventral setose thumblike projection at 1/3 (Fiji) ..... **bezzii** Bickel

38. FI dark brown to 2/5; distal FI, and all FII and FIII yellow; TI with short dorsal seta at 1/6, and without fine posterior hairs; It_5 with anterior claw greatly enlarged with tooth midway along inner surface; cercus elongate with distinct ventral digitiform projection at 1/3; palp yellowish with black setae (Fiji) ..... **volivoli** Bickel
-. FI and FII dark brown to 3/4, and FIII dark brown; TI with posterior row of fine hairs; It_5 with claw smooth; palp black with black setae 39

39. Cercus with large clavate projection bearing strong setae, with two distal digitiform arms; surstylus with strong subapical seta; It_1 covered with short, almost erect setae; It_5 with posterior claw reduced to short stub (Tonga) ..... **eupulvillatus** (Parent)
-. Cercus clavate with only stub of distal digitiform arm; surstylus with only short setae; It_1 with unmodified vestiture; It_5 with posterior claw not evident (Fiji) .... **pulvillatus** (Bezzi)

40. It_1 with strong posterior seta at base and at 3/4; vertical setae short; TI with short ad seta at 1/8; femora dark brown basally; epandrium subtriangular; surstylus deeply forked, with shorter arm bent, and longer arm almost equal to cercus ... *gnathoura* group 41
-. It_1 without strong posterior setae; TI without ad setae; other features various 42

41. Hypopygium (Fig. 10a); surstylus as two subparallel arms, one arm straight, other bent mediad in curved L-shape; cercus broad basally with row of 7–10 strong black toothlike setae, narrowed subapically, apically upcurved with strong setae (Fiji) ..... **gnathoura** Bickel **n**. **sp**.
-. Hypopygium (Fig. 10b); surstylus as two subparallel arms, longer lateral arm almost twice length of epandrium, and shorter median arm apically bent with 3 distal setae; cercus with strong setae near base and long undulating setae apically, with subapical digitiform projection bearing 2 apical tooth-like setae (Fiji) ..... **kotoi** Bickel **n**. **sp**.

42. Legs mostly yellow; TI flattened from 1/4 to apex, ventrally with yellow pile, and short curved hairs along posterior margin; hypopygium (Fig. 10c); epandrium elongate; surstylus digitiform with dorsoapical cuticular projection, and strong apical seta; cercus expanded apically with 3 bladelike setae (Solomon Is) .... **niupani** Bickel **n**. **sp**.
-. Coxae, trochanters, and femora mostly dark brown 43

43. Vertex with group of 4–5 long but weak supernumerary setae on each side posteriad of vertical seta and ocellar tubercle; hypopygium (Fig. 2a) surstylus elongate with 2 apical setae; cercus slightly bowed, with apical serrate and spatulate seta (Solomon Is.) ..... **wolffi** Bickel **n**. **sp**.
-. Vertex with without supernumerary setae 44

44. Hypopygium (Fig. 3b); cercus narrow and elongate, with long setae in basal half, and distinctive long apical seta (Samoa) ..... **pusillus** (Macquart)
-. Hypopygium (Fig. 11b); epandrium subtriangular; surstylus lobate and densely setose; cercus elongate and slightly curved with pair of apical bean shaped setae (Samoa) ..... **asau** Bickel **n**. **sp**.

The *arenarius* group

Diagnosis.
Head: major setae often yellow on both sexes; vertical setae on lateral frons slightly shorter than postvertical setae; first flagellomere short, rounded subtriangular; arista dorsal, and as long as head height.

Legs: coxa I yellow; coxae II and III brown, at least basally and remainder of legs mostly yellow; TI with single long curved posterior seta variously positioned, but usually along distal half (sometimes with additional weaker setae distad); TI on distal fifth to sixth slightly expanded with white ventral pile; TII with anterior seta at 4/5, and usually without ad setae.

Abdomen. segment 7 (hypopygial peduncle) elongate with tergum 7 much longer than sternum 7 (Fig. 1a); hypopygial foramen left lateral; epandrium subtriangular to subrectangular, and distally bare of setae; surstylus usually distally narrowed and sometimes curved like bird's beak, hypandrium with smooth ventral surface; phallus without subapical barb-like projection; cercus without apical median projection that bears apical setae.
Remarks. Species in the *Amblypsilopus arenarius* group have a simple elongate cercus, and usually a tapering or lobate surstylus that is never forked. The group comprises eight newly described species from Fiji, Vanuatu and the Solomon Islands. They range from coastal habitats to high elevation, 800 m on Viti Levu, and 1200 m on Espiritu Santo.

Included species:
arenarius **n**. **sp**. Fiji (Viti Levu, Vanua Levu, Taveuni)
dequierosi **n**. **sp**. Vanuatu (Espiritu Santo)
elatus **n**. **sp**. Vanuatu (Espiritu Santo)
honiarensis **n**. **sp**. Solomon Islands (Guadalcanal, New Georgia)
navatadoi **n**. **sp**. Fiji (Vanua Levu, Taveuni)
penaoru **n**. **sp**. Vanuatu (Espiritu Santo, Malakula, Tanna)
sounwari **n**. **sp**. Vanuatu (Maewo, Epi, Shepherd Gp.)
vusasivo **n**. **sp**. Fiji (Vanua Levu, Viti Levu)

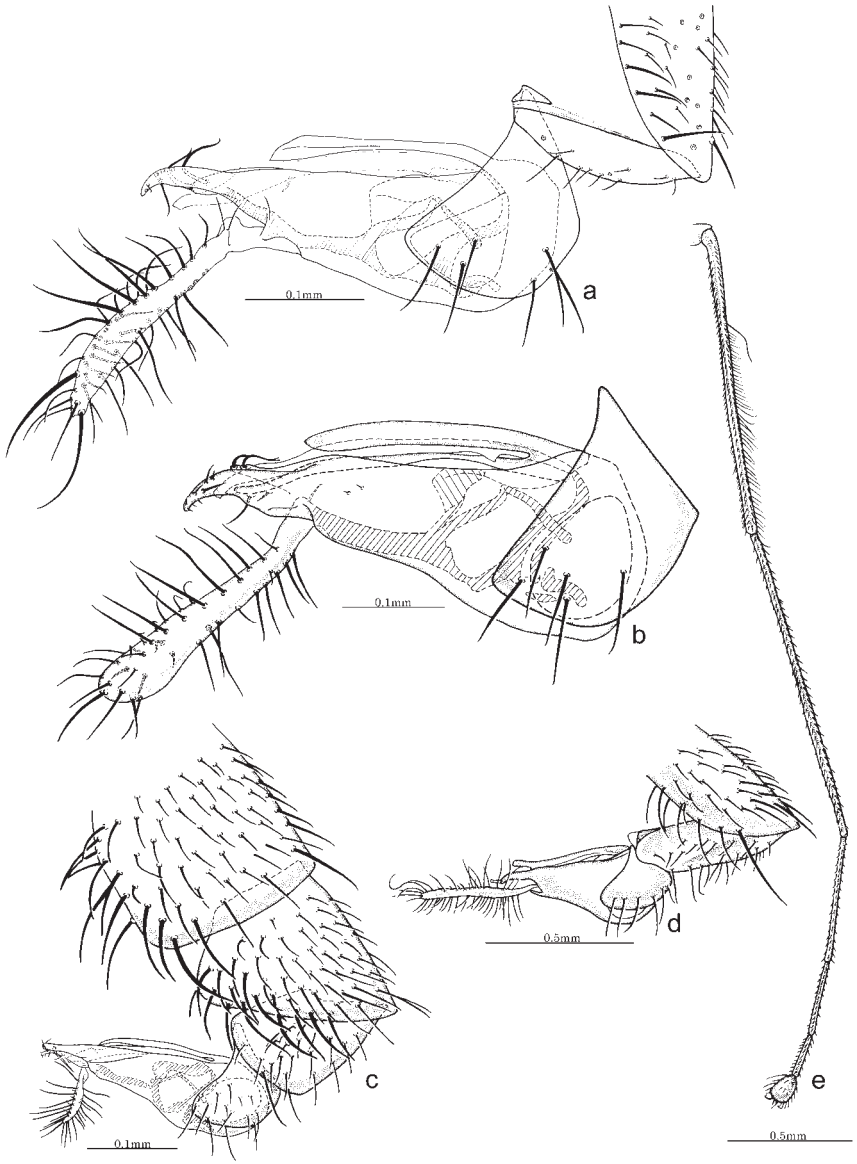

Figure 1. Hypopygium, left lateral: **a**, *Amblypsilopus sounwari*. **b**, *A. navatadoi*. **c**, *A. arenarius*. **d**, *A. elatus*. Leg I, posterior: **e**, *A. dequierosi*.

Amblypsilopus arenarius Bickel **n**. **sp**.
(Fig. 1c)

Description. **Male**: length 3.3 – 3.4 mm; wing: 2.9 x 0.8 mm.
Head: vertex, frons, and face metallic blue-green, with a dusting of silvery pruinosity; postvertical, vertical and ocellar setae distinctly yellow; upper face of males slightly bulging, face and clypeus metallic blue green with some grey pruinosity; palp yellow with yellow setae; proboscis yellow; antenna yellowish but infuscated on some specimens; scape short; pedicel with short setae; first flagellomere short, rounded subtriangular; arista dorsal, and as long as head height, and simple; ventral postcranium with white setae.

Thorax: entirely metallic blue–green with bronze reflections, with dusting of grey pruinosity over pleura; setae yellowish to brownish; 2 pairs of long posterior ac, with tiny pair anteriormost; 2 strong posterior dc and 4 weak hairlike dc anteriad (MSSC); 1 postalar, 2 postsutural supra-alar, 2 presutural intra-alar, 2 notopleural, 1 presutural supra-alar, and 1 weak postpronotal setae present; median scutellar setae strong, lateral scutellars reduced to tiny hair or absent.median scutellar setae strong, laterals absent.

Legs: CI, all trochanters, femora, tibiae, and basal tarsomeres yellow, with distal tarsomeres becoming infuscated; CII and CIII brown basally, becoming yellow distally; CI with 2 lateral pale yellow setae, and white hairs: CII with white anterior hairs; CIII with pale lateral seta; I: 3.6; 4.3; 4.2/ 1.6/ 1.2/ 0.6/ 0.4; TI distinctly bowed (MSSC), with long yellow posterior seta at 1/2 (MSSC), and distal sixth distinctly flattened with pale ventral pile and a few pale posterior hairs (MSSC); It_1 elongate, subequal to TI; It_5 dark brown, and only slightly flattened; II: 4.2; 5.6; 5.0/ 1.6/ 1.1/ 0.6/ 0.5; TII bare of major setae except for short av seta at 4/5; III: 5.2; 7.9; 4.3/ 1.6/ 1.2/ 0.6/ 0.4; TIII bare of major setae but with 5–6 short ventral setae.

Wing: hyaline, elongate; vein M_2 in gentle bowed arch with M_1; dm-cu straight; CuAx ratio 1.4; lower calypter yellow with brown rim and fan of yellow setae; halter pale yellow.

Abdomen: terga 1–6 metallic green bronze, with matt brown areas over tergal overlap, with yellowish marginal setae and short yellow vestiture; hypopygium (Fig. 1c) dark brown with yellow cercus; epandrium tapering triangular; surstylus slightly curved; epandrial lobe mediad of surstylus, with curved apical and subapical seta; hypandrium short and simple; cercus simple, short and tapering, and only slightly longer than surstylus.
Female: similar to male, except: ocellar seta brown with yellow reflections; face not bulging; clypeus wider and almost adjacent to sides of eyes; antenna brownish; thoracic setae brownish; 3 pairs strong ac; 4 strong dc; CII and CIII mostly yellow; TI bare, unbowed and lacking posterior seta and ventral pile; TI distinctly longer than It_1; TII with ad seta at 1/8; TIII bare.
Types. Holotype ♂, FIJI: **Viti Levu**: 1.1 km SSW Volivoli Village, Sigatoka Sand Dunes, mixed littoral forest on sand, [-18.169°, 177.485°], 55 m, 20 Jan–4 Feb 2005, Malaise trap: M02, S. Niusoria [FBA 511485]; paratypes 43♂, 7♂: same data but 23 Sep–8 Oct 2002, 24 Nov–5 Dec 2003, 20 Jun–9 Jul 2003, 15 Dec 2003–13 Mar 2004, 6–17 Apr 2004, 13–27 Sep 2004, 5–18 Oct 2004, 20 Jan–4 Feb 2005, 25 Mar–6 Apr 2004, 9 Dec 2004–20 Jan 2005, 4–16 Feb 2005, 12–25 Mar 2004 [various FBA numbers] (FNIC).
Additional material. FIJI: **Taveuni**: 3♂, 3.2 km NW Lavena Village, Mt. Koronibuanibua, 235 m, 16.855°S 179.892°W, 5–17 Jun 2004, Malaise trap, lowland rainforest Schlinger & Tokota'a [FBA 123548, 123555, 123523]. **Vanua Levu**: Batiqere Range, 6 km NW Kilaka Village, lowland wet forest, [-16.807°, 178.991°], 98 m, 28 Jun–21 Jul 2004, Malaise trap: M05, P. Manueli [FBA 028606]. **Viti Levu**: 1 km N Ocean Pacific Resort, nr mangroves & pasture, [-18.172°, 178.259°], 0–5 m, 28 Jan 2005, sticky trap on tree trunk: T01, Bickel [FBA 526262, 526264] (FNIC); ♂,♀, Korolevu, 0–100 m, Mar 1973, Krauss (BPBM).

Remarks. *Amblypsilopus arenarius* is known from lowland habitats, including rainforest and disturbed habitats on the large Fijian islands of Viti Levu, Vanua Levu and Taveuni. It was abundant throughout the year in Malaise trap samples from coastal forests on stabilized dunes near Sigatoka, Viti Levu.

The short slightly curved cercus, the bowed male tibia I with long pale posterior seta at 1/2, and distal sixth with pale ventral pile are diagnostic. This species is very close to the Fijian *A. navatadoi,* and the Vanuatu species *A. penaoru.*

Etymology. The specific epithet is from the Latin "*arenarius"* = "of sand"; referring to the Sigatoka Sand Dune type locality.

Amblypsilopus navatadoi Bickel **n**. **sp**.

(Fig. 1b)

Description. **Male**: length 3.4 mm; wing: 3.1 x 0.8 mm; similar to *A. arenarius* except:

Legs: CI, all trochanters, femora, tibiae, and basal tarsomeres yellow, with distal tarsomeres becoming infuscated; CII and CIII brown basally, but yellow apically; CI with 3 lateral pale yellow setae, and white hairs: CII with white anterior hairs; CIII with pale lateral seta; femora ventrally bare; I: 3.6; 4.2; 4.3/ distal tarsomeres missing; TI distinctly bowed (MSSC), with long pale posterior pale seta at 1/2 (MSSC), with row of some 20 fine pale posterior hairs, increasing in size apically, and becoming also slightly crocheted distad, and distal sixth with pale ventral pile (MSSC); It_1 elongate, subequal to TI; II: 4.1; 5.0; 5.2/ 1.4/ 1.1/ 0.6/ 0.5; TII bare of major setae except for short av seta at 4/5; IIt_1 longer than TII; III: 5.2; 8.4; 4.2/ 1.8/ 1.2/ 0.6/ 0.4; TIII bare of major setae but with 5–6 short ventral setae.

Abdomen: terga 1–6 metallic green bronze, with matt brown areas over tergal overlap, with yellowish marginal setae and short yellow vestiture; hypopygium (Fig. 1b) including surstylus dark brown; cercus yellow with brownish apex; epandrium tapering triangular; surstylus curved as in bird's beak; epandrial lobe mediad of surstylus, with curved apical and subapical seta; hypandrium short and simple; cercus digitiform and almost twice length of surstylus.

Female: unknown.

Types. Holotype, ♂, FIJI: **Vanua Levu**: Natewa Peninsula, 2.6 km SSE Vusasivo Village, Mt. Navatadoi, lowland wet forest, [-16.593°, 179.772°], 400 m, 25 Nov–22 Dec 2005, Malaise trap: M01, L. Waqa [FBA 511572] (FNIC).

Additional material. FIJI: **Taveuni**: ♂,♀, Waiyevo, 0–100 m, Jan 1972, Krauss (BPBM).

Remarks. *Amblypsilopus navatadoi* is known only from the Natewa Peninsula on Vanua Levu and from Taveuni. This species is similar to *A. arenarius* in that males of both species have distinctly yellow setae on head and thorax. However, the two species can be separated by key characters.

Amblypsilopus penaoru Bickel **n**. **sp**.

Description. **Male**: length 3.6–3.8 mm; wing: 3.1–3.4 x 1.0 mm; similar to *A. arenarius* except:

Head: vertex, frons, and face metallic blue-green, with a dusting of silvery pruinosity; postvertical seta yellow; ocellar seta black; vertical seta on lateral frons brown to yellowish; scape and pedicle dark brown, first flagellomere yellowish.

Thorax: setae black; lateral scutellar setae absent.

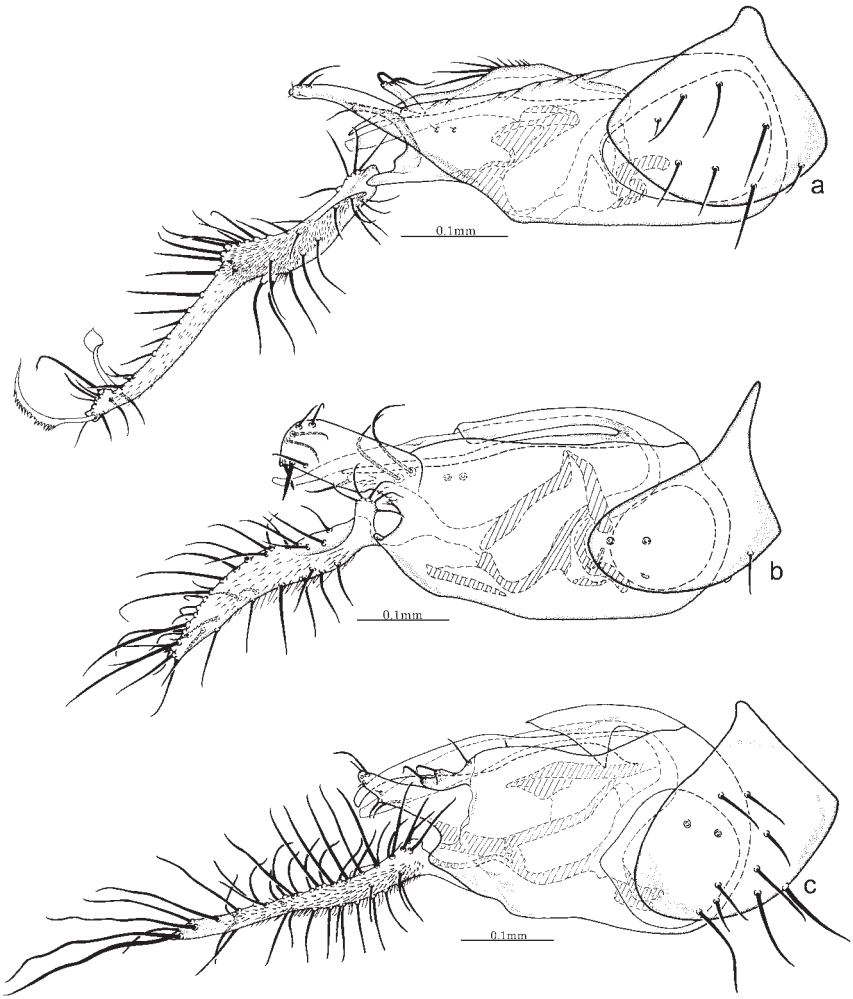

Figure 2. Hypopygium, left lateral: **a**, *Amblypsilopus wolffi*. **b**, *A. vusasivo*. **c**, *A. honiarensis.*

Legs: CI, all trochanters, femora, tibiae, and basal tarsomeres yellow, with distal tarsomeres becoming infuscated; CII and CIII mostly brown, but yellow distally; CI with 2 lateral pale yellow setae, and white hairs: CII with white anterior hairs; CIII with pale yellow lateral seta; femora bare ventrally; I: 3.8; 4.6; 4.4/ 1.3/ 1.0/ 0.6/ 0.4; TI distinctly bowed (MSSC), with long yellow posterior seta positioned from 2/5 to 1/2 (MSSC), and distal sixth distinctly flattened with white ventral pile and a few pale yellow posterior hairs (MSSC); It_1 slightly shorter than TI; It_5 dark brown, only slightly flattened; II: 3.5; 4.7; 4.6/ 1.2/ 0.9/ 0.6/ 0.2; TII bare of major setae except for short av seta at 4/5; IIt_1 subequal with TII; III: 4.7; 7.3; 3.6/ 1.5/ 1.0/ 0.6/ 0.4; TIII bare of major setae but with 5–6 short ventral setae.

Wing: hyaline, elongate; vein M_2 in gentle bowed arch with M_1; dm-cu straight; CuAx ratio 1.5; lower calypter yellow with fan of yellow setae; halter pale yellow.

Abdomen: terga 1–6 metallic green bronze, with matt brown areas over tergal overlap, with yellowish marginal setae and short yellow vestiture; hypopygium (not figured, but close to that for *A. sounwari,* Fig. 1a) dark brown with yellow cercus; epandrium tapering triangular.

Female: similar to male, except : postvertical seta yellow, vertical and ocellar setae dark brown to black; face not bulging; 3 pairs strong ac; 4 strong dc; all coxae yellow; TI without setae, TI unbowed and lacking posterior seta; TI distinctly longer than It_1; TII with strong ad and weak pd at 1/6, short anterior at 2/3, and subapical ad, pd, and av setae; TIII also bare of major setae.

Type material. Holotype ♂, paratypes, 3♂, VANUATU: **Espiritu Santo**: Penaoru Camp 100B, 100 m, S14°57'43.2", E166°38'5.89", 15–29 Nov 2006; Malaise, ground, MG01B2, forest. *Paratypes*: 2♂, same but Penaoru Camp 100A; 152 m, Malaise, ground, MG01A2; ♂, same but Penaoru Camp 300A; 282 m, S14°57'45.4", E166°38'54.7", 14–28 Nov 2006; Malaise, canopy, MC03A2; IBISCA (MNHN); 2♂, Penaoru Camp 600D; 600 m, S14°57'52.5" E166°38'11.69", 18–30 Nov 2006; Malaise, ground, MG06D2; forest; 4♂,♀, same but Penaoru Camp 900A, c. 900 m, S14°58'0.17" E166°39'21.69", 18–30 Nov 2006; Malaise, canopy, MG0981; all IBISCA (paratypes, MNHN, BPBM, AMS).

Additional material. VANUATU: **Malakula**: 6♂, 30♀, N. Lakatoro, 0–200 m, 22–30 Nov 1967, Malaise trap, Sedlacek; 5♀, Port Sandwich, 0–50 m, 1 Sep 1979, Gagné *et al.* (BPBM). **Tanna**: 2♂, 3♀, Lenakel, 0–200 m, Jan 1981, Krauss (BPBM).

Remarks. *Amblypsilopus penarou* is known from Vanuatu, the islands of Espiritu Santo and Malakula in the north, and Tanna in the far south of the archipelago. Although most collections are from lowland sites, the Penaoru survey on Espiritu Santo collected specimens at 100, 300, 600, and 900 m elevation.

This species has a straight cercus that is slightly longer than epandrium. Some intraspecific variation is evident, even among specimens from the same collection event, and these include size, the position of the posterior seta on tibia I (from 2/5 to 1/2), and slight variation in the width of the dark brown tarsomere 5 of leg I (by contrast the leg I apical tarsomere of *A. dequierosi* is distinctly flattened).

Amblypsilopus sounwari Bickel **n**. **sp**.
(Fig. 1a)

Description. **Male**: length 3.8–3.9 mm; wing: 3.1 x 0.8 mm.

Head: postvertical seta yellow (MSSC), vertical seta brownish, and ocellar seta black; antenna yellowish.

Thorax: setae black.

Legs: CI, all trochanters, femora, tibiae, and tarsomeres yellow, and tarsomere 5 on all legs dark brown; CII and CIII brown basally, becoming yellow distally; CI with 2 lateral pale yellow setae, and white hairs: CII with white anterior hairs; CIII with pale lateral seta; femora bare ventrally setae; I: 3.7; 4.0; 5.5/ 1.8/ 1.2/ 0.7/ 0.4; TI distinctly bowed (MSSC), with long yellow posterior seta at 1/2 (MSSC), and row of pale posterior hairs from 1/4 to apex (MSSC), but TI not distally flattened; It_1 elongate, distinctly longer than TI; It_5 distinctly flattened, subtriangular, and dark brown (MSSC); II: 4.3; 5.0; 5.2/ 1.5/ 1.1/ 0.6/ 0.4; TII bare of major setae except for short av seta at 4/5; IIt_1 elongate, subequal to TII; III: 5.0; 8.7; 4.2/ 1.7/ 1.2/ 0.6/ 0.4; TIII bare of major setae but with 5–6 short ventral setae.

Wing: CuAx ratio 1.3.

Abdomen: hypopygium (Fig. 1a) dark brown with yellow cercus; epandrium elongate, tapering triangular; surstylus curved as in bird's beak; epandrial lobe mediad of surstylus, with curved apical and subapical seta; hypandrium short and simple; cercus slightly shorter than epandrium, digitiform and only slightly clavate.

Female: similar to female *A. arenarius*.

Types. Holotype ♂ (BPBM 17,136), paratypes ♂, 6♀, VANUATU: **Maewo**: Sounwari, 15°23'S, 168°07'E, 0–360 m, 4–5 Sep 1979, W.C. Gagné, G.M. Nishida, & G.A. Samuelson (BPBM).

Additional material. VANUATU: 10♂, 8♀, **Epi**: Vaemali, 100–150 m, 6–10 Aug 1967, Malaise trap, J. & M. Sedlacek. **Shepherd Group**: ♂,♀, Tongariki, 0–300 m, 29 Aug 1979, G. Nishida (BPBM).

Remarks. *Amblypsilopus sounwari* is known from Maewo, Epi and the Shepherd Group, the eastern chain of volcanic islands in the Vanuatu archipelago. This species has basitarsus I distinctly longer than tibia I, and tarsomere 5 is flattened into a triangular flag. This species is close to *A. dequierosi* from Espiritu Santo.

Amblypsilopus dequierosi Bickel **n**. **sp**.
(Fig. 1e)

Description. **Male**: length 3.8 mm; wing: 3.3 x 0.9 mm; similar to *A. arenarius* except:
Head: vertical and postvertical setae pale yellow, but ocellar setae black.

Thorax: major setae black.

