

# Revision of the subfamily Blacinae Foerster (Hymenoptera, Braconidae)

by

**C. van Achterberg**

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The cosmopolitan subfamily Blacinae Foerster (Braconidae) is revised with special reference to the Oriental and Australian species. Two new genera are described from Chile: *Chalarope* and *Grypokeros*. All known species are keyed, 53 new species are described and fully illustrated, seven new combinations, and five new synonyms are proposed. Lectotypes are designated for eight species. A cladistic analysis of the relationships between the (sub)genera of the subfamily is given and a cladogram is presented.

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

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## INTRODUCTION

In 1976 a first critical revision of the whole tribe Blacini was published based on all available material (Van Achterberg, 1976). The present revision has a wider scope (the tribe Dyscoletini and the recently described genus *Blacome-teorus* Tobias are included), 53 new species are described, and on the basis of a cladistic analysis the status of several genera and subgenera is adjusted. The keys are revised and most of the species are fully illustrated. The total number of species is brought up to 165 in the subfamily Blacinae. The majority of the newly described species originate from the Oriental (26) and the Australian (New Guinea, 7) regions. Until now no *Blacus* species are known from the latter region. In addition species from the Himalayan area (8) (one also in the Oriental region) and Neotropical region (10) are described. The new species belong mainly to the subgenera *Tarpheion* (20) and *Ganychorus* (21) of the genus *Blacus*. Without doubt many more new species remain to be discovered in the Neotropical, Oriental (especially India, S.E. Asia) and Australian regions.

All species described in this revision and in the 1976 revision are illustrated in a comparable way to allow direct comparison. Since the mounting of the studied specimens is variable it has been necessary sometimes to draw the figures from different angles. The student should be aware that artificial differences may arise from this necessity, particularly when comparing the frontal aspects of the head. Individual variability should also be taken into account.

No separate keys are given for the males both because of the lack of reared series of *Blacus* outside the Palaearctic regions, and because outside the Holarctic region the males of many species are unknown. When present, males are often difficult to assign to the correct females, especially in the subgenera

*Blacus*, *Hystero bolus* and *Tarpheion*. By comparing the given figures, by using the keys mainly based on females, and by keeping in mind that the males have larger eyes, a shorter malar space and a more slender first metasomal tergite, it will be possible to identify the males at least to a species-group. Since Shenefelt (1969) and Van Achterberg (1976) give the relevant literature, only the original publications and the literature published after 1975 are cited here.

The following species are synonymized: *Blacus wesmaeli* Ruthe, 1861 (with *B. (B.) humilis* (Nees, 1812)), *Blacus intermedius* Janzon, 1975 (with *B. (B.) exilis* (Nees, 1812)), *Blacus petiolatus* Tobias, 1976 (with *B. (Ganychorus) nitidus* Haeselbarth, 1973), and *Blacus conifer* Tobias, 1977 with *B. (Hystero bolus) robustus* Haeselbarth, 1973. Two new combinations are given: *Mesoxiphium monostigmaticum* (Van Achterberg, 1976), and *Eubazus (Calyptus) chinensis* (Watanabe, 1950).

#### TERMINOLOGY

For the wing venation I have used the generally accepted (except in the systematics of parasitic Hymenoptera) Comstock-Needham system with some additions and modifications as proposed in 1979 (Van Achterberg, 1979: 244-245, figs. 15-17, table 1). For the naming of the veins and cells reference should be made to figs. 15-16; for the morphology of the body, see figs. 1-8.

Additional explanation may be useful for the following terms:  
dorsal part of the mesopleuron (fig. 1).

Anterior tentorial pits: apodemata dorso-laterally situated at the border of the clypeus, externally visible as pits (fig. 3).

Dorsope: antero-dorsal depression of first metasomal tergite, more or less pit-shaped, situated between the dorsal carina and the dorso-lateral carina (fig. 8).

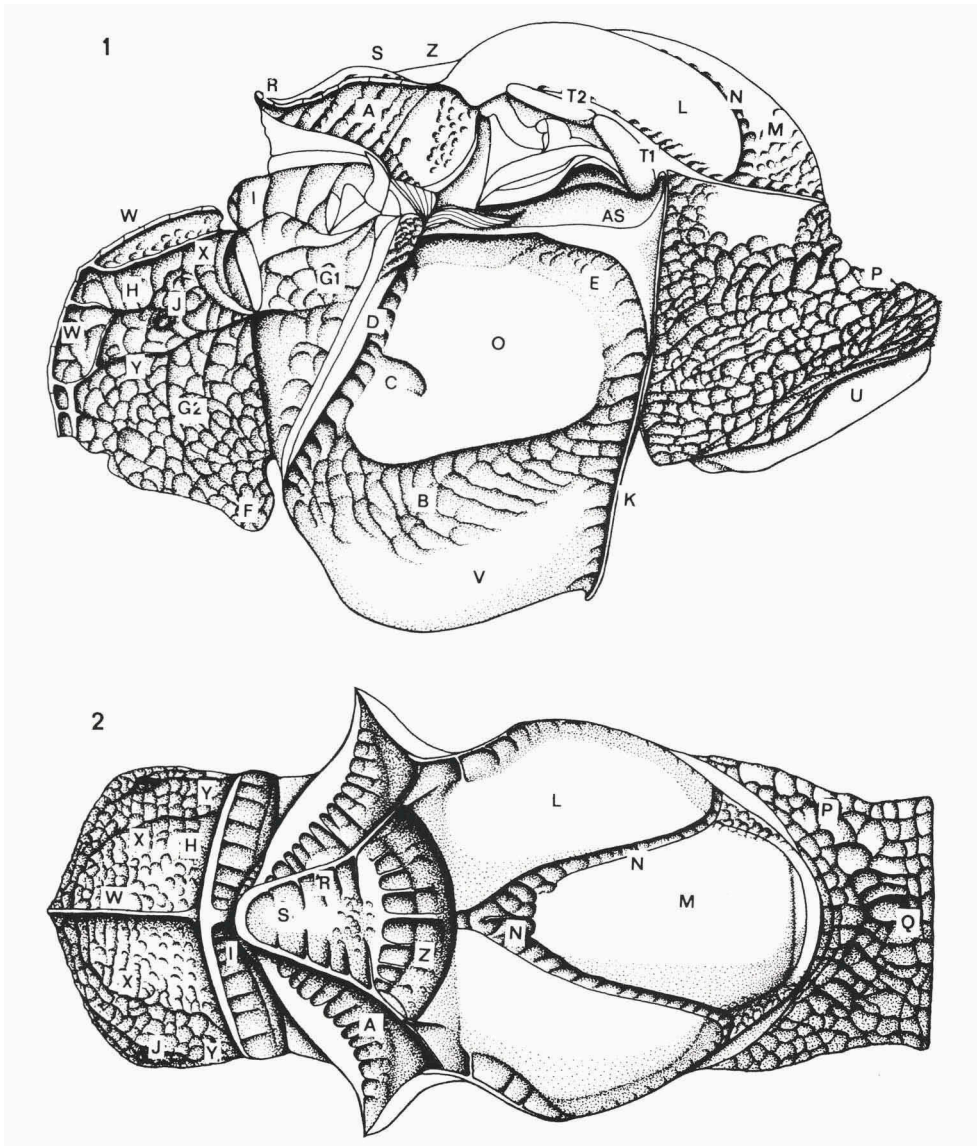
Episternal scrobe: depression medio-posteriorly at mesopleuron, mostly connected with pleural sulcus (fig. 1).

Glymma: groove in the side of first metasomal tergite, see laterope.

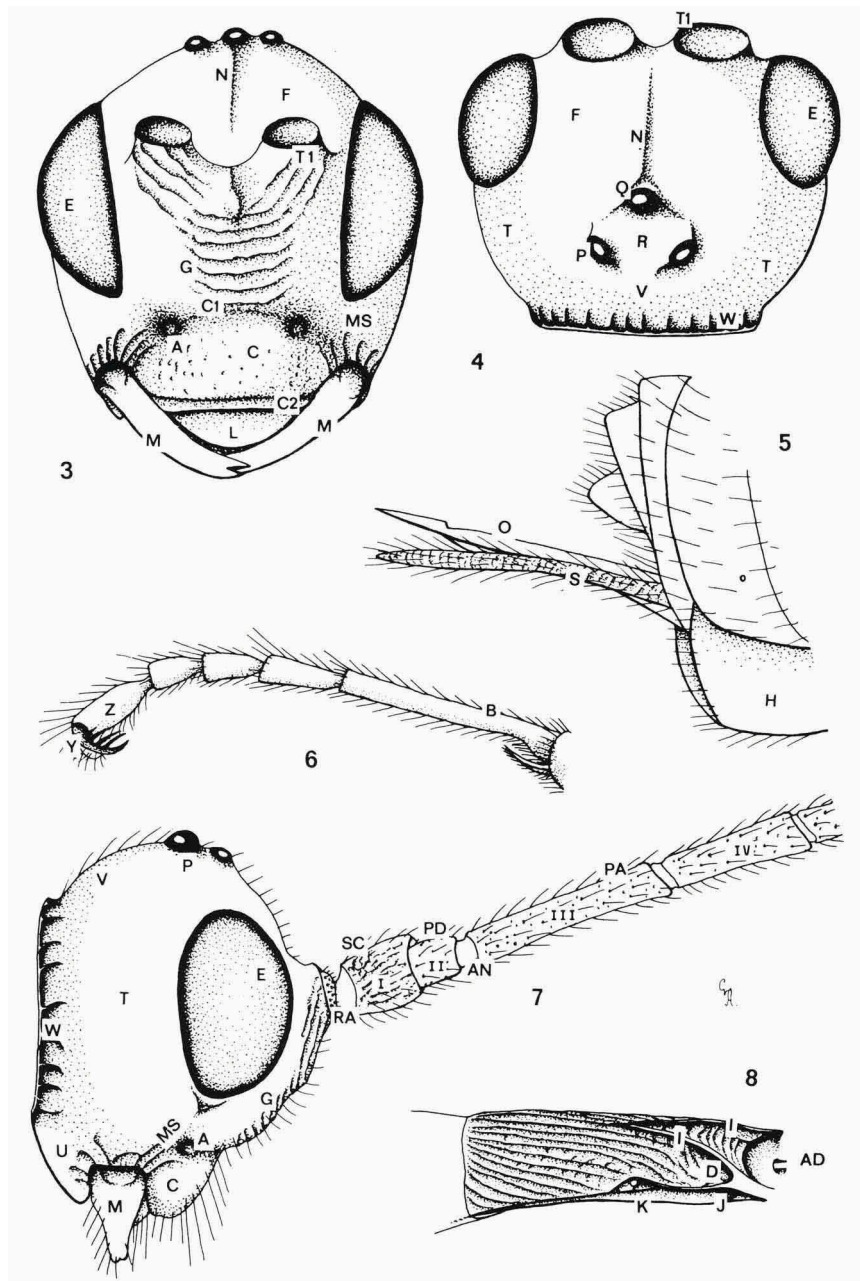
Height: maximum height, unless otherwise stated; for the height of the head, see fig. 10.

Inclivous: position of transverse vein of which the anterior end is nearer to the wing base than its posterior end.

Laterope: a round or oval pit in the side of the first metasomal tergite between the spiracle and the base of the tergite. Some authors use a more general definition of glymma (Townes, 1969: 38) and include both a groove or



Figs. 1-2, mesosoma of *Blacus (Ganychorus) pallipes* Haliday, ♀, Netherlands, Wijster, legs and wings removed. 1, lateral aspect; 2, dorsal aspect. A = side of scutellum and axilla; B = precoxal sulcus; C = episternal scrobe; D = pleural sulcus; E = epicnemial area; F = metapleural flange; G1 = anterior part of metapleuron; G2 = posterior part of metapleuron; H = propodeum; I = metanotum; J = propodeal spiracle; K = prepectal carina; L = lateral lobe of mesoscutum; M = middle lobe of mesoscutum; N = notauli; O = mesopleuron; P = pronotum; Q = pronope; R = lateral carina of scutellum; S = scutellum; T1 + T2 = tegula and humeral plate, respectively; U = propleuron; V = mesosternum; W = medial carina of propodeum; X = lateral carina of propodeum; Y = pleural carina; Z = scutellar sulcus; AS = anterior subalar depression. 75 x.



Figs. 3-8, *Blacus (Ganychorus) pallipes* Haliday, same specimen as in fig. 1. 3, frontal aspect of head; 4, dorsal aspect of head; 5, apex of metasoma, lateral aspect; 6, fore tarsus, lateral aspect; 7, lateral aspect of head; 8, 1st metasomal tergite, dorso-lateral aspect. A = anterior tentorial pit; B = basitarsus; C = clypeus; C1 = epistomal suture; C2 = clypeal margin; D = dorsope; E = eye; F = frons; G = face; H = hypopygium; I = dorsal carinae; J = laterope; K = glymma; L = labrum; M = mandible; N = frontal suture; O = ovipositor; P = posterior ocellus; Q = anterior ocellus; R = stemmaticum; S = ovipositor sheath; T = temple; T1 = antennal socket; U = occipital flange; V = vertex, W = occipital carina; X = spiracle of 1st metasomal tergite; AN = annellus; MS = malar space; PA = postannellus or 3rd antennal segment; PD = pedicellus or 2nd antennal segment; RA = radix; sc = scapus or 1st antennal segment. 64 x.

pit in the sides of the tergite. Because both structures frequently occur together in the Braconidae (a pit in a groove) I have named the pit "laterope" (Van Achterberg, 1974: 213) and retained the name "glymma" for the groove (fig. 8).

Length of first metasomal tergite: measured from posterior margin of anterior muscle to apex of tergite (fig. 14).

Length of third antennal segment: length of third segment and annellus combined, because the annellus has not a sharp border with the third segment.

Length of fore wing: measured from apex of humeral plate to apex of fore wing.

Length of malar space: shortest distance between eye and condylus of mandible (fig. 9).

Length of ovipositor sheath: linear length of maximal visible part (fig. 17).

Malar suture: linear depression (usually shallow) between lower edge of eye to condylus of mandible (fig. 1074).

Medial area of propodeum: medial area at posterior face of propodeum delimited by carinae (fig. 1185).

Mesoscutal disk: dorsal face of mesoscutum.

Mesosoma: part of body between first and second strong constrictions of the body (figs. 1, 2), situated between head and metasoma, consisting of thorax and first abdominal tergite (= propodeum or epinotum).

Metapleural flange: protruding part of the metapleuron near the base of the middle coxa (fig. 1).

Metasoma: part of body after the second strong constriction and consisting of second and following abdominal segments.

Occipital flange: lamella above the mandibular condylus and formed by the confluent part of occipital and hypostomal carinae (fig. 7).

OOL: distance between posterior ocellus and eyes as measured in fig. 12.

Pleural sulcus: groove (usually crenulate) posteriorly at the mesopleuron (fig. 1).

Plical lobe or cell: anal (or vannal) lobe or cell of most authors (fig. 15).

Postpectal carina: carina at mesosternum in front of middle coxae.

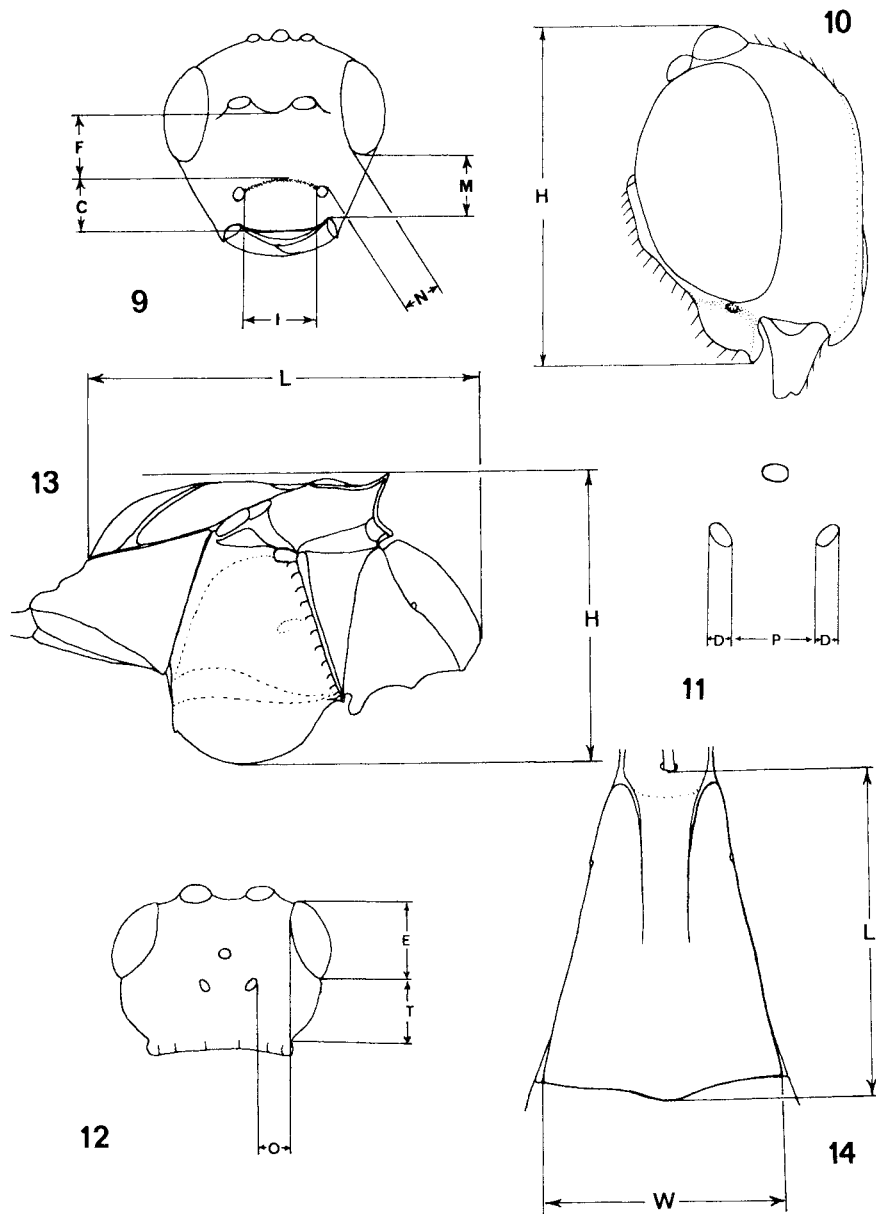
Precoxal sulcus: transverse depression on mesopleuron, anteriorly more dorsally situated than posteriorly (fig. 1), exceptionally at same height anteriorly as posteriorly; not to be confused with the sternaulus.

Prepectal carina: carina at mesopleuron and mesosternum anteriorly (fig. 1).

POL: distance between the posterior ocelli (fig. 11).

Pronope: a medio-dorsal pit-shaped depression of the pronotum (fig. 2).

Reclivous: position of transverse vein of which the anterior end is further



Figs. 9-14. 9, head, frontal aspect; 10, head, lateral aspect; 11, stemmaticum; 12, head, dorsal aspect; 13, mesosoma, lateral aspect; 14, 1st metasomal tergite, dorsal aspect. C = height of clypeus; D = diameter of posterior ocellus; F = height of face; H = height; I = inter-tentorial distance; L = length; M = malar space; N = tentorio-ocular distance; O = ocular-ocellar line; P = postocellar line; W = width.





removed from the wing base than its posterior end.

Scutellar sulcus: transverse depression (usually wide) in front of scutellum (fig. 2).

Sternaulus: a groove on the lower edge of the mesopleuron, anteriorly more ventrally situated than posteriorly. The sternaulus is considered the dividing line between the mesosternum and the mesopleuron (Townes, 1969: 40). The precoxal sulcus of the Braconidae is rather frequently incorrectly named "sternaulus", but has a different orientation and is situated higher on the mesopleuron. In some Braconidae (Opiinae) both grooves may be present (the sternaulus below the precoxal sulcus) indicating that both are independent structures.

Width: maximum width, unless otherwise stated.

