

REVISIONARY NOTES ON THE SUBFAMILY ORGILINAE (HYMENOPTERA: BRACONIDAE)

by

C. VAN ACHTERBERG

Achterberg, C. van: Revisionary notes on the subfamily Orgilinae (Hymenoptera: Braconidae).

Zool. Verh. Leiden 242, 29-xii-1987: 1–111, figs. 1–246, table 1. — ISSN 0024–1652.

Key words: Braconidae; Orgilinae; Antestrigini; Mimagathidini; Orgilini; *Antestrix*; *Orgilonia*; *Stantonina*; *Clotildea*; *Petiorgilus*; *Kerorgilus*; *Orgilus*; keys; distribution; Indo-Australian; Afrotropical; Neotropical; Nearctic; Palaearctic.

Keys are given to the genera and subgenera of the subfamily Orgilinae (Hymenoptera: Braconidae). One new tribe, three new genera, three new subgenera, and 27 new species are described. New combinations are: *Orgilonia ashmeadi* (Viereck, 1911), *Orgilus columbianus* (Enderlein, 1912), *O. westermanni* (Enderlein, 1912), *O. rubriceps* (Ashmead, 1894), and *Stantonina lutea* (Szépligeti, 1910). A lectotype is designated for *Stantonina conspurcata* Enderlein, 1905.

C. van Achterberg, Rijksmuseum van Natuurlijke Historie, Postbus 9517, 2300 RA Leiden, The Netherlands.

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INTRODUCTION

The Orgilinae are a small subfamily of the Braconidae with about 200 described species which are slender and usually medium-sized (4-5 mm). They are endoparasites of caterpillars of Pyralidae, Tortricidae, Coleophoridae, Gelechiidae, Oecophoridae, and Gracillariidae. Some species are candidates for biological or integrated control of such lepidopterous pests as *Grapholitha molesta* (Busck.) and *Pectinophora gossypiella* (Saund.).

Since the publication of the "Essay on the phylogeny of Braconidae" (Van Achterberg, 1984) two genera of the Orgilinae have been found which have a transverse medio-posterior depression on the scutellum (*Antestrix* gen. nov. and *Petiorgilus* gen. nov.) as in the tribe Mesocoelini. The Mesocoelini were provisionally also included in the Orgilinae, but is now considered to be a separate subfamily near the Agathidinae. The transverse depression of the scutellum may belong to the ground-plan of the Orgilinae as well, because *Antestrix* and *Petiorgilus* also have the medium-sized hind coxae, another plesiomorphy in this group. The often conspicuously enlarged hind coxae and the loss of the transverse depression of the scutellum are considered to be secondary developments within the Orgilinae. The other apomorphy mentioned (l.c., fig. 16), the small or absent second submarginal cell of the fore wing is most likely a parallelism because the resulting cell is differently shaped than in the supposed sister-group, the Microgastrinae-group (l.c., fig. 17), and part of this group (Cheloninae, Cardiochilinae, Khoikhoiinae) has even a large second submarginal cell.

The inclusion of the Orgilinae in the group of Braconidae with a distinct medio-posterior transverse depression on the scutellum seems acceptable, despite a lack of additional synapomorphies (table 1). Because of the well-developed pronope and the absence of a dorsope the Orgilinae are now regarded as a sister-group of the Helconinae. The apomorphies of the Orgilinae s.s. (excluding the Mesocoelinae) in respect to the Helconinae are the narrow plical cell of the hind wing, the presence of pegs on the outer face of the hind tibia apically (which are reduced in some exceptional spp.) and the long, rather narrow marginal cell of the fore wing.

The Mesocoelini are a difficult group to include in any of the existing subfamilies. The traditional inclusion in the Agathidinae is problematical because of the presence of a hemicircular medio-posterior depression on the scutellum (totally absent in the Agathidinae), the absence of hind tibial pegs (often present in the Agathidinae, but absent in the Pselaphini and several genera of the Agathidini), the aberrant hind legs, the extremely reduced venation of the fore wing, the (sub)vertical vein r of the fore wing, the

subfamily ● apomorphic character-state	ORGILINAE s.s.	MICROTYPINI (HOMOLOBINAE)	MESOCOELINAE	AGATHIDINAE	HELCONINAE	subfamily ○ plesiomorphic character-state
hind tibial pegs present	●	○	○	◐	○	hind tibial pegs absent
posterior trans- verse scutellar depression present	◐	●	■	○	●	posterior trans- verse scutellar depression absent
2nd submarginal cell small or absent	●	●	●	◐	◐	2nd submarginal cell medium- sized
hind coxae enlarged	◐	○	●	◐	○	hind coxae normal
vein M+CU1 of fore wing (partly) unsclerotized	○	○	●	●	○	vein M-CU1 of fore wing com- pletely scler- otized
veins 1-M and m-cu of fore wing diverging posteriad	○	○	●	●	○	veins 1-M and m-cu of fore wing parallel or converging
plical cell of hind wing narrow	●	◐	●	◐	○	plical cell of hind wing medium-sized
pronope present	●	○	○	◐	●	pronope absent
epistomal suture (partly) reduced	◐	◐	●	◐	○	epistomal suture complete
parasites of lepidopterous larvae	●	●	●	●	○	parasites of coleopterous larvae
■ = hemicircular						

Table 1. Synoptic table of character-states of Orgilinae and some possibly related groups.

comparatively small parastigma and the narrow plical cell of the hind wing. In favour of inclusion in the Agathidinae is the (hardly visible) position of vein m-cu of fore wing (diverging posteriad from vein 1-M) and the unsclerotized vein M+CU1 of the fore wing. The latter may be just part of the general loss of most veins, so typical for the Mesocoelini.

Inclusion in the Orgilinae is less acceptable because of the shape of the medio-posterior depression on the scutellum (hemi-circular in the Mesocoelini, at most narrowly transverse in the Orgilinae s.s.), the absence of a pronope, the reduction of vein M+CU1 of the fore wing, the absence of the tibial pegs and the different direction of vein m-cu of the fore wing. In favour is the shape of the body, especially of the head and the enlarged hind legs, both

may easily be a product of convergence. It seems best to exclude the Mesocoelini from both the Orgilinae and the Agathidinae and to treat it as a separate subfamily near the Agathidinae. The uniquely shaped medio-posterior depression of the scutellum and the extreme reduction of the venation warrant a placement outside the Agathidinae.

The venation of the Microtypini (included in the Homobolinae by Van Achterberg, l.c.) is similar to the venation of part of the Orgilinae-Mim-agathidini. Nevertheless the Microtypini are excluded from the Orgilinae s.s. because the apical pegs of the hind tibia are absent (at most with some spiny bristles subapically), the first metasomal tergite is comparatively wide basally, the male has a separate cuspis (which is absent in the Orgilinae), the head has a different shape (especially the face), the medio-posterior depression on the scutellum is distinct, the antescutellar depression is more or less developed (absent in the Orgilinae), and the pronope is triangular or slit-shaped (predominantly round in the Orgilinae). The tribe Microtypini fits much better in the Homobolinae despite the aberrant triangular second submarginal cell of the fore wing.

For the terminology used in this paper, see Van Achterberg, 1979: 242-249.

SYSTEMATIC PART

Subfamily Orgilinae Ashmead

Orgilini Ashmead, 1900a: 590

Diagnosis. — Head transverse (figs. 25, 39, 77); hypoclypeal depression absent; apex of antenna usually without spine (figs. 73, 86), exceptionally with a short spine (fig. 146); epistomal suture absent or largely reduced medially (figs. 8, 80, 87); occipital carina usually present laterally and medio-dorsally absent, but completely absent in three subgenera of the genus *Orgilus* and in *Orgilonia fuscistigma*; occipital carina meeting hypostomal carina far above base of mandible or absent ventrally; occipital flange distinct; mandible twisted apically; anterior tentorial pits small to medium-sized (figs. 8, 43); maxillary and labial palpi with six and four segments, respectively, but third labial palp segment often reduced and its fourth segment inserted at base of third segment (figs. 30, 43), but distally in *Orgilonia* (fig. 1) and *Antestrix*; antescutal depression absent; pronope present, round (figs. 24, 51, 156) or elliptical (fig. 79); prepectal carina present, but sometimes partly or largely reduced (fig. 83); precoxal sulcus narrowly impressed (figs. 79, 88) or obsolescent (fig. 165); scutellar sulcus more or less crenulate; scutellum without transverse

medio-posterior depression, except in *Antestrix* and *Petiorgilus* (figs. 51, 179); vein 1-SR of fore wing absent, but present in *Antestrix* (fig. 168); vein m-cu of fore wing converging to vein 1-M posteriorly (fig. 160) or parallel (fig. 29); marginal cell of fore wing comparatively narrow (figs. 29, 84) to rather wide (fig. 140); veins 2-1A and 3-SR (+SR1 if vein r-m is absent) of fore wing present (figs. 29, 74); vein CU1b of fore wing present, exceptionally reduced; vein cu-a of hind wing present; plical cell of hind wing narrow (fig. 74); hind leg more or less enlarged (figs. 35, 78); hind tarsus without ventral row of setae; outer face of hind tibia with some pegs apically (figs. 7, 76, 99, 143), exceptionally absent; tarsal claws simple (figs. 82, 90), at most with a minute acute lobe (fig. 161), usually slender and sometimes with some pecten basally (fig. 100); first metasomal tergite convex and sclerotized, its spiracles in front of middle of tergite (figs. 122, 167), its dorsal carinae often reduced and dorsope absent; laterope of first tergite usually present, small (fig. 123) to large (fig. 72), but absent or obsolescent in *Petiorgilus* (fig. 47) and *Antestrix*; second tergite with lateral crease, except in *Antestrix*; ovipositor sheath slender (fig. 50) and its length 0.4-1.8 times fore wing, exceptionally about 0.2 times fore wing.

Key to (sub)genera of the subfamily Orgilinae

1. Vein 1-SR of fore wing present (fig. 168); occipital flange strongly protruding posteriorly (figs. 170, 176); occipital carina absent ventrally (fig. 176); pronope slit-shaped and anteriorly situated on pronotum (fig. 174); scutellum with distinct depression medio-posteriorly (fig. 179); (tribe Antestrigini nov.) *Antestrix* gen. nov.
- Vein 1-SR of fore wing absent (figs. 74, 148, 154); occipital flange not (fig. 1) or slightly (fig. 72) protruding posteriorly; occipital carina usually present ventrally; pronope circular (fig. 24) or elliptical, if transverse (fig. 79), then distinctly removed from anterior margin of pronotum; scutellum without depression medio-posteriorly (fig. 103), but in *Petiorgilus* with a shallow depression (fig. 51) 2
2. Posterior margin of hind wing concave subbasally (figs. 3, 12, 29); vein cu-a of hind wing strongly reclivous (fig. 18); vein M+CU of hind wing much shorter than vein 1-M (fig. 12); basal cell of hind wing very small (figs. 3, 12); vein r-m of fore wing variable (figs. 3, 29); (tribe Mimagathidini Enderlein) 3
- Posterior margin of hind wing convex or (nearly) straight subbasally (figs. 44, 48, 74); vein cu-a of hind wing vertical or weakly reclivous (figs. 48, 60,

- 84); vein M+CU of hind wing subequal to vein 1-M or longer (figs. 74, 113); basal cell of hind wing medium-sized to large (figs. 96, 113); vein r-m of fore wing absent (fig. 96), at most with minute remnant (fig. 74); (tribe Orgilini Ashmead) 4
3. Occipital carina absent or only up to middle level of eyes (figs. 1, 23); third and fourth metasomal tergites with sharp lateral crease (fig. 1); sclerotized part of vein 2-M of fore wing absent or nearly so (figs. 3, 12); vein r-m of fore wing absent (figs. 3, 18) *Orgilonia* gen. nov.
- Occipital carina lamelliform, reaching upper level of eyes (figs. 25, 26); third and fourth tergites without sharp lateral crease (fig. 26); sclerotized part of vein 2-M of fore wing distinct (figs. 19, 29); vein r-m of fore wing usually present (fig. 29), but absent in *S. lutea* (Szépligeti) from Indonesia and Malaysia (fig. 19) *Stantonia* Ashmead
4. Second and third metasomal tergites with X-shaped depression (figs. 155); stemmaticum situated in a wide depression (fig. 39); length of fore wing about 15 mm and its membrane largely dark brown; prepectal carina remains far removed from anterior margin of mesopleuron (fig. 28) *Clotildea* Szépligeti
- Second and third tergites without depression (figs. 59, 82, 122); stemmaticum situated in a largely flat or convex area (figs. 58, 65, 77); length of fore wing less than 10 mm, and its membrane hyaline or slightly infuscated; prepectal carina usually closer to anterior margin of mesopleuron (figs. 72, 94, 123) or largely absent (fig. 83) 5
5. Propleuron concave ventrally (fig. 55) and in lateral view with straight ventral margin (fig. 56); first metasomal tergite petiolate and flat basally (fig. 59); laterope absent (fig. 47); scutellum with narrow transverse medio-posterior depression (fig. 51) *Petiorgilus* gen. nov.
- Propleuron convex ventrally and in lateral view with curved ventral margin (figs. 62, 72); first tergite (sub)sessile and usually concave basally (figs. 71, 82, 132); laterope more or less developed (figs. 72, 116, 123); scutellum without distinct medio-posterior depression (figs. 68, 79, 103) 6
6. Clypeus with pair of upwards bent tubercles dorsally (figs. 64, 66); tarsal claws very slender (fig. 61); hind tarsus slender and long (fig. 67) *Kerorgilus* Van Achterberg
- Clypeus without tubercles (figs. 80, 87); tarsal claws less slender (figs. 82, 90, 100); hind tarsus usually shorter and often more robust in Palaearctic spp. (fig. 78); (*Orgilus* Haliday s.l.) 7
7. Third metasomal tergite of ♀ with a complete sharp lateral crease (fig. 72); metasoma convex and extensively sculptured (figs. 72, 81); dorsal

- carinae of first tergite usually strong (fig. 81) subgenus *Ischiolus* Hellén
- At least posterior half of third tergite of ♀ without distinct lateral crease (figs. 83, 94, 116, 123); metasoma flattened, largely smooth or finely (granulate-)coriaceous (figs. 132, 159), exceptionally striate (figs. 122); dorsal carinae of first tergite weak or absent (figs. 93, 122), exceptionally distinct (fig. 105) 8
 - 8. Prepectal carina absent ventrally (fig. 83); occipital carina completely absent (figs. 83, 92); (Malagasy) subgenus *Afrorgilus* nov.
 - Prepectal carina present (figs. 94, 116); occipital carina variable, but present in spp. from outside the New World (figs. 114, 116) 9
 - 9. Occipital carina present laterally, at least as a short stub (figs. 94, 116); notauli narrowly impressed anteriorly (figs. 94, 106, 116) subgenus *Orgilus* Haliday
 - Occipital carina completely absent (fig. 123); notauli variable (figs. 123, 159) 10
 - 10. Outer side of hind tibia without distinct pegs apically (fig. 131); length of first metasomal tergite 2.0-2.4 times its apical width (figs. 132, 153); length of inner hind spur 0.35-0.40 times hind basitarsus; pronotal sides densely setose; mesosoma coriaceous; notauli finely crenulate dorsally (fig. 123) subgenus *Anakorgilus* nov.
 - Outer side of hind tibia with pegs apically, near hind spurs (figs. 139, 143); length of first tergite 1.1-1.6 times its apical width (figs. 137, 151, 167); length of inner hind spur 0.45-0.55 times hind basitarsus; pronotal sides sparsely setose; mesosoma largely smooth or punctulate; notauli smooth or obsolescent (figs. 133, 159) subgenus *Aporgilus* nov.

Tribe Antestrigini nov.
(figs. 168-180)

Diagnosis. — Antenna slender, and longer than body; occipital flange protruding posteriorly (figs. 170, 176); scutellum with distinct depression medio-posteriorly (fig. 179); vein 1-SR of fore wing present (fig. 168); vein r-m of fore wing present; vein M+CU of hind wing distinctly longer than vein 1-M (fig. 168); vein cu-a of hind wing perpendicular; basal cell of hind wing medium-sized (fig. 168); posterior margin of hind wing evenly convex posteriorly.

The biology is unknown.

Distribution. — Neotropical.

Antestrix gen. nov.

Type-species: *Antestrix bicolor* spec. nov.

Etymology. — From “ante” (Latin for “before”) and “strix” (Latin for “furrow, groove”), because of the anteriorly situated furrow-shaped pronope (fig. 174). Gender: feminine.

Diagnosis. — Antenna of ♀ slightly widened submedially (fig. 172); scapus robust and apically truncate (fig. 170); clypeus normal, its ventral margin straight (fig. 177); occipital carina absent ventrally (fig. 176) and medio-dorsally (fig. 171); malar suture absent (fig. 170); length of mesosoma 1.3 times its height; prepectal carina strong, complete, and touching anterior margin of mesopleuron (fig. 170); precoxal sulcus absent, except for a shallow depression; metapleuron not projecting forwards ventro-laterally (fig. 170); notauli complete, but shallowly impressed (fig. 179); mesoscutum largely smooth and sparsely setose; vein 1-M of fore wing slightly curved (fig. 168); vein r-m of fore wing present; vein cu-a of fore wing reclivous (fig. 168) or vertical (fig. 180); vein 2-M of fore wing sclerotized; vein SR1 of fore wing straight; hind tibia with some pegs apically (fig. 178); length of first metasomal tergite 1.0-1.1 times its apical width, its dorsal carinae absent (fig. 173) and laterope obsolescent or absent; second tergite smooth; second and following tergites without sharp lateral crease (fig. 170); ovipositor without notch or nodus; length of ovipositor sheath about 0.5 times length of fore wing.

Biology. — Unknown.

Distribution. — Neotropical (Chile, Argentine).

Key to species of the genus *Antestrix* nov.

1. Vein r of fore wing about 3 times vein 3-SR, and second submarginal cell strongly narrowed anteriorly (fig. 180); pronotum, mesoscutum and mesopleuron black; metasoma (except first tergite) yellow; sixth maxillary palp segment distinctly wider than fifth segment *melligaster* spec. nov.
- Vein r of fore wing 0.5-1.0 times vein 3-SR, second submarginal cell parallel-sided (fig. 168) to rather narrowed anteriorly; pronotum, mesoscutum and mesopleuron orange, exceptionally yellowish; metasoma black, exceptionally reddish; sixth and fifth maxillary palp segments similar and both slender (fig. 170) *bicolor* spec. nov.

Antestrix bicolor spec. nov.
(figs. 168-179)

Holotype, ♀ in Canadian National Collection, Ottawa: "Carelmapu, Llanquihue, Chile, L. E. Pena, 21-28.II.1957", "Protomacroc., Det. W. R. M. Mason, '69".

Paratypes: 15 ♀ + 1 ♂ (Canadian National Collection; Rijksmuseum van Natuurlijke Historie, Leiden; Museum of Comparative Zoology, Cambridge, USA), 13 ♀, "Argent[ine], Rio Negro, Llao Llao, XII.1-4.1968. C. C. Porter"; 1 ♀, "Enco, Chile, Valdivia, 6-9.III.1955, L. E. Pena"; 1 ♀, "Lio Gol-Gol, Osorno, Chile, 8-11.II.1957, L. E. Pena"; 1 ♂, "Pichinahuel, Cord. Nahuelbuta, Arauco, Chile, 1-10.I.1959, L. Pena, 11-1400 m".

Holotype, ♀, length of body 3.8 mm, of fore wing 4.2 mm.

Head. — Remaining antennal segments 36, length of third segment 1.4 times fourth segment, length of third and fourth segments 4.6 and 3.2 times their width, respectively, penultimate segment of a paratype female 1.5 times its width (figs. 172, 175); length of maxillary palp 0.9 times height of head, both apical segments of similar width and slender; length of eye in dorsal view 1.7 times temple; temples roundly narrowed posteriorly (fig. 171); POL : diameter of ocellus : OOL = 9 : 4 : 9; frons flat and smooth; vertex convex and smooth; face punctulate; clypeus convex and punctulate; length of malar space 2.0 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides largely smooth, but crenulate medially and posteriorly (fig. 170); mesopleuron smooth; pleural sulcus crenulate; mesoscutum punctulate; surface of propodeum smooth, except for two converging short carinae posteriorly (fig. 173).

Fore wing. — Vein $r : 3-SR : SR1 = 4 : 8 : 44$; $2-SR : 3-SR : r-m = 12 : 8 : 8$; cu-a inclivous, and slightly postfurcal (fig. 168); CU1b short.

Legs. — Hind coxa punctulate; tarsal claws with small lobe (fig. 169); length of femur, tibia and basitarsus of hind leg 3.6, 8.0 and 7.4 times their width, respectively; length of hind tibial spurs 0.4 and 0.6 times hind basitarsus; hind tibia with about four small pegs apically, difficult to discover between the setae.

Metasoma. — Length of first tergite 1.1 times its apical width, its surface smooth, evenly convex and its dorsal carinae absent, except for a scarcely visible remnant basally (fig. 173); second and following tergites smooth; second suture absent; length of ovipositor sheath 0.57 times fore wing.

Colour. — Blackish-brown; mesosoma (except propodeum), annellus and mandibles mainly, orange; palpi brownish; pterostigma, parastigma and veins brown; wing membrane light brown.

Variation. — Length of fore wing 4.2-4.8 mm, of body 3.8-4.8 mm; antennal segments of female: 36 (1), 37 (2), 39 (1), of male: 38 (1); length of ovipositor

sheath 0.50-0.57 times fore wing; length of maxillary palp 0.8-0.9 times height of head; palpi yellowish to brownish; metanotum may be dark brown; vein r of fore wing 0.5-1.0 times vein 3-SR; second submarginal cell of fore wing may be parallel-sided to rather narrowed anteriorly; vein cu-a of fore wing subinterstitial to distinctly postfurcal.

One specimen is excluded from the type-series (a female from Chile, Cubillo, Curico, 9-11.X.1960, in the Canadian National Collection), because it is aberrantly coloured. It has mesosternum, scutellum and metanotum brownish, whole metasoma reddish-yellow and wing membrane hyaline.

Distribution. — Argentine, Chile.

Note. I disagree with the suggestion put forward on the label by Dr. Mason to consider this taxon to be related to the Macrocentrinae. There are no synapomorphous character-states which makes this likely. The new genus keys out with the Orgilinae, which is corroborated by the presence of hind tibial pegs. It resembles the genus *Microtypus*, but in the Microtypini the tibial pegs are absent, the shape of the first metasomal tergite is different, the epistomal suture is distinct medio-dorsally, and the pronope is less anteriorly situated.

***Antestrix melligaster* spec. nov.**

(fig. 180)

Holotype, ♀ in Canadian National Collection, Ottawa: "Chile, Nuble, 1400 m, Las Trancas, 14-15 Dec. (19)76, Pena".

Holotype, ♀, length of body 3.4 mm, of fore wing 3.5 mm.

Head. — Antennal segments 32, length of third segment 1.6 times fourth segment, length of third, fourth, and penultimate segments 5.7, 3.7 and 2.0 times their width, respectively; length of maxillary palp 0.9 times height of head, sixth segment distinctly wider than fifth segment; length of eye in dorsal view 1.1 times temple; temples behind eyes parallel-sided; POL : diameter of ocellus : OOL = 6 : 3 : 6; frons largely flat and smooth; vertex rather flat and smooth; face rather flat and punctulate; clypeus rather convex and largely smooth; length of malar space 1.6 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides rugulose ventrally and remainder smooth; mesopleuron smooth; pleural sulcus moderately crenulate; notauli shallowly impressed and with some microsculpture; mesoscutum largely setose and with some punctures; surface of propodeum depressed medio-basally, largely smooth anteriorly and with some carinae and rugae posteriorly.

Fore wing. — Vein $r : 3-SR : SR1 = 10 : 3 : 68$; $2-SR : 3-SR : r-m = 16 : 3 : 11$; second submarginal cell distinctly narrowed anteriorly (fig. 180); cu-a moderately postfurcal and as oblique as 3-CU1; CU1b short.

Legs. — Hind coxa smooth; tarsal claws with minute and slightly acute medial lamella, bristly setose; length of femur, tibia and basitarsus of hind leg 4.1, 9.2, and 8.5 times their width, respectively; length of hind tibial spurs 0.4 and 0.5 times hind basitarsus; hind tibia with six pegs apically.

Metasoma. — Length of first tergite equal to its apical width, its surface superficially rugose medially, and remainder largely smooth, dorsal carinae present in basal 0.3, and tergite depressed medio-apically; second and following tergites smooth; second suture absent; length of ovipositor sheath 0.46 times fore wing.

Colour. — Black: antenna, fore and middle legs, hind tibia and tarsus, tegula, ovipositor sheath, metapleuron anteriorly, propodeum antero-laterally and medio-posteriorly, and first tergite dark brown; ptero- and parastigma and veins rather dark brown; propodeum medio-basally, and humeral plate yellowish-brown; hind coxa, trochanter, trochantellus and femur, second and following tergites yellow; palpi pale yellowish; wing membrane rather infuscated.

Tribe Mimagathidini Enderlein (figs. 1-37)

Mimagathidinae Enderlein, 1905: 450.

Stantoninae Viereck, 1919: 198.

Diagnosis. — Antennae slender and longer than body; vein $r-m$ of fore wing present (figs. 29, 31), reduced to unsclerotized vein or absent (fig. 3); vein $M+CU$ of hind wing much shorter than vein 1-M (figs. 12, 19, 29); vein cu-a of hind wing strongly reclivous (fig. 29); basal cell of hind wing very small (fig. 19); posterior margin of hind wing concave subbasally (figs. 3, 15).

Biology. — Parasites of Pyralidae and Tortricidae (Lepidoptera).

Distribution. — Circumtropical, with some species occurring in the subtropics.

Orgilonia gen. nov.

Type-species: *Orgilonia fuscistigma* spec. nov.

Etymology. — Based on the generic names *Orgilus* and *Stantonina*, because it shares characters of both genera. Gender: feminine.

Diagnosis. — Antenna of ♀ slender and long (fig. 2); scapus robust, and rather oblique apically (fig. 1); clypeus normal, its ventral margin convex (fig. 8); occipital carina absent or only up to middle level of eyes (figs. 1, 16); malar suture absent (fig. 1); length of mesosoma 1.3-1.5 times its height; prepectal carina strong or weak, complete, far removed from anterior margin of mesopleuron (fig. 1) or close to the anterior margin; precoxal sulcus absent (fig. 1) or shallowly impressed and with (obsolescent) crenulae or punctures; metapleuron not projecting forwards ventro-laterally (fig. 1); notauli complete (fig. 10), smooth or with some short crenulae; mesoscutum coriaceous (-granulate) and evenly short setose; scutellar sulcus crenulate (fig. 10); metapleural flange present (fig. 1); propodeum convex, granulate (-rugulose) and coriaceous; vein 1-M of fore wing straight or nearly so (figs. 3, 15); vein r-m of fore wing absent; vein cu-a of fore wing vertical and (sub)interstitial (figs. 3, 15); vein 2-M of fore wing not sclerotized (fig. 3); vein SR1+3-SR of fore wing straight or nearly so; outer face of hind tibia with cluster of pegs apically (fig. 7); length of first metasomal tergite 1.6-2.5 times its apical width, its dorsal carinae absent (fig. 11) or present (fig. 17); second tergite coriaceous or striate, without depressions; second-fourth tergites with sharp lateral crease (fig. 1); ovipositor without notch or nodus; length of ovipositor sheath 0.5-1.1 times fore wing.

Biology. — Unknown.

Distribution. — Restricted to the Palaeotropics.

Key to species of the genus *Orgilonia* nov.

1. Second-fourth tergites longitudinally (costate-)striate (fig. 20); pterostigma, base of hind tibia and hind tarsus yellowish; length of ovipositor sheath 0.5-0.6 times fore wing; temples directly narrowed behind eyes (fig. 23); first metasomal tergite slender, its length 2.1-2.5 times its apical width (fig. 20); (Afrotropical) *striata* spec. nov.
- Second-fourth tergites granulate-coriaceous, densely reticulate-punctate, or rugose (figs. 11, 14); pterostigma, base of hind tibia and hind tarsus dark brown or infuscated; length of ovipositor sheath 0.7-1.1 times fore wing; temples less strongly narrowed behind eyes (figs. 9, 13, 16); first tergite usually less slender, 1.6-2.3 times its apical width (figs. 11, 14, 17) 2
2. Occipital carina completely absent; first metasomal tergite robust, its length about 1.6 times its apical width (fig. 11); length of ovipositor sheath about 1.1 times fore wing; vein 1-SC+R of hind wing ends far below level of vein SR of hind wing (fig. 3); prepectal carina weak, and not reaching anterior margin of mesopleuron (fig. 1); precoxal sulcus absent or nearly

- so; head roundly narrowed behind eyes (fig. 9); second metasomal suture narrow and smooth (fig. 1); dorsal carinae of first tergite absent (fig. 11); trochantellus, apex of femur and tibia (except base) of hind leg yellowish-brown; (Afrotropical) *fuscistigma* spec. nov.
- Occipital carina present ventrally; first tergite less robust, its length 2.0-2.2 times its apical width (figs. 14, 17); length of ovipositor sheath 0.7-0.9 times fore wing; vein 1-SC+R of hind wing ends near level of vein SR (figs. 12, 18); prepectal carina strong, close to anterior margin of mesopleuron; precoxal sulcus narrowly impressed; head more directly narrowed posteriorly (figs. 13, 16); second metasomal suture wider and crenulate; dorsal carinae of first tergite more or less developed (fig. 14); colour of hind leg variable; (Oriental) 3
 - 3. Length of ovipositor sheath 0.7-0.8 times fore wing; mesoscutum, third and fourth metasomal tergites (except apically), apex of hind femur and hind tibia dark brown; antenna yellowish ventrally; (Philippines)
 *ashmeadi* (Viereck)
 - Length of ovipositor sheath 0.8-0.9 times fore wing; mesoscutum, third and fourth tergites, apex of hind femur, and hind tibia (except subbasally), brownish-yellow; antenna largely dark brown; (Indonesia)
 *vechti* spec. nov.

***Orgilonia ashmeadi* (Viereck) comb. nov.**
 (figs. 15-17)

Orgilus ashmeadi Viereck, 1911: 477; Shenefelt, 1970: 253; Papp, 1981: 260.

Material. — Holotype, ♀, (U.S. National Museum of Natural History, Washington): "Manila, PI", "Robt. Brown Collector", "Type No. 13800, U.S.N.M.", "*Orgilus ashmeadi* Vier., Type, ♀"; 1 ♀, (Canadian National Collection, Ottawa): "Pilipines (sic!), Luzon I., Quezon Nat. Pk, May '65, 1100-2000' (=ft), A. Concepcion".

Holotype, ♀, length of fore wing 3.4 mm, of body 4 mm.

Head. — Remaining antennal segments 31, length of third segment 1.4 times fourth segment, length of third and fourth segments 4.3 and 3.2 times their width, respectively; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 3.2 times temple; temples gradually narrowed behind eyes (fig. 16); occipital carina present up to lower half of eyes; POL : diameter of ocellus : OOL = 4 : 6 : 8; face shiny and punctulate; frons and vertex dull granulate-coriaceous; length of malar space 1.2 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides with some crenulae medially; prepectal carina strong, regular and dorsally close to anterior margin of mesopleuron; precoxal sulcus narrowly impressed and medially distinctly punctate; pleural sulcus crenulate; propodeal spiracle larger than in *fuscistigma* (fig. 1); surface of propodeum with strong ruga anteriorly, branched and with pair of short parallel carinae posteriorly; notauli narrowly crenulate; further as *fuscistigma*.

Fore wing. — Vein r somewhat longer than maximum width of pterostigma and comparatively oblique (fig. 15); $r : SR1 + 3 - SR : 2 - SR = 5 : 36 : 9$; $m-cu : 1-M = 10 : 16$ (fig. 15).

Hind wing. — $1-SC+R$ ends near level of SR (fig. 15).

Legs. — Hind leg: length of femur, tibia and basitarsus 5.5, 10.4 and 11.5 times their width, respectively; length of tibial spurs 0.35 and 0.5 times basitarsus; apex of tibia with three pegs; ventral half of outer side of tibia with about 14 bristles; further as *fuscistigma*.

Metasoma. — Length of first tergite 2 times its apical width, widened apically (fig. 17), granulate-punctulate, rugose medially, and dorsal carinae up to basal 0.6 (fig. 17); second-fifth tergites finely, deeply and densely reticulate-punctate, remainder of metasoma smooth; second suture rather wide and crenulate; length of ovipositor sheath 0.77 times fore wing, and 1.8 times hind tibia.

Colour. — Brownish-yellow; antenna baso-dorsally and apically, stemmaticum, mesoscutum, first-sixth metasomal tergites (except bases and apices), pterostigma, most veins, outer side of middle and hind trochantellus partly, apex of hind femur, hind tibia (except spurs), all tarsi, and ovipositor sheath dark brown; wing membrane slightly infuscated.

Variation. — The specimen from Quezon National Park has the length of the fore wing 3.3 mm; length of ovipositor sheath 0.74 times fore wing; length of third antennal segment 1.2 times fourth segment; length of eye in dorsal view 3.6 times temple; diameter of ocellus equal to POL; surface of propodeum granulate only, and length of vein 1-M of fore wing 1.5 times vein m-cu.

***Orgilonia fuscistigma* spec. nov.**
(figs. 1-11)

Holotype, ♀ in Rijksmuseum van Natuurlijke Historie, Leiden: "Museum Leiden, Sierra Leone, Aberdeen, Freetown, IX.1981, D. Quicke".

Holotype, ♀, length of body 3.4 mm, of fore wing 2.7 mm.

Head. — Remaining antennal segments 32, length of third segment 1.1 times fourth segment, length of third and fourth segments 3.9 and 3.5 times their width, respectively; length of maxillary palp 1.1 times height of head; occipital carina completely absent; length of eye in dorsal view 3.4 times temple; temple coriaceous(-granulate) and directly narrowed posteriad (fig. 9); POL: diameter of ocellus : OOL = 4 : 3 : 7; frons slightly convex, granulate-coriaceous; vertex coriaceous; face and clypeus rather flat and largely smooth; length of malar space 1.5 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; mesosoma coriaceous(-granulate); prepectal carina complete, but weak and irregular, remaining far removed from anterior margin of mesopleuron (fig. 1); precoxal sulcus absent; pleural sulcus finely crenulate (fig. 1); notauli complete, narrow and smooth; surface of propodeum very finely transversely granulate-rugulose and shiny coriaceous.

Fore wing. — Vein $r : 3-SR+SR1 : 2-SR = 4 : 41 : 10$; $1-SR+M$ straight (fig. 3); $3-SR+SR1$ slightly bent (fig. 3); $m-cu : 1-M = 10 : 18$.

Hind wing. — Vein $1-SC+R$ weakly developed and inserted far below level of base of SR (fig. 3).

Legs. — Hind coxa coriaceous; tarsal claws medium-sized and setose (fig. 6); length of femur, tibia and basitarsus of hind leg 5.3, 8.5 and 8.7 times their width, respectively; length of hind tibial spurs 0.5 and 0.3 times hind basitarsus; hind tibia with four pegs apically (fig. 7).

Metasoma. — Length of first tergite 1.6 times its apical width, its surface coriaceous-granulate, and its dorsal carinae absent (fig. 11); second-fifth tergites shiny coriaceous; second suture curved, narrow, moderately deep and smooth (fig. 11); length of ovipositor sheath 1.09 times for wing.

Colour. — Brownish-yellow; stemmaticum black; ovipositor sheath, para- and pterostigma, most veins, and lateral lobes of mesoscutum largely, dark brown; antenna (except scapus largely), base of hind tibia, and hind tarsus infuscated; first metasomal tergite, fourth-sixth tergites yellowish-brown; wing membrane (sub)hyaline.

Orgilonia striata spec. nov.

(figs. 18, 20, 23)

Holotype, ♀ in Rijksmuseum van Natuurlijke Historie, Leiden: "Somalia, Lower Shabelli Valley, 19-25.V.1977, Mal. trap. F. Bin".

Paratypes: 6 ♀; 1 ♀, (Rijksmuseum van Natuurlijke Historie, Leiden): "Zaire, Mbandaka, 1962-1967, A.B. Stam, at light"; 1 ♀, (Entomological Museum, Lund): "Gambia, Kotu Stream about 3 km SW Bakau, swept in veg., 19.XI.1977, UTM 28 PCK 1688, loc. 3", "Lund Univ. Syst.

Dept., Sweden-Gambia/Senegal, Nov. 1977-Cederholm-Danielsson-Hammarstedt-Hedqvist-Samuelson"; 2 ♀, (Canadian National Collection, Ottawa): "Ibadan, Nigeria, XI.8.1962, D.C. Eidt, Malaise trap"; 2 ♀, (Rijksmuseum van Natuurlijke Historie, Leiden): "Museum Leiden, Ghana, Kumasi, Campus U.S.T.", "at light, 1979, A.B. Stam", no. 11211 and 11182 respectively.

Holotype, ♀, length of fore wing 3.9 mm, of body 4.7 mm.

Head. — Remaining antennal segments 15, length of third segment 1.3 times fourth segment, length of third and fourth segments 5 and 4 times their width, respectively; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 5.8 times temple (fig. 23); temples directly narrowed behind eyes (fig. 23); occipital carina present up to lower third of eyes; POL : diameter of ocellus : OOL = 8 : 10 : 15; face shiny and densely punctulate; frons and vertex granulate-coriaceous; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides crenulate antero-medially; prepectal carina strong, close to anterior margin of mesopleuron dorsally; precoxal sulcus shallowly impressed and with obsolescent crenulae; pleural sulcus distinctly narrowly crenulate; propodeal spiracle distinctly larger than that of *fuscistigma* (fig. 1); surface of propodeum dull granulate-coriaceous, with several rugae medially; further similar to *fuscistigma*.

Fore wing. — Vein r somewhat longer than maximum width of pterostigma (fig. 18); $r : SR1+3-SR : 2-SR = 6 : 45 : 10$; $m-cu : 1-M = 10 : 16$.

Hind wing. — $1-SC+R$ ends near level of SR (fig. 18).

Legs. — Hind leg: length of femur, tibia and basitarsus 5.9, 11.7, and 11 times their width, respectively; length of tibial spurs 0.3 and 0.5 times basitarsus; tibia with three apical pegs; further as *fuscistigma*.

Metasoma. — Length of first tergite 2.5 times its apical width, distinctly widened apically (fig. 20), costate-striate, its interspaces granulate, and dorsal carinae absent; second – fourth segments longitudinally (costate-)striate, but absent near apex of third and fourth tergites; second suture distinctly crenulate (fig. 20); fifth tergite finely striate-granulate, remainder of metasoma granulate-coriaceous; length of ovipositor sheath 0.61 times fore wing.

Colour. — Body dorsally and wing veins brownish-yellow; remainder and pterostigma pale yellowish; stemmaticum, telotarsi, and ovipositor sheath, dark brown; wing membrane subhyaline.

Variation. — All specimens have mutilated antennae, maximally with 44 segments; antenna more or less dark brown (except scapus and pedicellus); pterostigma usually pale yellow, sometimes (yellowish-)brown; length of fore wing 3.8-4.1 mm, of body 4.4-4.8 mm; length of ovipositor sheath 0.51-0.61 times fore wing; length of vein 1-M of fore wing 1.4-1.8 times vein m-cu; length

of first metasomal tergite 2.1-2.5 times its apical width.

