

New Genera, Species and Subspecies of Oriental Tachinidae (Diptera)¹⁾

By

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In recent years I have obtained a number of tachinid specimens from Southeast Asia through the surveys entitled "Zoogeographical studies on the dipterous insects of medical importance in the South Pacific area (Research representative: Prof. R. KANO of Tokyo Medical and Dental University)." In this paper I will describe 2 new genera, 6 new species and a new subspecies of Oriental Tachinidae: *Nemoraeta metallica* sp. n. (Taiwan); *Medinodexia orientalis* sp. n. (Thailand and Borneo), *M. exigua* sp. n. (Celebes); *Paravibrissina* gen. n., *P. adiscalis* sp. n. (type-species) (Borneo), *P. adiscalis infuscata* ssp. n. (Malaya), *P. thailandica* sp. n. (Thailand); *Calliethilla caerulea* gen. et sp. n. (Thailand and Java). Holotypes will be deposited in the collection of the National Science Museum (Nat. Hist.), Tokyo.

Nemoraeta metallica SHIMA, sp. nov.

♀. Head dark bluish on parafrontal, upper parafacial and occiput in ground color, reddish yellow on gena and face; parafrontal with thin grayish pollinosity; parafacial, gena and face with dense silvery white pollinosity; occiput thinly whitish pollinose; interfrontal area brown; 1st and 2nd antennal segments and base of 3rd orange yellow, 3rd segment, except for its base, brown-black; arista brown; palpus yellow; labella yellow. Vertex about 0.18 of head width; interfrontal area weakly widened anteriorly, about 1/2 as wide as parafrontal at middle; parafacial narrowed below, about $2/3 \times$ as wide as 3rd antennal segment at middle-height; gena about 1/3 of eye-height. Inner vertical setae strong and crossed, about 2/3 of eye-height; outer vertical seta very fine and hair-like, only slightly longer than upper setulae of postocular row; ocellar seta very fine, slightly shorter than outer vertical seta; 1 prevertical seta, about 1/2 as long as inner vertical seta; reclinate orbital seta absent; 2 proclinate orbital setae, anterior one slightly longer than posterior one and slightly

1) Partial result of overseas research grants (1973, 1975) from the Ministry of Education, Japanese Government.

shorter than inner vertical seta; 7–8 frontal setae, lowest one inserted at the level of base of 2nd antennal segment; parafrontal with very sparse hairs; vibrissa inserted at the level of lower margin of face; genal dilation with 2 strong and a few very fine black hairs; occiput with a regular row of black setulae; postocular setulae long and nearly straight. First antennal segment only weakly prominent; 2nd segment about $1/4\times$ as long as 3rd; 3rd segment about $1/3\times$ as wide as long, falling short of lower margin of face by about $1/2$ length of 2nd antennal segment. Arista short pubescent; 2nd segment very short, wider than long; 3rd segment thickened on its basal $1/5$. Palpus clavate, subequal in length to 3rd antennal segment, with short black hairs dorsally, longer hairs ventrally.

Thorax shining bluish green in ground color; very thin whitish pollinosity on prescutum, 4 longitudinal vittae visible on prescutum when viewed from behind, outer vitta very broad; humeral callus and pleural region with rather thin whitish pollinosity. $2+3\ ac$; $3+3\ dc$; $0+3\ ia$; 3 humeral setae, inner one set forwards (normally 4, inner one fine and hair-like ?); 1 posthumeral seta; pre-alar seta very short; $2+1\ stpl$; scutellum with 4 pairs of marginal setae; lateral scutellar seta slightly shorter than basal one; subapical scutellar seta strong, $1.5\times$ as long as basal one; apical scutellar setae strong and crossed horizontally, subequal in length to lateral one; preapical scutellar seta suberect, about $2/3\times$ as long as apical one; distance between 2 subapical scutellar setae $1.2\text{--}1.3\times$ as long as that between basal and sub-apical ones of same side.

Wing hyaline, weakly tinged with brown; tegula and basicosta tawny yellow; veins brown; calypter pale brownish white. Second costal sector haired ventrally, about $2/3\times$ as long as 3rd and slightly longer than 4th; vein R_{4+5} with setulae from base to $2/3$ way to $r\text{--}m$ crossvein dorsally, with 5 fine setulae on its basal node ventrally; vein M_1 from discal crossvein to its bend about $2/3\times$ as long as that from the bend to apex, and about $1.5\times$ as long as distance between the bend and wing margin; vein M_1 with very short appendage which is about $1/3\times$ as long as $r\text{--}m$ crossvein; last section of vein M_3 about $2/3\times$ as long as discal crossvein. Lower calypter almost bare, only with fine white hairs on its narrow outer surface.

Legs yellow, tarsi slightly darkened, pulvilli dull yellowish white. Fore coxa with minute recumbent hairs on its inner anterior surface; fore tibia with a row of short ad setae and 2 p setae; mid-tibia with 2 ad , 3–4 pd and 1 v setae; hind tibia with a row of ad setae, 2 pd setae, 2–3 v setae and 2 preapical d setae, without apical pv seta; fore claw and pulvillus shorter than 5th tarsomere.

Abdomen shining metallic green in ground color, slightly brownish on venter, without pollinosity on dorsum, with thin whitish pollinosity on venter. Third tergum with 2 median discal, 2 median marginal and 1 lateromarginal setae; 4th tergum with 2 median discal and a row of marginal setae; 5th tergum with 2 rather regularly set rows of discal and a row of short marginal setae.

♂. Unknown.

Body length: 6.9 mm, wing length: 6.7 mm.

Distribution. Taiwan.

Holotype ♀, Tsuifeng, Nantou Hsien, Taiwan, 20. v. 1970, H. KURAHASHI.

Remarks. This is a distinctive species easily recognized by the metallic green body and by the entirely yellow legs. This species is assignable to the genus *Hypota-china* in MESNIL's sense by the haired ventral surface of the 2nd costal sector of the wing, by 3+3 *dc* setae and by the almost bare lower calypter, but I followed CROSSKEY (1976, Bull. Br. Mus. (Nat. Hist.) Ent. Suppl. 26) and placed it in the genus *Nemoraea* of a broad sense.

Medinodexia orientalis SHIMA, sp. nov.

