



New species of the leafhopper genus *Drabescus* Stål (Hemiptera: Cicadellidae: Selenocephalinae) from Papua New Guinea

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Abstract

Five new species of the leafhopper genus *Drabescus* Stål, *D. longispinus*, *D. bifurcatus*, *D. bicornis*, *D. wauensis* and *D. brevispinus*, **spp. nov.**, are described and illustrated from Papua New Guinea. A check-list and key to the species from Papua New Guinea are given.

Key words: Insecta, Homoptera, Auchenorrhyncha, morphology, taxonomy, distribution

The Old World drabescine leafhopper genus *Drabescus* (Hemiptera, Cicadellidae, Selenocephalinae) was established by Stål in 1870 for its type species *Bythoscopus remotus* Walker. It is now a large genus comprising 45 previously described species, of which all but its type species (from Africa) occur in Asia and the Pacific. Of these, four species *D. brunneus*, *D. feraminensis*, *D. gressitti* and *D. sirunkensis* were described from Papua New Guinea by Evans (1972). In the present paper, we describe five new species from Papua New Guinea, bringing the total number of species in the genus to 50 including nine from the study area (see Check-list below). Although species of the genus are very diverse in the male genitalia, Zhang & Webb (1996) found conflicting evidence of relationship and placed all species in the one genus (*Drabescus*) pending further studies. This genus and one other (*Rengatella* Zhang & Webb) are here considered the only members of the tribe Drabescini Ishihara. This tribe and Paraboloponini Ishihara (the latter containing, numerous genera) were synonymised by Dmitriev (2004) based on adult and nymphal similarity, but Drabescini can still be defined (and therefore may still be monophyletic) based on the adult characters given by Zhang & Webb (1996: 23).

The type specimens of the new species are kept in Bernice P. Bishop Museum, Hawaii, USA (BPBM), Museum Naturalis, Leiden, Netherlands (MNL), Saitama University, Japan (SU) and The Natural History Museum, London, U. K. (BMNH).

Check-list of *Drabescus* species from Papua New Guinea

bicornis n. sp.

bifurcatus n. sp.

brevispinus n. sp.

brunneus Evans, 1972: 198–199, fig. 11j; Zhang & Webb, 1996, figs 431–435, 519.

feraminensis Evans, 1972: 198, fig. 11h; Zhang & Webb, 1996, figs 446–449, 534.

gressitti Evans, 1972: 198, figs 11c–e; Zhang & Webb, 1996, figs 436–439, 535.

longispinus n. sp.

sirunkensis Evans, 1972: 198, fig. 11k; Zhang & Webb, 1996, figs 450–456, 523.

wauensis n. sp.

Key to species of *Drabescus* from Papua New Guinea (♂)

1. Aedeagus without basal processes 2
Aedeagus with one or more basal processes 4
2. Aedeagal shaft bifurcate at apex in lateral view (Fig. 3C) *Drabescus bifurcatus* n. sp.
Aedeagal shaft not bifurcate in lateral view 3
3. Pygofer with long lateral process ventroposteriorly, valve ligulate (Figs 2A, 2B) *Drabescus longispinus* n. sp.
Pygofer without processes, valve semicircular (see Figs 450, 455, Zhang and Webb, 1996) *Drabescus sirunkensis*
4. Aedeagus with one or two long processes from base of long preatrium 5
Aedeagus with short to long processes from near base of shaft 7
5. Aedeagus with single basal process (see Fig. 447, Zhang and Webb, 1996) *Drabescus feraminensis*
Aedeagus with pair of basal processes 6
6. Aedeagal processes directed posteriorly, straight in lateral view (Fig. 4C) *Drabescus bicornis* n. sp.
Aedeagal processes curved basally, each with fine sinuate line dorsally (Fig. 5C) *Drabescus wauensis* n. sp.
7. Aedeagus with basal processes extending to level with apex of shaft (see Figs 437, 438, Zhang and Webb, 1996)
..... *Drabescus gressitti*
Aedeagus with processes extending well beyond apex of shaft. 8
8. Aedeagal processes long; style apical process long (see Figs 432–434, Zhang and Webb, 1996)
..... *Drabescus brunneus*
Aedeagal processes moderately long and robust (Fig. 6C); style apical process short (Fig. 6E)
..... *Drabescus brevispinus* n. sp.