Distribution. — Gambia, Ghana, Nigeria, Zaire.

***Orgilonia vechti* spec. nov.**

(figs. 12-14)

Holotype, ♀ in Rijksmuseum van Natuurlijke Historie, Leiden: "Museum Leiden, J. van der Vecht, Bogor, (Tjibeureum), West Java, 280 m, 23.IX.1953".

Paratypes: 3 ♀ + 4 ♂ + 1 incomplete specimen, (Rijksmuseum van Natuurlijke Historie, Leiden, but 1 ♂ from Bogor in the Research Institute for Food Crops, Bogor): 3 ♀, labelled as holotype, but from Djabaru (300 m, 29.IX.1953), Babakan (280 m, 24.IX.1953) or Bodjong djengkol (300 m, 23.IX.1953), all near Bogor; 3 ♂, id., from Djabaru (300 m, 3.X.1953), Tjikaret (400 m, 20.IX.1953) and Tjibialagung (300 m, 3.X.1953), near Bogor; 1 ♂, "Java, Res. Semarang, Tjaud, Aug. (19)39, Betrem"; 1 specimen without apex of metasoma (probably ♀): "Java, Malang, IV.1938, Betrem".

Holotype, ♀, length of fore wing 3.1 mm, of body 4 mm.

Head. — Remaining antennal segments 32, length of third segment 1.2 times fourth segment, length of third and fourth segments 4.3 and 3.7 times their width, respectively; length of maxillary palp 1.1 times height of head; length of eye in dorsal view 3.4 times temple; temples gradually narrowed behind eyes (fig. 13); occipital carina present up to lower half of eyes; POL : diameter of ocellus : OOL = 5 : 3 : 8; face near antennal sockets coriaceous, remainder largely smooth and punctulate; frons and vertex rather dull granulate-coriaceous; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronope absent or nearly so, less developed than in the other spp.; pronotal sides coriaceous-granulate and with some crenulae medially; prepectal carina strong, regular and close to anterior margin of mesopleuron dorsally; precoxal sulcus nearly complete and medially narrowly crenulate; propodeal spiracle larger than in *fuscistigma*; surface of propodeum with a longer, curved ruga and with some shorter rugae medially, its remainder coriaceous-granulate; notauli nearly smooth, with some short crenulae; further as *ashmeadi*.

Fore wing. — Length of r 1.2 times maximum width of pterostigma, slightly less oblique than *ashmeadi* (fig. 12); r : SR1+3-SR : 2-SR = 6 : 42 : 9; m-cu : 1-M = 10 : 16 (fig. 12).

Hind wing. — As in *ashmeadi*.

Legs. — Hind leg: length of femur, tibia and basitarsus 5.4, 10 and 13 times their width, respectively; apex of tibia with four pegs; apical half of outer side of tibia with six bristles between setae; further as *ashmeadi*.

Metasoma. — Length of first tergite 2.2 times its apical width, gradually widened apically (fig. 14), granulate and medially rugose and dorsal carinae up

to basal 0.6 (fig. 14); second-fifth tergites finely and densely reticulate-rugose; second suture wide and crenulate; length of ovipositor sheath 0.90 times fore wing, and twice length of hind tibia; ovipositor somewhat curved downwards.

Colour. — Yellowish-brown; antenna (except large part of scapus dorsally), stemmaticum, tarsi and ovipositor sheath dark brown; trochantelli and hind tibia basally infuscated; pterostigma and most veins rather dark brown; wing membrane slightly infuscated.

Variation. — Antennal segments 47 (1 ♂); length of fore wing 3.0-3.3 mm, of body 3.6(♂)-4.2 mm; length of ovipositor sheath 0.83-0.90 times fore wing. The males are very similar to the females, but the sculpture of the first-third tergites is less developed and mainly granulate.

Distribution. — Indonesia: Java.

Note. — I am very pleased to name this species in honour of its collector, the well-known hymenopterist Dr. J. van der Vecht.

Stantonina Ashmead

Stantonina Ashmead, 1904: 146; Shenefelt, 1970: 263-264, 266-268. Type-species: *Stantonina flava* Ashmead, 1904, by monotypy.

Mimagathis Enderlein, 1905: 450.

Diagnosis. — Antenna of ♀ slender and 1.3-2.0 times (♀♂) longer than body (fig. 27), basal flagellar segments with medial constriction; scapus robust and strongly oblique apically (figs. 26, 33); clypeus normal and its ventral margin almost straight (fig. 36); occipital carina lamelliform, reaching up to upper level of eyes (figs. 25, 26); malar suture present (fig. 26, especially in most Indo-Australian spp.) or absent; length of mesosoma 1.2-1.4 times its height; prepectal carina complete, almost reaching anterior margin of mesopleuron (fig. 26); precoxal sulcus narrowly impressed and partly crenulate (fig. 26); metapleuron not projecting forwards ventro-laterally (fig. 26); notauli complete, mainly smooth (fig. 34) or completely crenulate; mesoscutum evenly short setose, finely punctulate, shiny, smooth or coriaceous; scutellar sulcus crenulate (fig. 34) or smooth; metapleural flange present, at least medium-sized and obtuse (fig. 26); propodeum convex to rather flat, smooth or coriaceous-granulate, with some rugae or with medial carinae anteriorly and with areola posteriorly; vein 1-M of fore wing straight (figs. 19, 29); vein r-m of fore wing usually present and partly sclerotized (fig. 29), but sometimes completely absent (fig. 19) or unsclerotized; vein cu-a of fore wing antefurcal, (sub) interstitial or shortly postfurcal, (sub)vertical; vein 2-M of fore wing sclerotized basally (figs. 19, 29); vein SR1 of fore wing straight; vein 1-SR+M

of fore wing exceptionally absent (figs. 224, 225); outer side of hind tibia with some pegs apically, exceptionally obsolescent; middle leg very slender compared with hind leg, more pronounced than in other genera; length of first metasomal tergite 1.9-3.3 times its apical width, and its dorsal carinae absent (fig. 37); second tergite smooth or coriaceous, without depressions; second tergite with, and third (except base) and fourth tergites without sharp lateral crease (fig. 26); ovipositor without notch or nodus; length of ovipositor sheath 0.15-0.7 times fore wing, but 1.0-1.3 times in *S. lutea*.

Biology. — Parasites of Pyralidae and Tortricidae.

Distribution. — Cosmopolitan, but predominantly in the tropics.

Note. — The interpretation of the species in the following key is largely based on the available types, but of *S. issikii* Watanabe, 1932, *S. procera* Enderlein, 1920, *S. sauteri* Watanabe, 1932, and *S. sumatrana* Enderlein, 1908 no type-specimens were examined. For these species the original descriptions have been used, and in addition for *S. sumatrana*, specimens available in the Rijksmuseum van Natuurlijke Historie at Leiden.

Key to Indo-Australian species of the genus *Stantonina*.

1. Antenna with whitish or pale yellowish medial ring; hind tarsus (except base and telotarsus) whitish-yellow; meso- and metasoma partly black; epipleuron of second metasomal tergite with isolated dark spot 2
- Antenna without whitish or pale yellowish ring, medially yellowish- or dark brown; hind tarsus black or pale yellowish, usually at most with both basal segments whitish; if exceptionally also third hind tarsal segment whitish (*pellicea*), then body completely yellowish; epipleuron of second tergite usually without dark patch and unicolorous 5
2. Middle coxa and hind femur nearly completely black; tegula pale yellowish; ovipositor sheath about 0.6 times fore wing; length of fore wing about 7 mm; (Burma) *annulicornis* Enderlein
- Middle coxa yellowish; hind femur reddish or yellowish, at most its apical third dark brown; tegula (dark) brown; length of ovipositor sheath about 0.5 times fore wing; length of fore wing 5-8 mm 3
3. Vertex densely and coarsely punctate (fig. 188); face densely punctate, interspaces about as wide as punctures or slightly wider; medial third of antenna of ♀ ivory, pale yellowish; temples less narrowed posteriorly (fig. 188); length of eye in dorsal view about twice temple (fig. 188); first metasomal tergite blackish basally and its length about twice its apical width (fig. 189); hind coxa yellowish basally and blackish apically; basal half of palpi dark brown; length of fore wing about 5 mm; second metasoma

- mal suture straight; pterostigma less slender (fig. 190); vein 1-SR+M of fore wing straight (fig. 190); (Indonesia) *gracilis* spec. nov.
- Vertex largely smooth, remotely finely punctate (figs. 193, 195); face punctulate or finely punctate, its interspaces much wider than width of punctures; basal half of antenna of ♀ largely dark brown, with 4-12 submedial segments whitish; temples directly narrowed posteriorly (figs. 103, 105); length of eye in dorsal view about 3 times temple (fig. 103); first tergite yellowish basally and its length about 3.5 times its apical width (figs. 192, 194); hind coxa largely dark brown with apex yellowish or largely yellowish with apex (dark) brown; palpi pale yellowish; length of fore wing 7-8 mm; second metasomal suture curved; pterostigma slender (fig. 191); vein 1-SR+M of fore wing slightly sinuate (fig. 191) 4
 - 4. Antenna of ♀ with 11-12 whitish submedial segments; about apical 0.7 of marginal cell of fore wing infuscated (fig. 191); hind coxa largely yellowish and orange-brown, and dark brown apically; mesosoma completely dark brown or black; hind basitarsus completely white; (Sabah, Sarawak, Indonesia) *magnifica* spec. nov.
 - Antenna of ♀ with 4-5 whitish submedial segments; about apical half of marginal cell of fore wing infuscated; hind coxa largely dark brown, and yellowish apically; mesosoma with yellowish pattern; hind basitarsus dark brown basally; (India) *agroteae* Nixon.
 - 5. Tegula (largely) yellowish(-brown), at most apically infuscated; mesosoma completely yellowish, except in *nigristernum* and sometimes infuscated in *lutea*; metasoma largely yellowish, at most with some small dark patches, but larger in *lutea*, but *lutea* has vein r-m of fore wing absent or obsolescent (figs. 205, 207) 6
 - Tegula infuscated, dark brown or blackish; meso- and metasoma with dark brown or black pattern; vein r-m of fore wing distinct (fig. 29) 12
 - 6. Prepectal carina behind fore coxa strongly enlarged, wide and flange-like (fig. 202); propodeum completely smooth; mesopleuron anteriorly and ventrally, mesosternum and mesoscutum largely black; vein r of fore wing comparatively long (fig. 196); hind tarsus (except basally) blackish; (Brunei) *nigristernum* spec. nov.
 - Prepectal carina normal, narrow; propodeum completely micro-sculptured or with some coarse transverse rugae; mesosoma completely yellowish, at most dorso-posteriorly somewhat infuscated; vein r of fore wing shorter (figs. 29, 200, 204); colour of hind tarsus variable 7
 - 7. Hind tarsus (except telotarsus) pale yellow; length of ovipositor sheath about 0.7 times fore wing, much longer than metasoma; (Taiwan)
..... *issikii* Watanabe

- Hind tarsus largely dark brown or black; length of ovipositor sheath 0.2-0.5 times fore wing, shorter than metasoma 8
- 8. Length of antenna of ♀♂ about 1.3 times length of fore wing and comparatively robust; whole subbasal cell of fore wing evenly setose apically or nearly so (fig. 208); second submarginal cell of fore wing slender (fig. 200) or vein r-m absent or obsolescent (figs. 19, 205, 207); propodeum completely microsculptured and rather dull, without coarse transverse rugae medially, at most with some weak rugae; first and second metasomal tergites granulate-coriaceous and rather dull (figs. 21, 201, 209) 9
- Length of antenna of ♀ 1.5-1.8 times (♂ up to 1.9 times); length of fore wing and comparatively slender (fig. 27); subbasal cell of fore wing anteriorly usually sparser setose than posteriorly (cf. fig. 218); second submarginal cell of fore wing robust and vein r-m present (figs. 29, 204); propodeum with some coarse transverse rugae submedially and rather shiny anteriorly (fig. 26); first and second tergites variable 10
- 9. Length of ovipositor sheath 1.0-1.3 times fore wing; vein r-m of fore wing absent (figs. 19, 205) or reduced (fig. 207); hind tibia with conspicuous dark brown patch subbasally; third hind tarsal segment dark brown; (Indonesia, Sabah, Sarawak) *lutea* (Szépligeti)
- Length of ovipositor sheath about 0.5 times fore wing; vein r-m of fore wing present and with a slender second submarginal cell (fig. 200); hind tibia without dark subbasal patch; third hind tarsal segment white or brownish; (Sarawak) *pellicea* spec. nov.
- 10. Fore wing distinctly dark brown apically (fig. 204); second metasomal tergite completely smooth and shiny; hind tibia yellowish apically; length of ovipositor sheath about 0.4 times fore wing; length of antenna of ♀ about 1.8 times fore wing; hind basitarsus nearly completely blackish; humeral plate yellow; (New Guinea) *elizabethae* spec. nov.
- Fore wing at most infuscated apically (figs. 29, 205); second tergite completely coriaceous and rather dull; hind tibia dark brown or black apically; length of ovipositor sheath about 0.2 times fore wing; length of antenna of ♀ 1.5-1.7 times length of fore wing; at least 1/3 of hind basitarsus yellowish or brownish; humeral plate more or less infuscated 11
- 11. Length of antenna of ♀ about 1.5 times fore wing; inner side of apices of middle tibia and hind femur yellowish; first metasomal tergite less slender (fig. 37), its length about 2 times its apical width; antennal segments about 43; (Philippines) *flava* Ashmead
- Length of antenna of ♀ about 1.7 times fore wing; inner side of apices of middle and of hind femur narrowly dark brown or black; first tergite

- somewhat more slender (fig. 219), its length about 2.5 times its apical width; antennal segments 51-58; (Indonesia, (W.) Malaysia) *sumatrana* Enderlein
12. Propodeum smooth; metasoma and antenna completely black dorsally; hind tarsus black; (Indonesia) *procera* Enderlein
- Propodeum more or less sculptured (sub)medially; metasoma partly yellowish dorsally; colour of antenna and hind tarsus variable 13
13. Antenna largely yellowish, and apically infuscated; propodeum at most posteriorly dark brown 14
- Apical half of antenna largely dark brown or black; propodeum with at least a dark brown spot (sub)medially 15
14. Lateral lobes of mesoscutum completely yellowish; (Taiwan) *sauteri* Watanabe
- Lateral lobes of mesoscutum with dark medial stripe; (Vietnam) *ruficornis* Enderlein
15. First metasomal tergite rather dull, distinctly granulate, more robust (figs. 217, 222, 236), and its length 1.9-2.4 times its apical width, but *intermedia* up to 2.7 times (fig. 240); length of ovipositor sheath 0.33-0.55 times fore wing, 1.6-3.6 mm; whole hind basitarsus usually whitish, but up to apical $\frac{1}{3}$ of basitarsus of *siamensis* and *sabahensis* dark brown or blackish and basal $\frac{1}{4}$ of basitarsus of *intermedia*; length of hind basitarsus 6.0-7.8 times its width (figs. 221, 227); area below precoxal sulcus punctulate 16
- First tergite shiny, largely smooth or superficially granulate, comparatively slender (figs. 231, 233), and its length 2.4-3.3 times its apical width; if distinctly granulate (*nana*) then about 3.3 times its apical width; length of ovipositor sheath 0.18-0.28 times fore wing, (but *nana* has up to 0.5 times) and 1-1.5 mm (up to 1.8 mm for *nana*, unknown of *conspurcata*); hind basitarsus 7.8-10.3 times its width (fig. 230); area below precoxal sulcus smooth or punctulate 20
16. Whole vertex, and frons medio-posteriorly, black; mesosternum, meso- and metapleuron with black pattern; at least apical 0.4 of hind femur dark brown; propodeum dark brown or black apically, but yellowish in *intermedia* 17
- Vertex at least laterally and frons medio-posteriorly yellowish; mesosternum, and often meso- and metapleuron, completely yellowish; hind femur largely yellowish dorsally (fig. 223); narrow part of propodeum usually yellowish posteriorly; (Thailand, (W.) Malaysia, Brunei, Indonesia) *siamensis* Enderlein
17. Length of ovipositor sheath 0.35-0.45 times fore wing, 1.7-2.5 mm; length of antenna of ♀ 1.6 times fore wing; length of first metasomal tergite 1.9-

- 2.6 times its apical width (figs. 217, 222, 245); hind basitarsus ivory basally; hind tibia at most with indistinct brown patch subbasally; fourth hind tarsal segment blackish; second epipleuron completely yellowish 18
- Length of ovipositor sheath about 0.55 times fore wing, about 3.5 mm; length of antenna of ♀ 1.5 times fore wing; length of first tergite of ♀ about 2.7 times its apical width (fig. 240); hind basitarsus blackish basally; hind tibia with large dark brown patch subbasally; fourth hind tarsal segment ivory; second epipleuron with large triangular dark brown patch *intermediaria* spec. nov.
18. Area between eye and stemmaticum coarsely punctate, interspaces at most equal to width of punctures; scutellum narrowly crenulate medio-posteriorly (fig. 242); face distinctly rugose laterally; apical 0.5-0.7 of marginal cell of fore wing dark brown, if 0.7 then frons black laterally 19
- Area between eye and stemmaticum moderately punctate, interspaces wider than punctures; scutellum only coriaceous medio-posteriorly; face punctate laterally, at most with some rugulae; apical 0.7 of marginal cell of fore wing dark brown; frons yellowish laterally; (Sabah) *sabahensis* spec. nov.
19. Apical 0.7 of marginal cell of fore wing dark brown (fig. 241); scutellum with oblique rugae antero-laterally (fig. 242); apical half of hind basitarsus and following segment blackish; hind spurs yellowish-brown; frons laterally, mesoscutum medio-posteriorly, and scutellum largely, blackish; (Sabah) *scutellaris* spec. nov.
- Apical 0.50-0.55 times of marginal cell of fore wing dark brown (fig. 220); scutellum only punctate antero-laterally; hind basitarsus and following segment (largely) ivory; frons laterally, mesoscutum medio-posteriorly, and scutellum largely, yellowish; (Sarawak) *vittata* spec. nov.
20. Hind femur coarsely pimply-rugose and (except basally) blackish ventrally (fig. 229); fore wing distinctly dark brown apically (fig. 228); vertex coarsely punctate; mesopleuron often with blackish pattern; hind basitarsus largely (pale) yellowish; apical 0.6 of hind femur largely blackish; area below precoxal sulcus punctulate; (Sabah, Sarawak, Brunei) *angustata* spec. nov.
- Hind femur finely rugose or rugulose-coriaceous and yellow ventrally (fig. 232); fore wing weakly infuscated apically (figs. 210, 235); vertex punctulate to finely punctate; mesopleuron completely yellowish; hind basitarsus dark brown apically; hind femur largely brownish (fig. 232); area below precoxal sulcus variable 21
21. Length of first metasomal tergite 2.4-2.6 times its apical width; antennal segment of ♂ 53-56 (♀ unknown); middle tarsus and hind tibial spurs

- yellowish; area below precoxal sulcus finely punctate; (Burma)
 *conspurcata* Enderlein
- Length of first tergite 2.9-3.3 times its apical width (figs. 213, 233);
 antennal segments of ♂ 46-49 (unknown of *nana*), of ♀ 42-56; middle
 tarsus (except basally) and hind spurs dark brown; area below precoxal
 sulcus smooth 22
22. Length of antenna of ♀ 1.5 times length of fore wing; antennal segments of
 ♀ about 42 (fig. 214); vertex punctulate-rugulose; propodeum rather dull
 and granulate anteriorly; epipleuron of second tergite with brownish
 patch; length of fore wing about 3 mm; second metasomal tergite distinctly
 granulate; length of ovipositor sheath about 0.5 times fore wing; (Brunei)
 *nana* spec. nov.
- Length of antenna of ♀ 1.9 times fore wing; antennal segments of ♀ about
 56; vertex punctate only; propodeum shiny and largely smooth anteriorly;
 second epipleuron completely yellowish; length of fore wing 3.8-5.3 mm;
 second tergite superficially granulate; length of ovipositor sheath 0.23-
 0.28 times fore wing; (Indonesia, Sabah, Sarawak) *jacobsoni* spec. nov.

Note. — The Old World species of *Stantonina* form a more homogeneous group than the Neotropical species. Neotropical species may have setose eyes, scutellar sulcus smooth, lateral carina of mesoscutum protruding posteriorly, and vein r-m of fore wing may be more or less reduced. Nevertheless the use of the name *Mimagathis* Enderlein for one of these groups seems to be superfluous.

***Stantonina agroterae* Nixon**
 (figs. 194, 195)

Stantonina agroterae Nixon, 1950: 453; Shenefelt, 1970: 266.

Two paratypes, both reared from *Agrotera basinotata* Hampson, were examined. The female has the length of the fore wing 7.5 mm, length of ovipositor sheath 0.49 times fore wing, 22th-25th antennal segments whitish, basal half of antenna largely dark brown, length of first metasomal tergite 3.6 times its apical width (fig. 194), length of eye in dorsal view 3.1 times temple (fig. 195), pterostigma slender as of *S. elizabethae*, and vein 1-SR+M of fore wing slightly sinuate.

Distribution. — India.

***Stantonia angustata* spec. nov.**
(figs. 228-231)

Holotype, ♀ in Rijksmuseum van Natuurlijke Historie, Leiden: "Malaysia-SE-Sabah, nr Danum Valley Field C., W0, c. 150m, Mal. trap 11, 24.II-18.III.1987, C. v. Achterberg, RMNH '87".

Paratypes: 3 ♀ + 6 ♂ (British Museum (Natural History, London and Rijksmuseum van Natuurlijke Historie): 1 ♀, "Sarawak: Gunung Mulu, i-iv.(19)78, J. D. Holloway"; 1 ♀, "Sarawak: 4th Div., Gn. Mulu, RGS Exp., v-vi. 1978, N. M. Collins"; 1 ♀ + 5 ♂, "Brunei: Ulu, Temburong, 300 m, 16-22.ii.1982 (or ii-iii.1982), M. C. Day"; 1 ♂, Brunei: Labi, mixed dipterocarp forest, 200 m, viii-ix. 1979, I. Gauld".

Holotype, ♀, length of body 7.3 mm, of fore wing 6.3 mm.

Head. — Antennal segments 51, length of antenna 1.7 times fore wing, length of third segment 1.3 times fourth segment, length of third, fourth, and penultimate segments 4.1, 3.1, and 2.5 times their width, respectively; length of maxillary palp 1.4 times height of head; length of eye in dorsal view 3.0 times temple; temples directly narrowed posteriorly; POL: diameter of ocellus: OOL = 7 : 8 : 13; frons coarsely rugose-punctate laterally, and smooth medially; vertex very coarsely punctate, interspaces mostly narrower than punctures, at most equal to width of punctures; face transversely rugose-punctate; clypeus convex and punctate; length of malar space 0.8 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides largely smooth, anteriorly and posteriorly crenulate; precoxal sulcus distinct and narrowly crenulate; area below precoxal sulcus remotely punctate; pleural sulcus finely crenulate; mesoscutum distinctly punctate, with interspaces wider than punctures; notauli narrowly crenulate; scutellar sulcus with one strong medial carina and some short crenulae; scutellum normal; surface of propodeum coarsely rugose medially, but antero-medially largely smooth and shiny, convex medially and with longitudinal carina anteriorly.

Fore wing. — Vein r : 1-SR1 : 2-SR1 = 9 : 1 : 42; 2-SR : 1-SR1 : r-m = 10 : 1 : 7; cu-a antefurcal (fig. 228); 1-SR+M slightly sinuate; second marginal cell rather robust and petiolate (fig. 228); discal cell rather slender (fig. 228); anterior half of subbasal cell largely glabrous.

Legs. — Hind coxa shiny coriaceous, with several coarse rugae dorsally; tarsal claws moderately slender, simple; length of femur (fig. 229), tibia and basitarsus of hind leg 6.1, 9.0 and 7.8 times their width, respectively; length of hind tibial spurs 0.45 and 0.55 times hind basitarsus; hind tibia with six pegs apically; hind femur coarsely pimply-rugose ventrally (fig. 229).

Metasoma. — Length of first tergite 2.7 times its apical width, slender (fig. 231), its surface superficially granulate and shiny; second and following tergites

shiny and superficially granulate; second suture straight and shallow; length of ovipositor sheath 0.21 times fore wing.

Colour. — Pale yellowish; vertex, stemmaticum, frons completely, meso-scutal lobes (except anteriorly and posteriorly), scutellum posteriorly, metanotum, apical half of propodeum, apical half of middle tibia, first tergite (except yellowish patch near apical 0.3), second tergite anteriorly and medially, third and fourth tergites largely, apical third of hind coxa, hind femur (except basal third), middle and hind spurs, telotarsi, fourth fore tarsal segment, middle tarsus, apical 0.4 of hind tibia, mesopleuron below precoxal sulcus and antero-dorsally, tegula, metapleuron anteriorly, and mesosternum laterally blackish; flagellum, outer face of scapus and pedicellus, fourth hind tarsal segment, patch on second epipleuron, fourth and fifth sternites, fourth-sixth tergites posteriorly, ovipositor sheath, pterostigma, veins and humeral plate dark brown; three basal segments of hind tarsus ivory; apex of fore wing distinctly dark brown, including apical 0.6 of marginal cell (fig. 228); remainder of fore wing subhyaline.

Variation. — Length of fore wing 4.7-6.3 mm, of body 4.5-7.3 mm; antennal segments of ♀ 43 (1 small specimen), 50 (1), 51, and of ♂ 47 (1), 49 (1), 50 (2), and 54 (1); length of third segment 1.1-1.3 times fourth antennal segment; length of malar space 0.8-0.9 times basal width of mandible; length of ovipositor sheath 0.18-0.24 times fore wing; length of first metasomal tergite 2.4-2.8 times its apical width; propodeum may be more or less depressed medially and without longitudinal carina, or carina irregular and obsolescent; vein cu-a of fore wing may be interstitial or antefurcal; apical 0.5-0.6 of marginal cell of fore wing dark brown; apex of hind tibia with three-six pegs; hind basitarsus may be completely, and second segment largely ivory, in holotype also third segment ivory, or hind basitarsus brownish apically, with second and third segments (dark) brown, or second segment yellowish; mesopleuron of one ♀ yellowish, without blackish pattern; third to sixth or seventh metasomal segments largely dark brown or blackish; frons may be completely black or antero-laterally yellowish; first metasomal tergite may have its basal third and apical 0.1 dark brown or largely blackish; middle tarsus completely blackish or basally yellowish-brown and remainder dark brown.

Distribution. — Brunei, Malaysia: Sabah, Sarawak.

Note. — One male from Brunei (Ulu, Temburong, 300 m, ii-iii.1982, M. Day) is excluded from the type-series because it has the vertex weaker punctate with the interspaces wider than the punctures.

Stantonio conspurcata Enderlein

Stantonio conspurcata Enderlein, 1905: 453; Shenefelt, 1970: 267.

In the Zoologisches Museum Berlin are two male syntypes, one of which is designated here lectotype ("Pekon, Loikaw R., S. Schanstaaten, 26/1.03, Micholitz", "31032", *Stantonio conspurcata* n.sp., ♂, det. Dr. Enderlein"). It has 53 antennal segments as mentioned by Enderlein in the original description, the other male (=paralectotype) has 56 antennal segments.

S. conspurcata is closely related to *S. jacobsoni*: slender hind leg, weakly sculptured vertex and hind femur, and tip of fore wing slightly infuscated. However, *conspurcata* differs as follows: length of first metasomal tergite 2.4-2.6 times its apical width (*jacobsoni*: 2.9-3.2 times), antennal segments of ♂ 53-56 (*jacobsoni*: 46-49), middle tarsus largely yellowish (*jacobsoni*: largely dark brown), and area below precoxal sulcus sparsely and finely punctate (*jacobsoni*: smooth).

Variation. — Length of fore wing 5.3-6 mm; antennal segments of ♂ 53 (1) or 56 (1); length of antenna of ♂ 1.9 times length of fore wing; apical 0.2-0.4 of marginal cell of fore wing slightly infuscated; length of first metasomal tergite 2.4-2.6 times its apical width; tegula blackish to rather dark brown.

Distribution. — Burma.

Stantonio elizabethae spec. nov.

(figs. 199, 203, 204)

Holotype, ♀ in Rijksmuseum van Natuurlijke Historie, Leiden: "E. New Guinea, Ei Creek, 500 m, 30 km N. of Sogeri, 28.IX.1972", "Mrs. E. v.d. Vecht".

Holotype, ♀, length of body 7.2 mm, of fore wing 7.0 mm.

Head. — Antennal segments 58, length of antenna 1.8 times fore wing, length of third segment 1.1 times fourth segment, length of third, fourth and penultimate segments 3.7, 3.5 and 2.0 times their width, respectively; length of maxillary palp 1.4 times height of head; length of eye in dorsal view 2.8 times temple; temples directly narrowed posteriorly and granulate, dorsally with some rugae; POL : diameter of ocellus : OOL = 5 : 4 : 8; frons densely punctate laterally, with some rugae antero-medially and remainder smooth; vertex densely moderately punctate; face remotely punctate; clypeus finely punctate; length of malar space 0.8 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.2 times its height; pronotal sides smooth, but medially and posteriorly finely crenulate; precoxal sulcus largely

impressed and narrowly crenulate; area below precoxal sulcus largely smooth; pleural sulcus finely crenulate; mesoscutum punctulate; notauli distinctly crenulate; scutellar sulcus mainly smooth, its medial carina obsolescent; scutellum rather convex and punctulate (fig. 199); surface of propodeum with some punctures, medially depressed and with some rugae and with few coarse transverse rugae near apical 0.3 of propodeum and without medial carina.

Fore wing. — Vein $r : 1-SR1 : 2-SR1 = 10 : 2 : 47$; $2-SR : 1-SR1 : r-m = 13 : 2 : 8$; cu-a slightly antefurcal and vertical (fig. 204); $1-SR+M$ straight; discal cell slender (fig. 204); second submarginal cell rather robust (fig. 204); anterior half of subbasal cell largely glabrous.

Legs. — Hind coxa smooth dorsally, shiny, but laterally punctulate; tarsal claws setose, medium-sized; length of femur, tibia and basitarsus of hind leg 4.8, 8.2 and 8 times their width, respectively; length of hind spurs 0.35 and 0.50 times hind basitarsus; hind tibia with six pegs apically and with small pegs on medial third of outer face.

Metasoma. — Length of first tergite 2.3 times its apical width, ist surface smooth and shiny, except for some microsculpture laterally; second and following tergites smooth; second suture shallow and straight; length of ovipositor sheath 0.43 times fore wing.

Colour. — Brownish-yellow; flagellum, outer face of scapus and pedicellus largely, stemmaticum, ovipositor sheath and hind tarsus (but narrow part of basitarsus yellowish basally) blackish; middle tarsus (except basitarsus), pterostigma and most veins of fore wing, dark brown; vein $C+SC+R$ and $1+2A$ of fore wing yellowish; apex of fore wing dark brown.

Note. — Named in honour of its collector, Mrs. E. van der Vecht (1907-1986).

***Stantonia flava* Ashmead**
(figs. 25-37)

Stantonia flava Ashmead, 1904: 147; Shenefelt, 1970: 267.

Holotype, ♀ in U.S. National Museum of Natural History, Washington: "Manil, P.I. [=Philippines]", "W.A. Stanton Collector", "♀, Type No. 8008, U.S.N.M.", "*Stantonia flava* Ash., ♂" (sic!).

Holotype, ♀, length of fore wing 4.1 mm, of body 4.0 mm.

Head. — Antennal segments 43, length of antenna 1.5 times length of fore wing, length of third segment 1.5 times fourth segment, length of third, fourth and penultimate segments 3.8, 2.6, and 2.0 times their width, respectively;

apical antennal segment without spine (fig. 28); length of maxillary palp 1.2 times height of head; length of eye in dorsal view 2.4 times temple; temple dull coriaceous, rather directly narrowed posteriad (fig. 25); POL : diameter of ocellus : OOL = 8 : 5 : 9; frons mainly smooth and flat; vertex convex and finely punctate; face punctate-rugose and evenly convex; clypeus convex and rugose-punctate; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.2 times its height; pronotal sides crenulate medially and posteriorly, and somewhat coriaceous ventrally; precoxal sulcus narrow, distinctly impressed, anteriorly almost smooth (fig. 26); rest of mesopleuron punctulate; pleural sulcus narrowly crenulate; notauli mainly smooth; mesoscutal lobes finely punctulate, depressed posteriorly (fig. 34); scutellar sulcus with one carina and some crenulation (fig. 34); surface of propodeum coarsely transversely rugose, but anteriorly and laterally mainly coriaceous and medial carina absent.

Fore wing. — Vein r : 1-SR1 (=petiolus of the second submarginal cell) : 2-SR1 = 9 : 2 : 48; 1-SR+M straight; r-m present (fig. 29); 2-SR : 1-SR1 : r-m = 11 : 2 : 6.

Legs. — Hind coxa coriaceous-punctulate and with some rugae dorsally; length of femur, tibia and basitarsus of hind leg 4.8, 7.3 and 6.8 times their width, respectively; length of hind tibial spurs 0.4 and 0.5 times hind basitarsus; outer side of hind tibia with pegs obsolescent.

Metasoma. — Length of first tergite 1.9 times its apical width, its surface dull and coriaceous and somewhat constricted behind spiracles (fig. 37); second tergite dull and coriaceous; third and following tergites smooth and shiny; second suture shallow and smooth (fig. 37); length of ovipositor sheath 0.24 times fore wing.

Colour. — Yellowish; apical half of antenna, stemmaticum, wing veins, para- and pterostigma, fore and middle telotarsi, fourth middle tarsal segment, hind tarsus (except base of basitarsus), apical quarter of hind tibia and ovipositor sheath dark brown; wing membrane slightly infuscated.

Distribution. — Philippines.

***Stantonina gracilis* spec. nov.**

(figs. 188-190)

Holotype, ♀ in Rijksmuseum van Natuurlijke Historie, Leiden: "RMNH/HH 355, N. Sulawesi, Dumoga Bone N.P., Toraut R3, alt. m. 245, 31-05-05-06.1985, J. Huijbregts", "multistr. evergreen forest, Malaise trap".

Paratype: 1 ♀. (Zoological Museum, Bogor): same label-data.

Holotype, ♀, length of body 5.2 mm, of fore wing 5.2 mm.

Head. — Antennal segments 48, length of antenna 1.5 times fore wing, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 3.6, 3.0, and 2.0 times their width, respectively; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 2.0 times temple; temples less directly narrowed posteriorly (fig. 188), granulate-rugose; POL : diameter of ocellus : OOL = 5 : 5 : 9 ; frons rugose-punctate laterally, and largely smooth medially; vertex coarsely and densely punctate, interspaces somewhat wider than punctures; face densely punctate and interspaces about as wide as punctures or slightly wider; clypeus sparsely punctate; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.2 times its height; pronotal sides largely smooth, but medially and posteriorly crenulate; precoxal sulcus impressed and moderately crenulate; area below precoxal sulcus very remotely (finely) punctate; pleural sulcus finely crenulate; mesoscutum remotely punctate; notauli narrowly crenulate; scutellar sulcus weakly and narrowly crenulate; scutellum weakly convex; surface of propodeum granulate-punctate and with a medial carina anteriorly, its posterior half largely distinctly rugose.

Fore wing. — Vein $r : 1-SR1 : 2-SR1 = 8 : 1 : 43$, $2-SR : 1-SR1 : r-m = 10 : 1 : 6$; cu-a interstitial (fig. 190); pterostigma wider than in other spp. (fig. 190); $1-SR+M$ straight; discal cell less slender than in *magnifica* (figs. 190, 191); anterior half of subbasal cell largely glabrous; second submarginal cell rather robust (fig. 190).

Legs. — Hind coxa granulate and with some coarse rugae dorsally; tarsal claws simple and medium-sized; length of femur, tibia, and basitarsus of hind leg 4.6, 7.9, and 7 times their width, respectively; length of hind tibial spurs 0.40 and 0.55 times hind basitarsus; hind tibia with six pegs apically.

Metasoma. — Length of first tergite 2.0 times its apical width, and its surface shiny and finely coriaceous (fig. 189); second and following tergites shiny coriaceous and with some punctures; second suture obsolescent; length of ovipositor sheath 0.50 times fore wing, 1.1 times length of hind tibia.

Colour. — Pale yellowish; head dorsally (except frons antero-laterally), mesoscutum (but antero-laterally and medio-posteriorly yellowish), scutellum medio-posteriorly, metanotum largely, transverse irregular band of propodeum, mesopleuron anteriorly and below precoxal sulcus, mesosternum (except medio-posteriorly), apical 0.4 of hind coxa, apex of middle tibia, apical third of hind femur, and of hind tibia, middle and hind spurs, telotarsi, ovipositor sheath, basal third and apex (and narrowly laterally) of first tergite, base of second tergite, third tergite largely, and fourth tergite medio-dorsally blackish; medial third of antenna ivory; remainder of antenna largely dark

brown and scapus and pedicellus yellowish ventrally; palpi largely, tegulae largely, pterostigma and veins, patch on second epipleuron, third epipleuron largely, base of middle and hind basitarsi, and second-fourth middle tarsal segments dark brown; remainder of hind tarsus white; fore wing with large dark brown patch apically (fig. 190).

Variation. — Paratype (♀): antennal segments 48, length of fore wing 5.1 mm, length of ovipositor sheath 0.50 times fore wing; mesoscutum completely blackish anteriorly; apical half of maxillary palp yellowish; second tergite dark brown medially.

Distribution. — Indonesia: Sulawesi.

***Stantonia intermediana* spec. nov.**
(figs. 237-240)

Holotype, ♀ in Rijksmuseum van Natuurlijke Historie, Leiden: "Malaysia-SE.Sabah, nr Danum Valley Field C., c.150 m, Mal. trap 10, 20-26.III.1987, RMNH, C.v.Achterberg".

Holotype, ♀, length of body 6.2 mm, of fore wing 6.5 mm.

Head. — Antennal segments 52, length of antenna 1.5 times fore wing, length of third segment 1.3 times fourth segment, length of third, fourth, and penultimate segments 3.6, 2.8, and 2.0 times their width, respectively; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 3.0 times temple; temples directly roundly narrowed posteriorly; POL : diameter of ocellus : OOL = 4 : 4 : 7, frons punctate and (anteriorly) with microsculpture laterally, and smooth medially; vertex moderately punctate, with interspaces wider than punctures; face punctate with interspaces about equal to width of punctures or wider; length of malar space 1.1 times basal width of mandible; malar suture distinct.

Mesosoma. — Length of mesosoma 1.2 times its height; pronotal sides largely smooth, medially and posteriorly crenulate, and partly superficially granulate ventrally; precoxal sulcus completely impressed and distinctly crenulate; area below precoxal sulcus finely and sparsely punctate; pleural sulcus finely crenulate; mesoscutum densely punctate; notauli finely crenulate; scutellar sulcus with three medium-sized and strong crenulae; scutellum convex and punctate, and narrowly microsculptured medio-posteriorly; surface of propodeum coarsely and irregularly rugose medially, coriaceous and rather dull anteriorly, and strongly shiny and smooth posteriorly.