## DISTRIBUTION

As shown in table 1 the subfamily Blacinae has a cosmopolitan distribution;

(Sub)genus	Region								Total spp.
	Palearctic	Nearctic	Holarctic	Neotropical	New World	Afrotropical	Oriental (incl. Himalayan area)	Australian	
DYSCOLETES	1	1	-	-	-	-	-	-	2
HELLENIUS	1	-	-	-	-	-	-	-	1
CHALAROPE	-	-	-	1	-	-	-	-	1
BLACOZONA	-	-	-	1	-	-	-	-	1
GRYPOKEROS	-	-	-	2	-	-	-	-	2
MESOXIPHIMUM	-	-	-	2	-	-	-	-	2
STEGNOCELLA	-	-	-	1	-	-	-	-	1
APOBLACUS	-	-	-	1	-	-	-	-	1
BLACOMETEORUS	3	-	-	-	-	-	-	-	3
ARTOCRUS	-	-	-	1	-	-	-	-	1
BLACUS	21	9	4	1	-	2	1	-	38
CONTOCHORUS	-	-	-	-	-	-	4	-	4
GANYCHORUS	15	3	2	6	1	4	18	2	51
HYSTEROBOLUS	3	4	1	-	-	-	2	-	10
ISCHNOTRON	-	-	-	-	-	1	-	-	1
LEIOBLACUS	1	2	-	1	-	-	1	-	5
NEOBLACUS	-	-	1	-	-	-	-	-	1
TARPHEION	1	1	-	5	-	10	18	5	40
Total spp.	46	20	8	22	1	17	44	7	165

Table 1. Number of species per region for the (sub)genera of Blacinae.

in this paper the first species from the Australian region are described. However, the main part of the Pacific region, Australia and New Zealand remains to be investigated. Among the small tribes, there are large differences in distribution. The Dyscoletini are known only from the northern hemisphere, and the other three tribes (Chalaropini, Blacozonini and Stegnozellini) are exclusively Neotropical and mainly only known from Chile. Of the tribe Blacini, the genus *Blacus* s.l. has a much wider distribution (but predominantly Palearctic and Oriental) and is cosmopolitan. The genera *Blacometeorius* and *Apoblacus* are Palearctic and Neotropical, respectively. The subgenera of the genus *Blacus* are usually (mainly) restricted to the northern hemisphere (subgenera *Blacus*, *Neoblacus* (= together the section I), *Hysterobolus*, and *Leioblacus*) or to the southern hemisphere (only section II: subgenera *Artochrus*, *Ischnotron* and *Tarpheion*). Only the subgenera *Ganychorus* and *Contochorus* are intermediate, but have most species in the Palearctic and Oriental regions.

#### PHYLOGENY

Since my revision of the Blacini (Van Achterberg, 1976) many more species and specimens of described species have become available and this has allowed a more reliable phylogenetic analysis. The summarised results are depicted in figs. 20 and 21. The Blacinae are considered to be a monophyletic group (Van Achterberg, 1984) because of the reduced epistoma of the final larval instar and the presence of a dorsope. Since a dorsope is present in the Dyscoletini, this tribe is included, despite dissimilarities. The Meteorideinae are considered to be the sister-group of the Blacinae, and the Euphorinae are the sister-group of both the Blacinae and Meteorideinae. This group is characterized by the presence of the dorsope (to differentiate from the Helconinae, wherein formerly they were included as tribes). The dorsope is secondarily lost in part of the Euphorinae.

The detection of unique developments or trends and the recognition of parallelisms (mostly convergences) are important in the phylogenetic analysis of a group. The apomorphy of a character-state is concluded on base of outgroup comparison; as outgroups are used the related subfamilies Meteorideinae, Euphorinae and Helconinae.

In the Dyscoletini the genus *Hellenius* has the frons depressed near the eyes and the occipital flange is wide (autapomorphies): in the Chalaropini the dorsal carinae of the first metasomal tergite are absent (autapomorphy) and the third antennal segment is shorter than the fourth antennal segment (con-

	(sub)genus ○ (plesiomorph)	BLACOZONA	GRYPOKEROS	DYSCOLETES	HELLENIUS	CHALAROPE	BLACOMETEORUS	STEGNOCELLA	MESOXIPHIMUM	APOBLACUS	CONTOCHORUS	LEIOBLACUS	TARPHEION	ISCHNOTRON	BLACUS	NEOBLACUS	ARTOCRUS	GANYCHORUS	HYSTEROBOLUS	● (apomorph)	
clypeus convex	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	clypeus depressed
frons flat or slightly concave	○	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	frons deeply concave
clypeal margin straight	○	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	clypeal margin sinuate
2nd tergite flat medially	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	2nd tergite convex medially
frons with no horn	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	frons with horn
hypopygium medium-sized or small	○	●	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	hypopygium large
anterior face of propodeum subequal to posterior face or not differentiated	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	anterior face of propodeum much longer than posterior face
lateral carina of scutellum absent	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	lateral carina of scutellum present
medial carina of propodeum absent or obsolete medio-posteriorly	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	medial carina of propodeum distinct medio-posteriorly
3rd antennal segment equal to 4th segment or longer	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	3rd antennal segment shorter than 4th segment
anterior subalar depression crenulate	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	anterior subalar depression smooth

Table 2. Presence or absence of apomorphous character-states in the (sub)genera of the Blacinae





vergency with the genus *Blacozona*). The Blacozonini have the frons distinctly concave, the clypeal margin slightly protruding ventrally (synapomorphies) and the propodeum with small tubercles (convergency with several genera of the Blacini). The reduction of vein CU1b of fore wing is considered to be the synapomorphy uniting the Stegnozellini with the Blacini. The long dorsal face of the propodeum of the Stegnozellini is a synapomorphy for this group, but this character developed independently also in the Blacini (*Contochorus*, *Artocrus*, *Ganychorus* p.p.). The reduction of the metapleural flange of the genus *Mesoxiphium* is an autapomorphy.

The Blacini are considered to be a monophyletic group because of three unique synapomorphies: the anterior subalar depression is smooth (or nearly so), vein 3-CU1 of fore wing is oblique to horizontal, more oblique than vein cu-a and the tendency to develop blackish bristles and teeth on the tarsal claws of ♀. Within the Blacini the position of three taxa is less certain. The genus *Apoblacus* has three autapomorphies (head and femora widened, ovipositor aberrant, and second epipleuron not differentiated). The genus *Blacometeorus* has one autapomorphy (sixth and seventh antennal segments of ♀ shortened) and one synapomorphy (antennal segments of ♀ fixated at 17) with the *Blacus*-group. The subgenus *Contochorus* has a propodeum with a long dorsal face (a convergency with other genera of Blacinae) and eyes conspicuously setose (an autapomorphy, but intermediate setosity may occur in the subgenera *Hysterobolus*, *Ganychorus* and *Blacus*). The genus *Apoblacus* has been placed near the base of the Blacini. Because of the presence of blackish bristles on the fore and middle claws of the ♀, it may be inserted below the divergence of the group which includes *Blacus* (fig. 20). However, the shape of these blackish bristles of the claws is somewhat aberrant. Moreover, the general habitus especially in the shape of the metasoma, head and femora, is highly aberrant and most likely the blackish tarsal bristles are a convergency. The insertion somewhere else in the dendrogram led to a less parsimonious dendrogram (e.g. at the base of the cladogram, then the peculiar black bristles of claws should be by a convergency). This is preferred, because it is doubted the character-state mentioned is a genuine synapomorphy. The rather short vein M+CU of the hind wing supports the insertion near the *Ganychorus*-group, but the absence of the lateral carina of the scutellum (a plesiomorphous state within the Blacini) indicates a rather distant relationship. The genus *Blacometeorus* could be inserted at the base of the *Blacus*-group because of the overall similarity and the fixation of the number of antennal segments of ♀ at 17. The shape of the antennal segments of the ♀ is very peculiar and the (re-)appearance of the vein r-m of the fore wing, is likely to be a secondary development. Both are therefore apomorphies of the genus *Blacometeorus*. Its placement on

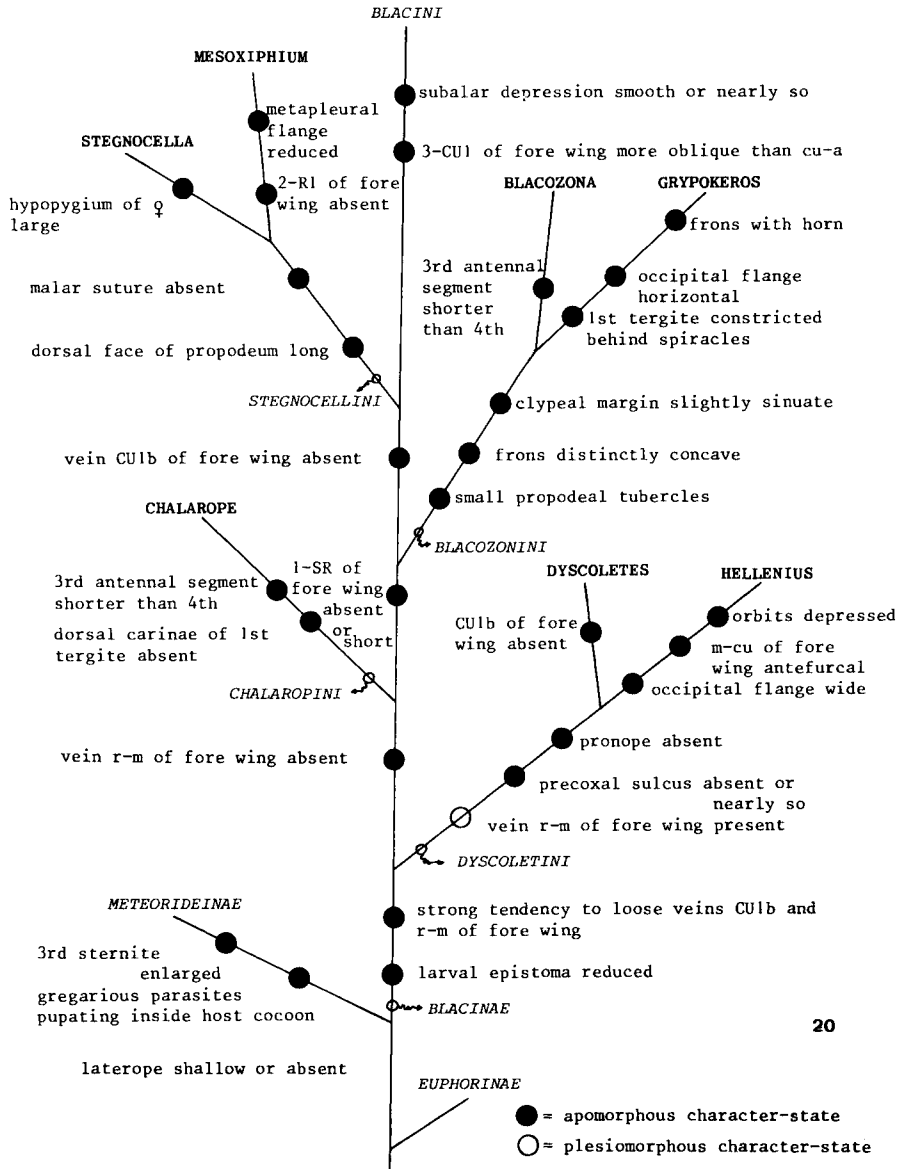


Fig. 20, basal part of preferred dendrogram of the Blacinae.





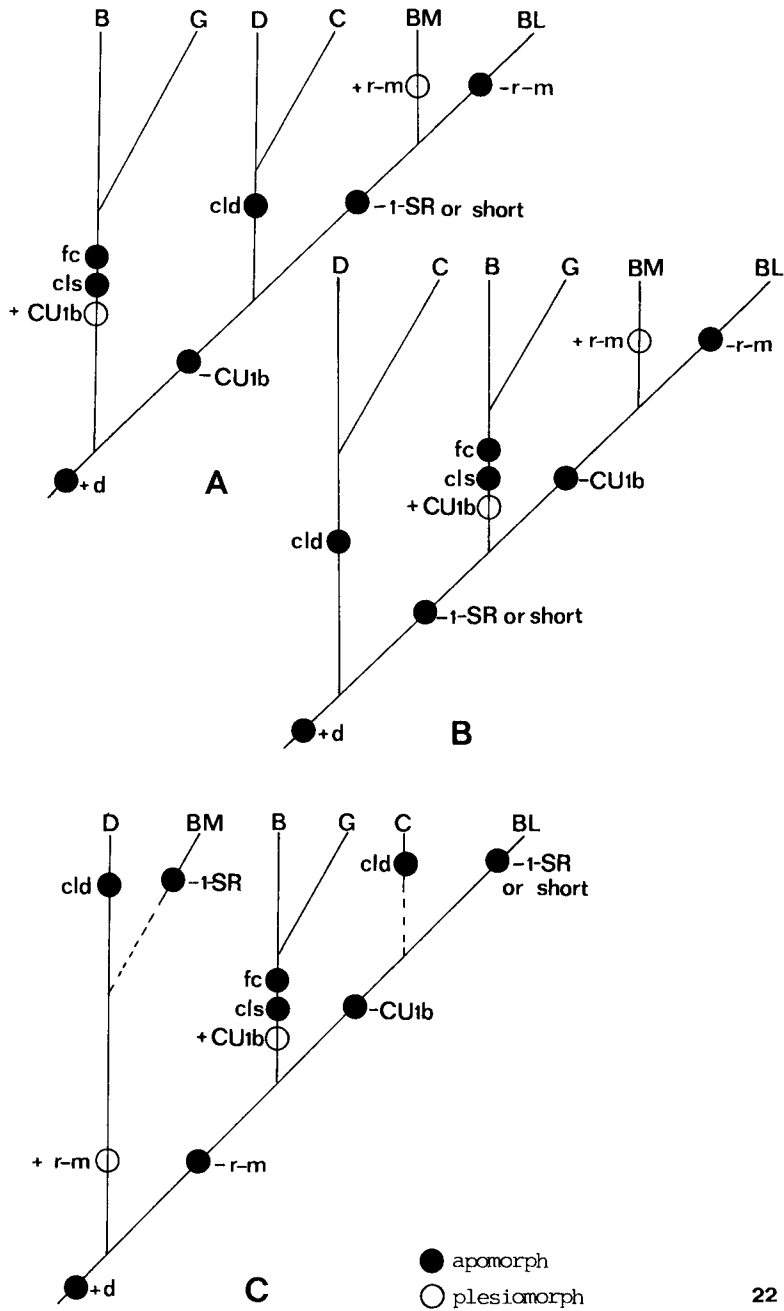


Fig. 22A-C, possible dendrograms of the genera *Blacometeorus* (BM), *Dyscoletes* (D), *Blacozona* (B), *Grypokeros* (G), *Chalarope* (C) and *Blacus* (BL); fc = frons concave; cls = clypeal margin sinuate; CU1b = vein CU1b of fore wing present (+) or absent (-); cld = clypeus depressed; 1-SR = vein 1-SR of fore wing present (+) or absent (=); r-m = vein r-m of fore wing present (+) or absent (=); d = dorsope present. Fig. 22B comes closest to the preferred dendrogram.

the basis of the presence of the vein r-m lead to a less parsimonious cladogram (fig. 22C). As a result of the phylogenetic analysis the rank of *Apoblacus* and *Blacometeorus* could be lowered to subgenus. A more parsimonious possibility than the one depicted in figs. 20-21 is the addition of *Apoblacus* to the *Ganychorus*-lineage (apomorphies: blackish tarsal bristles and short vein M+CU of hind wing) and *Blacometeorus* to the *Blacus*-lineage (apomorphy: fixated number of antennal segments of ♀). A further step is to split up the genus *Blacus* into two genera (*Blacus* and *Ganychorus*), with *Apoblacus* as a subgenus in *Ganychorus* or as the sistergenus of *Ganychorus* and *Blacometeorus* as a subgenus in *Blacus* or as sistergenus of *Blacus*. Because of these uncertainties, I prefer to retain the traditional ranking of these genera as depicted in figs. 20 and 21, until more information becomes available. The subgenus *Contochorus* is easily recognized by the autapomorphy of the conspicuous setose eyes and the long dorsal face of the propodeum (a convergent development). In addition, the medial area of the propodeum is parallel-sided and comparatively small. Because of the distinctly developed medial area of the propodeum, it is inserted near the base of the *Tarpheion*-group (fig. 21). However, in the genus *Ganychorus* there are species which have the eyes intermediately setose, or the dorsal face of propodeum (rather) long and with a small medial area. Judging from the position of these species within the genus *Ganychorus* these characters are probably convergent, with the exception of the presence of a medial area. Unfortunately, this is a plesiomorphous character state.

The remainder of the Blacini are subgenera of the genus *Blacus* and form three distinct groups, the *Blacus*-, the *Tarpheion*-, and the *Ganychorus*-groups. The *Blacus*-group contains the subgenera *Blacus* and *Neoblacus* and has the number of antennal segments of ♀ constant at 17 (an unique synapomorphy within the Blacinae, but also in the genus *Blacometeorus*). The *Tarpheion*-group contains the subgenera *Leioblacus* (mainly characterized by negative apomorphies (the smooth scutellar sulcus is an autapomorphy) but the metasoma of the ♀ is usually strongly compressed), *Tarpheion*, *Ischnotron* and likely *Contochorus*. The genus *Ischnotron* (as treated in this revision) contains only the aberrant type-species with the reduced notauli and compressed metasoma of the ♀; it may be included as an isolated species in the subgenus *Tarpheion*. Finally the *Ganychorus*-group consists of the subgenera *Artocrus* (described as a separate genus because of its aberrant morphology but clearly belonging in the genus *Blacus* s.l.), *Hysterobolus*, and *Ganychorus*. The border between the last two subgenera is rather diffuse, but *Hysterobolus* seems to be a monophyletic group and the majority of the species are easily separated from *Ganychorus*.

The cladogram presented in figs. 20 and 21, gives the most parsimonious solution except for *Apoblacus* and *Blacometeorus*. More classical divisions use the absence or presence of vein r-m of the fore wing and will unite *Blacometeorus* with the Dyscoletini (fig. 22C). This arrangement is strongly contradicted by other character-states of *Blacometeorus*, e.g. the absence of vein 1-SR in the fore wing, constant number of antennal segments, the shape of the propodeum, etc. Alternatively, all the genera with a distinct vein CU1b of the fore wing could be simply put into one group (fig. 22A), but this is a classification based on a synplesiomorphy and should be rejected accordingly.

### FOSSIL SPECIES

The only known fossils of the Blacinae are embedded in Baltic Amber, with an age of 35 - 37.5 million years. Unfortunately, all the fossils which may be properly placed in the Blacinae were lost by fire during the Second World War (Van Achterberg, 1982). The fossil species can be divided into two groups:

The subgenus *Electroblacus* Brues, 1933 (♀ with 16 antennal segments, precoxal sulcus absent) with only *B. facialis* (Brues, 1933) and the subgenus *Ganychorus* Haliday (♀ with 21-28 antennal segments, precoxal sulcus more or less present) with 3 species. The fossil species can be separated as follows:

1. Ovipositor sheath about as long as body; antennal segments 24-28 . . . .  
 . . . . . *multiarticulatiformis* Shenefelt, 1969  
 Syn.: *Blacus multiarticulatus* Brues, 1923 (nec Ratzeburg, 1852).  
 – Ovipositor sheath a little longer than half length of metasoma or shorter;  
 antennal segments 16-23 . . . . . 2
2. Antennal segments 16; length of body 1.5-1.7 mm *facialis* (Brues, 1933)  
 – Antennal segments 21-23; length of body 2-2.7 mm . . . . . 3
3. Antennal segments of ♀ 21; ovipositor a little longer than half of metasoma,  
 its sheath slender; pterostigma triangular and rather narrow; vein m-cu of fore wing  
 distinctly antefurcal . . . . . *andreei* Brues, 1933  
 – Antennal segments of ♀ 23; ovipositor very short, extending scarcely  
 beyond tip of metasoma, its sheath curved and very weakly clavate;  
 pterostigma broad; ven m-cu of fore wing interstitial with vein 2-SR  
 . . . . . *fritschii* Brues, 1933

The position of the subgenus *Electroblacus* Brues is uncertain, because no specimens belonging to this subgenus are available for study. It may be closely related to the subgenus *Blacus* Nees, from which it is differentiated by the

number of antennal segments of the ♀ (16 instead of 17) and the total absence of the precoxal sulcus.