(Fig. 1)

♂. Head black in ground color, gena, narrow anterior portion of parafacial and facial ridge reddish brown; interfrontal area and lunula brown-black; antenna brown-black; arista brown; palpus brown-black; upper portion of parafrontal shining black, lower portion with dark grayish pollinosity; parafacial, face, gena and postorbit with grayish white pollinosity. Vertex 0.17–0.19 of head width; interfrontal area widened anteriorly, subequal in width to parafrontal at middle; parafacial weakly narrowed below, subequal in width to 3rd antennal segment at middle-height; epistoma only slightly produced forwards, not visible in profile; gena 0.18–0.22 of eye-height; occiput flat. Inner vertical seta about $2/5$ of eye-height; outer vertical seta absent; 2 fine postocellar setae; 1 still fine postvertical seta on each side; ocellar seta proclinate, slightly shorter than inner vertical seta; 2 reclinate orbital setae, anterior one stronger than posterior one and subequal in length to inner vertical seta; 6–10 frontal setae, lowest one inserted at the level of base of 3rd antennal segment; parafrontal with sparse short hairs, 1–2 hairs descending below lowest frontal seta; parafacial bare; facial ridge at most with 4–5 fine setulae on its lower $1/4$; vibrissa inserted at the level of lower margin of face; gena with several fine black hairs on its lower $1/3$; postocular setulae short; upper occiput at most with several fine black setulae. Second antennal segment about $1/3 \times$ as long as 3rd; 3rd segment about $3.5 \times$ as long as wide, falling short of lower margin of face by about $1/2$ length of 2nd antennal segment. Arista very short pubescent; 2nd segment wider than long; 3rd segment thickened on its basal $1/5$. Mentum short; labella large; palpus nearly cylindrical, subequal in length to 3rd antennal segment. Eye bare.

Thorax black in ground color, postalar callus brownish; prescutum and posterior portion of scutum with brownish white pollinosity; humeral callus, notopleuron, intra-alar region and pleural region with grayish white pollinosity, the pollinosity denser on humeral callus and on notopleuron; 4 longitudinal vittae visible on prescutum, the vittae not reaching transverse suture, outer vitta about twice as wide as inner one. Hairs on prescutum and scutum sparse fine and short, longer on pleuron; propleuron bare; prosternum with 1 fine hair on each side; barete and mediotergite bare; 3+3 *ac*, anterior one of presutural *ac* sometimes very fine; 2+3 *dc*; 3 humeral

setae, middle one slightly set forwards, inner one weak; 1 posthumeral seta; $0+3\ ia$; 1 presutural seta; pre-alar seta very fine, sometimes absent; $1+1\ stpl$; scutellum with sparse fine short erect hairs; basal scutellar seta about twice as long as scutellum; lateral scutellar seta fine, subequal in length to scutellum; subapical scutellar setae strong and divergent, about $2.5\times$ as long as scutellum; apical scutellar seta absent; preapical scutellar seta very fine and suberect, about $1/2$ as long as scutellum; distance between 2 subapical scutellar setae about $2/3\times$ as long as that between basal and subapical ones of same side.

Wing hyaline, distinctly tinged with brown on anterior portion from costa to vein M_3 ; tegula black; basicosta brown-black; veins brown; calypter tawny yellow. Second costal sector bare ventrally, about $2/5\times$ as long as 3rd and subequal in length to 4th; vein R_{4+5} with several fine setulae dorsally on its base, which sometimes extend to $1/3$ way to $r-m$ crossvein; vein M_1 from discal crossvein to its bend about $4/5\times$ as long as that from the bend to apex, about twice as long as distance between the bend and wing margin; last section of vein M_3 about $1/2$ as long as discal crossvein.

Legs black, tibiae dark brownish; pulvilli dull yellowish white. Fore tibia with 1 strong p seta; mid-tibia with 1 ad , 2 pd and 1 v setae; hind tibia with a row of ad setae, 3–4 pd setae, 2–3 v setae and 2 preapical d setae, without apical pv seta. Claws and pulvilli elongate, fore claw and pulvillus longer than 5th tarsomere.

Abdomen black in ground color; dorsum of posterior portion of syntergum $1+2$ and of entire 3rd tergum with brownish white pollinosity; anterolateral portion and venter of 3rd and 4th terga and venter of anterior portion of 5th tergum with whitish pollinosity. Abdomen long ovate; syntergum $1+2$ excavated only at base dorsally; 3rd tergum slightly longer than 4th; 5th tergum about $3/4\times$ as long as 3rd; 5th tergum conical, weakly compressed laterally. Hairs sparse and suberect on dorsum of syntergum $1+2$ and 3rd tergum, very dense, recumbent and fine on dorsum of 4th and 5th terga, sparse suberect and strong on venter; syntergum $1+2$ with 1 laterodiscal seta, 2 median marginal setae and 1–2 lateromarginal setae; 3rd tergum with 2 median discal setae, 1 laterodiscal seta, 2 median marginal setae and 2–3 lateromarginal setae; 4th tergum with 2 median discal setae, 1 laterodiscal seta and a row of marginal setae; 5th tergum with 2 median discal and a row of marginal setae; all setae very strong and erect.

Male genitalia: Fifth sternum with posterior lobes on its posterior $1/2$, clothed with fine hairs; 6th tergum divided into 2 small hemitergites; 6th spiracle in membrane in front of synsternum $7+8$; left 7th spiracle in anterior portion of synsternum $7+8$ and right one in membrane in front of the synsternum; cerci large, in dorsal view inner portion of each cercus broadly excavated from base to apical $1/4$; surstylus shorter than cerci, slightly curved ventrally; pregonite short and tapering to apex, with a few fine hairs; postgonite longer than pregonite, rounded apically; epiphallus present.

♀. Differing from ♂ as follows: Vertex $0.22-0.25$ of head width; inner vertical seta about $1/2$ of eye-height; short but distinct outer vertical seta present, the seta about