Fore wing. — Vein $r : 2-SR1 = 10 : 46$; $2-SR : r-m = 12 : 8$; $r-m$ of left wing angulate (fig. 237), but normally curved in other wing (fig. 239); $cu-a$ vertical and subinterstitial; $1-SR+M$ slightly sinuate (fig. 237); discal cell truncate

anteriorly and slender (fig. 237); anterior half of subbasal cell largely glabrous apically (fig. 238); second submarginal cell of fore wing robust and sessile (figs. 237, 239).

Legs. — Hind coxa finely punctate and granulate, with some oblique coarse rugae dorsally; claws moderately slender and with blackish bristles basally; length of femur, tibia and basitarsus of hind leg 5.1, 9.0 and 7.8 times their width, respectively; hind femur moderately rugose ventrally; length of hind tibial spurs 0.35 and 0.50 times hind basitarsus; hind tibia with three pegs apically.

Metasoma. — Length of first tergite 2.7 times its apical width (fig. 240), rather flat, its surface largely granulate and rather dull; second-sixth tergites superficially granulate and rather shiny; second suture straight and distinct; length of ovipositor sheath 3.6 mm, and 0.55 times fore wing.

Colour. — Pale yellowish; frons (but antero-laterally yellowish), vertex, stemmaticum, temples dorsally, occiput dorsally, mesoscutum (except medio-posteriorly), mesopleuron (except posteriorly), metapleuron anteriorly (narrowly) and posteriorly, scutellum medio-posteriorly, metanotum, propodeum medially, apical half of hind coxa largely, hind trochantellus, apical 0.4 of hind femur, subbasal patch and apical third of hind tibia, hind spurs, basal 0.2 of hind basitarsus, telotarsi, apical quarter of middle tibia, first tergite (except subapical patch), second tergite dorsally, partly medially and narrowly apically, and third-sixth tergites largely dorsally black; antenna (but scapus and pedicellus yellowish ventrally), basal half of palpi, middle trochantellus partly, apex of middle femur narrowly, remainder of middle tarsus, pterostigma and most veins, triangular patch on second epipleuron, large patch on third, and smaller patches on fourth-sixth epipleura, small patch on third sternite, large patches on fourth-sixth sternites, metasoma posteriorly, and ovipositor sheath dark brown; remainder of hind tarsus ivory; fore wing dark brown apically, and remainder subhyaline; apical 0.7 of marginal cell of fore wing dark brown (fig. 237); hind wing somewhat infuscated apically.

***Stantonina jacobsoni* spec. nov.**

(figs. 232-235)

Holotype, ♀ in Rijksmuseum van Natuurlijke Historie, Leiden: "5/65", "E. Jacobson, Depok, Java, Oct. 1907 (3.08)".

Paratypes: 3 ♀ + 7 ♂; 1 ♀ (Rijksmuseum van Natuurlijke Historie, Leiden): „Museum Leiden, N. Sumatra: Bivouac One, Mt. Bandahara, 3°43'N-97° 41'E, 25.VI.-5.VII.1972, J. Krikken, no. 23, ca. 810 m", "multi-stratal evergreen forest, malaise trap"; 1 ♂, (id.): "Malaysia-SE. Sabah, nr. Danum Valley Field C., W12, c.240 m, Mal. trap 12, 24.II-18.III.1987, C.v.Achterberg, RMNH '87"; 1 ♀ + 2 ♂, (British Museum (Natural History), London): "Sarawak: 4th

Div., Gn. Mulu, RGS Exp., N.M. Collins, iii. 1978, Malaise trap"; 1 ♀, (id.): "Sarawak: 4th Div., Niah, 9-17.x.1976, 3.49°N 113 46'E, P.S. Cranston, B.M. 1977-19", "Malaise-trap in primary forest"; 4 ♂, (id., and Rijksmuseum van Natuurlijke Historie, Leiden): "Sarawak: Gn. Mulu, v-vi.1978 (2) or ii-iii.1978 (2), N.M. Collins".

Holotype, ♀, length of body 5.6 mm, of fore wing 5.1 mm.

Head. — Remaining antennal segments 20, length of antenna unknown, but of female-paratypes 1.9 times fore wing, length of third segment 1.2 times fourth segment, length of third and fourth segments 3.6 and 3.0 times their width, respectively; length of maxillary palp 1.7 times height of head; length of eye in dorsal view 3.2 times temple; temples directly narrowed behind eyes and occipital carina weaker developed than in *angustata*; POL : diameter of ocellus : OOL = 6 : 8 : 14; frons punctulate laterally, rugulose anteriorly, and remainder smooth; vertex punctulate, with interspaces much wider than punctures; face and clypeus finely punctate; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides largely smooth, crenulate medio-anteriorly and posteriorly; precoxal sulcus completely impressed and distinctly crenulate; area below precoxal sulcus smooth; pleural sulcus distinctly crenulate; mesoscutum punctulate; notauli distinctly narrowly crenulate; scutellar sulcus narrowly crenulate only; scutellum normal; medial third of propodeum coarsely transversely rugose, remainder of surface smooth and shiny, without distinct longitudinal carina.

Fore wing. — Vein $r : 1-SR1 : 2-SR1 = 8 : 2 : 40$; $2-SR : 1-SR1 : r-m = 17 : 4 : 11$; cu-a slightly postfurcal (fig. 234); $1-SR+M$ straight; second submarginal cell rather robust and distinctly petiolate (fig. 235); discal cell rather slender (fig. 235); subbasal cell rather setose (fig. 234), denser than in *angustata*.

Legs. — Hind coxa rugose-punctate and with several very coarse rugae (fig. 233); tarsal claws rather slender, with some dark brown bristles basally; length of femur, tibia and basitarsus of hind leg 6.7, 10.5 and 9.6 times their width, respectively; length of hind tibial spurs 0.40 and 0.50 times hind basitarsus; hind tibia with three pegs apically.

Metasoma. — Length of first tergite 3.2 times its apical width, its surface shiny and largely superficially granulate (fig. 233); second tergite partly superficially granulate and shiny; second suture shallow and straight; third and following tergites finely punctate; length of ovipositor sheath 0.23 times fore wing.

Colour. — Yellowish-brown; head (except vertex partly), palpi, scapus ventrally, prothorax, fore leg largely and middle coxa pale yellowish; outer face of scapus, pedicellus largely, flagellum, vertex (except laterally), stemmaticum (but partly blackish), tegulae, mesoscutal lobes (except laterally),

scutellum narrowly posteriorly, metanotum anteriorly and medially, apex of middle tibia, pterostigma, veins, streak on hind coxa, metasoma laterally, ovipositor sheath, hind femur dorsally hind tibia subdorso-basally, and hind spurs dark brown; chevron-shaped patch on propodeum, base (narrowly) and apical 0.7 of first metasomal tergite, second tergite basally, third tergite largely, fourth-sixth tergites largely dorsally, hind coxa partly apico-dorsally, telotarsi, apex of hind femur narrowly, apical 0.4 of hind tibia, apex of hind basitarsus and remainder of hind tarsus blackish; patch on second epipleuron faint brown; fore wing weakly infuscated apically, remainder of fore wing subhyaline.

Variation. — Length of fore wing 3.8-5.3 mm, and of body 4.2-5.6 mm; antennal segments of ♀ 56 (1) and of ♂ 46 (1), 47 (1), 48 (1) or 49 (1); length of hind femur of ♀ 5.5-6.7 times its width; length of hind basitarsus of ♀ 8.9-9.6 times its width; length of first metasomal tergite 2.9-3.2 times its apical width; length of ovipositor sheath 0.23-0.28 times fore wing, 1.0-1.5 mm long; second submarginal cell of fore wing rather robust to rather slender; third and following metasomal tergites usually distinctly punctate, but sometimes weakly only; vertex may be completely yellowish; first and second tergites may be largely yellowish; apical half of hind basitarsus may be largely dark brown or blackish; the female from Sumatra has the stemmaticum, lateral lobes of mesocutum largely, metanotum and hind femur dorsally blackish instead of brown and infuscation of vertex indistinct.

Distribution. — Indonesia: Java, Sumatra; Malaysia: Sabah, Sarawak.

Note. — It is a pleasure to name this species after its collector, Dr. Edward Richard Jacobson (1870-1944), who was the first to collect extensively Braconidae in Indonesia.

***Stantonia lutea* (Szépligeti) comb. nov.**
(figs. 19, 21, 205-209)

Eubadizon luteum Szépligeti, 1910: 90-91, Shenefelt, 1970: 239.

Material. — Holotype, ♀ in Museum Budapest: "E. Jacobson, Krakatau, Mei 1908", "Holotypus *Eubadizon luteum* Szépl., det. Papp, 1967", "*Eubadizon luteus*" (in Szépligeti's handwriting), "anten. multilat. plus quam 36 articae", "Hym. Typ. No. 464, Mus. Budapest"; 1 ♀, Research Institute for Food Crops, Bogor: "Java, nr. 876, ged. 2-4-(19)33, L.G.E. Kalshoven"; 1 ♀, Rijksmuseum van Natuurlijke Historie, Leiden: "Indonesia: C. Sulawesi, Lore-Lindu N.P., ca. 1020 m, 1°15'S-120°20'E, 4-9.XII.1985", "nr Dongi-Dongi shelter, Mal. trap 3 (PW 55), C.v.Achterberg, RMNH '86"; 3 ♂, Rijksmuseum van Natuurlijke Historie, Leiden: "Malaysia-SW.Sabah, nr Long Pa Sia, (West), c.1050 m, 1-14.IV.1987, Mal. traps 2 and 3, RMNH '87, C.v.Achterberg"; 4 ♂, 1 ♀, id., and British Museum (Natural History): "Malaysia-SW.Sabah, nr Danum Valley Field C., 24.II.-24.III.1987 (4 ♂, Mal. trap 13, W0N1, c. 140 m) and 24.II.-18.III.1987 (1 ♀, Mal. trap 12, W12, c.240 m), C.v.Achterberg, RMNH"; 1 ♀, British Museum (Natural History): "Sarawak, 4th Div., Gn. Mulu, RGS Exp., 27.vi-19.vii.1978, H. Vallack".

Holotype, ♀, length of fore wing 5.2 mm, of body 6.4 mm.

Head. — Remaining antennal segments 35; scapus strongly oblique apically; POL : diameter of ocellus : OOL = 8 : 5 : 8; length of eye in dorsal view 2.9 times temple (fig. 20); occipital carina lamelliform laterally, only medio-dorsally absent; vertex and frons mainly punctulate.

Mesosoma. — Pronope large, round; precoxal sulcus narrowly impressed; notauli completely crenulate.

Fore wing. — Vein r strongly oblique (figs. 19); 2-SR straight; r-m absent, at most as a faint fold of the membrane; 2-M comparatively long and sclerotized basally (fig. 19); r : SR1 : 2-SR = 12 : 59 : 21; discal cell acute anteriorly (fig. 19).

Metasoma. — Length of first tergite 2.3 times its apical width, parallel-sided (fig. 21); first-third tergites distinctly coriaceous (-granulate), following tergites weaker sculptured; second and base of third tergite with sharp lateral crease; length of ovipositor sheath 1.29 times fore wing.

Colour. — Yellowish-brown dorsally; remainder of body pale yellowish; apex of antenna, of hind femur and of hind tibia, and subbasal ring of hind tibia black; hind tarsus dark brown, but hind basitarsus yellowish-brown medially and more or less apically; base of hind tibia whitish; pterostigma dark brown; tegula yellow, but humeral plate largely dark brown or infuscated; wing membrane subhyaline, but moderately infuscated apically; apex of third tergite dark brown; apices of fourth-seventh tergites infuscated to a variable degree.

Variation. — Length of fore wing of ♀ 4.3-5.2 mm, of ♂ 3.4-4.1 mm; length of antenna of ♀ and of ♂ 1.3 times fore wing; antennal segments of ♀ 35 (1), and one ♀ with incomplete antenna with 39 segments, and of ♂ 34 (1), 35 (2), 36 (1), and 37 (2); vein r-m of fore wing partly pigmented (but unsclerotized, fig. 207), or completely absent (figs. 19, 205); propodeum completely granulate or with some rather weak transverse rugae; discal cell of fore wing acute (fig. 205) or truncate anteriorly; anterior half of subbasal cell largely setose (fig. 208); length of first metasomal tergite of ♀ 2.3-2.6 times its apical width, of ♂ 2.6-3.2 times; length of eye in dorsal view 2.6-3.6 times temple; length of ovipositor sheath 1.0-1.3 times fore wing; colour of male very variable and darker than female, hind femur may be largely dark brown, especially dorsally and apically, and remainder brown; hind tarsus of ♂ may be completely dark brown, or basitarsus (except its base) and following segment ivory, but third segment always dark brown; middle femur dark brown or yellowish apically; tegula may be completely yellowish, only brown posteriorly or completely brown.

Distribution. — Indonesia: Java, Krakatau, Sulawesi; Malaysia: Sabah, Sarawak.

***Stantonina magnifica* spec. nov.**
(figs. 191-193)

Holotype, ♀ in Rijksmuseum van Natuurlijke Historie, Leiden: "Malaysia-SW.Sabah, nr Long Pa Sia (west), c.1010 m, 1-14.IV.1987, Mal. trap 1, RMNH'87, C.v.Achterberg".

Paratypes: 2 ♀, 1 ♂, (id., and British Museum (Natural History, London): 1 ♀, topotypic with same label-data as holotype; 1 ♀, "Sarawak: 4th Div., Gn. Mulu, RGS Exp., N.M. Collins, iii.1978, Malaise trap"; 1 ♂, "Museum Leiden, J.v.d.Vecht, G. Malang [= Indonesia, Java], II.1938".

Holotype, ♀, length of body 7.6 mm, of fore wing 7.2 mm.

Head. — Antennal segments 52, length of antenna 1.7 times fore wing, length of third segment 1.5 times fourth segment, length of third, fourth, and penultimate segments 4.1, 2.7, and 2.3 times their width, respectively; length of maxillary palp 1.5 times height of head; length of eye in dorsal view 3.8 times temple; temples directly narrowed posteriorly, largely coarsely granulate, with some rugae dorsally; POL : diameter of coellus : OOL = 7 : 10 : 18; frons smooth medially and remotely punctate laterally; vertex and face finely remotely punctate, its interspaces much wider than punctures; clypeus remotely and finely punctate; length of malar space 0.8 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides largely smooth, coriaceous antero-ventrally, shiny, and crenulate medially and posteriorly; precoxal sulcus sinuate, complete, and distinctly crenulate; area below precoxal sulcus remotely punctulate; pleural sulcus crenulate; mesoscutum densely punctulate; notauli (narrowly) crenulate; scutellar sulcus smooth, except for some obsolescent crenulae; scutellum normal; surface of propodeum remotely punctate anteriorly, with weak medial carina, medially with some coarse vermiculate rugae and posteriorly largely smooth.

Fore wing. — Vein $r : 1-SR1 : 2-SR1 = 22 : 2 : 82$; $2-SR : 1-SR1 : r-m = 24 : 2 : 16$; pterostigma slender (fig. 191); cu-a sub interstitial, vertical; $1-SR+M$ sinuate (fig. 191); anterior half of subbasal cell of fore wing largely glabrous; second submarginal cell rather robust and subpetiolate (fig. 191); discal cell slender and truncate anteriorly (fig. 191).

Legs. — Hind coxa punctulate-coriaceous dorsally, with some short coarse rugae; tarsal claws rather slender with some bristly setae; length of femur, tibia and basitarsus of hind leg 6.2, 10.7, and 9.1 times their width, respectively; length of hind tibial spurs 0.40 and 0.55 times hind basitarsus; hind tibia with three pegs apically.

Metasoma. — Length of first tergite 3.8 times its apical width (fig. 192), its surface shiny and coriaceous; second tergite with smooth triangular elevated basal area and remainder shiny coriaceous; second suture curved, smooth and

moderately impressed, area behind it elliptical, smooth and rather convex; third tergite rather smooth, the following tergites coriaceous and rather wrinkled; length of ovipositor sheath 0.57 times fore wing.

Colour. — Black(ish); face, clypeus, palpi, scapus and pedicellus ventrally, fore leg (except telotarsus), middle coxa, trochanters, middle femur, basal 0.7 of middle tibia, basal 0.6 of hind tibia, hind tarsus (except telotarsus), 18th-29th antennal segments, mesosternum medio-posteriorly, first tergite basally, medio-anteriorly, and medio-posteriorly, second tergite basally, and base of third tergite narrowly white or ivory; scapus and pedicellus dorsally, telotarsi, apical 0.4 of hind tibia, hind tibial spurs, apex of middle and hind femora narrowly, apical third of middle tibia, middle tarsus (except base of basitarsus), first tergite laterally and partly medially, notum of second tergite, large patch on second epipleuron, third (except epipleuron anteriorly) and following tergites, fourth-sixth sternites largely, basal third of antenna dorsally, apical third of antenna, tegulae, ovipositor sheath, pterostigma and veins dark brown or blackish; flagellum baso-ventrally brown; remainder of hind leg (but hind coxa partly dark brown apically and yellowish basally) orange-brown; metasoma ventro-basally yellowish; fore wing with large dark brown patch apically, including about 0.7 of marginal cell (fig. 191), and remainder of wing subhyaline.

Variation. — Length of fore wing 6.3-7.2 mm, and of body 6.8-7.8 mm; length of antenna of ♀ 1.6-1.7 times fore wing; antennal segments of ♀ 51 (1), 52 (1), and 53 (1); length of third antennal segment 1.4-1.5 times third segment; length of maxillary palp 1.4-1.5 times height of head; eye in dorsal view 3.1-3.8 times temple; length of malar space 0.8-1.0 times basal width of mandible; length of hind femur and basitarsus 5.5-6.2 and 6.7-9.1 times their width, respectively; length of first tergite 3.5-3.8 times its apical width, only paratype from Sarawak with fine medial carina (fig. 192); length of ovipositor sheath 0.46-0.57 times fore wing; 11 or 12 antennal segments whitish; second tergite medially and basal half of third tergite may be ivory; male-paratype has rugosity on propodeum coarser and more extensive and mesosternum completely dark brown.

Distribution. — Indonesia: Java; Malaysia: Sabah, Sarawak.

***Stantonina nana* spec. nov.**
(figs. 210-214)

Holotype, ♀ in British Museum (Natural History), London: "Brunei: Ulu, Temburong, 300 m, ii-iii. (19)82. M. Day".

Holotype, ♀, length of both body and fore wing 3.3 mm.

Head. — Antennal segments 42, length of antenna 1.5 times fore wing (figs. 210, 214), length of third segment 1.3 times fourth segment; length of third, fourth and penultimate segments 3.8, 3.0 and 1.5 times their width, respectively (figs. 211, 214); length of maxillary palp 1.4 times height of head; length of eye in dorsal view 3.0 times temple; temples directly narrowed posteriorly; POL : diameter of ocellus : OOL = 7 : 6 : 15; frons rugulose-aciculate laterally, and smooth medially; vertex shiny punctulate-rugulose; face and clypeus punctate with interspaces equal to width of punctures or somewhat wider; length of malar space 1.1 times basal width of mandible; malar suture rather shallow.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides granulate ventrally, largely smooth dorsally, and crenulate medially and posteriorly; precoxal sulcus largely impressed and crenulate; area below precoxal sulcus smooth, but near ventral edge superficially microsculptured; pleural sulcus distinctly crenulate; mesoscutum largely smooth, but partly punctulate; notauli narrowly crenulate; scutellar sulcus narrowly crenulate only; scutellum sparsely punctulate and rather convex; surface of propodeum granulate anteriorly, without longitudinal carina, but instead with interrupted rugae, posterior half coarsely transversely rugose.

Fore wing. — Vein r : 1-SR1 : 2-SR1 = 11 : 2 : 89; 2-SR : 1-SR1 : r-m = 17 : 2 : 10; cu-a slightly postfurcal and vertical (fig. 210); 1-SR+M straight; second submarginal cell slender (fig. 210, left wing) to moderately robust (right wing); anterior half of subbasal cell largely setose apically (fig. 212); discal cell rather robust (fig. 210).

Legs. — Hind coxa granulate, with few rather weak rugae dorsally; tarsal claws rather slender and only bristly setose basally; length of femur, tibia and basitarsus of hind tibia and basitarsus of hind leg 5.6, 9.2, and 9.0 times their width, respectively; hind femur only densely coriaceous ventrally; length of hind tibial spurs 0.40 and 0.50 times hind basitarsus; hind tibia with two pegs apically.

Metasoma. — Length of first tergite 3.3 times its apical width, its surface granulate and rather dull; second tergite granulate; second suture straight and moderately deep; third and following tergites rather shiny and superficially granulate; length of ovipositor sheath 0.53 times fore wing.

Colour. — Pale yellowish; antenna largely (except scapus and pedicellus ventrally), stemmaticum, both lateral mesoscutal lobes (except laterally), tegula, scutellum posteriorly, metanotum medially and posteriorly, posterior half of propodeum (except near posterior rim), first tergite antero-laterally and narrow posterior part, apices of third-sixth tergites, pterostigma and

veins, hind coxa apically, apical 0.2 of hind femur, apical 0.3 of hind tibia, hind spurs, hind tarsus (except basitarsus largely), and ovipositor sheath dark brown; palpi, fore basitarsus and following second segment, basal 0.6 of middle basitarsus, and basal 0.8 of hind basitarsus whitish; second epipleuron with (rather light) brownish patch; fore wing subhyaline apically as remainder of fore wing; humeral plate, hind trochantellus, apex of middle tibia and spurs, middle tarsus (except basal 0.6 of basitarsus), and second tergite basally brown.

***Stantonina nigristerium* spec. nov.**
(figs. 196, 197, 202)

Holotype, ♀ in British Museum (Natural History): „Brunei: U. Temburong, Bukit Retak, 1500 m, iv.1981, I. Gauld”.

Holotype, ♀, length of body and of fore wing both 7.5 mm.

Head. — Antennal segments 55, length of antenna 1.5 times fore wing, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 4.4, 3.2 and 1.5 times their width, respectively; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 2.6 times temple; temples directly narrowed posteriorly; POL : diameter of ocellus : OOL = 6 : 6 : 13, frons sparsely punctate laterally, and smooth medially; vertex sparsely punctate, with interspaces distinctly wider than punctures; face and clypeus punctulate; length of malar space 1.1 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides largely smooth, medially (sparsely) and posteriorly crenulate; precoxal sulcus completely impressed and crenulate; area below precoxal sulcus superficially and sparsely punctulate; pleural sulcus crenulate; mesoscutum largely smooth, punctulate; notauli crenulate anteriorly, obsolescent posteriorly; scutellar sulcus with medium-sized irregular crenulae; scutellum distinctly convex; surface of propodeum completely smooth; only species examined with prepectal carina behind fore coxae wide and flange-like (fig. 202).

Fore wing. — Vein $r : 1-SR1 : 2-SR1 = 22 : 1 : 76$; $2-SR : 1-SR1 : r-m = 23 : 1 : 16$; cu-a antefurcal (fig. 196); $1-SR+M$ slightly sinuate; second submarginal cell robust (fig. 196); anterior half of subbasal cell largely glabrous; pterostigma comparatively slender (fig. 196); discal cell rather wide (fig. 196).

Legs. — Outer face of hind coxa largely smooth, sparsely punctulate and dorsally granulate with some weak rugae; tarsal claws moderately slender and with few brown bristles basally; length of femur, tibia and basitarsus of hind leg

5.2, 10.2 and 7.3 times their width, respectively; length of hind tibial spurs 0.40 and 0.50 times hind basitarsus; hind tibia with four pegs apically.

Metasoma. — Length of first tergite 3.9 times its apical width (fig. 197), and its surface smooth; second and following tergites smooth; second suture curved and shallow; length of ovipositor sheath about 0.5 times fore wing.

Colour. — Pale yellowish (including tegula, but humeral plate partly infuscated); frons medially, vertex, stemmaticum, temples dorsally, antenna (except scapus and pedicellus ventrally), mesoscutal lobes (except laterally), metanotum medially, mesosternum (except anteriorly and posteriorly narrowly), mesopleuron below precoxal sulcus and anteriorly, base and apex of first tergite narrowly, base of second tergite, apices of third-fifth tergites, hind coxa apically (except medio-dorsally), hind trochanter and trochantellus, hind femur apically and ventrally, apical third of hind tibia, hind spurs, hind tarsus (except basal quarter of basitarsus), telotarsi and fourth middle tarsal segment black; pterostigma, veins, ovipositor sheath, propodeal apical rim slightly, second metasomal suture, apical half of middle basitarsus, second and third middle tarsal segments, basal half of hind tibia with two connected patches ventrally, apical quarter of middle tibia and spurs dark brown; apex of fore wing rather weakly infuscated, and remainder subhyaline.

Note. — The only other known Oriental species with a completely smooth propodeum, *S. procera* Enderlein, 1920, has the metasoma completely black, length of fore wing about 10 mm, mesosternum and mesopleuron yellowish, middle and hind tarsi and inner face of hind femur black.

***Stantonía pellicea* spec. nov.**

(figs. 198, 200, 201)

Holotype, ♀ in British Museum (Natural History), London: "Sarawak: 4th Div., Gn. Mulu, RGS Exp., v-vi.1978, N. M. Collins".

Paratypes: 2 ♀ (id., and Rijksmuseum van Natuurlijke Historie, Leiden): topotypic, but iii-iv.1978.

Holotype, ♀, length of body 4.8 mm, of fore wing 4.6 mm.

Head. — Antennal segments 42, length of antenna 1.3 times fore wing, apical third of antenna with submoniliform segments, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 4.0, 3.0 and 1.7 times their width, respectively; length of maxillary palp 1.1 times height of head; length of eye in dorsal view 2.8 times temple; temples directly narrowed posteriorly; POL: diameter of ocellus: OOL = 4 : 5 : 10; frons strigose and finely punctate laterally and smooth medially; vertex finely

punctate, interspaces much wider than punctures; face and clypeus densely punctate, interspaces about equal to diameter of punctures; length of malar space 1.2 times basal width of mandible; malar suture obsolescent (distinct in other species examined).

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides granulate ventrally, largely smooth dorsally, and crenulate medially and posteriorly; precoxal sulcus complete and narrowly crenulate; area below precoxal sulcus punctulate; pleural sulcus finely crenulate; mesoscutum densely finely punctate; notauli finely crenulate; scutellar sulcus narrowly crenulate; scutellum finely punctate and rather flat (fig. 198); surface of propodeum rather dull and coriaceous, medially with nine short, fine and transverse rugae.

Fore wing. — Vein $r : 1-SR1 : 2-SR1 = 19 : 3 : 94$; $2-SR : 1-SR1 : r-m = 26 : 3 : 17$; second submarginal cell slender (fig. 200); cu-a interstitial; subbasal cell completely setose apically; $1-SR+M$ slightly sinuate; discal cell rather robust (fig. 200).

Legs. — Hind coxa dull and coriaceous only; tarsal claws moderately slender and setose basally; length of femur, tibia and basitarsus of hind leg 4.6, 9.9 and 10 times their width, respectively; hind femur dull and coriaceous; length of hind tibial spurs 0.40 and 0.55 times hind basitarsus; hind tibia with six pegs apically.

Metasoma. — Length of first tergite 2.3 times its apical width, comparatively flat, its surface dull and (granulate-)coriaceous (fig. 201); laterope smaller than in other species examined; second and third tergites dull and coriaceous; second suture straight; fourth and following tergites largely smooth; length of ovipositor sheath about 0.5 times fore wing.

Colour. — Brownish-yellow, dorsally somewhat darker than remainder of body; antenna (but basal half brownish ventrally), stemmaticum, middle tarsus, hind tibial spurs largely, basal 0.8 times of hind basitarsus, fourth and fifth tarsal segments, apical quarter of hind tibia, hind femur dorso-apically, pterostigma and veins dark brown; apex of hind basitarsus, second and third segments of hind tarsus white; tegula yellowish, but humeral plate partly infuscated; fore wing completely subhyaline.

Variation. — Antennal segments of ♀ 40 (2) or 42 (1), length of fore wing 4.1-4.6 mm, of body 4.3-4.8 mm, length of first tergite 2.3-2.4 times its apical width, length of ovipositor sheath 0.49-0.53 times fore wing, and third hind tarsal segment may be slightly brownish.

***Stantonina sabahensis* spec. nov.**
(figs. 215-218)

Holotype in Rijksmuseum van Natuurlijke Historie, Leiden: "Malaysia-SE. Sabah, nr Danum Valley Field C., W0, c.150 m, Mal. trap 11, 24.II.-18.III.1987, C. v. Achterberg, RMNH'87".

Holotype, ♀, length of body 5.6 mm, of fore wing 5.1 mm.

Head. — Antennal segments 45, length of antenna 1.6 times fore wing, length of third segment 1.2 times fourth segment, length of third, fourth, and penultimate segments 3.4, 2.8 and 2.0 times their width, respectively (fig. 216); length of maxillary palp 1.3 times height of head; length of eye in dorsal view 3.0 times temple; temples directly narrowed posteriorly; POL : diameter of ocellus : OOL = 6 : 5 : 8; frons strigose and punctate laterally, and smooth laterally; vertex moderately punctate, interspaces wider than punctures; face distinctly punctate, with interspaces wider than punctures; clypeus sparsely punctate; length of malar space 0.8 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides granulate ventrally, largely smooth dorsally and crenulate medially and posteriorly; precoxal sulcus largely impressed and distinctly crenulate; area below precoxal sulcus punctulate; pleural sulcus finely crenulate; mesoscutum finely punctate; notauli narrowly crenulate; scutellar sulcus with weak medial carina and some short crenulae; scutellum moderately convex and punctate, only coriaceous medio-posteriorly; surface of propodeum rather dull and coriaceous anteriorly and with a short medio-longitudinal carina, with some coarse irregular rugae medially and one ruga subapically, remainder of posterior part largely smooth and shiny.

Fore wing. — Vein $r : 1-SR1 = 2-SR1 = 11 : 1 : 50$; $2-SR : 1-SR1 : r-m = 11 : 1 : 7$; cu-a interstitial and somewhat inclivous (fig. 215); second submarginal cell robust (fig. 215); $1-SR+M$ slightly sinuate; anterior half of subbasal cell largely glabrous anteriorly (fig. 218); discal cell moderately slender (fig. 215).

Legs. — Hind coxa rather dull and granulate, with some short and strong transverse rugae dorso-apically; tarsal claws with some bristly setae basally, normal; length of femur, tibia and basitarsus of hind leg 4.8, 8.3, and 7.3 times their width, respectively; length of hind tibial spurs 0.40 and 0.55 times hind basitarsus; hind tibia with four pegs apically; hind femur coarsely rugose-pimplily ventrally.

Metasoma. — Length of first tergite 2.4 times its apical width, its surface dull and completely granulate (fig. 217); second and following tergites largely finely granulate; second suture straight and distinct; length of ovipositor sheath 0.36 times fore wing.

Colour. — Pale yellowish; frons (except laterally), stemmaticum, vertex, temple partly dorsally, mesoscutal lobes (except laterally), scutellar sulcus anteriorly, scutellum medio-posteriorly, metanotum largely, large patch on propodeum medially and posteriorly, mesopleuron below precoxal sulcus and anteriorly, mesosternum largely, round patch on metapleuron posteriorly and a smaller one anteriorly, apical 0.4 of middle tibia, telotarsi, middle tarsus (except basal 0.6 of basitarsus), apical 0.4 of hind coxa, hind femur (except basal fifth), apical half of hind tibia, hind spurs, hind tarsus (except basitarsus), basal half of first tergite and its apex, second tergite basally and medially, and third-fifth tergites (except anteriorly) blackish; antenna (except scapus and pedicellus ventrally), apex of middle femur, hind trochantellus, ovipositor sheath, middle spurs, sixth-eighth tergites medially, tegulae, pterostigma, veins and fore wing apically dark brown; inner face of hind tibia subbasally and narrow part of apex of hind basitarsus brownish; remainder of middle and hind tarsi white(-ivory); remainder of fore wing subhyaline and apical 0.7 of marginal cell dark brown (fig. 215).

***Stantonina scutellaris* spec. nov.**
(figs. 241-245)

Holotype, ♀ in Rijksmuseum van Natuurlijke Historie, Leiden: "Malaysia-SE.Sabah, nr Danum Valley Field C., c. 150 m, Mal. trap 10, 20-26.III.1987, RMNH, C. v. Achterberg".

Holotype, ♀, length of body 5.1 mm, of fore wing 5.2 mm.

Head. — Antennal segments 46, length of antenna 1.6 times length of fore wing, length of third segment 1.1 times fourth segment, length of third, fourth, and penultimate segments 3.2, 2.8 and 2.0 times their width, respectively; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 2.8 times temple; temples directly narrowed posteriorly; POL : diameter of ocellus : OOL = 6 : 5 : 9; frons punctate and with some rugae laterally, antero-laterally rather coriaceous, and largely smooth medially; vertex coarsely punctate and partly rugose laterally, and its interspaces less than width of punctures; face punctate, and interspaces equal to width of punctures or wider; clypeus convex and distinctly punctate; length of malar space equal to basal width of mandible; malar suture distinct.

Mesosoma. — Length of mesosoma 1.2 times its height; pronotal sides granulate ventrally, coarsely crenulate medially, punctate-crenulate posteriorly, and dorsally largely smooth; precoxal sulcus nearly complete and rather coarsely crenulate; area below precoxal sulcus distinctly punctate; pleural

sulcus finely crenulate; mesoscutum punctate; notauli distinctly crenulate; scutellar sulcus with one medial carina and some crenulae; scutellum with oblique rugae antero-laterally (fig. 242), moderately convex (fig. 243), and finely crenulate medio-posteriorly (fig. 242); surface of propodeum coarsely rugose medially, rather dull and rugulose anteriorly, and smooth and shiny posteriorly.

Fore wing. — Vein $r : 1-SR1 : 2-SR1 = 18 : 1 : 83$; $2-SR : 1-SR1 : r-m = 14 : 1 : 18$; cu-a vertical and shortly antefurcal (fig. 241); $1-SR+M$ straight; discal cell truncate anteriorly and rather robust (fig. 241); anterior half of subbasal cell glabrous apically (fig. 244); second submarginal cell rather robust and subsessile (fig. 241).

Legs. — Hind coxa coarsely and irregularly rugose dorsally, and rugulose-granulate laterally; tarsal claws rather slender and with brown bristles basally; length of femur, tibia and basitarsus of hind leg 4.8, 7.6, and 6.6 times their width, respectively; length of hind tibial spurs 0.40 and 0.60 times hind basitarsus; hind tibia with four pegs apically.

Metasoma. — Length of first tergite 2.6 times its apical width, rather flat, and its surface granulate (fig. 245), and rather dull; second tergite granulate with some punctures; second suture straight and obsolescent; third and following tergites superficially punctulate-granulate; length of ovipositor sheath 0.33 times fore wing, and 1.6 mm.

Colour. — Pale yellowish; frons, stemmaticum, vertex, occiput and temples dorsally, ventral half of pronotal sides largely, mesosternum (except medio-posteriorly), mesopleuron largely (except medio-posteriorly), mesonotum (except scutellum medio-anteriorly), metanotum, metapleuron anteriorly and ventrally, propodeum medially and posteriorly, apical half of hind coxa largely, hind femur (except basal 0.1), apical 0.6 of hind tibia, hind tarsus (except basal half of basitarsus), first-third tergites largely, fourth and fifth tergites (except anteriorly largely), sixth-eighth tergites largely, telotarsi, and apical 0.2 of middle tibia blackish; antenna (but scapus and pedicellus yellowish ventrally), hind trochantellus, middle tarsus (except basal half of basitarsus), ovipositor sheath, area near second suture, pterostigma and most veins dark brown; fore wing dark brown apically, and remainder subhyaline; apical 0.7 of marginal cell of fore wing dark brown (fig. 241); hind wing slightly infuscated apically; hind spurs brownish-yellow; basal half of hind and middle basitarsi, and basal 0.4 of hind tibia ivory; epipleura and sternites completely yellowish.

***Stantonio siamensis* Enderlein**
(figs. 223-227, 236)

Stantonio siamensis Enderlein, 1921: 59 (holotype (Zoologisches Museum Berlin) examined); Shenefelt, 1970: 268.

In the Rijksmuseum van Natuurlijke Historie, Leiden is a series from Java (Semarang, alt. 40 m) and partly reared from a caterpillar (one named as *Hyblaea* (= Teak moth, *Hyblaea puera* (Cramer)) in teak forest by L. G. E. Kalshoven. Additional specimens have been examined from Sulawesi (Dumoga Bone National Park, 220 m, along Toraut river), Brunei (Temburong, Ulu, 300 m) and West Malaysia (Pahang, Taman Negara, c. 80 m). Mostly collected in July.

Variation. — Antennal segments of ♀ 47(4), 49 (4), 50 (2) and 51 (1), of ♂ 45 (1), 47 (2), 48 (1), 49 (1), and 50 (2); length of antenna of ♀ 1.6 times fore wing, of ♂ 1.6-1.8 times; length of ovipositor sheath 0.37-0.42 times fore wing; length of fore wing 4.4-6.0 mm; vertex rather coarsely punctate, interspaces mostly about equal to width of punctures or narrower; anterior half of subbasal cell of fore wing largely glabrous apically; second submarginal cell of fore wing rather slender (figs. 224-226); vein 1-SR+M of fore wing may be partly or completely absent (figs. 224, 225); length of first metasomal tergite 1.9-2.4 times its apical width (fig. 236); basal third of first tergite dark brown to completely yellowish (in series from same locality), apical 0.4 (-0.5 in Javanese specimens) of marginal cell of fore wing dark brown (fig. 226); mesopleuron yellowish, at most with a faintly infuscated patch; hind femur coarsely rugose ventrally; stemmaticum and usually its direct surroundings dark brown, but surroundings frequently largely yellowish or brownish; second hind tarsal segment ivory to completely brown, one specimen (from Sulawesi) has also third segment ivory; propodeum near apical rim dark brown or yellowish, wider in Javanese specimens than in others; hind femur yellowish to dark brown ventrally.

Distribution. — Brunei; Indonesia: Java, Sulawesi; Malaysia; Thailand.

***Stantonio sumatrana* Enderlein**
(fig. 219)

Stantonio sumatrana Enderlein, 1908: 110; Shenefelt, 1970: 268.

Specimens examined from Sumatra (Deli, Medan), Java (Nongkodjadjar), Sulawesi (Dumoga Bone National Park, near Toraut river, at 220 and 1180 m,

at forest edge), and West Malaysia (Selangor, Petaling Jaya, c. 75 m). Mostly collected in May and January.

Variation. — Antennal segments of ♀ 51 (1), 54 (2), 55 (7), 56 (13), 57 (10), and of ♂ 51 (1), 53 (1), 54 (3), 56 (3), 57 (2), and 58 (1); length of antenna of ♀ 1.7-1.8 times fore wing, of ♂ 1.9-2.0 times; length of fore wing 4.7-6.0 mm; length of ovipositor sheath 0.16-0.19 times fore wing; length of first tergite 2.4-2.7 times its apical width; vertex (finely) punctate, with interspaces wider than punctures or of equal width; surroundings of stemmaticum yellowish; apical 0.4 of marginal cell of fore wing weakly infuscated; anterior half of subbasal cell of fore wing largely setose, except near vein M+CU1; tegula completely yellowish or apical third infuscated; hind tarsus sometimes brownish ventrally.

Distribution. — Indonesia: Java, Sulawesi, Sumatra; Malaysia.

***Stantonina vittata* spec. nov.**
(figs. 220-222, 246)

Holotype, ♀ in British Museum (Natural History), London: "Sarawak: 4th Div., Gn Mulu, RGS Exp., N. M. Collins, iv-v.1978, Malaise trap".