Legs: CI, all trochanters, femora, tibiae, and basal tarsomeres yellow, with distal tarsomeres becoming infuscated, and all tarsomeres 5 dark brown; CII and CIII brown at very base, becoming yellow distally; CI with 2 lateral pale yellow setae, and white hairs: CII with white anterior hairs; CIII with pale lateral seta; femora bare ventrally; I: 4.0; 5.0; 5.0/ 2.0/ 1.2/ 0.7/ 0.5; TI distinctly bowed (MSSC), with long pale posterior pale seta at 1/4 (MSSC) (Fig. 1e), and row of pale posterior hairs from 1/4 to apex (MSSC), but TI not distally flattened; It_1 elongate, subequal to TI; It_5 distinctly flattened, subtriangular, and dark brown (MSSC); II: 4.0; 5.6; 5.2/ 1.5/ 1.2/ 0.5/ 0.4; TII bare of setae; III: 5.3; 8.5; 4.1/ 1.8/ 1.2/ 0.6/ 0.4; TIII bare of major setae.

Wing: CuAx ratio also 1.4; lower calypter yellow with brown rim and fan of yellow setae; halter pale yellow.

Abdomen: terga 1–6 metallic green bronze, with matt brown areas over tergal overlap, with black marginal setae and short black vestiture; hypopygium (not figured, but similar to *A. sounwari,* Fig.1a) dark brown with yellow cercus; epandrium with curved tapering surstylus and simple cercus.

Female: unknown.

Types. Holotype ♂ (BPBM 17,137), paratype ♂, VANUATU: **Espiritu Santo**: Luganville, 0–100 m, Dec 1983, N.L.H. Krauss, Bishop Museum Acc. #1984.168 (BPBM).

Remarks. *Amblypsilopus dequierosi* is known only from the island of Espiritu Santo. It has diagnostic male leg I characters, the tarsomere 5 flattened into a rounded black flag, and the curved posterior seta at 1/4 on tibia I, more basal than in related species.

Etymology. *Amblypsilopus dequierosi* is named for the Spanish explorer Pedro Fernandes de Quierós, who in 1606 named the island of Espiritu Santo, as 'Terra Australis del Espiritu Santo' and attempted to form a settlement there.

Amblypsilopus elatus Bickel **n**. **sp**.
(Fig. 1d)

Description. **Male**: length 3.8 mm; wing: 3.5 x 1.2 mm.
Head: vertex, frons, and face metallic blue-green, with a dusting of silvery pruinosity; postvertical and postorbital setae yellow; vertical and ocellar setae black; scape and pedicel brown, first flagellomere yellowish.

Thorax: setae black.

Legs: CI, all trochanters, femora, tibiae, and tarsi yellow, except all t_5 dark brown; CII and CIII brown; CI with 3 pale yellow lateral setae, and white hairs: CII with white anterior hairs; CIII with pale yellow lateral seta; all femora bare of major setae; all t_5 dark brown and slightly flattened; I: 4.2; 4.5; 7.4/2.2/ 1.5/ 1.0/ 0.4; FI bare of major setae; TI distinctly bowed (MSSC), with long yellow posterior seta at 2/5 (MSSC), and distal half with comb of fine yellow hairs to apex (MSSC); It_1 distinctly longer than TI (possible MSSC); II: 4.4; 6.1; 6.8/ 1.9/ 1.4/ 0.7/ 0.4; TII also bare except for short av seta at 4/5; IIt_1 distinctly longer than TII (possible MSSC); III: 5.8; 9.8; 5.0/ 2.2/ 1.4/ 0.8/ 0.4; TIII bare of major setae but with 5 short spaced ventral setae on distal half.

Wing: CuAx ratio 1.6; lower calypter yellow with dark brown rim and fan of yellow setae.

Abdomen: terga 1–6 metallic green bronze, with matt brown areas over tergal overlap, with brownish marginal setae and short vestiture; segments 7, 8, and hypopygium (Fig. 1d) dark brown except cercus pale yellow; epandrium tapering triangular; surstylus apically down curved; cercus elongate, digitiform, and about as long as epandrium.
Female: unknown.
Types. Holotype ♂, VANUATU: **Espiritu Santo**, Penaoru Camp 1200A, 1200 m, S14°58'2.35", E166°40'43.4", 18–30 Nov 2007, Malaise trap on ground, MG12A2, forest, IBISCA (MNHN).
Remarks. *Amblypsilopus elatus* is known only from the type locality at 1200 m on Espiritu Santo. Male basitarsi I and II are distinctly longer than their respective tibiae, and the elongate digitiform cercus is also diagnostic.
Etymology. The specific epithet is from the Latin "*elatus*" meaning "high" and refers to its occurrence at high elevation on the island of Espiritu Santo.

Amblypsilopus vusasivo Bickel **n**. **sp**.
(Fig. 2b)

Description. **Male**: length 3.1 mm; wing: 2.9 x 0.8 mm; similar to *A. arenarius* except:
Head: vertex, frons, and face metallic blue-green, with a dusting of silvery pruinosity; head setae black; palp light brown yellow with black setae; proboscis yellow; antenna dark brown.

Legs: CI yellow but brownish anteriorly; CII and CIII dark brown; all trochanters, femora, tibiae, and basal tarsomeres I and II yellow; $IIIt_1$ distinctly ivory white (MSSC); distal tarsomeres infuscated, and all t_5 dark brown; CI with 3 yellow distolateral setae: CII with yellow anterior hairs; CIII with yellow lateral seta; femora ventrally bare; I: 3.5; 3.8; 3.6/ 1.4/ 1.0/ 0.7/ 0.4; TI straight, not bowed, with long pale posterior pale seta at 4/5 (MSSC), with about 8 short pale yellow hairs increasing in size distally, longer pale yellow subapical seta, and distal eighth slightly flattened with pale ventral pile (all MSSC); It_1 elongate, but slightly shorter than TI; II: 3.8; 4.7; 4.4/ 1.3/ 1.0/ 0.6/ 0.5; TII bare of major setae except for short av seta at 4/5, and short subapical ad, pd and av setae; III: 4.5; 7.4; 3.7/ 1.6/ 1.2/ 0.7/ 0.4; TIII bare of major setae but with 5–6 short ventral setae; $IIIt_1$

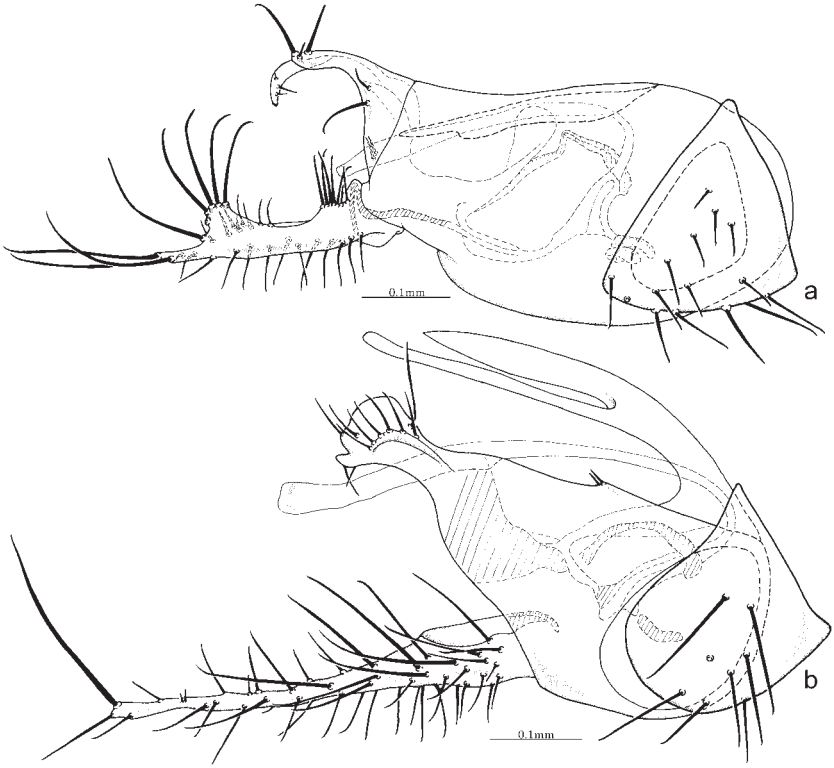

Figure 3. Hypopygium, left lateral: **a**, *Amblypsilopus alipatei*. **b**, *A. pusillus*.

distinctly ivory white, in contrast adjacent podomeres.

Wing: CuAx ratio 1.4; lower calypter yellow with dark brown rim and fan of black; halter yellowish.

Abdomen: terga 1–6 metallic blue green, with black marginal setae and short black vestiture; hypopygium (Fig. 2b) dark brown with yellow cercus and surstylus; epandrium subrectangular; surstylus broad, subrectangular with some strong seta as figured; epandrial lobe mediad of surstylus, with long curved apical and subapical seta; hypandrium short; phallus relatively long; cercus with basoventral mound, shorter than length of epandrium, and tapering digitiform.

Female: none associated.

Types. Holotype ♂, FIJI: **Vanua Levu**: Natewa Peninsula, 2.6 km SSE Vusasivo Village, Mt. Navatadoi, lowland wet forest, [-16.593°, 179.772°], 400 m, 22 Dec 2005–7 Jan 2006, Malaise trap: M01, L. Waqa [FBA 511592] paratypes, 3♂, same but 12–25 Oct 2005 [FBA 511560], 25 Oct–10 Nov 2005 [FBA 511569, 511574] (FNIC).

Additional material. FIJI: **Viti Levu**, 2♂, Koroyanitu EcoPark, Mt. Evans Range, 1 km E Abaca Village, Savuione Trail, disturbed mid-elevation moist forest, [-17.667°, 177.55°], 800 m, 12–19 Oct 2002, Malaise trap: M01, L. Tuimereke [FBA 001468, 001514] (FNIC)

Remarks. *Amblypsilopus vusasivo* is known from rainforest below 800 m on the Natewa Peninsula, Vanua Levu and the Batilamu (Mt Evans) Range, northwestern Viti Levu.

This species has a broad surstylus with strong apical and median seta, not unlike that found in the *olsoni* group. However, it is placed in the *arenarius* group because the cercus does not have a median branch, the characteristic synapomorphy of the *olsoni* group.

Amblypsilopus honiarensis Bickel **n**. **sp**.
(Fig. 2c)

Description. **Male**: length 3.6 mm; wing: 3.2 x 0.9 mm; similar to *A. arenarius* except:
Head: head setae black; palp yellow with black apical seta; antenna black.

Thorax: setae black.

Legs: all coxae, trochanters, FI to 2/3, FII to 5/6 and FIII to 9/10 brown; distal femora, tibiae, and basal tarsomeres yellow, with distal tarsomeres becoming infuscated; CI with 3 white lateral setae, and white hairs: CII with white anterior hairs; CIII with white lateral seta; femora with some white ventral hairs; I: 3.8; 4.3; 3.6/ 1.4/ 1.1/ 0.7/ 0.4; TI only slightly bowed (MSSC), with short curved yellow posterior seta at 4/5 (MSSC), and distal sixth distinctly flattened with pale ventral pile and a few pale posterior hairs (MSSC); It_1 shorter than TI; It_5 dark brown, and distinctly flattened, dark brown, and subtriangular (MSSC); II: 4.1; 5.0; 4.7/ 1.3/ 0.9/ 0.6/ 0.4; TII bare of major setae; III: 5.0; 7.7; 3.4/ 1.4/ 1.1/ 0.6/ 0.4; TIII bare of major setae.

Wing: hyaline, elongate; vein M_2 in gentle bowed arch with M_1; dm-cu straight; CuAx ratio 2.0; lower calypter dark brown with fan of black; halter pale yellow.

Abdomen: terga 1–6 metallic green bronze, with matt brown areas over tergal overlap, with black vestiture; hypopygium (Fig. 2c) dark brown with yellow cercus; epandrium subtriangular; surstylus digitiform, simple and bearing setae as figured; epandrial lobe thick with apical and subapical setae;hypandrial hood short; cercus elongate and setose.
Female: none associated.
Types. Holotype ♂ (BPBM 17,138), SOLOMON ISLANDS: **Guadalcanal**: Honiara, 0–200 m, Nov 1979, N.L.H. Krauss; paratype ♂, same but Dec 1975; paratype ♂, same but Feb 1985 (BPBM).
Additional material. SOLOMON ISLANDS: **New Georgia**: Munda, 0–100 m, Nov 1980, Krauss (BPBM).
Remarks. *Amblypsilopus honiarensis* is known from lowland habitats on Guadalcanal and New Georgia, Solomon Islands. This species is part of the *arenarius* group, but has all head setae black. Male tarsomere 5 on leg I is expanded into a black flag, not unlike that of the Vanuatu species *A. sounwari* and *A. dequierosi*.

The *cakaudrove* group

Diagnosis
Head: vertex, frons, and face metallic blue-green, with a dusting of silvery pruinosity; head setae black; vertical seta on lateral frons slightly shorter than postvertical; upper face of males slightly bulging, face and clypeus metallic blue-green with some grey pruinosity; palp yellow with 2 black setae; proboscis yellow; scape and pedicel reddish yellow, first flagellomere brown; pedicel with short setae; first flagellomere short, rounded subtriangular; arista dorsal, and as long as head height, and simple; ventral postcranium with white setae.

Thorax: entirely metallic blue–green with bronze reflections, and dusting of grey pruinosity over pleura; setae black; 2 pairs of long posterior ac, with tiny pair anterior-

most (MSSC); males with 2 strong posterior dc and 3 weak hair like dc anteriad (MSSC), 1 postalar, 1 postsutural supra-alar, 1 presutural intra-alar, 2 notopleural, 1 presutural supra-alar, and 1 weak postpronotal setae present; median scutellar setae strong, lateral scutellars reduced to tiny hair or absent. median scutellar setae strong, laterals absent.

Legs: coxae and remainder of legs mostly yellow; tibia I with single long curved posterior seta variously positioned, but usually along distal half; TI on distal fifth to sixth slightly expanded with white ventral pile; TII with anterior seta at 4/5, and usually without ad setae.

Abdomen. dorsal surface of surstylus always with setae, and apex of surstylus usually deeply forked; cercus digitiform.

Remarks. Species in the *Amblypsilopus cakaudrove* group have a setose dorsal surstylar margin, and all except *A. navukailagi* have the surstylus distinctly forked. The *cakaudrove* group is close to the *arenarius* group and both groups have TII with anterior seta at 4/5, and usually without an ad seta. The *cakaudrove* group contains five Fijian species, all from rainforest ranging from 300–1200 m.

Included species:
brorstromae **n**. **sp**. Fiji (Viti Levu, Taveuni).
cakaudrove **n**. **sp**. Fiji (Taveuni).
navukailagi **n**. **sp**. Fiji Lomaiviti Group (Gau).
terriae **n**. **sp**. Fiji (Viti Levu).
veisari **n**. **sp**. Fiji (Viti Levu)

Amblypsilopus brorstromae Bickel **n**. **sp**.
(Fig. 4b)

Description. **Male**: length 2.8–2.9 mm; wing: 2.9 x 0.8 mm.

Legs: all coxae and remainder of legs yellow, except t_5 on each leg dark brown; CI with 3 distolateral yellow setae, and short yellow hairs: CII with yellow anterior hairs; CIII with yellow lateral seta; femora ventrally bare; I: 3.6; 4.3; 4.3/ 1.3/ 1.2/ 0.7/ 0.5; TI only slightly bowed (MSSC), with long pale posterior pale seta at 2/3 (MSSC), and distal sixth distinctly flattened with pale ventral pile and a few pale posterior hairs (MSSC); It_1 elongate, subequal to TI; It_5 dark brown, and only slightly flattened; II: 4.0; 5.4; 4.3/ 1.3/ 1.0/ 0.6/ 0.5; TII bare of major setae except for short av seta at 4/5; III: 5.2; 7.6; 3.7/ 1.7/ 1.1/ 0.7/ 0.4; TIII bare of major setae but with 3–4 short dorsal setae.

Wing: hyaline, elongate; vein M_2 in gentle bowed arch with M_1; dm-cu straight; CuAx ratio 1.2; lower calypter yellow with fan of yellowish setae; halter pale yellow.

Abdomen: terga 1–6 metallic green bronze, with matt brown areas over tergal overlap, with black marginal setae and short black vestiture; distal tergum 3 with 3 lateral setae and terga 4–6 each with 6–8 strong black lateral setae which hang over abdominal venter (MSSC); segment 7, 8 and hypopygium (Fig. 4b) dark brown, with cercus and surstylus yellow; epandrium subrectangular; epandrial lobe well-developed and internal, with two strong distal setae; surstylus deeply forked, U-shaped, with dorsal arm longer and bent at right angle; cercus elongate, digitiform, and densely setose.

Female: similar to male, except: TI bare of major setae; TII with ad seta at 1/6, and subapical ad, pd, and av setae; TIII bare of major setae; abdomen without lateral setae on terga 3–6.

Type material. Holotype ♂, paratype ♂, FIJI: **Viti Levu**: 1.8 km E Navai Village , old trail to Mt. Tomaniivi (Victoria), gymnosperm dominated rainforest, [-17.621°, 177.998°], 700 m, 7–26 Jan 2004, Malaise trap: M04, E. Namatalau [holotype, FBA 119818; paratype FBA 119818]; paratypes 2♂, same but 16 Nov–28 Dec 2004 [FBA 503513–14]; paratype ♂, same but 16 Mar–6 May 2005 [FBA 508138]; paratype 2♂, 2 km E Navai Village, old trail to Mt. Tomaniivi (Victoria), gymnosperm dominated rainforest, [-17.621°, 178°], 700 m, 16 Mar–6 May 2005, 18 Oct–6 Nov 2004, Malaise trap: M03, E. Namatalau [FBA 508346, etc]; ♂, same but 3.2 km E Navai Village, Veilaselase Track, [-17.624, 178.009], 1020 m, 23 Sep–18 Oct 2004, Malaise trap: M02, E. Namatalau [FBA 532154].
Additional material. FIJI: **Taveuni**: 2♂, 5.6 km SE Tavuki Village, Devo Peak, cloud forest, [-16.843°, -179.966°], 1187 m, 2–10 Oct 2002, Malaise trap: M01, E. Ratu [FBA 093619–093620]; ♂, 3.2 km NW Lavena Village, Mt. Koronibuabua, lowland rainforest, [-16.856°, -179.889°], 229 m, 8–21 Jan 2005, Malaise trap: M05, B. Soroalau [FBA 502202]. **Viti Levu**: 4 km WSW Colo-i-Suva Village, Mt. Nakobalevu, lowland wet forest, [-18.055°, 178.424°], 372 m, 9–30 May 2003, Malaise trap: M03, Timoci [FBA 094272]; 2 ♀, same but 12–24 Oct 2004 [FBA 502476, 502480]. (FNIC).
Remarks. *Amblypsilopus brorstromae* is known from rainforest habitats from 250–1200 m on the islands of Viti Levu and Taveuni. Males are unusual in having terga 4–6 each with 6–8 strong black lateral setae which hang over the base of the abdomen.
Etymology. This species is named in honor of Leah Brorstrom, formerly of the Schlinger World Spider-Endoparasitoid Laboratory, who helped sort and process many Fiji Arthropod Survey specimens.

Amblypsilopus cakaudrove Bickel **n**. **sp**.
(Fig. 4a)

Description. **Male**: length 3.0 mm; wing: 3.2 x 1.0 mm; similar to *A. brorstromae* except: *Legs:* coxae and remainder of legs yellow, except t_5 on each leg dark brown; CI with 3 distolateral yellow setae, and short yellow hairs: CII with yellow anterior hairs; CIII with yellow lateral seta; femora ventrally bare; I: 3.9; 5.2; 5.6/ 2.0/ 1.3/ 0.7/ 0.5; TI bowed in distal quarter (MSSC), with long pale posterior pale seta at 2/3 (MSSC), and distal sixth distinctly flattened with whitish ventral pile and some few pale yellow posterior hairs (MSSC); It_1 elongate, distinctly longer than TI, with short ventrals in basal third; It_5 black, distinctly flattened, and subtriangular with pinnate margins (MSSC); II: 4.0; 6.0/ 5.9/ 1.6/ 1.3/ 0.6/ 0.4; TII with ad seta at 1/6 and short av seta at 4/5; IIt_1 subequal with TII; III: 5.6; 8.4; 4.7/ 2.0/ 1.3/ 0.7/ 0.4; TIII bare of major setae but with 3–4 short dorsal setae.

Abdomen: terga 1–6 metallic green bronze, with matt brown areas over tergal overlap, with black marginal setae and short black vestiture; distal terga 3–6 with usual setation, without extra long black lateral setae; segment 7, 8 and hypopygium (Fig. 4a) dark brown, cercus and surstylus yellow; epandrium subrectangular; epandrial reduced and two setae arising from lateral wall of epandrium; surstylus deeply forked, V-shaped, with dorsal arm longer than ventral, but straight not bent; cercus elongate, digitiform, and setose.
Female: none reliably associated.
Type material. Holotype, ♂, FIJI: **Taveuni**: 5.3 km SE Tavuki Village, Mt. Devo, montane wet forest, [-16.841°, -179.968°], 1064 m, 17–24 Oct 2002, Malaise trap: M03, P. Vodo [FBA 126542]; paratypes 2♂, 5.6 km SE Tavuki Village, Devo Peak, cloud forest, [-16.843°, -179.966°], 1187 m, 9–23 Sep 2004, 23 Sep–7 Oct 2004, Malaise trap: M01, P. Vodo [FBA 502210, 508595] (FNIC).
Remarks. *Amblypsilopus cakaudrove* is known from wet forest above 1000 m on Devo Peak, Taveuni. It is very close to *A. veisari* from lowland southeastern Viti Levu, but differs primarily in having a black pinnate flag on leg I tarsomere 5. Both species have similar genitalia.

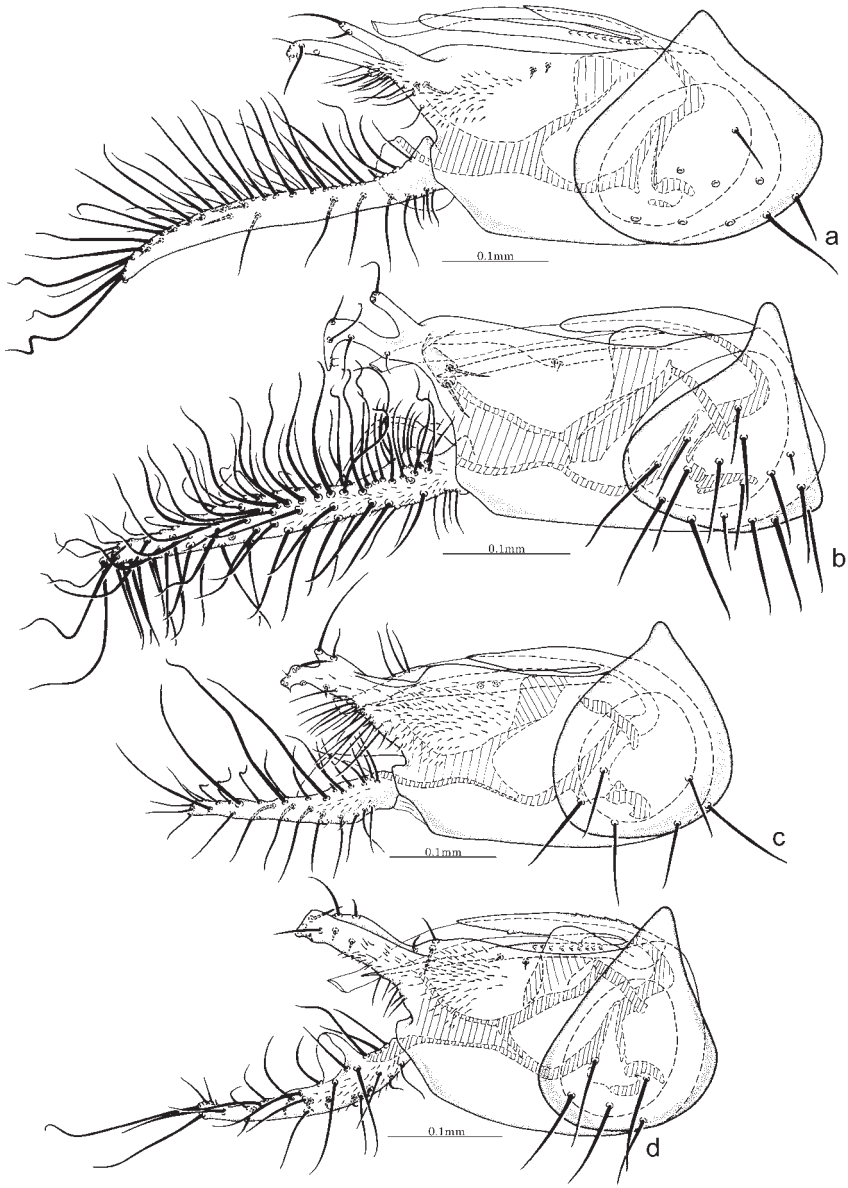

Figure 4. Hypopygium, left lateral: **a**, *Amblypsilopus cakaudrove*. **b**, *A. brorstromae*. **c**, *A. terriae*. **d**, *A. navukailagi*.

Amblypsilopus veisari Bickel **n. sp.**

Description. **Male**: length 2.9 mm; wing: 2.9 x 0.8 mm; similar to *A. brorstromae* except: *Legs:* all coxae and remainder of legs yellow, except t_5 on each leg brownish; CI with 3 distolateral yellow setae, and short yellow hairs: CII with yellow anterior hairs; CIII with yellow lateral seta; femora ventrally bare; I: 3.6; 4.4; 4.7/ 1.4/ 1.0/ 0.6/ 0.5; TI bowed in distal quarter (MSSC), with long pale posterior seta at 2/3 (MSSC), and distal sixth distinctly flattened with whitish ventral pile and a few pale yellow posterior hairs (MSSC); It_1 elongate, distinctly longer than TI; It_5 unmodified; II: 3.6; 5.0/ 4.9/ 1.3/ 0.9/ 0.6/ 0.4; TII with ad seta at 1/6 and short av seta at 4/5; IIt_1 subequal with TII; III: 4.5; 7.5; 3.7/ 1.5/ 1.2/ 0.6/ 0.4; TIII bare of major setae but with 3–4 short dorsal setae.

Abdomen: hypopygium similar to that of *A. cakaudrove* (Fig. 4a), and surstylus deeply forked, V-shaped, with dorsal arm longer than ventral, but straight not bent; cercus elongate, digitiform, and setose.

Female: none associated.

Type material. Holotype ♂, FIJI: **Viti Levu**: 3.8 km N Veisari Settlement, logging road to Waivudawa, lowland wet forest, [-18.079°, 178.363°], 300 m, 12 Dec 2002–3 Jan 2003, Malaise trap: M02, M. Tokotaa [FBA 104000]; paratype ♂, same but 3.5 km N Veisari Settlement, logging road to Waivudawa, [-18.068°, 178.367°], 300 m, 14 Feb–8 Mar 2003, Malaise trap: M03 [FBA 137749].

