

The Species of the Genus *Procanace* in New Guinea (Diptera: Canaceidae)¹

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Three species of *Procanace* Hendel from New Guinea are reported here: *gressitti*, n. sp., *grisescens* Hendel, and *novaeguineae*, n. sp. These are very similar in general appearance and form a compact taxonomic group. All have yellow first tarsomere, very weak posterior ocellars, 3 strong genal bristles, arista haired to the tip and lack interfrontals. The ♀ terminalia of the 3 species appear remarkably similar, but those of the ♂, especially the structures of the surstyli and copulatory organs, are strongly differentiated. *P. novaeguineae*, n. sp. seems to be more closely related to *P. grisescens* Hendel than to any other species in the genus. No attempt is made here to discuss or identify the various structures of the ♂ and ♀ terminalia, and the sketches are chiefly made to aid in identification of the species.

As in the past I thank Miss Setsuko Nakata, B. P. Bishop Museum, for the loan of the specimens upon which this study is based. Holotypes of the new species are in the B. P. Bishop Museum, Honolulu; available paratypes will be sent to U. S. National Museum, Washington, D. C. and British Museum (Natural History), London.

***Procanace gressitti*, n. sp.; Figures 1-3**

A moderately large, grey pollinose species. It can be distinguished by the yellow tarsomeres 1-2, 3-5 being black; black frons and antennae, the femora ventrally covered with fine whitish hairs, and by the much more simple outer lobe of the ♂ surstylus.

♂ ♀. Frons seen from in front black; orbits, frontal triangle, face, cheeks and clypeus greyish white pruinose; ocellar triangle raised; frons anteriorly with 10-12 short, upstanding hairs; no interfrontals; 3 pairs of strong orbitals and hairs between; anterior ocellars strong, posteriors very weak; 3 strong genals and short hairs between, 2 ventrally out of line. Antenna entirely black, third segment pubescent, rounded distally; arista haired to tip. Palpus yellowish, pilose. Mesonotum brown pruinose, greyish along lateral and hind margins; 4 pairs of dorsocentrals and a few very short hairs scattered laterally; scutellum grey pruinose, with 4 marginal bristles, without discal setae; 1 humeral; 2 notopleurals; 1 presutural; 3 supraalar; 1 strong mesopleural and a few short hairs; 1 strong sternopleural and short, fine whitish hairs. Wing length about 2.75 mm; squama yellowish with whitish fringe. Legs bicolorous. Femora and tibiae blackish, grey prui-

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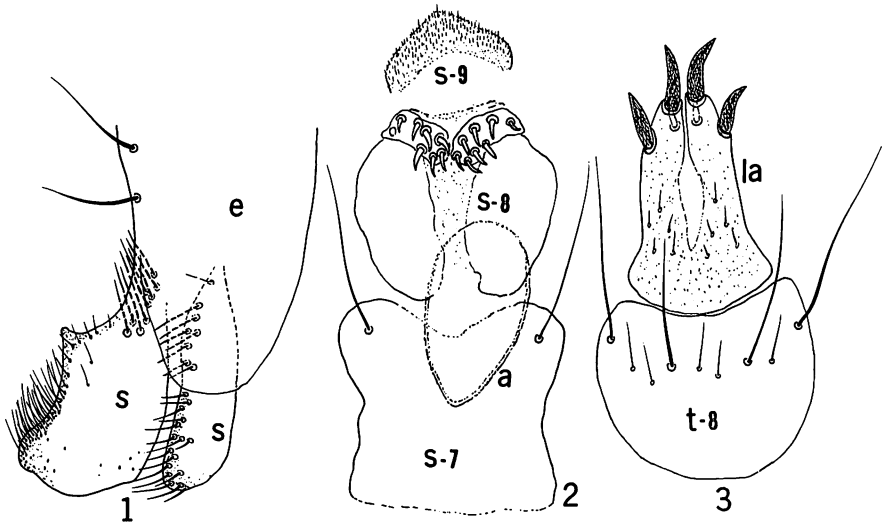


FIG. 1-3. *P. gressitti*, n. sp.: 1, ♂ surstylus (s); 2, ♀ sterna 7, 8, 9 & atrial sclerotization (s-7, s-8, s-9 & a); 3, ♀ lammellae (la) & tergum 8 (t-8); e-epandrium.

nose; femora dorsally covered with short fine bristles, and fine, whitish pile ventrally; tarsomeres 1-2 yellow, 3-5 black, in some specimens tarsomere 3 may appear yellowish; distal spines on front tarsomeres 3-4 not visible. Halter knob yellow, stem brown. Abdomen ashy grey pruinose. ♀ lamellae (Fig. 3) each with 2 strong black spines, 1 hyaline spinule dorsally; tergum 8 (Fig. 3) with 4 very long hairs; sternum 9 (Fig. 2) pubescent, small, with angular posterior margin; posterior plates of sternum 8 (Fig. 2) each with 7 or 8 spines; sternum 7 indented at mid posterior margin, with 1 long hair on each posterolateral corner. Atrial sclerotization ovoid in outline. 2 rounded spermathecae without neck. ♂ surstylus (Fig. 1) narrowly connected to epandrium, the outer lobe simple with numerous fine short hairs on outer surface and short spines ventrally; inner lobe large, sausage-shape with a row of spine-like setae on inner margin.