Paratypes: 2 ♀, (id. and Rijksmuseum van Natuurlijke Historie, Leiden): topotypic, but v. 1978 and vi-vii.1978, respectively.

Holotype, ♀, length of body 6.2 mm, of fore wing 6.0 mm.

Head. — Antennal segments 49, length of antenna 1.6 times fore wing and its subapical segments slender, length of third segment 1.2 times fourth segment, length of third, fourth, and penultimate segments 3.4, 2.8, and 2.3 times their width, respectively; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 2.6 times temple; temples directly narrowed posteriorly; POL : diameter of ocellus : OOL = 6 : 5 : 9; frons strigose laterally and smooth medially; vertex very coarsely punctate, interspaces narrower than punctures and near eyes rugose; face coarsely rugose-punctate; clypeus moderately punctate; length of malar space 0.9 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.2 times its height; pronotal sides granulate ventrally, largely smooth (with some punctures) dorsally, and distinctly crenulate medially and ventro-posteriorly; precoxal sulcus nearly complete, and rather coarsely crenulate; area below precoxal sulcus finely punctate and punctulate; pleural sulcus finely crenulate; mesoscutum finely punctate; notauli indistinctly crenulate; scutellar sulcus with short crenulae only; scutellum rather strongly convex (fig. 246, but less in paratypes), punctate and narrowly crenulate medio-posteriorly; surface of propodeum rather dull, densely micro-sculptured, coriaceous anteriorly and with irregular medi-

al carina, medially with some coarse transverse rugae, and posteriorly largely smooth.

Fore wing. — Vein $r : 1\text{-SR}1 : 2\text{-SR}1 = 11 : 1 : 47$; $2\text{-SR} : 1\text{-SR}1 : r\text{-m} = 10 : 1 : 6$; cu-a interstitial (fig. 220); $1\text{-SR}+M$ straight; second submarginal cell robust (fig. 220); discal cell rather robust (fig. 220); anterior half of subbasal cell largely glabrous apically.

Legs. — Hind coxa rather dull and granulate, and with some coarse rugae dorso-apically; tarsal claws moderately slender and setose basally; length of femur, tibia and basitarsus of hind leg 4.8, 8.0, 6.9 times their width, respectively; length of hind tibial spurs 0.40 and 0.50 times hind basitarsus; hind tibia with five pegs apically; hind femur coarsely pimply ventrally.

Metasoma. — Length of first tergite 1.9 times its apical width, rather flat, its surface dull and completely granulate (fig. 222); second and following tergites dull and granulate; second suture obsolescent and straight; length of ovipositor sheath 0.35 times fore wing.

Colour. — Pale yellowish; frons medially, stemmaticum, vertex, mesoscutal lobes (except laterally), scutellar sulcus anteriorly, scutellum medio-posteriorly, metapleuron and propodeum with medio-posterior patch, small patch on metapleuron anteriorly, mesosternum largely, mesopleuron anteriorly, basal half of first tergite and its apex narrowly, basal half of second tergite, third tergite largely dorsally, fourth and fifth tergites posteriorly, telotarsi, apical quarter of middle tibia, apex of hind coxa, hind trochantellus, apical 0.4 and ventral face of hind femur, apical 0.4 of hind tibia, hind spurs and fourth hind tarsal segment black; antenna (but scapus and pedicellus yellowish ventrally), tegula, pterostigma, veins, patch on mesopleuron ventro-posteriorly, apex of middle femur, middle spurs, second-fourth middle tarsal segments, apex of middle basitarsus, third hind tarsal segment, minute patch near basal third of hind tibia, sixth-eighth tergites medially and ovipositor sheath dark brown; epipleuron of second tergite without dark patch; hind basitarsus and second hind tarsal segment completely white; palpi infuscated (except basally); apex of fore wing (including apical half of marginal cell, fig. 220) dark brown; remainder of fore wing subhyaline.

Variation. — Antennal segment of ♀ 48 (1) or 49 (1); length of fore wing 5.5-6.0 mm, of body 5.8-6.2 mm; length of ovipositor sheath 0.35-0.45 times fore wing; apical 0.50-0.55 of marginal cell of fore wing dark brown; length of first tergite 1.9-2.2 times its apical width; temple between occipital carina and eye completely yellowish or partly blackish; area below precoxal sulcus may be largely blackish; hind femur (except basal 0.3) may be largely blackish; palpi pale yellowish or infuscated; second hind tarsal segment may be yellowish and apically slightly infuscated; area between eye and stemmaticum coarsely punctate, with interspaces equal to or narrower than width of punctures.

Tribe Orgilini Ashmead
(figs. 22, 24, 38-167)

Orgilini Ashmead, 1900: 590.

Diagnosis. — Antenna variable, slender, about as long as body (figs. 118, 123) or rather robust and shorter than body (figs. 47, 75, 83); vein r-m of fore wing absent (figs. 96, 113), at most with a minute remnant (fig. 74); vein M+CU of hind wing subequal to vein 1-M or longer (figs. 96, 113, 149); vein cu-a of hind wing vertical (fig. 96) or weakly reclivous (fig. 113), exceptionally distinctly reclivous (figs. 84); basal cell of hind wing medium-sized or large (figs. 84, 113); posterior margin of hind wing nearly straight or convex sub-basally (figs. 96, 113).

Biology. — Parasites of Coleophoridae, Gelechiidae, Oecophoridae, Pyralidae, Psychidae, Gracillariidae and Tortricidae.

Distribution. — Cosmopolitan.

Clotildea Szépligeti

Clotildea Szépligeti, 1914: 117; Shenefelt, 1970: 228. Type-species: *Clotildea lucida* Szépligeti, 1914, by monotypy.

Diagnosis. — Antenna of ♀ slender and many segmented (fig. 40); scapus moderately robust and strongly oblique apically (fig. 38); clypeus normal, its ventral margin straight medially (fig. 43); occipital carina strong up to middle level of eye (fig. 38); only genus with stemmaticum situated in a wide depression (fig. 39); malar suture absent; length of mesosoma about 1.4 times its height; prepectal carina complete, but weak, remains far removed from anterior margin of mesopleuron (fig. 38); precoxal sulcus absent; metapleuron not projecting forwards ventro-laterally (fig. 38); notauli complete and smooth; mesoscutum smooth and setose; scutellar sulcus smooth (fig. 56); metapleural flange absent (fig. 38); mesoscutum with lateral carina in front of tegulae (absent or nearly so in other genera of the Orgilinae); propodeum convex, smooth, and without carinae; vein 1-SR of fore wing absent; vein 1-M of fore wing slightly curved (fig. 44); vein cu-a of fore wing subvertical, shortly postfurcal (fig. 44); vein 2-M of fore wing sclerotized basally; vein SR1+3-SR of fore wing straight; outer side of hind tibia with numerous small pegs apically (figs. 45, 46); length of first metasomal tergite about twice its apical width, without dorsal carinae (fig. 155); second and third tergites with X-shaped depressions, smooth (fig. 155); only first and second tergites with sharp lateral

crease; ovipositor with minute subapical notch and without nodus (fig. 41); length of ovipositor sheath about 1.3 times fore wing.

The biology is unknown.

Distribution. — The only known species, *C. lucida* Szépligeti, occurs in the equatorial part of the Afrotropical region.

***Clotildea lucida* Szépligeti**
(figs. 38-46, 155, 156)

Clotildea lucida Szépligeti, 1914: 118; Shenefelt, 1970: 228.

Holotype, ♀ in Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussels: "Chûtes de Samlia, Riv. N. Gamic, Moequereys", "*Clotildea lucida* n.sp., det. Szépligeti, 1914", "*Clotildea lucida* m." (in Szépligeti's handwriting), "Type".

Holotype, ♀, length of body 17 mm, of fore wing 15.5 mm.

Head. — Remaining antennal segments 48, length of third segment 1.3 times fourth segment, length of third and fourth segments 2.4 and 1.8 times their width, respectively; length of maxillary palp 1.3 times height of head; length of eye in dorsal view twice length of temple; temples directly narrowed posteriad (fig. 39); POL : diameter of ocellus : OOL = 16 : 11 : 24; frons concave and smooth; vertex mainly concave and smooth (fig. 39); antennal sockets with a protruding lamella dorso-laterally; face and clypeus punctulate; anterior tentorial pits large (fig. 43); length of malar space 1.6 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronope large (fig. 156); pronotal sides smooth; pleural sulcus shallow and smooth; meso- and metapleura smooth; metapleuron not separated from propodeum (fig. 38); notauli smooth and deep; surface of propodeum smooth.

Fore wing. — Vein $r : SR1+3-SR : 2-SR = 20 : 79 : 21$; $m-cu : 1-M = 10 : 16$.

Legs. — Hind coxa smooth; tarsal claws simple, widened basally (fig. 42); length of femur, tibia and basitarsus of hind leg 6.1, 12 and 11.8 times their width, respectively; length of hind tibial spurs 0.3 and 0.2 times hind basitarsus.

Metasoma. — Length of first tergite twice its apical width, its surface smooth, except for some punctulation, medio-basally concave (fig. 55), and laterope very large and deep (fig. 38); metasoma smooth, its second tergite with lateral depressions and weakly developed thyridia; second and third tergites with smooth X-shaped depressions (fig. 155); length of ovipositor sheath 1.34 times fore wing.

Colour. — Reddish-brown; metasoma (except base of first tergite), antenna, stemmaticum, two patches below antennal sockets blackish; hind leg (except coxa, trochanters and spurs), middle tibia (except base) and middle tarsus dark brown; wing membrane dark brown, but with two yellowish areas below and near pterostigma (fig. 44); pterostigma largely yellowish.

Distribution. — Congo.

Petiorgilus gen. nov.

Type-species: *Petiorgilus schmiedeknechti* spec. nov.

Etymology. — From “petiolus” (Latin for “stalk, stem”) and the generic name *Orgilus*, because of the petiolate first metasomal tergite. Gender: masculine.

Diagnosis. — Antenna of ♀ comparatively robust and shorter than body (fig. 47); scapus robust and oblique apically (fig. 47); clypeus normal, its ventral margin straight medially; occipital carina present up to upper level of eyes (figs. 47, 58); malar suture absent; length of mesosoma about 1.7 times its height; propleuron concave ventrally (fig. 55) and in lateral view with straight ventral margin (fig. 56); prepectal carina weak and irregular, remaining removed from anterior margin of mesopleuron (fig. 47); precoxal sulcus complete, and largely narrowly crenulate (fig. 47); metapleuron not projecting forwards antero-laterally, but mesopleuron protruding above middle coxa (fig. 47); notauli complete and crenulate (fig. 51); mesoscutum densely punctate and setose; scutellar sulcus (largely?) smooth (fig. 51); metapleural flange narrowly developed (fig. 47); only genus of the Orgilini with a narrow transverse depression on scutellum medio-posteriorly (fig. 51); propodeum rather flat, punctate and without carinae; vein 1-M of fore wing curved (fig. 48); vein cu-a of fore wing subvertical and distinctly postfurcal (fig. 48); vein 2-M of fore wing not sclerotized; vein SR1+3-SR of fore wing straight; outer side of hind tibia with two pegs (fig. 53); first metasomal tergite petiolate (only genus of the Orgilinae) and flat basally, its length 1.6-1.8 times its apical width (fig. 59); laterope and dorsal carinae absent; second and third tergites without depressions, punctate; second and third tergites with sharp lateral crease (fig. 47); ovipositor with very indistinct notch and with no nodus; length of ovipositor sheath about 1.7 times fore wing.

The biology is unknown.

Distribution. — The only known species, *P. schmiedeknechti* spec. nov., occurs in the South Palaearctic region (N.Africa).

***Petiorgilus schmiedeknechti* spec. nov.**
(figs. 47-59)

Orgilus africanus Schmiedeknecht, 1896: 149 (nomen nudum).

Holotype, ♀ in Zoologisches Museum Berlin: "Type", "Oran, Honnon Ben Holjor", "*Orgilus africanus* Schmiedekn. ♀ ♂, n.sp., Homon-Ben Holjor (sic!), Oran", "*Orgilus africanus* Schmiedekn., Type, Dr. Enderlein", "27702".

Paratype: 1 ♂, in same depository and with same labels.

Holotype, ♀, length of body 5.5 mm, of fore wing 3.4 mm.

Head. — Antennal segments 35, length of second segment 1.2 times third segment, length of third, fourth and penultimate segments 3.3, 2.8 and 1.3 times their width, respectively (fig. 49); length of maxillary palp 0.6 times height of head; occipital carina weak, but distinct laterally, behind stemmaticum absent (fig. 58); length of eye in dorsal view 1.9 times temple; temples roundly narrowed posteriorly (fig. 58); POL : diameter of ocellus : OOL = 17 : 5 : 12; frons somewhat depressed and smooth medially, punctate laterally and with some rugulae near antennal sockets (fig. 58); vertex coarsely punctate; face weakly convex, densely and coarsely punctate and laterally coriaceous; clypeus strongly convex and finely punctate; length of malar space 1.5 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.7 times its height; pronope deep, longitudinally elongate (fig. 51); propleuron rugose and concave ventrally (fig. 55); pronotal sides reticulate medio-anteriorly, rest mainly densely punctate (fig. 47); mesopleuron punctulate; pleural sulcus crenulate, and curved posteriorly ventrally (fig. 47); notauli narrowly crenulate (fig. 51); scutellum punctate; surface of propodeum with several sizes of round or elongate punctures and without carinae.

Fore wing. — Vein r : SR1+3-SR : 2-SR = 11 : 60 : 18; cu-a not parallel with 3-CU1 (fig. 48); 1-SR+M straight.

Legs. — Hind coxa densely punctate, with some striae and rugae dorsally; tarsal claws simple, setose (fig. 54); length of femur, tibia and basitarsus of hind leg 4.7, 9.8 and 10 times their width, respectively; length of hind spurs 0.4 and 0.5 times hind basitarsus; apex of hind tibia with two pegs (fig. 53).

Metasoma. — Length of first tergite 1.6 times its apical width, its surface (coarsely) punctate, with some aciculae behind spiracles, evenly convex posteriorly, and dorsal carinae absent (fig. 59); second-seventh tergites remotely (rather coarsely) punctate; second suture obsolescent (fig. 59); length of ovipositor sheath 1.69 times fore wing.

Colour. — Black(ish); palpi, fore coxa, trochanter, trochantellus, and base of fore femur, hind leg, tegulae, pterostigma, and metasoma (dark) brown;

rest of fore leg yellowish-brown; wing membrane (whitish-)hyaline; veins largely brown.

Distribution. — Algeria. The correct name of the type-locality is Hammam Bou Hadjar.

Note. — Named in honour of its collector, the well-known German hymenopterist Prof. Dr. O. Schmiedeknecht (1847-1936).

Kerorgilus Van Achterberg

Kerorgilus Van Achterberg, 1985: 164. Type-species: *Kerorgilus longicaudis* Van Achterberg, 1985, by original designation.

Diagnosis. — Antenna of ♀ robust and comparatively short (fig. 62); scapus robust and truncate apically (fig. 62); clypeus with pair of upwards directing horns (fig. 64), its ventral margin straight (fig. 66); occipital carina present up to dorsal level of eyes and medio-dorsally absent; malar suture absent; length of mesosoma 1.6-1.9 times its height; propleuron convex ventrally and in lateral view with curved ventral margin (fig. 62); prepectal carina complete and irregular, not reaching anterior margin of mesopleuron (fig. 62); precoxal sulcus complete and sinuate, distinctly crenulate (fig. 62); metapleuron projecting forwards ventro-laterally (fig. 62); notauli complete, and crenulate (fig. 68); mesoscutum punctate and evenly short setose (fig. 68); scutellar sulcus crenulate (fig. 68); metapleural flange present (fig. 62); propodeum convex and completely smooth; vein 1-M of fore wing evenly curved (fig. 60); vein cu-a of fore wing strongly oblique and distinctly postfurcal (fig. 60); sclerotized part of vein 2-M of fore wing minute (fig. 60); vein SR1+3-SR of fore wing slightly sinuate (fig. 60); tarsal claws very slender (fig. 61); apex of hind tibia with cluster of slender pegs (fig. 67); first metasomal tergite without dorsal carinae and its length 1.3-1.8 times its apical width (fig. 71); second metasomal tergite smooth, without depressions, and only segment behind first tergite with sharp lateral crease (fig. 62); ovipositor with minute subapical notch; length of ovipositor sheath 1.2-1.8 times fore wing.

The biology is unknown.

Distribution. — Both known species are from the Palaearctic region. Key: Van Achterberg, 1985: 164-165. Description of the type-species: l.c., p.165-167.

Orgilus Haliday

Orgilus Haliday, 1833: 262; Shenefelt, 1970: 252. Type-species: *Microdus obscurator* Nees, 1814, by monotypy.

Ischius Wesmael, 1837: 20.

Macropalpus Ratzeburg, 1844: 56.

Oresimus Ashmead, 1900: 123.

Orgilomorpha Ashmead, 1900: 123.

Diagnosis. — Antenna of ♀ robust (fig. 75) to moderately slender (fig. 123), about as long as body (figs. 94, 97, 123) or shorter (fig. 83); scapus robust, apically subtruncate (figs. 75, 97, 159); clypeus normal, with its ventral margin straight (fig. 80); occipital carina variable; malar suture absent or visible as a shallow coriaceous depression (fig. 72); length of mesosoma 1.3-1.8 times its height; propleuron convex ventrally, and in lateral view with curved ventral margin (figs. 72, 94); prepectal carina variable; precoxal sulcus complete (fig. 72) or largely absent (fig. 159); notauli variable (figs. 79, 165); mesoscutum setose, smooth or sculptured (figs. 79, 88, 165); scutellar sulcus (finely) crenulate (figs. 79, 165); metapleural flange present (figs. 72, 116) or obsolescent (fig. 159); propodeum variable; vein 1-M of fore wing more or less curved (figs. 74, 84, 140); vein cu-a of fore wing (sub)interstitial or distinctly postfurcal, vertical or weakly inclivous (figs. 74, 140, 160); tarsal claws variable, often moderately robust (figs. 82, 90, 100), exceptionally with small acute lobe (fig. 161) or pectinate basally (fig. 100); apex of hind tibia with pegs apically (figs. 76, 99, 143), except in the subgenus *Anakorgilus*; first metasomal tergite (sub)sessile (figs. 81, 105, 122), with or without dorsal carinae; second metasomal tergite usually sculptured, without depressions; lateral crease of metasoma variable; ovipositor with minute subapical notch (fig. 98), or notch obsolescent or absent (fig. 162); length of ovipositor sheath 0.35-2.5 times fore wing.

Biology. — Larval endoparasites of Coleophoridae, Gelechiidae, Oecophoridae, Pyralidae, Psychidae, Gracillariidae and Tortricidae.

Distribution. — Cosmopolitan. A key to the Nearctic species is given by Muesebeck (1970: 4-11), and a key to the Palaearctic species will be published by Dr. A. Taeger (Eberswalde-Finow).

Subgenus Ischiolus Hellén

Orgilus subgenus *Ischiolus* Hellén, 1958: 34, 36; Shenefelt, 1970: 252. Type-species: *Microgaster rugosus* Nees, 1834, by monotypy.

Diagnosis. — Antenna of ♀ robust (fig. 75); occipital carina present up to upper level of eyes (figs. 72, 77); notauli complete and shallow (fig. 79); prepectal carina complete (fig. 72); precoxal sulcus complete and strongly crenulate (fig. 72); metapleural flange large (fig. 72); small stub of vein r-m of fore wing may be present (fig. 74); vein cu-a of fore wing subinterstitial; vein 2-M of fore wing sclerotized basally; hind coxa very robust (fig. 72); hind femur reticulate-rugose ventrally (fig. 78); outer face of hind tibia with slender pegs apically (fig. 76); metasoma convex and extensively sculptured (figs. 72, 81); dorsal carinae of first tergite usually strong (fig. 81); third tergite of ♀ with a complete sharp lateral crease (fig. 72).

Biology. — Parasites of Coleophoridae.

Distribution. — Holarctic, comprising only a few species.

Orgilus rugosus (Nees)
(figs. 72-82)

Microgaster rugosus Nees, 1834: 188.

Ischiolus rugosus; Shenefelt, 1970: 252.

Material. — Redescribed from a ♀ in the Zoologische Staatssammlung, München: "Rheingau, Loreley, Z. Chrys. linos., S. Jäckh", "Sammlung E. Bauer", "Orgilus (Ischiolus) rugosus (Nees), det. A. Taeger, II.1986".

This female was compared with the neotype-♂ to be designated by Dr. Taeger in the Reinhard Collection (Berlin).

Length of body 4.2 mm, of fore wing 3.4 mm.

Head. — Antennal segments 38, length of third segment 1.2 times fourth segment, length of third, fourth, and penultimate antennal segments 2.2, 1.8, and 1.2 times their width, respectively (figs. 73, 75); length of maxillary palp 0.7 times height of head; length of eye in dorsal view 1.7 times temple; temples dull and coriaceous ventrally, largely smooth medially, dorsally punctate, and in dorsal view gradually narrowed (fig. 72); POL : diameter of ocellus : OOL = 15 : 5 : 10; vertex near stemmaticum with curved depression, smooth (fig. 77), rest punctate; frons flat, laterally punctate; face strongly convex and densely reticulate; clypeus convex and densely punctate; occipital flange indistinct, but with a wide malar area, dull and coriaceous (fig. 72); length of malar space 1.4 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronope deep and elliptical; pronotal sides reticulate-rugose, dorsally and anteriorly partly densely punctulate-coriaceous anteriorly (fig. 72); mesopleuron remotely punctate; pieural sulcus distinctly crenulate (fig. 72); notauli shallow and narrowly

crenulate (fig. 79); scutellum remotely punctulate, but posteriorly densely punctate (fig. 79); surface of propodeum coarsely reticulate(-rugose).

Fore wing. — Vein r : SR1+3-SR : 2-SR = 7 : 35 : 11; 1-SR+M sinuate.

Legs. — Hind coxa coarsely rugose; tarsal claws simple, rather slender (fig. 82); length of femur, tibia and basitarsus of hind leg 3.0, 6.4 and 7.4 times their width, respectively; length of hind tibial spurs 0.4 and 0.5 times hind basitarsus; apex of hind tibia with cluster of 11 yellowish pegs (fig. 76).

Metasoma. — Length of first tergite equal to its apical width, its surface coarsely reticulate (but weaker basally), convex medially, and dorsal carinae strong, rather lamelliform, and present in its basal half (fig. 81); laterope deep and round (fig. 72); second tergite strongly reticulate, its base with acute margin (fig. 72); second suture narrow, shallow and crenulate (fig. 81); third-seventh tergites (more or less remotely) punctate, their posterior third finer and denser punctate (fig. 72); length of ovipositor sheath 0.43 times fore wing.

Colour. — Black; fore femur and tibia, base of hind femur, bases of middle and hind tibiae, hind spurs, base of second tergite, third tergite largely, fourth-sixth tergites apically, brown; humeral plate, remainder of legs (except black hind coxa), ptero- and parastigma, and wing veins dark brown; wing membrane rather infuscated.

Distribution. — Europe.

Note. — A topotypic male has 39 antennal segments and no stub of vein r-m in fore wing.

Subgenus *Afrorgilus* nov.

Type-species: *Orgilus caudatus* Granger, 1949.

Etymology. — Derived from “Afrotropical” and the generic name *Orgilus* Haliday, because this group developed probably solely in the Afrotropical region. Gender: masculine.

Diagnosis. — Antenna of ♀ moderately slender, shorter than body (fig. 83); occipital carina completely absent (figs. 83, 92); notauli present, but reduced posteriorly (fig. 88); prepectal carina absent ventrally (fig. 83); precoxal sulcus present, narrowly crenulate (fig. 83); metapleural flange medium-sized (fig. 83); vein r-m of fore wing absent; vein 2-M of fore wing not sclerotized basally (fig. 84); vein cu-a of fore wing (sub)interstitial; hind coxa long, rather slender (fig. 83); hind femur smooth ventrally; hind tibia with few pegs apically; metasoma flattened and finely sculptured; dorsal carinae of first tergite shortly developed (fig. 93); third tergite of ♀ only basally with a lateral crease (fig. 83).

The biology is unknown.

Distribution. — Afrotropical (Malagasy).

Key to species of the subgenus *Afrorgilus* nov.

1. Prepectal carina largely absent laterally (fig. 83); ovipositor sheath distinctly longer than body; antenna with whitish ring; antennal segments about 37; (nominate form: completely yellowish; body of *infumatus* Granger, 1949 partly blackish, and this may be only a colour-form) *caudatus* Granger
- Prepectal carina present laterally; ovipositor sheath as long as body or shorter; antenna without whitish ring, at most some segments brownish; antennal segments 27-30 2
2. Length of ovipositor sheath about 0.5 times length of metasoma; antenna without yellowish ring *pusillus* Szépligeti
- Length of ovipositor sheath about equal to length of body; 13th and 14th antennal segments yellowish *coriaceus* Granger

***Orgilus* (*Afrorgilus*) *caudatus* Granger**
(figs. 83-93)

Orgilus caudatus Granger, 1949: 340; Shenefelt, 1970: 254.

Lectotype (here designated), ♀ in Muséum National d'Histoire Naturelle, Paris: "Madagascar, Rogez, Forêt cote est", "Muséum Paris, X.(19)36, A. Seyrig", "37", "Type".

Paralectotypes: 1 ♀ + 1 ♂ in same depository and topotypic, X.1936 (♀) and II.1931 (♂).

Lectotype, ♀, length of body 6 mm, of fore wing 4.6 mm.

Head. — Antennal segments 37, length of third segment 1.2 times fourth segment, length of third, fourth, and penultimate segments 4.2, 3.6 and 1.2 times their width, respectively (figs. 83, 86); length of maxillary palp 1.6 times height of head; length of eye in dorsal view 4.1 times temple; temples coriaceous and rather directly narrowed posteriorly (fig. 92); POL : diameter of ocellus : OOL = 4 : 2 : 7; frons and vertex rather flat and coriaceous; face rather flat and coriaceous; clypeus convex and punctulate; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height, its surface coriaceous; pronotal sides coriaceous; prepectal carina absent except for a short remnant of prepectal carina present near precoxal sulcus (fig. 83); pleural sulcus narrowly crenulate (fig. 83); scutellum with fine and indistinct micro-crenulae medio-posteriorly; surface of propodeum shiny coriaceous.

Fore wing. — Vein $r : SR1+3-SR : 2-SR = 5 : 54 : 7$; 1-SR+M straight; 1-M curved (fig. 84).

Legs. — Hind coxa coriaceous; tarsal claws simple and slender (fig. 90); length of femur, tibia and basitarsus of hind leg 4.7, 10.9 and 12.2 times their width, respectively; length of hind tibial spurs 0.25 and 0.4 times hind basitarsus; apex of hind tibia with two pegs.

Metasoma. — Length of first tergite twice its apical width, its surface coriaceous, its surface coriaceous, and its dorsal carinae rather distinct in front of spiracles (fig. 93); laterope deep and elliptical; second tergite rather coarsely coriaceous (fig. 93); basal five segments coriaceous, sixth and seventh segments punctulate (fig. 83); length of ovipositor sheath 1.59 times fore wing.

Colour. — Brownish-yellow; antenna (except scapus, pedicellus, annellus, 14th-20th segments) and stemmaticum blackish; ovipositor sheath, pterostigma, wing veins and telotarsi dark brown; hind tibia and tarsus, and wing membrane slightly infuscated; 14th-20th antennal segments white; both basal antennal segments yellowish; tegulae pale yellowish.

Subgenus **Orgilus** Haliday

Orgilus Haliday, 1833: 262; Shenefelt, 1970: 252. Type-species: *Microdus obscurator* Nees, 1814, by monotypy.

Diagnosis. — Antenna of ♀ robust to rather slender, about as long as body (figs. 94, 116, 118); occipital carina present laterally, at least as a short stub (figs. 94, 116), exceptionally complete, usually medio-dorsally interrupted (fig. 102); notauli at least anteriorly narrowly impressed (figs. 94, 106, 116); prepectal carina complete (figs. 94, 116); precoxal sulcus narrowly impressed and crenulate (figs. 94, 116), exceptionally partly reduced; metapleural flange (rather) large (figs. 94, 116); vein r-m of fore wing absent; vein 2-M of fore wing variable (figs. 96, 113); vein cu-a of fore wing shortly antefurcal, subinterstitial or postfurcal (figs. 96, 113); hind coxa (moderately) enlarged, often rather slender (figs. 94, 116); hind femur smooth ventrally or nearly so; outer face of hind tibia with pegs apically (figs. 99, 111, 121); metasoma flattened, finely sculptured (fig. 105), smooth (fig. 106) or (costate-)striate (fig. 122); dorsal carinae of first tergite long (fig. 105) to absent (fig. 122); third tergite of ♀ at most anteriorly with sharp lateral crease (fig. 116); length of ovipositor sheath 0.35-2.5 times fore wing.

Biology. — Parasites of Gelechiidae, Oecophoridae, Psychidae, Pyralidae, Gracillariidae, and Tortricidae.

Distribution. — Cosmopolitan.

Note. — Papp (1981) gives a key to the Indo-Australian species and included *Eubadizon tibiale* Enderlein, 1912 (= valid senior synonym of *E. tibialende* Shenefelt, 1970) and *E. sumatranus* Enderlein, 1912.

***Orgilus* (O.) *columbianus* (Enderlein) comb. nov.**
(figs. 94-105)

Eubadizon columbianus Enderlein, 1912: 39; Shenefelt, 1970: 232-233.

Holotype, ♀ in Zoologisches Museum Berlin: "Columbien, Micholitz S.", "Sanjil, Columbien, 6.01, Micholitz C., "Type", "Eubadizon columbianum Enderl., Type, Dr. Enderlein, det. 1911".

Holotype, ♀, length of body 4.6 mm, of fore wing 3.7 mm.

Head. — Antennal segments 32, length of third segment 1.1 times fourth segment, length of third, fourth and penultimate segments 2.6, 2.4 and 1.3 times their width, respectively (figs. 95, 97); antennal apex with short apical spine (fig. 95); length of maxillary palp 0.8 times height of head; length of eye in dorsal view 2.6 times temple; temples directly narrowed posteriorly (fig. 102); POL : diameter of ocellus : OOL = 6 : 4 : 10; frons smooth; vertex finely punctate; occipital carina present up to upper level of eyes and medio-dorsally narrowly interrupted (fig. 102); face densely punctulate; clypeus convex and dorsally punctulate; occipital flange subhorizontal (fig. 94); length of malar space 1.2 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronope large; pronotal sides smooth, except for some crenulae antero-medially and postero-ventrally (fig. 94); prepectal carina reaching anterior margin of mesopleuron; pleural sulcus narrowly crenulate; metapleural flange wide lamelliform (fig. 94); mesoscutal lobes and scutellum densely punctulate; surface of propodeum smooth anteriorly, and coriaceous posteriorly.

Fore wing. — Vein r : SR1+3-SR : 2-SR = 19 : 86 : 23; cu-a inclivous, postfurcal (fig. 96); 2-R1 distinct (fig. 96); 2-M shortly sclerotized.

Legs. — Hind coxa punctulate; tarsal claws shortly pectinate basally, without lobe (fig. 100); length of femur, tibia and basitarsus of hind leg 4.5, 8.5, and 9 times their width, respectively; length of hind tibial spurs 0.3 and 0.4 times hind basitarsus: apex of hind tibia with cluster of slender pegs near tibial spurs (fig. 99); outer face of hind tibia bristly.

Metasoma. — Length of first tergite 1.4 times its apical width, its surface largely smooth in front of spiracles, rest coriaceous, and dorsal carinae distinct

in basal 0.7 (fig. 105); laterope large and deep (fig. 94); second and third (except its smooth apical margin) tergites rugulose-coriaceous; rest of metasoma smooth; second suture smooth (fig. 105); length of ovipositor sheath 1.32 times fore wing.

Colour. — Brownish-yellow; stemmaticum black; antenna (but scapus ventrally, and annellus yellowish), ovipositor sheath, apices of middle and hind femora, a subbasal ring and apex of hind tibia, middle and hind tarsi, pterostigma and wing venation mainly dark brown; base of hind tibia whitish; wing membrane subhyaline.

Distribution. — Colombia.

Note. — In Muesebeck's key (1970:4-11) of the Nearctic *Orgilus* species it runs to *Orgilus infrequens* Muesebeck, 1970, but *columbianus* is different because *infrequens* has a complete occipital carina, tarsal claws with a strong subbasal tooth, and a shorter ovipositor.

***Orgilus* (O.) *pulcher* (Szépligeti)**
(figs. 106-112)

Blacus pulcher Szépligeti, 1905: 53-54; Shenefelt, 1969: 23.

Orgilus pulcher; Van Achterberg, 1976: 250; Papp, 1981: 253.

Holotype, ♂ in Természettudományi Múzeum Allattára, Budapest: "Singapore, Biró, 1898", "Holotypus *Blacus* ♂ *pulcher* Szépl., 1905, det. Papp 1967", "*Blacus pulcher* ♂ m." (in Szépligeti's handwriting), "Hym. Typ. No. 666 Mus. Budapest".

Holotype, ♂, length of body 3.3 mm, of fore wing 2.8 mm.

Head. — Antennal segments 25, with apical segment subdivided into two, and third-fifth segments somewhat constricted medially (fig. 106); length of third segment equal to fourth segment, length of third, fourth and penultimate segments 2.0, 2.0, and 2.3 times their width, respectively; length of maxillary palp somewhat longer than height of head; length of eye in dorsal view 2.5 times temple; temples roundly narrowed posteriorly (fig. 109); POL : diameter of ocellus : OOL = 7 : 8 : 10; frons and vertex punctulate; occipital carina complete, but medio-dorsally weakly developed; face and clypeus almost flat and smooth, except for some superficial punctulation; occipital flange distinct; length of malar space somewhat less than basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides smooth, medially with crenulae, its ventral half densely punctate (fig. 106); prepectal carina reaching almost anterior margin of mesopleuron; precoxal sulcus narrowly crenulate (fig. 106); pleural sulcus crenulate; metapleural

flange large (fig. 106); notauli completely finely crenulate; mesoscutal lobes punctulate; scutellum nearly smooth; surface of propodeum distinctly reticulate medially, but superficially sculptured laterally, and with no carinae medially (fig. 112).

Fore wing. — Vein r : $SR1+3-SR + 2-SR = 13 : 70 : 16$; 2-M sclerotized basally; cu-a inclivous (fig. 110).

Legs. — Hind coxa smooth; tarsal claws (only middle claws present) small and simple; femur, and tibia of hind leg 3.7 and 7.7 times their width, respectively, hind basitarsus missing; hind tibia with 5 pegs apically.

Metasoma. — Length of first tergite 1.2 times its apical width, its surface longitudinally and finely reticulate-rugose, and dorsal carinae distinct in basal 0.6 (fig. 112); laterope deep and large (fig. 106); second and following tergites smooth; second suture weakly developed.

Colour. — Yellowish; antenna apically and its basal segments partly, stemmaticum, propodeum, first, fourth-seventh metasomal tergites, and pterostigma, dark brown.

Distribution. — Singapore.

***Orgilus (O.) westermanni* (Enderlein) comb. nov.**
(figs. 22, 24, 113-122)

Eubadizon westermanni Enderlein, 1912: 38; Shenefelt, 1970: 250.

Holotype, ♀ in Zoologisches Museum Berlin: "8605", "Guinea, Westerm. S.", "Type", "Eubadizon Westermanni Enderl., ♀, Type, Dr. Enderlein det. 1911".

Holotype, ♀, length of body 6.7, and fore wing 5.3 mm. Whole body finely punctulate-coriaceous, unless otherwise stated.

Head. — Antennal segments 40, length of third segment 1.1 times fourth segment, length of third, fourth and penultimate segments 4.8, 4.4, and 1.2 times their width, respectively; apex of antenna without spine (fig. 119); length of maxillary palp 2.1 times height of head; length of eye in dorsal view 3.6 times temple; temples roundly narrowed posteriorly (fig. 114); POL : diameter of ocellus : OOL = 6 : 4 : 10; occipital carina present up to middle level of eyes laterally (fig. 116), medio-dorsally widely interrupted; face rather flat; clypeus only punctulate and weakly convex; occipital flange rather narrow (fig. 116); length of malar space 0.8 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides coriaceous and with a few crenulae anteriorly (fig. 116); prepectal carina remain removed from anterior margin of mesopleuron; precoxal sulcus shal-

lowly impressed and weakly crenulate (fig. 116); pleural sulcus narrowly crenulate; metapleural flange medium-sized and cariniform (fig. 116); surface of propodeum coriaceous-rugose, but nearly smooth anteriorly.

Fore wing. — Vein $r : SR1+3-SR : 2-SR = 7 : 48 : 16$; cu-a shortly antefurcal, and rather inclivous (fig. 113); 2-M not sclerotized basally.

Legs. — Hind coxa punctulate-coriaceous only; tarsal claws simple, setose (fig. 115); length of femur, tibia and basitarsus of hind leg 4.0, 9.2 and 8.2 times their width, respectively; length of hind tibial spurs 0.4 and 0.5 times hind basitarsus; apex of hind tibia with cluster of small pegs (fig. 121), similar clusters are present on apices of fore and middle tibiae.

Metasoma. — Length of first tergite 1.8 times its apical width, its surface coriaceous, but coarsely striate posteriorly and its dorsal carinae absent (fig. 122); laterope deep and elliptical (fig. 116); second and third tergites coarsely longitudinally (costate-)striate (fig. 122), following tergites finely striate-coriaceous; second suture coarsely crenulate; length of ovipositor sheath 1.39 times fore wing.

Colour. — Brownish-yellow; apex and base of hind basitarsus, apex of hind tibia, most wing veins, stemmaticum, tips of mandibles, ovipositor sheath, antenna (but scapus and pedicellus yellowish and 12th-16th segments white) more or less dark brown; pterostigma and vein C+SC+R of fore wing yellowish.

Distribution. — Guinea.

Note. — An easily recognizable species because of the white annulus on the antenna, the antefurcal vein cu-a of fore wing and the costate-striate metasoma.

Subgenus *Anakorgilus* nov.

Type-species: *Orgilus tenuis* Muesebeck, 1970

Etymology: from “an” (Greek for “without”), “akis” (Greek for “point”) and the generic name *Orgilus*, because this subgenus of *Orgilus* deviates by the absence of pegs on the apex of the hind tibia. Gender: masculine.

Diagnosis. — Antenna of ♀ slender, about as long as body (fig. 123), its apex without spine (fig. 125); occipital carina completely absent (fig. 123); mesosoma coriaceous; notauli complete, finely crenulate (fig. 129), anteriorly distinctly impressed (fig. 123); pronotal sides densely setose; prepectal carina complete (fig. 123); precoxal sulcus narrowly impressed and partly crenulate (fig. 123) or coriaceous only; metapleural flange medium-sized (fig. 123); vein r-m of fore wing absent; vein 2-M of fore wing not sclerotized basally (figs. 124,

152); vein cu-a of fore wing subinterstitial or shortly postfurcal (fig. 152); marginal cell of fore wing comparatively slender (figs. 124, 152); hind coxa enlarged and rather slender (fig. 123); hind femur smooth ventrally; outer face of hind tibia without pegs apically, at most somewhat pimply (fig. 131); length of inner hind spur 0.35-0.40 times hind basitarsus; metasoma flattened, finely sculptured and partly smooth (figs. 123, 132); length of first tergite 2.0-2.4 times its apical width; dorsal carinae of first tergite short (fig. 132); only anterior half of third tergite of ♀ with sharp lateral crease (fig. 123).