## BIOLOGY

The few host records (Haeselbarth, 1973a: 78) indicate that the Blacini are endoparasites of the larvae of Coleoptera, but some species (*Blacus* (*B.*) *interstitialis* Ruthe in Chloropidae and *B.* (*B.*) *exilis* (Nees) in Cecidomyiidae) may infest small Diptera in living plant tissue. The Coleoptera attacked consist of Staphylinidae (*Blacus* (*Ganychorus*) *ruficornis* (Nees)), Nitidulidae (*Blacus* (*B.*) *nigricornis* Haeselbarth), Cryptophagidae (*Blacus* (*B.*) *humilis* (Nees) and *B.* (*B.*) *paganus* Haliday), Scolytidae (*B.* (*B.*) *humilis* (Nees), *B.* (*B.*) *exilis* (Nees), *B.* (*B.*) *errans* (Nees) and *B.* (*Neoblacus*) *koenigi* Fischer), Anobiidae (*B.* (*B.*) *humilis* (Nees), *B.* (*B.*) *longipennis* (Gravenhorst) and *B.* (*B.*) *exilis* (Nees)), Curculionidae (*B.* (*B.*) *exilis* (Nees) and *B.* (*B.*) *hastatus* Haliday), Melyridae (*B.* (*B.*) *errans* (Nees)) and Cerambycidae (*B.* (*B.*) *errans* (Nees)). The Dyscoletini have an aberrant biology, the genus *Dyscoletes* Haliday contains parasites of larval Boreidae (Mecoptera).

Many species seem to be univoltine in the Holarctic region; exceptions may be *Blacus* (*B.*) *diversicornis* (Nees), *B.* (*B.*) *humilis* (Nees), *B.* (*B.*) *exilis* (Nees) and *B.* (*B.*) *instabilis* Ruthe. The hibernation of the ♀ is known (or likely) in *Blacus* (*Ganychorus*) *pallipes* Haliday, *B.* (*G.*) *tripudians* Haliday, *B.* (*G.*) *ruficornis* (Nees), *B.* (*G.*) *ambulans* Haliday, *B.* (*G.*) *maculipes* Wesmael, *B.* (*G.*) *diversicornis* (Nees), *B.* (*G.*) *striatus* Van Achterberg, *B.* (*G.*) *armatulus* Ruthe, *B.* (*Hysterobolus*) *mamillianus* Ruthe, *B.* (*Blacus*) *instabilis* Ruthe, *B.* (*B.*) *filicornis* Haeselbarth, and *B.* (*B.*) *exilis* (Nees).

Very peculiar for Hymenoptera is the swarming by males of *Blacus* (*Ganychorus*) *ruficornis* (Nees), *B.* (*G.*) *tripudians* Haliday, *B.* (*G.*) *maculipes* Wesmael, *B.* (*G.*) *nigricornis* Haeselbarth and in the *B.* (*Blacus*) *exilis*-group (Haeselbarth, 1973a: 77-78; Van Achterberg, 1977: 151-152). The enlargement of the parastigma of the male in some species seems to be related to the dancing behaviour by the males.

## SYSTEMATIC PART

### Subfamily Blacinae Foerster

Blacoidea Foerster, 1862: 254.

Diagnosis. — Antennal segments 14-35; apex of antenna without spine;

palpi medium-sized and slender (but wide in *Apoblacus*), maxillary palp usually nearly as long as height of head, with 6 (Blacini, Chalaropini, Blacozonini, Stegnozellini) or 5 (Dyscoletini) segments; labial palpus about half length of maxillary palpus and with 3 segments; face and clypeus usually moderately convex (figs. 45, 607, 657); margin of clypeus usually straight medially and thin, without ventral row of setae, seldom somewhat concave or more or less sinuate (*Grypokeros*, *Blacozona*); mandibles slightly or not twisted; anterior tentorial pits distinct, medium-sized (fig. 614) but large to rather small in *Dyscoletini* (figs. 32, 43, 48); occipital carina usually complete, reduced in *Ischnotron* and *Tarpheion* p.p. and meeting hypostomal carina above base of mandible; lateral carina of mesoscutum usually absent in front of tegulae; lateral carina of scutellum present or absent, sometimes with protruding lamella apically, only *Artocrus* with a distinct spine (fig. 157); scutellum with narrow transverse depression posteriorly; notauli usually present, reduced in *Apoblacus*, *Ganychorus* p.p., *Blacus* p.p., *Leioblacus* p.p. and *Ischnotron*; scutellar sulcus with medial carina except in *Leioblacus*; length of dorsal surface of propodeum about equal to length of posterior surface, but dorsal surface distinctly longer in *Contochorus*, *Stegnocella*, *Mesoxiphium*, *Apoblacus* and *Artocrus*, and somewhat longer in *Blacozona*; propodeum without medial area posteriorly (figs. 263, 544, 609), or if present then comparatively narrow posteriorly (figs. 34, 42, 1096); anterior subalar depression with (Dyscoletini, Chalaropini, Blacozonini; fig. 23) or without (Blacini; fig. 555) crenulation, exceptionally with weak carina; prepectal carina present; postpectal carina absent; precoxal sulcus usually present; pleural sulcus finely crenulate; episternal scrobe shallow; metapleural flange present, except in *Leioblacus* and *Mesoxiphium*; vein r-m of fore wing absent, except in Dyscoletini and *Blacometeorus*; vein CU1b of fore wing absent, except in *Hellenius*, *Grypokeros* and *Blacozona*; vein 1-SR of fore wing absent except in Dyscoletini and Chalaropini and exceptionally shortly developed in *Apoblacus*, *Artocrus* and some spp. of *Ganychorus*; vein cu-a of hind wing present, exceptionally absent in *Leioblacus*; only remnants of veins 2A and a of fore wing present or completely absent; length of hind femur 3.5-8 times its width; claws of ♀ simple, but with blackish bristles in *Apoblacus*, *Contochorus*, *Ganychorus*, *Artocrus*, *Hysterobolus* and some species of *Tarpheion*; claws of ♂ always simple; hind tibial spurs inconspicuous, slightly longer or about as long as surrounding setae, but more robust in *Blacozona*; dorsope of first metasomal tergite usually large but distinctly separated, and rather deep, with dorsal carinae (rather) curved anteriorly (fig. 575), but less in the genus *Dyscoletes* (figs. 35, 42); laterope medium-sized (shallow) to absent; length of ovipositor sheath 0.07-1.4 times fore wing, usually 0.1-0.5 times, except in Dyscoletini;

ovipositor without subapical notch; length of fore wing 1.2-4.5 mm.

Contains five tribes: Dyscoletini Van Achterberg (Holarctic), Chalaropini Van Achterberg (Neotropical), Blacozonini Van Achterberg (Neotropical), Stegnozellini Van Achterberg (Neotropical), and Blacini Foerster (Cosmopolitan).

Note. Blacinae can be confused easily with Helconinae-Brachistini and to a lesser degree with Euphorinae-Centistini. The Brachistini can be separated by the deep laterope (usually absent, at most moderate in Blacinae), the absence of a dorsope and dorsal carinae straight, not curved anteriorly to lateral margin, marginal cell of hind wing distinctly narrowed apically and medial carina of propodeum short. Centistini have laterope deep, medial carina of propodeum absent and with a wide medio-dorsal pentagonal area (dissimilar to the medial area of Blacinae), and the dorsope may be very large (almost meeting each other) and deep.

#### Key to genera and subgenera of the Blacinae

1. Vein 1-SR of fore wing present, usually medium-sized (figs. 25, 36, 46, 56); ventral half of clypeus more or less depressed (figs. 43, 45) (but evenly convex in *Dyscoletes canadensis*, figs. 23, 32); anterior subalar depression with distinct carina (fig. 23) ..... 2
  - Vein 1-SR of fore wing absent or nearly so (figs. 73, 145, exceptionally shortly developed (fig. 18)); ventral half of clypeus convex (fig. 292); anterior subalar depression variable, often without carina (fig. 292) . 4
2. Vein r-m of fore wing present (fig. 25); dorsope subbasal, associated with dorsal carinae (fig. 42); anterior tentorial pits large to rather small (figs. 32, 43); precoxal sulcus absent or nearly so (fig. 23); propodeum with complete elongate medial area (figs. 34, 52); third antennal segment longer than fourth segment (fig. 28); malar suture absent or obsolescent; hind coxae largely smooth (at most partly rugose dorsally); marginal cell of hind wing parallel-sided apically; vein 3-CU1 of fore wing strongly oblique (figs. 25, 46); pronope absent; (tribe Dyscoletini Van Achterberg) ..... 3
  - Vein r-m of fore wing absent (fig. 56); dorsope isolated and less basally situated, not bordered by dorsal carinae (fig. 62); anterior tentorial pits minute (fig. 58); precoxal sulcus partly sculptured (fig. 54); propodeum without distinct medial area (fig. 62); third antennal segment shorter than fourth segment (fig. 54); malar suture distinct (fig. 58); hind coxae acuminate (fig. 60); marginal cell of hind wing narrowed apically (fig. 56); vein

- 3-CU1 of fore wing subvertical (fig. 56); pronope present; (tribe Chalaropini nov.) ..... *Chalarope* gen. nov. (p. 35)
3. Vein CU1b of fore wing present (fig. 46); vein m-cu of fore wing strongly antefurcal (fig. 46); dorsal half of clypeus strongly convex (fig. 45); medial carina of propodeum short and indistinct (fig. 52); hind coxae with a basal transverse and a longitudinal carina (fig. 51); frons near eyes narrowly depressed (fig. 47); vein SR1 of fore wing curved basally (fig. 46); occipital flange wide (fig. 45) ..... *Hellenius* Tobias (p. 33)
- Vein CU1b of fore wing absent (fig. 25); vein m-cu of fore wing shortly postfurcal (fig. 36); dorsal half of clypeus (rather) flat (figs. 23, 44); medial carina of propodeum distinct (fig. 34); hind coxae smooth, without carinae; frons without depression near eyes; vein SR1 of fore wing straight basally (fig. 25); occipital flange narrow (figs. 23, 44) ..... *Dyscoletes* Haliday (p. 29)
4. Vein CU1b of fore wing present (figs. 55, 72); vein 3-CU1 of fore wing comparatively weakly oblique (fig. 72); frons distinctly concave (figs. 56, 87); clypeal margin slightly protruding medio-ventrally, more or less sinuate (figs. 80, 88); anterior subalar depression crenulate (fig. 84); (tribe Blacozonini nov.) ..... 5
- Vein CU1b of fore wing absent (figs. , ); vein 3-CU1 of fore wing strongly oblique to horizontal (figs. 294, 408), weakly oblique only in the *Stegnocellini* (figs. 102, 110); frons flat or slightly concave (figs. 104, 399); anterior subalar depression variable (figs. 99, 125) ..... 6
5. Frons with hooknosed horn (figs. 76, 81, 88); second metasomal suture deep (fig. 79); second metasomal tergite depressed laterally and sculptured medially (fig. 90); third antennal segment as long as fourth segment (fig. 71); occipital flange horizontal, projecting towards mesosoma (fig. 75); first metasomal tergite constricted behind spiracles (fig. 79); pronope absent (fig. 78) ..... *Grypokeros* gen. nov. (p. 38)
- Frons without horn (fig. 56); second metasomal suture obsolescent (figs. 53, 54); second tergite flat laterally and smooth medially (fig. 54); third antennal segment shorter than fourth segment (fig. 60); occipital flange normal, oblique, and not projecting (fig. 53); first tergite not constricted behind spiracles (fig. 54); pronope deep ..... *Blacozona* Van Achterberg (p. 37)
6. Dorsal face of propodeum much longer than its posterior face (figs. 98, 106) and fore claws of ♀ without blackish bristles; scutellar sulcus crenulate (fig. 105); malar suture absent (fig. 104); anterior subalar depression more or less crenulate (fig. 99); lateral carina of scutellum absent posteriorly (fig. 105); vein M+CU of hind wing longer than vein 1-M (fig. 101);

- vein 3-CU1 of fore wing weakly oblique (fig. 102); (tribe Stegnozellini nov.) ..... 7
- Note. If vein r-m of fore wing is present and dorsal face of propodeum not distinctly differentiated from its posterior face, cf. the genus *Taphaeus* Wesmael (Helconinae).
- Dorsal face of propodeum about as long as posterior face of propodeum (fig. 292) or not differentiated (fig. 301); if distinctly longer (*Ganychorus* p.p., *Contochorus*, *Artocrus*) then fore claws of ♀ with blackish bristles (figs. 155, 303) or scutellar sulcus smooth (fig. 916) or malar suture present (fig. 415); anterior subalar depression smooth (fig. 901), exceptionally with weak carina; lateral carina of scutellum usually present posteriorly (figs. 391, 410); malar suture variable; vein M+CU of hind wing shorter than vein 1-M or subequal (figs. 388, 429), but longer in nearly all species of (sub)genera *Blacometeorus*, *Blacus* and *Neoblacus* (figs. 127, 262); vein 3-CU1 of fore wing strongly oblique to horizontal (figs. 127, 335); (tribe Blacini Foerster p.p.) ..... 8
  - 7. Metapleural flange comparatively large and blunt apically (fig. 109); hypopygium of ♀ large (fig. 109); medial carina of propodeum obsolescent (fig. 116); vein 2-R1 of fore wing present (fig. 110); antennal segments about 32 ..... *Stegnocella* Van Achterberg (p.43)
  - Metapleural flange indistinct, or small and cariniform (figs. 92, 99); hypopygium of ♀ (rather) small (fig. 92); medial carina of propodeum distinct (figs. 98, 106); vein 2-R1 of fore wing absent (figs. 93, 101); antennal segments 14-25 ..... *Mesoxiphium* Van Achterberg (p. 41)
  - 8. Metasoma completely enclosed by the second and following tergites (fig. 117), sternites invisible and ventral half of metasoma equally sclerotized as its dorsal half; subbasal cell of fore wing widened apically (fig. 123); length of ovipositor sheath about 0.07 times fore wing (fig. 117) ..... *Apoblacus* Van Achterberg (p. 45)
  - Metasoma normal (figs. 125, 292), sternites visible and ventral half of metasoma less sclerotized than its dorsal half; subbasal cell of fore wing less widened apically (figs. 294, 545); length of ovipositor sheath 0.11-1.0 times fore wing (figs. 125, 421) ..... 9
  - 9. Vein r-m of fore wing present (fig. 127); sixth and seventh antennal segments of ♀ distinctly shorter than following segments (figs. 125, 144) ..... *Blacometeorus* Tobias (p. 46)
  - Vein r-m of fore wing absent (figs. 294, 668); sixth and seventh antennal segments of ♀ subequal to following segments (figs. 292, 669); (*Blacus* Nees s.l.) ..... 10
  - 10. Scutellum with large spine (figs. 152, 157); dorsal face of propodeum



- distinctly longer than posterior face of propodeum (fig. 153); lateral carina of scutellum only at basal half of scutellum (fig. 157); hind tibia abruptly narrowed basally (fig. 158); fore and middle tarsal claws of ♀ with blackish bristles and teeth (fig. 155) .....  
 ..... subgenus *Artocrus* Van Achterberg (p. 51)
- Scutellum without spine, at most lateral carina of scutellum protruding apically; length of dorsal face of propodeum subequal to length of posterior face (fig. 293) or not differentiated (fig. 901), if distinctly longer (*Contochorus*, *Ganychorus* p.p.), then lateral carina of scutellum present posteriorly (fig. 391); hind tibia gradually narrowed basally (figs. 395, 416); tarsal claws variable ..... 11
11. Eyes conspicuously setose (figs. 389, 390); medio-posterior propodeal area small and rectangular, about as long as wide or somewhat longer (figs. 391, 402); malar suture present (figs. 389, 397) .....  
 ..... subgenus *Contochorus* Van Achterberg (p. 75)
- Eyes glabrous or nearly so (fig. 420); if setose then medio-posterior propodeal area absent (fig. 427); propodeal area different or absent, if rectangular, then much longer than wide (fig. 713); malar suture variable ..... 12
12. Veins 1-SR+M and 2-M of fore wing absent (fig. 1215); tarsal claws simple; antennal segments of ♀ 17 .....  
 ..... subgenus *Neoblacus* Ashmead (p. 138)
- Veins 1-SR+M and usually 2-M of fore wing present (fig. 294); tarsal claws and antennal segments variable ..... 13
13. Propodeal carina comparatively weakly developed (figs. 191, 292) and lateral carina of scutellum absent (fig. ) or weakly developed (fig. ); posterior branching of medial carina of propodeum indistinct or absent (figs. 194, 300); antennal segments of ♀ 17; fore claw of ♀ only setose or with indistinct and yellowish bristles (fig. 295); vein M+CU of hind wing subequal to vein 1-M or longer (figs. 161, 294), exceptionally somewhat shorter ..... subgenus *Blacus* Nees (p. 52)
- Propodeal carinae and usually lateral carina of scutellum distinctly developed (figs. 402, 438, 1081); medial carina of propodeum branched posteriorly (fig. 1081) or branchless (fig. 562); antennal segments of ♀ usually 18-27, seldom 15-17; fore claw of ♀ with blackish bristles (fig. 681) or simple; vein M+CU of hind wing usually shorter than vein 1-M, seldom equal or longer (figs. 398, 1062) ..... 14
14. Medial carina of propodeum branched posteriorly, resulting in 3 posterior areas (figs. 887, 917, 932, 949), with medial area more or less widened anteriorly or face of propodeum completely smooth posteriorly, without

- area; if medial area is indistinct by strong reticulation of propodeum, then second metasomal tergite striate (fig. 949) or scutellar sulcus smooth (fig. 916); middle tarsal claw of ♀ nearly always simple (except of *B. (Tarpheion) alternipes* spec. nov. from Laos, fig. 1028) . . . . . 15
- Medial carina of propodeum continuous posteriorly, medio-posteriorly usually disappearing into reticulate sculpture; if exceptionally branched, then medial area narrow, and not widened anteriorly (fig. 639, 713), scutellar sulcus crenulate (fig. 714); middle claw of ♀ often with distinct blackish bristles (fig. 435); second tergite completely smooth or nearly so . . . . . 17
15. Scutellar sulcus with a medio-longitudinal carina (fig. 1039); hypopygium of ♀ large to medium-sized (figs. 882, 1033, 1053); malar suture present (figs. 884, 1038); second metasomal tergite often sculptured and depressed (figs. 887, 1040); ovipositor sheath usually shorter, 0.16-0.43 times fore wing, and ovipositor more or less curved downwards (figs. 882, 1033) . . . . . 16
- Scutellar sulcus smooth or carina obsolescent (figs. 899, 904); hypopygium of ♀ small (fig. 890, 919); malar suture absent (fig. 898); second tergite smooth and usually compressed (figs. 906, 921); ovipositor sheath usually longer, 0.2-0.7 times fore wing, and ovipositor usually slightly curved only (fig. 919) . . subgenus *Leioblacus* Van Achterberg (p. 134)
16. Posterior half of notauli (virtually) absent (fig. 885); lateral carina of scutellum obsolescent, often partly absent (fig. 885); occipital carina completely absent; medial area of propodeum parallel-sided or nearly so (fig. 887); metasoma of ♀ from third tergite onwards strongly compressed (fig. 887) . . . . . subgenus *Ischnotron* Van Achterberg (p. 133)
- Posterior half of notauli distinctly impressed, complete (figs. 1011, 1039); lateral carina of scutellum distinct, usually strong and complete (figs. 1039, 1085); occipital carina variable, if reduced then medial area of propodeum usually widened dorsally (figs. 990, 1004); metasoma of ♀ less compressed (figs. 993, 1033) . . . . . subgenus *Tarpheion* Van Achterberg (p. 139)
17. Propodeal tubercles absent or minute (almost absent in ♂) (figs. 432, 555), mostly by protruding carinae; propodeum usually largely smooth dorsally (fig. 675); middle claws of ♀ frequently with blackish bristles (fig. 580); scutellum usually largely smooth; antennal segments of ♀ 15-25, seldom 17-19 (♂ 16-26) . . . . . subgenus *Ganychorus* Haliday (p. 79)
- Propodeal tubercles (rather) large to medium-sized (small in ♂ (fig. 852)) (figs. 822, 860), not only by protruding carinae; propodeum usually (largely) distinctly reticulate or rugose dorsally (fig. 860); middle claws of

♀ without blackish bristles; scutellum usually reticulate(-rugose) (figs. 818, 863); antennal segments of ♀ 18-19, seldom 17 or 20-21 (♂ 21-25)  
 ..... subgenus *Hysterobolus* Viereck (p. 124)

### Tribe Dyscoletini Van Achterberg

Dyscoletini Van Achterberg, 1984: 50.