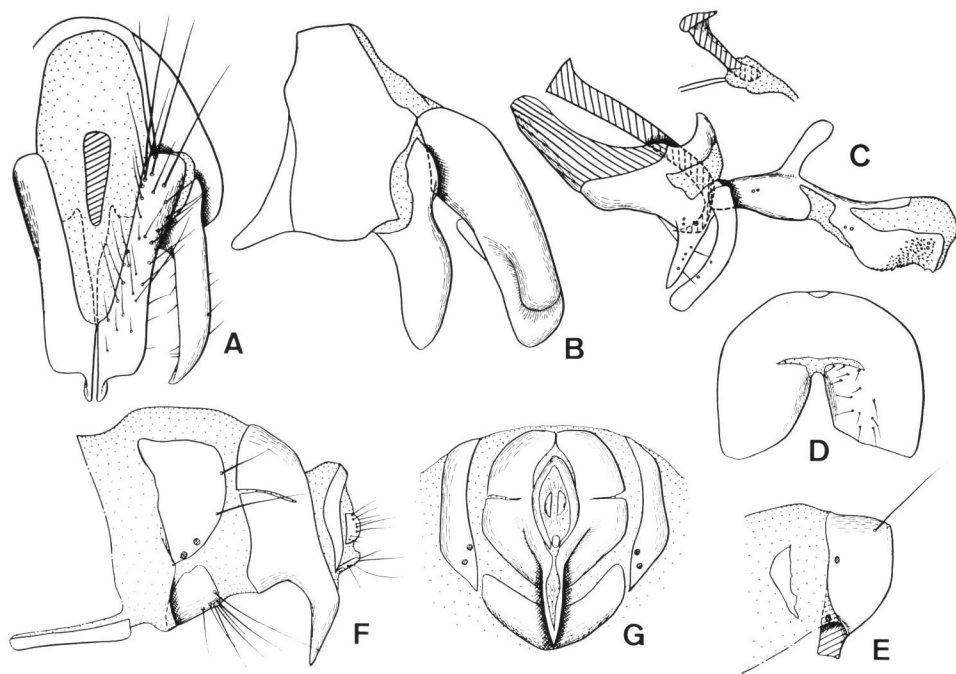


Fig. 1. Male and female genitalia of *Medinodexia orientalis* sp. nov. — A, Epandrium, cerci and surstylus in dorsal view; B, same in lateral view; C, hypandrium, pre- and postgonites and aedeagus in lateral view; D, ♂ 5th sternum in ventral view; E, ♂ 6th tergum and synsternum 7+8 in lateral view; F, ♀ terminalia in lateral view; G, same in posterior view.

$1/3\times$ as long as inner one; 2 strong proclinate orbital setae; pollinosity on thoracic dorsum mostly white; inner and outer vittae of prescutum fused with each other on each side; 3rd presutural and 1st postsutural *ac* setae sometimes reduced; fore tarsus dilated and flattened; claws and pulvilli short, fore claw and pulvillus about $1/2$ as long as 5th tarsomere; abdomen shining black, almost entirely lacking pollinosity; laterodiscal setae entirely absent on abdominal terga; hairs on abdomen rather sparse, fine and recumbent, 4th and 5th terga without very dense fine recumbent hairs. Female terminalia: Sixth tergum broadly divided into 2 hemitergites, with a few hairs; 6th and 7th spiracles on ventrodistal portion of 6th tergum; 7th tergum rounded, fused with 7th sternum; 7th sternum sharply produced downwards on ventrodistal portion as a piercing "ovipositor"; 8th tergum entire, very short; cercus very small; 9th tergum absent; 9th sternum very narrow and short, weakly sclerotized, with fine hairs.

Body length: 4.8–7.5 mm, wing length: 4.5–7.1 mm.

Distribution. Thailand, Malaysia (Sabah, Sarawak).

Holotype ♂, Sai Yok (500 m), Kanchana Buri, Thailand, 9–13. xii. 1975, H. SHIMA. Paratypes: 1 ♀, Kao Yai, 30 km S of Pak Chong, Thailand, 24–25. xii.

1975, H. SHIMA; 1♂ 1♀, same data as holotype; 25 ♂♂ 6 ♀♀, same locality as holotype, 27–30. xii. 1975, W. TUMRASVIN, H. SHIMA & S. SHINONAGA; 1 ♂, Papar, 50 km SW of Kota Kinabalu, Sabah, Malaysia, 13–15. xi. 1975, H. SHIMA; 1 ♀, Santubong, 30 km N of Kuching, Sarawak, Malaysia, 19–20. xi. 1975, H. SHIMA.

Remarks. Although this species differs from the known Oriental species of this genus in many characters, such as in having entirely black abdomen, in having 2+3 *dc* setae and in lacking blunt pegs on female hind coxa, it is included in *Medinodexia* because of its piercing “ovipositor”. Dr. MESNIL considers that *Medinodexia* is a junior synonym of some American genera (personal communication), but I treat it here as a valid name, because the synonymy has not yet been established.

Medinodexia exigua SHIMA, sp. nov.

(Fig. 2)

Resembling the preceding species, but differing as follows.

♂. Vertex 0.19–0.21 of head width; interfrontal area about $1.5\times$ as wide as parafrontal at middle; parafacial strongly narrowed below, about $2/3\times$ as wide as 3rd antennal segment at middle-height; 3 reclinate orbital setae, anterior one strongest; facial ridge with setulae on its lower $1/3$; upper occiput with a row of fine black setulae; 2nd antennal segment about $1/4\times$ as long as 3rd; 3rd antennal segment about $3.5\times$ as long as wide, falling only slightly short of lower margin of face; palpus slightly shorter than 3rd antennal segment; pollinosity on thoracic dorsum thinner; prosternum with 2–3 fine hairs on each side; 1+3 *ia*; 2+1 *stpl*; wing slightly tinged with brown; wing vein R_{4+5} with 2–3 fine hairs on its basal node; wing vein M_1 from discal crossvein to its bend about $1.5\times$ as long as distance between the bend and wing margin; last section of wing vein M_3 slightly shorter than discal crossvein; abdominal syntergum 1+2 excavated from base to $2/3$ way to its posterior margin, without pollinosity; 3rd tergum slightly shorter than 4th and about $4/5\times$ as long as 5th; 3rd and 4th terga with thin brownish gray pollinosity dorsally, which are denser on anterior portion of each tergum; 4th tergum with hairing same as that of the preceding terga; 5th tergum with dense short recumbent hairs dorsally. Male genitalia: Fifth sternum with longer hairs; cerci in dorsal view strongly narrowed apically; surstylus in lateral view nearly straight, rounded apically; pregonite long, rounded apically, without hairs on posterior surface; postgonite very long, slightly enlarged at apex; epiphallus long and narrow.

♀. Differing from male as follows: Vertex about 0.25 of head width; inner vertical seta stronger; outer vertical seta about $1/2$ as long as inner one; 2 reclinate and proclinate orbital setae; 2nd antennal segment about $1/3\times$ as long as 3rd; abdomen almost entirely shining black, thin whitish pollinosity visible on anterolateral portion of 5th tergum; 5th abdominal tergum elongate and conical, without dense short recumbent hairs. Female terminalia: Telescopic and strongly elongate, longer than abdomen; intersegmental membrane between 5th and 6th segments long, about $3\times$