Remarks. *Amblypsilopus veisari* is known from lowland rainforests in southeastern Viti Levu. It is very close to *A. cakaudrove* from Taveuni, and both have a similar hypopygium with a straight forked surstylus. They differ primarily in *A. veisari* being slightly smaller and in lacking any tarsal flag on leg I tarsomere 5. These two species should be regarded as sister taxa.

Amblypsilopus terriae Bickel **n. sp.**
(Fig. 4c)

Description. **Male**: length 3.4 mm; wing: 3.1 x 0.9 mm; similar to *A. brorstromae* except: *Legs:* CI and CIII yellow; CII mostly dark brown basally but become yellow in distal third; remainder of legs mostly yellow, except t_5 on each leg dark brown; CI with 3 distolateral yellow setae, and short yellow hairs; CII with yellow anterior hairs; CIII with yellow lateral seta; femora ventrally bare; I: 3.9; 5.9; 4.8/ 1.6/ 1.2/ 0.7/ 0.5; TI distinctly bowed (MSSC), with long pale posterior pale seta at 2/3 (MSSC) and some short posterior hairs distad to apex, and distal eighth slightly flattened with pale ventral pile (MSSC); It_1 shorter than TI; It_5 dark brown, and only slightly flattened; II: 4.4; 6.0; 6.1/ 1.5/ 1.2/ 0.6/ 0.5; TII bare of major setae except for short av seta at 4/5; IIt_1 subequal with TII; III: 5.7; 8.7; 4.7/ 1.9/ 1.2/ 0.7/ 0.4; TIII bare of major setae but with 3–4 short dorsal setae; $IIIt_1$ ivory white; in contrast to yellow adjacent podomeres.

Wing: CuAx ratio 1.6.

Abdomen: terga 1–6 metallic green bronze, with matt brown areas over tergal overlap, with black marginal setae and short black vestiture; segment 7, 8 and hypopygium (Fig. 4c) dark brown, with cercus and surstylus yellow; epandrium subrectangular; surstylus with distinct apical notch with strong ventroapical seta, and dorsal margin with abundant short setae; cercus short digitiform with long setae as figured.

Female: similar to male, except: face not bulging; clypeus wider and almost adjacent to sides of eyes; also only 2 pairs strong ac; 4 strong dc; TI bare of major setae; TII with ad

seta at 1/6, and subapical ad, pd, and av setae; TIII bare of major setae; IIIt_1 also white; terga 6 and 7 pale yellow.

Type material. Holotype ♂, paratypes 2♂, FIJI: **Viti Levu**: 4 km WSW Colo-i-Suva Village, Mt. Nakobalevu, lowland wet forest, [-18.055°, 178.424°], 372 m, 12–30 Nov 2004, Malaise trap: M03, Timoci (Holotype, FBA 503483; paratypes 502481, 502478); paratypes 3♂, ♀, same but 9–30 May 2003 [FBA 094271]; same but 24 Jul–12 Aug2004 [FBA 503825, etc.]; paratypes, ♂, 3.8 km N Veisari Settlement, logging road to Waivudawa, lowland wet forest, [-18.079°, 178.363°], 300 m, 12 Dec 2002–3 Jan 2003, Malaise trap: M02, M. Tokotaa [FBA 104078]; ♂, same but 3.5 km N Veisari Settlement, logging road to Waivudawa, lowland wet forest, [-18.068°, 178.367°], 300 m, 14 Feb–8 Mar 2003,M03, M. Tokotaa [FBA 137744]; ♂, same but 4.8 km N Veisari Settlement, logging road to Waivudawa, lowland wet forest, [-18.075°, 178.362°], 300 m, 12 Dec 2002–3 Jan 2003, Malaise trap: M01, M. Tokotaa [FBA 177997].

Remarks. *Amblypsilopus terriae* is known only from lowland rainforest in southeastern Viti Levu. The dorsal margin of the surstylus bears abundant setae.

Etymology. This species is named in honor of Terry Lopez, who helped curate the Fiji Arthropod Collections at the Bishop Museum.

Amblypsilopus navukailagi Bickel **n**. **sp**.
(Fig. 4d)

Description. **Male**: length 2.7 mm; wing: 3.0 x 0.9 mm; similar to *A. brorstromae* except: *Legs:* all coxae and remainder of legs yellow, except t_5 on each leg dark brown; CI with 3 distolateral brown setae, and short brown hairs: CII with brown anterior hairs; CIII with brown lateral seta; femora ventrally bare; I: 3.9; 4.9; 4.3/ 2.1/ 1.2/ 0.8/ 0.5; TI straight, not bowed, with socket for long posterior seta near 2/3 (seta itself missing), but with row of short pale ventral hairs along length (MSSC), and distal sixth not flattened; It_1 shorter than TI; It_5 dark brown, and only slightly flattened; II: 4.2; 6.5; tarsomeres broken off; TII with ad at 1/6, short pd at 1/4, and short av seta at 4/5, and subapical ad and av setae; III: 5.4; 7.8; tarsomeres broken off; TIII bare of major setae but with 3–4 short dorsal and ventral setae.

Wing: CuAx ratio 1.2.

Abdomen: terga 1–6 metallic green bronze, with matt brown areas over tergal overlap, with black marginal setae and short black vestiture; segment 7, 8 and hypopygium (Fig. 4d) dark brown, with cercus and surstylus yellow; epandrium subrectangular with some short dorsodistal setae; hypandrium with cuticular irregularities; epandrial lobe elongate, lying adjacent to surstylus, with long apical and shorter subapical setae; surstylus elongate and subrectangular; cercus digitiform and setose.

Female: unknown.

Type material. Holotype, ♂, FIJI: **Gau**: 4.0 km SE Navukailagi Village, [-17.98°, 179.275°], 496 m, 19 Apr–2 May 2005, Malaise trap: M01, U. Racule [FBA 507927] (FNIC).

Remarks. *Amblypsilopus navukailagi* is known only from the island of Gau in the Lomaiviti Group. This species does not have a deeply forked cercus, but it has setae along the dorsal margin of the surstylus, like other members of the *cakaudrove* group.

The *olsoni* group

Diagnosis. *General*: delicate Sciapodinae with elongate yellow legs.

Head: vertical and postvertical setae sometimes yellow on both sexes; ocellar seta always black; vertical seta on lateral frons slightly shorter than postvertical; first flagellomere short, rounded subtriangular; arista dorsal, and as long as head height.

Thorax: setae black; 2 pairs of long posterior ac, with tiny pair anteriormost; males with 2 strong posterior dc and 3 weak hairlike dc anteriad (MSSC); 1 postalar, 1 postsutural supra-alar, 1 presutural intra-alar, 2 notopleural, 1 presutural supra-alar, and 1 weak postpronotal setae present; median scutellar setae strong, lateral scutellars reduced to tiny hair or absent.median scutellar setae strong, lateral scutellars absent.

Legs: coxa I yellow; coxae II and III brown at least basally and remainder of legs mostly yellow; tibia I with single long curved posterior seta variously positioned, but usually along distal half; TI on distal fifth to sixth slightly expanded with white ventral pile; tibia mostly bare of major setae.

Abdomen. segment 7 (hypopygial peduncle) elongate with tergum 7 much longer than sternum 7; hypopygial foramen left lateral; epandrium subtriangular to subrectangular, and distally bare of setae; surstylus usually lobate and often with strong median setae, hypandrium with rough or shagreened ventral surface; phallus sometimes with subapical barb-like projection; cercus usually elongate with and distally forked, with the fork branch directed medially, and often bearing modified setae. Females often with terminal visible segment (segment 5) yellow.

Remarks. The *olsoni* group is defined by an elongate cercus that is distally forked, with the fork branch directed medially. As well, most species have some of the major head setae yellowish. The *olsoni* group includes species from both Fiji and Vanuatu, primarily from rainforest habitats:

alipatei **n**. **sp**. Fiji (Gau, Kadavu, Viti Levu, Vanua Levu, Koro, Lakeba).
batilamu **n**. **sp**.. Fiji (Viti Levu).
elaquarae **n**. **sp**.. Fiji (Viti Levu).
ibiscorum **n**. **sp**.. Vanuatu (Espiritu Santo).
lakeba **n**. **sp**. Fiji (Lakeba, Taveuni).
laui **n**. **sp**. Fiji (Kadavu, Moala, Viti Levu, Vanua Levu).
marikai **n**. **sp**.. Fiji (Taveuni)
niphas **n**. **sp**. Fiji (Kadavu, Koro, Moala, Viti Levu).
nivanuatorum **n**. **sp**. Vanuatu (Espiritu Santo, Banks Is., Anatom, Malakula).
olsoni **n**. **sp**. Fiji (Viti Levu, Ovalau).
qaraui **n**. **sp**.. Fiji (Vanua Levu).
raculei **n**. **sp**. Fiji (Gau, Vanua Levu).
waivudawa **n**. **sp**. Fiji (Viti Levu).
waqai **n**. **sp**. Fiji (Viti Levu, Yasawa Is., Vanua Levu).

The following assemblages of species are evident within the *olsoni* group and represent putative monophyletic groupings:

1. Surstylus curved and tapering like a bird's beak and cercus relatively short with short fork. This is comprised of a single species, *A. alipatei,* widespread throughout Fiji.

2. Surstylus subrectangular with irregular outline and relatively weak setae, and phallus without subapical barb. This includes four species, *A. qaraui, A. marikai, A. elaquarae* and *A. waivudawa,* all from Fiji. Of these, the two Viti Levu species, *A. elaquarae and A. waivudawa*, are sister taxa, with similar cerci and both with tarsal flags on leg I tarsomere 5.

3. The remaining species of the *olsoni* group have the surstylus distally rounded, lobate, with strong median or lateral setae, and the phallus always with a subapical barb. Assemblage 3 can be broken into the following:

3a. Basitarsus II distinctly longer than tibia II and leg I tarsomere 5 flattened into an apical flag. This includes the two Vanuatu species, *A. ibiscorum* and *A. nivanuatorum,* and the sister species pair from Fiji having leg I tarsomere 5 with an enlarged white arolium, *A. niphas* and *A. laui.*
3b. Basitarsus II distinctly longer than tibia II, and leg I tarsomere 5 unmodified. This includes two Fijian species, *A. raculei* and *A. olsoni.*
3c. Basitarsus II shorter than or subequal to tibia II. This includes the Fijian *A. batilamu, A. lakeba,* and *A. waqai.*

Amblypsilopus olsoni Bickel **n**. **sp**.
(Fig. 5a)

Description. **Male**: length 3.5 mm; wing: 3.0 x 0.9 mm.
Head: vertex, frons, and face metallic blue-green, with a dusting of silvery pruinosity; postvertical setae yellow; vertical and ocellar setae black; upper face of males slightly bulging, face and clypeus metallic blue green with some grey pruinosity; clypeus narrowed and free from sides of eyes; palp yellow with black setae; proboscis yellow; scape and pedicel dark brown, first flagellomere brownish; scape short; pedicel with short setae; ventral postcranium with white setae.

Thorax: entirely metallic blue–green with bronze reflections, and dusting of grey pruinosity over pleura; metepimeron dark brown.

Legs: CI, all trochanters, femora, tibiae, and basal tarsomeres yellow, with distal tarsomeres becoming infuscated, and all t_5 dark brown, CII and CIII yellow with brown lateral stripe; CI with 3 pale yellow lateral setae, and white hairs: CII with white anterior hairs; CIII with pale lateral seta; femora ventrally bare; I: 3.6; 3.8; 4.6/ 1.7/ 1.3/ 0.7/ 0.4; TI slightly bowed in distal half (MSSC), with pale curved posterior seta at 2/3 (MSSC), and distad with posterior row of 7–8 fine pale curved, almost crocheted hairs to apex (MSSC); It_1 elongate, distinctly longer than TI (MSSC); II: 4.0; 5.1; 5.4/ 1.5/ 1.2/ 0.6/ 0.3; TII bare of major seta, but with short subapical av and ad setae; IIt_1 elongate, distinctly longer than TII (MSSC); III: 5.4; 8.3; 4.6/ 1.5/ 1.1/ 0.7/ 0.4; TIII bare of major setae but with some short ventral and pv setae; $IIIt_1$ with short basoventral seta (present in all species).

Wing: hyaline, elongate; vein M_2 in gentle bowed arch with M_1; dm-cu straight; CuAx ratio 1.4; lower calypter yellow with fan of yellow setae; halter pale yellow.
Abdomen: terga 1–6 metallic green bronze, with matt brown areas over tergal overlap, with black marginal setae and short black vestiture; hypopygium (Fig. 5a) dark brown with yellow cercus and distinctly white surstylus; epandrium subrectangular; two medial epandrial setae; epandrial lobe reduced to 2 setae near junction with surstylus; hypandrium with cuticular irregularities near apex; phallus with subapical ventral barb; surstylus expanded and lobate, with abundant basal microtrichia, some marginal setae and single strong distal external seta; cercus elongate with 2 strong apical setae, and subapical curved median arm with some distal setae.
Female: similar to male, except: face not bulging; clypeus wider and almost adjacent to sides of eyes; antenna brownish; 4 strong dc; CII and CIII entirely dark brown; TI with short ad seta at 1/6; TI unbowed and lacking posterior seta and distal hairs; It_1 shorter than TI; TII with strong ad and weak pd at 1/6, pd at 2/5, and subapical ad, pd, and av setae; IIt_1 shorter than TII; TIII with ad at 1/6, and some weak dorsals.

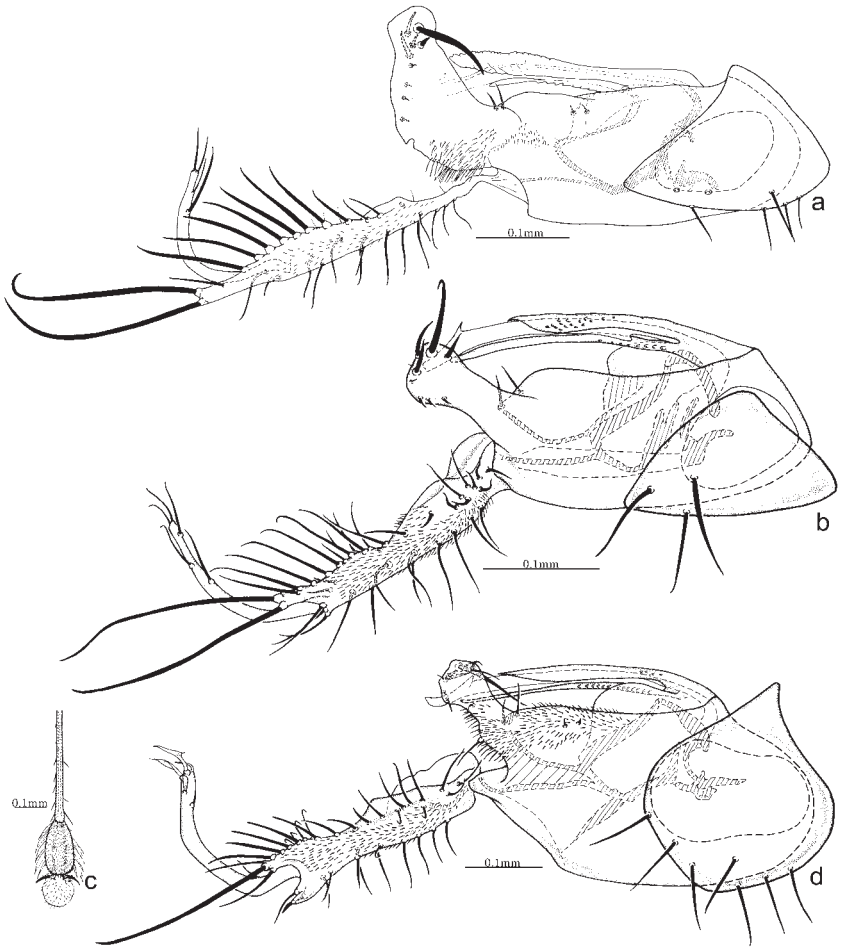

Figure 5. **a**, *Amblypsilopus olsoni*, hypopygium, left lateral. *A. niphas*, **b**, hypopygium, left lateral; **c**. male leg I, tarsomere 5. **d**, *A. lakeba,* hypopygium, left lateral.

Type material. Holotype ♂, FIJI: **Viti Levu**: Koroyanitu EcoPark, Mt. Evans Range, 1 km E Abaca Village, Savuione Trail, disturbed mid-elevation moist forest, [-17.667°, 177.55°], 800 m, 20 Sep–5 Oct 2004, Malaise trap: M01, L. Tuimereke [FBA 502397]; paratypes, 11♂, 8♀, same but 12–19 Oct 2002 [FBA 001458, etc.]; same but 21 Sep–7 Oct 2002 [FBA001415]; same but 26 Nov–3 Dec 2002 [FBA 073810]; same but 10–17 Dec 2002 [FBA 185675] (FNIC).
Additional material. FIJI: ♂, **Ovalau**, Levuka, 0–200 m, Feb 1972, Krauss (BPBM). ♂, **Viti Levu**, Vuda Prov., 2.0 km SW Vaturu Dam, montane transition forest, [-17.756°, 177.66°], 700 m, 26 Jul–7 Aug 2004, Malaise trap: M04, A. Namaqa [FBA 502498].
Remarks. *Amblypsilopus olsoni* is known from moist forest between 700– 800 m, in the Batilamu (Mt Evans) Range and Vaturu Dam in northwestern Viti Levu, and from lowland Ovalau. It can be readily distinguished from other members of the species group by the shape and setation of the surstylus.

Etymology. *Amblypsilopus olsoni* is named for David Olson, enthusiastic student of the Fijian biota. As former head of the Suva office of the Wildlife Conservation Society, he helped to establish the Suva headquarters of the Fiji Arthropod Survey.

Amblypsilopus niphas Bickel **n. sp.**
(Figs. 5b, 5c)

Description. **Male**: length 3.4 mm; wing: 3.1 x 0.8 mm; similar to *A. olsoni* except:
Head: postvertical setae yellow; vertical and ocellar setae black.

Legs: CI, all trochanters, femora, tibiae, and basal tarsomeres yellow, with distal tarsomeres becoming infuscated, and all t_5 dark brown, except where noted, CII and CIII yellow but brown basally; CI with 2 pale yellow lateral setae, and white hairs: CII with white anterior hairs; CIII with pale lateral seta; femora ventrally bare; I: 3.7; 4.7; 7.7/ 1.3/ 1.3/ 0.7/ 0.5; TI slightly bowed in distal half (MSSC), with curved yellow posterior seta at 3/5 (MSSC), and distad of seta is posterior row short curved hairs to apex (MSSC); It_1 elongate and thin, almost flagellate, and distinctly longer than TI (MSSC); It_5 flattened into pinnate black flag, with expanded semicircular white arolium at apex (Fig. 5c)(MSSC); II: 3.9; 5.7; 6.5/ 1.4/ 1.2/ 0.7/ 0.2; TII bare of major seta, but with short subapical av and ad setae; IIt_1 elongate, distinctly longer than TII (MSSC); III: 5.5; 8.5; 4.3/ 1.4/ 1.1/ 0.7/ 0.4; TIII bare of major setae but with some short ventral and pv setae; $IIIt_1$ with short ventral seta.

Wing: hyaline, elongate; vein M_2 in gentle bowed arch with M_1; dm-cu straight; CuAx ratio 1.6; lower calypter yellow with fan of yellow setae; halter pale yellow.
Abdomen: hypopygium (Fig. 5b) dark brown with yellow cercus and white surstylus; epandrium subrectangular, surstylus without basal microtrichia, but clavate with group of strong distal setae; hypandrium with rough ventral surface, and elongate narrow epandrial arm which is also roughened basally; phallus with subapical ventral barb; epandrial lobe reduced to 2 setae near junction with surstylus; cercus elongate with 2 strong apical setae, and subapical median arm, curved with some distal setae.
Female: similar to male, except: face not bulging; clypeus wider and almost adjacent to sides of eyes; antenna brownish; 4 strong dc; TI unbowed and lacking posterior seta and distal hairs; It_1 shorter than TI; TII with strong ad and weak pd at 1/6, pd at 2/5, and subapical ad, pd, and av setae; IIt_1 shorter than TII; TIII with ad at 1/6, and some weak dorsals; segment 6 yellow.
Type material. Holotype ♂, paratypes 12♂, 7♀, FIJI: **Kadavu**: 0.25 km SW Solodamu Village, Moanakaka Bird Sanctuary, coastal limestone forest, [-19.078°, 178.121°], 60 m, 4 Sep–23 Oct 2004, Malaise trap: M01, S. Lau [holotype, FBA 502167, paratypes 502164, 502165, 502169]; paratypes: same but 6 Nov 2004–8 Jan 2005, Malaise trap M02 [FBA 502169, 502170, 502171]; same but 6 Nov 2004–8 Jan 2005 [FBA 502178, 502179]; same but 23 Oct –6 Nov 2004 [FBA 503499, 503500, 503501]; same but 7 Mar–11 Apr 2004 [FBA 112670]; same but 25 Aug–23 Oct 2003 [FBA 010415, 010416]; same but 25 Aug–23 Oct 2003 [FBA 010425, 010428, 010429].
Additional material: FIJI: **Koro**: ♂, Mudu, 3.8 km NW Nasau Village, Mt. Kuitarua, mid-elevation mountain summit, [-17.288°, 179.404°], 500 m, 17–31 May 2005, Malaise trap: M01, S. Turaga [FBA 511273]. **Moala**: ♂, Yasayasamoala , 2.4 km ENE Maloku Village, Mt. Natuvu, island forest, [-18.568°, -179.899°], 120 m, 22–27 Dec 2005, Malaise trap: M01, J. Vulatini [FBA 511409]. **Viti Levu**: 4 ♂, Koroyanitu EcoPark, Mt. Evans Range, 1 km E Abaca Village, Kokabula Trail, disturbed mid-elevation moist forest, [-17.667°, 177.55°], 800 m, 10–17 Dec 2002, Malaise trap: M01, L. Tuimereke [FBA 185676]; same but 21 Sep–7 Oct 2002 [FBA 001405]; same but 29 Nov–13 Dec 2004 [FBA 502933]; same but 16– 29 Nov 2004 [FBA 502988]. 2♂, 1.0 km SW Vaturu Dam, montane transition forest, [-17.754°, 177.665°], 620 m, 23 Sep–6 Oct 2004, Malaise trap: M03, A. Namaqa [FBA 502486]; same but 31 Aug–13 Sep 2004 [FBA 502490]; 2.0 km SW Vaturu Dam,

montane transition forest, [-17.756°, 177.66°], 700 m, 26 Jul–7 Aug 2004, Malaise trap: M04, A. Namaqa [FBA 502497, 502498].2♂, 0.75 km E Navai Village , old trail to Mt. Tomaniivi (Victoria), gymnosperm dominated rainforest, [-17.621°, 177.989°], 700 m, 6 Nov–13 Dec 2004, Malaise trap: M05, E. Namatalau [FBA 532183, 532184]; ♂, Lami, 0–200 m, Feb 1981, Krauss (BPBM).

Remarks. *Amblypsilopus niphas* is known from elevations less than 800 m on Kadavu, Viti Levu, Koro in the Lomaiviti Group, and Moala in the Lau Group. Males have a diagnostic enlarged white arolium at the apex of leg I and subtended by an expanded black tarsomere 5 (Fig. 5c). This species is close to the polytypic *A. laui* which has only a tiny white arolium at the apex of leg I.

Etymology. The specific epithet *niphas* is from the Greek for snowflake, and refers to the expanded white arolium at the apex of male leg I (Fig. 5c).

Amblypsilopus laui Bickel **n**. **sp**.
(Fig. 7c)

Description. **Male**: length 3.2 mm; wing: 3.3 x 0.8 mm; similar to *A. olsoni* except:

Head: palp yellow with yellow setae; proboscis yellow; scape and pedicel yellow, dark brown, first flagellomere brownish.

Thorax: metepimeron yellow ventrally, dark brown/ metallic green dorsally.

Legs: (based on Kadavu specimens): all coxae and remainder of legs yellow with all t_5 dark brown; CI with 2 pale yellow lateral setae, and white hairs: CII with white anterior hairs; CIII with pale lateral seta; femora with a few short white ventral setae at very base, otherwise ventrally bare; I: 4.0; 4.5; 6.0/ 1.9/ 1.1/ 0.6/ 0.5; TI slightly bowed in distal half (MSSC), with yellow curved posterior seta at 2/3 (MSSC), and distad with posterior row of 7–8 fine pale curved, almost crocheted hairs to apex (MSSC); It_1 elongate, distinctly longer than TI (MSSC); It_5 black, flattened, with flattened setae along edges (MSSC) and smaller white apical arolium; II: 4.5; 5.8; 6.3/ 1.5/ 1.1/ 0.7/ 0.4; TII bare of major seta, but with short ad seta at 3/4, and short subapical av and ad setae; IIt_1 elongate, distinctly longer than TII (MSSC); III: 5.2; 9.0; 4.9/ 1.8/ 1.1/ 0.7/ 0.4; TIII bare of major setae; $IIIt_1$ with short ventral seta.

Wing: CuAx ratio 1.5.

Abdomen: hypopygium (Fig. 7c) dark brown with pale yellow cercus and surstylus; epandrium subrectangular, and distally with microtrichia setae; surstylus lobate with strong median seta; two internal epandrial setae; epandrial lobe reduced to 2 setae near junction with surstylus; hypandrial hood and hypandrial arm with cuticular irregularities near apex; phallus with subapical ventral barb; cercus elongate with 2 strong apical setae, and subapical median arm bearing some distal setae.

Female: similar to male, except: metepimeron entirely yellow; 3 pairs strong ac; 4 strong dc; TI unbowed and lacking posterior seta and distal hairs; It_1 shorter than TI; TII with strong ad at 1/6 and weak pd at 1/5, and subapical ad, pd, and av setae; IIt_1 shorter than TII.

Type material. Holotype ♂, paratypes ♂, ♀, FIJI: **Kadavu**: 0.25 km SW Solodamu Village, Moanakaka Bird Sanctuary, coastal limestone forest, [-19.078°, 178.121°], 60 m, 28 Jul–4 Sep 2004, Malaise trap: M04, S. Lau [holotype FBA 502180; paratypes, FBA 502176, 502177 in FNIC].

Additional material. FIJI: **Moala Group**: ♂, Totoya, Sava, 0–30 m, 19 Feb 1971, Krauss. **Ovalau**: 4 ♂, Levuka, 0– 00 m, Dec 1969, Krauss. **Vanua Levu**: ♂, Natewa Peninsula, 1.8 km SE Vusasivo Village, Mt. Navatadoi, lowland wet forest, [-16.586°, 179.768°], 190 m, 5–20 Jul 2005, Malaise trap: M02, L. Waqa [FBA 507698]; ♂, Batiri, forest SE of road, 100 m, 13 Oct 1979, Lal & Samuelson. **Viti Levu**: 2 ♂, Lami, 0–200 m, Feb–Mar 1981, Krauss (all BPBM).