The biology is unknown.

Distribution. — New World, only the type-species from U.S.A. (Maryland, New York) and a new species from Panama.

Key to species of the subgenus *Anakorgilus* nov.

1. First metasomal tergite with medial groove (fig. 153); frons flat medially; vein r of fore wing longer, about 0.6 times vein 2-SR (fig. 152); length of eye in dorsal view 3-4 times temple; face smooth and shiny; (Neotropical) *setosus* spec. nov.
- First tergite without medial groove (fig. 132); frons with medial groove (fig. 126); vein r of fore wing comparatively short, about 0.4 times vein 2-SR (fig. 124); length of eye in dorsal view about 9 times temple (fig. 126); face coriaceous and dull; (Nearctic) *tenuis* Muesebeck

***Orgilus (Anakorgilus) setosus* spec. nov.** (figs. 152, 153)

Holotype, ♂ in Rijksmuseum van Natuurlijke Historie, Leiden: "Museum Leiden, M. Panama, Level I, Barro Colorado Island, 9°9'30"N-79°51'W, 18-24.V.1977, H. Wolda, at light".

Paratype: 1 ♂, same depository and topotypic, but level III and 8-14.VI.1977.

Holotype, ♂, length of body 3.1 mm, of fore wing 2.3 mm.

Head. — Remaining antennal segments 26, length of third segment 1.1 times fourth segment, length of third, and fourth segments 4.0 and 3.7 times their width, respectively; length of maxillary palp 0.9 times height of head; length of eye in dorsal view 3.4 times temple; temples directly narrowed posteriorly; POL : diameter of ocellus : OOL = 5 : 4 : 7; frons coriaceous, but medially smooth and without groove, slightly convex; vertex coriaceous and densely setose; face and clypeus smooth and shiny; length of malar space 1.2 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.8 times its height, its surface shiny coriaceous; precoxal sulcus shallowly impressed and coriaceous only; pleural sulcus nearly smooth; surface of propodeum coriaceous and with some medial rugulae.

Fore wing. — Vein r: $SR1+3-SR : 2-SR = 9 : 66 : 15$; cu-a subinterstitial (left) or shortly postfurcal (right wing, fig. 152); CU1b short; first subdiscal cell narrowly to moderately sessile anteriorly (fig. 152).

Legs. — Hind coxa coriaceous, and rather dull; tarsal claws medium-sized, and simple (cf. fig. 128); length of femur, tibia and basitarsus of hind leg 4.5, 11 and 9 times their width, respectively; length of hind tibial spurs 0.25 and 0.40 times hind basitarsus.

Metasoma. — Length of first tergite 2.1 times its apical width, its surface shiny crenulate and its dorsal carinae shortly developed basally; second tergite largely shiny and rugulose-granulate; basal half of third tergite shiny granulate; rest of third and following tergites smooth; second suture rather deep and smooth.

Colour. — Yellowish-brown; outer face of scapus and pedicellus, stemmaticum and area behind it, mesonotum laterally, pterostigma, apex of third and following tergites dark brown or blackish; flagellum, propodeum, first tergite (except yellowish apex), vein C+SC+R of fore wing, hind femur dorso-apically, hind tibia and tarsus infuscated; palpi, tegulae, apex of first tergite, second tergite and third tergite medio-basally pale yellowish; wing veins brown; wing membrane subhyaline.

Variation. — Paratype: length of fore wing 2.7 mm, length of eye in dorsal view 4.4 times temple; vein r of fore wing 0.6 times vein 2-SR; length of first metasomal tergite 2.0 times its apical width, and its medial groove deeper than in holotype.

***Orgilus (Anakorgilus) tenuis* Muesebeck**
(figs. 123-132)

Orgilus tenuis Muesebeck, 1970: 87-88.

Material. — 1 ♀, Haeselbarth Collection, München: "Ithaca, Six-mile, 20.8.1940, N.Y., P.P.Babiy leg."

Redescription after ♀ from Ithaca: length of body 4.0 mm, of fore wing 3.4 mm.

Head. — Antennal segments 33, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 5.0, 4.2, and 1.5

times their width, respectively (figs. 123, 125); apex of antenna without spine; length of maxillary palp 1.5 times height of head; length of eye in dorsal view 8.8 times temple; temples directly narrowed posteriad (fig. 126); POL : diameter of ocellus : OOL = 5 : 3 : 7; frons coriaceous, with medial groove (fig. 126); vertex dull, coriaceous; face rather dull and flat, punctulate-coriaceous; clypeus convex and punctulate, shiny; occipital flange rather indistinct; length of malar space 1.2 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.6 times its height, its surface coriaceous; pleural and precoxal sulci finely crenulate (fig. 123); notauli shallowly impressed, finely crenulate and united in front of scutellar sulcus (fig. 129); surface of propodeum coriaceous only.

Fore wing. — Vein $r : SR1 + 3-SR : 2-SR = 4 : 43 : 10$; cu-a slightly curved, postfurcal (right wing) or interstitial (figured left wing; fig. 124).

Legs. — Hind coxa granulate-coriaceous; tarsal claws medium-sized, simple (fig. 128); length of femur, tibia, and basitarsus of hind leg 4.3, 11.2, and 11 times their width, respectively; length of hind tibial spurs 0.3 and 0.35 times hind basitarsus; fore and middle trochantelli with three indistinct apical teeth.

Metasoma. — Length of first tergite 2.3 times its apical width, its surface (granulate-)coriaceous, without medial groove, its dorsal carinae present in basal 0.2 (fig. 132); laterope deep and round (fig. 123); second and basal half of third tergite granulate-coriaceous; rest of metasoma smooth; second suture rather deep and smooth (fig. 132); length of ovipositor sheath 1.83 times fore wing.

Colour. — Dark brown (including pterostigma); scapus and pedicellus ventrally, fore and middle trochantelli, femora and tibiae, and tegulae, pale yellowish; clypeus, mandible (except apex), palpi, humeral plate, base of vein C+SC+R of fore wing, fore and middle coxae and trochanters, and hind trochanters, whitish-yellow; fore tarsus infuscated; middle and hind tarsi, hind trochantellus (partly) and tibia dark brown; face, hind femur, apex of first tergite, second tergite, and base of third tergite, baso-ventral half of metasoma brownish-yellow; veins brown; wing membrane subhyaline.

Distribution. — U.S.A.: Maryland, New York.

Note. — Obviously not closely related to the subgenus *Aporgilus* nov. and it is an isolated group within the genus *Orgilus* because of the short hind spurs and the reduced occipital carina.

Subgenus **Aporgilus** nov.

Type-species: *Orgilus gauldi* spec. nov.

Etymology: from “apo” (Greek for “from, separate”) and the generic name *Orgilus*, because this group forms a distinctly separated group within the genus *Orgilus*. Gender: masculine.

Diagnosis. — Antenna of ♀ rather slender, about as long as body or distinctly longer, and with distinct apical spine; occipital carina completely absent (figs. 141, 145); mesosoma largely smooth or punctulate; notauli smooth, usually reduced anteriorly (figs. 138, 165); pronotal sides sparsely setose; prepectal carina complete (fig. 159); precoxal sulcus reduced, shallow and at most sparsely crenulate (fig. 159); metapleural flange narrowly cariniform or absent (figs. 133, 159); vein r-m of fore wing absent; vein 2-M of fore wing not (figs. 140, 144) or shortly (fig. 149) sclerotized basally; vein cu-a of fore wing (sub)interstitial (fig. 135), but usually distinctly postfurcal (fig. 154); marginal cell of fore wing comparatively less slender (figs. 135, 144, 147); hind coxa enlarged and rather slender (figs. 133, 159); hind femur smooth or punctate ventrally; outer face of hind tibia with pegs apically (fig. 143); length of inner hind spur 0.45-0.55 times hind basitarsus; metasoma flattened, smooth or coriaceous; length of first metasomal tergite 1.1-1.6 times its apical width; dorsal carinae of first tergite absent (fig. 158) or long (fig. 151); at most anterior third of third metasomal tergite with sharp lateral crease (fig. 159).

Biology. — Parasites of Tortricidae and Pyralidae.

Distribution. — New World.

Key to species of the subgenus *Aporgilus* nov.

1. Tarsal claws with small acute lobe (fig. 161); length of mesosoma about 1.3 times its height (fig. 159); length of malar space about 0.8 times basal width of mandible; pterostigma pale yellowish; scutellar sulcus comparatively wide (fig. 165); length of ovipositor sheath about 0.5 times fore wing; antennal segments 33-35 *immarginatus* Muesebeck
- Tarsal claws simple, without lobe (cf. fig. 128), but minute lobe present in *genalis*; length of mesosoma 1.4-1.8 times its height; length of malar space 1.0-1.3 times basal width of mandible; pterostigma variable, often dark brown; scutellar sulcus rather narrow (fig. 138); length of ovipositor sheath 0.8-1.5 times fore wing, but unknown of several spp.; antennal segments 26-38 2
2. Hind tarsus white medially, dark brown basally and apically; notauli

- distinctly impressed anteriorly; apex of hind tibia dark brown; marginal cell of fore wing comparatively slender (fig. 147); ventral half of mesopleuron shallowly punctate *albosignatus* spec. nov.
- Hind tarsus completely yellowish or brownish; notauli absent anteriorly or nearly so, only in *genalis* distinct, but has hind leg completely yellowish; apex of hind tibia yellowish-brown, except in *transversus* which has a wider marginal cell of fore wing (fig. 140); ventral half of mesopleuron smooth or superficially punctulate 3
 - 3. Frons largely smooth and strongly shiny, at most narrowly coriaceous laterally; ocelli smaller (figs. 132, 146), OOL 1.7-2.3 times diameter of ocellus; metasoma dark brown apically 4
 - Frons (except medially) largely coriaceous and rather dull; ocelli usually larger (figs. 141, 145), OOL 1.0-2.0 times diameter of ocellus; colour of metasoma variable 6
 - 4. Temple in lateral view comparatively narrow (figs. 182, 183); eye in dorsal view 5-7 times temple (fig. 142); metasoma yellowish-brown basally and dark brown apically; head similarly brown dorsally as mesoscutum; first metasomal tergite (superficially) longitudinally rugulose medially (figs. 181, 187) 5
 - Temple in lateral view medium-sized (fig. 133); eye in dorsal view about 3 times temple (fig. 136); whole metasoma (dark) brown; head yellowish, different from brown colour of mesoscutum; first tergite punctulate only (fig. 137) *rubriceps* (Ashmead)
 - 5. Length of ovipositor sheath about 1.5 times fore wing; fourth metasomal tergite dark brown; first tergite more widened apically (in respect to width behind spiracles, fig. 181); second metasomal suture obsolescent (fig. 181); flagellum yellowish basally; body slender; temple in lateral view somewhat wider (fig. 183) *geijskesi* spec. nov.
 - Length of ovipositor sheath about 1.2 times fore wing; fourth tergite yellowish; first tergite less widened apically (fig. 187); second metasomal suture distinct (fig. 187); flagellum brown basally; body comparatively robust; temple in lateral view narrower (fig. 182) *iphigeniae* spec. nov.
 - 6. Temples strongly retracted behind eyes (figs. 141, 145); length of eye in dorsal view 3.8-8 times temple, if less than 5 times (*gauldi*) then flagellum of antenna dark brown with a medial yellowish band; eyes touching posterior margin of head or nearly so (fig. 141); apex of metasoma dark brown, contrasting with yellowish third tergite; precoxal sulcus finely crenulate 7
 - Temples less retracted behind eyes, distinctly developed and eyes remain removed from posterior margin of head (figs. 150, 157); length of eye in

- dorsal view 2-4 times temple; flagellum evenly dark brown or yellowish; apex of metasoma yellowish, if dark brown then similarly coloured as third tergite; precoxal sulcus with at most a few crenulae 9
7. Hind tibia dark brown apically; length of ovipositor sheath 1.2-1.3 times fore wing; length of fore wing about 3.5 mm; face (finely) punctate *transversus* spec. nov.
- Hind tibia yellowish apically; length of ovipositor sheath 1.3-1.4 times fore wing; length of fore wing 2.6-3.1 mm; face punctulate 8
8. Flagellum of antenna yellowish medially and remainder dark brown; second metasomal tergite coriaceous medially; first tergite dark brown; length of ovipositor sheath about 1.4 times fore wing; (Nearctic) *gauldi* spec. nov.
- Flagellum of antenna completely dark brown; second tergite smooth medially; first tergite brown or yellowish; length of ovipositor sheath about 1.3 times fore wing; (Neotropical) *neotropicus* spec. nov.
9. Meso- and metasoma largely dark brown; propodeum smooth; first tergite largely smooth and strongly shiny, rather convex and distinctly widened apically (fig. 158); antenna largely blackish; clypeus flat *glabratus* spec. nov.
- Meso- and metasoma completely yellowish; propodeum granulate; first tergite granulate, rather dull, flattened, and less widened apically (fig. 151); antenna yellowish or brown, at most infuscated; clypeus rather convex 10
10. Length of fore wing about 3 mm; medial width of eye in lateral view about 0.7 times width of temple behind it (fig. 185); stemmaticum strongly protruding; pterostigma yellowish-brown; notauli distinctly impressed anteriorly *genalis* spec. nov.
- Length of fore wing 1.8-2.0 mm, exceptionally up to 2.5 mm; medial width of eye in lateral view 0.4-0.5 times width of temple behind it (fig. 184); stemmaticum moderately protruding; pterostigma pale yellowish; notauli usually obsolescent anteriorly *woldai* spec. nov.

Orgilus (Aporgilus) albosignatus spec. nov.

(fig. 147)

Holotype, ♂, in Canadian National Collection, Ottawa: "Avispas, 400 m, Peru, Madre de Dios Dept., Sept. 12-20, 1962, L.E. Pena".

Holotype, ♂, length of body 3.6 mm, of fore wing 3.3 mm.

Head. — Antennal segments 38, length of third segment 1.2 times fourth

segment, length of third, fourth, and penultimate segments 4.0, 2.4, and 1.7 times their width, respectively; length of maxillary palp equal to height of head; length of eye in dorsal view 4.2 times temple; temples directly narrowed posteriorly; POL : diameter of ocellus : OOL = 6 : 5 : 9; frons largely flat, granulate, between antennal sockets smooth and with short carina; vertex convex and granulate; face flat, shiny and punctulate; clypeus rather flat and smooth; length of malar space 1.6 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides granulate ventrally, rest largely smooth; precoxal sulcus distinctly impressed and sparsely crenulate; area below precoxal sulcus shallowly punctate; pleural sulcus finely crenulate; notauli distinctly impressed anteriorly; mesoscutum distinctly punctate and shiny; metapleural flange narrow cariniform; surface of propodeum smooth.

Fore wing. — Vein $r : SR1+3-SR : 2-SR = 10 : 57 : 13$; cu-a distinctly postfurcal; CU1b present (fig. 147); 2-M not sclerotized; first subdiscal cell sessile anteriorly (fig. 147).

Legs. — Hind coxa largeley punctulate; tarsal claws simple, medium-sized, and bristly setose; length of femur, tibia and basitarsus of hind leg 4.4, 9.6, and 10 times their width, respectively; length of hind tibial spurs 0.4 and 0.6 times hind basitarsus; apex of hind tibia with cluster of pegs; outer face of hind tibia with several slender pegs above apex.

Metasoma. — Length of first tergite 1.4 times its apical width, its surface smooth, but laterally superficially coriaceous, shiny, its dorsal carinae absent; second tergite superficially coriaceous and shiny; second suture narrowly impressed and smooth; third and following tergites smooth.

Colour. — Brownish-yellow; antenna (but only stripe on outer face of scapus dark, and inner face of pedicellus yellowish), stemmaticum, middle tarsus (except basal 0.7 of basitarsus), apex of hind tibia, basal half of hind basitarsus, fourth and fifth hind tarsal segments, and hind spurs more or less, dark brown; rest of hind tarsus white; pterostigma and most veins brown; wing membrane subhyaline.

***Orgilus (Aporgilus) gauldi* spec. nov.**

(figs. 144-146)

Holotype ♀, in Rijksmuseum van Natuurlijke Historie, Leiden: "U.S.A., Michigan, Ann Arbor, VI.1976, I. & P. Gauld".

Holotype, ♀, length of body 3.7 mm, of fore wing 2.8 mm.

Head. — Antennal segments 28, length of third segment 1.2 times fourth

segment, both with submedial constrictions, length of third, fourth and penultimate segments 3.6, 3.1 and 1.5 times their width, respectively; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 3.8 times temple; temples strongly narrowed posteriorly; POL : diameter of ocellus : OOL = 9 : 5 : 5; frons flat, laterally dull and granulate, medially narrowly smooth; vertex punctulate and indistinctly coriaceous, shiny; face and clypeus flat, shiny and finely punctate; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.6 times its height; pronotal sides largely granulate, and dorsally smooth; precoxal sulcus distinctly impressed and finely crenulate; area below precoxal sulcus smooth; pleural sulcus finely crenulate; notauli absent anteriorly; mesoscutum strongly shiny and punctulate; surface of propodeum smooth anteriorly, and densely punctulate posteriorly.

Fore wing. — Vein $r : SR1+3-SR : 2-SR = 6 : 36 : 8$; cu-a postfurcal (fig. 144); CU1b present; 2-M not sclerotized; first subdiscal cell widely sessile (fig. 144).

Legs. — Hind coxa granulate, moderately shiny; tarsal claws slender and without lobe; length of femur, tibia and basitarsus of hind leg 4.5, 8.4, and 8.6 times their width, respectively; length of hind tibial spurs 0.35 and 0.45 times hind basitarsus; hind tibia with cluster of 14 long pegs apically.

Metasoma. — Length of first tergite 1.4 times its apical width, distinctly widened apically, its surface shiny and longitudinally rugulose, but medio-basally obsolescent, and its dorsal carinae largely absent, except for a short basal part; second tergite granulate-coriaceous medially, strongly shiny, remainder of metasoma smooth; second suture rather deep and smooth; length of ovipositor sheath 1.42 times fore wing.

Colour. — Dark brown; palpi, tegulae, metasoma medio-ventrally, pale yellowish; head (except stemmaticum), scapus, 9th-12th antennal segments, legs (except telotarsi), second (but medially infuscated) and third tergites brownish-yellow; mesosoma (except mesoscutum laterally and propodeum), and most veins, brown; remainder of antenna and vein C+SC+R of fore wing dark brown; wing membrane subhyaline.

Note. — It is a pleasure to name this species after Dr. Ian Gauld (London), the well-known specialist of Ichneumonidae.

***Orgilus (Aporgilus) geijskesi* spec. nov.**
(figs. 142, 143, 181, 183)

Holotype, ♀ in Rijksmuseum van Natuurlijke Historie, Leiden: "Suriname, Phedra, 13-19.X.1964, D. C. Geijskes".

Holotype, ♀, length of body 2.7 mm, of fore wing 2.3 mm.

Head. — Remaining antennal segments 20, length of third segment 1.1 times fourth segment, length of third and fourth segments 3.3 and 3.0 times their width, respectively; 19th and 20th antennal segments less robust than in *iphigeniae*, about 1.7 times their width; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 5.5 times temple; temples strongly narrowed posteriorly (figs. 142, 183); POL : diameter of ocellus : OOL = 4 : 3 : 5; frons strongly shiny, only laterally narrowly crenulate and slightly concave medially; vertex smooth and strongly shiny; face punctulate; clypeus rather convex and smooth; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.7 times its height; pronotal sides shiny and coriaceous, narrowly smooth dorsally; precoxal sulcus shallowly impressed and with some punctures; area below precoxal sulcus smooth; pleural sulcus narrowly crenulate; notauli absent anteriorly; mesoscutum largely punctulate; surface of propodeum shiny and smooth, but medio-posteriorly with some superficial microsculpture.

Fore wing. — Vein $r : SR1+3-SR : 2-SR = 5 : 39 : 10$; cu-a weakly postfurcal; CU1b short; 2-M not sclerotized; first subdiscal cell moderately sessile.

Legs. — Hind coxa shiny and granulate; tarsal claws rather slender and without lobe; length of femur, tibia and basitarsus of hind leg 4.0, 8.0 and 7.5 times their width, respectively; length of hind tibial spurs 0.40 and 0.50 times hind basitarsus; hind tibia with 9 pegs apically (fig. 143).

Metasoma. — Slender; length of first tergite 1.5 times its apical width, distinctly widened apically (fig. 181), its surface superficially longitudinally rugulose and shiny, and its dorsal carinae only basally shortly developed; second and following tergites smooth; second suture obsolescent; length of ovipositor sheath 1.46 times fore wing.

Colour. — Yellowish-brown; stemmaticum (largely), fourth and following metasomal tergites, ovipositor sheath, apical two-thirds of antenna and pterostigma dark brown; palpi, and tegulae pale yellowish; telotarsi, more or less head and mesoscutum infuscated; wing membrane subhyaline.

Note. — It is a pleasure to me to name this species after its collector, the late Dr. D. C. Geijskes (1907-1985), who assembled an important collection of Braconidae from Surinam.

Orgilus (Aporgilus) genalis spec. nov.
(figs. 149-151, 185)

Holotype, ♂ in Rijksmuseum van Natuurlijke Historie, Leiden: "Museum Leiden, M. Panama, Level III, Barro Colorado Isl., 9°9'30"N-79°51'W. 5-11.X.1977, H. Wolda, at light".

Paratype: 1 ♂, same depository and topotypic.

Holotype, ♂, length of body 4.0 mm, of fore wing 3.2 mm.

Head. — Antenna much longer than fore wing (about 1.5 times), antennal segments 37, length of third segment 1.1 times fourth segment, length of third, fourth and penultimate segment 3.2, 2.8 and 1.5 times their width, respectively; apex of antenna with long spine; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 2.8 times temple; temples distinct, gradually narrowed posteriorly (figs. 150, 185); POL : diameter of ocellus : OOL = 7 : 8 : 9; frons convex, dull and coriaceous, but shiny, flat and smooth medially; vertex rather dull, and coriaceous; face densely finely punctate, shiny, but coriaceous and dull dorsally; clypeus rather convex and finely punctate; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides densely granulate ventrally, largely smooth and with indistinct microsculpture dorsally; precoxal sulcus distinctly impressed and largely smooth, with some microcrenulae; area below precoxal sulcus largely smooth, with some punctulation; pleural sulcus finely crenulate; notauli deep anteriorly, smooth and narrow; mesoscutum shiny and largely smooth; surface of propodeum dull, coriaceous and with rugulosity anteriorly.

Fore wing. — Vein $r : SR1+3-SR : 2-SR = 15 : 74 : 16$; cu-a postfurcal (fig. 149); CU1b short; sclerotized part of 2-M indistinct; first subdiscal cell sessile (fig. 149).

Legs. — Hind coxa shiny coriaceous dorsally; tarsal claws moderately robust, and with minute acute lobe (cf. fig. 161, but smaller); length of femur, tibia and basitarsus of hind leg 3.6, 7.5, and 7 times their width, respectively; length of hind tibial spurs 0.35 and 0.55 times hind basitarsus; hind tibia with four pegs apically.

Metasoma. — Length of first tergite 1.6 times its apical width, its surface shiny coriaceous and its dorsal carinae present in its basal 0.7 (fig. 151); second and third tergites shiny coriaceous; second suture shallow and smooth; fourth and following tergites largely smooth.

Colour. — Brownish-yellow; stemmaticum black; streak on outer face of scapus, and vein C+SC+R of fore wing dark brown; flagellum, pterostigma and most veins (yellowish-)brown; palpi and tegulae pale yellowish; wing membrane hyaline.

Variation. — Paratype male has 35 antennal segments, length of fore wing 3.2 mm, length of eye in dorsal view 3 times temple and length of first tergite 1.4 times its apical width.

Note. — This species shares with *O. immarginatus* the small acute lobe tarsal lobe, but *immarginatus* differs e.g. by the short temples (fig. 163), the short dorsal carinae of the first tergite (fig. 167) and hind coxa only indistinctly punctulate.

Orgilus (Aporgilus) glabratus spec. nov.
(figs. 154, 157, 158)

Holotype, ♂ in Rijksmuseum van Natuurlijke Historie, Leiden: "Museum Leiden, North Panama, 1050 m, Fortuna, Chiriqui, 8°44'N; 82°15'W, 11-17.V.1977, H. Wolda; at light".

Holotype, ♂, length of body 3.5 mm, of fore wing 3.2 mm.

Head. — Antenna distinctly (1.35 times) longer than fore wing, antennal segments 31, length of third segment 1.1 times fourth segment, basal segments of flagellum with submedial constrictions, length of third, fourth and penultimate segments 3.0, 2.6 and 1.7 times their width, respectively; length of maxillary palp 1.1 times height of head; apex of antenna with short spine; length of eye in dorsal view 4.0 times temple; temples directly narrowed posteriorly (fig. 157); POL : diameter of ocellus: OOL = 5 : 5 : 6; frons flat, dull and granulate, but narrowly smooth medially; vertex sparsely punctulate, shiny and somewhat coriaceous; face punctulate and shiny, but narrowly coriaceous laterally; clypeus smooth and flat; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides largely shiny granulate, and narrowly smooth dorsally; precoxal sulcus distinctly impressed and smooth, except for some punctures; area below precoxal sulcus smooth; pleural sulcus finely crenulate; notauli absent anteriorly; mesoscutum largely punctulate; surface of propodeum smooth.

Fore wing. — Vein $r : SR1+3-SR : 2-SR = 6 : 34 : 9$; cu-a antefurcal; CU1b present; 2-M not sclerotized; first subdiscal cell moderately sessile (fig. 154).

Legs. — Hind coxa granulate-coriaceous; tarsal claws slender, and without lobe; length of femur, tibia and basitarsus of hind leg 4.5, 8.5, and 10.4 times their width, respectively; length of hind tibial spurs 0.35 and 0.50 times hind basitarsus; hind tibia with six pegs apically.

Metasoma. — Length of first tergite 1.6 times its apical width, its surface shiny and largely smooth, with some obsolescent microsculpture and its dorsal

carinae very short and obsolescent; second and following tergites smooth; second suture rather deep and smooth.

Colour. — Dark brown or blackish; head (except stemmaticum), propleuron, mesoscutum anteriorly, mesosternum, ventral half of metasoma, scapus and pedicellus ventrally, reddish- or yellowish-brown; fore and middle coxae, trochanters, palpi and tegulae pale yellowish; hind femur apico-dorsally, and hind tibia apically slightly infuscated; flagellum blackish; pterostigma and vein C+SC+R of fore wing dark brown; other veins brown; wing membrane subhyaline.

***Orgilus (Aporgilus) immarginatus* Muesebeck**
(figs. 159-167)

Orgilus immarginatus Muesebeck, 1970: 52-53, figs. 4, 37.

Holotype, ♀ in U.S. National Museum, Washington: "Ex *Proteopteryx bolliana*", "Pecan", "Adult, 7/22/29", "A&M College, Miss. 7/1/29", "J. M. Langston 10669-55", "Type No. 70169 USNM", "Holotype *Orgilus immarginatus* Mues."

Paratypes: 4 ♀ + 5 ♂, not examined, from Mississippi, Florida and Illinois. Two are reared from *Acrobasis juglandis* (LeBaron) and *Laspeyresia caryana* (Fitch), respectively.

Holotype, ♀, length of body 4.3 mm, of fore wing 3.5 mm.

Head. — Remnant of antennal segments 11 (according to the original description 33-35 antennal segments), length of third segment 1.1 times fourth segment, length of third and fourth segments 3.4 and 3.1 times their width, respectively, flagellar segments somewhat constricted submedially; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 6.0 times temple; temples directly narrowed posteriorly (fig. 163); POL : diameter of ocellus : OOL = 9 : 9 : 11; frons flat, coriaceous laterally and narrowly smooth medially; vertex rather flat and coriaceous; face flat and punctulate; clypeus rather flat and punctulate; length of malar space 0.8 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides smooth dorsally, and coriaceous ventrally (fig. 159); precoxal sulcus weakly impressed and largely smooth (fig. 159); area below precoxal sulcus punctulate; pleural sulcus narrowly crenulate; notauli shallowly impressed anteriorly (figs. 159, 165); mesoscutum weakly punctulate; surface of propodeum smooth, except for two pair of short stubs of carinae posteriorly.

Fore wing. — Vein r : SR1+3-SR : 2-SR = 9 : 48 : 12; cu-a postfurcal (fig. 160), but sometimes interstitial; CU1b present; 2-M shortly weakly sclerotized

(fig. 160); first subdiscal cell narrowly sessile anteriorly (fig. 160).

Legs. — Hind coxa punctulate; fore tarsal claws (others are missing) with small acute lobe (fig. 161); length of femur of hind leg (following parts missing) 3.8 times its width; length of inner hind spur more than half as long as hind basitarsus according to the original description.

Metasoma. — Length of first tergite 1.4 times its apical width, its surface shiny and faintly coriaceous and its dorsal carinae weak, present behind spiracles and curved laterad (fig. 167); second tergite superficially coriaceous and shiny; second suture scarcely impressed; third and following tergites smooth; length of ovipositor sheath about 0.5 times fore wing.

Colour. — Pale yellowish; antenna dorsally, and vein C+SC+R of fore wing infuscated; stemmaticum blackish; wing membrane hyaline; palpi and tegulae rather ivory; pterostigma pale yellowish.

Distribution. — U.S.A.: Florida, Illinois, Mississippi.

Hosts. — Parasite of Tortricidae (*Gretchena bolliana* (Slingerland) and *Laspeyresia caryana* (Fitch)) and Pyralidae (*Acrobasis juglandis* (LeBaron)).

Orgilus (Aporgilus) iphigeniae spec. nov.

(figs. 182, 186, 187)

Holotype, ♀ in Canadian National Collection, Ottawa: "Brazil, Para, Jacareacanga, XII. (19)68, M. Alvarenga".

Holotype, ♀, length of body 2.2 mm, of fore wing 2.1 mm.

Head. — Antennal segments 26, length of third segment as long as fourth segment, length of third, fourth and penultimate segments 3.3, 3.3, and 1.6 times their width, respectively (figs. 186); length of maxillary palp 1.1 times height of head; length of eye in dorsal view 5.0 times temple; temples strongly narrowed posteriorly (fig. 182); POL : diameter of ocellus: OOL = 3 : 3 : 5; frons strongly shiny, smooth, but antero-laterally with some microsculpture; vertex largely smooth, sparsely punctulate; face rather flat, shiny and punctulate; clypeus rather convex and smooth; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.6 times its height; pronotal sides strongly shiny and only ventral half superficially granulate; precoxal sulcus shallowly impressed and narrowly crenulate; area below precoxal sulcus smooth; pleural sulcus narrowly crenulate; notauli absent anteriorly; meso-scutum punctulate; surface of propodeum smooth (except some very superficial sculpture medially) and strongly shiny.

Fore wing. — Vein $r : SR1+3-SR : 2-SR = 7 : 54 : 12$; cu-a moderately postfurcal; CU1b present; 2-M not sclerotized; first subdiscal cell somewhat wider sessile anteriorly than in *rubriceps* (fig. 135).

Legs. — Hind coxa superficially granulate and shiny; tarsal claws rather slender and without lobe; length of femur, tibia and basitarsus of hind leg 4.2, 7.0 and 10 times their width, respectively; length of hind tibial spurs 0.35 and 0.50 times hind basitarsus; hind tibia with seven pegs apically.

Metasoma. — Length of first tergite 1.3 times its apical width, rather robust, less widened apically (in respect to width directly behind spiracles) than in *geijskesi* (fig. 187), its surface longitudinally rugulose medially, basally and apically smooth, and its dorsal carinae absent, except for an obsolescent basal part; second and following tergites smooth; second suture distinct and smooth; length of ovipositor sheath 1.2 times fore wing.

Colour. — Brownish-yellow; head, flagellum and mesosoma dorsally, ovipositor sheath, pterostigma and veins brown; mesosternum and -pleuron, hind coxa and metapleuron yellowish-brown; stemmaticum partly, fifth and following metasomal tergites dark brown; palpi and tegulae pale yellowish; wing membrane slightly infuscated.

***Orgilus (Aporgilus) neotropicus* spec. nov.**

Holotype, ♀ in Canadian National Collection, Ottawa: "Trinidad, Simla, nr Arima, 250 m, 3-10 Dec., 1977, Mal. trap, Mason".

Paratype: 1 ♀ in Rijksmuseum van Natuurlijke Historie, Leiden: "Brazil, Jatai, Goias, XI.1972, F. M. Oliveira".

Holotype, ♀, length of body 3.3 mm, of fore wing 2.6 mm.

Head. — Antennal segments 28, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 3.5, 3.0 and 1.3 times their width, respectively, apical segment with short spine, and basal flagellar segments with weak submedial constriction; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 5.2 times temple; temples very strongly narrowed posteriorly, stronger than in *gauldi* (fig. 145); POL : diameter of ocellus : OOL = $7 : 6 : 12$; frons flat, granulate and medially narrowly smooth; vertex finely and sparsely punctate, with some indistinct microsculpture, but largely smooth; face flat and remotely finely punctate; clypeus with some fine punctures, largely smooth and flat; length of malar space 1.2 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.6 times its height; pronotal sides granulate ventrally, and smooth dorsally; precoxal sulcus moderately im-

pressed and distinctly narrowly crenulate; area below precoxal sulcus superficially punctulate; pleural sulcus finely crenulate; notauli absent anteriorly, shallow and obsolescent posteriorly; mesoscutum punctulate; surface of propodeum largely smooth, with some microsculpture posteriorly.

Fore wing. — Vein $r : SR1+3-SR : 2-SR = 10 : 70 : 14$; cu-a postfurcal; CU1b present; 2-M not sclerotized; first subdiscal cell moderately wide anteriorly.

Legs. — Hind coxa shiny and granulate; tarsal claws slender, setose and without lobe; length of femur, tibia and basitarsus of hind leg 4.2, 7.4 and 7 times their width, respectively; length of hind tibial spurs 0.35 and 0.50 times hind basitarsus; hind tibia with cluster of eleven pegs apically.

Metasoma. — Length of first tergite 1.3 times its apical width, its surface partly granulate laterally, but largely smooth and shiny and its dorsal carinae absent; second and following tergites smooth; second suture rather deep and smooth; length of ovipositor sheath 1.27 times fore wing.

Colour. — Yellowish-brown; stemmaticum blackish; streak on outer face of scapus, pedicellus and whole flagellum, pterostigma, metanotum, fourth and following metasomal tergites and, ovipositor sheath dark brown; propodeum, veins and first tergite brown; second and third (except laterally) tergites, metasoma baso-ventrally, and legs yellow; palpi and tegulae pale yellow; wing membrane subhyaline.

Variation. — Paratype (female): length of fore wing 3.1 mm, length of ovipositor sheath 1.27 times fore wing, length of body 4.0 mm, antennal segments 30, length of eye in dorsal view 5.8 times temple, precoxal sulcus indistinctly crenulate, length of first tergite 1.1 times its apical width, propodeum, first-fifth metasomal tergites yellowish, but fifth tergite medio-basally dark brown, vein C+SC+R of fore wing dark brown, further colour as holotype.

Distribution. — Northeast and Central S. America.

***Orgilus (Aporgilus) rubriceps* (Ashmead) comb. nov.**
(figs. 133-139)

Blacus rubriceps Ashmead, 1894:131; Shenefelt, 1969: 23; Van Achterberg, 1976: 250 (transferred to the Orgilinae).

Holotype, ♂ in British Museum (Natural History), London: "Type H.T.", "May", "B.M., Type Hym. 3.c.663", "Blacus rubriceps Ashm., Type, unique", "W. Indies 99.331", "St. Vincent, W.I., H.H. Smith".

Holotype, ♂, length of body 2.8 mm, of fore wing 2.3 mm.

Head. — Antennal segments 26, length of third segment 1.1 times fourth segment, length of third, fourth, and penultimate segment 3.2, 3.0 and 2.0 times their width, respectively; length of maxillary palp about equal to height of head; length of eye in dorsal view about 3 times temple; temples directly narrowed posteriorly (fig. 136); POL : diameter of ocellus : OOL = 8 : 5 : 12; frons coriaceous laterally and smooth medially (fig. 136); vertex smooth; temple in lateral view medium-sized (fig. 133); face rather flat, smooth, except for some microsculpture laterally; clypeus nearly flat and smooth; length of malar space 1.2 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.7 times its height; pronotal sides coriaceous ventrally, and smooth dorsally; precoxal sulcus shallowly impressed and smooth; area below precoxal sulcus smooth; pleural sulcus narrowly crenulate; notauli absent anteriorly (fig. 133); mesoscutum smooth; surface of propodeum smooth and shiny.

Fore wing. — Vein $r : SR1 + 3-SR : 2-SR = 4 : 29 : 9$; cu-a subinterstitial (fig. 35); CU1b short; 2-M not sclerotized; first subdiscal cell narrowly truncate anteriorly (fig. 135).

Legs. — Hind coxa coriaceous dorsally; tarsal claws simple, medium-sized and without lobe; length of femur, tibia and basitarsus of hind leg 3.8, 8.0 and 10 times their width, respectively; length of hind tibial spurs 0.35 and 0.50 times hind basitarsus; hind tibia with cluster of short pegs apically (fig. 139).

Metasoma. — Length of first tergite 1.5 times its apical width, its surface superficially punctulate and shiny and its dorsal carinae shortly developed basally (fig. 137); second and following tergites smooth; second suture smooth.

Colour. — Reddish-brown; antenna (except scapus and pedicellus), stemmaticum and pterostigma dark brown; scapus, pedicellus, palpi, head (except stemmaticum), tegulae and legs yellowish.

Distribution. — St. Vincent, West Indies.

***Orgilus (Aporgilus) transversus* spec. nov.**

(figs. 140, 141)

Holotype, ♀ in Canadian National Collection, Ottawa: "Pompeya, Napo R., Pastaza, Ecuad., 14-22.V.1965, L. Pena".

Paratype: 1 ♀, (Rijksmuseum van Natuurlijke Historie, Leiden): topotypic and same data.

Holotype, ♀, length of body 4.2 mm, of fore wing 3.5 mm.

Head. — Antennal segments 31, basal flagellar segments with submedial

constriction, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 4.7, 3.7 and 1.7 times their width, respectively, subapical segments long setose; maxillary palp missing, its length in paratype 1.2 times height of head; length of eye in dorsal view 8.0 times temple; temples strongly retracted posteriorly, eyes nearly touching posterior margin of head (fig. 141); POL : diameter of ocellus : OOL = 3 : 3 : 5; frons punctulate-coriaceous, except medially; vertex punctulate-coriaceous; face punctate; clypeus smooth; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides largely shiny crenulate, but smooth dorsally; precoxal sulcus distinctly impressed, except anteriorly, and distinctly crenulate; area below precoxal sulcus smooth dorsally and punctulate ventrally; pleural sulcus distinctly crenulate; notauli absent anteriorly and posteriorly, impressed medio-dorsally; mesoscutum punctate, especially lateral lobes; surface of propodeum smooth anteriorly and superficially coriaceous posteriorly.