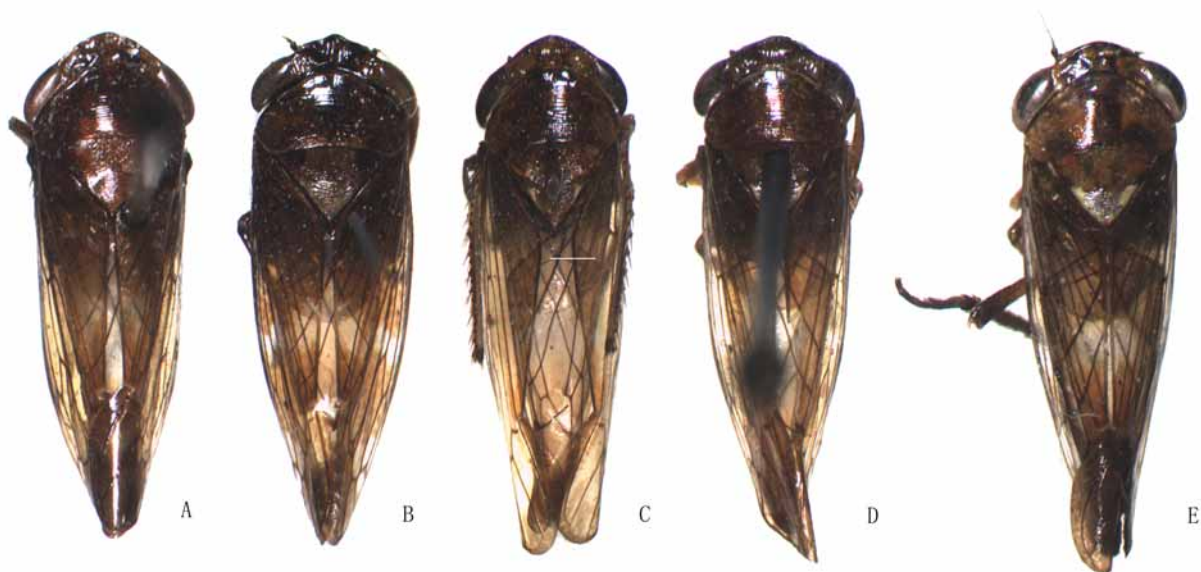


FIGURE 1. ♂ adult in dorsal view. A, *Drabescus longispinus*; B, *Drabescus bifurcatus*; C, *Drabescus bicornis*; D, *Drabescus wauensis*; E, *Drabescus brevispinus*.

1. *Drabescus longispinus* n. sp. (Figs 1A, 2)

Body length (incl. tegmen): ♂ 7.8–8.5 mm, ♀ 8.0–8.6 mm.

Body bright brown, forewing with dark maculation around apical cells and vein R_1 .

Head slightly wider than pronotum; vertex triangularly produced anteriorly in dorsal view, midlength

longer than next to eyes, width three times medial length; ocelli on margin, visible from above, separated from corresponding eye; antenna short, antennal ledge strong and oblique; clypeus expanded apically, epistomal suture obscure. Pronotum with lateral margin short, carinate, hind margin slightly concave. appendix broad. Fore tibia flattened dorsally; hind femur with apical setal formula 2+1.

Male genitalia with pygofer oblong, membranous at apex, with long process ventroposteriorly. Valve ligulate. Subgenital plate broad basally and narrowed to digitate apex, with many fine setae along laterobasal margin. Style with apical process robust, tapered to narrowly rounded apex, curved laterally; lateral lobe short. Connective long, length of arms longer than stem. Aedeagus with shaft simple, strongly curved cephalad, without processes; dorsal apodeme short.