Holotype ♂ (terminalia on slide), New Guinea, NE Wonenara 6°40'S 145°55'E, 1450 m, 14.vi.1966 (Gressitt & Wilkes), light trap. Paratypes 2 ♀♀, same data and locality as holotype (1 paratype in USNM).

***Procanace grisescens* Hendel; Figures 4-7**

Procanace grisescens Hendel, 1913, Supplta. Ent. 2: 93 (Type-loc., Anping, Formosa).

Specimens: 4 ♂♂, 3 ♀♀, New Guinea, Neth., River Tor (mouth), 4 km, E of Hol Maffen, 2-5. viii. 1959 (T. C. Maa). Other distribution: Japan, Ryukyu Is., Taiwan, Thailand.

This species apparently occurs much more widely in fresh water habitats (Miyagi, 1965, *Insecta matsum.* 27 : 96), and probably in semibrackish

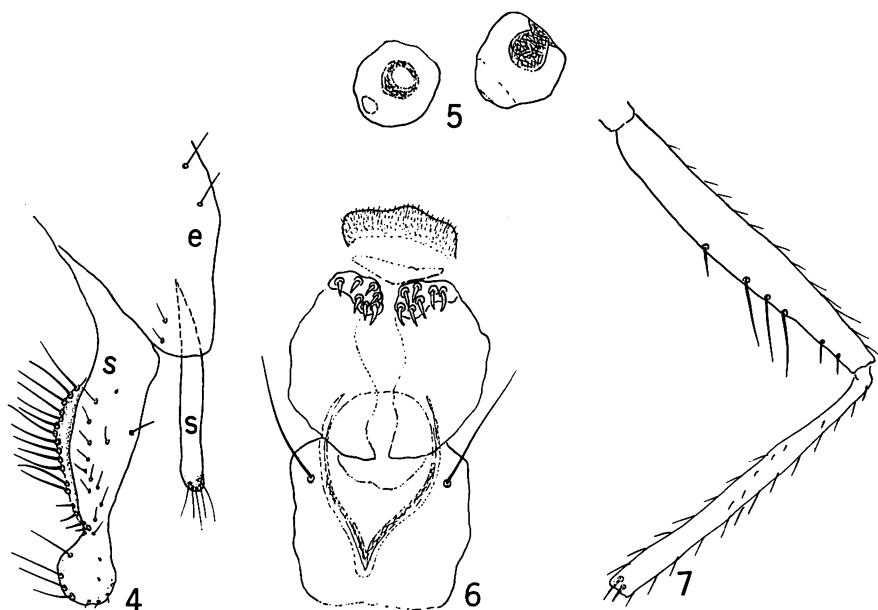


FIG. 4-7. *P. grisescens* Hendel: 4, ♂ surstylus; 5, ♀ spermathecae; 6, ♀ sterna 7, 8, 9 & atrial sclerotization; 7, ♂ mid femur & tibia.

situation. It is readily recognizable from other members of the genus by the small size; by the blackish frons with reddish anterior margin; yellowish legs with darkened hind femora, brown tarsomeres 4-5, and by the presence of 3 strong bristles ventrally (Fig. 4) in the mid femora of the ♂; sternopleural bristle lacking or very weak. ♂ surstylus (Fig. 4) incompletely separated from epandrium, the outer lobe geniculate with capitate apex, rows of fine bristles on outer posterior margin; inner lobe long, slender, finger-like with a few apical setae. ♀ lamellae each with 2 strong spines, 1 apical seta; tergum 8 with 4 very long hairs; sternum 9 (Fig. 6) small, with slightly sinuate posterior margin; posterior plates of sternum 8 each with 7 spines; posterior margin of sternum 7 indented at middle; atrial sclerotization ovoid, with pointed, sclerotized anterior end (Fig. 5); 2 spermathecae as in Fig. 5.