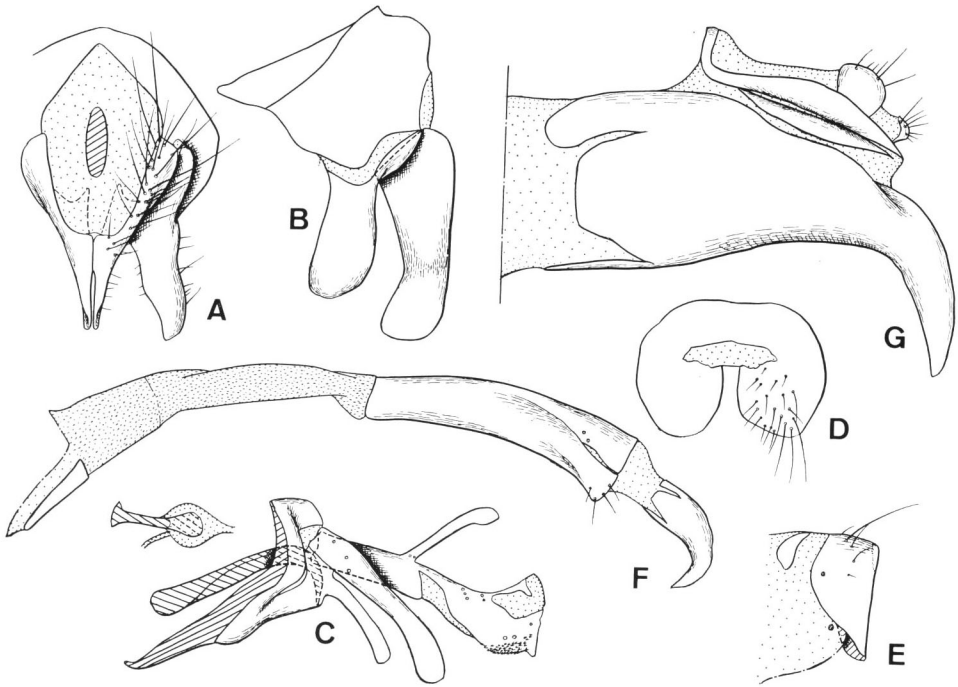


Fig. 2. Male and female genitalia of *Medinodexia exigua* sp. nov. — A, Epandrium, cerci and surstylus in dorsal view; B, same in lateral view; C, hypandrium, pre- and postgonites and aedeagus in lateral view; D, ♂ 5th sternum in ventral view; E, ♂ 6th tergum and synsternum 7+8 in lateral view; F, ♀ terminalia in lateral view; G, apex of ♀ terminalia in lateral view.

as long as 5th sternum, with very dense minute pubescence; 6th segment slightly shorter than intersegmental membrane between 5th and 6th segments, tergum and sternum mostly fused with each other and making an elongate tube; 6th and 7th spiracles on posterior portion of 6th tergum; 7th tergum narrowly and longitudinally divided at dorsal portion and fused with 7th sternum on ventral portion; 7th sternum sharply produced downwards on ventrodistal portion; 8th tergum very short, entire; cercus very small.

Body length: 4.5–5.1 mm, wing length: 4.4–4.5 mm.

Distribution. Indonesia (Celebes).

Holotype ♂, Noongan (1,200 m), 50 km S of Menado, Celebes, Indonesia, 2–10. xii. 1973, H. SHIMA. Paratypes: 2 ♂♂ 1 ♀, same data as holotype, H. SHIMA & H. KURAHASHI.

Remarks. This species seems to be related to the preceding species, but is more specialized in the structure of the male and female genitalia; pregonite and postgonite of male genitalia elongate and female terminalia telescopic and very long. This

species is easily distinguished from the preceding species by the male 4th abdominal tergum without minute recumbent hairs, by 2+1 *stpl* and by the wing not markedly tinged with brown.

***Paravibrissina* SHIMA, gen. nov.**

Genus of Blondellini, probably related to *Vibrissina* RONDANI, with following combination of characters.

♂. Head:— Eye almost bare, at most with very short and sparse hairs; vertex about 1/5 of head width; ocellar seta undeveloped; inner vertical setae parallel; 3 reclinate orbital setae; proclinate orbital seta absent; interfrontal area widened anteriorly; parafacial bare; facial ridge with strong hairs on its lower 3/4–4/5; occiput flat, with 2–3 irregular rows of fine black hairs; arista thickened on its basal 1/3.

Thorax:— Propleuron bare; prosternum with several downwardly directed strong hairs; mediotergite bare; 3+3 *ac*; 3+3 *dc*; 1+3 *ia*; 1+1 *stpl*; 3 humeral setae nearly in a straight line; 2 lateral scutellar setae; subapical scutellar setae strong and rather weakly divergent at apices; apical scutellar seta absent.

Wing:— Second costal sector bare ventrally; basal node of vein R_{4+5} with 3–5 fine setulae; cell R_{4+5} open before wing tip.

Legs:— Fore tibia with 2 *p* setae, upper one sometimes very fine or indistinct;

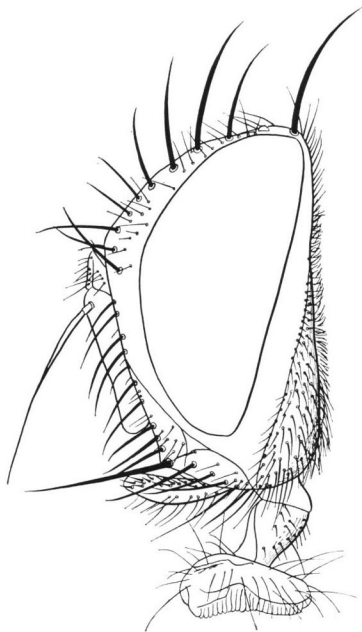


Fig. 3. *Paravibrissina adiscalis* gen. et sp. nov. ♂ Head in profile (holotype).

mid-tibia with 1 *ad* seta; hind tibia with 2 preapical *d* setae, without *pv* apical seta.

Abdomen:— Mid-dorsal excavation of syntergum 1+2 extending to its posterior margin; discal setae absent.

Male genitalia:— Sixth tergum entirely absent, 6th spiracle on membrane in front of synsternum 7+8; 7th spiracle on ventroproximal portion of synsternum 7+8 or on membrane just anterior to the synsternum; 6th abdominal sternum fused with synsternum 7+8 on upper margin of right side; cerci at least narrowly separated from each other; distal arms of hypandrium fused with each other at middle; epiphallus absent.

Type-species: *Paravibrissina adiscalis* SHIMA, sp. nov.

Remarks. In general appearance this new genus resembles the Palearctic genus *Vibrissina* RONDANI, but differs from it in lacking distinct ocellar seta, in having the abdominal syntergum 1+2 fully excavated to its posterior margin and in lacking the discal setae on the abdomen. Although the female of *Vibrissina* has strong piercing "ovipositor", female of this new genus is unknown, so that the true affinity of the genus can not be determined as yet.

Paravibrissina adiscalis SHIMA, sp. nov.