Holotype: ♂ (BMNH), Papua New Guinea: Madang District, Finisterre Mts, Damanti, 3550ft, 2-X-1964, coll. M. E. Bacchus. Paratypes: Papua New Guinea 4♂♂ (BMNH), same data as holotype except: 3♂♂, 2-11-X-1964; 1♂, Budemu Camp., Stn. No.52, 4000ft, 15-24-X-1964; 1♀, Stn. No. 46, 2-11-X-1964; 1♀, Araucaria Camp, 800m, III-1939; 1♀, Rattan Camp, 1200m, 6-III-1939; 1♀, Sigi Camp, 1500m, 24-II-1939, all coll. L. J. Toxopeus, Neth. Ind.-American New Guinea Exped., (MNL).

Remarks: This species is similar to *D. feraminensis* in external appearance but can be distinguished from this and other species by its long ventroposterior pygofer process.

Etymology: This species is named for its long pygofer processes.

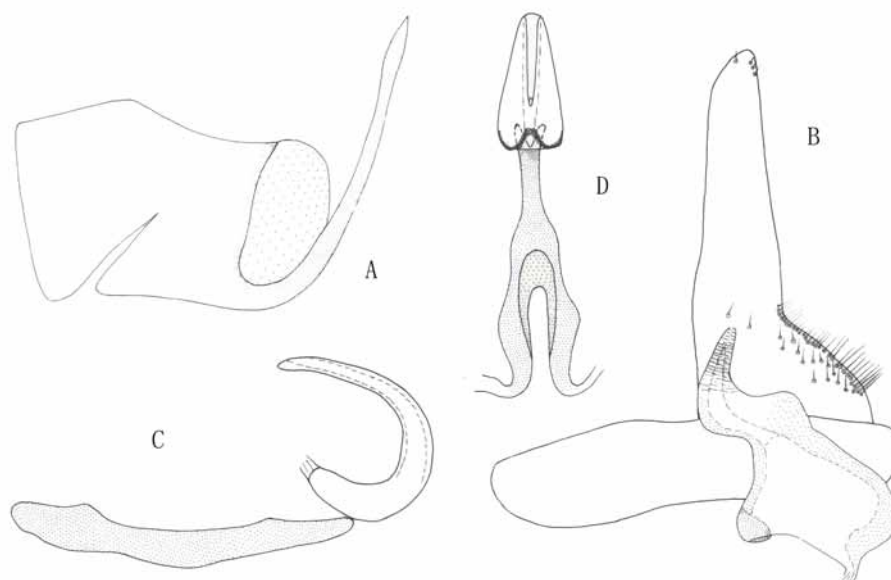


FIGURE 2. *Drabescus longispinus*. A, pygofer in lateral view; B, valve, subgenital plate and style in dorsal view; C, aedeagus and connective, lateral view; D, aedeagus and connective in dorsal view.

2. *Drabescus bifurcatus* n. sp. (Figs 1B, 3)

Body length (incl. tegmen): ♂ 5.8–6.2 mm, ♀ 6.8–7.2 mm.

Body dark brown, forewing brown with transverse band across wing at apex of clavus, and round spot on area of fourth apical cell and on connection between medial and outer anteapical cell; pronotum with dense yellowish spots.

Head nearly as wide as pronotum; vertex with fore margin triangularly produced, midlength longer than length next to eyes; ocelli on margin, approximately 4x own diameter from corresponding eye; antennae short, situated above midlength of eye in facial view, antennal ledge weak. Pronotum with lateral margin short, carinate, hind margin slightly concave. Forewing with veins distinct, appendix narrow. Fore tibia rounded dorsally; hind femur with apical setal formula 2+1.

Male genitalia with pygofer broadened at base and narrowed apically, with long process posteriorly. Valve semicircular. Subgenital plate with basal part broad, narrowed to midlength with apical half digitate, with many fine setae along laterobasal margin. Style with apical process digitate, slightly curved laterally; lateral lobe short, with several fine setae dorsally. Connective Y-shaped, with apical margin strongly incurved. Aedeagus with elongate process at base of gonopore ventrally, directed parallel to shaft; dorsal apodeme elongate.