Fore wing. — Vein r : SR1+3-SR : 2-SR = 7 : 36 : 9; cu-a postfurcal (fig. 140); CU1b distinct (fig. 140); 2-M not distinctly sclerotized; first subdiscal cell broadly truncate anteriorly (fig. 140).

Legs. — Hind coxa shiny granulate; fore legs missing, middle and hind claws simple and slender; length of femur, tibia, and basitarsus of hind leg 3.6, 7.5, and 8 times their width, respectively; length of hind tibial spurs 0.35 and 0.50 times hind basitarsus; hind tibia with seven pegs apically.

Metasoma. — Length of first tergite 1.1 times its apical width, its surface superficially granulate, laterally partly rugulose, and its dorsal carinae obsolescent anteriorly; second tergite superficially granulate; second suture deep; third and following tergites smooth; length of ovipositor sheath 1.26 times fore wing.

Colour. — Brownish-yellow; stemmaticum, flagellum, ovipositor sheath, sixth-eighth tergites blackish; pedicellus, outer side of scapus, occiput (except medially), apical quarter of hind tibia, hind tarsus (except basal half of basitarsus) and pterostigma dark brown; wing membrane slightly infuscated.

Variation. — Paratype (female): length of fore wing 3.4 mm, length of ovipositor sheath 1.21 times fore wing, notauli obsolescent medially, length of first tergite 1.1 times its apical width and apical two-thirds of hind tibia dark brown.

Distribution. — Ecuador.

Orgilus (Aporgilus) woldai spec. nov.
(figs. 148, 184)

Holotype, ♀ in Rijksmuseum van Natuurlijke Historie, Leiden: "Museum Leiden, M. Panama, Level I, Barro Colorado Island, 9°9'30"N-79°51'W, 18-24.V.1977, H. Wolda, at light".

Paratypes: 3 ♀ + 5 ♂ (same depository and Canadian National Collection, Ottawa): 2 ♀ + 5 ♂, topotypic: 1 ♂, level III, 8-14.VI.1977, 2 ♀ + 1 ♂, 18-24.V.1977 (1 ♂ level I, 2 ♀ level III), 2 ♂, 15-21.VI.1977 (1 ♂ level I, 1 ♂ level III), 1 ♂, level I, 24-30.VIII.1977; 1 ♀, Panama, Canal Zone, 8 km NW Gamboa, Pipeline Rd, 9°10'N-79°45'W, from *Luehea seemannii* (Tiliaceae), 4.IV.1976, Y. Lubin & G. Montgomery.

Holotype, ♀, length of body 2.2 mm, of fore wing 2.0 mm.

Head. — Remaining antennal segments 21, length of third segment 1.1 times fourth segment, length of third and fourth segments 4.1 and 3.7 times their width, respectively; length of maxillary palp about as long as height of head; length of eye in dorsal view 3.2 times temple; temples directly narrowed posteriorly (cf. figs. 150 and 184); POL : diameter of posterior ocellus : OOL = 8 : 8 : 9; frons flat, coriaceous(-granulate) laterally, largely smooth medially; vertex coriaceous; face shiny and punctulate, narrowly coriaceous laterally; clypeus smooth, rather convex (as *genalis*); length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides shiny granulate ventrally, and its dorsal half smooth; precoxal sulcus superficially impressed medially and smooth; area below precoxal sulcus smooth; pleural sulcus nearly smooth; notauli obsolescent anteriorly; mesoscutum smooth; surface of propodeum shiny and granulate.

Fore wing. — Vein r : SR1+3-SR : 2-SR = 6 : 33 : 7; cu-a postfurcal; CU1b obsolescent; 2-M not sclerotized; first subdiscal cell rather narrow anteriorly (fig. 148).

Legs. — Hind coxa shiny granulate-coriaceous; tarsal claws rather small and robust, without lobe; length of femur, tibia and basitarsus of hind leg 3.5, 8.0 and 8 times their width, respectively; length of hind tibial spurs 0.40 and 0.55 times hind basitarsus; hind tibia with three pegs apically.

Metasoma. — Length of first tergite 1.3 times its apical width, rather flat (cf. fig. 151), its surface shiny granulate, and its dorsal carinae developed in its basal 0.3; second tergite shiny and superficially granulate; second suture rather deep and smooth; third and following tergites largely smooth; length of ovipositor sheath 0.79 times fore wing.

Colour. — Brownish-yellow; stemmaticum dark brown; palpi, tegulae, pterostigma, and veins pale yellowish.

Variation. — Length of fore wing 1.8-2.0 mm (female), – 2.5 mm (male);

length of ovipositor sheath 0.75-0.86 times fore wing; antennal segments 26 (1 male), 27 (1 male), 28 (1 male); length of eye in dorsal view 3-4 times temple; length of mesosoma 1.4-1.5 times its height; first subdiscal cell of fore wing narrow (fig. 148) to moderately wide anteriorly (cf. fig. 149); vein CU1b of fore wing short or obsolescent, reduced; length of first metasomal tergite 1.3-1.6 times its apical width, and its dorsal carinae developed on basal 0.2-0.7.

Note. — It is a pleasure to name this species after its collector, Dr. H. Wolda (Balboa), who is investigating the seasonality of insects in the tropics.

ACKNOWLEDGEMENTS

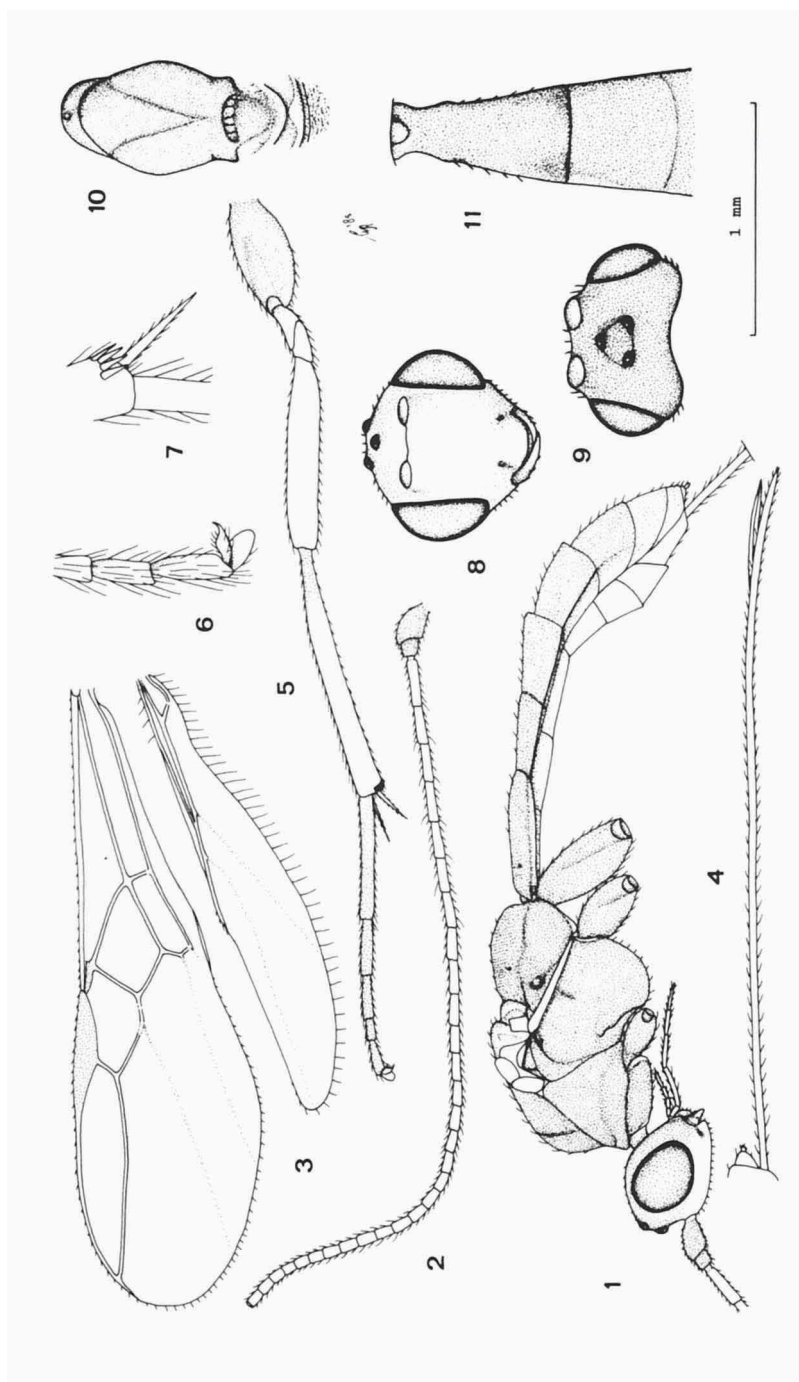
I wish to thank the following persons for providing specimens and/or useful information and suggestions: Dr. M. van Balgootj (Leiden), Dr. F. Bin (Perugia), Dr. R. Danielsson (Lund), Dr. P. Dessart (Brussels), Dr. I. Gauld (London), Dr. E. Haeselbarth (München), Mr. T. Huddleston (London), Dr. F. Koch (Berlin), Dr. P.M. Marsh (Washington), Dr. W.R.M. Mason (Ottawa), Dr. J. Papp (Budapest), Dr. D. Quicke (Sheffield), Dr. A.B. Stam (Bouake), Dr. A. Taeger (Eberswalde), Drs. H.K. & M. Townes (Gainesville), Dr. J. van der Vecht (Putten), and Dr. H. Wolda (Balboa).

The facilities at Danum Valley Field Centre were provided by Yayasan Sabah.

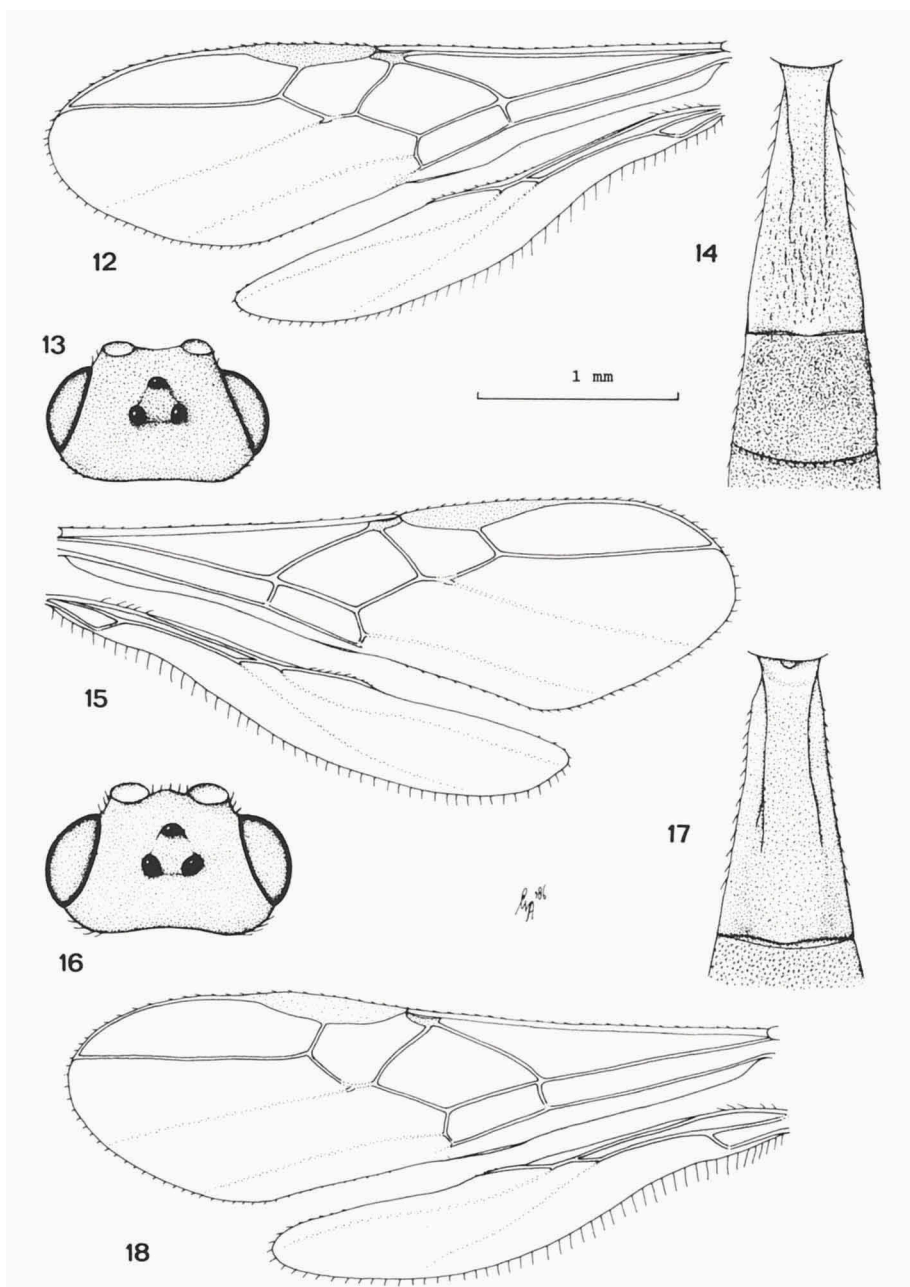
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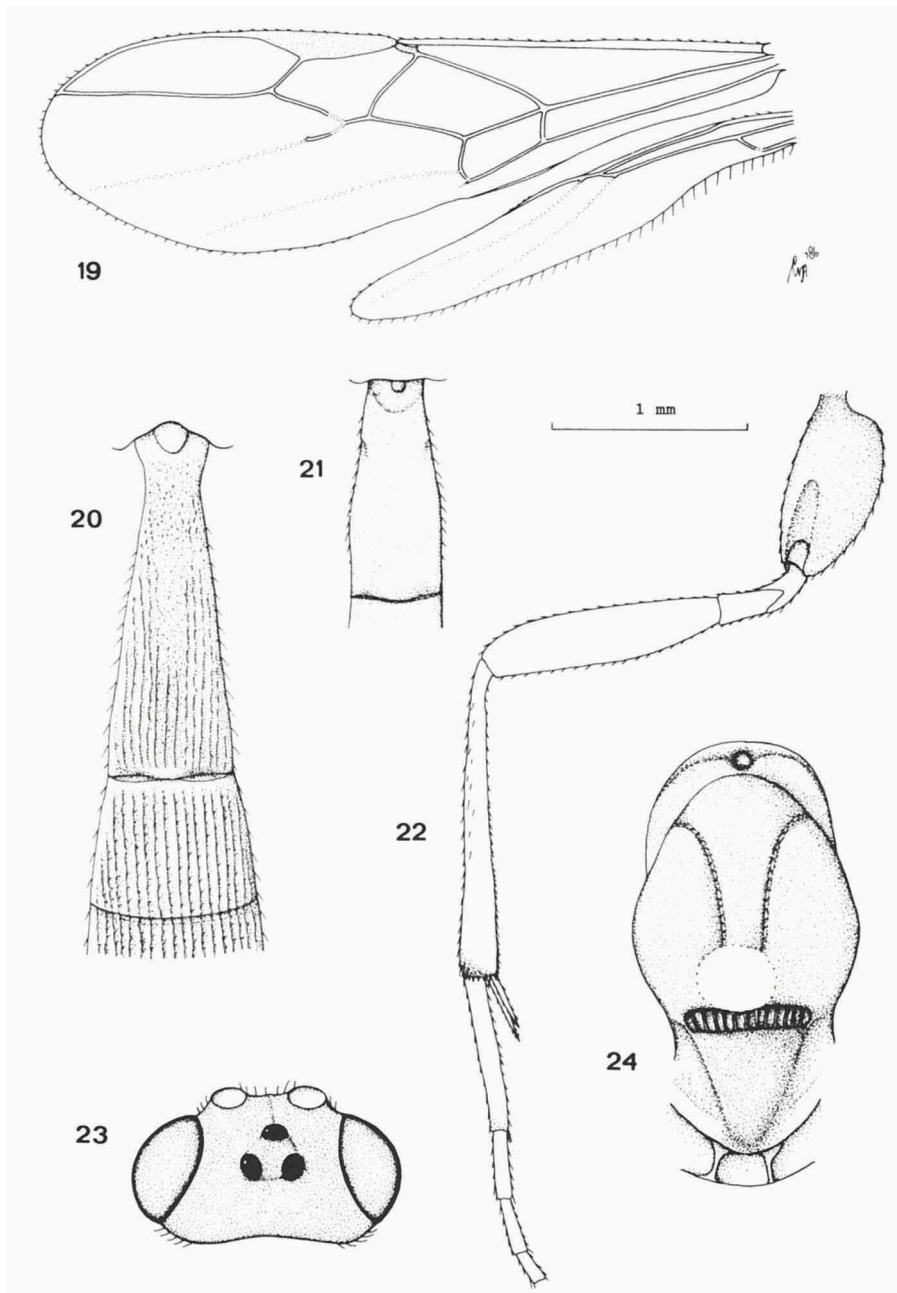
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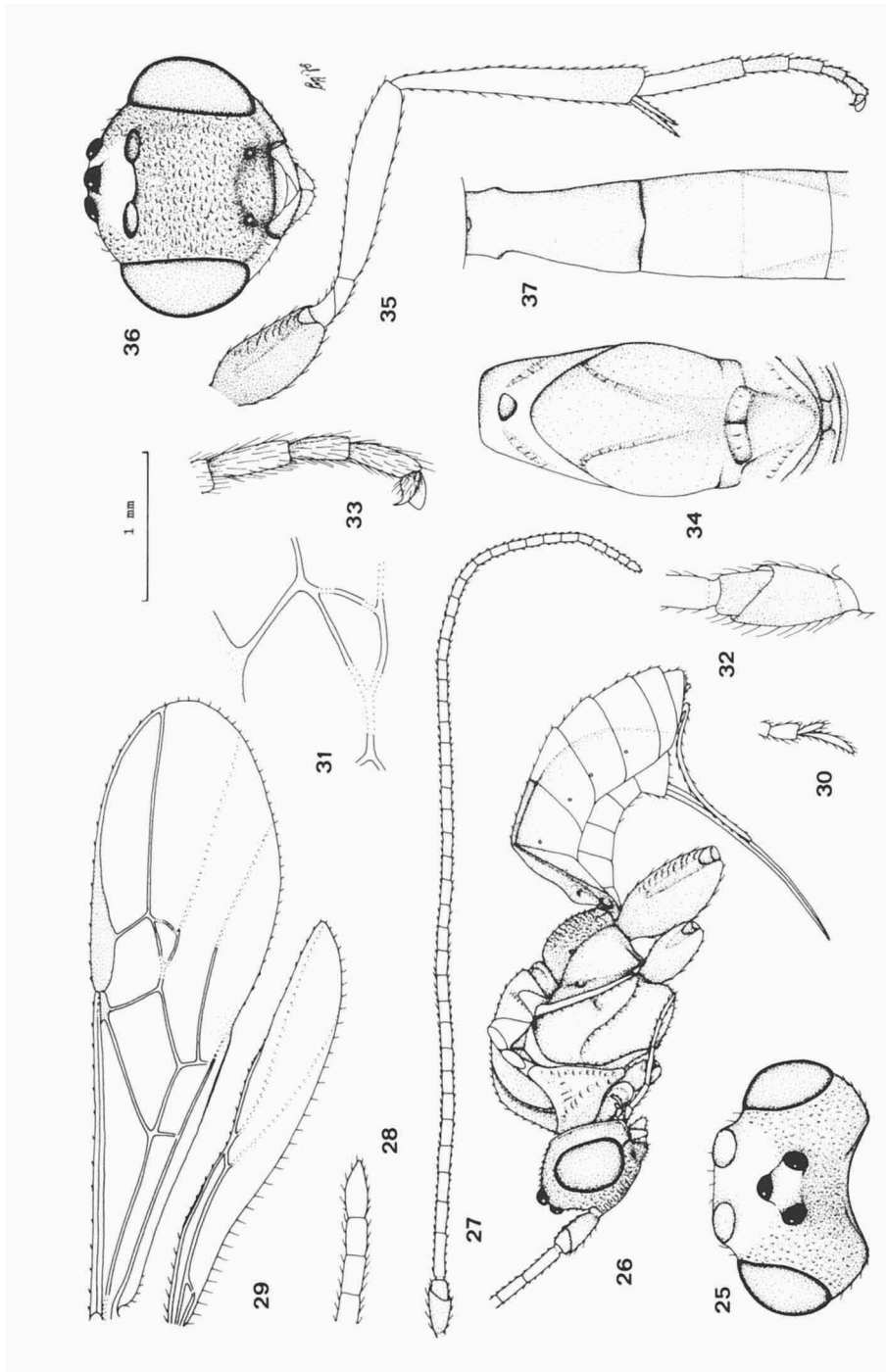
Figs. 1-11. *Orgilonia fuscisigma* gen. et spec. nov., ♀, holotype. 1, habitus, lateral aspect; 2, antenna; 3, wings; 4, ovipositor; 5, hind leg; 6, hind claw; 7, apex of hind tibia, outer aspect; 8, head, frontal aspect; 9, head, dorsal aspect; 10, mesosoma, dorsal aspect; 11, first and second metasomal tergites, dorsal aspect. 1-5: scale-line (= 1 ×); 6, 7: 3.5 ×; 8-11: 1.3 ×.



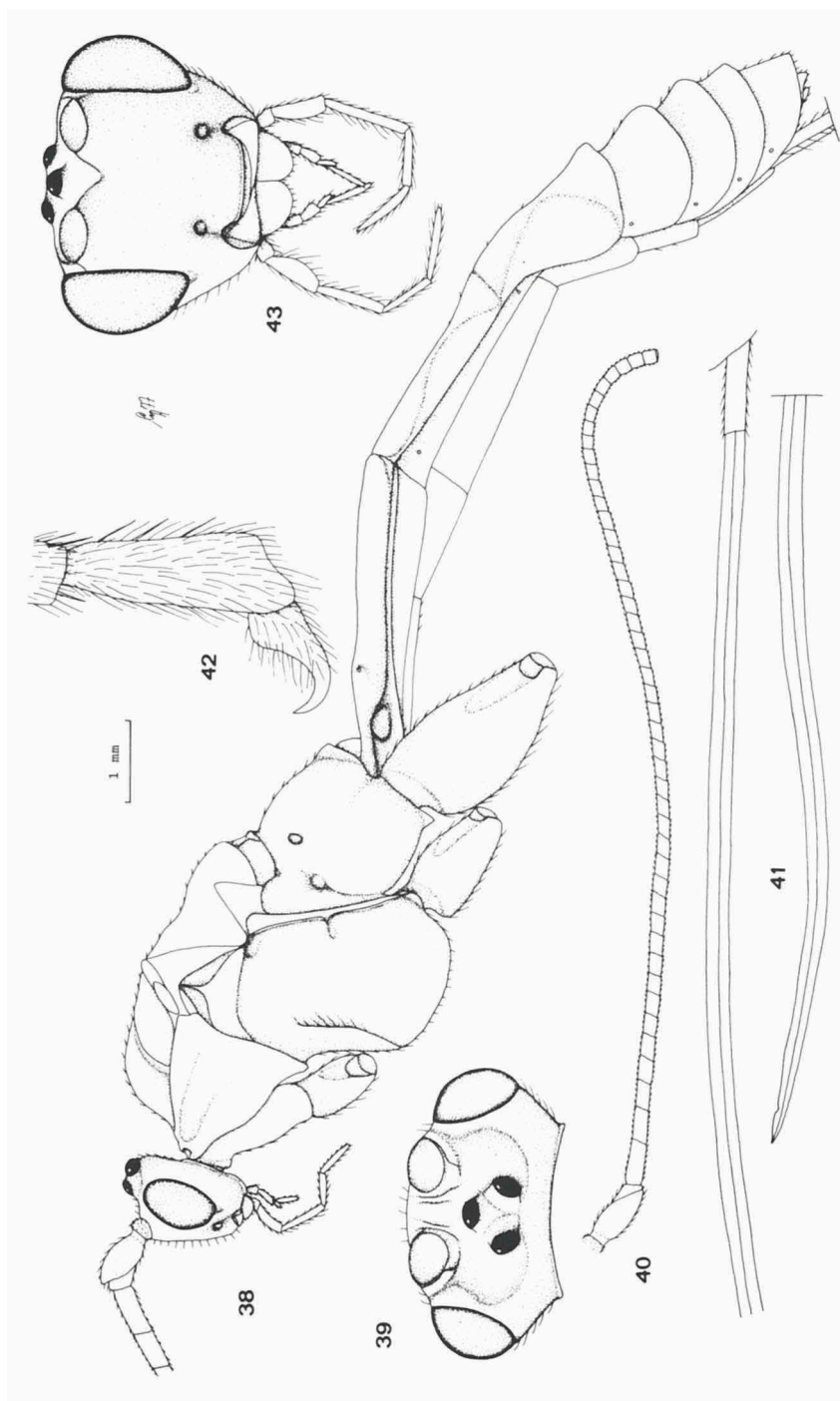
Figs. 12-14, *Orgilonia vechti* gen. et spec. nov., ♀, holotype. Figs. 15-17, *O. ashmeadi* (Viereck), ♀, Philippines, Quezon. Fig. 18, *O. striata* gen. et spec. nov., ♀, holotype. 12, 15, 18, wings; 13, 16: head, dorsal aspect; 14, 17, first and second metasomal tergites, dorsal aspect. 12, 15, 18: scale-line (= 1 ×); 13, 14, 16, 17: 1.5 ×.



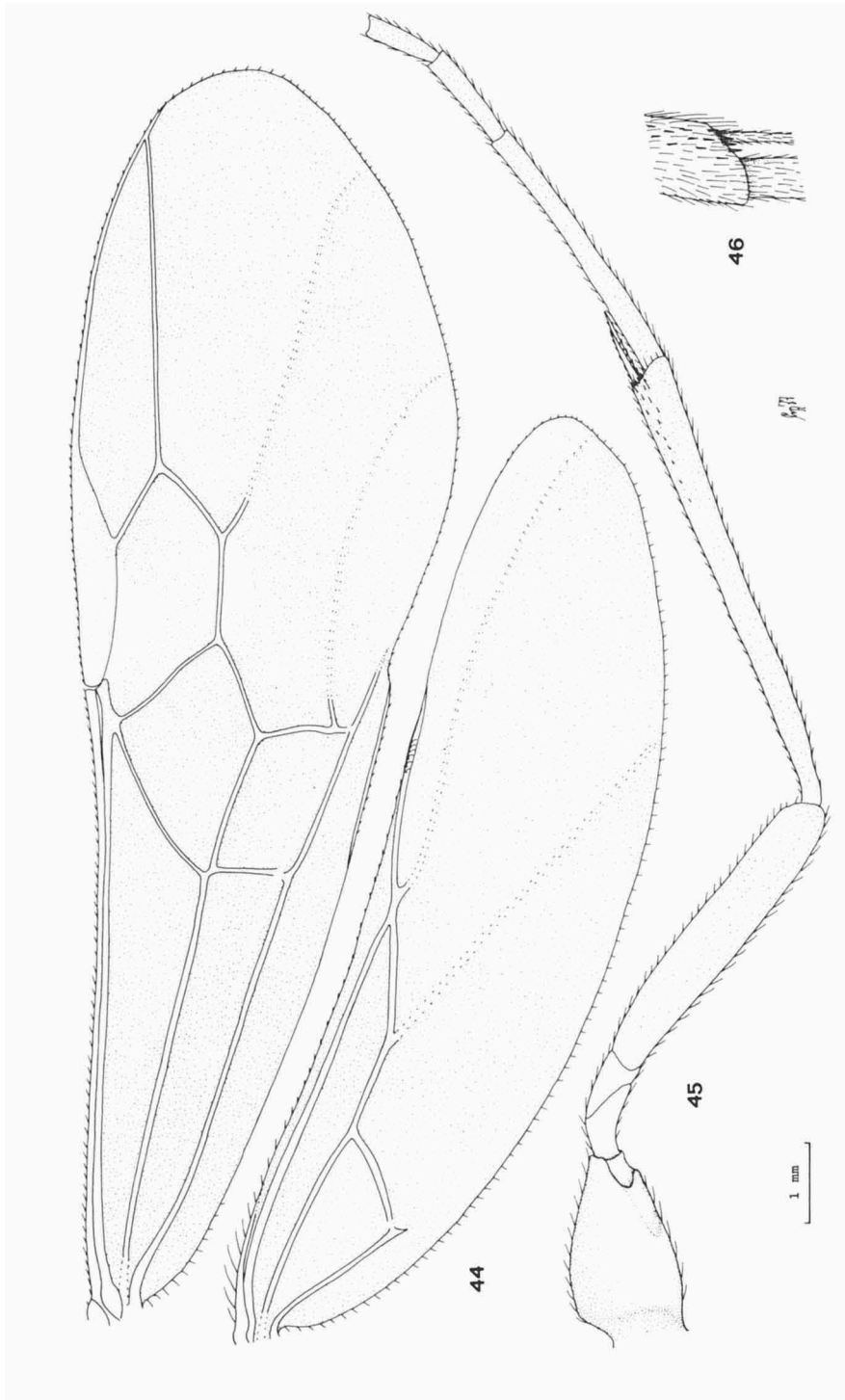
Figs. 19, 21, *Stantonina lutea* (Szépligeti), ♀, holotype. Figs. 20, 23, *Orgilonia striata* gen. et spec. nov., ♀, holotype. Figs. 22, 24, *Orgilus westermanni* (Enderlein), ♀, holotype. 19, wings; 20, 21, first and second metasomal tergites, dorsal aspect; 22, hind leg; 23, head, dorsal aspect; 24, thorax, dorsal aspect. 19: 0.6 × (scale-line = 1 ×); 20: 0.5 ×; 21: 0.8 ×; 22: 0.7 ×; 23: 1.5 ×; 24: 1.4 ×.



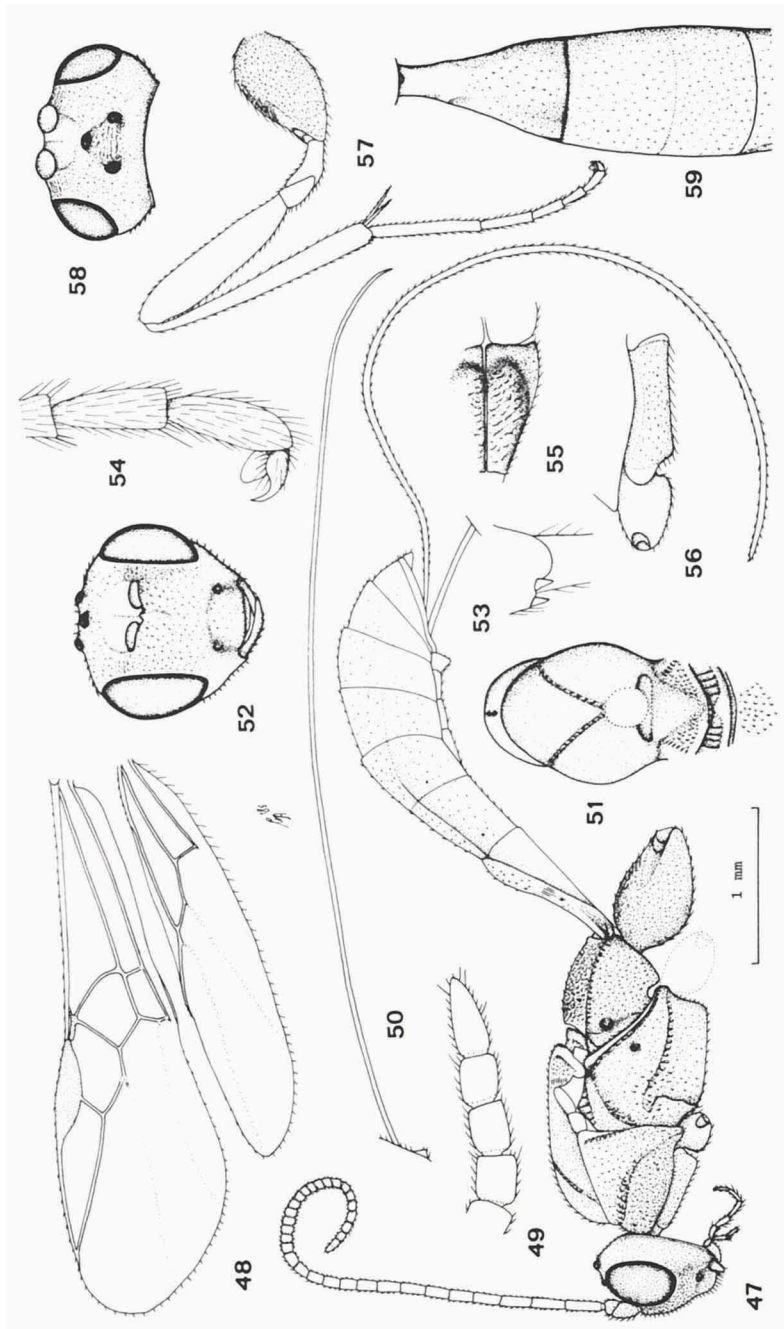
Figs. 25-37, *Stantonia flava* Ashmead, ♀, holotype. 25, head, dorsal aspect; 26, habitus, lateral aspect; 27, antenna; 28, apex of antenna; 29, wings; 30, labial palp; 31, detail of second submarginal cell of fore wing; 32, scapus, outer laberal aspect; 33, hind claw; 34, thorax, dorsal aspect; 35, hind leg; 36, head, frontal aspect; 37, first-third metasomal tergites, dorsal aspect. 25, 34, 36, 37: 1.7 ×; 26, 27, 29, 35: scale-line (1 ×); 28, 30-33: 2.5 ×.



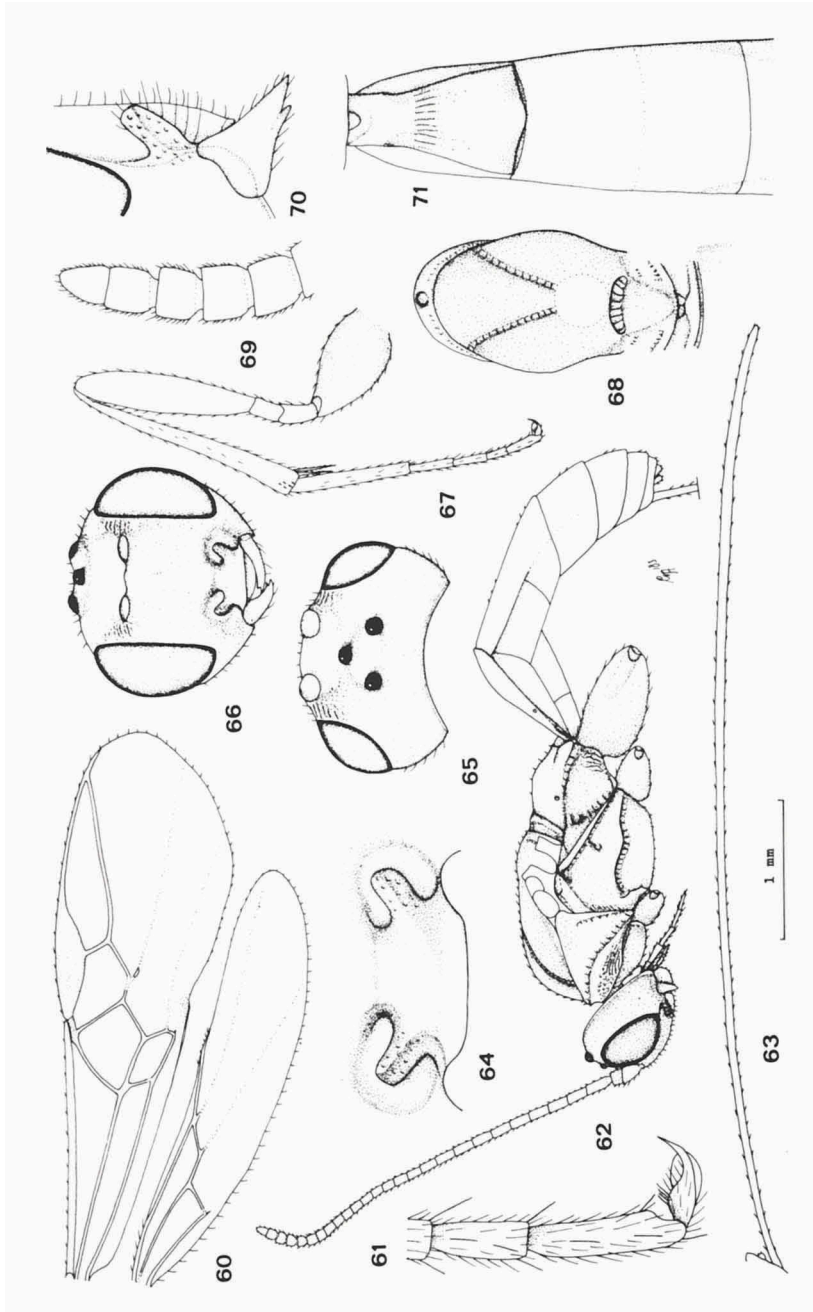
Figs. 38-43, *Clotildea lucida* Szépligeti, ♀, holotype. 38, habitus, lateral aspect; 39, head, dorsal aspect; 40, antenna; 41, ovipositor; 42, middle claw; 43, head, frontal aspect. 38, 40, 41: scale-line (= 1 ×); 39, 43: 2 ×; 42: 5 ×.



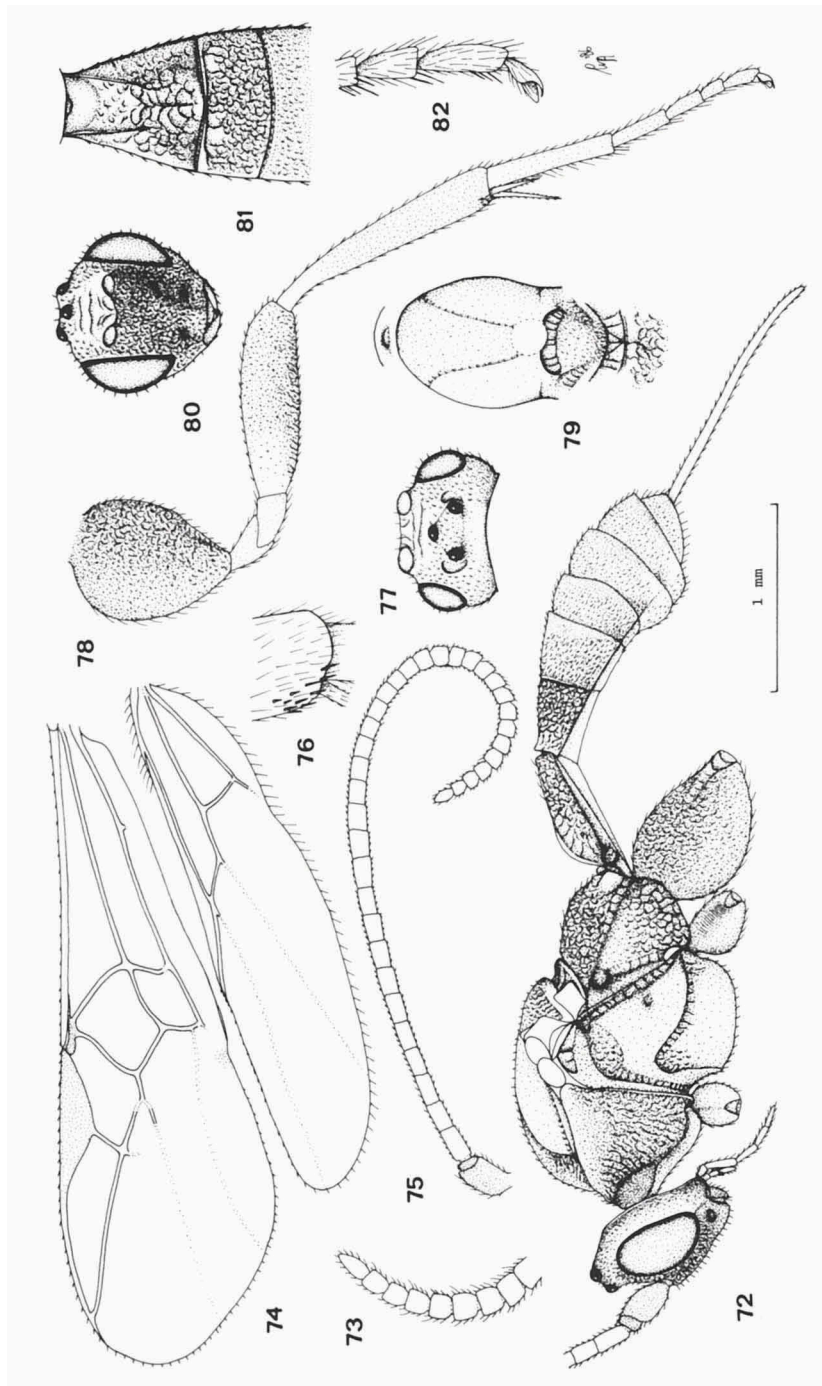
Figs. 44-46, *Clotildea lucida* Szépligeti, ♀, holotype. 44, wings; 45, hind leg; 46, apex of hind tibia, outer aspect. 44, 45: scale-line (= 1 ×); 46: 2 ×.