(Figs. 3–4)

♂. Head black in ground color, gena and narrow anterior portion of parafracial reddish brown, lower portion of face pale yellowish; upper 1/2 of parafrontal with dense yellowish white pollinosity; lower 1/2 of parafrontal, parafracial, face, gena and postorbit densely clothed with white pollinosity; occiput with grayish white pollinosity; interfrontal area brown-black; antenna black-brown; arista brown; palpus black. Vertex 0.20–0.21 of head width; interfrontal area widened anteriorly, slightly narrower than parafrontal at middle; parafracial narrowed below, slightly narrower than 3rd antennal segment at middle-height; epistoma weakly produced forwards, not visible in profile; gena 0.21–0.24 of eye-height. Inner vertical seta about 1/2 of eye-height; outer vertical seta absent; 2 postocellar setae; 1 postvertical seta on each side; middle one of 3 reclinate orbital setae strongest, foremost one inserted at middle of parafrontal in profile, the middle one slightly shorter than inner vertical seta; parafrontal rather sparsely clothed with fine hairs; 5–6 frontal setae; vibrissa inserted at the level of lower margin of face. Antenna falling short of lower margin of face by about 1/2 length of 2nd antennal segment; 3rd segment 4.4–4.6× as long as 2nd, about 4× as long as wide. Second segment of arista very short, as long as wide. Palpus spatulate, about 3/4× as long as 3rd antennal segment, with dense short black hairs dorsally, sparse longer hairs ventrally.

Thorax black in ground color, brown on postalar callus; dorsum with dense grayish yellow pollinosity, 4 narrow longitudinal vittae distinct; pleuron thinly clothed with grayish pollinosity. Subapical scutellar seta strong, about 1.5× as long as scutellum; basal scutellar seta slightly shorter than subapical one; posterior one of

2 lateral scutellar setae stronger, subequal in length to scutellum; distance between 2 subapical scutellar setae about $2/3 \times$ as long as that between the basal and subapical ones of same side.

Wing hyaline, distinctly tinged with tawny yellow; tegula and basicosta black; veins brown; calypter tawny yellow. Second costal sector about $1/2$ as long as 3rd, and slightly shorter than 4th; vein M_1 from discal crossvein to its bend slightly longer than that from the bend to apex, and about $2.5 \times$ as long as distance between the bend and wing margin; last section of vein M_3 about $2/3 \times$ as long as discal crossvein.

Legs black, pulvilli tawny yellow. Upper seta of 2 p setae on fore tibia sometimes indistinct; mid-tibia sometimes without v seta; fore claw and pulvillus longer than 5th tarsomere.

Abdomen black in ground color; dorsum densely clothed with grayish white pollinosity, posterior $1/3$ of 3rd tergum and posterior $1/5$ of 4th shining black, median longitudinal vitta indistinct; venter thinly whitish pollinose. Second tergum with 2 weak median marginal and 1 lateromarginal setae, the former about $1/2$ as long as 3rd tergum; 3rd tergum with 2 strong median marginal setae, which are as long as

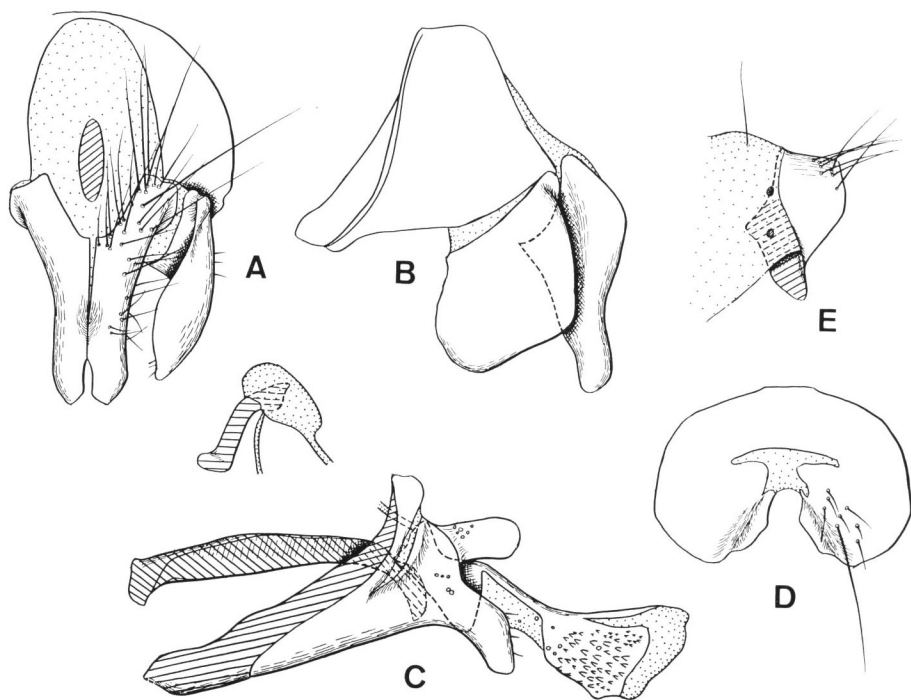


Fig. 4. Male genitalia of *Paravibrissina adiscalis* gen. et sp. nov. — A, Epandrium, cerci and surstylus in dorsal view; B, same in lateral view; C, hypandrium, pre- and postgonites and aedeagus in lateral view; D, 5th sternum in ventral view; E, synsternum 7+8 in lateral view.

4th tergum, and 1 lateromarginal setae; 4th and 5th terga each with a row of marginal setae; 5th tergum with a regular row of fine erect hairs on its discal area; venter of 4th tergum with hair-patch of recumbent dense short hairs on each side, the patch occupying posterior 2/3 of the tergum.

Male genitalia: Fifth sternum with posterior lobes on its posterior 3/5, each lobe widely separated and with a strong and several fine hairs; cerci in dorsal view distinctly separated from each other at apical 1/5, in lateral view rounded apically; surstylus in lateral view large, about $0.7\times$ as wide as long; distiphallus sclerotized on its basal 3/5, the sclerotized area as long as wide.

♀. Unknown.

Body length: 7.3–8.0 mm, wing length: 6.3–6.9 mm.

Distribution. Malaysia (Sarawak).

Holotype ♂, Balai Ringgin, 100 km N of Kuching, Sarawak, Malaysia, 22–24. xi. 1975, H. SHIMA. Paratype: 1 ♂, same data as holotype.

Remarks. This species was found in a tropical rain forest of Sarawak.

***Paravibrissina adiscalis infuscata* SHIMA, subsp. nov.**

(Fig. 5 A–B)

♂. Differing from the nominate subspecies as follows: Pollinosity on head, thorax and abdomen entirely tawny yellow; hairs on parafrontal denser and longer; 7–8 frontal setae, a fine seta present outside the row of frontal setae at the level of base of antenna; male cerci in dorsal view separated from each other at apical 1/4.

♀. Unknown.

Body length: 6.7–6.9 mm, wing length: 6.1–6.2 mm.

Distribution. Malaysia (Malaya).

Holotype ♂, Cameron Highlands (1,300 m), Malaysia, 27. x. 1975, H. SHIMA. Paratype: 1 ♂, same data as holotype.

Remarks. At a glance this subspecies is fairly different from the nominate subspecies, especially in the color of body, but there seem to be no distinct differences to recognize it as a separate species. The male genitalia of *infuscata* are only slightly different from those of *adiscalis* in the apical shape of the cerci.