Holotype: ♂ (MNL), Papua New Guinea: Lake Habbena, 3250–3300m, 23-VIII-1938, coll. L. J. Toxopeus, Neth. Ind.-American New Guinea Exp. Paratypes: Papua New Guinea: 1♀, same data as holotype; 2♂♂, 3♀♀, same data as holotype, except 20-VIII-1938; 3♂♂, Araucaria Camp, 800m: 7, 9-VIII-1938; 1♂, Bernhard Camp, 50m, XI-1938, coll. J. Olthof. All coll. L. J. Toxopeus, Neth. Ind.-American New Guinea Exp. (MNL).

Remarks: This species is similar to *D. gressitti* in external appearance but differs from the latter in: 1) forewing with pale transverse band across wing at apex of clavus; 2) pygofer broad at base and narrowing to apex, with long process posteriorly; 3) connective with apical margin dorsally incurved; 4) aedeagus with shaft bifurcate at apex.

Etymology: This species is named for its bifurcate apex of the aedeagus.

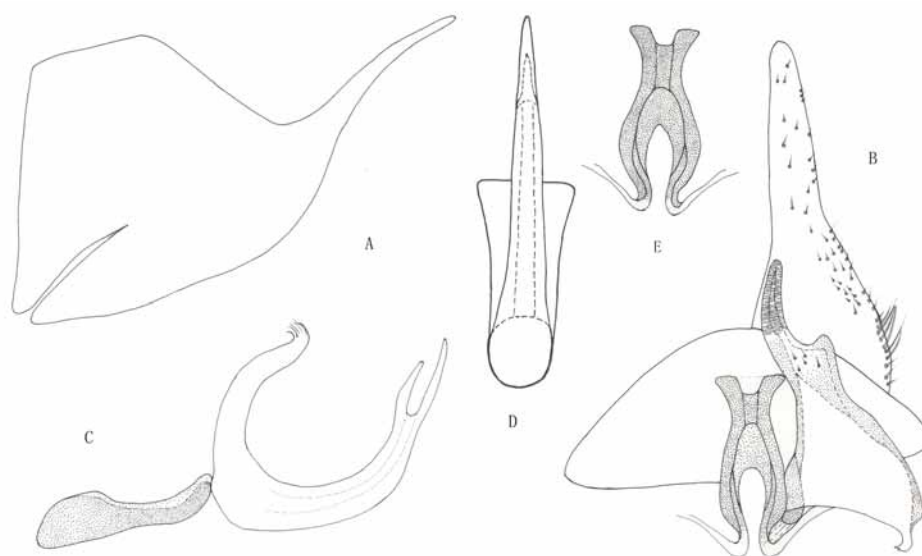


FIGURE 3. *Drabescus bifurcatus*. A, pygofer in lateral view; B, valve, subgenital plate, connective and style in dorsal view; C, aedeagus and connective, lateral view; D, aedeagus in ventral view; E, connective in ventral view.

3. *Drabescus bicornis* n. sp. (Figs 1C, 4)

Body length (incl. tegmen): ♂ 6.2 mm.

Body yellowish brown, forewing brown, face yellow, pronotum with dense yellowish spots; scutellum with two yellowish triangular marks along each side. Head slightly wider than pronotum; vertex triangularly produced, midlength longer than length next to eyes; ocelli on margin, separated from corresponding eye; antennae short, situated above midlength of eye in facial view, antennal ledge strong, laterofrontal suture reaching corresponding ocellus; clypeus expanded apically, epistomal suture distinct; pronotum with lateral margin short, carinate, hind margin concave medially; forewing, hyaline, veins distinct, with obscure net-like lines, appendix broad; fore tibia rounded dorsally; hind femur with setal formula 2+1.