Remarks. *Amblypsilopus laui* occurs widely in the Fijian archipelago and is known from

Kadavu, Viti Levu, Vanua Levu, the Moala Group, and Ovalau in forest less than 200 m in elevation. This species is close to *A. niphas* which has a much larger white arolium at the apex of leg I (Fig. 5c).

This species concept of *Amblypsilopus laui* adopted here allows for considerable intraspecific variation in relative podomere lengths, wing length, and antennal color, but all have a similar cercus and It_5 black flag with a small white arolium. Such a wide range of variation is unusual, but may be indicative of a "metaspecies" complex undergoing speciation, whose differences are not expressed in the male genitalia or MSSC. I consider them a monophyletic grouping based on their genitalia and MSSC, but some of the forms listed below may comprise distinct species.

I. Kadavu (type series, 2♂): palp with yellow apical seta; scape and pedicel yellow; first flagellomere brownish; metepimeron yellow ventrally, metallic green dorsally; wing length: 3.3; tibia I/ basitarsus I: 4.5/6.0.

II. All others: palp with black apical seta; scape and pedicel black; first flagellomere brownish; metepimeron entirely metallic green. The ratio of male tibia I and It_1 is variable among the specimens:

a. Ovalau, Levuka (3♂): wing length: 3.3; tibia I/ basitarsus I : 4.8/5.0.
b. Totoya (♂): wing length: 3.2; tibia I/ basitarsus I : 5.0/8.2.
c. Vanua Levu, Natewa Peninsula (♂): wing length: 3.3; tibia I/basitarsus I: 4.9/7.5
d. Vanua Levu, Batiti (♂): wing length: 3.2; tibia I/basitarsus I: 4.9/7.4
e. Viti Levu, Lami (II.1981) (♂): wing length: 2.8; tibia I/basitarsus I: 4.7/5.8
f. Viti Levu, Lami (III.1981)(♂): wing length: 3.2; tibia I/basitarsus I: 5.1/6.5

Etymology. *Amblypsilopus laui* is named for Suliasi Lau, who maintained the Malaise traps at the Solodamu type locality.

Amblypsilopus lakeba Bickel **n**. **sp**.
(Fig. 5d)

Description. **Male**: length 3.3 mm; wing: 3.6 x 1.1 mm; similar to *A. olsoni* except:

Head: postvertical setae yellowish; palp yellow with yellow setae; proboscis yellow; scape and pedicel brown, first flagellomere yellowish.

Thorax: metepimeron yellow ventrally, brown in dorsal half.

Legs: all coxae and remainder of legs yellow, except CII with faint lateral infuscation; CI with 3 pale yellow distolateral setae, and white hairs: CII with white anterior hairs; CIII with pale yellow lateral seta; femora ventrally bare; I: 3.9; 4.5; 5.4 /1.6/ 1.1/ 0.7/ 0.4; TI not distinctly bowed, with yellow curved posterior seta at 3/4 (MSSC), with 2–3 short curved apico-posterior setae (MSSC), and distal sixth ventrally flattened with pale yellow pile (MSSC); It_1 elongate, distinctly longer than TI (MSSC) ; II: 4.5; 6.2; 6.2/ 1.5/ 1.2/ 0.5/ 0.4; TII bare of major setae, with short subapical av and ad setae; IIt_1 and TII subequal in length TII (MSSC); III: 6.0; 9.2; 4.6/ 1.9/ 1.2/ 0.6/ 0.4; TIII bare of major setae but with some short dorsal and pv setae along length.

Wing: CuAx ratio 1.6; halter yellow.

Abdomen: hypopygium (Fig. 5d) dark brown with yellow cercus and white surstylus; epandrium subrectangular, and distally with abundant microtrichia; surstylus lobate with strong median seta and other short setae; hypandrium with rough ventral surface and elongate and narrow hypandrial arm; phallus with subapical ventral barb; cercus elongate, apically excavated in U-shape, ventral arm with strong apical seta, and subapical median arm which is curved with some apical barbed setae.

Female: similar to male, except: face not bulging; clypeus wider and almost adjacent to sides of eyes; antenna brownish; 3 pairs strong ac; 4 strong dc; metepimeron entirely yellow; TI lacking posterior seta and distal hairs; It_1 shorter than TI; TII with ad at 1/6, pd at 2/5, av at 3/4, and subapical ad, pd, and av setae; IIt_1 shorter than TII; TIII with ad at 1/6, and some weak dorsals; $IIIt_1$ strong basoventral seta; abdominal tergum 1, basal quarter of tergum 2, lateral tergal margins 2–4, and terga 5 ,6, and 7 yellow.

Type material. Holotype ♂, FIJI: Lau Group, **Lakeba**: 3.2 km NE Tubou Village, island forest, [-18.221°, -178.869°], 100 m, 13–25 Sep 2005, Malaise trap: M01, D. Saubaleinayau [FBA 507832] (FNIC); paratypes, 5♂, 8♀: same but 8–20 Aug 2005 [FBA 507854]; same but 1–13 Nov 2005 [FBA 507920]; same but 2–14 Jan 2006 [FBA 522273, etc.]; same but 19 Dec 2005–2 Jan 2006 [FBA 522282, etc.]; same but 7–19 Dec 2005 [FBA 522288, etc] (FNIC, BPBM).

Additional material. ♂, FIJI, **Taveuni**, Soqulu House in Soqulu Estate, secondary forest, [-16.833, -180], 140 m, 27 Dec 2002–3 Jan 2003, Malaise trap: M01, E. Ratu [FBA 188834] (BPBM).

Remarks. *Amblypsilopus lakeba* is known from the island of Lakeba in the southern Lau Group, where it appears to be common, and a single specimen from Taveuni. All specimens were collected in lowland habitats, less than 150 m in elevation.

Amblypsilopus nivanuatorum Bickel **n. sp.**
(Fig. 6a)

Description. **Male**: length 4.0 – 4.2 mm; wing: 3.7 x 1.2 mm; similar to *A. olsoni* except: *Head*: vertical and postvertical setae, and pair short posterior setae on ocellar tubercle yellow; ocellar setae black; upper face of males slightly bulging, palp yellow with pale yellow setae, but sometimes brownish; proboscis yellow; antennae entirely reddish yellow; pedicel with short yellow setae.

Thorax: metallic blue–green with bronze reflections, but metepimeron yellow in ventral half, just above CIII.

Legs: all coxae, trochanters, femora, tibiae, and basal tarsomeres yellow, with distal tarsomeres becoming infuscated, and all t_5 dark brown, CII yellow with basolateral infuscation; CI with 2 pale yellow lateral setae, and white hairs: CII with white anterior hairs; CIII with pale lateral seta; femora ventrally bare; I: 4.3; 5.2; 7.7/ 2.0/ 2.0/ 1.1/ 0.5; TI distinctly bowed along length (MSSC), with pale curved posterior pale seta at 1/2 (MSSC), and distad of seta is posterior row of fine pale curved, almost crocheted hairs to apex, with pale apical ventral seta, and distal eighth with pale ventral pile (all MSSC); It_1 distinctly elongate, about 1 1/2 times length of TI (MSSC); It_5 flattened into wide black triangular flag, pinnate along margins (MSSC); II: 4.5; 6.6; 7.5/ 2.0/ 1.5/ 0.8/ 0.4; TII bare of major seta, with short subapical av and ad setae; IIt_1 elongate, distinctly longer than TII (MSSC); III: 7.0; 10.2; 6.0/ 2.1/ 1.5/ 0.8/ 0.4; TIII bare of major setae but with some short ventral and pv setae.

Wing: crossvein dm-cu slightly curved; CuAx ratio: 1.5.

Abdomen: terga 1–6 metallic green bronze, with matt brown areas over tergal overlap (except terga 1 and 2 yellow laterally); tergum 7 longer than hypopygium; hypopygium (Fig. 6a) dark brown with yellow cercus; epandrium subrectangular, and distally with abundant microtrichia; surstylus lobate with strong median seta; hypandrium with rough shagreened ventral surface; phallus with ventral subapical barb; cercus elongate with mid-ventral bulge, with setae as shown, and apical branch offset to the median plane.

Female: similar to male, except: face not bulging; all major head setae black; antenna yellowish; 4 strong dc; TI bare of major setae; TI unbowed and lacking posterior seta and dis-

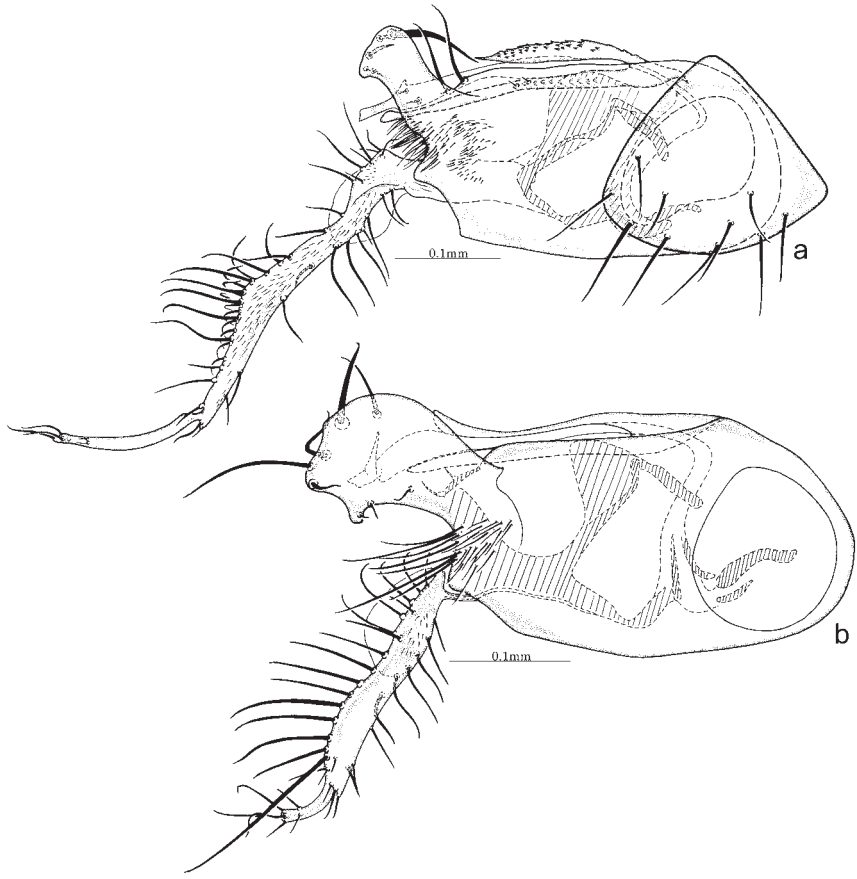

Figure 6. Hypopygium, left lateral: **a**, *Amblypsilopus nivanuatorum*. **b**, *A. ibiscorum*.

tal hairs; It_1 shorter than TI; It_5 unmodified; TII with strong ad and weak pd at 1/6, anterior seta at 3/5, and subapical ad, pd, and av setae; IIt_1 shorter than TII; TIII bare of major setae; abdominal segment 6 yellow.

Type material. Holotype ♂ (BPBM 17,139), paratype ♂, VANUATU: Banks Islands: **Vanua Lava**: Sola to Chelva River, 0–20 m, 16 Sep 1979, G. M. Nishida & G.A. Samuelson (BPBM).

Additional material. VANUATU: ♂, **Anatom**, Anelgaohat, 0–200 m, Nov 1978, Krauss; ♂,♀, **Efate**, Port Vila, 0–100 m, Jan 1976, Krauss; **Espiritu Santo**: 3♂, Penaoru Camp, 900 m, S14°58'0.17" E166°39.2'1.69", 14–28 Nov 2006; Malaise, canopy & ground MC09A2; ♂, 600 m, S14°57'50.8" E166°38'52.3" 18–30 Nov 2006, Malaise trap, ground; 4♂, Penaoru Camp 100A; 152 m, S14°57'43.2" E166°38'5.89" 15–29 Nov 2006, Malaise trap, ground, IBISCA (MNHN); **Malakula**, 2♂, N. Lakatoro, 22–30 Sep 1967, Sedlacek (BMBM); ♂, "Malekula," Feb 1930, Cheesman (BMNH).

Remarks. *Amblypsilopus nivanuatorum* is known from lowland collecting sites across Vanuatu, from Anatom in the south to the Banks Group in the north. On Espiritu Santo, it occurs from near sea level to high elevations sites at 900 m.

There is distinct intraspecific variation in the color of the vertical and postvertical setae in males. All males from Espiritu Santo (the Penaoru survey) have black vertical and postvertical setae, while specimens from the Banks Islands (type series), Anatom, Efate and Malakula have these setae distinctly yellow (not unlike many species in the *arenarius* group). All other characters, including the hypopygium and leg I modifications, suggests the specimens are conspecific.

Etymology. *Amblypsilopus nivanuatorum* is named in honor of the indigenous inhabitants of Vanuatu, the "Ni-Vanuatu".

Amblypsilopus ibiscorum Bickel **n**. **sp**.
(Fig. 6b)

Description. **Male**: length 3.8 mm; wing: 3.4 x 1.1 mm; similar to *A. olsoni* except:
Head: postvertical seta yellow; vertical and ocellar setae black; palp yellow with yellowish setae; proboscis yellow; scape and pedicel brown, first flagellomere yellow.

Thorax: metepimeron dark brown, becoming yellow at base.

Legs: all coxae and remainder of legs yellow, except all t_5 dark brown, CI with 3 pale yellow lateral setae, and white hairs: CII with white anterior hairs; CIII with pale yellow lateral seta; femora ventrally bare; I: 3.7; 4.8; 5.3/ 1.8/ 1.4/ 0.7/ 0.4; TI slightly bowed in distal half (MSSC), with pale curved posterior pale seta at 3/5 (MSSC), and distad with some very fine pale hairs; It_1 elongate, distinctly longer than TI (MSSC); It_5 distinctly flattened, subtriangular, and dark brown (MSSC); II: 4.2; 5.9; 6.2/ 1.6/ 1.2/ 0.7/ 0.3; TII bare of major seta, with short subapical av and ad setae; IIt_1 subequal with TII; III: 5.5; 8.6; 4.8/ 1.8/ 1.3/ 0.6/ 0.4; TIII bare of major setae but with some short ventral and pv setae; $IIIt_1$ with short basoventral seta.

Wing: CuAx ratio 1.6.

Abdomen: hypopygium (Fig. 6b) dark brown with yellow cercus and distinctly white surstylus; epandrium subrectangular, and distally with abundant setae, some rather long; surstylus enlarged lobate with strong marginal setae and microtrichia; hypandrium smooth; phallus with ventral subapical barb; cercus with long spaced marginal setae, and very short apical branch offset to the median plane.

Female: unknown.

Type material. Holotype ♂, VANUATU: **Espiritu Santo**: Penaoru Camp 100A; 152 m, S14°57'43.2" E166°38'5.89", 15–29 Nov 2006; Malaise, ground, MG01A2; paratypes 2♂, Penaoru Camp 100B, same but 117 m, S14°57'43.2", E166°38'5.89", 15–29 Nov 2006; Malaise, ground, MG01B2; forest (holotype, MNHN, paratypes AMS, BPBM).

Remarks. *Amblypsilopus ibiscorum* is known from lowland habitats on the island of Espiritu Santo, Vanuatu. The cercus shows the characteristic branching of the *olsoni* Group, but the branch is very short compare to that in other Group members. The enlarged surstylus is similar to that of *A. olsoni* itself. The male black triangular flag on leg I tarsomere 5 and the enlarged surstylus are diagnostic for this species.

Etymology. *Amblypsilopus ibiscorum* is named in honor of the participants with the IBISCA expedition to Vanuatu in November 2006.

Amblypsilopus batilamu Bickel **n**. **sp**.
(Fig. 7a)

Description. **Male**: length 3.8 mm; wing: 3.2 x 1.0 mm; similar to *A. olsoni* except:

Head: vertical and postvertical setae, and pair short posterior setae on ocellar tubercle yellow; ocellar setae black; upper face of males slightly bulging, palp yellow with pale yellow setae; proboscis yellow; antennae entirely reddish yellow; pedicel with short yellow setae.

Thorax: metallic blue–green with bronze reflections but metepimeron ventrally yellow.

Legs: all coxae, trochanters, femora, tibiae, and basal tarsomeres yellow, with distal tarsomeres becoming infuscated, and all t_5 dark brown, CI with 3 pale yellow lateral setae and hairs: CII with pale yellow anterior hairs; CIII with pale lateral seta; femora ventrally bare; I: 4.2; 4.6; 5.2/1.7/ 1.4/0.7/ 0.5; TI slightly bowed in distal half (MSSC), with pale curved posterior pale seta at 7/8 (MSSC), and row of subapical pale, curved, almost crocheted hairs, and slightly swollen subapically with pale ventral pile; (MSSC); It_1 elongate, distinctly longer than TI (MSSC); II: 4.2; 6.2; 6.1/ 1.5/ 1.0/ 0.7/ 0.4; TII bare of major seta, with short subapical av and ad setae; IIt_1 subequal in length to TII; III: 5.7; 9.0; 5.0/ 1.5/ 1.1/ 0.7/ 0.4; TIII bare of major setae but with some short ventral and pv setae; $IIIt_1$ distinctly ivory colored, in contrast to adjacent yellow podomeres.

Wing: CuAx ratio 1.5; lower calypter yellow with fan of yellow setae; halter pale yellow.

Abdomen: terga 1–3 laterally with yellow cuticle; hypopygium (Fig. 7a) dark brown with yellow cercus; epandrium subrectangular, and distally with abundant microtrichia; surstylus lobate with strong median seta; 2 medial epandrial setae; 2 epandrial lobe setae mediad of surstylar base; hypandrial hood rather long and hypandrial arm with cuticular irregularities; phallus with subapical ventral barb; cercus with modified leaf-like setae along distal half, and median curved arm which is constricted basally and bears some apical setae.

Female: not reliably associated.

Type material. Holotype ♂, FIJI: **Viti Levu**: Koroyanitu EcoPark, Mt. Evans Range, 0.5 km N Abaca Village, disturbed mid-elevation moist forest, [-17.667°, 177.55°], 800 m, 21 Sep–7 Oct 2002, Malaise trap: M01, L. Tuimereke [FBA 001403]. *Paratypes*: ♂, same but 12–19 Oct 2002 [FBA 001459]; ♂, same but 26 Nov–3 Dec 2002 [FBA 180713] (FNIC).

Remarks. *Amblypsilopus batilamu* is known only from the Batilamu Range (Mt Evans Range) in northwestern Viti Levu. All specimens were collected in moist forest around 800 m elevation near Abaca Village. The cercus has distinctive modified leaf-like setae along the distal half.

Amblypsilopus waqai Bickel **n**. **sp**.
(Fig. 7d)

Description. **Male**: length 3.6 mm; wing: 3.0 x 0.9 mm; similar to *A. olsoni* except:

Head: palp yellow with pale yellow setae; scape and pedicel dark brown, first flagellomere yellowish.

Legs: CI, all trochanters, femora, tibiae, and tarsomeres mostly yellow, with distal tarsomeres becoming infuscated, and all t_5 brown, CII and CIII brown basally, but yellow in distal third; I: 3.4; 3.8; 4.5/ 1.5/ 1.2/ 0.7/ 0.4; TI slightly bowed in distal half (MSSC), with pale curved posterior pale seta at 2/3 (MSSC), and in distal eighth with posterior row of 7–8 fine pale curved, almost crocheted hairs (MSSC); It_1 elongate, distinctly longer than TI (MSSC); II: 4.2; 5.5; 5.1/ 1.5/ 1.2/ 0.6/ 0.3; TII with black ad seta at 1/6; IIt_1 slightly shorter than TII; III: 5.2; 8.0; 4.2/ 1.8/ 1.1/ 0.7/ 0.4; $IIIt_1$ white, contrasting with adjacent yellow tarsomeres; TIII bare of major setae but with some short ventral setae.

Wing: CuAx ratio 1.5.

Abdomen: hypopygium (Fig. 7d) dark brown with yellow cercus and white surstylus;

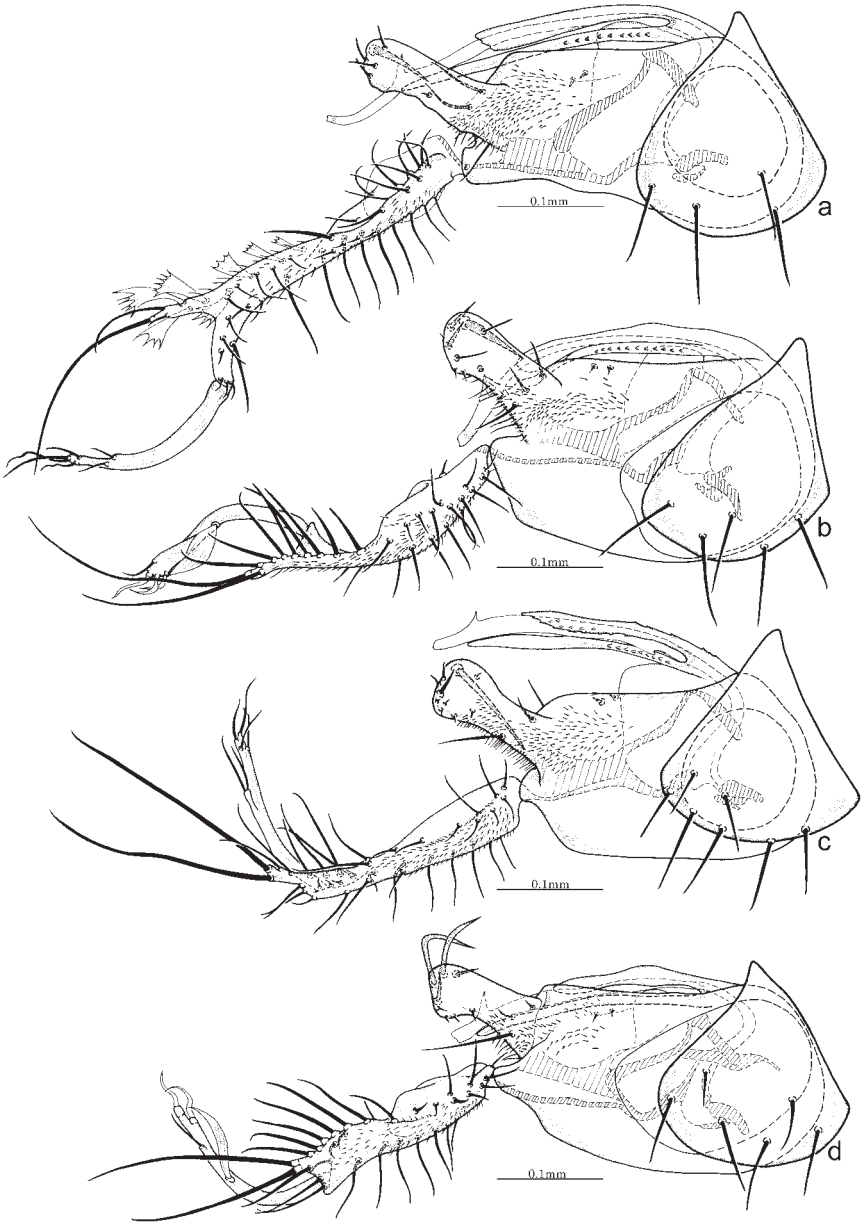

Figure 7. Hypopygium, left lateral: **a**, *Amblypsilopus batilamu*. **b**, *A. raculei*. **c**, *A. laui*. **d**, *A. waqai.*

epandrium subrectangular, and distally with abundant microtrichia; two internal epandrial setae; epandrial lobe reduced to 2 setae; surstylus lobate with strong 3 strong curved marginal setae, and single long basal seta; hypandrium with long hypandrial arm; phallus with subapical barb-like projection; cercus thickened along basal two thirds, with some distal setae on this sections, and subapical median arm curved with bladelike seta at midlength, and some apical setae.

Female: similar to male except: face not bulging; clypeus wider and almost adjacent to sides of eyes; 3 pairs strong ac; 4 strong dc; CII and CIII also mostly yellow; TI unbowed and lacking posterior seta and distal hairs; It_1 slightly shorter than TI; TII with strong ad and weaker pd at 1/6; TIII with short ad at 1/6, and some weak dorsals; $IIIt_1$ also white..

Type material. Holotype ♂, paratypes, 2 ♂, ♀, FIJI: **Vanua Levu**: Natewa Peninsula, 2.6 km SSE Vusasivo Village, Mt. Navatadoi, lowland wet forest, [-16.593°, 179.772°], 400 m, 25 Nov–22 Dec 2005, Malaise trap: M01, L. Waqa [Holotype, FBA 511578, paratypes FBA 511579, etc.]; paratypes 12♂, 63♀, same but 22 Dec 2005–7 Jan 2006, 30 Aug–14 Sep 2005, 28 Sep–12 Oct 2005, 12–25 Oct 2005, 21 Jan–7 Feb 2006 [FBA 511583, etc.].

Additional material. FIJI: **Viti Levu**: ♂, 2 km SE Nabukavesi Village, Ocean Pacific Resort, coastal lowland moist forest, [-18.171°, 178.258°], 40 m, 26 Apr–5 May 2004, Malaise trap: M01, W. Naisilisili [FBA 118581]; ♂, 2.0 km SW Vaturu Dam, montane transition forest, [-17.756°, 177.66°], 700 m, 26 Jul–7 Aug 2004, Malaise trap: M04, A. Namaqa [FBA 502495]. ♂, Nausori Highlands, 500–600 m, 9 Nov 1971, Krauss (BPBM).**Yasawa Group**: ♂, ♀, Yasawa, Yasawa-i-Lau Cave, 1 km SE Tamusua Village, dry forest, [-16.853°, 177.467°], 144 m, 14 Nov–13 Dec 2005, Malaise trap: M01, J. Veibete [FBA 511609, etc.]; ♂, same but 7–20 Jan 2006 [FBA 522399] (FNIC).

Remarks. *Amblypsilopus waqai* appears to be widespread in forests below 700 m on Vanua Levu, Viti Levu, and the Yasawa Group.

Etymology. *Amblypsilopus waqai* is named for Lasarusa Waqa, who maintained the Malaise traps on the Natewa Peninsula that collected the type series of this species.

Amblypsilopus raculei Bickel **n**. **sp**.
(Fig. 7b)

Description. **Male**: length 3.3 mm; wing: 3.0 x 0.9 mm; similar to *A. olsoni* except:

Head: palp yellow with yellow setae; scape and pedicel dark brown, first flagellomere brownish.

Thorax: metepimeron metallic green.