Diagnosis. — Antennal segments 25-30 (unknown of *Hellenius semiruber*); third antennal segment longer than fourth segment (fig. 29); maxillary palp with 5 segments (fig. 44); anterior tentorial pits large to rather small (figs. 32, 43, 48); ventral half of clypeus more or less depressed (figs. 32, 43) or convex (fig. 48); malar suture absent or obsolescent (figs. 32, 48); pronope absent; anterior subalar depression with medial carina (figs. 23, 45); precoxal sulcus absent or nearly so (fig. 45); metapleural flange narrow and cariniform (fig. 40); propodeum with elongate medial area and without tubercles (figs. 34, 52); scutellum without lateral carina; vein r-m of fore wing present (fig. 36); vein 1-SR of fore wing usually medium-sized, distinct (figs. 36, 46); vein 3-CU1 of fore wing strongly oblique (fig. 46); vein M+CU of hind wing longer than vein 1-M (fig. 46); marginal cell of hind wing parallel-sided apically (fig. 25); hind coxa largely smooth (fig. 33), at most partly rugose dorsally and with some carinae (fig. 51); claws without blackish bristles; hind tibial spurs about 0.3 x hind basitarsus; dorsope situated subbasally, bordered by dorsal carinae dorsally (figs. 35, 42); second metasomal tergite smooth; length of ovipositor sheath 0.8-1.4 times fore wing; length of fore wing 3-4.5 mm.

Contains two genera, *Dyscoletes* Haliday, 1840 (Holarctic) and *Hellenius* Tobias, 1982 (Palearctic).

Note. Up to 1984 the genera *Dyscoletes* and *Hellenius* have been included in the Helconinae (e.g. Mason, 1976: 858; *Dyscoletes*). Because of the development of a dorsope, a positive synapomorphy (Van Achterberg, 1984: 42) with the Meteorideinae, Blacinae and Euphorinae, of the absent laterope, the normal third sternite of ♀ and the morphology of the larvae, it is included into the Blacinae despite the aberrant hosts.

### **Dyscoletes** Haliday (figs. 23-44, 1232)

*Dyscoletes* Haliday, 1840: 62; Shenefelt, 1970: 214; Mason, 1976: 855-856; Tobias, 1982: 615.  
 Type-species: *Dyscolus lancifer* Haliday, 1837 (by monotypy). Gender: masculine.



their width, respectively (figs. 24, 29); length of maxillary palp equal to height of head; length of eye in dorsal view 1.7 times temple; temple directly narrowed posteriorly (fig. 31); OOL : diameter of ocellus : POL = 18 : 5 : 13; face smooth; anterior tentorial pits rather small (fig. 32); clypeus evenly convex and smooth, and its ventral margin narrow and thin, not upcurved (fig. 23); length of malar space 1.5 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides smooth dorsally, remainder rugulose with some crenulae medially (fig. 23); notauli posteriorly bordered by V-shaped carina and without longitudinal rugae or carinae (fig. 34); lateral lobes of mesoscutum smooth and glabrous, middle lobe punctulate and setose; surface of propodeum coriaceous and superficially rugulose.

Wings. — Fore wing: r:3-SR:SR1 = 7:12:90; 2-SR:3-SR:r-m = 16:6:9; 1-CU1:1-CU1 = 3:16. Hind wing: 2A present as unsclerotized trace (fig. 25).

Legs. — Femur, tibia and basitarsus of hind leg 6, 11.4, and 11.7 times their width, respectively.

Metasoma. — Length of first tergite 1.5 times its apical width, its surface largely smooth, with some microstriae medially, basally flat, its dorsal carinae distinctly developed in basal half, straight (fig. 35); dorsope large and deep; laterope absent; second suture not impressed; length of ovipositor sheath 1.21 times fore wing.

Colour. — Dark reddish-brown; clypeus, mandible, palpi, legs, mesosoma largely laterally (but large dark patch on mesopleuron), side of scutellum, first tergite basally and apically, nota of second tergite largely and of third tergite medio-anteriorly, pale yellowish; metasoma ventrally and middle of first tergite, brown; pterostigma and veins, brown; wing membrane slightly infuscated.

Variation. — Antennal segments of ♀ 25-27, length of fore wing 3.1-3.5 mm; length of ovipositor sheath 1.21-1.26 times fore wing; males are usually darker than females according to the original description.

Host. — Reared from *Boreus brumalis* Fitch (Boreidae).

**Dyscoletes lancifer** (Haliday)  
(figs. 36-44, 1232)

*Dyscolus lancifer* Haliday, 1837: 39.

*Dyscoletes lancifer*; Shenefelt, 1970: 214, 215; Mason, 1976: 856-858, figs. 4, 5, 7; Tobias, 1982: 615.

*Discoletes* (!) *similis* Szépligeti, 1896: 314, 379.

*Microcentrus similis*; Szépligeti, 1904: 155.

*Elachistocentrum similis*; Shenefelt, 1970: 215; Tobias, 1976: 92.

*Dyscoletes similis*; Tobias, 1982: 615 (as synonym of *D. lancifer*).

Material. — 1 ♂, (NMI): "Box 18 A.W.S./British Holiday 20.2.82§, "Dyscoletes lancifer? ♂ A.W.S., 15.3.1942". Specimen remounted by A.W. Stelfox (16.7.1950), originally on a Walker card; seems to be the only remained specimen and here designated lectotype of *lancifer*; 1 ♀, 1 ♂, (TMA): 1 ♀, "Vioegzách", "Szépliget, 95.5.26", "Lectotype *Discoletes similis* Szépliget, 1896, ♀, Papp '69", "Hym. Typ. No. 1794, Mus. Budapest"; 1 ♂, "Szépliget, 95.5.30, 3 hatávh", "Paralectotype *Discoletes similis* Szépl., 1896, Papp '69", "Hym. Typ. No. 1795, Mus. Budapest"; 1 ♀ (BMNH), "England, Suffolk (in car), 2.VI.1962, J.A.J. Clark"; 1 ♂ (BMNH), "England, BX, Brickhill, Rammamere Heath, 14.5.1950, R.B. Benson"; 1 ♀, (RMNH): "Beek, Montferland [= Netherlands], 18.v., G. van Rossem 1970"; 3 ♀, (RMNH): "Finland, N. Lapland, 69°45'N, 27°E, Utsjoki, Kevo, no. 1, 4-11-VII.1973 (2 ♀), 11-18.VII.1973 (1 ♀), S. Koponen, at light"; 5 ♀, (RMNH, Coll. Lukáš): "Nederland, Wijster (Dr.), opposite Biol. Station, 1-7.VI.1973 (1 ♀), 10-17.VI.1974 (1 ♀), 16-23.VI.1975 (1 ♀), 2-9.VII.1976 (1 ♀), 10-17.VI.1977 (1 ♀), C. v. Achterberg"; 1 ♀, (RMNH): "Nederland (L.); Well, 7.VI.1979, B. V. Lefeber".

Redescription from figured lectotype of *D. similis* from Hungary:

Lectotype, ♀, length of body 3.4 mm, of fore wing 3.6 mm.

Head. — Antennal segments 27, length of third segment 1.8 times fourth segment, length of third, fourth, and penultimate segment 6, 3.4, and 1.1 times their width respectively (fig. 40); length of maxillary palp about equal to height of head (fig. 44); length of eye in dorsal view 1.5 times temple; temple rounded narrowly posteriorly (fig. 38); OOL : diameter of ocellus : POL = 8:3:5; face smooth; anterior tentorial pits small and deep (fig. ); clypeus smooth, strongly depressed towards its ventral margin, margin thin, straight and weakly recurved as a rim (fig. 43); length of malar space 1.4 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides rugose, but dorsal 0.4 smooth; notauli finely crenulate, posteriorly longitudinally rugose (fig. 40); lateral lobes of mesoscutum smooth and medially glabrous, remainder and middle lobe sparsely setose (fig. 37); surface of propodeum nearly smooth, except for some microsculpture, its medial carina distinct (fig. 42).

Wings. — Fore wing : r : 3-SR : SR1 = 7:16:112; 2-SR : 3-SR : r-m = 23:8:10; 1-CU1 : 2-CU1 = 3:20. Hind wing: 2A absent (fig. 36).

Legs. — Femur, tibia, and basitarsus of hind leg 5.5, 12.2, and 10 times their width, respectively.

Metasoma. — Length of first tergite 1.3 times its apical width, its surface smooth, except for some microsculpture, rather flattened apically, its dorsal carinae present in basal 0.4 (fig. 42); dorsope wide and deep; laterope present; second suture absent; length of ovipositor sheath 1.25 times fore wing.

Colour. — Reddish-brown; posterior half of mesosoma and first metasomal tergite, yellowish-brown; pterostigma light brown; legs and mandibles, yellowish.

Variation. — Antennal segments of ♀ 25(1), 26(2), 27(4), 28(1), of ♂ 26(1), 28(1); length of third antennal segment 1.5-1.8 times fourth segment; length of fore wing 2.9-3.6 mm; length of ovipositor sheath 1.20-1.34 times fore wing; medial area of propodeum may be narrower and propodeal carinae less developed than figured. Body (except first tergite, and sometimes propodeum and parts of mesopleuron) usually dark brown.

Host. — Reared from *Boreus hyemalis* (Linnaeus) (Boreidae).

Note. — *D. lancifer* occurs in Belgium, Czechoslovakia, England, Finland, France, Hungary, Yugoslavia, Netherlands, and NW. USSR.

### **Hellenius Tobias**

(figs. 45-52)

*Hellenius Tobias*, 1982: 614-616, figs. 1-3.

Type-species: *Diospilus (Taphaeus) semiruber* Hellén, 1958 (by monotypy). Gender: masculine.

Diagnosis. — Antenna of ♀ with more than 29 segments (incomplete in the only known specimen); labial palp well visible, medium-sized (fig. 45); frons with depression near eyes (fig. 48); dorsal half of clypeus strongly convex (fig. 45); occipital flange wide (fig. 45); medial carina of propodeum short and indistinct (fig. 52); vein CU1b of fore wing present (fig. 46); vein m-cu of fore wing strongly antefurcal (fig. 46); vein SR1 of fore wing curved basally (fig. 46); hind coxae with a basal transverse and a longitudinal carina (fig. 51); spiracles of first metasomal tergite in front of its middle (fig. 52); length of ovipositor sheath about 0.8 times fore wing.

Biology. — Unknown.

Contains only the type-species (North Palaearctic).

Note. Tobias (1982) suggests that *Hellenius* is related to the genus *Charmon* Haliday, but *Hellenius* lacks the horizontal part of the middle lobe of the mesoscutum, has no row of pits at the clypeus, dorsal carinae of first tergite strongly developed basally, occipital carina strong and complete, lacks the vein 2A of fore and hind wing, no long vein 2-R1 of fore wing, medio-posterior depression of scutellum present, dorsope present and dorsal carinae curved anteriorly. The shared common character-states (no precoxal sulcus, curved vein SR1 of fore wing, spiracles of first tergite protruding, presence of notch of ovipositor, area near eye margin slightly depressed and absence of pronope) in both genera are too weak (i.e. also often developed as parallelism in other groups) to exclude *Hellenius* from the Blacinae.

**Hellenius semiruber** (Hellén)  
(figs. 45-52)

*Diospilus (Taphaeus) semiruber* Hellén, 1958: 8, 9.

*Taphaeus semiruber*; Shenefelt, 1970: 220.

*Hellenius semiruber*; Tobias, 1982: 616, figs. 1-3.

Material. — Holotype (since there is no indication that Hellén included more than one ♀ in his description, Tobias has incorrectly designated this specimen as a lectotype), (ZMH): "Sääksmäki [Finland], I.1930, E. Kivirikko" (cited in the original description as "1933", obviously a miscitation by Hellén).

Holotype, ♀, length of body 4.1 mm, of fore wing 4.3 mm.

Head. — Remaining antennal segments 29, length of 3rd segment 1.4 times 4th segment, length of third and fourth segments 3.4, 2.5 times their width, respectively (fig. 45); length of maxillary palp equal to height of head; frons smooth and weakly concave (fig. 47); OOL : diameter of ocellus : POL = 7:4:10; length of eye in dorsal view 1.7 times temple (fig. 47); face coarsely rugose; malar suture absent, but area somewhat depressed; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.6 times its height; pronotal sides densely reticulate-rugose, but dorsally smooth (fig. 45); precoxal sulcus absent (fig. 45); notauli deep and crenulate (fig. 49); mesoscutal lobes rather convex, largely glabrous; scutellum smooth; surface of propodeum largely smooth between lateral carinae and slender medial area, costulae incomplete (fig. 52).

Wings. — Fore wing: first discal cell distinctly petiolate anteriorly; 1-CU1 : 2-CU1 = 1:7; parastigma large (fig. 46); r:3-SR:SR1 = 9:12:74; 2-SR:3-SR:r-m = 12:6:7.

Legs. — Hind coxa partly rugose dorsally; length of femur, tibia, and basitarsus of hind leg 5.6, 9.1, and 7.2 times their width, respectively; claws robust basally (fig. 50).

Metasoma. — Length of first tergite 1.3 times its apical width, medially with some rugae, rest smooth, dorsal carinae distinct in basal half (fig. 52); length of ovipositor sheath 0.81 times fore wing.

Colour. — Black(ish); antenna (but pedicellus partly yellowish) and mesosternum dark brown; mesoscutum, pronotal sides dorsally, and metasoma (but first tergite largely, third and following tergites partly blackish), yellowish-brown; palpi, tegulae, and legs light yellowish; apex of hind tibia and tarsus partly infuscated; wing membrane slightly infuscated; pterostigma rather dark brown.



## Tribe Chalaropini nov.

Contains only the genus *Chalarope* gen. nov. from the Neotropical region.

Diagnosis. — See diagnosis of the new genus *Chalarope*. The isolated dorsope, not bordered by the dorsal carinae of the first metasomal tergite (fig. 62) and the maxillary palp with 6 segments are important characters.

**Chalarope** gen. nov.

(figs. 53-62)

Type-species: *Chalarope petiolatus* spec. nov.

Etymology: from “chalaros” (Greek for “loose”) and “ope” (Greek for “hole”), because of the free, isolated dorsope. Gender: masculine.

Diagnosis. — Antennal segments about 30; third antennal segment shorter than fourth segment (fig. 54); eyes glabrous; frons rather concave medially, convex laterally (fig. 61); anterior tentorial pits minute (fig. 58); ventral two-thirds of clypeus depressed, flattened (fig. 58), its ventral margin straight (fig. 58); occipital carina complete, weak medio-dorsally; occipital flange medium-size (fig. 54); malar suture distinct (fig. 58); pronope present (fig. 59); anterior subalar depression with short carina (fig. 54); precoxal sulcus partly sculptured (fig. 54); propodeum without distinct medial area (fig. 62); anterior part of propodeum not differentiated from posterior part (fig. 54); vein CU1b of fore wing absent (fig. 56); vein 1-SR present, long (fig. 56); vein 3-CU1 of fore wing subvertical (fig. 56); marginal cell of hind wing narrowed apically (fig. 56); vein r-m of fore wing absent (fig. 56); hind coxae aciculate (fig. 60); dorsal carinae of first metasomal tergite absent (fig. 62); dorsope of first metasomal tergite deep, large and isolated, distinctly removed from base of tergite (fig. 62); second metasomal tergite sculptured, except posteriorly (fig. 62); second metasomal suture obsolescent; length of ovipositor sheath about 1.4 times fore wing; length of fore wing about 4 mm.

Biology. — Unknown.

Contains one species from Chile.

**Chalarope petiolatus** spec. nov.

(figs. 53-62)

Material. — Holotype, ♀, (CNC): “Peillem-Pilli, Cord. Nahuelbuta, Arauco, Chile, 19.I.1954, R. Peña, 6-800 m”.

Holotype, ♀, length of body 4.2 mm, of fore wing 3.7 mm.

Head. — Antennal segments 30 (apical segment subdivided in to two), length of third segment 0.8 times fourth segment, length of third, fourth and penultimate segments 5.0, 6.0, and 1.4 times their width, respectively (figs. 54, 55); length of maxillary palp equal to height of head; frons smooth medially and punctulate laterally; OOL : diameter of ocellus : POL = 17:7:16; length of eye in dorsal view 1.6 times temple (fig. 61); face finely punctate, medially punctate; malar suture deep, complete; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides reticulate-rugose except dorsally (fig. 54); precoxal sulcus shallow, largely finely rugulose and absent anteriorly (fig. 54); notauli shallow, rugulose and complete (fig. 59); mesoscutal lobes rather flat, smooth; scutellum smooth, its lateral carina absent, only finely reticulate posteriorly and laterally (fig. 59); surface of propodeum reticulate-rugose, its medial area obsolescent, small (fig. 62).

Wings. — Fore wing: first discal cell long petiolate anteriorly; 1-CU1 : 2-CU1 = 1:27; parastigma medium-sized (fig. 56); r:3-SR+SR1:2-SR = 4:43:11.

Legs. — Hind coxa (rugose-)striate, postero-dorsal half transversely striate; length of femur, tibia, and basitarsus of hind leg 4.5, 12.8, and 10 times their width, respectively.

Metasoma. — Length of first tergite 2.2 times its apical width, coriaceous, dorsal carinae absent (fig. 62); second tergite rugulose antero-laterally, remaining part finely coriaceous, posteriorly smooth; length of ovipositor sheath 1.36 times fore wing.

Colour. — Black or blackish-brown; antenna (but apices of flagellar segments infuscated), labrum, mandible (except apex), legs largely, wing veins and pterostigma, yellowish-brown; basal half of hind coxa dark brown; apex of hind tibia and all tarsi infuscated; palpi and tegulae pale yellowish; metasoma behind first tergite more or less brown; wing membrane slightly infuscated.

#### Tribe Blacozonini nov.

Diagnosis. — Antennal segments 32-35, third antennal segment as long as fourth segment or shorter; frons distinctly concave; ventral half of clypeus largely convex, its ventral margin more or less sinuate; malar suture deep; pronope present in *Blacozona*, absent in *Grypokeros*; anterior subalar depression crenulate; scutellum without lateral carina posteriorly; dorsal surface of propodeum not well differentiated from posterior surface; vein r-m of fore

wing absent; vein CU1b of fore wing present; vein 3-CU1 of fore wing comparatively weakly oblique (figs. 65, 86); vein M+CU of hind wing longer than vein 1-M (figs. 65, 73); marginal cell of hind wing parallel-sided apically; hind coxa more or less rugose baso-dorsally, at most with pair of oblique carinae; length of hind tibial spurs about 0.3 times hind basitarsus; claws of ♀ simple, without blackish bristles; dorsope situated subbasally, rather shallow, and anteriorly bordered by curved dorsal carinae (figs. 64, 79); second metasomal tergite smooth or sculptured; length of ovipositor sheath 0.2-0.5 times fore wing; length of fore wing 3-4 mm.

Contains two genera, both from the Neotropical region: *Blacozona* Van Achterberg, 1976 and *Grypokersos* gen. nov.

**Blacozona** Van Achterberg  
(figs. 63-70)

*Blacozona* Van Achterberg, 1976, figs. 22-29.

Type-species: *Blacozona psychora* Van Achterberg, 1976 (by monotypy). Gender: feminine.

Diagnosis. — Antennal segments about 32, third antennal segment shorter than fourth segment (fig. 63); eyes glabrous; frons distinctly concave (fig. 66), without horn; clypeal margin somewhat protruding medially (fig. 67); occipital carina complete; occipital flange normal, oblique and not projecting (fig. 63); pronope deep; precoxal sulcus complete, punctate (fig. 63); lateral carina of scutellum absent; propodeum with a rather narrow medial area posteriorly (fig. 64) and pair of small tubercles (fig. 63); dorsal surface of propodeum rather weakly differentiated and somewhat longer than posterior surface (figs. 63, 64); vein CU1b of fore wing present; vein 2-R1 of fore wing absent; first metasomal tergite not constricted behind spiracles (fig. 64); second metasomal flat laterally and smooth medially (fig. 63); second metasomal suture obsolete; length of ovipositor sheath about 0.3 times fore wing; length of fore wing about 3.5 mm.

Biology. — Unknown.

Contains only the type-species from Argentina.

**Blacozona psychora** Van Achterberg  
(figs. 63-70)

*Blacozona psychora* Van Achterberg, 1976: 176-177, figs. 22-29.

Only known from the type-locality (Villa Nougues, Tucuman, Argentina).

**Grypokeros** gen. nov.

(figs. 71-91)

Type-species: *Grypokeros curticaudis* spec. nov.

Etymology: from "grypos" (Greek for "curved, hooknosed") and "keras" (Greek for "horn") because of the strong and curved frontal horn. Gender: masculine.