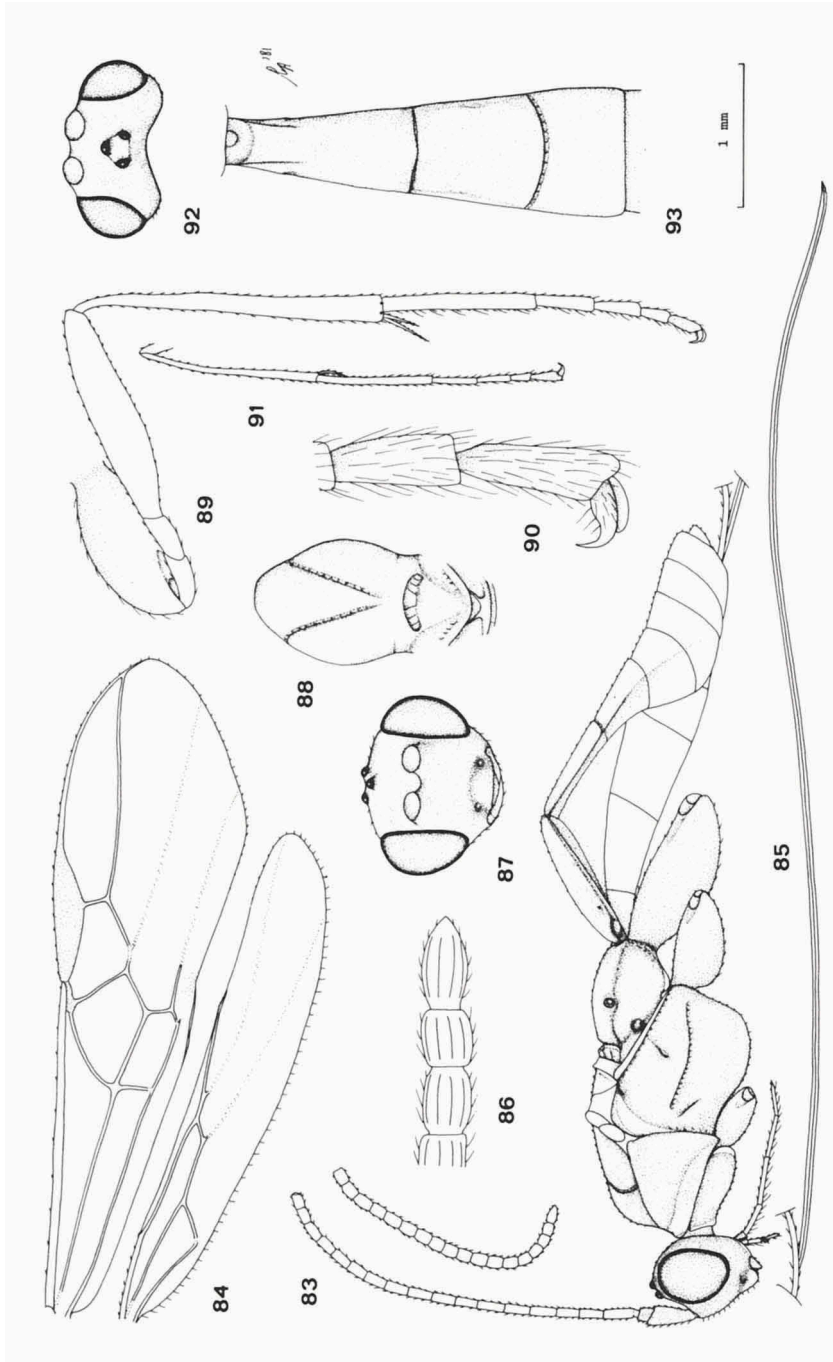
Figs. 47-59. *Petiorgilus schmiedeknechti* gen. et spec. nov., ♀, holotype. 47, habitus, lateral aspect; 48, wings; 49, apex of antenna; 50, ovipositor; 51, mesosoma, dorsal aspect; 52, head, frontal aspect; 53, apex of hind tibia, outer aspect; 54, hind claw; 55, propleuron, ventral aspect; 56, propleuron, lateral aspect; 57, hind leg; 58, head, dorsal aspect; 59, first-third metasomal tergites, dorsal aspect. 47, 48, 50, 57: scale-line (= 1 ×); 49, 53, 54: 5 ×; 51, 52: 1.5 ×; 58, 59: 1.2 ×; 55, 56: 2 ×.



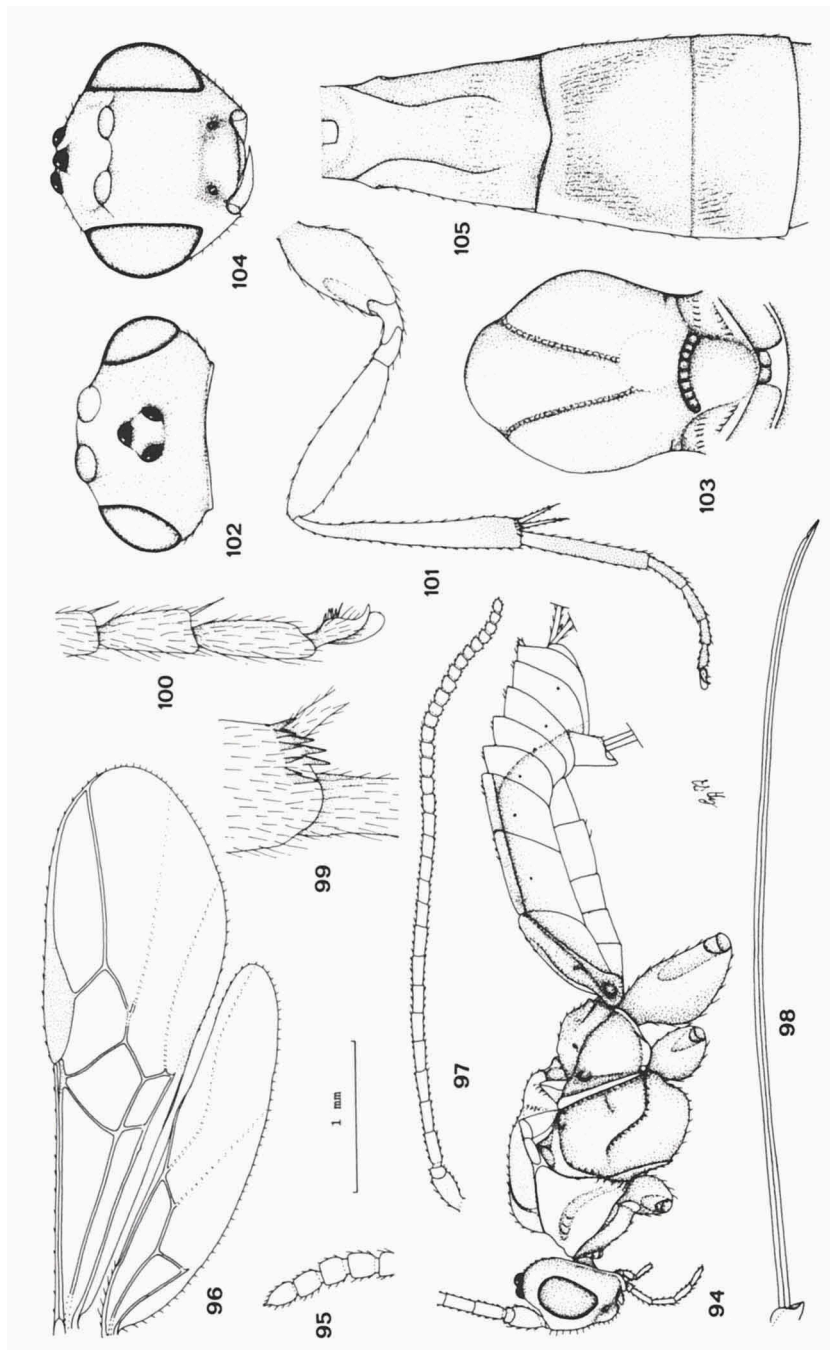
Figs. 60-71, *Kerorgilus longicaudis* Van Achterberg, ♀, holotype. 60, wings; 61, hind claw; 62, habitus, lateral aspect; 63, ovipositor; 64, clypeus, frontal aspect; 65, head, dorsal aspect; 66, head, frontal aspect; 67, mesosoma, dorsal aspect; 69, apex of antenna; 70, clypeus, lateral aspect; 71, first-third metasomal tergites, dorsal aspect. 60, 62, 63, 67: scale-line (= 1 ×); 61, 64, 69, 70: 5 ×; 65, 66: 2 ×; 68, 71: 1.5 ×.



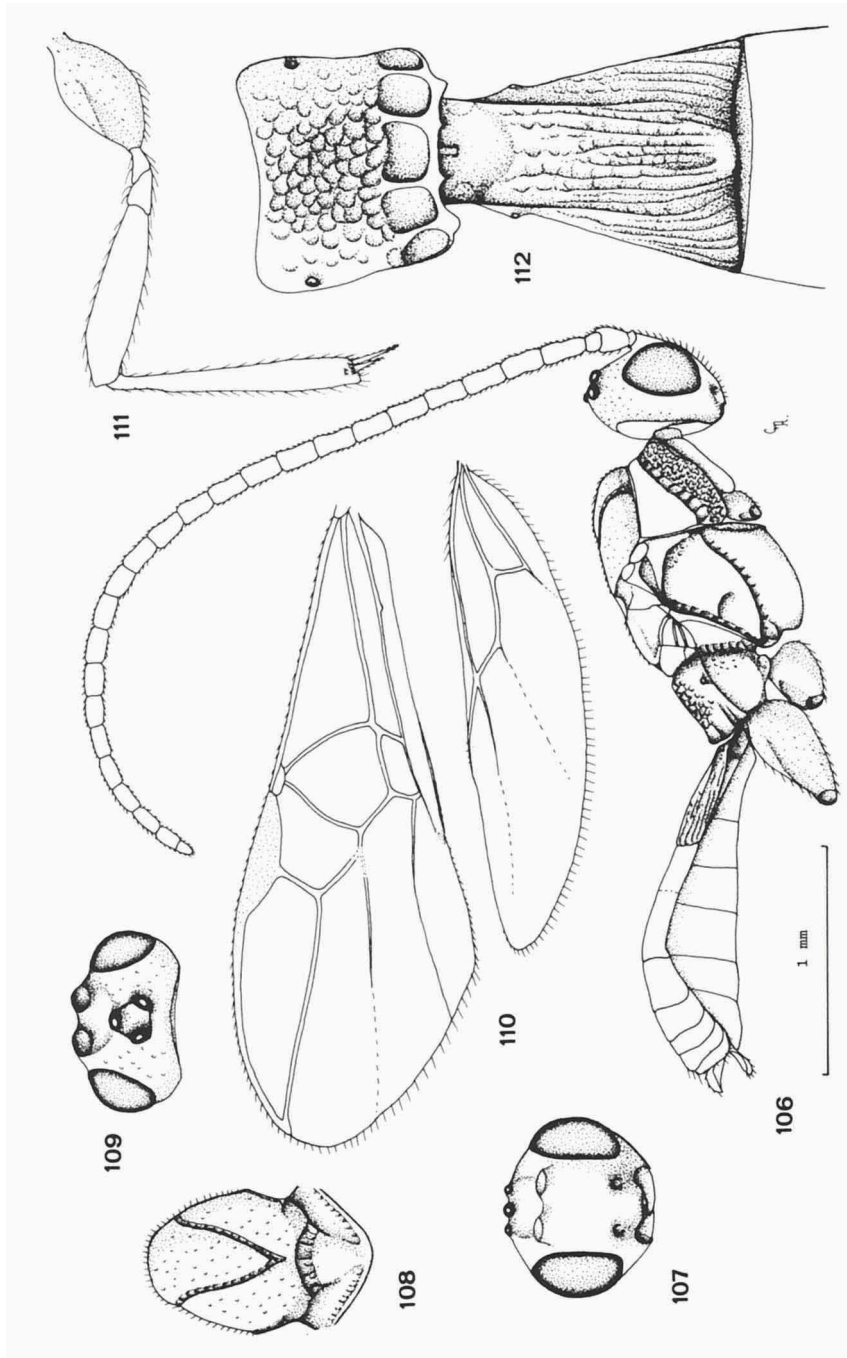
Figs. 72-82. *Orgilus (Ischiotus) rugosus* (Nees), ♀, W. Germany, Rheingau. 72, habitus, lateral aspect; 73, apex of antenna; 74, wings; 75, antenna; 76, apex of hind tibia, outer aspect; 77, head, dorsal aspect; 78, hind leg; 79, mesosoma, dorsal aspect; 80, head, frontal aspect; 81, first and second metasomal tergites, dorsal aspect; 82, hind claw. 72, 74, 75, 77-81: scale-line (= 1 ×); 73: 1.5 ×; 76, 82: 2.5 ×.



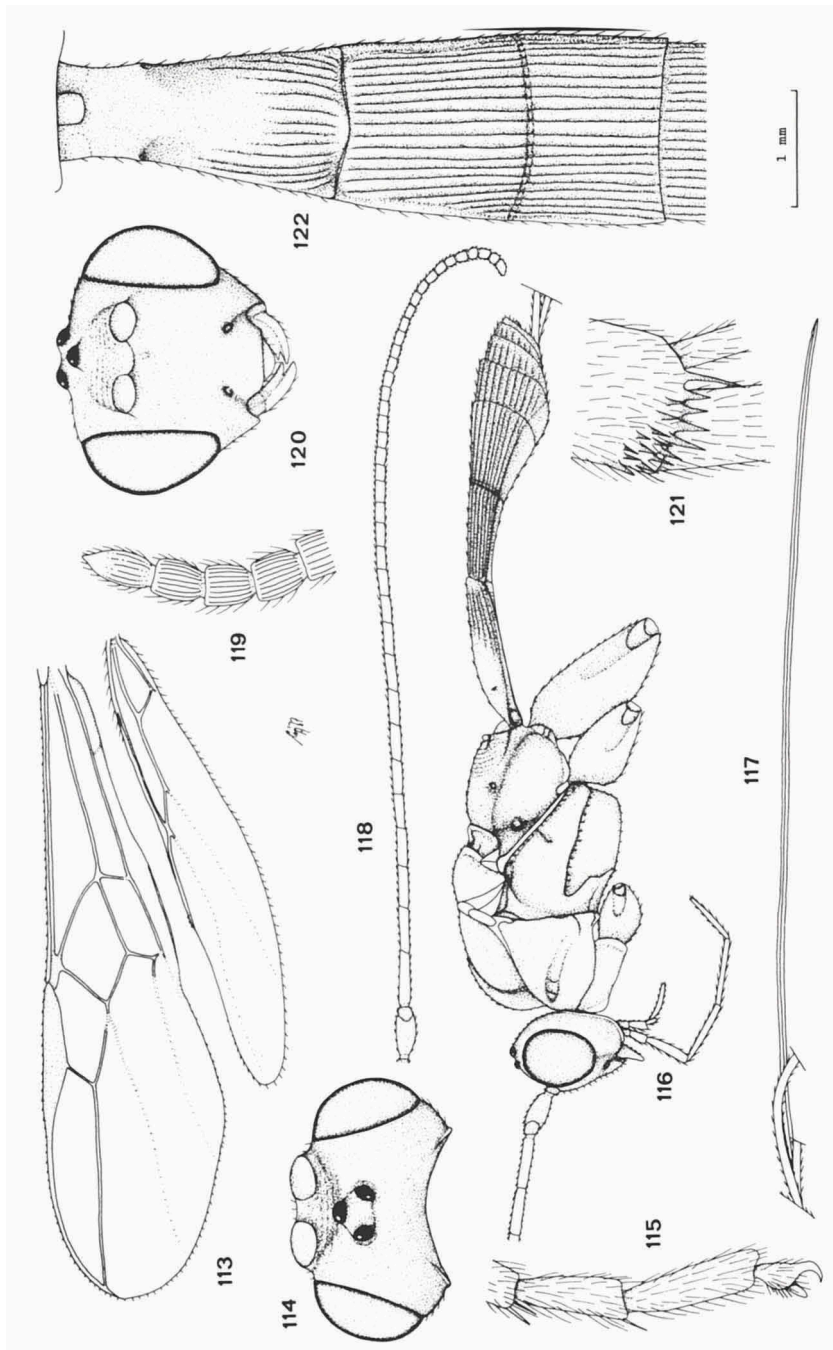
Figs. 83-93, *Orgilus (Afrorgilus) caudatus* Granger, ♀, lectotype. 83, habitus, lateral aspect; 84, wings; 85, ovipositor; 86, apex of antenna; 87, head, frontal aspect; 88, thorax, dorsal aspect; 89, hind leg; 90, hind leg; 91, fore tarsus; 92, head, dorsal aspect; 93, first-third metasomal tergites, dorsal aspect. 83-85, 89, 91: scale-line (= 1 ×); 86, 90: 5 ×; 87, 92: 2 ×; 88, 93: 1.2 ×.



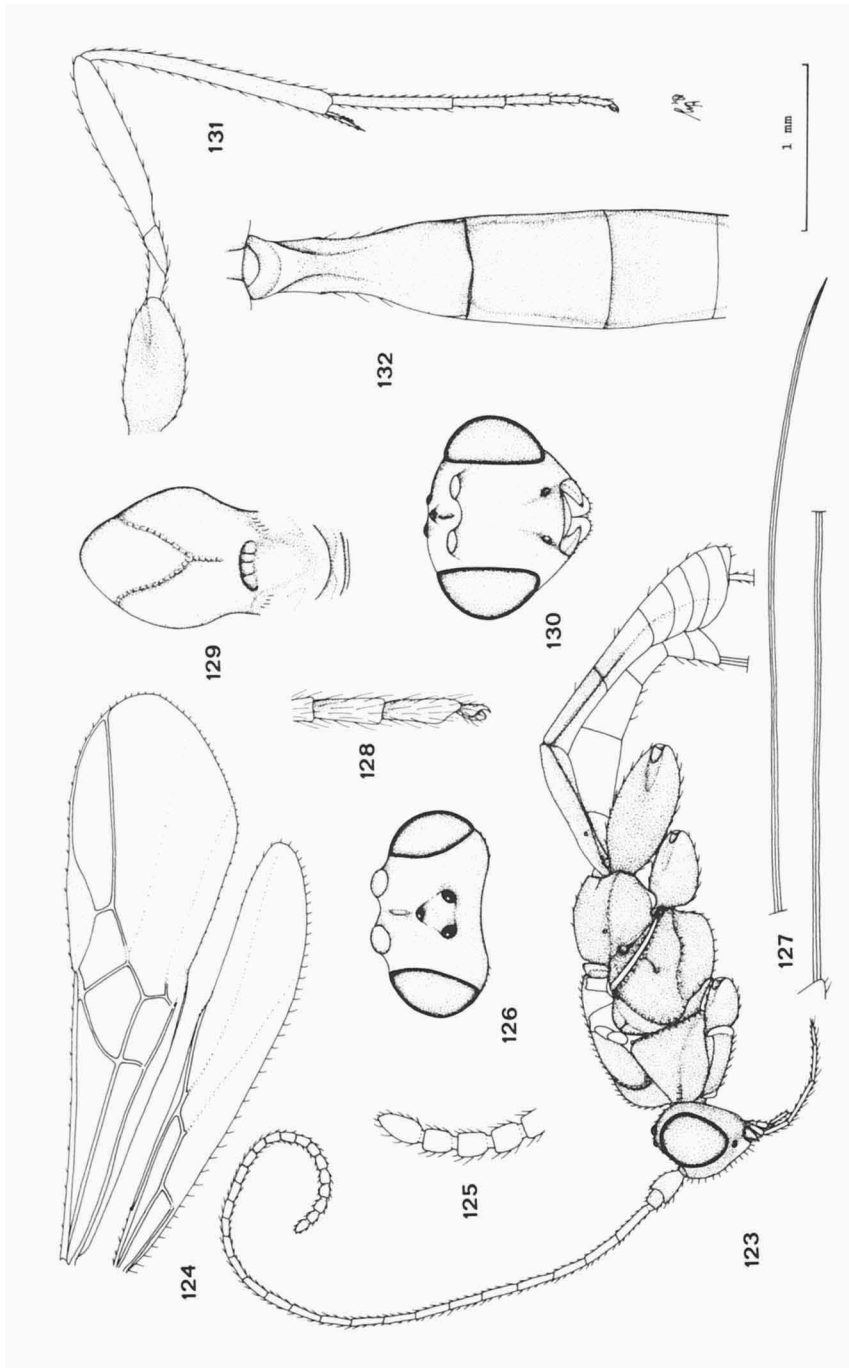
Figs. 94-105, *Orgilus (O.) columbianus* (Enderlein), ♀, holotype. 94, habitus, lateral aspect; 95, apex of antenna; 96, wings; 97, antenna; 98, ovipositor; 99, apex of hind tibia, outer aspect; 100, hind leg; 101, hind claw; 102, head, dorsal aspect; 103, thorax, dorsal aspect; 104, head, frontal aspect; 105, first-third metasomal tergites, dorsal aspect. 94, 96-98, 101: scale-line (= 1 ×); 99, 100: 3.7 ×; 95: 2.5 ×; 102-105: 1.7 ×.



Figs. 106-112, *Orgilus (O.) pulcher* (Szépligeti), ♂, holotype. 106, habitus, lateral aspect; 107, head, frontal aspect; 108, mesonotum, dorsal aspect; 109, head, dorsal aspect; 110, wings; 111, hind leg; 112, propodeum and first metasomal tergite, dorsal aspect. 106, 110, 111: scale-line (= 1 mm); 107-109: 1.2 ×; 112: 2.3 ×.

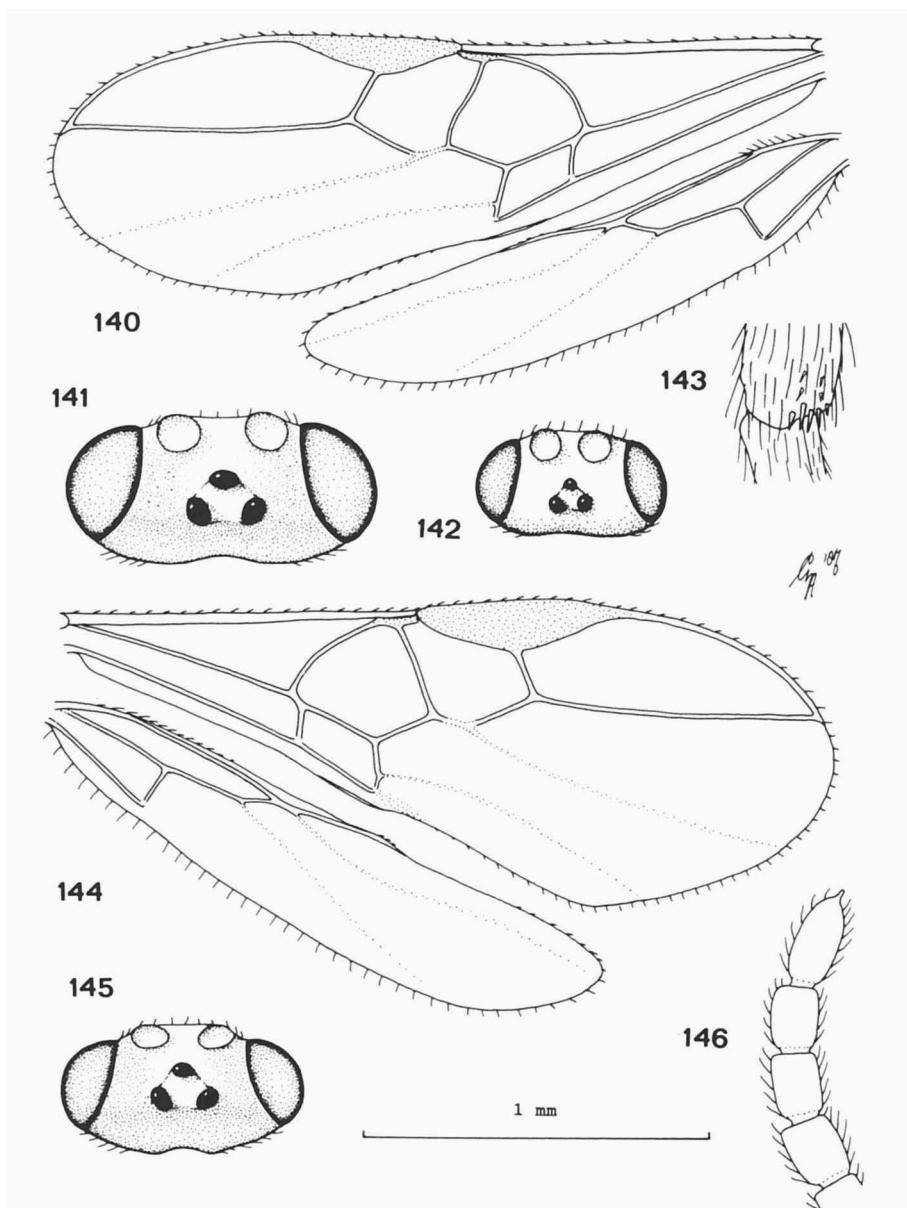


Figs. 113-122, *Orgilus (O.) westermanni* (Enderlein), ♀, holotype. 113, wings; 114, head, frontal aspect; 115, head, dorsal aspect; 116, habitus, lateral aspect; 117, antenna; 118, apex of antenna; 119, apex of hind tibia, outer aspect; 120, apex of hind tibia, inner aspect; 121, metasomal tergites, dorsal aspect; 122, scale-line (= 1 ×); 113, 119, 121: 5 ×; 114, 120, 122: 2 ×.



Figs. 123-132. *Orgilus (Anakorgilus) tenuis* Muesebeck, ♀, U.S.A., Ithaca. 123, habitus, lateral aspect; 124, wings; 125, hind leg; 126, head, dorsal aspect; 127, ovipositor; 128, thorax, dorsal aspect; 129, head, frontal aspect; 130, head, lateral aspect; 131, hind leg; 132, first-third metasomal tergites, dorsal aspect. 123, 124, 127, 131: scale-line (= 1 ×); 125, 128: 2.5 ×; 126, 129, 130, 132: 1.6 ×.

Figs. 133-139, *Orgilus (Aporgilus) rubriceps* (Ashmead), ♀, holotype. 133, habitus, lateral aspect; 134, head, frontal aspect; 135, wings; 136, head, dorsal aspect; 137, propodeum and first metasomal tergite, dorsal aspect; 138, mesonotum, dorsal aspect; 139, hind leg. 133, 135, 139: scale-line (= 1 ×); 134, 136, 138: 1.2 ×; 137: 2.5 ×.



Figs. 140, 141, *Orgilus (Aporgilus) transversus* spec. nov., ♀, holotype. Figs. 142, 143, *O. (A.) geijskesi* spec. nov., ♀, holotype. Figs. 144-146, *O. (A.) gauldi* spec. nov., ♀, holotype. 140, 144, wings; 141, 142, 145, head, dorsal aspect; 143, apex of hind tibia, outer aspect; 146, apex of antenna. 140: 0.6 ×; 141, 142, 145: scale-line (= 1 ×); 143, 146: 2.3 ×; 144: 0.8 ×.

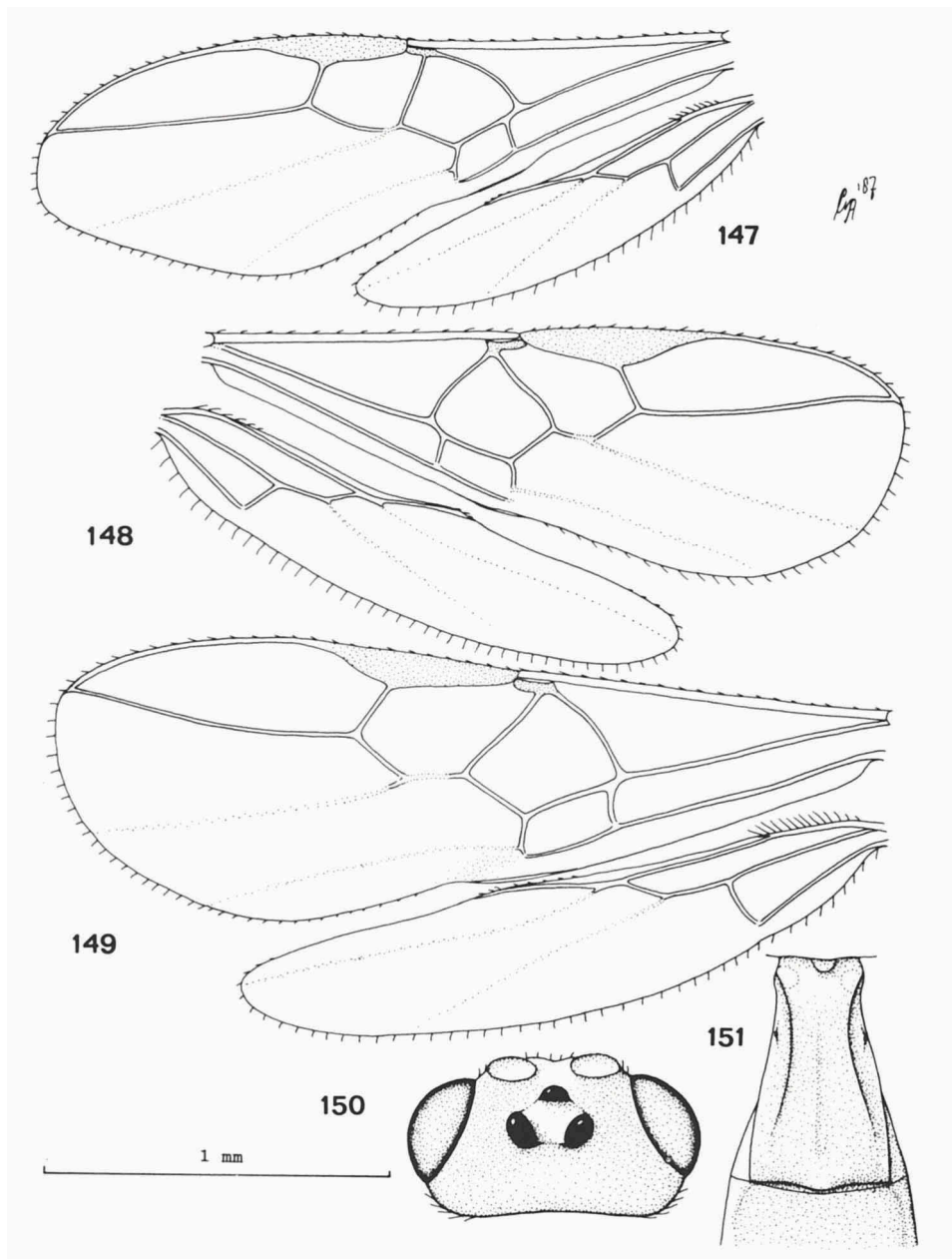
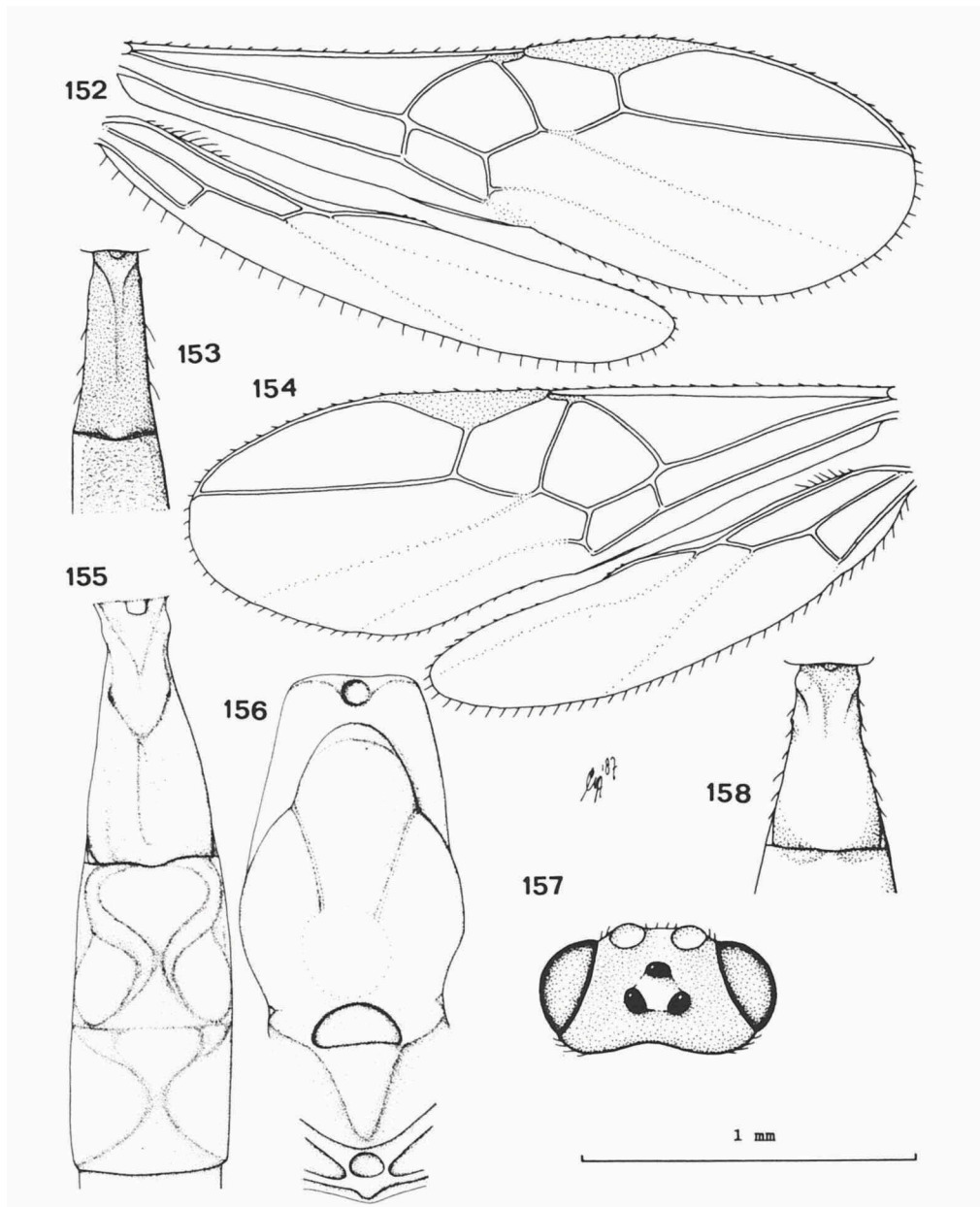
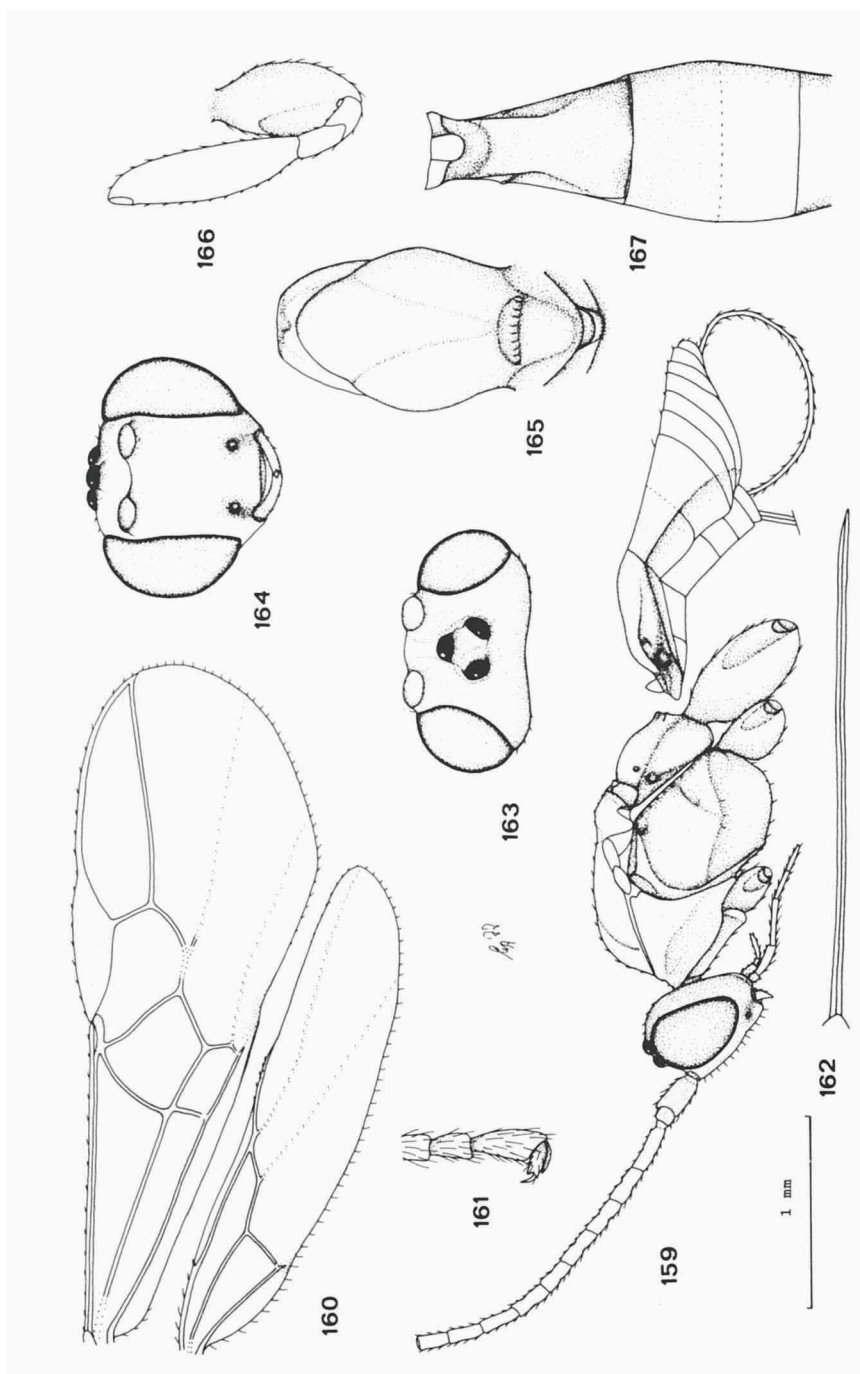


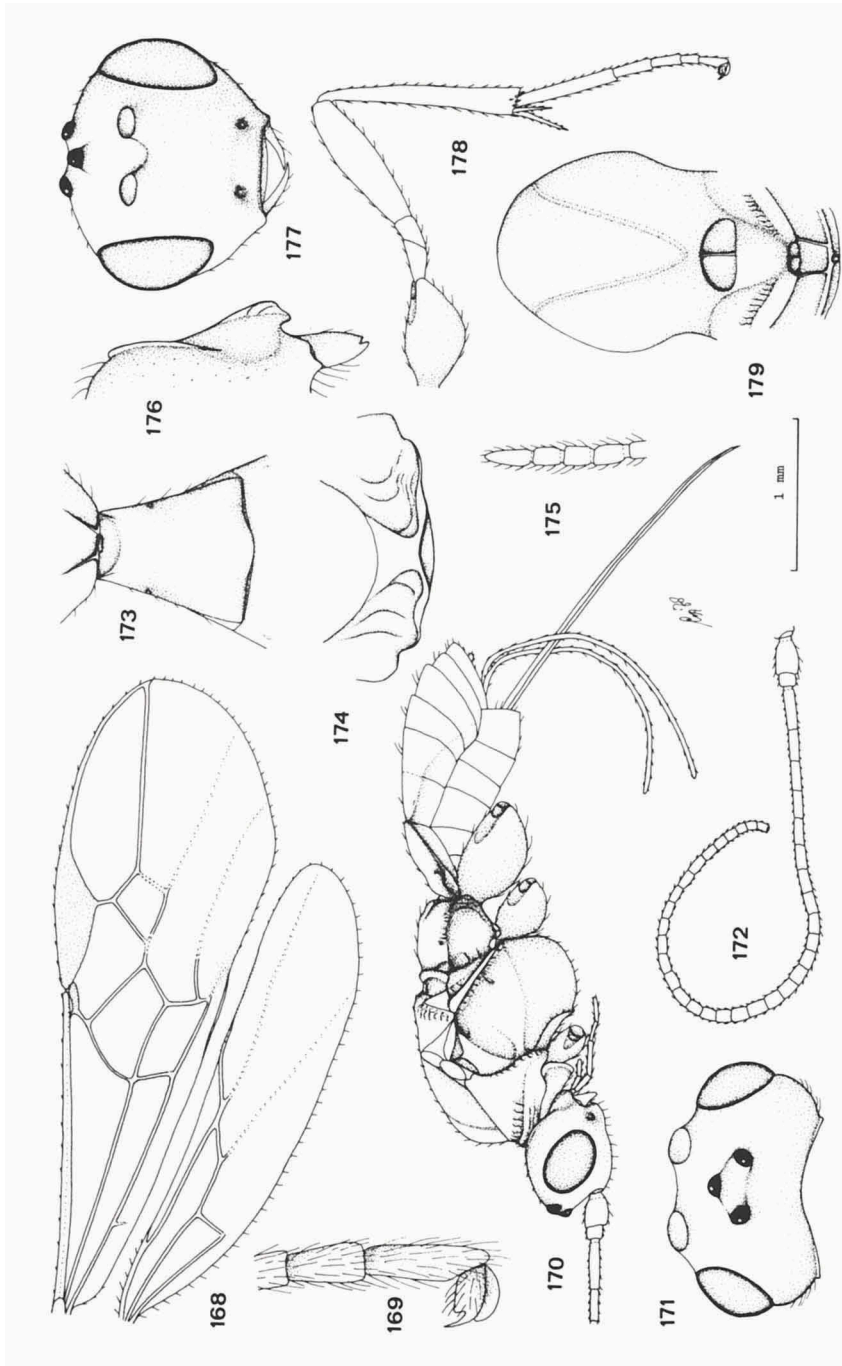
Fig. 147, *Orgilus (Aporgilus) albosignatus* spec. nov., ♂, holotype. Fig. 148, *O. (A.) woldai* spec. nov., ♀, holotype. Figs. 149-151, *O. (A.) genalis* spec. nov., ♂, holotype. 147-149, wings; 150, head, dorsal aspect; 151, first metasomal tergite, dorsal aspect. 147: 0.6 ×; 148, 150, 151: scale-line (1 ×); 149: 0.8 ×.