Legs: CI, all trochanters, femora, tibiae, and basal tarsomeres yellow except, with distal tarsomeres becoming infuscated, and all t_5 dark brown, CII and CIII basally infuscated but becoming yellow distally; CI with 2 pale yellow lateral setae, and white hairs: CII with white anterior hairs; CIII with pale lateral seta; femora ventrally bare; I: 3.7; 4.0; 5.4/ 1.6/ 1.2/ 0.7/ 0.4; TI slightly bowed in distal half (MSSC), with yellow curved posterior seta at 2/3 (MSSC), and distad of seta is posterior row of 7–8 fine pale curved, almost crocheted hairs to apex, with longer curved posterior seta at apex, and subapical ventral whitish pile (all MSSC); It_1 elongate, distinctly longer than TI (MSSC), with 4–5 short dorsal setae on basal fifth; II: 4.2; 5.7; 6.0/ 1.3/ 1.0/ 0.7/ 0.4; TII bare of major seta, with short subapical av and ad setae; IIt_1 slightly longer than TII; III: 5.0; 8.5; 4.7/ 1.7/ 1.1/ 0.7/ 0.4; TIII bare of major setae but with some short ventral and pv setae; $IIIt_1$ white.

Wing: CuAx ratio 1.6.

Abdomen: hypopygium (Fig. 7b) dark brown with yellow cercus and white surstylus; epandrium subrectangular, and distally with abundant microtrichia; surstylus lobate with

strong median seta, almost as long as surstylus; hypandrium with some cuticular irregularities on long hypandrial arm; phallus with subapical barbed projection; cercus elongate, swollen basally, with strong apical setae, and curved median arms branching near 3/4, and bearing large bladelike seta and other smaller modified setae.

Female: similar to male, except: TI with short ad seta at 1/6; TI unbowed and lacking posterior seta and distal hairs; It_1 shorter than TI; TII with strong ad and weak pd at 1/6, pd at 2/5, and subapical ad, pd, and av setae; IIt_1 shorter than TII; TIII with ad at 1/6, and some weak dorsals.

Type material. Holotype ♂, FIJI: **Gau**: 4.0 km SE Navukailagi Village, Mt. Delaco, [-17.98°, 179.275°], 496 m, 20 Oct –2 Nov 2005, Malaise trap: M02, U. Racule [FBA 511168]; paratype ♀, 3.3 km SE Navukailagi Village, Mt. Delaco, [-17.986°, 179.278°], 564 m, 27 May–16 Jun 2005, Malaise trap: M03, U. Racule [FBA 511119]; paratypes 3♂, same but 29 Jun–11 Jul 2005 [FBA 511206, 511208, 511209].

Additional material. FIJI: **Vanua Levu**: ♂, Natewa Peninsula, 2.6 km SSE Vusasivo Village, Mt. Navatadoi, lowland wet forest, [-16.593°, 179.772°], 400 m, 21 Jan–7 Feb 2006, Malaise trap: M01, L. Waqa [FBA 522363].

Remarks. *Amblypsilopus raculei* is known only from the Gau in the northern Lomaiviti Group, and from the Natewa Peninsula of Vanua Levu.

Etymology. *Amblypsilopus raculei* is named for Urara Racule, who maintained the Malaise traps on Gau.

Amblypsilopus alipatei Bickel **n**. **sp**.
(Fig. 3a)

Description. **Male**: length 3.5 – 3.6 mm; wing: 3.1 x 0.9 mm.; similar to *A. olsoni* except:

Head: head setae black.

Legs: CI, all trochanters, femora, tibiae, and basal tarsomeres yellow, with distal tarsomeres becoming infuscated; CII and CIII mostly brown; CI with 2 lateral pale yellow setae, and white hairs: CII with white anterior hairs; CIII with pale lateral seta; femora ventrally bare; I: 3.4; 5.2; 4.0/ 1.7/ 1.1/ 0.7/ 0.4; TI strongly bowed in distal half, with arch centered near 3/5 (MSSC), with long pale posterior pale seta at 1/2 (MSSC), and distal quarter slightly flattened with pale ventral pile (MSSC); It_5 dark brown, and only slightly flattened; II: 3.8; 5.4; 4.9/ 1.5/ 1.0/ 0.5/ 0.5; TII with ad seta at 1/8 and subapical av and ad setae; III: 5.1; 8.3; 4.0/ 1.7/ 1.2/ 0.6/ 0.4; TIII bare of major setae but with some short ventral and pd setae.

Wing: CuAx ratio 1.6.

Abdomen: hypopygium (Fig. 3a) dark brown with pale yellow cercus; epandrium subrectangular; surstylus curved as in bird's beak; epandrial lobe fused mediad of surstylus, with curved apical and subapical seta; hypandrium short; cercus basally with 5–6 ventral setae, and distinctive subapical mound, with fan of 5 long seta, and short apico-median arm with long apical setae.

Female: similar to male, except: face not bulging; clypeus wider and almost adjacent to sides of eyes; antenna brownish; 3 pairs strong ac; 4 strong dc; TI with ad seta at 1/6; and weak dorsal at 1/2; TI unbowed and lacking posterior seta and ventral pile; TII with strong ad and weak pd at 1/6, pd at 2/5, and anterior at 1/2, and subapical ad, pd, and av setae; TIII with ad at 1/6, and some weak dorsals.

Types. Holotype, ♂, FIJI: **Gau**: 3.3 km SE Navukailagi Village, Mt. Delaco, [-17.986°, 179.278°], 564 m, 3–19 Aug 2005, Malaise trap: M03, U. Racule [FBA 511229]; paratypes 34♂, 8♂: same as data as holotype: [FBA 511228, 511231– 511233, 511236]; same as holotype but 19–31 Aug 2005 [FBA,

511238, etc.]; same but 2–14 Nov 2005 [FBA 511262–511263]; same but 19 Apr–2 May 2005 [FBA 508096]; same but 7–19 Apr 2005 [FBA 511101]; same but 27 May–16 Jun 2005 [FBA 511103, etc.]; same but 14 Nov–28 Dec 2005 [FBA 522241, etc.]; same but 10 Jan–11 Feb 2006 [FBA 522258]. **Gau**: 4.0 km SE Navukailagi Village, Mt. Delaco, [-17.98°, 179.275°], 496 m, 8–20 Oct 2005, Malaise trap: M02, U. Racule [FBA 511132, etc.]; same but 2–14 Nov 2005 [FBA 511170, etc.] (FNIC)

Additional material. 47♂, 6♀, FIJI: **Kadavu**: 0.25 km SW Solodamu Village, Moanakaka Bird Sanctuary, coastal limestone forest, [-19.078°, 178.121°], 60 m, 28 Aug–4 Sep 2004, Malaise trap: M04, S. Lau [FBA 502181]. **Koro**: Koro, Mudu, 3.8 km NW Nasau Village, Mt. Kuitarua, mid-elevation mountain summit, [-17.288°, 179.404°], 500 m, 28 Jun–12 Jul 2005, Malaise trap: M01, S. Turaga [FBA 511282, etc.]; same but 3–17 Oct 2005 [FBA 511294, etc.]; same but 14–28 Jun 2005 [FBA 511276]; Mudu, 3.8 km NW Nasau Village, summit of Mt. Kuitarua, mid-elevation mountain summit, [-17.287°, 179.404°], 505 m, 3–17 May 2005, Malaise trap: M02, S. Turaga [FBA 522269]. **Lakeba**: Lakeba, 3.2 km NE Tubou Village, island forest, [-18.221°, -178.869°], 100 m, 13–25 Sep 2005, Malaise trap: M01, D. Saubaleinayau [FBA 511408]. **Vanua Levu**: Batiqere Range, 6 km NW Kilaka Village, lowland wet forest, [-16.807°, 178.991°], 98 m, 28 Jun–21 Jul 2004, Malaise trap: M05, P. Manueli [FBA 142947, etc.]; Batiqere Range, 4 km NW Kilaka Village, Wainibeqa, lowland wet forest, [-16.808°, 178.987°], 87 m, 12–24 Feb 2005, Malaise trap: M03, P. Manueli [FBA 511526 etc.]. Natewa Peninsula, 2.6 km SSE Vusasivo Village, Mt. Navatadoi, lowland wet forest, [-16.593°, 179.772°], 400 m, 28 Sep–12 Oct 2005, Malaise trap: M01, L. Waqa [FBA 511553, etc.]; same but 25 Oct–10 Nov 2005 [FBA 511564]. **Viti Levu**: Koroyanitu EcoPark, Mt. Evans Range, 1 km E Abaca Village, Savuione Trail, disturbed mid-elevation moist forest, [-17.667°, 177.55°], 800 m, 12–19 Oct 2002, Malaise trap: M01, L. Tuimereke [FBA 001508, etc.]; same but 26 Nov–3 Dec 2002 [FBA 180719]; 1 km E Abaca Village, Savuione Trail, disturbed mid-elevation moist forest, [-17.667°, 177.55°], 800 m, 11–19 Mar 2003, Malaise trap: M01, L. Tuimereke [FBA 186416]; same but 6–26 May 2003 [FBA 018927]; same but 21 Sep–7 Oct 2002 [FBA 001410]; 0.75 km E Navai Village, old trail to Mt. Tomaniivi, gymnosperm dominated rainforest, [-17.621°, 177.989°], 700 m, 3 Feb–16 Mar 2005, Malaise trap: M05, E. Namatalau [FBA 511497].

Remarks. *Amblypsilopus alipatei* occurs in moist forests, from lowlands to at least 800 m, and is widely distributed throughout the Fiji archipelago, the main islands of Viti Levu, Vanuna Levu and Kadavu, Koro and Gau in the Lomiviti Group, and Lakeba in the southern Lau Group. Surprisingly, it has not been recorded from Taveuni, which lies between Vanua Levu and the Lomaiviti Group.

This rather common species is easily recognized by the pale yellow cercus which has a subapical mound with a fan of long black setae. Although the cercus is not elongate as in other *olsoni* group species, the subapical mound is directed medially as is characteristic of the group.

The single male from Kadavu has additional setae on the ventral side of the cercus, between the basal group and the distal setose mound, but is otherwise similar in all respects.

Etymology. *Amblypsilopus alipatei* is named for Alipate Raikabula of the Wildlife Conservation Society, Suva who worked with the Fiji Arthropod Survey.

Amblypsilopus elaquarae Bickel **n**. **sp**.

(Fig. 8a)

Description. **Male**: length 3.6 mm; wing: 3.0 x 0.9 mm; similar to *A. olsoni* except

Head: scape and pedicel yellowish, first flagellomere brownish.

Legs: coxae, trochanters, femora, tibiae, and all tarsomeres yellow, except; CII infuscated laterally; CI with 3 pale yellow lateral setae, and white hairs: CII with white anterior hairs; CIII with pale yellow lateral seta; femora ventrally bare;

I: 4.2; 5.2; 5.9/ 1.6./ 2.2/ 0.8/ 0.7; TI only slightly bowed, with pale curved posterior pale

seta at 1/2 (MSSC), distad of which is pv row of 15 fine pale curved, almost crocheted hairs to apex (MSSC); It_1 elongate, distinctly longer than TI (MSSC); It_3 longer than It_2; It_5 expanded into white ovate flag (MSSC); II: 4.5; 6.5; 5.5/ 1.7/ 1.4/ 0.6/ 0.4; TII bare of major seta, but with tiny ad at 4/5; IIt_1 elongate, but shorter than TII (MSSC); III: 5.3; 8.0; 4.2/ 1.7/ 1.2/ 0.7/ 0.4; TIII bare of major setae but with some very short dorsal setae.

Wing: dm-cu slightly curved; CuAx ratio 1.6.

Abdomen: hypopygium (Fig. 8a) dark brown with whitish surstylus and yellow cercus; epandrium subrectangular, and distally with microtrichia; surstylus irregular subrectangular and some setae as shown; hypandrium with some cuticular irregularities on ventral surface and long hypandrial arm , also with roughened surface; without subapical barb; cercus elongate, distally excavated into U-shape, with lateral arm bearing strong apical setae, and median arm constricted near 1/4 and bearing some apical setae.

Female: not reliably associated.

Type material. Holotype ♂, FIJI: **Viti Levu**: FIJI: Viti Levu: Koroyanitu EcoPark, Mt. Evans Range, 1 km E Abaca Village, Savuione Trail, disturbed mid-elevation moist forest, [-17.667°, 177.55°], 800 m, 20 Sep–5 Oct 2004, Malaise trap: M01, L. Tuimereke [FBA 502396]; paratypes 15 ♂, same but 12 Oct –19 Oct 2002 [FBA 001459, etc.]; same but 21 Oct –18 Nov 2000 [FBA 049514 etc.]; same but 9–23 Aug 2004 [FBA 502409]; same but 16–29 Oct 2004 [FBA 502864, etc.]; same but 7–12 Oct 2002 [FBA 001252, etc.].

Remarks. *Amblypsilopus elaquarae* is known only from moist forest around 800 m elevation near Abaca Village the Batilamu Range (Mt Evans Range), northwestern Viti Levu. This species has a pure white expanded 5th tarsomere on male leg I and thus very close to *A. waivudawa*.

Etymology. *Amblypsilopus elaquarae* is named in honor of Ms. Elaquare Mossman Spencer of Sydney, NSW.

Amblypsilopus waivudawa Bickel **n. sp.**

Description. **Male**: length 3.4 mm; wing: 2.9 x 0.8 mm; similar to *A. olsoni* except:
Head: scape and pedicel yellowish, first flagellomere brownish.

Legs: coxae, trochanters, femora, tibiae, and all tarsomeres yellow, except as noted below; CII infuscated laterally; CI with 3 brown lateral setae, and white hairs: CII with brown anterior hairs; CIII with brown lateral seta; femora ventrally bare; I: 3.8; 4.8; 5.3/ 1.6./ 1.8/ 0.9/ 0.5; TI only slightly bowed, with pale yellow curved posterior seta at 1/2 (MSSC), but starting at 2/3 is pv row of 12 fine pale curved, almost crocheted hairs to apex, with longest hair near 4/5 (MSSC); It_1 elongate, distinctly longer than TI (MSSC); It_3 longer than It_2; It_5 brownish; II: 3.8; 5.7; 5.2/ 1.5/ 1.2/ 0.7/ 0.4; TII bare of major seta, but with tiny anterior seta at 4/5; III: 5.5; 7.9; 4.0/ 1.7/ 1.2/ 0.7/ 0.4; TIII bare of major setae but with some very short dorsal setae.

Wing: dm-cu slightly curved; CuAx ratio 1.7.

Abdomen: hypopygium similar in all respects to that of *A. elaquarae* (Fig. 8a).

Female: similar to male, except: face not bulging; antenna brownish; 3 pairs strong ac; 4 strong dc; coxae with pale yellow, not brown setae; TI bare of major setae, unbowed and lacking posterior seta and distal hairs; It_1 shorter than TI; TII with strong ad, short pd at 2/5, and subapical ad, pd, and av setae.

Type material. Holotype ♂, paratypes ♂, 2♀, FIJI: **Viti Levu**: 4.8 km N Veisari Settlement, logging road to Waivudawa, lowland wet forest, [-18.075°, 178.362°], 300 m, 12 Dec 2002–3 Jan 2003, Malaise trap: M01, M. Tokotaa [holotype FBA 178002; paratypes FBA 178048, 178042, 104013]; paratype ♂, same but 14 Feb–8 Mar 2003 [FBA 137755] (FNIC).

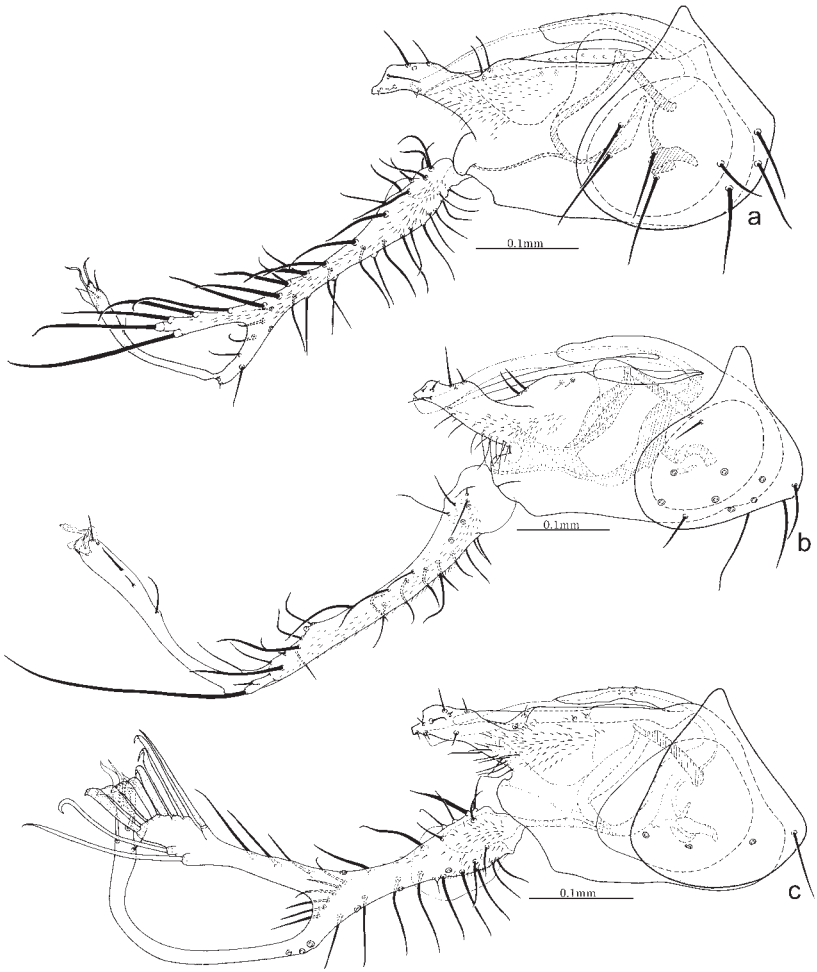

Figure 8. Hypopygium, left lateral: **a**, *Amblypsilopus elaquarae.* **b**, *A. marikai.* **c**, *A. qaraui.*

Additional material. FIJI: **Viti Levu**: ♂, Lami, 0–200 m, Nov 1978, Krauss (BPBM).

Remarks. *Amblypsilopus waivudawa* is known only from southeastern Viti Levu. It has a brown slightly expanded It_5 and males have distinctly brown coxal setae, which are yellow in the female.

This species is very close to *A. elaquarae* from northwestern Viti Levu, and in fact the two species have almost identical genitalia (Fig. 8a). They differ noticeably in details of leg setation and modification, where *A. elaquarae* has a pure white expanded 5th tarsomere on leg I, it is brown on *A. waivudawa.*

***Amblypsilopus qaraui* Bickel n. sp.**
(Fig. 8c)

Description. **Male**: length 3.0 mm; wing: 2.8 x 0.8 mm; similar to *A. olsoni* except:
Head: antenna brown.

Legs: CI, all trochanters, femora, tibiae, and basal tarsomeres yellow, with distal tarsomeres becoming infuscated brown, CII and CIII yellow with faint lateral infuscation; CI with 2 pale yellow lateral setae, and white hairs: CII with brown anterior hairs; CIII with brown lateral seta; femora ventrally bare; I: 3.5; 4.2; 5.0/ 1.3/ 1.6/ 0.9/ 0.4; TI bowed at midlength (MSSC), without distinct pale curved posterior pale (possibly broken off, but no evidence of socket) but from 2/3 to apex with posterior row of some 20 fine pale curved hairs and pale ventral pile (MSSC); It_1 elongate, distinctly longer than TI (MSSC), with pale curved ventral seta near join with TI; It_3 longer than It_2 ; II: 4.2; 5.4; 5.0/ 1.5/ 1.2/ 0.7/ 0.3; TII with short ad at 1/6, and short subapical av and ad setae; IIt_1 shorter than TII (MSSC); III: 4.9; 7.5; 4.0/ 1.5/ 1.2/ 0.6/ 0.3; TIII bare of major setae but with some short dorsal and pd setae.

Wing: CuAx ratio 1.4; lower calypter yellow with fan of yellow setae; halter brownish.

Abdomen: terga 1–6 metallic green bronze, with matt brown areas over tergal overlap, with black marginal setae and short black vestiture; hypopygium (Fig. 8c) dark brown with yellow cercus and surstylus; epandrium subrectangular; two short internal epandrial setae; epandrial lobe reduced to 2 setae near junction with surstylus; hypandrium with cuticular irregularities and long hypandrial arm; phallus entire, without subapical ventral barb; surstylus lobate, with abundant basal microtrichia, and some setae as figured; cercus deeply forked to midlength, lateral arm curved with apical setae, and median arm shorter but thicker with 8–9 strong bladelike apical setae.

Female: unknown.

Type material. Holotype ♂, FIJI: **Vanua Levu**: [-16.63°, 179.208°], 630 m, 26 Jan–7 Feb 2006, Malaise trap: M02, M. Qarau [FBA 522369] (FNIC).

Remarks. *Amblypsilopus qaraui* is known only from the type locality, at 630 m elevation on Vanua Levu. This species appears to lack the curved posterior seta on male tibia I (MSSC) which is a synapomorphy of the *olsoni* Group as well as several related species groups within Australasian *Amblypsilopus*. However, male basitarsus I has a similar curved basoventral seta, which is possibly a homologue of the tibia I seta in related *olsoni* group species.

Etymology. *Amblypsilopus qaraui* is named for Mikaele Qarau who maintained the Malaise traps that collected the species in this remote area of Vanua Levu.

***Amblypsilopus marikai* Bickel n. sp.**
(Fig. 8b)

Description. **Male**: length 3.6–3.7 mm; wing: 3.7 x 1.1 mm; similar to *A. olsoni* except:.
Head: antenna brownish.

Thorax: metepimeron mostly yellow but becoming infuscated dorsally.

Legs: CI, all trochanters, femora, tibiae, and basal tarsomeres yellow, with distal tarsomeres becoming infuscated; CII and CIII yellow but infuscated laterally; CI with 3 brown lateral setae, and brownish hairs: CII with brown anterior hairs; CIII with brown lateral seta; femora ventrally bare; I: 4.5; 5.6; 6.3/2.1/ 1.9/ 1.3/ 0.5; TI slightly bowed in distal half (MSSC), with pale curved posterior pale seta at 1/2 (MSSC), distad of which

is pv row of 15 fine pale curved, almost crocheted hairs to apex (MSSC), with curved apical posterior seta (MSSC); It_1 elongate, distinctly longer than TI (MSSC); II: 5.0; 7.4; 7.2/ 2.1/ 1.5/ 0.8/ 0.4; TII with short ad seta 1/6, dorsal at 1/4 and 1/2, and short subapical ad and av setae; IIt_1 elongate, almost as long as TII; III: 7.0; 10.6; 5.6/ 2.4/ 1.7/ 0.9/ 0.4; TIII bare of major setae but with some short dorsal and ventral setae along length.

Wing: dm-cu slightly sinuous; CuAx ratio 1.9.

Abdomen: terga 1–3 yellow laterally; hypopygium (Fig. 8b) dark brown with yellow cercus and surstylus; epandrium subrectangular; two medial epandrial setae; epandrial lobe reduced to 2 setae near junction with surstylus; hypandrium short, with cuticular irregularities, and long hypandrial arm; phallus entire, without with subapical ventral barb; surstylus subrectangular with abundant basal microtrichia and some short setae; cercus L-shaped, with strong seta at "bend of L," and ventral arm with modified apical setae, and without basal constriction.

Female: similar to male, except: face not bulging; clypeus wider and almost adjacent to sides of eyes; 3 pairs strong ac; 4 strong dc; TI not curved, bare of major setae, and lacking posterior setae and distal hairs; It_1 shorter than TI; TII with strong ad and weak pd at 1/6, pd at 2/5, and subapical ad, pd, and av setae; IIt_1 shorter than TII; TIII with ad at 1/6, and some weak dorsals.

Type material. Holotype ♂, paratypes, 2♂, FIJI: **Taveuni**: Tavuki Village, Mt. Devo, montane wet forest, [-16.837°, -179.973°], 892 m, 9 Sep–7 Oct 2004, Malaise trap: M04, P. Vodo [FBA 502272 (holotype), 502273, 502278]; paratypes, 13♂, 3♀, 5.6 km SE Tavuki Village, Devo Peak, cloud forest, [-16.843°, -179.966°], 1187 m, 31 Oct –14 Nov 2002, Malaise trap: M01, E. Ratu [FBA 001626]; same but 21 Nov–13 Dec 2002 [FBA 149961]; same but 31 Oct –14 Nov 2002 [FBA 056997]; same but 13–20 Dec 2002 [FBA 020013]; same but 9–23 Sep 2004 [FBA 502213]. 5.3 km SE Tavuki Village, Mt. Devo, montane wet forest, [-16.841°, -179.968°], 1064 m, 10–17 Oct 2002, Malaise trap: M03, P. Vodo [FBA 001709]; same but 3–10 Jan 2003 [FBA 042705]; same but 14–21 Nov 2002 [FBA 053330, etc.]; same but 10–16 Jan 2003 [FBA 080434, etc.]; same but 15–29 Nov 2004 [FBA 502336]; same but 9–23 Sep 2004 [FBA 508674]; same but 17–24 Oct 2002 [FBA 126544, 126548].
Additional material. FIJI: **Taveuni**: 4♂, 5.6 km SE Tavuki, Mt. Devo, cloud forest [-16.843°, -179.966°], 1100 m, 24 Jan 2006, Gaimari (BPBM, AMS).

Remarks. *Amblypsilopus marikai* is known only from the Devo Peak area of Taveuni, among upland rainforest and cloud forest between the elevations of 890 and 1190 m.

Etymology. *Amblypsilopus marikai* is named in honor of Marika Tuiwawa, curator of the South Pacific Regional Herbarium, Suva.

The *kilaka* group

Diagnosis.

General: delicate Sciapodinae with elongate yellow legs.

Head: male face not bulging; male clypeus not strongly narrowed, but close to eye margins.

Thorax: setae black; 4 pairs of short ac; 2 strong posterior dc and 3 short (but not hair-like) dc anteriad (MSSC); 1 postalar, 1 postsutural supra-alar, 1 presutural intra-alar, 2 notopleural, 1 presutural supra-alar, and 1 weak postpronotal setae present; median scutellar setae strong, lateral scutellars reduced to tiny hair or absent.median scutellar setae strong, laterals absent.