Diagnosis. — Antennal segments 32-35 (unknown in *fuscifemur*), third antennal segment as long as fourth segment (fig. 71); eyes glabrous; frons deeply concave and with hooknosed horn (figs. 81, 87); clypeal margin slightly protruding medially (figs. 80, 88); occipital carina complete; occipital flange horizontal, projecting towards mesosoma (figs. 71, 75); pronope absent (fig. 78); precoxal sulcus complete, crenulate; lateral carina of scutellum absent; propodeum without medial area (figs. 78, 89) and with small tubercles (fig. 78); anterior part of propodeum not well differentiated from posterior part, subequal (figs. 71, 84); vein CU1b of fore wing present (figs. 72, 83); vein 2-R1 of fore wing absent (fig. 73); first metasomal tergite constricted behind spiracles (fig. 79); second metasomal tergite depressed laterally and sculptured medially (figs. 79, 90); second metasomal suture deep and smooth (fig. 79); length of ovipositor sheath 0.2-0.5 times fore wing; length of fore wing 3-4 mm.

Biology. — Unknown.

Contains two species, both from Chile.

Key to species of the genus *Grypokeros* nov.

1. Length of ovipositor sheath about 0.2 times fore wing (fig. 71); mesopleuron and hind femur yellowish-brown; clypeal margin rather acutely protruding medio-ventrally (fig. 80); second metasomal tergite without depression antero-medially (fig. 79) . . . . . *curticaudis* spec. nov.
- Length of ovipositor sheath about 0.5 times fore wing (fig. 84); mesopleuron and hind femur dark brown; clypeal margin slightly obtusely protruding medio-ventrally (fig. 88); second tergite with depression medio-basally (fig. 90) . . . . . *fuscifemur* spec. nov.

**Grypokeros curticaudis** spec. nov.

(figs. 71-82)

Material. — Holotype, ♀, (CNC): "Aucar, J. Chiloé, Chile, 6.I. L.E. Pena, 1952". Paratypes: 1 ♀ + 2 ♂; 1 ♀, (RMNH), topotypic; 1 ♂ (CNC), "El Coigo, Curico, Chile, Jan. 1961"; 1 ♂, (CNC): "Chile, Pucatrihue Coast, Osorno Prov., II.67, L.E. Pena."

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

Head. — Antennal segments 32, length of third segment equal to fourth segment, (without annellus 0.9 times), length of third, fourth and penultimate segments 3.2, 3.2, and 1.1 times their width, respectively (figs. 71, 74); length of maxillary palp 0.8 times height of head; frons smooth; OOL : diameter of ocellus : POL = 23:7:14; length of eye in dorsal view 1.2 times temple (fig. 76); face rather densely punctulate, dorsally with few rugae; malar suture deep, complete; length of malar space 1.4 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.6 times its height; pronotal sides reticulate-rugose, ventrally largely rugulose-coriaceous (fig. 71); precoxal sulcus complete and rugose (fig. 71); notauli complete, crenulate, posteriorly rugose (fig. 78); mesoscutal lobes rather flat, finely punctate; scutellum punctate; propodeal tubercles present, obtuse and medium-sized (fig. 78); surface of propodeum densely, reticulate-rugose, its medial area absent (fig. 78).

Wings. — Fore wing: first discal cell sessile anteriorly; 1-CU1 : 2-CU1 = 1:4; parastigma rather small (fig. 73); r:3-SR+SR1:2-SR = 6:43:11.

Legs. — Hind coxa rugulose dorsally and laterally; length of femur, tibia, and basitarsus of hind leg 3.4, 8.6, and 6 times their width, respectively.

Metasoma. — Length of first tergite 1.5 times its apical width, reticulate-rugose, dorsal carinae distinct in front of spiracles (fig. 79); second tergite depressed and smooth laterally, remaining part reticulate-rugose (fig. 79); medial length of third tergite 0.9 times medial length of second tergite; length of ovipositor sheath 0.21 times fore wing.

Colour. — Brownish-yellow; antenna, mesosoma dorsally largely, first and second tergites, brown; surroundings of ocelli, middle of mesoscutal lobes, apical third of metasoma and ovipositor sheath, dark brown; pterostigma dark brown; wing membrane subhyaline; hind femur and tarsus somewhat infuscated.

Variation. — Length of body 3.3-3.5 mm, of fore wing 3.0-3.6 mm; antennal segments 32 (1 ♀), 33 (1 ♂) and 35 (1 ♂), third antennal segment equal to fourth segment; length of ovipositor sheath 0.21-0.23 times fore wing; medial length of third metasomal tergite of ♀ 0.7-0.9 times medial length of second tergite.

***Grypokeros fuscifemur* spec. nov.**

(figs. 83-91)

Material. — Holotype, ♀, (CNC): "Aucar, J. Chiloë, Chile, 6.I., L.E. Pena, 1952".

Holotype, ♀, length of body 4.4 mm, of fore wing 4.0 mm.

Head. — Remaining antennal segments 9, length of third segment equal to fourth segment, (without annellus 0.9 times), length of third, and fourth segments both 3.3 times their width, (fig. 84); length of maxillary palp 0.9 times height of head; frons punctulate laterally; OOL : diameter of ocellus : POL = 13:4:8; length of eye in dorsal view 1.5 times temple (fig. 87); face densely finely punctate, laterally smooth; malar suture deep; length of malar space 1.4 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.6 times its height; dorsal quarter of pronotal sides smooth, rest reticulate (fig. 84); precoxal sulcus complete and crenulate (fig. 84); notauli completely crenulate (fig. 89); mesoscutal lobes rather flat, evenly setose and punctulate; scutellum punctulate; propodeal tubercles present, rather acute and medium-sized (fig. 89); surface of propodeum coarsely reticulate, except anteriorly, its medial area absent (fig. 89).

Wings. — Fore wing: first discal cell sessile anteriorly; 1-CU1 : 2-CU1 = 1:9; parastigma medium-sized (fig. 86); r:3-SR+SR1:2-SR = 15:88:24.

Legs. — Hind coxa densely finely punctate, with two oblique dorsal carinae (fig. 91); length of femur, tibia, and basitarsus of hind leg 4, 9.7, and 7.8 times their width, respectively.

Metasoma. — Length of first tergite 1.2 times its apical width, coarsely reticulate-rugose, dorsal carinae distinct in front of spiracles (fig. 90); second tergite reticulate and convex medially, laterally depressed and with some rugae (fig. 90); medial length of third tergite 0.6 times medial length of second tergite; length of ovipositor sheath 0.48 times fore wing.

Colour. — Brownish-yellow; antenna, mesosoma (except prothorax and mesoscutum), first tergite, fourth and following metasomal segments, hind leg (except coxa, trochanter and trochantellus), wing veins (except C+SC+R basally) and pterostigma, dark brown; fore and middle tibiae and tarsi, outer side of hind coxa apically, second and third metasomal tergites, and surroundings of ocelli infuscated; wing membrane subhyaline.

#### Tribe Stegocellini nov.

Diagnosis. — Antennal segments 14-32, third antennal segment longer than fourth segment; frons slightly concave; ventral half of clypeus largely convex, its ventral margin (nearly) straight (figs. 104, 113); malar suture absent (fig. 104); pronope present; anterior subalar depression crenulate; scutellum without lateral carina posteriorly; dorsal surface of propodeum distinctly longer than posterior surface; veins r-m and CU1b of fore wing absent; vein 3-CU1 of fore wing comparatively weakly oblique (figs. 93, 101); vein M+CU of hind

wing longer than vein 1-M (fig. 101); marginal cell of hind wing parallel-sided apically; hind coxa more or less rugose baso-dorsally, at most with a pair of oblique carinae; length of hind tibial spurs about 0.3 times hind basitarsus; claws of ♀ simple, without blackish bristles; dorsope situated subbasally, rather shallow, and anteriorly bordered by curved dorsal carinae (figs. 98, 116); second metasomal tergite largely smooth (figs. 98, 106, 116); length of ovipositor sheath 0.5-1.4 times fore wing; length of fore wing 1.8-2.7 mm.

Contains two genera, both from the Neotropical region and from Chile only: *Mesoxiphium* Van Achterberg, 1976 and *Stegnocella* Van Achterberg, 1976.

**Mesoxiphium** Van Achterberg stat. nov.  
(figs. 92-108)

*Blacus* subgenus *Mesoxiphium* Van Achterberg, 1976: 179-180.

Type-species: *Blacus monostigmaticus* Van Achterberg, 1976 (by monotypy). Gender: neuter.

Diagnosis. — Antennal segments 14-25; third antennal segment longer than fourth segment; eyes glabrous; frons (almost) flat; clypeus evenly convex (fig. 104), and its ventral margin (nearly) straight (figs. 95, 104); occipital carina complete; occipital flange narrow (figs. 92, 99); malar suture absent; pronope present (fig. 105); precoxal sulcus shallow, almost absent, at most micro-sculptured (fig. 92); metapleural flange indistinct or small and cariniform (figs. 92, 99); lateral carina of scutellum absent posteriorly (figs. 96, 105); antero-dorsal part of propodeum much longer than its posterior part (figs. 98, 106); medial carina of propodeum distinct (fig. 106) and without tubercles; vein CU1b of fore wing absent; vein 1-SR of fore wing absent (fig. 101); vein 3-CU1 of fore wing weakly oblique (fig. 102); marginal cell of hind wing parallel-sided apically (figs. 93, 101); vein 2-R1 of fore wing absent (fig. 101); parastigma small (fig. 101); second metasomal tergite smooth or punctate basally (figs. 98, 106); second metasomal suture obsolescent; hypopygium of ♀ (rather) small (fig. 99); length of ovipositor sheath 0.5-0.8 times fore wing; length of fore wing 2.4-2.7 mm.

Biology. — Unknown.

Key to species of the genus *Mesoxiphium*

1. Antennal segments of ♀ 14 (of ♂ 20-21); antenna of ♀ widened apically (fig. 92); length of ovipositor sheath 0.7-0.8 times fore wing (fig. 92); medial area of propodeum distinctly developed and surface next to area

- depressed (fig. 98); metapleural flange (virtually) absent (fig. 92); second metasomal tergite smooth basally *monostigmaticum* (Van Achterberg)
- Antennal segments of ♀ about 24 (of ♂ about 25); antenna of ♀ normal, rather slender apically (fig. 99); length of ovipositor sheath about 0.5 times fore wing (fig. 99); medial area of propodeum less developed and surface next to area not depressed (fig. 106); metapleural flange small, cariniform (fig. 99); second tergite with some (obsolescent) sculpture basally (fig. 106) ..... *tenuicornis* spec. nov.

**Mesoxiphium tenuicornis** spec. nov.

(figs. 99-108)

Material. — Holotype, ♀, (CNC): “Enco, Chile, Valdivia, 26.II.1955, L.E. Pena”. Paratypes: 2 ♂, (CNC, RMNH): “Butamalal, Arauco, Chile, 31.I.1954, L.E. Pena”; second ♂ with same label, but 23.I.1954.

Holotype, ♀, length of body 2.3 mm, of fore wing 2.4 mm.

Head. — Antennal segments 24, length of third segment 1.1 times fourth segment, length of third, fourth and penultimate segments 2.2, 2.0, and 1.0 times their width, respectively (figs. 99, 100); length of maxillary palp 0.8 times height of head; frons smooth; OOL : diameter of ocellus : POL = 8:3:9; length of eye in dorsal view 1.1 times temple (fig. 108); face smooth; malar suture absent; length of malar space 1.2 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.6 times its height; pronotal sides medially crenulate, ventrally rugose, dorsally largely smooth; precoxal sulcus slightly impressed, coriaceous (fig. 99); notauli complete, rather crenulate (fig. 105); mesoscutal lobes rather flat, smooth; scutellum smooth, its lateral carina absent; surface of propodeum largely coriaceous, anteriorly smooth, its medial area rather small (fig. 106).

Wings. — Fore wing: first discal cell narrow sessile anteriorly; 1-CU1 : 2-CU1 = 5:36; parastigma small (fig. 101); r:3-SR+SR1:2-SR = 5:44:12.

Legs. — Hind coxa rugose (fig. 107); length of femur, tibia, and basitarsus of hind leg 5, 10.8, and 8 times their width, respectively.

Metasoma. — Length of first tergite 3.5 times its apical width, punctate-rugose, dorsal carinae distinct in basal quarter (fig. 106); basal third of second tergite punctate, rest smooth (fig. 106); length of ovipositor sheath 0.53 times fore wing.

Colour. — Dark brown; basal half of antenna, palpi, mandibles (except apex), tegulae, and legs, brownish-yellow; pterostigma and veins brown; wing membrane subhyaline.

Variation. — Paratypes: length of body 2.3-2.8 mm, of fore wing 2.5-2.7



mm; antennal segments 24 (1 ♀), 25 (2 ♂); sculpture of second tergite obsolescent; head blackish; antenna dark brown basally; whole metasoma light brown or first tergite largely brownish-yellow; mesosoma (except mesopleuron medially) in one paratype brownish-yellow.

**Mesoxiphium monostigmaticum** (Van Achterberg) comb. nov.  
(figs. 92-98)

*Blacus* (*Mesoxiphium*) *monostigmaticus* Van Achterberg, 1976: 180, figs. 30-36; Sarazin, 1985: 1185.

After publication I have also examined 7 ♀ and 14 ♂ (CNC, RMNH) all from Chile (Enco, Valdivia; Antillanca, Osorno (type-locality); Pichinahuel, Cord. Nahuelbuta, Arauco; Butamalal, Arauco; La Picada, Osorno; Carelmapu, Llanquihue; Alto de Caicupil, Cord. Nahuelbuta), from altitudes between 1000-1600 m.

Variation. — Antennal segments of ♀ 14(5), of ♂ 20(5) or 21(7); length of ovipositor sheath 0.70-0.78 times fore wing.

**Stegnocella** Van Achterberg  
(figs. 109-116)

*Stegnocella* Van Achterberg, 1976: 177-178, figs. 416-468.

Type-species: *Stegnocella calyptoides* Van Achterberg, 1976 (by monotypy). Gender: feminine.

Diagnosis. — Antennal segments about 32, third antennal segment longer than fourth segment; eyes glabrous; frons almost flat (fig. 111); clypeus largely evenly convex (fig. 109) and its ventral margin straight (fig. 113); occipital carina complete; occipital flange distinct (fig. 109); malar suture absent; pronope deep with a deep short furrow at both sides; precoxal sulcus absent, except for a smooth depression (fig. 109); metapleural flange comparatively large and blunt (fig. 109); lateral carina of scutellum only present in anterior third (fig. 114); dorsal surface longer than its posterior surface (fig. 109); medial carina of propodeum obsolescent and with incomplete medial area posteriorly (fig. 116), without tubercles; vein CU1b of fore wing absent but first subdiscal cell nearly closed (fig. 110); vein 2-R1 of fore wing present (fig. 110); second metasomal tergite superficially sculptured basally (fig. 116); second metasomal suture obsolescent; hypopygium of ♀ large (fig. 109); length of ovipositor sheath about 1.4 times fore wing; length of fore wing about 2 mm.

Biology. — Unknown.

Contains only the type-species from Chile.

***Stegnocella calyptoides* Van Achterberg**  
(figs. 109-116)

*Stegnocella calyptoides* Van Achterberg, 1976: 178-179, figs. 461-468; Sarazin, 1985: 1183.

Only known from the type-locality (Termas Tolhuaca, Malleco, Chile).

Tribe Blacini Foerster

Blacoidae Foerster, 1862: 254; Blacini sensu Van Achterberg, 1976: 174 (but Blacozonini included).

**Diagnosis.** — Antennal segments 15-26, usually in 17-21 ♀, third antennal segment longer than fourth segment, exceptionally of equal length; frons flat or slightly concave (figs. 153, 160, 390); ventral half of clypeus largely convex, its ventral margin straight and thin (fig. 389); malar suture variable; pronope more or less developed; anterior subalar depression smooth (fig. 386), exceptionally with weak carina; lateral carina of scutellum variable, often present posteriorly; dorsal surface of propodeum more or less differentiated from posterior surface and of similar length, but distinctly longer in *Contochorus*, *Artocrus* and *Apoblacus*; vein r-m of fore wing absent, except in *Blacometeorus*; vein CU1b of fore wing absent and first subdiscal cell (narrowly) open distally (figs. 154, 659, 388); vein 3-CU1 of fore wing strongly oblique to horizontal (figs. 154, 335, 408); length of vein M+CU of hind wing variable (figs. 154, 192, 880); marginal cell of hind wing parallel-sided apically; hind coxae smooth, only basally rugose or largely sculptured; length of hind tibial spurs about 0.1 times hind basitarsus, inconspicuous but 0.2-0.3 times in *Blacometeorus*; claws of ♀ variable; dorsope usually medium-sized and distinct (figs. 639, 794); second metasomal tergite usually smooth or very superficially sculptured, except in most spp. of *Tarpheion* (fig. 980); length of ovipositor sheath 0.1-1.0 times fore wing, usually 0.2-0.4 times; length of fore wing 1.2-4.5 mm.

Contains three genera, *Apoblacus* Van Achterberg (Neotropical), *Blacometeorus* Tobias (Palaeartic) and *Blacus* Nees (Cosmopolitan). The genus *Blacus* is subdivided into nine subgenera.

**Apoblacus** Van Achterberg  
(figs. 117-124)

*Apoblacus* Van Achterberg, 1976: 245-246, figs. 469-476.

Type-species: *Apoblacus centistoides* Van Achterberg, 1976 (by monotypy). Gender: masculine.

**Diagnosis.** — Number of antennal segments unknown, more than 12; temple about twice length of eye in dorsal view (fig. 119); eyes glabrous; occipital carina complete; malar suture absent; precoxal sulcus completely rugose (fig. 117); notauli absent, except for remnants posteriorly (fig. 123); scutellar sulcus extensively crenulate (fig. 123); lateral carina of scutellum absent, but with some lateral striae; dorsal surface of propodeum longer than its posterior surface, without medial carina or areola, and with small tubercles (figs. 117, 120); subbasal cell of fore wing widened apically (fig. 121); vein r-m of fore wing absent; vein M+CU of hind wing subequal to vein 1-M (fig. 121); short vein 1-SR of fore wing present (fig. 121); parastigma small (fig. 121); fore and middle claws of ♀ aberrant, with medium-sized, dark brown bristles (fig. 122); hind femur very robust (fig. 124), if compared with other Blacini (figs. 170, 296); second metasomal tergite smooth; only genus of the Blacini with 2nd-5th metasomal tergites completely enclosing metasoma, its sternites invisible and ventral side of metasoma equally sclerotized as its dorsal side (fig. 117); ovipositor rather wide basally (fig. 117), compared with other Blacini; length of ovipositor sheath about 0.1 times fore wing; length of fore wing about 2 mm.

**Biology.** — Unknown.

Contains only the type-species and an undescribed species, both from Chile.

**Note.** Despite the aberrant morphology, according to the phylogenetic analysis it is placed near the genus *Blacus* and may even be included into the genus *Blacus* s.l.

**Apoblacus centistoides** Van Achterberg  
(figs. 117-124)

*Apoblacus centistoides* Van Achterberg, 1976: 246-247, figs. 469-476; Sarazin, 1985: 1183.

Only known from the type-locality (Rio Ancoa, Chile).

**Blacometeorus** Tobias

(figs. 125-151)

*Blacometeorus* Tobias, 1976: 28, 228.Type-species: *Blacometeorus intermedius* Tobias, 1976 (by monotypy). Gender: masculine.

Diagnosis. — Antennal segments of ♀ 17, of ♂ 18 (unknown of *B. pusillus*); only genus of the Blacini with sixth and seventh antennal segments of ♀ (much) shorter than following segments (figs. 125, 144); temple 0.6-1.0 times eye in dorsal view (figs. 133, 147); eyes glabrous; occipital carina complete; malar suture absent; precoxal sulcus completely rugose, less developed anteriorly (figs. 125, 135, 144); notauli complete (fig. 141); scutellar sulcus with one medial carina only (figs. 141, 150); lateral carina of scutellum irregular and weakly developed or obsolescent (figs. 129, 141, 150); dorsal surface of propodeum subequal to posterior surface or hardly differentiated (figs. 125, 135); propodeum with (rather) small obtuse tubercles (figs. 125, 144); subbasal cell of fore wing not widened; only genus of the Blacini with vein r-m of fore wing present (fig. 145); vein M+CU of hind wing longer than vein 1-M (figs. 137, 145); first discal cell of fore wing acute or narrowly truncate anteriorly, without vein 1-SR (figs. 127, 145); parastigma small (fig. 145); vein 1-CU1 of fore wing comparatively oblique (fig. 137), if compared with other Blacini; vein 2-R1 of fore wing distinct (fig. 145); claws of ♀ simple; hind tibial spurs comparatively long (0.2-0.3 times hind basitarsus); length of ovipositor sheath 0.25-0.45 times fore wing; length of fore wing 2-2.5 mm.