Male genitalia with pygofer triangular in lateral view, broad at base and narrowed to apex, with several macrosetae posteriorly; valve short; subgenital plate broad basally over short distance, tapered to digitate apex, with fine setae laterobasally and apically; style with apical process long and blunt, with small beak-

shaped process laterally at apex, lateral lobe absent; connective short; aedeagus robust, shaft curved strongly dorsally, preatrium with pair of long straight processes directed posteriorly, the latter longer than shaft; connective attached to aedeagus near base of processes.

Holotype: ♂ (MNL), Papua New Guinea, Aiyura Exp. Sta, III-1945, coll. B. O. Connor & J. L. Froggatt.

Remarks: This species is very similar to *D. evansi* in the male genitalia but can be distinguished from the latter in having the style without a lateral lobe and with the apical process long and blunt, with a small beak-shaped process laterally at apex.

Etymology: This species is named for the paired aedeagal processes.

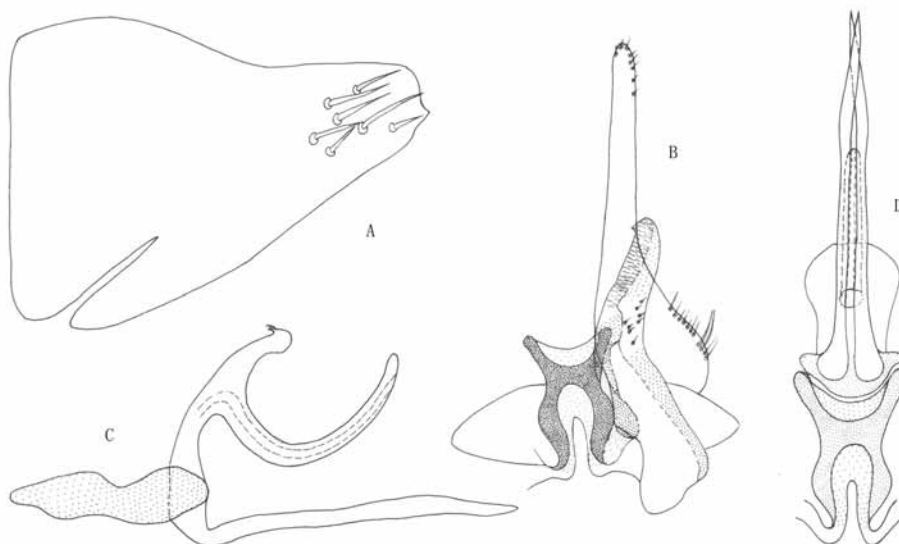


FIGURE 4. *Drabescus bicornis*. A, pygofer in lateral view; B, valve, subgenital plate, connective and style in dorsal view; C, aedeagus and connective in lateral view; D, aedeagus and connective in ventral view.

4. *Drabescus wauensis*, n. sp. (Figs 1D, 5)

Body length (incl. tegmen): ♂ 6.8 mm.

Body and forewing shiny brown; head with yellow band anteriorly; pronotum with dense obscure yellowish spots; scutellum with yellow maculation on each side, forewing with pale transverse band across tips of clavus.

Head slightly wider than pronotum; vertex angularly produced, midlength approximately 1.5 times length next to eye; ocelli on margin, nearly sixth times own diameter from corresponding eye; antennae located above middle length of eye in facial view, antennal ledge distinct, laterofrontal suture reaching corresponding eye; epistomal suture distinct; pronotum with lateral margin short, transversely striate; forewing hyaline, veins distinct, appendix broad; fore tibia rounded dorsally, hind femur with apical setal formula 2+1.

Male genitalia with pygofer oval in lateral view, with short process and several macrosetae and fine setae posteriorly; valve trapezoid; subgenital plate broad at base and narrowed to finely digitate apex, with fine setae laterobasally; style with apical process short, lateral lobe short; connective with stem short and robust, arms long; aedeagal shaft compressed dorsoventrally; preatrium long, similar in length to shaft, with pair of very long processes basally, each with fine sinuate line dorsally.