Legs: coxae and remainder of legs mostly yellow; male CI with strong anterior seta at 1/2 (Fig. 9b); male TI slightly bowed, with yellow curved ventral seta at 5/6 (MSSC);

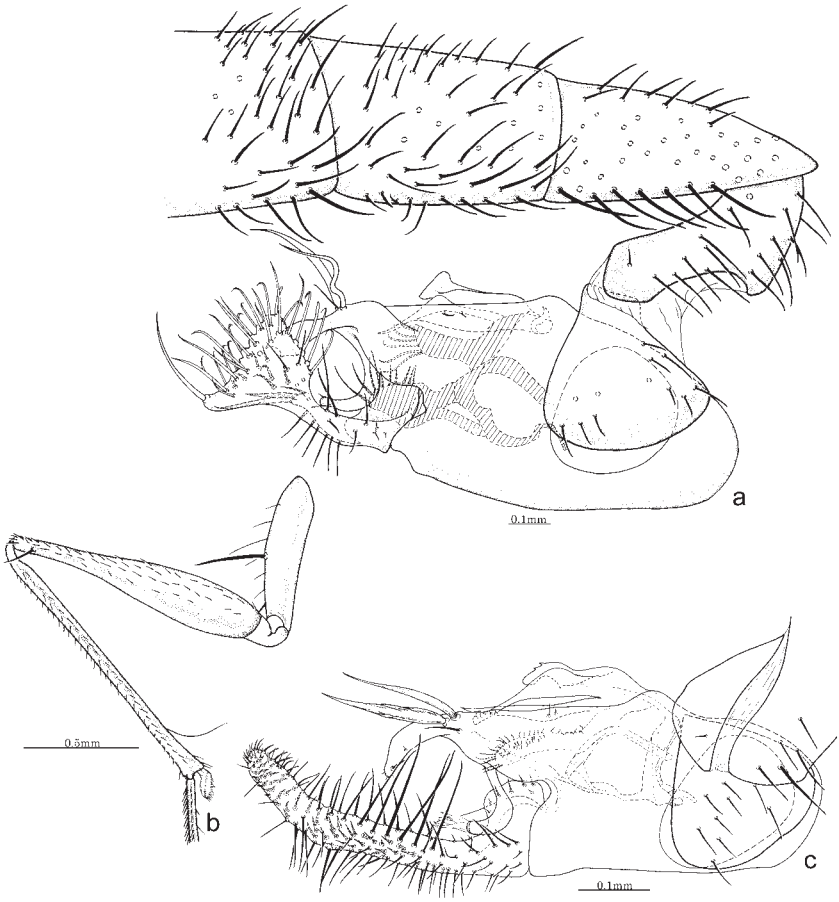

Figure 9. **a**, *Amblypsilopus kilaka,* male postabdomen, left lateral; **b–c**, *A. sanjanae*, **b**, male upper leg I, posterior; **c**, hypopygium, left lateral.

male distal TI slightly flattened, with ventral pad bearing fine white ventral pile projected distally over basal tenth of It_1 (MSSC); male It_1 elongate, distinctly longer than TI.
Wing: hyaline; dm-cu almost straight.
Abdomen: terga 1–5 dorsally metallic blue-green, and laterally yellow; tergum 6 metallic blue green; epandrium subrectangular with setae on distolateral wall; surstylus as curved lobate excavation, with main ventral arm bearing blade-like setae (which probably are modified epandrial lobe setae), with dorsal curved projection to cercus; hypandrium and phallus rather short
Remarks. The *Amblypsilopus kilaka* group comprises two Fijian species, and is defined by a number of character states that are possibly group synapomorphies: male CI with strong anterior seta at 1/2, male distal TI with ventral pad bearing fine white ventral pile and projected distally over basal tenth of It_1 (MSSC) (see Fig 9b), epandrium subrectan-

gular with setae on distolateral wall, and surstylus as curved lobate excavation, with main ventral arm bearing blade-like setae and dorsal curved projection ending near to cercus, and hypandrium and phallus rather short.

The following character states are also characteristic of this group: male face not bulging, but conformable with curvature of eyes, male clypeus not strongly narrowed, but close to eye margins, dc setae with two strong posteriors and 3 short but not hair-like dc anteriad, male TI with yellow curved ventral seta at 5/6, and male It_1 elongate, distinctly longer than TI.

This group is endemic to Fiji and I have not seen species near this group from any other Pacific archipelago.

Included species:
kilaka **n**. **sp**. Fiji (Vanua Levu, Kadavu, Taveuni).
sanjanae **n**. **sp**. Fiji (Viti Levu).

Amblypsilopus kilaka Bickel **n**. **sp**.
(Fig. 9a, b)

Description. **Male**: length 2.8 – 2.9 mm; wing: 2.5 x 0.8 mm.
Head: vertex, frons, and face metallic blue-green, with a dusting of brownish pruinosity; head setae black; postvertical setae as dorsalmost postorbital setae; strong, diverging ocellar setae; vertical setae on lateral frons longer than postvertical; face not bulging, but conformable with curvature of eyes; eyes with white setulae between facets; clypeus not strongly narrowed, but close to sides of eyes; palp brown with 2 dark brown setae; proboscis yellow; scape and pedicel reddish yellow, first flagellomere brown; pedicel with short setae; first flagellomere short, rounded subtriangular; arista dorsal, and as long as head height, and simple; ventral postcranium with white setae.

Thorax: entirely metallic blue–green with dusting of brown pruinosity on dorsum, with grey pruinosity over pleura.

Legs: CI and CIII, all trochanters and remainder of legs yellow, except t_5 on each leg dark brown; CII brown basally but yellow distally; CI with strong yellow anterior seta at 1/2 (Fig. 9b) (MSSC) with additional short yellow hairs: CII with yellow anterior hairs; CIII with yellow lateral seta; I: 3.4; 3.7; 4.2/ 1.7/ 1.7/ 0.8/ 0.5; FI ventrally bare; TI slightly bowed, with yellow curved ventral seta at 5/6 (MSSC); distal TI slightly flattened, with ventral pad bearing with fine white pile projected distally over basal tenth of It_1 (MSSC); It_1 elongate, distinctly longer than TI (MSSC); It_5 slightly expanded; II: 3.2; 5.3; 5.0/ 1.7/ 1.2/ 0.7/ 0.4; FII with 3 brown ventral setae on basal sixth; TII bare of major setae; III: 5.0; 7.5; 4.1/ 1.8/ 1.3/ 0.8/ 0.4; FIII and TIII bare of major setae; $IIIt_1$ with short ventral seta.

Wing: hyaline, elongate; vein M_2 in very gentle arch with M_1, and represented by trace beyond the split; dm-cu almost straight; CuAx ratio 1.5; lower calypter yellow with fan of yellowish setae; halter pale yellow.

Abdomen: tergum 7 with distal excavation; segment 8 subtriangular; hypopygium (Fig. 9a) dark brown with yellow cercus; epandrium subrectangular with fan of setae on distolateral wall; surstylus as curved lobate excavation, with ventral arm bearing large and small blade-like setae; hypandrium and phallus rather short; cercus expanded distally, subtriangular with abundant setae as figured.
Female: none reliably associated.

Type material. Holotype, ♂, FIJI: **Vanua Levu**: Batiqere Range, 6 km NW Kilaka Village, lowland wet forest, [-16.811°, 178.988°], 61 m, 3–10 Jun 2004, Malaise trap: M03, P. Manueli [FBA 114055]; paratype ♂, same but Batiqere Range, 6 km NW Kilaka Village, lowland wet forest, [-16.807°, 178.988°], 154 m, 13–26 Apr 2004, Malaise trap: M04, P. Manueli [FBA 059364], paratypes 3 ♂, same but [-16.815°, 178.986°], 146 m, 15–28 Jun 2004, Malaise trap: M01, P. Manueli [FBA 071874], 3–10 Jun 2004 [FBA 040556–040557].
Additional material. FIJI: **Kadavu**: ♂, Nabukelevu, 1.3 km SSW Lomaji, Mt. Washington, montane wet forest, [-19.118°, 177.993°], 56 m, 14–26 May 2005, Malaise trap: M03, A. Bose [FBA 511363]. **Taveuni**: 21♂, 5.3 km SE Tavuki Village, Mt. Devo, montane wet forest, [-16.841°, -179.968°], 1064 m, 10–17 Oct 2002, Malaise trap: M03, P. Vodo [FBA 001679, 052207, etc.]; same but 10–16 Jan 2003 [FBA 080428, etc.]; same but 2–10 Oct 2002 [FBA 108197]; same but 9–23 Sep 2004 [FBA 508672]; 5.6 km SE Tavuki Village, Devo Peak, cloud forest, [-16.843°, -179.966°], 1187 m, 13 Oct–20 Nov 2002, Malaise trap: M01, E. Ratu [FBA 020004, 020006, etc.]; same but 31 Oct –14 Nov 2002 [FBA 056996]; same but 3–10 Jan 2003 [FBA 057891, 057896]; same but 21 Nov–13 Dec 2002 [FBA 149973]; same but 24–31 Oct 2002 [FBA 160309].
Remarks. *Amblypsilopus kilaka* is known from wet lowland forest on Vanuna Levu and Kadavu, and forests above 1000 m on Taveuni. Oddly, this species hasn't been recorded from Viti Levu, the largest of the Fiji Islands between Kadavu and Vanua Levu.

Amblypsilopus sanjanae Bickel **n. sp.**
(Fig. 9c)

Description. **Male**: length 2.3 mm; wing: 2.4 x 0.6 mm; similar to *A. kilaka* except:
Legs: CI, all trochanters, femora, tibiae, and basal tarsomeres yellow, with distal tarsomeres becoming infuscated, and all t_5 dark brown, CII and CIII yellow with brown infuscation laterally; leg setae dark brown; CI with strong seta at 3/5 projecting anteriorly (MSSC), and 2 distolateral setae; CII with short anterior hairs; CIII with lateral seta; femora ventrally bare; I: 3.2; 3.4; 4.4/ 1.5/ 1.4/ 0.6/ 0.4; TI slightly bowed, with long brown pv seta at 5/6 (MSSC); distal TI slightly flattened, with ventral pad bearing fine white ventral pile, and projecting distally over basal tenth of It_1 (MSSC); It_1 elongate, distinctly longer than TI (MSSC); It_5 not expanded; II: 3.3; 5.1; 4.8/ 1.3/ 1.0/ 0.8/ 0.3; TII bare of major seta, with short subapical av and ad setae; IIt_1 elongate, almost subequal with TII (MSSC); III: 4.7; 7.0; 3.7/ 1.7/ 1.1/ 0.7/ 0.4; TIII bare of major setae but with some short ventral setae; $IIIt_1$ with ventral seta near base (MSSC).

Wing: hyaline, elongate; vein M_2 in very gentle arch with M_1 and represented by trace beyond the split; dm-cu almost straight; CuAx ratio 1.6; lower calypter yellow with fan of yellowish setae; halter pale yellow.

Abdomen: hypopygium (Fig. 9c) dark brown with yellow cercus; epandrium subrectangular; epandrium subrectangular with setose projection on distolateral wall; surstylus as curved lobate excavation, with main ventral arm curved and bearing 2 large bladelike setae (possible modified setae of fused epandrial lobe); hypandrium curved with some cuticular serrations; cercus thick digitiform, with abundant setae as figured.
Female: unknown.
Type material. Holotype ♂, FIJI: **Viti Levu**: 3.8 km N Veisari Settlement, logging rd to Waivudawa, lowland wet forest, [-18.079°, 178.363°], 300 m, 12 Dec 2002–3 Jan 2003, Malaise trap: M02, M. Tokotaa [FBA 104007] (FNIC).
Remarks. *Amblypsilopus sanjanae* is known only from lowland wet forest in southeastern Viti Levu. It is very close to *A. kilaka.*

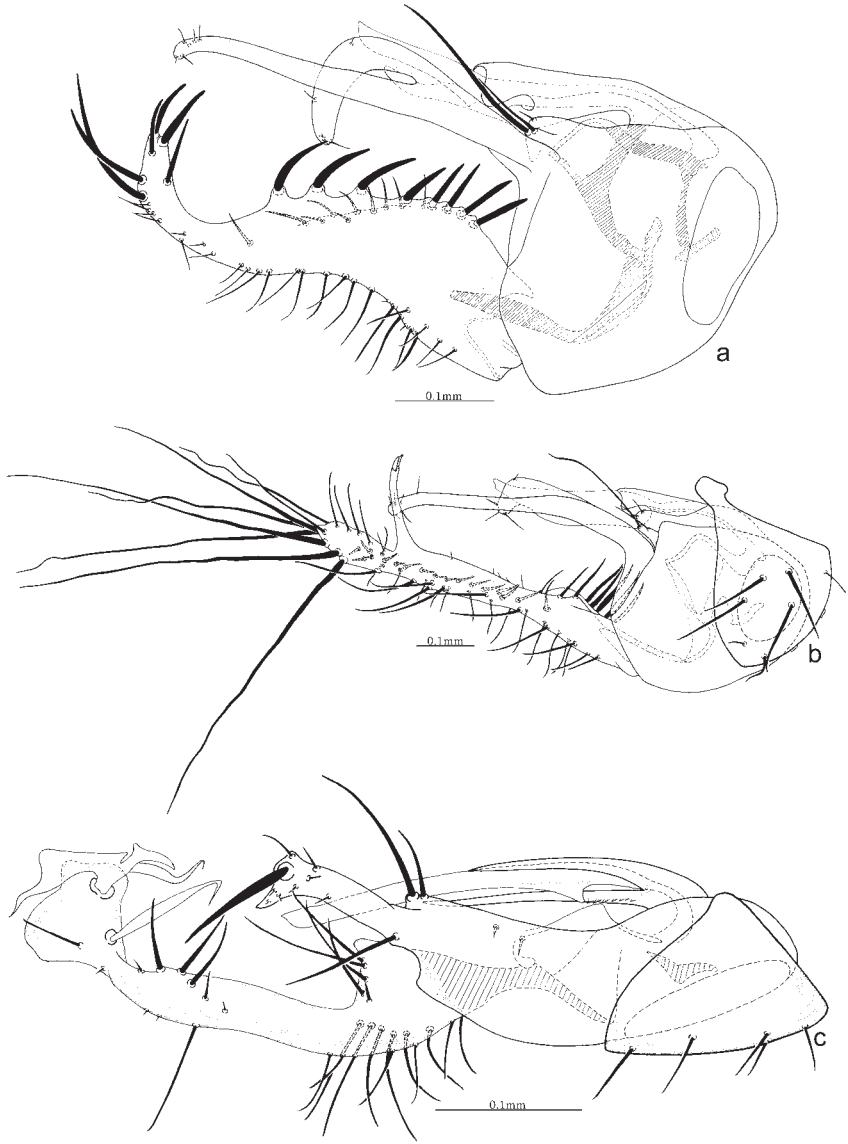

Figure 10. Hypopygium, left lateral: **a**, *Amblypsilopus gnathoura*. **b**, *A. kotoi*. **c**, *A. niupani*.

Etymology. *Amblypsilopus sanjanae* is named for Sanjana Lal, Department of Forestry, Colo-i-Suva, who helped to establish laboratory facilities for the Fiji Arthropod Survey.

The *pulvillatus* group

Diagnosis. Vertical seta on male lateral frons curved, almost bent and relatively short, and stronger in females; upper face of males slightly bulging, and flat in females; femur I in both sexes with white ventral seta in basal quarter; leg I male tarsomere 5 with anterior claw enlarged, and pulvilli usually enlarged, and posterior claw reduced in size/ absent; crossvein dm-cu slightly sinuous; phallus broad near dorsal angle, more than three times width of phallus at apex.

Remarks. The *pulvillatus* group comprises ten western Pacific species, Fiji (6 spp.), Vanuatu (2 spp.), Tonga (1 sp.) and Samoa (1 sp.). Bickel (2006) treated this group and nine species in detail, and the following new species is described below. [Also, *A. ambrym* Bickel is here recorded from an additional island: VANUATU: **Espiritu Santo**: ♂, Big Bay, E. Jordan River, 0–30 m, 16 Sep 1979, W.C. Gagné (BPBM).]

Included species:
ratawai **n**. **sp**. Fiji (Viti Levu).

Amblypsilopus ratawai Bickel **n**. **sp**.
(Fig. 11a)

Description. **Male**: length 4.5 mm; wing: 4.2 x 1.2 mm.

Head: vertex and frons metallic blue-green; face and clypeus metallic blue-green with some grey pruinosity; palp yellow with black setae; proboscis yellow; scape and pedicel dark brown, first flagellomere yellowish; scape short; pedicel with short setae; first flagellomere subtriangular; arista dorsal, and as long as head height, and simple; ventral postcranium with white setae.

Thorax: metallic green with bronze reflections; setae black; 3 pairs of long ac; males with 2 strong posterior dc and 2 or 3 weak hair-like dc anteriad (MSSC), lateral scutellar setae reduced to short weak hairs.

Legs: CI, all trochanters, femora, tibiae yellow; yellow, except apical tenth of FIII and apical eight of TIII dark brown; tarsi I and II yellow, but It_4 and It_5 dark brown, and distal tarsomeres II infuscated; tarsus III dark brown; coxae II and III dark brown; CI and CII with white anterior hairs and a few stronger distal setae; CIII with strong white lateral seta subtended by group 4–5 short white setae; I: 5.2; 5.4; 4.6/ 1.2/ 0.9/ 0.4/ 0.6; FI with 3-4 white ventral setae in basal third, with seta at 1/5 stronger and longer; TI with short ad at 1/8; It_1 with long curved ventral seta at 1/10 (MSSC); It_4 and It_5 both slightly thickened (MSSC); It_5 with both pulvilli and claws subequal and enlarged (MSSC), in both cases larger than respective pulvilli and claws on legs II and III; II: 6.0; 8.3; 7.50/ 2.2/ 1.3/ 0.7/ 0.4; FII with some short white ventral hairs; TII with short ad only at 1/6, and subapical ad and av setae; III: 7.9; 11.0; 5.5/ 2.3/ 1.5/ 1.0/ 0.5; FIII with very short white ventral hairs; TIII bare of major setae, but with some short dorsal and anterior setae.

Wing: CuAx ratio 2.1; lower calypter yellow with fan of yellowish setae; halter yellow with pale yellow club.

Abdomen: terga 1–6 metallic green bronze, with matt brown areas over tergal overlap; hypopygium (Fig. 11a) dark brown with brown cercus; hypandrial arm and phallus both elongate, with phallus extending slightly beyond apex of arm; epandrium subrectan-

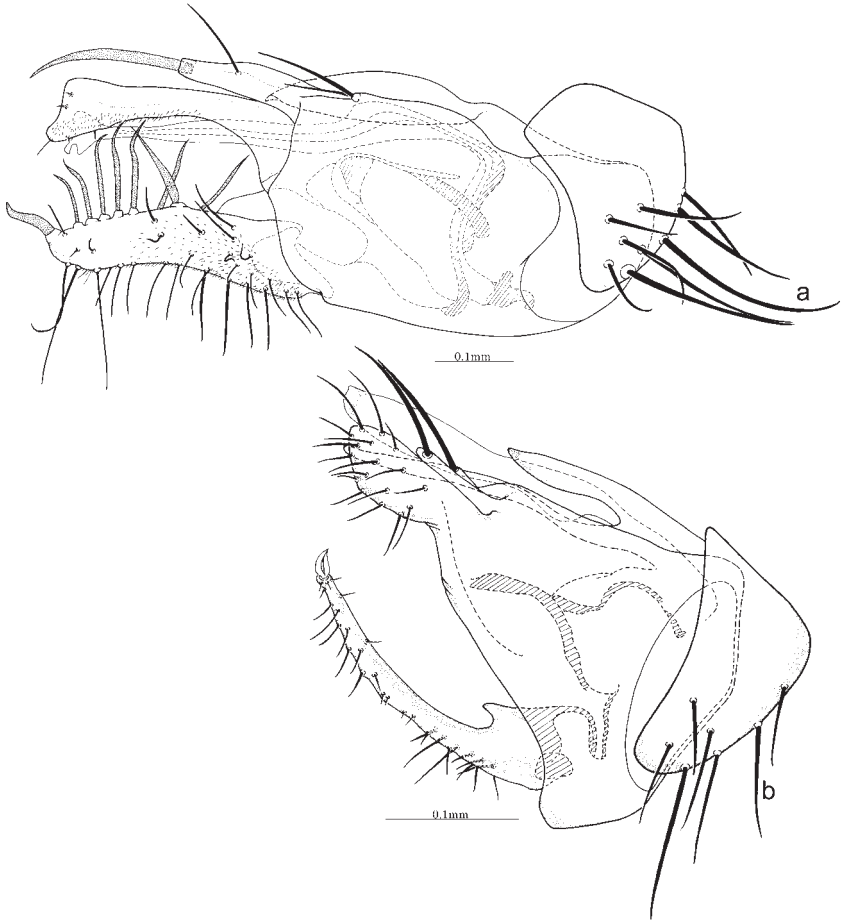

Figure 11. Hypopygium, left lateral: **a**, *Amblypsilopus ratawai*. **b**, *A. asau.*

gular; surstylus elongate with short apical setae; epandrial lobe greatly enlarged ventrad of surstylus, with strong tapering apical seta and shorter ventral seta; phallus prolonged, reaching almost apex of surstylus; cercus lobate subrectangular, with 7-8 strong bladelike setae along ventral margin.

Female: similar to male, except: 4 strong dc; It_1 without ventral seta; claws and pulvilli on all legs subequal in size; TIII with ad seta at 1/6.

Type material. Holotype, ♂, paratypes 11♂, 3♀, FIJI: **Viti Levu**: 1.1 km SSW Volivoli Village, Sigatoka Sand Dunes, mixed littoral forest on sand, [-18.169°, 177.485°], 55 m, 20 Jun–9 Jul 2003, Malaise trap: M02, T. Ratawa [Holotype, FBA 030966, paratypes FBA 030968, 030975, 030961, 080513, 080514, 080516, 080517, 080521, 080527, all FNIC]

Additional material. FIJI: **Viti Levu**: ♂, Wainivalau, Sovi Basin, lowland moist forest, [-17.90°, 178.233°], 300 m, 8–16 May 2003, Malaise trap: M01, M.E. Irwin, E.I. Schlinger, M. Tokotaa [FBA 030671, BPBM].

Remarks. *Amblypsilopus ratawai* is unusual among the group in that males have both tarsal claws enlarged on male leg I, whereas all other member have only the male anterior claw enlarged.

This species is known only from two rather different sites on Viti Levu, coastal forest on stabilized dunes at Sigatoka, and moist interior rainforest in the Sovi Basin. Oddly, although the Sigatoka site has been continuously sampled with two Malaise traps for some four years, all 15 Sigatoka specimens (the type series) were captured in the same trap/ collecting event, and the species otherwise was not seen among the more than 2000 dolichopodid specimens collected at the site. *A. ratawai* is the fourth member of the *pulvillatus* group known to occur at the Sigatoka site (the others being *A. pulvillatus*, *A. bezzii,* and *A. volivoli*), a rather high degree of sympatry.

Etymology. *Amblypsilopus ratawai* is named for Taniela Ratawa, who maintained the Malaise traps at the Sigatoka Dunes site.

The *gnathoura* group

Diagnosis.

Head: vertex rather weakly excavated; clypeus slightly narrowed and free from sides of eyes; arista dorsoapical.

Thorax: 2 pairs of long ac; 2 strong posterior dc, with 4 weak hair-like anterior dc (MSSC); lateral scutellar setae absent.

Legs: coxae and femora mostly brown; TI with short ad seta at 1/8 (both sexes); TI with posterior row of fine short white hairs (MSSC); male It_1 with 2 strong posterior setae, at base and at 3/4 (MSSC).

Abdomen: epandrium subtriangular; phallus elongate and extending to apex median surstylus arm; surstylus divided into two elongate arms, with one arm straight, other bend mediad of it in curved L-shape; cercus often with row of 7–10 strong black toothlike setae, narrowed subapically, apically upcurved with strong setae.

Remarks. The *gnathoura* group comprises two species from Fiji, and does not appear to be close to species from other archipelagos. It is defined by several group synapomorphies: TI with short ad seta at 1/8, otherwise bare of major setae, TI with posterior row of fine short white hairs (MSSC), male It_1 with 2 strong posterior setae, at base and at 3/4 (MSSC), and surstylus divided into two elongate arms, with one arm straight, other bend mediad of it in curved L-shape. Also, the vertex is weakly excavated in this group. The two species are sympatric in southeastern Viti Levu:

gnathoura **n**. **sp**. Fiji (Viti Levu).
kotoi **n**. **sp**. Fiji (Viti Levu, Taveuni).

Amblypsilopus gnathoura Bickel **n**.**sp**.
(Fig. 10a)

Description. **Male**: length 2.4 mm; wing: 2.4 x 1.0 mm.

Head: vertex, and frons metallic blue-green; head setae black; strong postvertical seta as dorsalmost postorbital setae and strong and diverging ocellar setae; vertex rather weakly excavated; vertical setae on lateral frons and longer postvertical; upper face not bulging, face and clypeus metallic blue green with some grey pruinosity; clypeus slightly narrowed

and free from sides of eyes; palp brown with 2 black setae; proboscis yellow; antenna black; pedicel with short dorsal seta; first flagellomere short, rounded subtriangular; arista dorsoapical, simple, and almost as long as head height, ventral postcranium with white setae.

Thorax: entirely metallic blue–green with bronze reflections, and dusting of grey pruinosity over pleura; setae black; 2 pairs of long ac; 2 strong posterior dc, with 4 weak hair-like anterior dc (MSSC); 1 postalar, 1 postsutural supra-alar, 1 presutural intra-alar, 2 notopleural, 1 presutural supra-alar, and 1 weak postpronotal setae present; median scutellar setae strong, lateral scutellars reduced to tiny hair or absent.

Legs: CI brown basally, becoming yellow on distal third; coxae II and III, all trochanters, and FIII brown; FI and FII basally brown with distal third yellow; all tibiae and basal tarsomeres yellow, with distal tarsomeres brown; CI with 3 white distolateral setae and white anterior hairs: CII with white anterior hairs; CIII with white lateral seta subtended by short white seta; I: 3.2; 3.1; 1.8/ 0.8/ 0.7/ 0.5/ 0.4; TI with short ad seta at 1/8, and posterior row of fine short white hairs (MSSC); It_1 with 2 strong posterior setae, at base and at 3/4 (MSSC); II: 3.6; 4.3; 3.2/ 1.0/ 0.8/ 0.4/ 0.3; FII with a few short white hairs on basal quarter; TII with ad seta at 1/8 and 3/5 and short apical ad, av and pv seta; III: 4.5; 6.7; 3.0/ 1.3/ 1.0/ 0.6/ 0.4; FIII ventrally bare; TIII with ad seta at 1/8, $IIIt_1$ with short basoventral seta.

Wing: hyaline; M_1 with elbow-like bend; M_2 straight; dm-cu straight; CuAx ratio: 1.5; lower calypter brown with dark rim and fan of black setae; halter pale yellow.

Abdomen: metallic blue-green with bronze reflections, and without matte bands; vestiture relatively short; hypopygium (Fig. 10a) dark brown and cercus yellowish; epandrium subtriangular; epandrial lobe with strong apical and shorter subapical seta; small cuticular mound that bears two short setae (possibly equivalent of epandrial lobe and epandrial setae) positioned mediad of epandrial lobe; phallus elongate and extending to apex median surstylus arm; surstylus divided into two parallel arms, with one arm straight, other bend mediad of it in curved L-shape; cercus broad basally with row of 7–10 strong black toothlike setae, narrowed subapically, apically upcurved with strong setae.