Biology. — I have examined one specimen (♂, Lukáš Collection) of *B. intermedius* reared from a stem infested by *Tetrops* spec. (Cerambycidae). According to Čapek (1980: 28) this species is probably a parasite of coleopterous larvae in *Quercus*-galls in South Moravia. A female of *B. brevicauda* was found hibernating under bark of an *Ulmus*-tree infested by Scolytidae.

Contains three species, all from the Palaearctic region.

Note. This genus was included by Tobias in the Euphorinae (as the genus *Blacus* Nees) as intermediate between *Blacus* and the genus *Meteorus* Haliday. Because of the smooth anterior subalar depression, small propodeal tubercles, the constant number of antennal segments (more common in Blacinae than in Euphorinae), and the absence of vein 1-SR of fore wing it belongs to the Blacini despite the presence of vein r-m of fore wing and the aberrant antenna of the ♀.

Key to species of the genus *Blacometeorus*

1. First metasomal tergite distinctly widened apically, its length about 1.5

- times (♀) its apical width and extensively sculptured (fig. 134); length of third antennal segment 3-3.3 (♀) times its width (fig. 125), sixth and seventh segments of ♀ very short (fig. 125); length of vein 1r-m of hind wing 1.3-1.6 times vein 1-M (fig. 127); length of ovipositor sheath 0.25-0.29 times fore wing; hind tarsus infuscated . . . . . *brevicauda* (Hellén)
- First tergite (sub)parallel-sided, its length 1.6-2 times its apical width (fig. 148); if about 1.6 times then only medially sculptured (fig. 142) and hind tarsus yellowish; length of third antennal segment 3.8 (♂)-4.7 (♀) times its width, sixth and seventh segments of ♀ less shortened (fig. 144); length of vein 1r-m of hind wing 1.1-1.2 times vein 1-M (figs. 137, 145); length of ovipositor sheath about 0.45 times fore wing (unknown in *intermedius*)
  - 2. Length of scapus (without radix) somewhat more (about 1.2 times) than length of pedicellus (fig. 135); first metasomal tergite 1.6-1.9 times (♂) its apical width (fig. 142); hind tarsus yellowish-brown; hind coxa at most basally dark brown . . . . . *intermedius* Tobias
  - Scapus much longer than pedicellus (fig. 144); first tergite about 2.2 times (♀) its apical width (fig. 148); hind tarsus infuscated; hind coxa largely dark brown . . . . . *pusillus* (Hellén)

***Blacometeorus brevicauda* (Hellén)**  
(figs. 125-134)

*Diospilus brevicauda* Hellén, 1958: 7, 10.

*Taphaeus brevicauda*; Shenefelt, 1970: 218.

*Blacometeorus brevicauda*; Tobias, 1982, fig. 5.

Material. — Lectotype, ♀, (ZMH): "Fennia", "Tampere, A. Saarinen, 89. 1938", "Lectotypus *Diospilus* (*Taphaeus*) *brevicauda* Hellén design. Tobias", "*Blacometeorus brevicauda* Hellén comb. n. det. Tobias". Paralectotypes, 2 ♀ (Vichtis, Finland) not seen; 1 ♀, (Shaw Collection): "Eastleach, Glos. [England], ex bark of *Scolytus* - Elm, coll. 1 [19]77, em.5.77, M.R. Shaw"; 1 ♀, (Lukáš Collection): "ČSSR-Slovakia occ., Trenčín, Zlatovce, 21.5.1973, J. Lukáš lgt.".

Lectotype, ♀, length of body 2 mm, of fore wing 2.1 mm.

Head. — Antennal segments 17, scapus subequal to pedicellus, length of third segment 1.2 times fourth segment, length third, fourth and penultimate segments 3, 2.5, and 1.7 times their width, respectively (figs. 125, 126), sixth and seventh segments very short (fig. 125); maxillary palp hidden in glue; OOL : diameter of ocellus : POL = 22:7:18; length of eye in dorsal view 1.5 times temple (fig. 133); face largely smooth, only dorsally rugose (fig. 128); length of malar space 1.3 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides

largely rugose, except dorsally; scutellum rather convex, with some punctures, its lateral carina irregular and weak, not protruding dorsally (figs. 125, 129); surface of propodeum largely reticulate, anteriorly narrowly smooth, its medial area absent (fig. 134).

Wings. — Fore wing: first discal cell narrowly truncate (right wing, figured) or nearly acute (left wing) anteriorly; 1-CU1 : 2-CU1 = 1:3. Hind wing: 1r-m 1.6 times 1-M.

Legs. — Hind coxa completely rugose (fig. 132); length of femur, tibia, and basitarsus of hind leg 4.4, 9.3, and 7 times their width, respectively.

Metasoma. — Length of first tergite 1.5 times its apical width, widened apically and nearly completely reticulate (fig. 134), dorsal carinae distinct in basal 0.4; second tergite weakly sculptured basally (fig. 134); length of ovipositor sheath 0.25 times fore wing.

Colour. — Dark brown (black according to original description); palpi and legs (but hind coxa, apex of hind tibia and tarsus, darkened), brownish-yellow; tegulae and hypopygium brown; wing membrane subhyaline; pterostigma brown, but darkened posteriorly; veins light brown.

Variation. — Antennal segments 17 (3 ♀), scapus strongly oblique to subtruncate apically, length of third antennal segment 3-3.3 times fourth segment; length of vein 1r-m of hind wing 1.3-1.6 times vein 1-M; length of first tergite 1.5 times (3 ♀) its apical width; length of ovipositor sheath 0.25-0.29 times fore wing; length of fore wing 2-2.1 mm, of body 2-2.4 mm.

Note. This is the first report of *B. brevicauda* from England and Czechoslovakia.

***Blacometeorus intermedius* Tobias**  
(figs. 135-143)

*Blacometeorus intermedius* Tobias, 1976: 228, fig. 65-3, 4; Čapek, 1980: 28; Tobias, 1982: 618.

Material. — Holotype, ♂, (ZIL): "Leikoran, Azerb., Astara, park, Tobias, 29-30.IV.1971", "*Blacometeorus intermedius* Tobias gen. et sp. n., Holotypus"; 1 ♂, (Lukáš Collection): "ČSSR-Slovakia occ., B. Karpaty-Melčice dolina, 12-25.II.1973, J. Lukáš legt.", "20", "2. Tetrops, 20 metc".

Holotype, ♂, length of body and of fore wing both 2.2 mm.

Head. — Antennal segments 18, length of scapus about 1.2 times pedicellus, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 3.9, 3.2 and 2 times their width, respectively (figs. 135, 136), sixth and seventh segments normal (fig. 135); length of maxillary palp 0.8 times height of head; OOL : diameter of ocellus : POL = 6:3:7; length of eye in

dorsal view equal to temple (fig. 138); face smooth; length malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides reticulate-rugose, dorsally mainly smooth; scutellum smooth, but apically sculptured, its lateral carina largely absent (fig. 141); scutellum somewhat protruding dorsally (fig. 135); surface of propodeum reticulate, its medial area absent.

Wings. — Fore wing: first discal cell narrowly sessile anteriorly (fig. 137); 1-CU1 : 2-CU1 = 5:23. Hind wing: 1r-m 1.1 times 1-M.

Legs. — Hind coxa reticulate-rugose anteriorly and with dorsal carina (fig. 143); length of femur, tibia, and basitarsus of hind leg 5.6, 9.6 and 8.5 times their width, respectively.

Metasoma. — Length of first tergite 1.6 times its apical width, reticulate-rugose medially, laterally largely smooth, dorsal carinae distinct in basal half (fig. 142); second tergite smooth.

Colour. — Brownish-black; annellus, legs (except hind coxa basally), and metasoma baso-ventrally, yellowish-brown; palpi and pterostigma brown; wing membrane hyaline.

Variation. — Antennal segments 18 (2 ♂), hind coxa dark brown or yellowish basally; length of first tergite 1.6-1.9 times its apical width.

Note. According to Čapek (1980: 28) probably a parasite of coleopterous larvae in oak-galls in S. Moravia. The specimen reared by Dr. Lukáš emerged from a thin fruit tree twig (*Pyrus* or *Malus*) infested only by *Tetrops praeusta* (Linnaeus) (Cerambycidae).

**Blacometeorus pusillus** (Hellén)  
(figs. 144-151)

*Diospilus pusillus* Hellén, 1958: 9-10.

*Taphaeus pusillus*; Shenefelt, 1970: 220.

*Blacometeorus pusillus*; Tobias, 1982: 617-618, fig. 4.

Material. — Holotype (incorrectly labelled lectotype by Tobias), ♀, (ZMH): "Esbo, [Finland]", "R. Frey", "1326", "pusillus n." (pencil, by Hellén), "Lectotypus *Taphaeus pusillus* Hellén design. Tobias".

Holotype, ♀, length of body 2.7 mm, of fore wing 2.5 mm.

Head. — Remaining antennal segments 11, scapus much longer than pedicellus (fig. 144), length of third segment 1.2 times fourth segment, length of third and fourth segments 4.7 and 4 times their width, respectively sixth and seventh segments less shortened, about 0.6 times fifth segment (fig. 144);

length of maxillary palp 0.8 times height of head; OOL : diameter of ocellus : POL = 8:2:6; length of eye in dorsal view 1.8 times temple (fig. 147); face smooth, except some rugae near toruli (fig. 146); length of malar space 1.1 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides reticulate, but dorsally smooth; scutellum with some punctures, its lateral carina irregular, not protruding dorsally (figs. 144, 150); surface of propodeum largely reticulate-rugose, its medial area absent.

Wings. — Fore wing: first discal cell subsessile, nearly acute anteriorly (fig. 145); 1-CU1 : 2-CU1 = 3:13. Hind wing: 1r-m 1.2 times 1-M.

Legs. — Hind coxa rugose dorsally, sparsely punctate laterally (fig. 151); length of femur, tibia, and basitarsus of hind leg 4.8, 8.4 and 9 times their width, respectively.

Metasoma. — Length of first tergite 2.2 times its apical width, largely coarsely reticulate, dorsal carinae distinct in basal third (fig. 148); second tergite with some microsculpture (fig. 148); length of ovipositor sheath 0.46 times fore wing.

Colour. — Blackish; antenna and hind coxa largely dark brown; remainder of legs brownish-yellow; palpi pale yellowish; apex of hind tibia dorsally and hind tarsus rather infuscated; wing membrane hyaline; pterostigma and veins light brown.

### **Blacus** Nees s.l.

*Blacus* Nees, 1818: 306.

Type-species: *Bracon humilis* Nees, 1812 (designated by Haliday, 1840). Gender: masculine.

Diagnosis. — Antennal segments of ♀ 17 (section I, exceptionally 16 (*B. hastatus* Haliday)) or 15-27 (section II), of ♂ 19-21 (section I) or 15-28 (section II); length of eye in dorsal view 0.7-4.7 times temple (figs. 166, 1125); occipital carina present, but reduced in *Ischnotron* and *Tarpheion* p.p.; lateral carina of scutellum distinct (most spp. of section II) or weakly developed laterally (section I); dorsal face of propodeum about as long as posterior face of propodeum (fig. 161) or not differentiated (fig. 901), only distinctly longer in a small group of section II (*Contochorus*, *Artocrus*, *Ganychorus* p.p.; fig. 381); vein r-m of fore wing absent; vein M+CU of hind wing longer than vein 1-M (nearly all spp. of section I), shorter or subequal (section II); fore claw of ♀ only setose or with indistinct and yellowish bristles (section I and section IIa except some spp.) or with blackish bristles (section IIb, and few spp. of IIa); hind tibial spurs short, usually about 0.1 times hind basitarsus (but about 0.2



times in *B. evilectus*); second metasomal tergite distinctly striate, microsculptured or smooth; length of ovipositor sheath 0.1-1.0 times fore wing, usually 0.2-0.4 times; length of fore wing 1.2-4.5 mm.

Biology. — Parasites of coleopterous larvae, belonging to the Staphylinidae, Nitidulidae, Cryptophagidae, Scolytidae, Anobiidae, Curculionidae and Melyridae. The few records of Chloropidae and Cecidomyiidae as hosts need to be confirmed.

This cosmopolitan genus contains nine subgenera (plus one fossil subgenus) and can be subdivided into two sections and two subsections: the subgenera *Blacus*, and *Neoblacus* form section section I (39 spp.), the remainder is section II: *Leioblacus*, *Tarpeion* and *Ischnotron* form subsection IIa (49 spp.), *Artocrus*, *Contochorus*, *Ganychorus* and *Hysterobolus* form subsection IIb (66 spp.). The total number of recognized species is 154.

Subgenus **Artocrus** Van Achterberg stat. nov.  
(figs. 152-159)

*Artocrus* Van Achterberg: 1976: 247, figs. 292-299.

Type-species: *Artocrus spinarius* Van Achterberg, 1976 (by monotypy). Gender: neuter.

Diagnosis. — Antennal segments of ♀ 25-28, of ♂ 27-28; eye mainly glabrous; occipital carina complete; malar suture absent; precoxal sulcus deep (fig. 152); notauli complete; scutellar sulcus with one longitudinal carina; scutellum smooth and with large spine (figs. 152, 156); lateral carina of scutellum only at basal half of scutellum; dorsal face of propodeum distinctly longer than posterior face (fig. 152); propodeal tubercles absent; parastigma medium-sized (fig. 154); vein 1-SR of fore wing shortly developed; first discal cell acute anteriorly (fig. 154); vein M+CU of hind wing distinctly shorter than vein 1-M (fig. 154); fore and middle tarsal claws of ♀ with blackish bristles and teeth (fig. 155); hind tibia abruptly narrowed basally (fig. 154); second metasomal tergite smooth; hypopygium medium-sized (fig. 152); length of ovipositor sheath about 0.2 times fore wing; length of fore wing 3.6-3.8 mm.

Biology. — Unknown.

Contains only the Neotropical type-species; I have seen an aberrant specimen from Argentina (Horco Molle, Tucuman (CNC), ♀) which has the metasoma behind first tergite brownish-yellow, dorsal carinae of first tergite remain separated and antennal segments 25 (type-species 26-27, exceptionally 28). Provisionally I consider it to be only an aberrant form of the type-species.

Note. This taxon was described as a separate genus in 1976 because of its aberrant morphology. Judging from the cladistic analysis most likely it is

related to the subgenera *Ganychorus* and *Hysterobolus* (fig. 21), therefore it is more justified to include it as a subgenus in the genus *Blacus* s.l.

***Blacus (Artocrus) spinarius* (Van Achterberg) comb. nov.**  
(figs. 152-159)

*Artocrus spinarius* Van Achterberg, 1976: 247-248, figs. 292-299; Sarazin, 1985: 1186.

Known from a large type-series from Brazil (Nova Teutonia, 27° 11'S, 52° 23'W, 300-500 m.) and an aberrant specimen from Argentina (Horco Molle, Tucuman).

Subgenus ***Blacus*** Nees  
(figs. 160-360, 363-366, 369-374, 377-378, 1227, 1228)

*Blacus* Nees, 1818: 306.

*Blacus* subgenus *Blacus*; Van Achterberg, 1976: 221.

Type-species: *Bracon humilis* Nees, 1812 (designated by Haliday, 1840). Gender: masculine. Syn.: *Goniocormus* Foerster, 1862; *Miocolus* Foerster, 1862.

Diagnosis. — Antennal segments of ♀ 17 (one aberrant specimen of *hastatus* Haliday has 16 segments), of ♂ 19-21; eye (mainly) glabrous; occipital carina complete; malar suture variable; precoxal sulcus at least posteriorly rugose, often shallow; notauli more or less complete (but largely absent in *evilectus*); scutellar sulcus with medio-longitudinal carina; scutellum smooth (except in *masoni* and *paganus*) and without a spine; lateral carina of scutellum absent or weakly developed; dorsal face of propodeum subequal to posterior face or not differentiated, with weak carinae; propodeum with tubercles (sometimes indistinct); parastigma medium-sized to large (figs. 232, 315, 356) or comparatively small (figs. 203, 294, 303); vein 1-SR of fore wing absent, first discal cell truncate (fig. 315) or acute (fig. 303) anteriorly; vein M+CU of hind wing subequal to vein 1-M or longer (figs. 284, 303, 315), exceptionally somewhat shorter (fig. 269); all tarsal claws of ♀ simple, setose or with indistinct and yellowish bristles; hind tibia gradually narrowed basally; second metasomal tergite smooth or with superficial, irregular depressions apically; hypopygium usually comparatively small (figs. 180, 292); length of ovipositor sheath 0.2-1.0 times fore wing, usually 0.2-0.3 times; length of fore wing 1.2-3.3 mm.

**Biology.** — Parasites of coleopterous larvae of the Nitidulidae, Cryptophagidae, Scolytidae, Anobiidae, Curculionidae, Cerambycidae, and Melyridae, partly found in mushrooms and cones of Coniferae. Records of dipterous larvae (Chloropidae and Cecidomyiidae) as host need to be confirmed.

Contains 38 species, unknown from the Oriental (except the Himalayan area) and Australian regions, with only few species in Neotropical (1) and Afrotropical (2) regions. Most species (22) are only known from the Palaearctic region (including Himalayan area).