Procanace novaeguineae, n. sp. Figures 8-11

A moderately large, greyish brown species; yellow third antennal segment and tarsomeres 1-3. The ♂ is similar to *P. fulva* Miyagi or *P. rivalis* Miyagi by the presence of a row of short spinous hairs on mid femora, while the surstyli are reminiscent of those of *P. grisescens* Hendel. But the ♂ terga 5-6 are curiously developed, e.g. overlapping the sterna ventrally. Frons, seen from in front, brown or reddish brown pruinose; frontal triangle blackish grey; face, cheeks and clypeus ashy grey pruinose; no interfrontals; 3 pairs of orbitals and short hairs between; frons anteriorly with 4-6 very

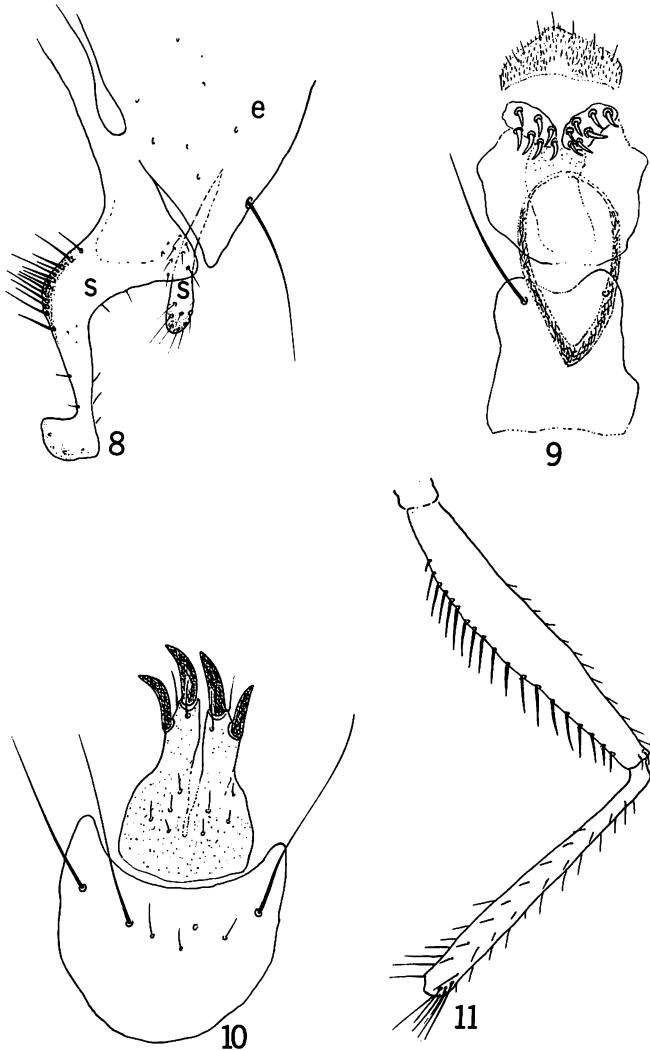


FIG. 8-11. *P. novaegisneae* n. sp.: 8, ♂ surstylus; 9, ♀ sterna 7, 8, 9 & atrial sclerotization; 10, ♀ tergum 8 & lamellae; 11, ♂ mid femur & tibia.

short hairs; ocellar triangle only slightly raised; anterior ocellars strong, posteriors very weak; 3 genals and short setae between, 1 ventrally out of line. Third antennal segment yellow or brownish yellow, pubescent, rounded distally; arista swollen at base, haired to tip. Palpus yellow, without apical hairs. Mesonotum brown pruinose, with 4 pairs of dorsocentrals, a few very short hairs scattered laterally; scutellum grey with brown dusting dorsally, 4 marginals, without discal setae; 2 notopleurals, 1 humeral; 1 mesopleural and short brown hairs; 1 sternopleural and fine whitish hairs. Wing

length about 2.25 mm; squama and fringe whitish. Halter knob yellow, stem brownish. Femora blackish, grey pollinose; tibiae yellowish brown; tarsomeres 1-3 yellow, 4-5 brown or dark brown, in some specimens tarsomere 3 may be tinged with brown; front tarsomeres 3-4 with hyaline, spatulate distal spines; ♂ mid femora ventrally with a row of short spinous hairs (Fig. 11), and tibiae with long hairs distally. Abdomen grey, with thin brown pruinosity dorsally. ♀ lamellae (Fig. 10) each with 2 large black spines, 2 stout setae; tergum 8 with 4 very long hairs; sternum 9 (Fig. 9) small, pubescent, with angular posterior margin; posterior plates of sternum 8 each with 7 spines; posterior margin of sternum 7 indented at middle, with 1 long hair at posterolateral corners. Atrial sclerotization ovoid in outline (Fig. 9). 2 rounded spermathecae without neck. ♂ surstylus (Fig. 8) incompletely separated from epandrium, the outer lobe geniculate and capitate apically, rows of fine bristles on outer margin posteriorly; inner lobe small, finger-like with 8-10 apical setae; epandrium with 1 very long hair posterolaterally.

Holotype ♂, New Guinea, Neth., Waris, S of Hollandia, 450-500 m, 1-7. viii. 1959 (T. C. Maa), at light. Paratypes 11 ♂♂ 26 ♀♀, same data and locality as holotype (4 ♂♂, 8 ♀♀ in USNM; 4 ♂♂, 8 ♀♀ British Mus. (Nat. Hist.).