Female: similar to male, except: clypeus about same width; 4 strong dc; TI without row or fine hairs; It_1 without posterior setae.

Types. Holotype ♂, paratype ♂, FIJI: **Viti Levu**: 4 km WSW Colo-i-Suva Village, Mt. Nakobalevu, lowland wet forest, [-18.056°, 178.422°], 325 m, 17 Mar–9 Apr 2003, Malaise trap: M02, Timoci [holotype FBA 096891, paratype, 096892] (FNIC); paratypes 2 ♂, same but 24 –29 Oct 2003 [FBA 026058]; paratypes ♂, ♀, same but 14–28 Jul 2003 [FBA 094800, 095127]; paratypes, 2♂, ♀, same but [-18.055°, 178.424°], 372 m, Malaise trap: M03, 25 Feb–17 Mar 2003, 14–28 Jul 2003 [FBA 095131, 095127, 102320] (BPBM); paratypes 4♂, 2♀, Mt Nakobalevu, 5 km WSW of Colo-i-Suva, 18° 03'51"S 178°25' 00"E, 440 m, 20 Jan 2006, S.D. Gaimari (AMS).

Additional material. FIJI: **Viti Levu**: 2 ♀, 4.5 km SW Colo-i-Suva Village, Mt. Nakobalevu, transmission tower, lowland wet forest, [-18.058°, 178.426°], 460 m, 22 Sep–9 Oct 2002, Malaise trap: M01, Timoci [FBA 005405, 005409].(BPBM).

Remarks. *Amblypsilopus gnathoura* is known only from the wet forested mountains near Colo-i-Suva in southeastern Viti Levu, and the specimens were taken at elevations of 300–450 m.

Etymology. The specific epithet is from the Greek *γνατηοσ*, meaning "jaw", and *ουρα,* meaning "tail"; referring to the toothed jawlike cercus of the hypopygium.

Amblypsilopus kotoi Bickel **n.sp**.
(Fig. 10b)

Description. **Male**: length 2.6 mm; wing: 3.4 x 1.1 mm; similar to *A. gnathoura* except: Legs: all coxae, trochanters, and femora brown, although FI becoming yellow in distal quarter; all tibiae and basal tarsomeres yellow, with distal tarsomeres brown; CI with 3 white distolateral setae and white anterior hairs: CII with white anterior hairs; CIII with white lateral seta subtended by short white seta; I: 3.9; 4.2; 2.8/ 1.2/ 1.1/ 0.8/ 0.5; TI with short ad seta at 1/8; TI with posterior row of fine short white hairs (MSSC); It_1 with 2 strong posterior setae, at base and at 3/4 (MSSC); II: 4.0; 5.3; 4.2/ 1.2/ 0.9/ 0.5/ 0.3; FII with a few short white hairs on basal quarter; TII with ad seta at 1/8 only, and short apical ad, av and pv seta; III:5.5; 8.0; 3.8/ 1.6/ 1.1/ 0.6/ 0.4; FIII ventrally bare; TIII with ad seta at 1/8, $IIIt_1$ with short basoventral seta.

Wing: CuAx ratio also 1.5.

Abdomen: hypopygium (Fig. 10b); epandrium subrectangular; epandrial lobe with strong apical and shorter subapical seta, and positioned laterad of small cuticular mount that bears two short setae; hypandrium short; phallus elongate and extending to apex median surstylus arm; surstylus prolonged as two parallel arms, longer lateral arm almost twice length of epandrium, and shorter median arm apically bent with 3 distal setae; cercus elongate with strong setae near base, with subapical digitiform projection bearing 2 apical toothlike setae, and apically with long slightly undulating setae.

Female: unknown.

Types. Holotype, ♂, FIJI: **Viti Levu**: 4 km NW Lami Town, Mt. Korobaba, lowland wet forest, [-18.104°, 178.381°], 260 m, 15 Nov–1 Dec 2004, Malaise trap: M04, K. Koto [FBA 502129]; paratype ♂, same but 1 Dec–13 Dec 2004 [FBA 503659] (FNIC); paratype ♂, Mt Nakobalevu, 5 km WSW of Colo-i-Suva, 18°03'51"S 178°25'00"E, 440 m, 20 Jan 2006, S.D. Gaimari (AMS).

Additional material. FIJI: **Taveuni**: ♂, 5.5 km SE Tavuki Village, Devo Peak, cloud forest, [-16.843°, -179.966°], 1188 m, 7 Oct 2004, Malaise trap: M02, P. Vodo [FBA 502215] (BPBM).

Remarks. *Amblypsilopus kotoi* is known from southeastern Viti Levu at elevations of about 250–450 m, and from Taveuni near 1200 m. It is very close to *A. gnathoura,* with similar color and leg MSSC, but with distinctly different cerci. Also, *A. kotoi* has a distinctly longer wing (3.4 mm) than *A. gnathoura* (2.5). The two species are sympatric, at least in southeastern Viti Levu, and were collected together at Mt Nakobalevu.

Etymology. *Amblypsilopus kotoi* is named for Kini Koto, who maintained the Malaise traps at the Mt Korobaba type locality.

The *abruptus* group

Remarks. The *abruptus* Group is not defined by any strong apomorphy, but share mostly primitive characters, such as the simple cercus and unmodified venation. The male legs are mostly unornamented and often lack distinctive MSSC characteristic of other *Amblypsilopus* groups (Bickel, 1994). The *abruptus* group is widespread throughout the Old World tropics.

Included species:

pusillus (Macquart) 1842: 117 (*Psilopus*). India, Sri Lanka, Nepal, Pakistan, Thailand, Samoa.

Amblypsilopus pusillus (Macquart)
(Fig. 3b)

Psilopus pusillus Macquart, 1842: 117.
Chrysosoma integrum Becker, 1922: 189.

Description. **Male**: length 4.2 mm; wing: 4.0 x 1.3 mm.
Head: vertex and frons metallic green with bronze reflections; strong postvertical and ocellar setae; frons with row of 3 black outcurved setae laterad of ocellar tubercle, including vertical seta (MSSC); face slightly bulging; face and clypeus metallic green with silvery pruinosity; clypeus close to margin of eyes; palp dark brown with black setae; proboscis dark brown; antenna black; pedicel with dorsal seta; first flagellomere short triangular; arista dorsoapical and slightly longer than head width; ventral postcranium with white setae.

Thorax: dark metallic blue-green; pleura with grey pruinosity; setae black; 3 pairs strong ac, posterior pair as long as posterior dc; 2 strong posterior dc, with 4 weak hair-like anterior dc;); 1 postalar, 2 postsutural supra-alar, 2 presutural intra-alar, 2 notopleural, 1 presutural supra-alar, and 1 weak postpronotal setae present; median scutellar setae strong, lateral scutellars absent.

Legs: coxae, trochanters, femora, and narrow ring at base of all tibiae dark brown; coxa with grey pruinosity; tibia and basitarsus I and II yellow; distal tarsomeres I and II brown; TIII brownish, with tarsus III dark brown; CI with 3 white distolateral setae and white anterior hairs: CII with white anterior hairs; CIII with 2 white lateral setae and some white lateral hairs; I: 4.5; 4.4; 3.4/ 1.3/ 0.8/ 0.6/ 0.4; FI with a few white ventral hairs on basal third; TI without major setae; II: 5.3; 6.5; 4.5/ 1.8/ 1.2/ 0.7/ 0.6; FII with white ventral hairs to 3/5, and in distal quarter with row of 7–8 black pv setae; TII bare of major seta; TII and IIt_1 with normal vestiture slightly longer and suberect, appearing almost spiny (MSSC); III: 6.2; 9.0; 4.0/ 1.7/ 1.2/ 0.6/ 0.4; FIII with some short white hairs in basal half; TIII bare of major setae; IIIt unmodified.

Wing: hyaline; M_1 with elbow-like bend; M_2 straight; dm-cu straight; CuAx ratio: 2.0; lower calypter brown with dark rim and fan of black setae; halter dark brown.
Abdomen: metallic blue-green with bronze and violet reflections; hypopygium and cercus dark brown (Fig. 3b); epandrium broadly subtriangular; 2 short, adjacent epandrial setae; epandrial lobe with 2 bristles; surstylus expanded, clavate with curved row of lateral setae; cercus narrow and elongate, with long setae in basal half, and distinctive long ventroapical seta.
Female: similar to male, except: face not bulging; clypeus wider and almost adjacent to sides of eyes; 4 strong dc; TI also bare; TII with ad-pd setae pair at 1/6, with ad seta stronger, and TII and IIt_1 with normal short vestiture; TIII with strong ad seta at 1/5; halter yellow.
Type material. The synonymy of *Psilopus pusillus* Macquart (from "Indes orientales") and *Chrysosoma integrum* Becker (described from India and Sri Lanka) and their referral to *Amblypsilopus* are discussed in Bickel (1994).
Additional material. SAMOA: **Savaii**: ♂, Asau, 0–300 m, Sep 1969, N.H.L. Krauss (BPBM). **Upolu**: ♂, Apia, Jan 1978, Krauss (ZMUC); ♀, Mulivai, 0–150 m, Jan 1978, Krauss (BPBM).
Remarks. *Amblypsilopus pusillus* was described from the Oriental region and was previously known from Sri Lanka, India, Nepal, Pakistan and Thailand. The Samoan specimens are clearly conspecific with males examined from the following localities: SRI

LANKA: Katugastoka, Kandy C.P., 600 m, 29 Aug 1967, and NEPAL: nr Birganj Lothar, 1 Sep 1967 (both CNC), and all have the diagnostic long curved apical seta at the tip of the cercus [also see Fig. 160 in Becker 1922, as "*Chrysosoma integrum"*].

In Samoa, this species was collected in lowland habitats on Savaii and Upolu. This disjunct distribution between the Orient and Samoa could be the result of accidental introduction to Samoa, or it could also be a natural distribution (see discussion under "Relationships and Biogeography of *Amblypsilopus* in the Southwest Pacific").
The Samoan specimens treated here were incorrectly identified as *Amblypsilopus humilus* (Becker) in Bickel (1994).

Unplaced species of *Amblypsilopus*

The following three species of *Amblypsilopus* are not associated with any species group:

asau **n**. **sp**. Samoa (Savaii)
niupani **n**. **sp**. Solomon Islands (Rennell)
wolffi **n**. **sp**. Solomon Islands (Rennell, San Cristobal)

Amblypsilopus asau Bickel **n**. **sp**.
(Fig. 11b)

Description. **Male**: length 3.2 mm; wing: 3.4 x 1.1 mm.
Head: vertex, frons, and face metallic blue-green, with a dusting of silvery pruinosity; head setae black; strong vertical seta; face and clypeus metallic blue green with some grey pruinosity, and wide, leaving eyes well separated; clypeus almost adjacent to sides of eyes; eye facets uniform in size; palp black with black seta; proboscis brown; antenna black; first flagellomere short, subtriangular; arista distinctly dorsoapical, as long as head height, and simple; ventral postcranium with white setae.

Thorax: entirely metallic blue–green, with dusting of grey pruinosity over pleura; setae black; 3 pairs of long ac; 2 pairs of posterior ac, with 4 dc, weak hair like setae anteriorly; 1 postalar, 1 postsutural supra-alar, 2 presutural intra-alar, 2 notopleural, 1 presutural supra-alar, and 1 weak postpronotal setae present; median scutellar setae strong, lateral scutellars reduced to tiny hair .

Legs: all coxae, trochanters, and femora brown; tibia and tarsi yellowish, with tarsi becoming infuscated distally; CI with whitish hairs and 2 black setae distolaterally; CII with 3 black anteroapical setae; CIII single black lateral seta near base; I: 4.6; 4.5; 3.4; 1.0/ 0.7/ 0.4/ 0.4; leg I bare of major setae or modifications; II: 5.2.; 7.9; 5.2/ 1.8/ 1.4/ 0.8/ 0.5; FII ventrally bare; TII with strong ad and weak pd seta at 1/8, otherwise bare of major setae, except for short apical ad, av and pv setae; III: 7.1; 10.0; 3.9; 1.8; 0.9; 0.7/ 0.5; FIII ventrally bare; TIII with short dorsal seta at 1/5, 1/2, and 2/3; $IIIt_1$ with basoventral seta.

Wing: hyaline, elongate; vein M_2 in gentle bowed arch with M_1; dm-cu almost straight; CuAx ratio 2.0; lower calypter brown with fan of black; halter yellowish but brown basally.

Abdomen: terga 1–6 metallic green bronze, with matt brown areas over tergal overlap, with black marginal setae and short black vestiture; hypopygium (Fig. 11b) brown with yellow cercus; epandrium subtriangular; surstylus lobate and some 12– 15 setae over on lateral surface; epandrial lobe long apical and subapical seta; hypandrium with short hood and long hypandrial arm; cercus elongate, digitiform, and slightly curved with pair of apical bean shaped setae.
Female: unknown.

Type material. Holotype ♂, paratype ♂, SAMOA: **Savaii**: Asau, E of Mt Eliotoza, 8 km S of coastal forestry path, 731 m, 2 Sep 1979, K. Russell (NZAC).

Remarks. *Amblypsilopus asau* is known from 731 m on Savaii, Samoa. It is unusual in having a curved digitiform cercus with a pair of apical bean shaped setae, and a rather densely setose surstylus. Its affinity in uncertain, but is possibly is near the *abruptus* Group.

Amblypsilopus niupani Bickel **n**. **sp**.
(Fig. 10c)

Description. **Male**: length 2.9 mm; wing: 2.3 x 0.6 mm; unique male somewhat damaged. *Head*: vertex, frons, and face metallic blue-green, with a dusting of silvery pruinosity; head setae brownish; single short vertical seta; face and clypeus metallic blue green with some grey pruinosity, and wide, leaving eyes well separated; clypeus almost adjacent to sides of eyes; anterior eye facets enlarged (MSSC); palp yellow with 2 brownish setae; proboscis yellow; scape and pedicel yellow, first flagellomere brown; scape short; pedicel with short dorsal seta; first flagellomere short, rounded subtriangular; arista dorsal, as long as head height, and simple; ventral postcranium with white setae.

Thorax: entirely metallic blue–green, with dusting of grey pruinosity over pleura; meron just above coxa II and metepimeron yellow; setae yellowish; dorsal setation damaged but apparently 2 pairs of posterior ac; 4 strong dc, weak hair like anterior dc apparently absent; scutellar setation damaged.

Legs: all coxae and trochanters, and all of legs I and II yellow; distal leg III missing; CI with 3 strong brownish setae along distal half, and some short hairs; CII with 3 brownish anteroapical setae; CIII with single brownish lateral seta near base; I: 3.5; 3.6; 3.3/ 1.3/ 1.1/ 0.6/ 0.3; FI ventrally bare; TI slightly bowed, and flattened from 1/4 to apex, ventrally with yellow pile, and short yellow curved hairs along posterior margin (MSSC); It_1 curved; tarsus I without modified setation; It_5 slightly expanded and infuscated; II: 3.3.; 4.7; 3.5/ 1.3/ 0.8/ 0.6/ 0.4; FII ventrally bare; TII with ad seta at 1/6, otherwise bare of major setae; III: missing.

Wing: hyaline, elongate; vein M_2 in gentle bowed arch with M_1; dm-cu straight; CuAx ratio 1.3; lower calypter yellow with fan of yellow setae; halter pale yellow.

Abdomen: terga 1–6 metallic green bronze, with matt brown areas over tergal overlap, with black marginal setae and short black vestiture; hypopygium (Fig. 10c) brown with yellow cercus; epandrium elongate with strong distal seta near join with surstylus; surstylus digitiform with dorsoapical cuticular projection, and strong apical seta; epandrial lobe fused to epandrium with long apical and shorter subapical setae; hypandrium with short hood and long hypandrial arm; phallus narrow, cercus long, subequal to epandrium, and clavate; with expanded apical club bearing 3 modified and curved bladelike setae.

Female: similar to male, except: clypeus slightly wider; eye faced uniform; leg I unmodified and bare of major setae; TI not unbowed; TII also with ad at 1/6, otherwise bare; leg III totally bare of major setae.

Type material. Holotype ♂, SOLOMON ISLANDS: **Rennell**: Hutuna, 17 Mar 1965, Malaise trap, T. Wolff (ZMUC).

Additional material. 3♀, SOLOMON ISLANDS: **Rennell**: Niupani, 26– 29 Aug1962, Noona Dan Expedition (ZMUC).

Remarks. *Amblypsilopus niupani* is known only from Rennell, Solomon Islands. The hypopygium is distinctive, and the legs are remarkably free of major setae, especially in the female, and tibia III lacks an ad seta, otherwise almost universal in female *Amblypsilopus*.

Amblypsilopus wolffi Bickel **n. sp.**
(Fig. 2a)

Description. **Male**: length 4.2 mm; wing: 4.0 x 1.2 mm.
Head: vertex, frons, and face metallic blue-green; head setae black; group of 4–5 long but weak supernumerary setae on each side of vertex posteriad of vertical seta and ocellar tubercle (MSSC); postvertical seta as dorsalmost postorbital setae, vertical seta on lateral frons distinctly longer than postvertical seta; upper face of males slightly bulging, face and clypeus metallic blue green with some grey pruinosity; clypeus narrowed and free from sides of eyes; palp brown with black setae; proboscis yellowish; antenna black; first flagellomere short, rounded subtriangular; arista dorsal, and as long as head height, and simple; ventral postcranium with white setae.

Thorax: entirely metallic blue–green with bronze reflections, and dusting of grey pruinosity over pleura; setae black; 2 pairs of long posterior ac, with tiny pair anteriormost; males with 2 strong posterior dc and 4 weak hair-like dc anteriad (MSSC); 1 postalar, 1 postsutural supra-alar, 1 presutural intra-alar, 2 notopleural, 1 presutural supra-alar, and 1 weak postpronotal setae present; median scutellar setae strong, lateral scutellars absent.

Legs: coxae, trochanters, and femora dark brown (coxae with metallic green reflections; tibiae and basitarsi dull yellow, with distal tarsomeres becoming infuscated; CI with 2 lateral white setae, and white hairs: CII with white anterior hairs; CIII with 2 white lateral setae; I: 4.2; 5.7; 4.3/ 1.4/ 1.1/ 0.7/ 0.4; FI with 4-5 short ventrals in basal fifth; TI straight not bowed, and slightly swollen at apex (MSSC), with row of fine posterior hairs along length, becoming longer and almost crocheted in distal fifth (MSSC); It_1 shorter than TI; II: 4.5; 6.3; 5.3/ 1.6/ 1.2/ 0.5/ 0.4; FII with 7–8 long white ventral hairs to 3/4; TII bare of major setae except for short pd at 1/8, 1/4, 1/2, and short av seta at 1/3 and 1/2; III: 6.2; 9.5; 4.2/ 1.8/ 1.2/ 0.6/ 0.4; FIII with 7-8 long white ventral hairs to 3/4; TIII bare of major setae.

Wing: crossvein dm-cu very slightly bowed; CuAx ratio 2.4; lower calypter dark brown with fan of black setae; halter with brownish stalk and yellow club.

Abdomen: terga 1–6 metallic green-bronze, with broad matt brown areas over tergal overlap, with black marginal setae, short black vestiture and longer white lateral hairs; hypopygium (Fig. 2a) dark brown with yellow cercus; epandrium tapering subrectangular; surstylus as elongate finger with 2 apical setae; epandrial lobe distinctly pedunculate and bearing apical and subapical seta; hypandrium with ventral microtrichia; cercus elongate and slightly bowed, with group of setae at midlength and apical serrate and spatulate modified seta.

Female: similar to male, except : vertex without supernumerary setae; vertical seta not unusually long; face not bulging; clypeus wider and almost adjacent to sides of eyes; antenna brownish; thoracic setae black; 3 pairs strong ac; 4 strong dc; TI nor swollen apically, and without posterior row of fine hairs;

Types. Holotype ♂, paratypes, 4♂, 4♀, SOLOMON ISLANDS: **Rennell**: Niupani, 24 Aug 1962, Noona Dan Expedition 1961–62 (ZMUC). ♂, 3♀, Hutuna, 16 Mar, 2–3 Apr 1965, T. Wolff (ZMUC); ♂, Hutuna, 18–22 Nov 1955, J. Bradley (BMNH).

Additional material. SOLOMON ISLANDS: ♂, **San Cristobal**: Kira-Kira, 0–50 m, 10 Nov 1964, Straatman (BPBM).

Remarks. *Amblypsilopus wolffi* is known from lowland habitats on Rennell and San Cristobal islands in Solomon Islands.

In some respects, particularly in shape of the hypopygium and the curved surstylus,

this species appears to be near the *arenarius* group, but in the absence of a curved posterior seta on male tibia I, it is best left as unplaced. The tibiae are remarkably free of setation. Other diagnostic characters (possibly species autapomorphies) include the male vertex with supernumerary setae and very long male vertical seta (both MSSC), and the hypandrium with ventral microtrichia.

Etymology. This species is named in honor of Torben Wolff who collected much entomological material during the Danish Noona Dan Expeditions.

Nomina Dubia and Misidentifications

Isolated female *Amblypsilopus* specimens are particularly difficult to accurately associate with males. Parent described three species of *Sciapus* from the Southwest Pacific based on single females. The two Fijian species were previously listed as *nomina dubia* in Bickel (1994) and remain so here.

parvulus Parent, 1934: 295 (*Sciapus;* as *Sciopus)*. (BMNH, ♀, examined). Fiji. *Nomen dubium*.

segnis Parent, 1934: 297 (*Sciapus;* as *Sciopus)*. (BMNH, ♀, examined). Fiji. *Nomen dubium.*

parallelinervis Parent 1935: 75 (*Sciapus)*. (BMNH, ♀, examined). Solomon Islands. *Nomen dubium*.

In addition, Bezzi (1928: 66) listed two New Guinea species from Fiji: *Psilopus tenuitarsis* Becker and "*Psilopus* sp. near *pellucens* de Meijere." They are both females (BMNH, examined), and should be regarded as undetermined *Amblypsilopus*.

FAUNAL SUMMARY

The distribution of the Southwest Pacific *Amblypsilopus* (including all species in the *pulvillatus* Group) is summarized in Table 1.

This revision focuses primarily on the fauna of Fiji and Vanuatu, with additional species described from the Solomon Islands and Samoa. Fiji has 29 species, the result of intensive faunal surveys with continuous Malaise trapping at both upland and lowland sites throughout the archipelago (Evenhuis & Bickel, 2005). The eight Vanuatu species reflect a significantly smaller collecting effort, comprising desultory lowland samples at BPBM, and one month of Malaise trap sample from five elevations on Espiritu Santo by IBISCA (http://www.ibisca.net/ibisca-santo.htm). Without doubt more undescribed species await collection on Vanuatu, not to mention the highly diverse Solomons Islands and Papuan region. To the east of Fiji, Samoa is also poorly known and likely to harbour more species.

Of the 45 *Amblypsilopus* species listed in Table 1, 14 are known from a single site, and additional 11 are known from only 2 sites. This suggests a high level of local endemism in the fauna, and that more species await discovery from poorly sampled regions.

Table 1. Distribution and Site Occurrence of Southwest Pacific *Amblypsilopus.*

***Amblypsilopus* taxa**	**Solomon Is**	**Vanuatu**	**Fiji**	**Polynesia**	**Extralimital**	**# sites**
***abruptus* group**						
pusillus (Macquart)				Samoa: Up, Sv	India, Nepal, Sri Lanka, Thailand,	2
***arenarius* group**						
arenarius n.sp.			Vl, Vn, Tv			5
dequierosi n. sp.		Es				1
elatus n. sp.		Es				1
honiarensis n. sp.	Gd, Ng					2
navatadoi n. sp.			Vn, Tv			2
penaoru n. sp.		Es, Ma, Tn				6
sounwari n. sp.		Me, Ep, Sh				3
vusasivo n. sp.			Vl, Vn			2
***cakaudrove* group**						
brorstromae n. sp.			Vl, Tv			5
cakaudrove n. sp.			Tv			1
navukailagi n. sp.			Gau			1
terriae n. sp.			Vl			4
veisari n. sp.			Vl			1
***gnathoura* group**						
gnathoura n. sp.			Vl			3
kotoi n. sp.			Vl, Tv			3
***kilaka* group**						
kilaka n. sp.			Vn, Kn, Tv			5
sanjanae n. sp.			Vl			1
***olsoni* group**						
alipatei n. sp.			Ga, Ka, Vl, Vn, Ko,Lk			10
batilamu n. sp.			Vl			1
elaquarae n. sp.			Vl			1
ibiscorum n. sp.		Es				1
lakeba n. sp.			Lk, Tv			2
laui n. sp.			Kv, Mo, Vl, Vn			5
marikai n. sp.			Tv			3
niphas n. sp.			Kv, Ko, Mo, Vl			6
nivanuatorum n. sp.		Banks, An, Es, Ma				7
olsoni n. sp.			Vl, Ov			3
qaraui n. sp.			Vn			1
raculei n. sp.			Gau, Vn			3
waivudawa n. sp.			Vl			2
waqai n. sp.			Vl, Ys, Vn			5
***pulvillatus* group**						
ambrym Bickel		Ma, Am, Es, Pe				6
bezzi Bickel			Vl, Ov, Tv			3
eupulvillatus Parent				Tonga: To		2
lenakel Bickel		Ta, Am,An, Ef, Er, Tn				10
maulevu Bickel			Lau: Vb			1
pulvillatus Bezzi			Vl, Vn			2
ratawai n. sp.			Vl			2
upolu Bickel				Samoa: Up		1
volivoli Bickel			Vl, Tv			2
waiseai Bickel			Vl			1
unplaced species						
asau n. sp.				Samoa: Sa		1
niupani n. sp.	Rn					2
wolffi n. sp.	Rn, Sc					2

Island abbreviations. Fiji: Ga, Gau; Kv, Kadavu; Ko, Koro; Lk, Lakeba; Mo, Moala; Ov, Ovalau; Tv, Taveuni; Vb, Vanua Balavu; Vl, Viti Levu; Vn, Vanua Levu; Ys, Yasawa Group. Samoa: Sa, Savaii; Up, Upolu. Solomon Islands: Gd, Guadalcanal; Ng, New Georgia; Rn, Rennell Is.; Sc, San Cristobal. Tonga: To, Tongatapu. Vanuatu: Am, Ambrym; An, Anatom; Ef, Efate; Ep, Epi; Er, Erromango; Es, Espiritu Santo; Ma, Malakula; Me, Maewo; Sh, Shepherd Group; Tn, Tanna.