Key to Nearctic and Neotropical species of the subgenus *Blacus*

1. Parastigma small (figs. 192, 197, 220), if intermediate (*defectuosus*; fig. 209) then first metasomal tergite flattened posteriorly (fig. 215); first discal cell of fore wing acute anteriorly (but sometimes narrowly truncate); propodeal tubercles rather small (figs. 192, 203) or absent . . . . . 2
  - Parastigma large to medium-sized (figs. 225, 232, 248), if intermediate then first tergite distinctly convex posteriorly; first discal cell of fore wing more or less truncate anteriorly (figs. 239, 255); propodeal tubercle more robust, usually medium-sized (figs. 233, 260, 266) . . . . . 10
2. Middle lobe of mesoscutum and scutellum remotely punctate (figs. 163, 169), and rather setose; antenna stout basally (figs. 161, 166) . . . . .
  - . . . . . *maryi* Hellén
  - Middle lobe of mesoscutum and scutellum smooth or somewhat punctulate; if intermediate then antenna comparatively slender basally (fig. 203) 3
3. Length of first metasomal tergite about twice its apical width (fig. 173); mesoscutum comparatively slender (fig. 177); length of hind tibia approx. 8.3 times its width (fig. 175); hind femur blotched . . . . .
  - . . . . . *crassicus* Van Achterberg
  - Length of first tergite 1.4-1.7 times its apical width (figs. 183, 188, 198); mesoscutum comparatively stout (figs. 190, 200); length of hind tibia more than 8.3 times its width (fig. 179) or hind femur smooth (fig. 189) 4
4. Length of ovipositor sheath about 0.4 times fore wing (fig. 180); vein 3-SR+SR1 of fore wing scarcely curved (fig. 180); length of first metasomal tergite about 1.7 times its apical width (fig. 183) . . . . .
  - . . . . . *cohibilis* Van Achterberg
  - Length of ovipositor sheath 0.18-0.23 times fore wing (figs. 184, 192); vein 3-SR+SR1 of fore wing more or less curved (figs. 186, 192, 197); length of first tergite 1.4-1.6 times its apical width (figs. 188, 191, 198) . . . . . 5
5. Length of malar space about twice basal width of mandible (figs. 184, 197); length of fore wing 1.2-2.2 mm, seldom up to 2.5 mm (*rufipes*);

- (*exilis*-complex) ..... 6
- Length of malar space about 1.5 times basal width of mandible (figs. 203, 211); length of fore wing 2.3-2.7 mm ..... 8
  - 6. First metasomal tergite flattened, and largely sculptured apically (fig. 188) ..... *asaphus* Van Achterberg
    - First tergite (evenly) convex medio-apically, and with smooth medio-apical elevation (figs. 191, 198, 207) ..... 7
  - 7. First metasomal tergite comparatively robust, evenly convex and finely reticulate (fig. 191); length of fore wing 2.4-2.5 mm *rufipes* (Ashmead)
    - First tergite less robust, unevenly convex and less finely reticulate (figs. 198, 207); length of fore wing 1.2-2.4 mm ..... *exilis* (Nees)
  - 8. Clypeus flattened in lateral view (fig. 218) and punctate (fig. 221); vein 3-SR+SR1 of fore wing straight (fig. 220); (Neotropical) .....
    - ..... *chilensis* Van Achterberg
    - Clypeus convex in lateral view (figs. 203, 211), and smooth (fig. 208), exceptionally punctulate; vein 3-SR+SR1 of fore wing curved basally (figs. 203, 209); (Nearctic) ..... 9
  - 9. Propodeal tubercle acute, usually distinct (fig. 203); first metasomal tergite less widened apically, sculptured latero-apically and distinctly convex medially (fig. 207) ..... *cognatus* Van Achterberg
    - Propodeal tubercle indistinct, more or less blunt (fig. 211); first tergite more dilated apically, smooth latero-apically or nearly so and flattened medially (fig. 215) ..... *defectuosus* Provancher
  - 10. Medio-longitudinal carina of propodeum double dorsally (fig. 225); length of scutellar sulcus about equal to its width (fig. 227); length of first metasomal tergite about 1.6 times its apical width (fig. 225); length of ovipositor sheath about 0.4 times fore wing (fig. 226) .....
    - ..... *apodastus* Van Achterberg
    - Medio-longitudinal carina of propodeum simple (figs. 238, 256); scutellar sulcus distinctly wider than long (fig. 235); combination of length of first tergite and of ovipositor sheath different ..... 11
  - 11. Scutellum punctulate (fig. 235); first metasomal tergite shiny, at most superficially sculptured (fig. 238), comparatively flat and its length about 1.5 times its apical width (fig. 238); penultimate antennal segment longer than wide or subquadrate (fig. 233) ..... *masoni* Van Achterberg
    - Scutellum smooth, at most with some scarcely visible punctures anteriorly (figs. 247, 257); first tergite largely dull and sculptured (figs. 243, 253, 256), convex, and 1.4-2.2 times its apical width (figs. 240, 241, 263); penultimate antennal segments variable (figs. 249, 266) ..... 12
  - 12. Third to fifth antennal segments robust (figs. 260, 266), penultimate

- segment transverse or quadrate; length of first metasomal tergite 1.4-1.7 times its apical width (figs. 256, 263); propodeal tubercles rather large and blunt (figs. 260, 266) ..... 13
- Third to fifth antennal segments comparatively slender (figs. 239, 244), penultimate segment quadrate or longer than wide; length of first tergite 1.8-2.2 times its apical width (figs. 240, 241, 243, 253); propodeal tubercles rather small and acute (figs. 239, 249) ..... *humilis* (Nees)
13. Length of ovipositor sheath 0.33-0.46 times fore wing (fig. 260); length of third antennal segment about 1.5 times fourth segment (fig. 260); basal half to quarter of antenna of ♀ yellowish, of ♂ only three basal segments yellowish ..... *caduceus* Van Achterberg
- Length of ovipositor sheath 0.22-0.24 times fore wing (fig. 266); length of third antennal segment 1-1.2 times fourth segment (fig. 266); antenna largely dark brown ..... *paganus* Haliday

Key to Palearctic, (including Himalayan area) and Afrotropical species of the subgenus *Blacus*

1. Fore wing of ♀ scarcely surpassing propodeum; mesopleuron coarsely sculptured; propodeal tubercle distinct and acute; parameres of ♂ large (fig. 327); clypeus yellowish ..... *rufescens* Ruthe
- Fore wing of ♀ about equal to body length; mesopleuron largely smooth, except precoxal sulcus; propodeal tubercle variable; parameres of ♂ small (except of *procerus* and *pappianus*, which have clypeus blackish) 2
2. Parastigma of ♀ ♂ small and narrow (figs. 269, 280, 294, 341), less differentiated from vein C+SC+R; first discal cell of fore wing acute anteriorly (figs. 336, 341), if intermediate then propodeal tubercles of ♀ (nearly) absent ..... 3
- Parastigma of ♀ medium-sized to large and comparatively wide (figs. 315, 356, 366), somewhat larger in ♂, distinctly differentiated from vein C+SC+R; first discal cell of fore wing distinctly truncate anteriorly (figs. 365, 366), if intermediate then propodeal tubercles of ♀ (rather) large (cf. fig. 266) ..... 22
3. Vein CU1a of fore wing (nearly) at same level as vein 2-CU1 (figs. 269, 335); vein 2-M of fore wing absent (fig. 269); propodeal tubercle of ♀ absent; malar space longer than basal width of mandible; malar suture absent (fig. 270) ..... 4
- Vein CU1a of fore wing distinctly bent basally, distinctly below level of vein 2-CU1 (figs. 280, 294); vein 2-M of fore wing usually present (fig.

- 294); propodeal tubercle, malar space and malar suture variable . . . . 5
4. Mesosoma and basal half of metasoma reddish or brownish-yellow; scutellum smooth, except apically; length of ovipositor sheath about 0.25-0.3 times fore wing, somewhat longer than hind femur or subequal (figs. 272, 274); (Afrotropical) . . . . . *inopinus* Van Achterberg
- Mesosoma and basal half of metasoma dark brown or blackish; scutellum superficially rugose; length of ovipositor sheath about 0.2 times fore wing, about equal to length of hind femur or shorter; (Palearctic) . . . . . *interstitialis* Ruthe
5. Length of ovipositor sheath 0.8-1.0 times fore wing (fig. 277); propodeal tubercle small and rather blunt (fig. 277); wings brownish; scutellum densely rugose or notauli comparatively wide (fig. 276) . . . . . 6
- Length of ovipositor sheath 0.1-0.7 times fore wing (figs. 266, 292); propodeal tubercle variable; wings usually hyaline; scutellum at least medially smooth (figs. 267, 300); notauli narrower (figs. 267, 300) . . . 7
6. Scutellum densely rugose; dorsal part of epicnemial area striate; notauli narrower and weakly crenulate; scutellar sulcus with one carina . . . . . *hastatus* Haliday
- Scutellum mainly smooth; epicnemial area more or less rugose (fig. 277); notauli wide and distinctly crenulate (fig. 276); scutellar sulcus with about 7 carinae (fig. 276) . . . . . *longicaudatus* Tobias
7. Vein 2-R1 of fore wing present (i.e. metacarp surpassing marginal cell, figs. 332, 333); length of ovipositor sheath at least 1.5 times length of hind tibia . . . . . 8
- Vein 2-R1 of fore wing absent (figs. 294, 303); length of ovipositor sheath at most 1.3 times hind tibia . . . . . 9
8. Length of third antennal segment 2.5-3 times length of sixteenth (= penultimate) segment (fig. 339); clypeus comparatively wide (fig. 337); anterior tentorial pits at lower level of eyes (fig. 337); length of malar space about 0.5 times basal width of mandible; propodeal tubercles weakly developed . . . . . *nigricornis* Haeselbarth
- Length of third antennal segment about 2 times length of penultimate segment; clypeus narrower; anterior tentorial pits below lower level of eyes; length of malar space about equal to basal width of mandible; propodeal tubercle distinct and blunt . . . . . *bovistae* Haeselbarth
9. Vein 3-SR+SR1 of fore wing straight or indistinctly curved (figs. 284, 294, 341, 343, 344) and usually reaching apex of fore wing; eyes of ♀ medium-sized to rather large (fig. 292); ovipositor sheath usually longer than hind femur (figs. 292, 296); vein 2-M of fore wing usually distinct (fig. 294) 10
- Vein 3-SR+SR1 of fore wing weakly but usually distinctly curved (figs.

- 354, 355, 369-372), and usually not reaching wing apex; if intermediate (fig. 303), then eyes of ♀ small (figs. 302, 312) and vein 2-M of fore wing absent or obsolescent (fig. 303); ovipositor sheath as long as hind femur or shorter (figs. 302, 307) ..... 15
10. Propodeal tubercles of ♀♂ distinct and rather acute; ♂ with large parameres (fig. 1237), longer than height of last visible metasomal tergite 11  
 – Propodeal tubercles of ♀♂ absent or indistinctly developed; ♂ with small parameres, at most as long as height of last visible tergite (unknown in *nivalis*) ..... 12
11. Head in frontal view distinctly narrowed ventrally (fig. 345); width of ventral rim of clypeus of ♀ about 3 times its height without rim; length of mesosoma 1.3-1.6 times its height; parameres of ♂ 0.6-0.7 times length of hind basitarsus (fig. 1237) ..... *pappianus* Haeselbarth  
 – Head in frontal view not or indistinctly narrowed ventrally (fig. 348); width of ventral rim of clypeus of ♀ about 4 times its height without rim (of ♂ 3-3.5 times); length of mesosoma about 1.9 times its height; parameres of ♂ about as long as hind basitarsus ..... *procerus* Haeselbarth
12. Length of third antennal segment of ♀ 2.5-3 times penultimate segment (fig. 349); anterior tentorial pits at lower level of eyes (fig. 342); malar suture present; length of malar space about 0.6 times basal width of mandible; length of first metasomal tergite about twice its apical width; length of ovipositor sheath about 1.3 times hind tibia; first discal cell of fore wing usually more or less narrowly truncate anteriorly (fig. 341) ..... *errans* (Nees)  
 – Length of third antennal segment of ♀ up to 2.2 times penultimate segment or shorter (figs. 287, 292, 350); anterior tentorial pits more or less situated below lower level of eyes (figs. 285, 297) but intermediate in *hostilis* (fig. 352); malar suture variable; length of malar space 0.8-1.3 times basal width of mandible; length of first tergite at least 2.5 times its apical width; length of ovipositor sheath 0.8-1.3 times hind tibia; first discal cell of fore wing acute anteriorly (figs. 284, 294) ..... 13
13. Length of malar space of ♀ about 0.8 times basal width of mandible (fig. 352); malar suture present; anterior tentorial pits only slightly below lower level of eyes (fig. 352); lateral carina of scutellum weakly developed; length of first metasomal tergite about 3 times its apical width ..... *hostilis* Haeselbarth  
 – Length of malar space of ♀ 1.1-1.3 times basal width of mandible (figs. 285, 297); malar suture absent; anterior tentorial pits distinctly below lower level of eyes (figs. 285, 297); lateral carina of scutellum absent (fig. 291); length of first tergite 1.8-2.5 times its apical width (figs. 288, 301))

- ..... 14
14. Notauli absent, except for small posterior impression (fig. 291); length of first metasomal tergite 1.7-1.8 times its apical width (fig. 288); length of ovipositor sheath approx. 0.8 times hind tibia, approx. 0.30 times fore wing; hind femur light yellowish; antenna of ♀ widened apically (fig. 287); vein 2-M of fore wing absent (fig. 284); (Afrotropical) *evilectus* spec. nov.
- Notauli present, micro-crenulate, but posterior half sometimes shallowly impressed (fig. 300); length of first tergite 1.8-2.5 times its apical width (fig. 301); length of ovipositor sheath 1.1-1.3 times hind tibia, approx. 0.4 times fore wing; hind femur dark brown; antenna of ♀ not distinctly widened apically (fig. 292); vein 2-M of fore wing present (fig. 294); (Palaeartic) ..... *stelfoxi* Haeselbarth
15. Length of ovipositor sheath 1.5-2 times first metasomal tergite (fig. 161); first tergite usually rather weakly reticulate-rugose (figs. 164, 171) . 16
- Length of ovipositor sheath 1.3 times first tergite or less; first tergite usually densely reticulate-rugose (fig. 198) ..... 18
16. Antenna very short and robust (figs. 161, 357, 359), length of third antennal segment 1.5-2 times its width; vein 2-m of fore wing distinct (figs. 161, 166); stemmaticum and upper part of face punctate-rugose (figs. 160, 162); f. *nidicola* Hedqvist) or smooth (nominate form, figs. 167, 168) ..... *maryi* Hellén
- Antenna more slender (figs. 302, 359); length of third antennal segment 2.5-3.5 times its width; vein 2-M of fore wing absent or obsolescent (figs. 303, 354); stemmaticum and upper part of face (largely) smooth (figs. 306, 308) ..... 17
17. Length of malar space of ♀ about 1.3 times basal width of mandible; mesoscutum densely setose; pronotal sides, scutellum laterally and propodeum largely sculptured; marginal cell of fore wing shorter (fig. 354); vein 1-CU1 of fore wing about as long as vein 2-CU1 (fig. 354); vein r of fore wing somewhat shorter than maximum width of pterostigma (fig. 354) ..... *instabilis* Ruthe
- Length of malar space of ♀ about twice basal width of mandible (fig. 302); mesoscutum sparsely setose; pronotal sides, scutellum laterally and propodeum largely smooth or superficially sculptured (fig. 302); marginal cell of fore wing longer (fig. 303); vein 1-CU1 of fore wing much shorter than vein 2-CU1 (fig. 303); vein r of fore wing about as long as width of pterostigma (fig. 303) ..... *nivalis* spec. nov.
18. Propodeum almost cubic in lateral view, its dorsal face forming an angle of 100-110° with posterior face; antennae of equal width (fig. 358); (Central Asian species) ..... 19



- Propodeum less cubic, rounded and with larger angle between faces; antenna usually somewhat widened apically (figs. 324-326, 328); (*exilis*-complex) ..... 20
- 19. Antenna rather slender; vein 1-CU1 of fore wing distinctly shorter than vein 2-CU1 ..... *subquadratus* Papp
  - Antenna short and stout (fig. 385); vein 1-CU1 of fore wing subequal to vein 2-CU1 ..... *tobiae* Haeselbarth
- 20. Pterostigma and marginal cell narrow (fig. 373); vein r about as long as maximum width of pterostigma (fig. 373); eye of ♀ comparatively small (fig. 312) ..... *leptostigma* Ruthe
  - Pterostigma and marginal cell less narrow (figs. 355, 369-372); vein r of fore wing 0.9 times maximum width of pterostigma or less (figs. 355, 371); eyes of ♀ somewhat larger (figs. 316, 317) ..... 21
- 21. Antenna of ♀ slenderer, its apical half less moniliform (fig. 328), somewhat widened apically; length of tenth antennal segment 1.7-1.9 times its width; penultimate antennal segment somewhat (approx. 1.3 times) longer than wide ..... *filicornis* Haeselbarth
  - Antenna of ♀ less slender, its apical half distinctly moniliform (figs. 324-326), somewhat or not widened apically; length of tenth antennal segment 1.3-1.6 times its width; length of penultimate antennal segment usually 1.1 times its width or less ..... *exilis* (Nees)
- 22. Propodeal tubercle completely absent (♀♂, fig. 319); sculpture of propodeum and metapleuron weak and dorsal face of propodeum largely subcoriaceous (fig. 319) ..... *modestus* Haeselbarth
  - Propodeal tubercle of ♀ present, short and rather obtuse (figs. 239, 266), but in ♂ very small, minute or absent; propodeum and metapleuron distinctly sculptured, at least metapleuron (rather) coarsely rugose-reticulate (fig. 266) ..... 23
- 23. Antenna of ♀ comparatively slender (fig. 377) and unicolorous light brown; hind femur slender (fig. 378); length of first metasomal tergite about 1.9 times its apical width; propodeal tubercle minute; length of ovipositor sheath approx. 0.43 times fore wing, about 1.2 times longer than hind tibia; (India) ..... *imitator* Papp
  - Antenna of ♀ more robust (figs. 351, 360, 363, 364) and at least apically dark brown; hind femur more robust (fig. 268); length of first tergite, and propodeal tubercle variable; length of ovipositor sheath usually less than 0.4 times fore wing, 0.8-1.1 times as long as hind tibia ..... 24
- 24. Groove in front of anterior ocellus distinct (fig. 264); antenna of ♀ very robust (figs. 351, 353, 360), fifth and sixth segments usually subquadrate ..... 25

- Groove in front of anterior ocellus absent or obsolescent (fig. 250); antenna of ♀ moderately slender (figs. 363, 364), fifth and sixth segments distinctly longer than wide ..... 27
- 25. Third-sixth segments of antenna of ♀ widely truncate apically, very robust (fig. 360); scutellar sulcus smooth or with some indistinct rugae beside medio-longitudinal carina; head and mesosoma of ♀ may be reddish and metasoma black ..... *forticornis* Haeselbarth
  - Third-sixth segments of antenna of ♀ less truncate apically and less robust (figs. 351, 353); scutellar sulcus with distinctly developed short carinae beside medio-longitudinal carina (fig. 320); body of ♀ completely dark brown or blackish ..... 26
- 26. Antenna of ♀ very short and basally very wide (fig. 351), usually fifth or sixth antennal segment quadrate; length of ovipositor sheath about equal to length of hind femur; hind femur more robust (fig. 1228); (Europe) ..... *paganus* Haliday
  - Antenna of ♀ more slender basally (fig. 353); ovipositor sheath somewhat longer than hind femur; hind femur less robust (fig. 1227) (Asia) ..... *radialis* Haeselbarth
- 27. Length of first metasomal tergite 1.7-2 times its apical width, somewhat widened apically (fig. 1236); mesoscutum less slender (fig. 247); antenna only slightly longer than combined length of head and mesosoma (fig. 239) ..... *humilis* (Nees)
  - Length of first tergite 2.4-2.6 times its apical width and sides parallel (fig. 322); mesoscutum more slender (fig. 323); antenna distinctly longer than combined length of head and mesosoma ... *longipennis* (Gravenhorst)

**Blacus (Blacus) apodastus** Van Achterberg  
(figs. 225-231)

*Blacus (Blacus) apodastus* Van Achterberg, 1976: 234-235, figs. 364-370; Marsh, 1979: 266; Sarazin, 1985: 1182.

Only known from the holotype from Canada (Innisville, Ontario). Resembles the Palearctic *leptostigma* Ruthe but *apodastus* has a larger parastigma, and the first discal cell of fore wing truncate anteriorly (sharp in *leptostigma*).

**Blacus (Blacus) asaphus** Van Achterberg  
(figs. 184-190)

*Blacus (Blacus) asaphus* Van Achterberg, 1976: 229-230, figs. 324-330; Marsh, 1979: 266; Sarazin, 1985: 1183.

Known from Canada (Alberta (Lethbridge (CNC)), Manitoba, Nova Scotia, Saskatchewan). Belongs to the *exilis*-complex and differs from *exilis* (Nees) by small differences in the convexity and sculpture of the first tergite.

***Blacus (Blacus) bovistae* Haeselbarth**  
(fig. 333)

*Blacus bovistae* Haeselbarth, 1973a: 145-146, fig. 69; 1975a: 31.  
*Blacus (Blacus) bovistae*; Van Achterberg, 1976: 241.

A seldomly collected species, known from Austria, Greece (Crete), Hungary, Italy (Trieste), and Switzerland (reared from the mushroom *Scleroderma verrucosum*).

***Blacus (Blacus) caduceus* Van Achterberg**  
(figs. 255-261)

*Blacus (Blacus) caduceus* Van Achterberg, 1976: 237-238, figs. 385, 390-395; Marsh, 1979: 266.

Known from U.S.A. (Arkansas, Colorado, Delaware, Georgia, Illinois, Michigan (Ann Arbor, (RMNH)), North Carolina, New Hampshire, Ohio, Oregon, Pennsylvania, South Dakota, Virginia, Washington D.C., West Virginia, Wisconsin, Wyoming) and Canada (Alberta, British Columbia, North West Territories (Aklavik, CAS), Ontario (Trenton, (CNC)), Quebec).

***Blacus (Blacus) chilensis* Van Achterberg**  
(figs. 218-224)

*Blacus (Blacus) chilensis* Van Achterberg, 1976: 243, figs. 440-446.

Only known from the holotype from Chile (locality unknown) and it is the only known species from the Neotropical region belonging to the subgenus *Blacus*.

**Blacus (Blacus) cognatus** Van Achterberg  
(figs. 203-208)

*Blacus (Blacus) cognatus* Van Achterberg, 1976: 230-231, figs. 331-336; Marsh, 1979: 266; Sarazin, 1985: 1183.

Known from U.S.A. (Arizona (2000 m.), Wisconsin) and Canada (Saskatchewan).

**Blacus (Blacus) cohibilis** Van Achterberg  
(figs. 178-183)

*Blacus (Blacus) cohibilis* Van Achterberg, 1976: 228-229, figs. 318-323; Marsh, 1979: 266; Sarazin, 1985: 1183.