Figs. 152, 153, *Orgilus (Anakorgilus) setosus* spec. nov., ♂, holotype. Figs. 154, 157, 158, *O. (Aporgilus) glabratus* spec. nov., ♂, holotype. Figs. 155, 156, *Clotildea lucida* Szépligeti, ♀, holotype. 152, 154, wings; 153, 158, first metasomal tergite, dorsal aspect; 155, first-third metasomal tergites, dorsal aspect; 156, thorax, dorsal aspect; 157, head, dorsal aspect. 152, 153, 157, 158: scale-line (= 1 ×); 154: 0.7 ×; 155: 0.3 ×; 156: 0.6 ×.



Figs. 159-167, *Orgilus (Aporgilus) immarginatus* Muesebeck, ♀, holotype. 159, habitus, lateral aspect; 160, wings; 161, fore leg; 162, ovipositor; 163, head, frontal aspect; 164, head, dorsal aspect; 165, thorax, dorsal aspect; 166, hind leg; 167, first-third metasomal tergites, dorsal aspect. 159, 160, 162, 166: scale-line (= 1 ×); 161: 2.5 ×; 163-165, 167: 1.5 ×.



Figs. 168-179, *Antestrix bicolor* gen. et spec. nov., ♀, holotype, but 175 of paratype from Chile, Enco. 168, wings; 169, hind claw; 170, habitus, lateral aspect; 171, head, dorsal aspect; 172, antenna; 173, first metasomal tergite, dorsal aspect; 174, pronotum, dorso-anterior aspect; 175, apex of antenna; 176, occipital flange and carina, latero-ventral aspect; 177, head, frontal aspect; 178, hind leg; 179, thorax, dorsal aspect. 168, 170, 172, 178: scale-line (= 1 ×); 171, 173, 179: 1.7 ×; 174-176: 2.5 ×.

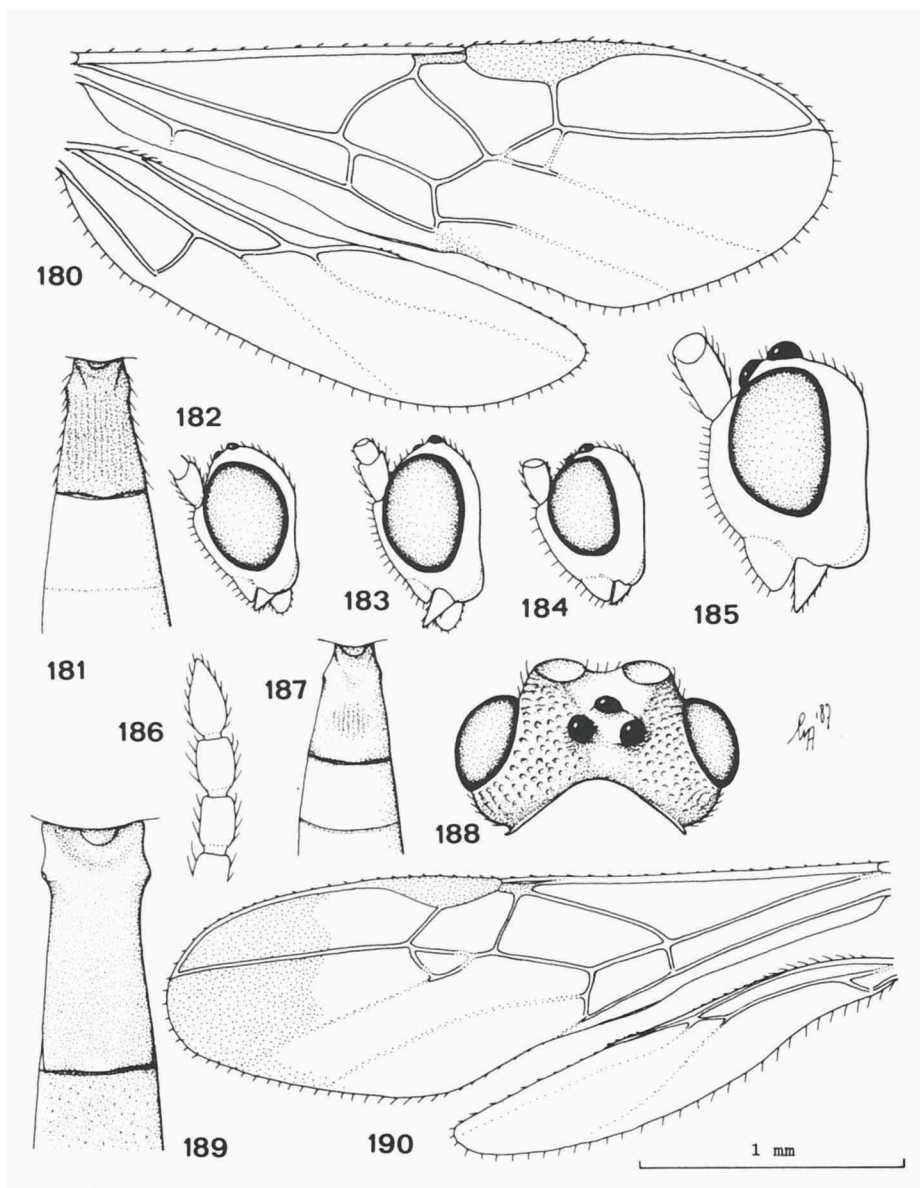
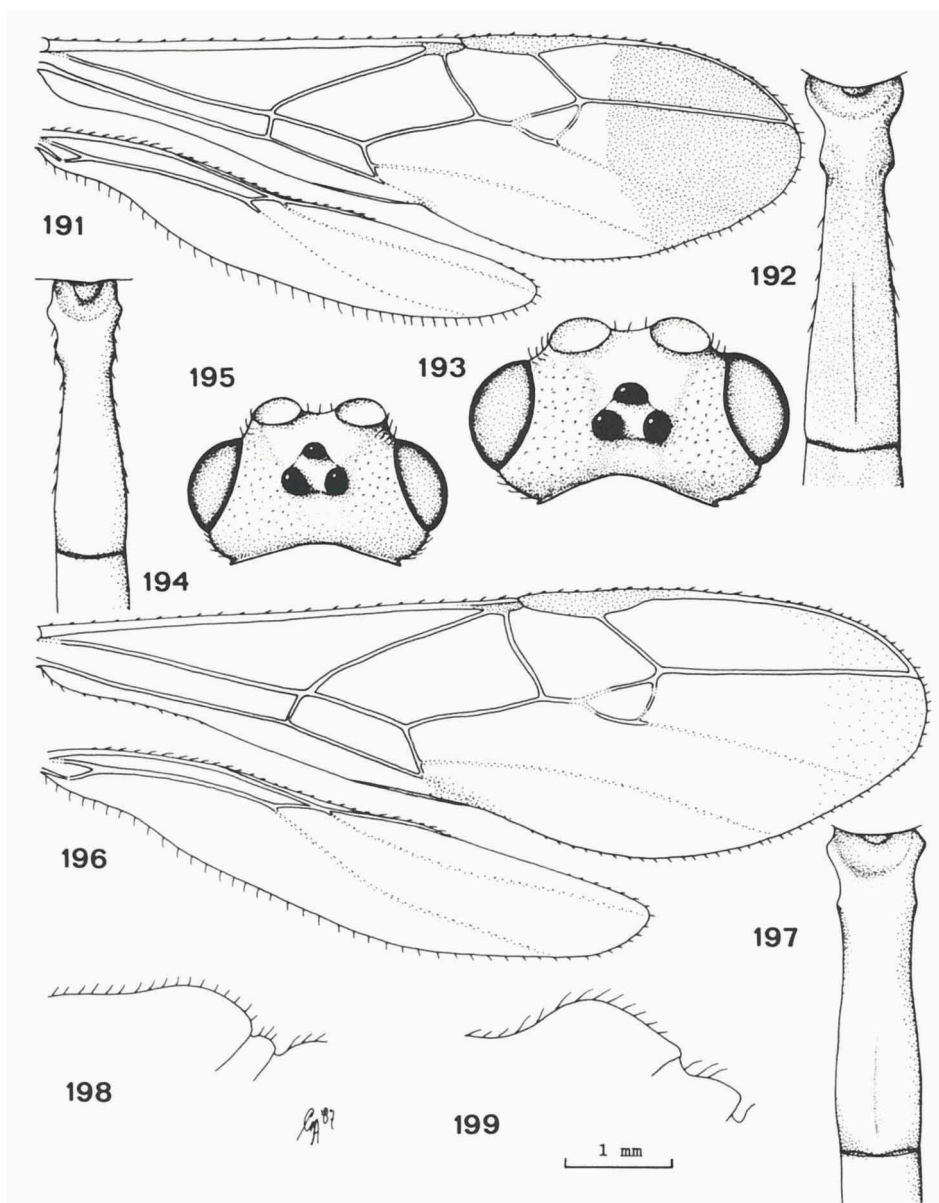
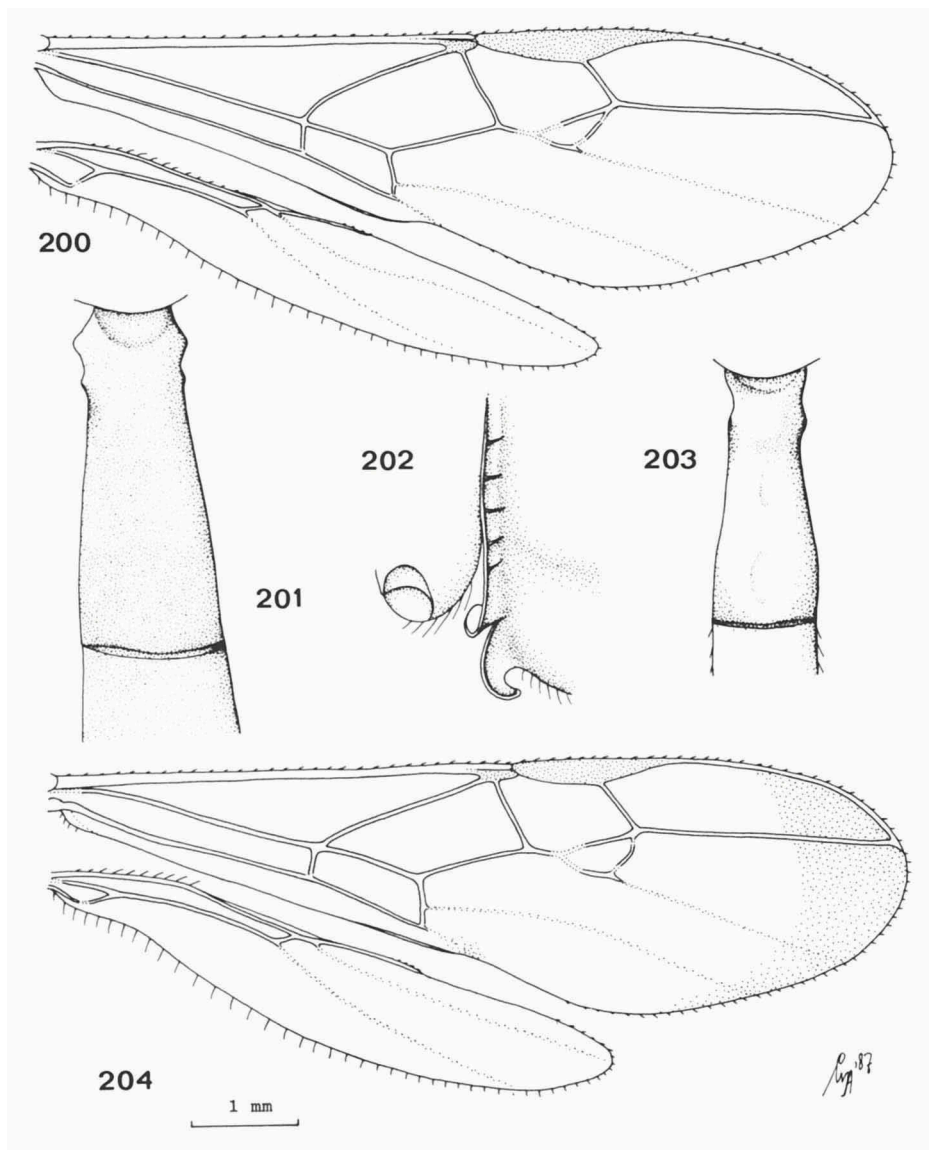


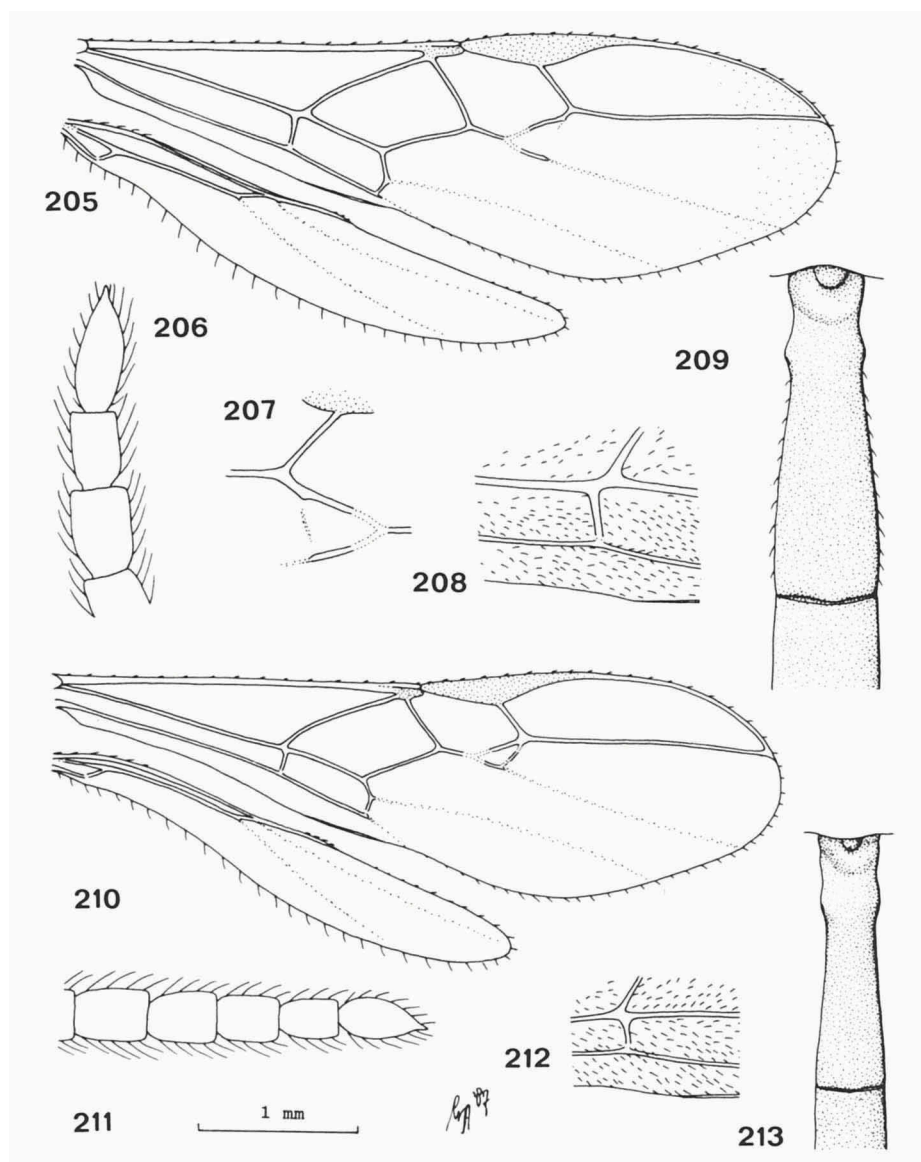
Fig. 180, *Antestrix melligaster* gen. et spec. nov., ♀, holotype. Figs. 181, 183, *Orgilus* (*Aporgilus*) *geijskesi* spec. nov., ♀, holotype. Figs. 182, 186, 187, *O. (A.) iphigeniae* spec. nov., ♀, holotype. Fig. 184, *O. (A.) woldai* spec. nov., ♂, paratype. Fig. 185, *O. (A.) genalis* spec. nov., ♂, holotype. Figs. 188-190, *Stantonia gracilis* spec. nov., ♀, holotype. 180, 190: wings; 181, 187, 189, first metasomal tergite, dorsal aspect; 182-185, head, lateral aspect; 186, apex of antenna; 188, head, dorsal aspect. 180: 1.2 ×; 181-185, 187: 1.3 ×; 186: 3 ×; 188: scale-line (= 1 ×); 189: 0.5 ×.



Figs. 191-193, *Stantonina magnifica* spec. nov., ♀, paratype. Figs. 191, 195, *S. agroterae* Nixon, ♀, paratype. Figs. 196, 197, *S. nigristernum* spec. nov., ♀, holotype. Fig. 198, *S. pellicea* spec. nov., ♀, holotype. Fig. 199, *S. elizabethae* spec. nov., ♀, holotype. 191, 196, wings; 192, 194, 197, first metasomal tergite, dorsal aspect; 193, 195, head, dorsal aspect; 198, 199, scutellum, lateral aspect. 191, 196: scale-line (= 1 ×); 192, 193: 2.5 ×; 194: 1.5 ×; 195, 197: 2 ×; 198, 199: 3.2 ×.



Figs. 200, 201, *Stantonia pellicea* spec. nov., ♀, holotype. Fig. 202, *S. nigristernum* spec. nov., ♀, holotype. Figs. 203, 204, *S. elizabethae* spec. nov., ♀, holotype. 200, 204, wings; 201, 203, first metasomal tergite, dorsal aspect; 202, prepectal carina, ventro-lateral aspect. 200, 203: 1.5 ×; 201, 202: 3.2 ×; 204: scale-line (= 1 ×).



Figs. 205-209, *Stantonia lutea* (Szépligeti), ♂, Sabah, Long Pa Sia. Figs. 210-213, *S. nana* spec. nov., ♀, holotype. 205, 210, wings; 206, 211, apex of antenna; 207, detail of second submarginal cell of fore wing; 208, 212, apex of subbasal cell of fore wing; 209, 213, first metasomal tergite, dorsal aspect. 205: scale-line (= 1 ×); 206, 211: 5 ×; 207-209, 212, 213: 2.2 ×; 210: 1.3 ×.

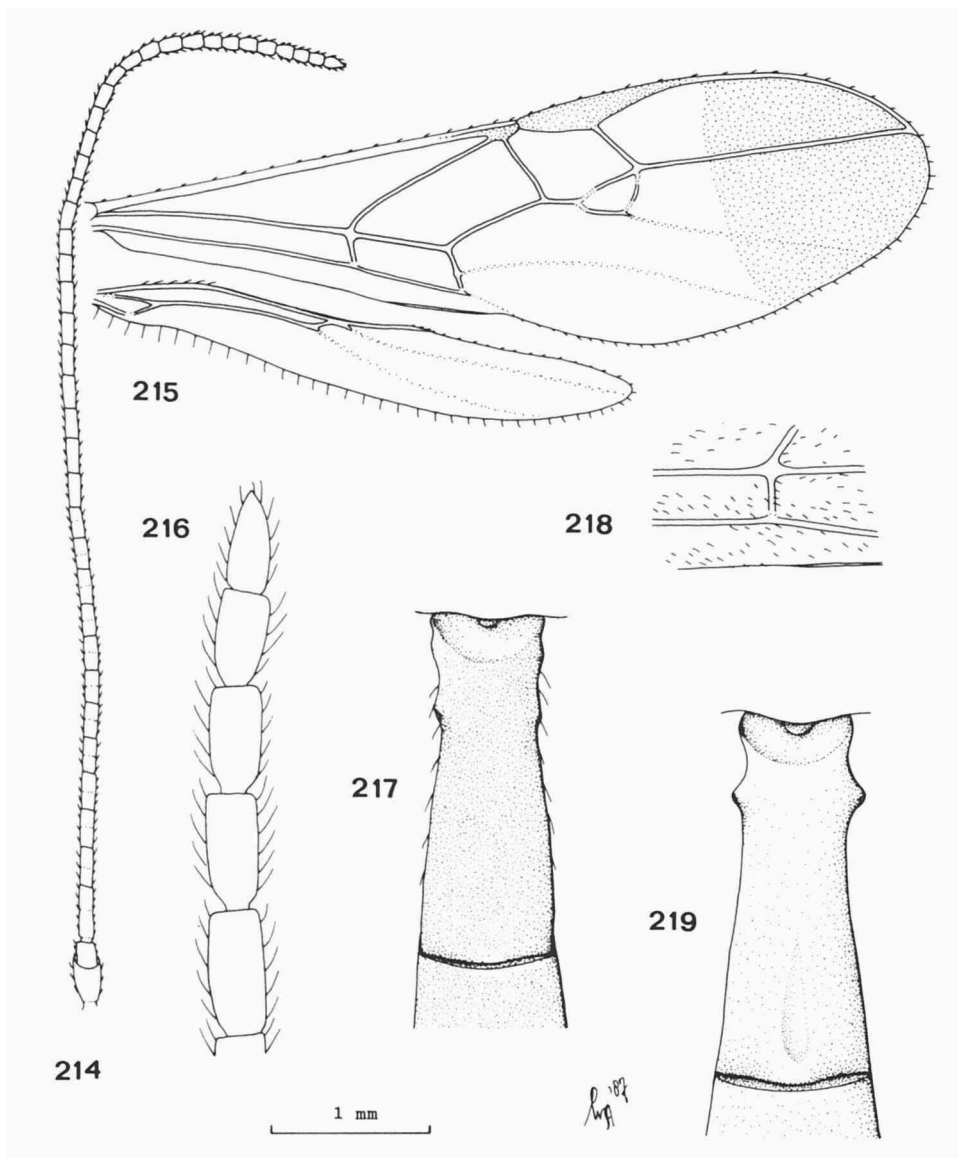
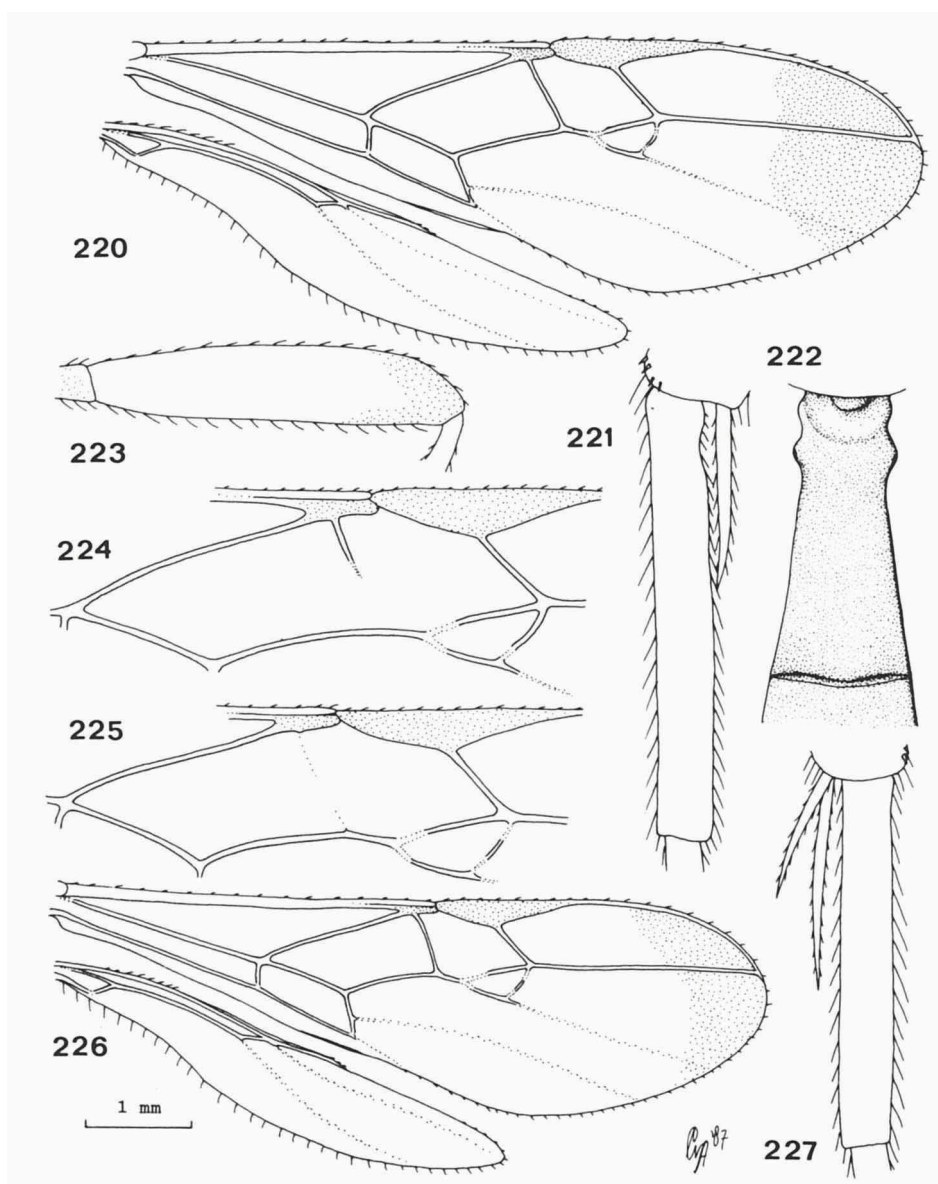
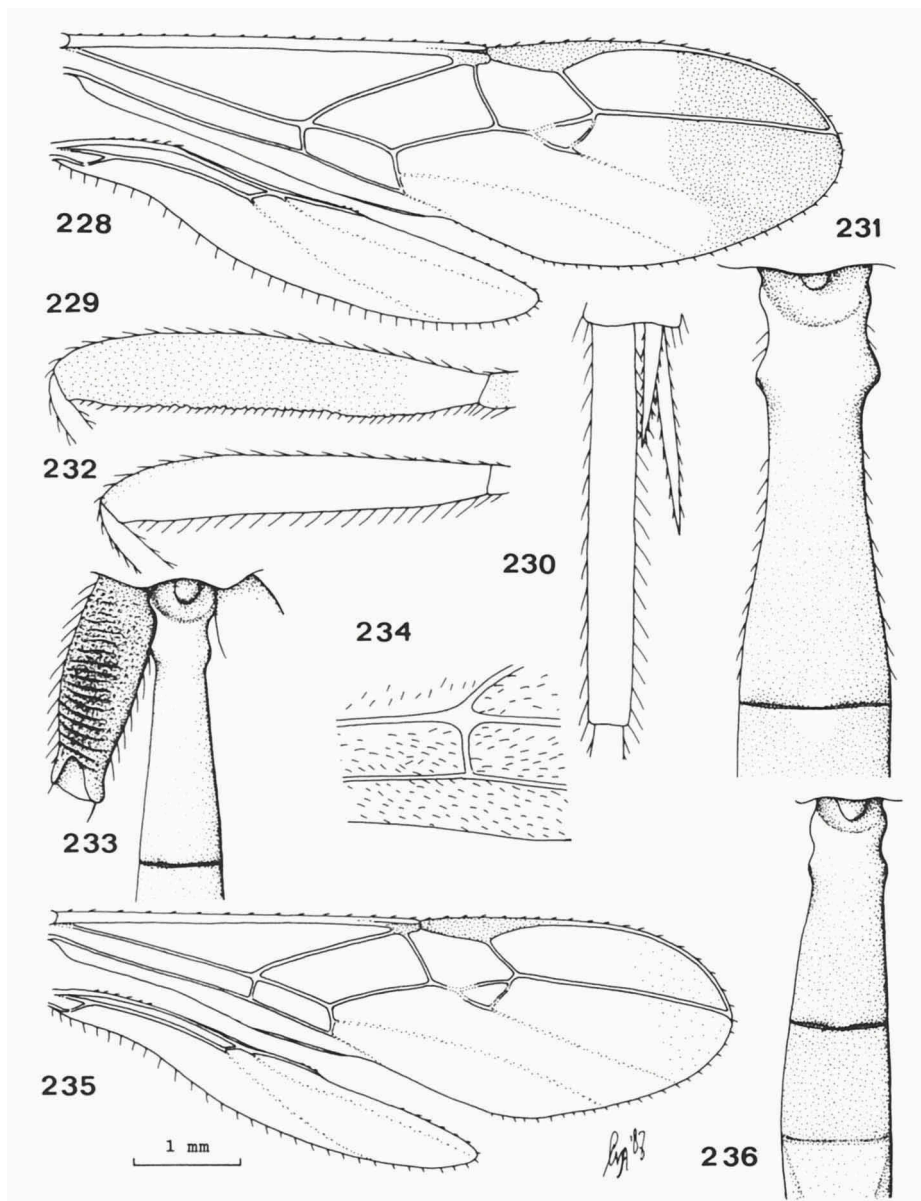


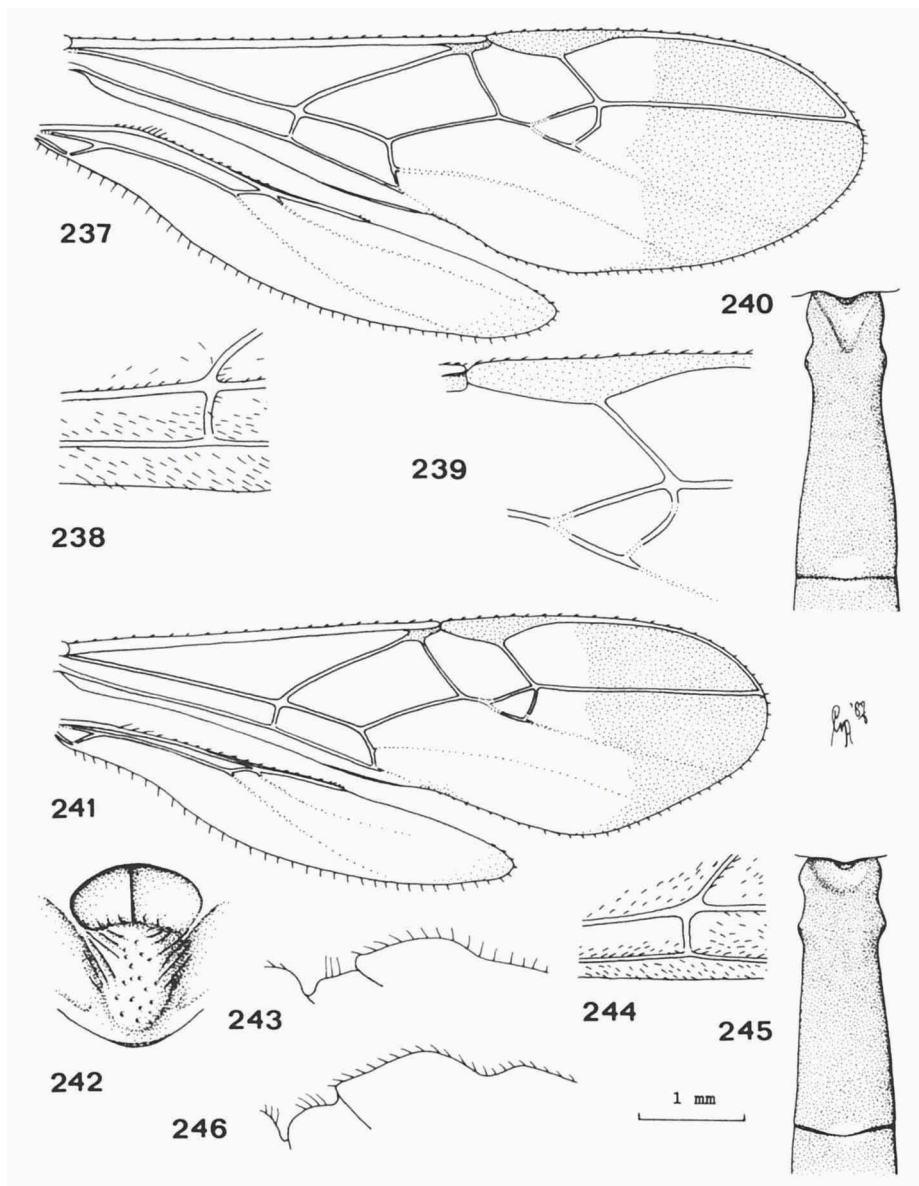
Fig. 214, *Stantonia nana* spec. nov., ♀, holotype. Figs. 215-218, *S. sabahensis* spec. nov., ♀, holotype. Fig. 219, *S. sumatrana* Enderlein, ♀, Indonesia, Sumatra, Medan. 214, antenna; 215, wings; 216, apex of antenna; 217, 219, first metasomal tergite, dorsal aspect; 218, apex of subbasal cell of fore wing. 214: 1.3 ×; 215: scale-line (= 1 ×); 216: 5 ×; 217, 219: 2.2 ×; 218: 2 ×.



Figs. 220-222, *Stantonia vittata* spec. nov., ♀, holotype. Figs. 223-227, *S. siamensis* Enderlein, several ♀♀, Indonesia, Java, Semarang. 220, 226, wings; 221, 227, hind basitarsus, lateral aspect; 222, first metasomal tergite, dorsal aspect; 223, hind femur, lateral aspect; 224, 225, detail of discal cell of fore wing. 220, 226: scale-line (= 1 ×); 221, 227: 3.2 ×; 222, 224, 225: 2 ×; 223: 1.5 ×.



Figs. 228-231, *Stantonina angustata* spec. nov., ♀, holotype (but 229 and 230 of paratype). Figs. 232-235, *S. jacobsoni* spec. nov., ♀, holotype. Fig. 236, *S. siamensis* Enderlein, ♀, Indonesia, Java, Semarang. 228, 235, wings; 229, 232, hind femur, lateral aspect; 230, hind basitarsus, lateral aspect; 231, 233 (including hind coxa), 236, first metasomal tergite, dorsal aspect; 234, apex of subbasal cell of fore wing. 228, 235: scale-line (= 1 ×); 229, 232, 233: 2 ×; 230, 231, 234: 3.2 ×; 236: 1.5 ×.



Figs. 237-240, *Stantonina intermediana* spec. nov., ♀, holotype. Figs. 241-245, *S. scutellaris* spec. nov., ♀, holotype. Fig. 246, *S. vittata* spec. nov., ♀, holotype. 237, 241, left wings; 238, 244, apex of subbasal cell of fore wing; 239, detail of second submarginal cell of right fore wing; 240, 245, first metasomal tergite, dorsal aspect; 242, scutellum, dorsal aspect; 243, 246, scutellum, lateral aspect. 237: scale-line (= 1 ×); 238, 239, 240: 2 ×; 241: 1.3 ×; 242, 243, 246: 3.3 ×; 244, 245: 2.5 ×.