Holotype: ♂ (BPBM), Papua New Guinea: N.E. Wau, 1200m, 15-VIII-1965, coll. J. & M. Sedlacek.

Remarks: This species can be distinguished by: (1) pygofer oval in lateral view with short posterior process; (2) style apical process short; (3) Y-shaped connective with stem short and robust and arms long; (4) preatrium of aedeagus long with pair of very long processes basally, each with a very fine sinuate line dorsally.

Etymology: This species is named after its type locality.

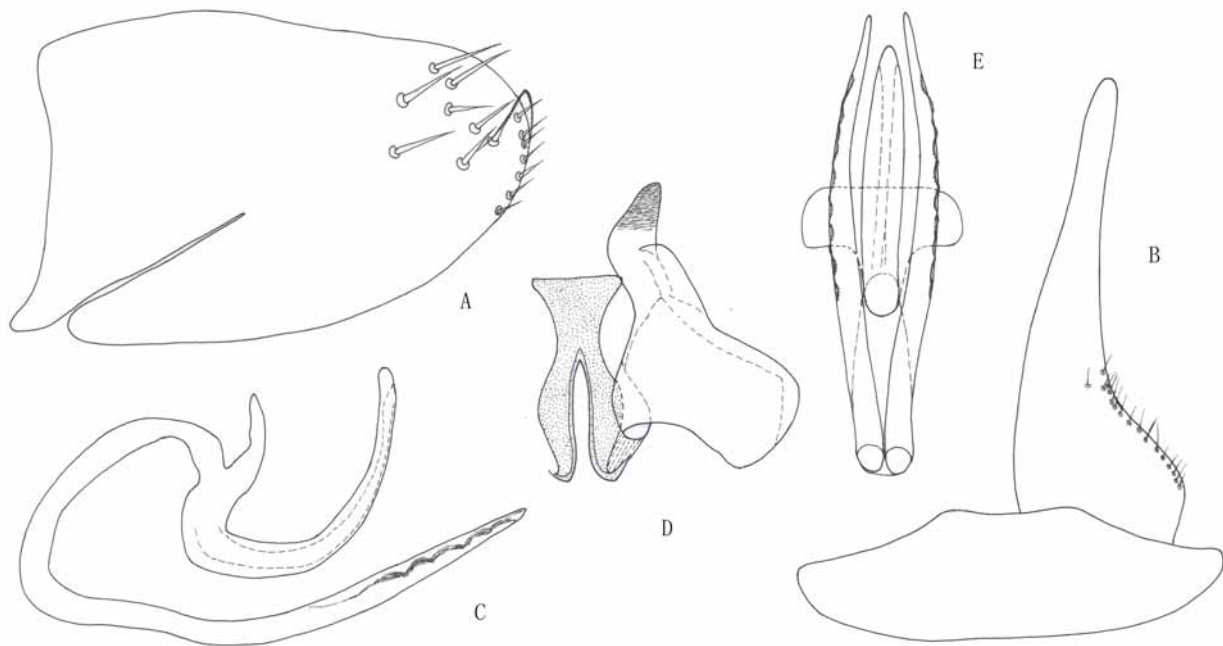


FIGURE 5. *Drabescus wauensis*. A, pygofer in lateral view; B, valve and subgenital plate in dorsal view; C, aedeagus in lateral view; D, style and connective in dorsal view; E, aedeagus in ventral view.

5. *Drabescus brevispinus* n. sp. (Figs 1E, 6)

Body length (incl. tegmen): ♂ 6.2–6.6 mm, ♀ 6.8–7.2 mm.

Body and legs yellowish brown; pronotum with dark maculation; forewing brown with pale transverse band across the tips of clavus.