***Paravibrissina thailandica* SHIMA, sp. nov.**

(Fig. 5 C–E)

♂. Closely resembling the preceding species, but differing as follows: Pollinosity on head almost entirely whitish; vertex 0.19–0.23 of head width; gena 0.20–0.21 of eye-height; thorax with grayish white pollinosity; wing at most weakly tinged with pale brown along veins; wing vein M_1 from discal crossvein to its bend about $2\times$ as long as distance between the bend and wing margin; last section of wing vein M_3 only slightly shorter than discal crossvein; calypter paler; fore tibia with 2 p setae, upper

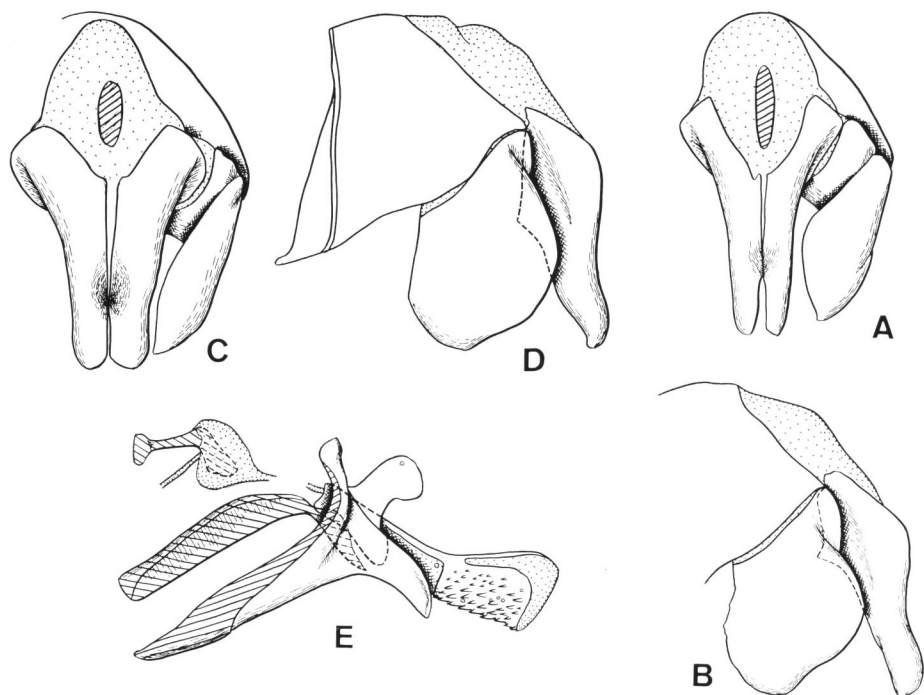


Fig. 5. Male genitalia of *Paravibrissina adiscalis infuscata* subsp. nov. (A, B) and *P. thailandica* sp. nov. (C, D, E). — A & C, Epandrium, cerci and surstylus in dorsal view; B & D, same in lateral view; E, hypandrium, pre- and postgonites in lateral view.

one shorter than lower one; mid-tibia without ν seta; venter of 4th abdominal tergum with hair-patch of sparse and short hairs. Male genitalia: Cerci in dorsal view very narrowly separated from each other from their bases to apices, in lateral view weakly curved ventrally at apex; sclerotized area of distiphallus longer than wide.

♀. Unknown.

Body length: 5.6–6.7 mm, wing length: 4.6–5.7 mm.

Distribution. Thailand.

Holotype ♂, Sai Yok (500 m), Kanchana Buri, Thailand, 27–29. xii. 1975, W. TUMRASVIN. Paratype: 1 ♂, same locality as holotype, 9–13. xii. 1975, S. SHINO-NAGA.

Remarks. This species seems to be closely allied to the preceding species, but is different from it in having the wing only slightly tinged with brown along veins, in having hair-patch of sparse and short hairs on the 4th abdominal venter and in having the male cerci very narrowly separated from each other from their bases to apices.

Calliethilla SHIMA, gen. nov.

Genus of Goniinae and of doubtful affinity, with the following combination of characters.

♂♀. Head dichoptic; eye densely haired; parafacial at least haired on its upper 1/2; genal dilation on lower 3/4 of gena; parafrontal strongly widened towards base of antenna; parafacial narrowed below; gena subequal in width to profrons; interfrontal area widened anteriorly; face weakly concave, well visible in profile, without facial carina; lunula large; epistoma weakly prominent; postorbit strongly narrowed above; occiput flat; inner vertical setae very fine and hair-like in male, strong and parallel in female; ocellar seta strong and proclinate; outer vertical seta absent in male, strong and outcurved in female; reclinate and proclinate orbital setae absent in male, strong in female; frontal setae descending to the level of middle of 2nd antennal segment; vibrissa inserted high above lower margin of face; facial ridge bare; upper postocular row inserted adjacent to posterior eye margin; occiput with several rows of fine black setulae; 3rd antennal segment at most 4× as long as 2nd; arista bare; mentum short, palpus clavate, labella large.

Thorax:— Propleuron bare; prosternum with several fine hairs on each side; barete fully haired; mediotergite bare; 3+3 *ac*; 3+4 *dc*; 1+3 *ia*; pre-alar seta shorter than 1st postsutural *ia*; 2 supra-alar setae, a fine setulae distinguishable between the setae; 3 humeral setae in a straight line; 2 posthumeral setae; 1 presutural seta; 2 notopleural setae; 2+1 *stpl*; basal and subapical scutellar setae strong; apical scutellar setae strong and crossed horizontally; preapical scutellar seta fine.

Wing:— Second costal sector bare ventrally; basal node of vein R_{4+5} normally with 1 fine setula; vein M_1 gently curved, without fold or appendage; inner margin of lower calypter abutted to scutellum, outer edge not markedly bent downwards.

Legs:— Mid-tibia with more than 2 strong *ad* setae; hind tibia with a close set row of *ad* setae in male, and with 2 preapical *d* setae, without *pv* apical seta; male claws and pulvilli longer than in female.

Abdomen:— Mid-dorsal excavation of syntergum 1+2 extending to its posterior margin; intermediate abdominal terga without median discal setae; male without hair-patch on venter of 4th or 5th tergum.

Male genitalia:— Sixth tergum rather long, free from synsternum 7+8; 6th spiracle situated in the sclerite of 6th tergum; cerci strongly fused with each other; distal arms of hypandrium fused with each other.

Female terminalia:— Rather telescopic; 7th tergum weakly sclerotized, broadly divided into 2 hemitergites; 8th tergum of very small hemitergites; 9th tergum absent.

Type-species: *Calliethilla caerulea* SHIMA, sp. nov.