INTRASPECIFIC VARIABILITY, RELATIONSHIPS AND BIOGEOGRAPHY OF *AMBLYPSILOPUS* IN THE SOUTHWEST PACIFIC

Significant intraspecific variation has been noted among some of the species. *Amblypsilopus penaoru* is widespread in Vanuatu and variation is evident in wing length, the position of the posterior seta on tibia I (from 2/5 to 1/2), and the width of the dark brown tarsomere 5 of leg I, even among specimens from the same collection event. *A. nivanuatorum* shows variation in the color of the vertical and postvertical setae in males, being either black or yellow. *A. laui* shows a wide range of variation in legs podomere ratios, but all specimens have a similar cercus and It_5 black flag. The differences in occur mainly between populations on different island groups, but sometimes on the same islands. Possibly *A. laui* represents a species complex whose differences are not stongly expressed in the male genitalia or MSSC.

The Southwest Pacific *Amblypsilopus* comprise the following groups and extralimital associations.

I. Many Australasian and Oriental *Amblypsilopus* species have a long curved, posterior seta is on male tibia I (MSSC), and this should be regarded as a synapomorphy that unites a number of species groups across the region. This seta is usually positioned on the distal half of tibia I, but occurs near the base in some species (Figs 1e, 9b). However, many such characters have a variable expression, and may be absent in a species which, based on other characters (MSSC, genitalic structure, etc.), would be included in a group that has the character. This often becomes apparent when dealing with highly speciose regional faunas. For example, *Amblypsilopus qaraui* lacks the curved posterior seta on male tibia I (MSSC), but has a similar seta on male basitarsus I, and this could be a serial homologue of the tibia I seta found on all other related *olsoni* group species. Also, a similar appearing tibia I seta (either homologous or *de novo* in origin) can occasionally occur in unrelated *Amblypsilopus* species. Other characters, such as "delicate" long legs (therefore easily damaged in mass collecting), male tibia I distally with ventral pile, and male tarsus I often modified into flattened flags occur variously but give additional support for a rough monophyletic assemblage.

Species that have the male tibia I seta comprise eight groups so far delineated:

Four predominately Australian species groups with 55 species ("Association A") were treated by Bickel (1994):

neoplatypus group – Australia (10 spp.); New Guinea (3 spp.); Sumatra (1 sp.)

pallidicornis group – Australia (4 spp.); widespread Pacific, Seychelles (1 sp.).

triscuticatus Group– Australia (22 spp.); New Guinea (1 sp); Java (1 sp.); Lombok (1 sp); Philippines (2 sp.); Christmas I. (1 sp); Vietnam (1 sp).

zonatus group – Australia (7 spp.).

Four additional predominately Fijian and Vanuatu species groups with 29 species treated here:

arenarius group – Fiji (3 spp.); Vanuatu (4 spp.); Solomon Is. (1 sp.).

cakaudrove group – Fiji (5 spp.).

kilaka group – Fiji (2 spp.).

olsoni group – Fiji (12 spp.); Vanuatu (2 spp.).

Most species from these eight groups have been described from Australia and Fiji, at the distributional margins of this broad association. Therefore the true diversity of this association must be many hundreds of species, considering the elevation, area and habitat diversity of its core range, from the tropical Orient to western Melanesia.

II. The *Amblypsilopus pulvillatus* group has a wide central Pacific distribution [Fiji (6 spp.); Vanuatu (2 spp.); Tonga (1 sp.); Samoa (1 sp.)], and is discussed in Bickel (2006).
III. The Old World tropical *Amblypsilopus abruptus* group includes *A. pusillus* from Samoa, an eastern disjunct for an otherwise Oriental species known from Sri Lanka, Nepal, India, Pakistan and Thailand. This disjunction could be the result of accidental introduction to Samoa from the Orient. However, other species in the *abruptus* group extend into the Pacific as far as Micronesia and the Solomon Islands, including *A. ponapensis* Bickel from the Caroline Islands, *A. belauensis* Bickel from Belau, and *A. austerus* (Parent) from Sabah, Saipan and Guam, *A. abruptus* (Walker) from the Orient (widespread), New Guinea and the Bismark Archipelago, and *A. humilus* from the Orient (widespread) and the Solomon Islands (Bickel, 1994, 1995). Surprisingly, no species of this group are known from either Fiji or Vanuatu, and Fiji in particular has been well-collected. Therefore species in the *abruptus* group appear to be distributed along a more northern track that includes the Orient, New Guinea, Solomon Islands, Micronesia and Samoa, but misses Vanuatu and Fiji which lie further south.
IV. The rather isolated *gnathoura* group comprises two species from Fiji. Its relationship to other Pacific Sciapodinae is not clear.
V. Three isolated species, two from the Solomon Islands and one from Samoa are also described in this paper.

Historical considerations. The *arenarius*, *olsoni*, and *pulvillatus* groups all have assemblages distributed on both Fiji and Vanuatu, although all species are endemic to their respective archipelagos. This suggests that these three groups were extant while Fiji and Vanuatu were in physical proximity. This was the case some 6–8 Mya when as part of the old Vitiaz Arc, Viti Levu (Fiji) and Malakula (Vanuatu) were within 100 km of each other (Dickinson 2002). Since that time, Fiji has rifted and rotated and is now some 800 km away from Vanuatu (also see discussion in Bickel 2006). By comparison, the sciapodine genus *Krakatauia* (Bickel 2008) shows very little evidence of shared species groups between Fiji and Vanuatu, even though each archipelago has a diverse *Krakatauia* fauna.

ACKNOWLEDGMENTS

I thank the following curators and technical officers for providing specimens or facilitating the loan of specimens: T. Crosby (NZAC), J Cumming (CNC), C. Daugeron (MNHN), N. Evenhuis, K. Arakaki, & T. Lopes (BPBM), V. Michelsen (ZMUC), D. Notton (BMNH), E. Schlinger & L. Brorstrom (Schlinger Laboratory, Santa Ynez, California), and N. Woodley (USNM). Bruno Corbara facilitated the sorting of the IBISCA-Santo collections from Vanuatu. I thank the Fiji Government Ministries of Forestry and Environment for their support of this project. Funding for this work was provided in part by National Science Foundation Grant DEB 0425790 “Fiji Terrestrial Arthropod Survey” and the Schlinger Foundation. Justin Runyon provided helpful comments on an earlier version of this manuscript. Hannah Finlay drew the figures.

LITERATURE CITED

Becker, **T**. 1922. Dipterologische Studien. Dolichopodidae der indo-australischen Region. *Capita Zoologica* **1**(4):1–247.

Bezzi, **M**. 1928. *Diptera Brachycera and Athericera of the Fiji Islands based on material in the British Museum (Natural History)*. British Museum (Natural History), London. 220 pp.

Bickel, **D**.**J**. 1994. The Australian Sciapodinae (Diptera: Dolichopodidae), with a review of the Oriental and Australasian faunas, and a world conspectus of the subfamily. *Records of the Australian Museum Supplement* **21**: 1–394.

———. 1995. Insects of Micronesia. Volume 13, no. 8. Diptera: Dolichopodidae Part I. Sciapodinae, Medeterinae and Sympycninae (part). *Micronesica* **27**[1994]: 73–118.

———. 2006. The *Amblypsilopus pulvillatus* species group (Diptera: Dolichopodidae: Sciapodinae), a radiation in the western Pacific. *In*: Evenhuis, N.L. & Bickel, D.J. (eds.), Fiji Arthropods VI. *Bishop Museum Occasional Papers* **90**: 51–66.

———. 2008. *Krakatauia* (Diptera: Dolichopodidae: Sciapodinae) from the southwest Pacific, with a focus on the radiation in Fiji. *In:* Evenhuis, N.L. & Bickel, D.J. (eds.), Fiji Arthropods X. *Bishop Museum Occasional Papers* **97**: 21–64.

Bigot, **J**.**M**.**F**. 1888. [Genres nouveaux de dolichopodi]. *Bulletin de la Société Entomologique de France* (6) **8**: xxiv.

Dickinson, **W**.**R**. 2002. Petrology and provenance of sand tempers in prehistoric potsherds from Fiji and Vanuatu, South Pacific. *Geoarchaeology* **16**: 275–322.

Evenhuis, **N**.**L**. **& Bickel**, **D**.**J**. 2005. The NSF-Fiji Terrestrial Arthropod Survey - Overview. *In*: Evenhuis, N.L. & Bickel, D.J. (eds.), Fiji Arthropods I. *Bishop Museum Occasional Papers* **82**: 3– 25.

Macquart, **J**. 1842. Diptères exotiques nouveaux ou peu connus. *Mémoires de la Société Royale des Sciences, de l'Agriculture et des Arts, Lille* **1841**(1): 65–200.

Parent, **O**. 1934. Diptères dolichopodides exotiques. *Mémoires de la Société Nationale des Sciences Naturelles et Mathematiques de Cherbourg* **41**: 257–308.

———. 1935. Diptères dolichopodides nouveaux. *Encyclopédie Entomologique (B) (II) Diptera* **8**: 59–96.

Fiji Arthropods XIII. Edited by Neal L. Evenhuis & Daniel J. Bickel. *Bishop Museum Occasional Papers* 103: 63–68 (2009).

Two new species of *Holorusia* Loew (Diptera: Tipulidae) from Vanua Levu, Fiji

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Abstract: Two new species of *Holorusia* Loew: *H. tabogo,* **n**. **sp**. and *H. vanua*, **n**. **sp**. are described and illustrated from Vanua Levu, Fiji. A total of ten species are now known to occur in the Fiji islands.

INTRODUCTION

There are currently 115 known species belonging to genus *Holorusia* in the world fauna (Oosterbroek 2008). The highest diversity is met in Australasian–Oceanian, Oriental, and Afrotropical Regions, few species are known from eastern Palaearctic and one from the Nearctic Region. *Holorusia* is the only genus of Tipulidae crane flies found in Fiji islands. All knowledge of the genus in these islands was synthesized by Evenhuis (2006). Since then, new material has accumulated, especially from Vanua Levu. Upon examination, two new species were discovered, which are described and illustrated here.

MATERIAL AND METHODS

The material examined in this study derives primarily from specimens collected under the auspices of the NSF-funded "Fiji Arthropods Survey" and the Schlinger Foundation-funded Fiji Biodiversity of Arthropods study, primary types of which will be deposited in the Fiji National Insect Collection, Suva (FNIC) and the Bishop Museum, Honolulu (BPBM).

Descriptive terminology, especially that of wing venation, follows that used in Evenhuis (2006).

SYSTEMATICS

Holorusia tabogo Podenas & Evenhuis, **new species**
(Figs. 1–5)

Diagnosis. *Holorusia tabogo* appears closest to *H. damuda* Evenhuis, 2006 and *H. walkeriana* (Alexander, 1924), but can be separated from them by peculiarities of wing venation and patterning as well as structure of male hypopygium. *H. tabogo* has distinct brown

1. Contribution No. 2009-005 to the NSF-Fiji Arthropod Survey.

stigma as *H. damuda* (stigma is pale brown in *H. walkeriana*), but petiole of vein M_{1+2} is shorter than cell m1, like in *H. walkeriana* (petiole of vein M_{1+2} is longer than cell m1 in *H. damuda*). Vein R_3 of *H. tabogo* is just slightly arcuated, like in *H. damuda*, when this vein is strongly arched, thus making cell r1+2 very wide in *H. walkeriana*. Darkening along the cord in *H. tabogo* is affected by effaced area just at the base of discal cell, when darkening is bleached also along basal deflection of R_{4+5} and r-m in *H. damuda*. Ninth male tergite of *H. tabogo* is hemispherical like in *H. damuda* (this tergite is subquadrate in *H. walkeriana*). *H. tabogo* is the only Fijian species having posterior margin of ninth tergite extended posteriorly, when all other species have posterior margin of ninth tergite emarginated.

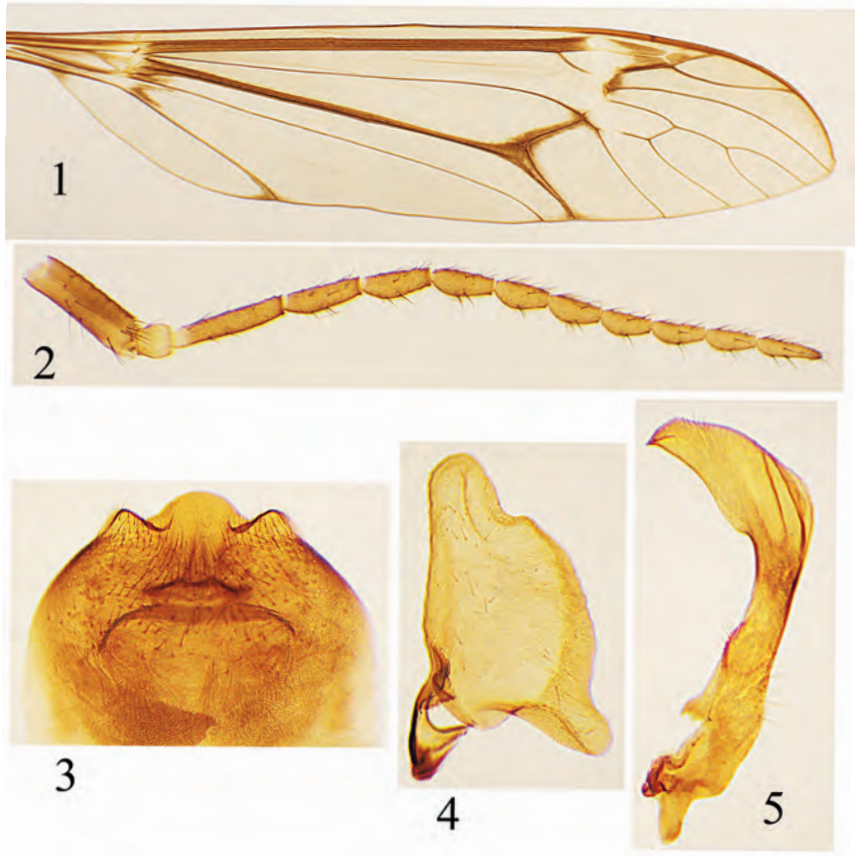
Description. Length: Body: 15.5–17.5 mm; wing: 16.8–18.7 mm. **Male**. *Head.* Rostrum yellow dorsally and dorsolaterally, brownish ventrally and ventrolaterally; nasus distinct, brownish yellow in lighter specimens, dark brown in darker specimens, blackened at extreme tip, subequal in length to second flagellomere. Occiput brownish, orange yellow laterally, with short sparse brownish hairs. Palpus greyish brown with extreme bases and apices of second and third palpomere whitish yellow, extreme tip of last palpomere dark brown. Antenna (Fig. 2) 12-segmented, apex of scape, whole pedicel and base of first flagellomere whitish yellow, remainder of antennal segments yellowish brown; apicalmost flagellomere longer than penultimate one.

Thorax. Pronotum light brown, spotted with dark brown laterally. Prescutum brownish yellow with three dark brown stripes; median stripe extending almost to transverse suture, with yellowish median vitta; lateral pair shorter, extending from just posterior to pseudosutural fovea to transverse suture. Scutum brownish yellow with paired brown spots, frontal margin of anterior spot dark brown. Scutellum light brown with dark brown posterior margin and nearly indistinct central darkened spot. Pleura predominantly brownish-greyish yellow with dark brown patch on dorsal part of anepimeron; anepisternum just slightly stained with brownish; katepisternum and meron brown ventrally. Metatergite brownish yellow, dark brown posterolaterally. Halter with stem and knob yellowish brown.

Legs. Coxae brownish dorsally, yellow ventrally, yellow haired; fore and mid trochanters brownish, hind trochanter yellow. Basal two thirds of femora brownish, lighter proximally, turning slightly darker distally; distal one third of femora divided into two subequal rings – whitish yellow basal and dark brown distal. Base of tibiae whitish yellow, remainder brown, extreme apex dark brown. Tarsal segments brown with darker apices.

Wing (Fig. 1). Subhyaline, pale yellowish brown; veins brown; stigma brown with veins in stigmal area discoloured. Effaced areas of veins and associated cells include: end of Sc, apical half of Rs, basal deflection of M_{1+2} and basal part of M_3. Brown infuscation of cells sc and cup, along basal portion of vein R_{4+5}, crossvein r-m, along basal portion of vein CuA_1 and at apex of vein A_2. Vein R_3 just slightly arcuate, thus cell r1+2 comparatively narrow. Petiole of cell m1 (vein M_{1+2} at base of cell m1) shorter than cell m1. Cell cup narrowly open in wing margin.

Abdomen. Tergite I brownish with yellowish central part and posterior margin; tergite II predominantly yellow with brown spots on distal end; tergite III yellowish brown with three longitudinal brown stripes (central and two lateral); tergites IV–VII brown; tergites VIII–IX dark brown. Sternites I–V predominantly yellow, with dim patches of brownish, sternite VI brown, sternites VII–VIII dark brown.



Figures 1–5. *Holorusia tabogo*, n. sp. **1**. Wing. **2**. Antenna. **3**. Tergite IX. **4**. Outer gonostyle. **5**. Inner gonostyle.

Male hypopygium (Figs. 3–5). Tergite IX hemispherical, posterolateral angles extended caudad and forming nearly equilateral triangles; posterior margin between these triangles widely rounded and extended further caudad than apices of posterolateral angles. Outer gonostyle broad basally, finely hirsute, bearing extended rounded lobe at posteroventral angle and small subapicoposterior emargination. Inner gonostyle with beaklike apical portion, a few minute hairs subapicodorsally, arm slender, lateral surface from beak to middle of arm with three strong reddish ridges, base swollen with brownish hairs.

Female. Generally as in male, but somewhat lighter, especially abdomen, general coloration of which yellow slightly stained with brownish. Tergites I–II yellow, III–V brownish yellow, distal tergites yellow, tergites II–VIII with dark posterior margins, I–VII with whitish lateral margins. Basal sternite brownish, remainder sternites predominantly yellow, sternite II with longitudinal brownish spot which reaches approximately one third of segment's length, sternites II–VII with darkened posterior and whitened lateral mar-

gins. Sternite VIII yellow, slightly stained with brownish, length about 1.5 times width, bilobed and deeply emarginated medially, each lobe sharply rounded; hypovalve whitish at base, brownish distally. Cerci yellow.

Types. Holotype ♂ from FIJI: **Vanua Levu**: 0.6 km S Rokosalase Village, 150 m, 16.533°S 179.018°E, 26 Mar—9 Apr 2004, Malaise, M. Tokota'a, I. Sakealevu [FBA 184172]. *Paratypes:* topotypic 6♂, 2♀ [FBA 184171 – specimens in ethanol; FBA 184186, 184187, 184188, 184189 slide mounted fragments: wings and separate details of male hypopygium of same specimens]; 1♂, 1♀, Rokosalase, 105 m, 179°01'14.7"E, 16°31'89.1"S, 26 Mar–9 Apr 2004, Malaise in forest, M. Irwin, E. Schlinger, M. Tokota'a (BPBM); 1♂, 0.5 km S. Rokosalase Village, 97 m, 16.532°S, 179.919°E, 14–31 Aug 2004, I. Sakealevu [FBA 501176] (BPBM); 1♂, 1♀, same but 14–28 Sep 2004 [FBA 501149–501150] (BPBM) . Holotype to be deposited in FNIC. Paratypes in FNIC and BPBM.

Etymology. The species epithet derives from the Fijian *tabogo* = "hidden", referring to the fact it was not discovered until after the junior author's paper covering all Fijian Holorusia (Evenhuis 2006) was published.

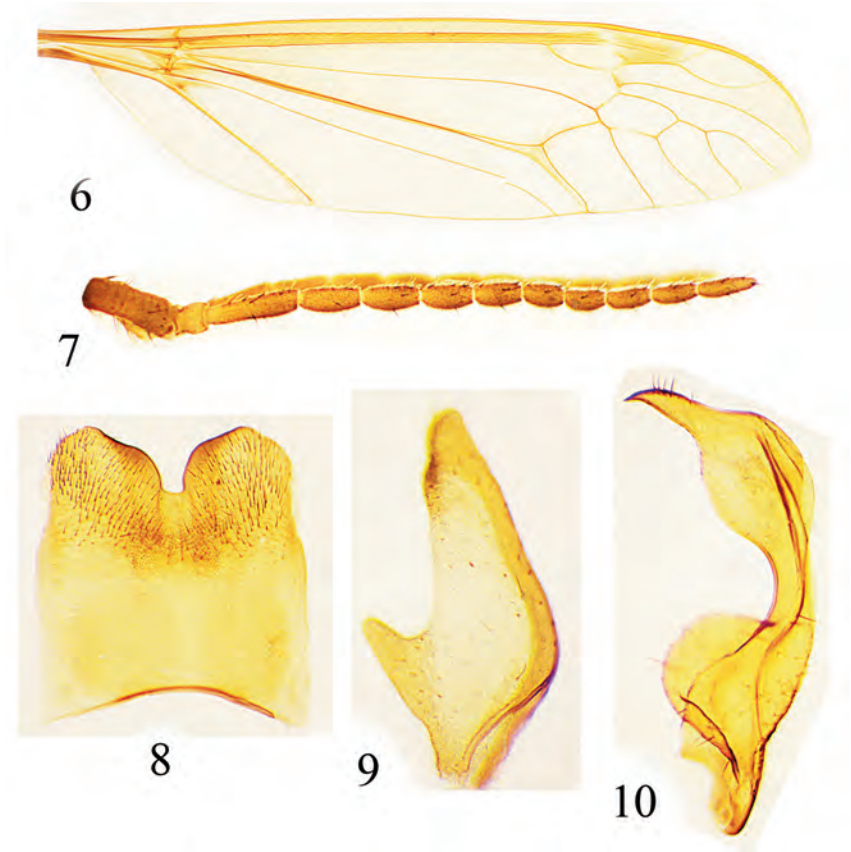
Distribution. Known only from north central Vanua Levu.

Holorusia vanua Podenas & Evenhuis, **new species**
(Figs. 6 –10)

Diagnosis. *H. vanua* has pale wing coloration and venation peculiarities which more resemble that of *H. walkeriana*, just discal and m1 cells of *H. vanua* are wider than in *H. walkeriana.* Judging from structure of male hypopygium *Holorusia vanua* appears closest to *H. damuda* and *H. fijiensis* (Alexander), but can be separated from them by peculiarities of wing venation and patterning as well as structure of male hypopygium. Ninth tergite of *H. vanua* is emarginated medially like in *H. damuda* and *H. fijiensis*, but general appearance of *H. vanua* tergite is between these two species, it is generally subquadrate as in *H. fijiensis*, but with rounded posterolateral lobes as in *H. damuda*. Outer gonostyle of all these three species is similar and differs from other local species by extended posteroventral lobe. Similar, but more extended lobe is present in *H. mamare* Evenhuis making whole gonostyle bifid. Inner gonostyle of these species is also similar, resembling bird head, but *H. vanua* could be separated by strongly swollen basal part ("craw"), which is unique among local species.

Description. Length: Body: 13.5 mm; wing: 17.0 mm. **Male**. *Head.* Rostrum generally yellow just slightly darkened ventrally and ventrolaterally; nasus distinct, blackened at extreme tip, subequal in length to second flagellomere. Gena with brownish spot. Occiput yellow, with short sparse brownish hairs. Basal palpomere brownish yellow, successive palpomeres greyish yellow with whitish joints, extreme tip of last palpomere brown. Antenna (Fig. 7) 12-segmented, evenly yellow, apicalmost flagellomere longer than penultimate one.

Thorax. Whole thorax yellow, just prescutum with three rusty brown stripes; median stripe ending before transverse suture, with darker median vitta; lateral pair shorter, extending from just posterior to pseudosutural fovea to transverse suture. Scutum yellow with paired brownish spots. Scutellum brownish with narrow darker medial line. Pleura yellow without any dark spots or stripes. Metatergite yellow, brownish posterolaterally, with very weak remnants of medial line posteriorly. Halter with stem and knob brownish yellow.



Figures 6–10. *Holorusia vanua*, n. sp. **6**. Wing. **7**. Antenna. **8**. Tergite IX. **9**. Outer gonostyle. **10**. Inner gonostyle.

Legs. All legs yellow with apices of all segments slightly infuscated with brownish.

Wing (Fig. 6). Subhyaline, pale yellowish; veins yellowish brown; stigma light brown. End of Sc, and R at end of Sc are effaced; apex of Rs, basal part of R_{1+2+3}, basal deflection of M_{1+2} and basal part of M_3 just little paler than surrounding veins. Cell sc entirely brownish, membrane surrounding basal deflections of R_{4+5} and CuA_1 as well as proximal part of cell a1 slightly infuscated with brownish. Vein R_3 strongly arcuate, thus cell r1+2 wide. Petiole of cell m1 (vein M_{1+2} at base of cell m1) much shorter than cell m1. Cell cup narrowly open in wing margin, it is approximately as wide as cell r4+5.

Abdomen. Generally yellow, VII–VIII segments and IX tergite orange yellow, IX sternite brown with orange base.

Male hypopygium (Figs. 8–10). Tergite IX subquadrate, deeply emarginated medially, posterolateral lobes widely rounded and blunt apexed; posterior margin darkened and very finely serrated. Outer gonostyle comparatively narrow, broader basally turning narrower distally, apex bluntly rounded, finely hirsute, bearing extended triangle-shaped,

blunt-apexed lobe at posteroventral angle. Inner gonostyle resembles bird head, beaklike apical portion with a few dorsal setae, "neck" slender, lateral surface from beak to middle of "neck" with four strong reddish ridges (just three ridges are seen in precisely lateral view), base ("craw") strongly swollen with brownish hairs.

Female unknown.

Types. Holotype ♂ from FIJI: **Vanua Levu**: 0.6 km S Rokosalase village, 150 m, 16.533°S 179.018°E, 26 Mar–9 Apr 2004, Malaise, M. Tokota'a, I. Sakealevu [FBA 184170 – slide mounted wing and hypopygium; remaining body in ethanol]. Holotype to be deposited in FNIC.

Etymology. The species epithet derives from the island name Vanua Levu.

Distribution. Known only from north central Vanua Levu.

ACKNOWLEDGMENTS

This study was funded in part by the Schlinger Foundation and the National Science Foundation grant DEB 0425790 for the project "Fiji Arthropod Survey". We thank Evert I. Schlinger and Chris Grinter, and the staff of Wildlife Conservation Society, Suva, the Ministry of Environment, Suva, the Ministry of Forestry, Colo-i-Suva, and the University of the South Pacific, Laucala Bay for their support of the project, help in collecting specimens, and making the specimens available for study.

LITERATURE CITED

Evenhuis, **N**.**L**. 2006. The genus *Holorusia* Loew (Diptera: Tipulidae) in Fiji. *Bishop Museum Occasional Papers* **85**: 3–21.

Oosterbroek, **P**. 2008. *Catalogue of the craneflies of the world (Insecta, Nematocera, Tipuloidea)*. Available from: http://ip30.eti.uva.nl/ccw/index.php. Accessed: 15 March 2008.

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(edited by N.L. Evenhuis & D.J. Bickel)

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