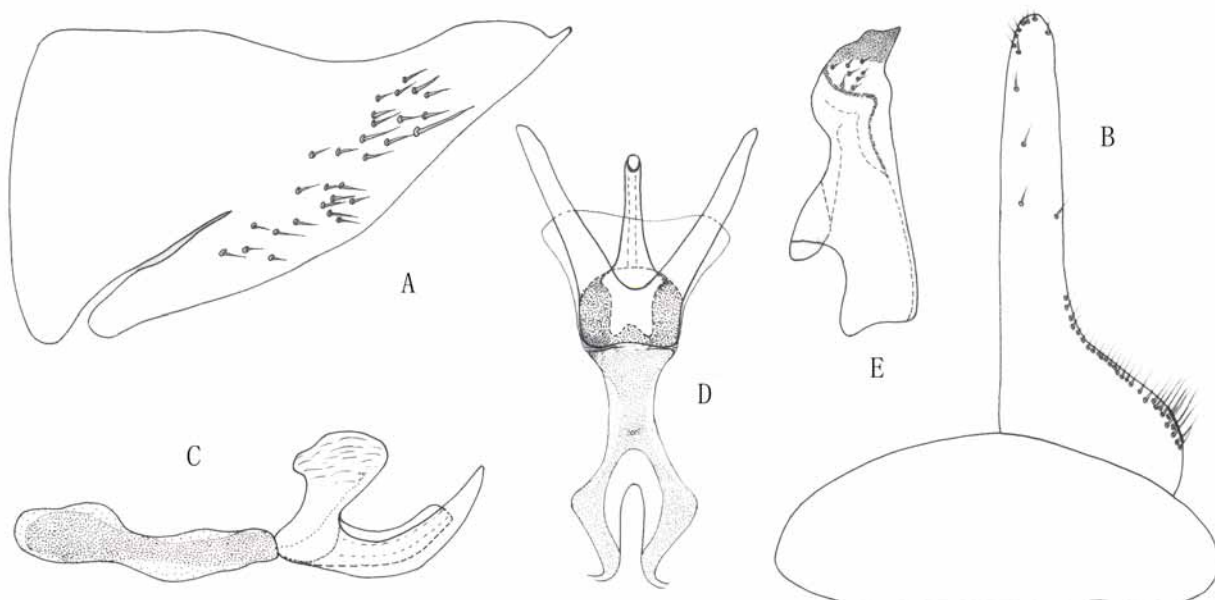


FIGURE 6. *Drabescus brevispinus*. A, pygofer in lateral view; B, valve and subgenital plate in dorsal view; C, aedeagus and connective in lateral view; D, aedeagus and connective in dorsal view; E, style in ventral view.

Head wider than pronotum; vertex roundly produced, midlength longer than next to eye, transversely concave near fore margin, longitudinally striate; ocelli on margin, visible from above, approximately one-fifth

own diameter from corresponding eye; antennae longer than half length of body, located above midlength of eye in facial view, antennal ledge weak; clypeus expanded apically; pronotum with lateral margin short, truncate on hind margin, carinate. Forewing hyaline. Fore tibia rounded dorsally; hind femur with apical setal formula 2+1.

Male genitalia with pygofer long and triangular in lateral view, with short process posteriorly; valve semi-circular; subgenital plate broad basally and narrowly digitate apically, with fine setae along laterobasal margin; style with short robust spine-like apical process, lateral lobe indistinct, several short fine setae dorsally on subapical area; connective with stem similar in length to arms; aedeagal shaft curved dorsally, strong and short with long process basally on each side, the latter blade-like in lateral view and longer than the shaft.

Holotype: ♂ (BMNH), Papua New Guinea, Mt Pauanda, 300m, on *Ollaria*, D. Hollis, B.M.1988-337. Paratypes: 1♂, 1♀ (SU), Papua New Guinea: Morobe Prov., Mt. Kaindi, 2360m, 31-VII-1981, Y. Komiya lgt.

Remarks: This species is similar to *D. kaindii* from Irian Jaya in the shape of style but differs from the latter in: (1) pygofer long and triangular in lateral view with short process posteriorly; (2) aedeagal shaft short and robust with long process basally on each side, the latter blade-like in lateral view.

Etymology: This species is named after short spine-like apophysis of style.

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