Remarks. This new genus apparently belongs to the subfamily Goniinae of CROSSKEY (1976, Bull. Br. Mus. (Nat. Hist.) Ent. Suppl. 26) (=Goniini+Eryciini of MESNIL, 1975, "Fliegen" 64 g), but its tribal affinities are uncertain. This genus seems to be close to Ethillini because of its fully haired barete and weak pre-alar

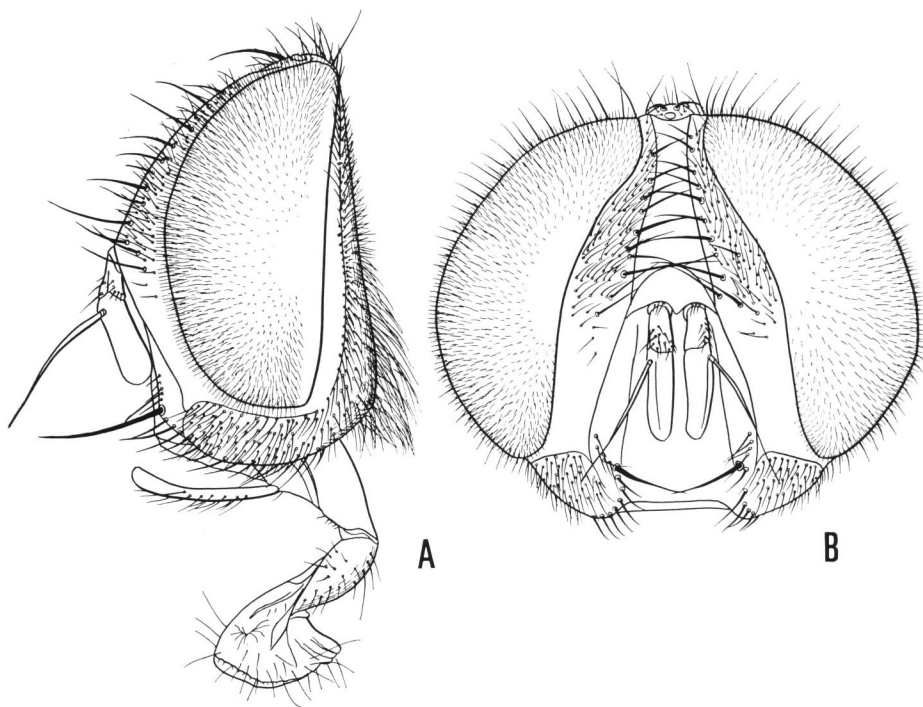


Fig. 6. Male head of *Calliethilla caerulea* gen. et sp. nov. — A, Lateral view; B, frontal view.

seta, but differs mostly from the known genera of the tribe in lacking distinct inner vertical setae, in having the outer edge of the lower calypter not markedly bent downwards and in having the vibrissa high above lower margin of face. In general facies this genus resembles *Mycteromyiella* MESNIL, of which tribal affinities are not yet certainly defined, and which is considered to be placed in Ethillini (see CROSSKEY, *l.c.*), though the humeral chaetotaxy and male inner vertical setae are different.

***Calliethilla caerulea* SHIMA, sp. nov.**

(Figs. 6–8)

♂. Head black in ground color, narrow anterior portion of parafacial and gena except for genal dilation reddish yellow; parafrontal, parafacial, face and gena with dense grayish pollinosity; occiput with dark gray pollinosity; interfrontal area brown; lunula pale brown; antenna brown-black, base of 3rd segment narrowly reddish; palpus black, apex pale brown; labella dark brown. Vertex 0.13–0.15 of head width; interfrontal area about 3× as wide as parafrontal at the level of anterior ocellus and subequal in width at the level of upper margin of lunula; parafacial about 2×

as wide as 3rd antennal segment at middle-height; gena 0.23–0.25 of eye-height; inner vertical seta hair-like, subequal in length to upper setulae of postocular row; 2 postocellar setae, which are as long as inner vertical setae; 1 postvertical seta on each side; 8–10 frontal setae; parafrontal densely clothed with fine and black hairs, which descend to parafacial on its upper $1/2$ – $2/3$; vibrissa inserted above the level of lower margin of face by about the length of 2nd antennal segment; genal dilation densely clothed with fine black hairs; upper setulae of postocular row slightly curved forwards. Third antennal segment about $3.5\times$ as long as 2nd, about $3.5\times$ as long as wide, falling short of lower margin of face by about twice length of 2nd antennal segment. Second segment of arista as long as wide; 3rd segment thickened on its basal $1/3$. Palpus slightly longer than 3rd antennal segment.

Thorax shining dark blue in ground color, intra-alar region, post-alar callus and scutellum brownish; prescutum, humeral callus and notopleuron with thin grayish white pollinosity; pleural region with thin grayish pollinosity; scutum and scutellum without pollinosity; 4 narrow longitudinal vittae visible on prescutum. Hairs dense, short and suberect on dorsum, slightly stronger on scutellum and longer on pleuron; basal scutellar seta subequal in length to subapical one; apical scutellar seta about $3/4\times$ as long as basal one, and subequal in length to scutellum; lateral scutellar seta about $1/2$ as long as basal one and subequal in length to preapical one; an additional seta, which is subequal in length to lateral one, present between subapical and apical scutellar setae on each side; distance between two subapical scutellar setae about $2\times$ as long as that between basal and subapical ones of same side.

Wing hyaline, weakly tinged with brown at base; tegula and basicosta black; veins brown; lower calypter dull yellowish white, tinged with dark brown marginally. Second costal sector about $2/3\times$ as long as 3rd, about $1.3\times$ as long as 4th; vein M_1 from discal crossvein to its bend about $1/2$ as long as that from the bend to apex, and about twice as long as distance between the bend and wing margin; last section of vein M_3 about $2/5\times$ as long as discal crossvein.

Legs black, tibiae dark brown to reddish brown; pulvilli pale brown. Fore tibia with 2 *p* setae; mid-tibia with 3 *ad*, 2 *pd* and 1 *v* setae; hind tibia with closely set rows of *ad* and *pd* setae, the setae of the latter row shorter than those of the former, and with 3–4 fine *v* setae. Fore claw subequal in length to 5th tarsomere.

Abdomen shining dark blue, slightly reddish on side of 3rd tergum, without pollinosity on dorsum, with whitish pollinosity on venter of anterior $1/2$ of each 3rd and 4th terga. Second and 3rd terga each with 1 lateromarginal seta, without median marginal setae; 4th tergum with a row of marginal setae; 5th tergum with regular rows of discal and marginal setae, the former stronger than the latter; hairs very dense and fine on dorsum, densest and suberect on 3rd tergum, slightly sparser and erect on 4th and still sparser and longer on 5th; hairs on venter recumbent to suberect and slightly longer than on dorsum.

Male genitalia: Fifth sternum with posterior lobes on its posterior $1/2$; 6th tergum divided into 3 hemitergites, median large sclerite and lateral small ones; 6th spiracle on

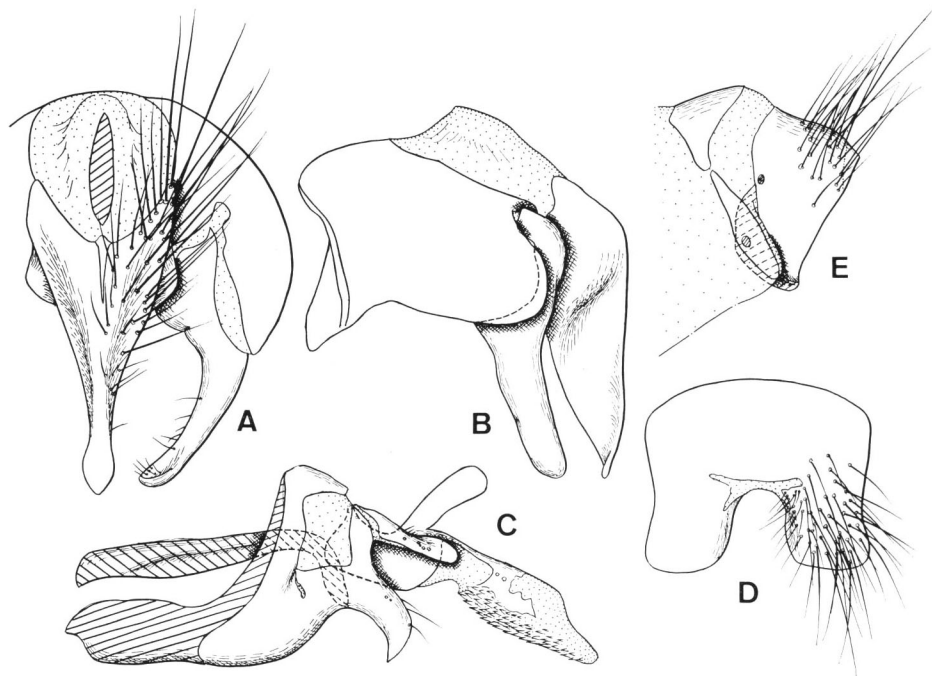


Fig. 7. Male genitalia of *Calliethilla caerulea* gen. et sp. nov. — A, Epandrium, cerci and surstylus in dorsal view; B, same in lateral view; C, hypandrium, pre- and postgonites and aedeagus in lateral view; D, 5th sternum in ventral view; E, 6th tergum and synsternum 7+8 in lateral view.

the lateral sclerite of 6th tergum; cerci in dorsal view narrowed from base to apical $2/5$, apical portion sagittate in form; surstylus subequal in length to cerci, in lateral view weakly curved dorsally; pregonite weakly curved ventrally, with a few hairs on posterior surface; postgonite subequal in length to pregonite, rounded apically; epiphallus straight; distiphallus broadly membranous, with many minute spinules on ventral portion.

♀. Differing from ♂ as follows: Vertex 0.21–0.24 of head-width; interfrontal area only slightly wider than parafrontal at the level of anterior ocellus and slightly narrower at the level of upper margin of lunula; inner vertical seta strong, about $1/2$ of eye-height; outer vertical seta about $2/3 \times$ as long as inner one; 3 reclinate orbital setae, anterior one strongest and subequal in length to inner vertical seta; 2 proclinate orbital setae, subequal in length to each other and subequal in length to inner vertical seta; 5–7 frontal setae; palpus more strongly clavate than in male; scutum with thin whitish pollinosity which is denser on anterior portion; 4 narrow longitudinal vittae visible on prescutum and scutum; fore claw shorter than 5th tarsomere; *ad* setae on hind tibia more sparsely set than in male, middle one conspicuously stronger than the others; 3rd abdominal tergum with 2 strong median marginal setae.

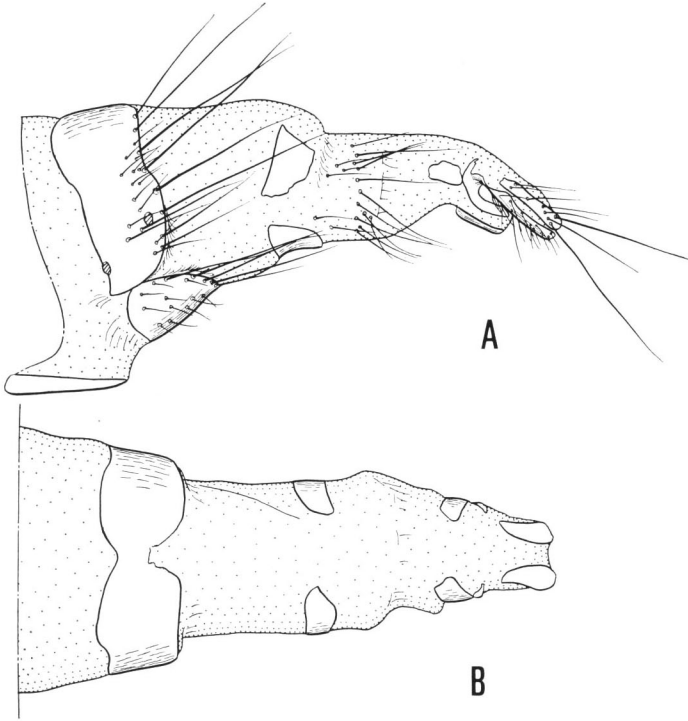


Fig. 8. Female terminalia of *Calliethilla caerulea* gen. et sp. nov. —
A, Lateral view; B, dorsal view.

Female terminalia: Sixth tergum constricted at middle, about $3\times$ as long as 7th tergum, with a row of strong hairs and several fine hairs on posterior portion; 6th spiracle on ventroproximal portion of 6th tergum; 7th spiracle on ventrodistal portion of 6th tergum; 6th sternum rectangular, about $2\times$ as long as 7th sternum; 7th tergum divided into 2 hemitergites, without hair; 7th sternum rather weakly sclerotized, without hair; intersegmental membrane between 7th and 8th segments with a row of strong hairs and several fine ones; 8th tergum reduced to 2 small hemitergites, without hairs; 8th sternum triangular, with several fine hairs.

Body length: 7.0–8.7 mm, wing length: 6.6–8.1 mm.

Distribution. Thailand, Indonesia (Java).

Holotype ♂, Kanchana Buri (500 m), nr. Sai Yok, Thailand, 9. ix. 1975, R. KANO. Paratypes: 1 ♂ 1 ♀, same locality as holotype, 9–13. xii. 1975, S. SHINONAGA; 1 ♀, Mt. Tjereme (400–1,400 m), Cirebon, Java, Indonesia, 19–25. xi. 1973, S. SHINONAGA.

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