Only known from the holotype (U.S.A.: Texas, Limpia County, Ft. Davis, ca. 1500 m.).

**Blacus (Blacus) crassicus** Van Achterberg  
(figs. 172-177)

*Blacus (Blacus) crassicus* Van Achterberg, 1976: 228, figs. 312-317; Sarazin, 1985: 1194.

Only known from the holotype from Mexico (10 miles W. El Salto, Durango).

**Blacus (Blacus) defectuosus** Provancher  
(figs. 209-217)

*Blacus defectuosus* Provancher, 1886: 133.

*Blacus (Blacus) defectuosus* Van Achterberg, 1976: 231-232, figs. 337-345; Marsh, 1979: 266.

Known from Canada (Ontario, Saskatchewan, Quebec) and U.S.A. (Colorado, Utah, Wisconsin).

**Blacus (Blacus) errans** (Nees)  
(figs. 341, 342, 349)

*Bracon errans* Nees, 1812: 19.

*Blacus errans*; Haeselbarth, 1973a: 139-141, figs. 61, 67, 74; 1975a: 30-31; Tobias, 1976: 116.

*Blacus (Bacus) errans*; Van Achterberg, 1976: 241.

*Blacus vagans* Ruthe, 1861: 155.

Parasite of Melyridae (*Dasytes* sp.), Scolytidae and Cerambycidae (Tobias, 1976: 116). Known from Europe (Austria, Czechoslovakia, Denmark, East Germany, England, Finland, Hungary, Italy, Netherlands (Waarder, Nunspeet, Oostvoorne (dunes)), Sweden, Switzerland, U.S.S.R. (European part), West Germany).

***Blacus (Blacus) evilectus* spec. nov.**

(figs. 284-291)

Material. — Holotype, ♀, (MAC); "Congo Belge: Ruanda, Ruhengeri (Sources Kirii), 1800-1825 m, 31.viii.1934, G.F. de Witte: 562", "H. De Saeger det. 1946: *Blacus evilectus* D S., Holotype, ♀" [MS-name]; 1 paratype, ♀, (RMNH): "Congo Belge: P.N.A., Rweru [Zaire, Rwese?], (Volc. Mikeno, 2400 m, (Bambous), 26 au 27-vii-1934, G.F. de Witte: 502", "antenne W. 356", "ailes W 357", head missing.

Holotype, ♀, length of body and of fore wing both 1.6 mm.

Head. — Antennal segments 17, antenna somewhat widened apically (fig. 287), length of third, fourth and penultimate segments 2.9, 1.8, and 1.7 times their width, respectively (fig. 287); length of maxillary palp 0.8 times height of head; OOL : diameter of ocellus : POL = 16:4:15; length of eye in dorsal view 0.7 times temple (fig. 286); face punctulate; malar suture absent; length of malar space 1.3 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides rugose ventrally, largely smooth dorsally; precoxal sulcus shallow, with some weak and oblique rugulae (fig. 287); notauli completely absent, except for a depression posteriorly (fig. 291); mesoscutal lobes rather convex, sparsely setose; scutellum smooth, its lateral carina absent; propodeal tubercles virtually absent; surface of propodeum reticulate, its medial area absent (fig. 287).

Wings. — Fore wing: first discal cell acute anteriorly; 1-CU1 : 2-CU1 = 6:9; parastigma small (fig. 284); 2-M completely unsclerotized.

Legs. — Hind coxa with some oblique rugae dorso-basally; length of femur, tibia, and basitarsus of hind leg 4.8, 10, and 8.5 times their width, respectively.

Metasoma. — Length of first tergite 1.8 times its apical width, longitudinally rugose-reticulate, medio-posteriorly with smooth knob, dorsal carinae distinct close to apex of tergite (fig. 288); second tergite with some wrinkles, rest smooth; length of ovipositor sheath 0.25 times fore wing, 0.8 times hind tibia.

Colour. — Dark brown; second to fifth antennal segments, palpi, legs, and

tegulum apically, humeral plate, light yellowish; tarsi apically slightly infuscated; pterostigma brown; wing membrane subhyaline.

Variation. — Length of fore wing of both specimens 1.6 mm, length of first metasomal tergite 1.7-1.8 times its apical width and length of ovipositor sheath 0.25-0.26 times fore wing.

Note. Aberrant species, because of the reduction of the notauli.

**Blacus (Blacus) exilis** (Nees)  
(figs. 197-202, 316, 317, 324-326, 369-372)

*Bracon exilis* Nees, 1812: 19.

*Blacus exilis*; Haeselbarth, 1973a: 157-161, figs. 79-81, 86-88, 116, 121; 1973b: 80; 1975a: 31; Tobias, 1976: 115; Marsh, 1979: 266-267.

*Blacus (Blacus) exilis*; Van Achterberg, 1976: 233-234.

*Aphidius lactucaphis* Fitch, 1855: 840.

*Miocolus pallipes* Foerster, 1862: 237.

*Blacus nanus* Ashmead, 1905: 294, nom. nudum.

*Blacus propallipes* Shenefelt, 1969: 23.

*Blacus intermedius* Janzon, 1975: 137-138, fig. 1, **syn. nov.**

A very variable Holarctic species, which belongs to a group of very closely related species (the *exilis*-complex). It seems to be a rule in this species that the often exceptionally small specimens (length of fore wing 1.2-1.8 mm) possess a comparatively short ovipositor (its sheath usually 0.15 times fore wing or shorter) and a rather robust first metasomal tergite (fig. ) compared with larger and more typical specimens of *exilis* (length of fore wing upto 2.7 mm). *Blacus intermedius* Janzon (holotype examined: ♀, (NR), "Sdm, Aby Kvarn, 1/12. 1974, L-Å. Janzon") is an example of such a small *exilis* var. A of Haeselbarth, 1973a and therefore synonymized. Haeselbarth (1973d) recognized two varieties (A and B), the typical form and an intermediate variety (C). I have seen intermediates to most of the species of the *exilis*-complex (especially to *filicornis*) but I hesitate to synonymize the Nearctic *rufipes* and *asaphus*, as well the Palaearctic *filicornis* and *leptostigma* with *exilis*, also the biology seems to be very diverse. There are host records of Scolytidae, Curculionidae, Anobiidae, all associated with bark-living Coleoptera, from hosts in cones of Coniferae, or even Cecidomyiidae and it is likely several morphologically very similar species are involved.

Known from Europe (Austria, Belgium, Bulgaria, Czechoslovakia, Denmark, East Germany, England, Finland, France (on *Pinus sylvestris* L., Lorrin forest, Loiret), Greece, Hungary, Ireland, Italy, Netherlands (Asperen, De Bilt, Denekamp, Hulshorst, Melissant, Naaldwijk, Oostwold, Waarder), Por-

tugal (Madeira), Spain (Mallorca (RMNH), Sweden, Switzerland, Turkey, West Germany (from cones of *Picea* spec. (RMNH)), U.S.S.R. (Latviya to Azerbaidzhan and Kazakhstan), Mongolia (1850 m, Israel, and the Nearctic region: Canada (British Columbia, Ontario, Quebec) and U.S.A. (Alaska, Colorado (approx. 4000 m), Illinois, Iowa, New York, North Carolina, Wisconsin).

**Blacus (Blacus) filicornis** Haeselbarth  
(figs. 328, 355)

*Blacus filicornis* Haeselbarth, 1973a: 155-156, figs. 78, 85; 1975a: 31; Papp, 1983: 1142.  
*Blacus (Blacus) filicornis*; Van Achterberg, 1976: 240.

Very closely related to *exilis* and intermediates in shape of antenna occur. Known from Europe and Asia (Austria, Czechoslovakia, Denmark, East Germany, England, Finland, France (Vaucluse, Cucuron, 2.X.1985, M.J. Gijswijt), Hungary, Ireland, Italy, Mongolia, Romania, Sweden, U.S.S.R. (Latviya to Kazakhstan)).

**Blacus (Blacus) forticornis** Haeselbarth  
(fig. 360)

*Blacus forticornis* Haeselbarth, 1973a: 126-127, fig. 48; 1975a: 30.  
*Blacus (Blacus) forticornis*; Van Achterberg, 1976: 242.

A seldomly collected species known from Europe only (Denmark, England, Hungary, Poland (Jaroslav district)). It is not possible to separate its male with certainty from *humilis*.

**Blacus (Blacus) hastatus** Haliday  
(figs. 336, 338)

*Blacus hastatus* Haliday, 1935: 21; Haeselbarth, 1973a: 137-138, figs. 57, 58; 1975a: 30; Hellén, 1974: 16; Tobias, 1976: 113.  
*Blacus (Blacus) hastatus*; Van Achterberg, 1976: 240.  
*Blacus terebrator* Ruthe, 1861: 142.

In the Haliday Collection (NMI) only one ♀ found, here designated lectotype: "6 June, N. Forest", "5a", "Box 8 AWS/British Haliday 20.2.82", "Blacus

hastatus Hal., Type!, A.W.S., 1.6.1936 / As I read the label it is "b. June, N. Forest", AWS". The lectotype agrees with the usual interpretation.

Probably a parasite of coleopterous larvae in tree-mushrooms but also reported from *Stereonychus fraxini* De Geer, a Curculionidae associated with leaves of *Fraxinus*. Known from Europe (Austria, Czechoslovakia, Denmark, East Germany, England, Finland, Hungary, Ireland, Netherlands (Hulshorst, Meijendel (dunes), Oostvoorne (id.), Waarder, Wijster), Scotland, Sweden, West Germany).

**Blacus (Blacus) hostilis** Haeselbarth  
(figs. 350, 352)

*Blacus hostilis* Haeselbarth, 1973a: 143-144, figs. 62, 75.

*Blacus (Blacus) hostilis*; Van Achterberg, 1976: 241.

Only known from the type-series in the Foerster Collection, probably from the surroundings of Aachen (West Germany).

**Blacus (Blacus) humilis** (Nees)  
(figs. 239-254, 364, 365, 1236)

*Bracon humilis* Nees, 1812: 19, fig.

*Blacus humilis*; Haeselbarth, 1973a: 128-130, figs. 46, 51, 55; 1975a: 30; Hellén, 1974: 16; Tobias, 1976: 116.

*Blacus (Blacus) humilis*; Van Achterberg, 1976: 235-237, figs. 396-432; Marsh, 1979: 267.

*Blacus trivialis* Haliday, 1835: 122.

*Blacus wesmaeli* Ruthe, 1861: 146-147; Van Achterberg, 1976: 251, **syn. nov.**

A common parasite of Cryptophagidae in *Scleroderma*-mushrooms, further reported from Scolytidae and Anobiidae as well from Curculionidae-Meciniinae associated with leaves and flowers of herbs (Tobias, 1976: 116). Known from Europe (Austria (upto 2000 m), Belgium, Bulgaria, Cyprus, Czechoslovakia, Denmark, England, Finland, France, Hungary, Ireland, Italy, Yugoslavia, Netherlands (Drunen, Ede (G.), 't Harde, Otterlose Bos, Putten (G.), Rhenen), Poland, Portugal (Madeira), Sweden, Switzerland, U.S.S.R. (Latviya, Transcaucasus), Wales, West Germany) and the Nearctic region: Canada (Alberta, British Columbia, North West Territories, Quebec, Saskatchewan), U.S.A. (Alaska, Arizona (ca. 1800 m), California, Colorado, New Hampshire, New York, North Carolina, Oregon, West Virginia, Wisconsin) and Mexico (between 2100-2700 m).



Note. In 1861 Ruthe described *Blacus wesmaeli* in a curious way as a variety of his *B. brevicornis* Ruthe, 1861 (= *B. paganus* Haliday, 1835) as follows: "Ich hielt diese Varietät für *Bl. humilis* Wesm. (und kan diese Vermuthung auch noch nicht aufgeben), und nannte sie in meiner Sammlung *Bl. wesmaeli*, weil ich mich für überzeugt hielt und noch halte, dass *Bl. humilis* Ns. eine andere, wenn auch sehr nahe verwandte Art ist". As pointed out above Ruthe based *B. wesmaeli* on Wesmael's description of *humilis* and on his own material, a ♀ from the surroundings of Danzig (Gdansk) collected by Brischke. Since Ruthe's specimen could not be found in his collection (BMNH) (information kindly supplied by Mr. T. Huddleston), there only remains Wesmael's series as a basis for the description. The series of *Blacus humilis* Nees, 1812 sensu Wesmael, 1835 agrees with the current usage of the taxon as established by the designation of the neotype of Haeselbarth (1973a: 129). To fixate the name *Blacus wesmaeli* Ruthe, 1861 I designate here a ♀ in the Wesmael Collection (Brussels) as lectotype. It bears the labels "1807", "Coll. Wesmael", "♂ *Blacus* ♀ *humilis* N. V. Es., det. C. Wesmael", "Type", "R. Mus. Hist. Nat. Belg. 3.317".

***Blacus (Blacus) imitator* Papp**  
(figs. 374, 377, 378)

*Blacus (Blacus) imitator* Papp, 1985A: 228, figs. 1-4.

Material. — Holotype, ♀, (MAC): "India, Jammu & Kashmir, Srinagar, 1500 m", "No. 405, 26.v.1967, leg. Topál", "Holotypus ♀ *Blacus (B.) imitator* sp. n., Papp 1985/17", "Hym. Typ. No. 7017, Mus. Budapest".

The holotype has comparatively slender antenna (fig. 377) and unicolorous, length of malar space equal to basal width of mandible, malar suture absent, scutellar sulcus rather crenulate laterally, parastigma wide and first discal cell widely truncate anteriorly (fig. 374), hind leg rather slender (fig. 378), propodeal spiracles minute, propodeum rugulose, length of first metasomal tergite 1.9 times its apical width, length of ovipositor sheath 0.43 times fore wing and 1.2 times hind tibia, length of fore wing 2.1 mm.

***Blacus (Blacus) inopinus* Van Achterberg**  
(figs. 269-275)

*Blacus (Blacus) inopinus* Van Achterberg, 1976: 242-243, figs. 433-439.

Known from Zaïre (Shaba: Kanyabayongo (Kabasha), 1760 m (MAC)). A

male from S. Africa (Port St. John (BMNH)) may belong here. In addition I have examined 2 ♀ from Niger ((WCAM, RMNH): Maradi, Tarua goulbin, Malaise trap, 1-5 Sept. 1985, G.J. Steck) which have mesosoma and dorsal basal half of metasoma brownish-yellow and ventral basal half of metasoma whitish.

**Blacus (Blacus) instabilis** Ruthe  
(figs. 354, 359)

*Blacus instabilis* Ruthe, 1861: 149; Haeselbarth, 1973a: 153-155, figs. 77, 84; 1975a: 31; Tobias, 1976: 115; Papp, 1983: 442 & 1985a: 229-230, figs. 5-7.  
*Blacus (Blacus) instabilis*; Van Achterberg, 1976: 240.  
*Blacus petiolatus* Haeselbarth, 1973a: 153, nom. nudum.

Parasite of coleopterous larvae in stored products. Known from Europe and Asia (Austria, Bulgaria (1730 m), Czechoslovakia, Denmark, East Germany, England, Finland, Hungary, Ireland, Mongolia, Norway, Poland, Scotland, Sweden, Switzerland, Turkey, U.S.S.R. (Latviya, Usbekistan, Turkmenia), West Germany).

**Blacus (Blacus) interstitialis** Ruthe  
(figs. 331, 335)

*Blacus interstitialis* Ruthe, 1861: 150; Haeselbarth, 1973a: 135-136, figs. 59, 63; 1975a: 30.  
*Blacus (Blacus) interstitialis*; Van Achterberg, 1976: 239.  
*Blacus oscinellae* Fischer, 1963: 206-208, figs. 9-11.

May be a parasite of Chloropidae, obviously associated with a host in Gramineae. Known from Europe (Austria, Czechoslovakia, Denmark, East Germany, Hungary, Netherlands (Appelscha (F.), Meijendel (dunes), Putten (G.), Waarder), Sweden, West Germany) and N. Africa (Morocco).

**Blacus (Blacus) leptostigma** Ruthe  
(figs. 310, 312, 314, 373)

*Blacus leptostigma* Ruthe, 1861: 152; Haeselbarth, 1973a: 161-162, fig. 122.  
*Blacus (Blacus) leptostigma*; Van Achterberg, 1976: 240.

Only known from East Germany and Ireland. According to Haeselbarth (1973a: 162) this species may be an aberrant form of *exilis* or *filicornis*.

**Blacus (Blacus) longicaudatus** Tobias  
(figs. 276-283)

*Blacus longicaudatus* Tobias, 1976: 116, 229-230.

Material. — Holotype, ♀, (ZIL): "Tsav, Armenia, forest, 30.VI.1971, Kuslitski".

Holotype, ♀, length of body and fore wing both 2.7 mm.

Head. — Antennal segments 17 and antenna not distinctly widened apically (fig. 277), length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 3.8, 3, and 1.5 times their width, respectively (fig. 277); length of maxillary palp 0.9 times height of head; OOL : diameter of ocellus : POL = 8:2:6; length of eye in dorsal view 0.8 times temple (fig. 278); face smooth; malar suture absent; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides medially crenulate, ventrally and posteriorly reticulate-rugose, rest smooth; precoxal sulcus complete, more or less transversely reticulate-rugose (fig. 277); notauli wide, distinctly crenulate (fig. 276); mesoscutal lobes rather flat, and rather evenly setose; scutellum punctulate, and posteriorly narrowly reticulate, its lateral carina irregular, weak and complete (fig. 276); propodeal tubercles small, cariniform (fig. 277); surface of propodeum coarsely reticulate, its medial area absent.

Wings. — Fore wing: first discal cell narrowly truncate anteriorly; 1-CU1 : 2-CU1 = 2:15; parastigma rather small (fig. 280); 2-R1 absent.

Legs. — Hind coxa finely and densely rugose; length of femur, tibia, and basitarsus of hind leg 5.6, 11.2, and 9.5 times their width, respectively.

Metasoma. — Length of first tergite 1.7 times its apical width, coarsely reticulate, dorsal carinae distinct in basal two-third (fig. 281); second tergite smooth but apically (as following tergites and sternites) shallowly punctate (fig. 277); length of ovipositor sheath 0.97 times fore wing.

Colour. — Dark reddish-brown; first tergite and apex of metasoma blackish; pterostigma (light) brown; basal half of antenna, face, clypeus, mandibles, palpi, legs (hind leg completely), and tegulae, more or less reddish-yellow; wing membrane slightly infuscated.

**Blacus (Blacus) longipennis** (Gravenhorst)  
(figs. 322, 323, 363, 366)

*Ophion longipennis* Gravenhorst, 1809: 268.

*Blacus longipennis*; Haeselbarth, 1973a: 130-132, figs. 47, 52, 56; 1975a: 30; Hellén, 1974: 16.  
*Blacus (Blacus) longipennis*; Van Achterberg, 1976: 386, 387.  
*Blacus dubius* Ruthe, 1861: 156.

Parasite of Anobiidae. Known from Europe (Austria (up to 1400 m), Bulgaria (Rhodopi Mts.), Czechoslovakia, Denmark, England, Finland, Hungary, Ireland, Netherlands (Putten (G.), Waarder, Vogelenzang), Norway, Poland, Scotland, Sweden, U.S.S.R. (Krasnodarskij district), West Germany).

***Blacus (Blacus) maryi* Hellén**  
 (figs. 160-171, 357)

*Blacus maryi* Hellén, 1958: 23; Haeselbarth, 1973a: 152-153, fig. 83; 1975a: 31.  
*Blacus (Blacus) maryi* forma *maryi*; Van Achterberg, 1976: 227-228, figs. 306-311; Marsh, 1979: 267.  
*Blacus nidicola* Hedqvist, 1974: 185-185, figs. 1A-D.  
*Blacus (B.) maryi* forma *nidicola*; Van Achterberg, 1976: 226-227, figs. 300-305; Marsh, 1979: 267.

The typical form (stematicum and face dorsally smooth) is known from Europe (Austria, Finland, Italy (2200 m, collected on alpine meadow), Switzerland) and the Nearctic region: Canada (Alberta; British Columbia (1200 m)) and U.S.A. (Colorado, ca. 2900 m).

The form *nidicola* (stematicum and face dorsally punctate-rugose) is known from Sweden (Lapland, in nest of *Bombus lapponicus* F.) and the Nearctic region: Canada (Manitoba; Yukon Territory).

***Blacus (Blacus) masoni* Van Achterberg**  
 (figs. 232-238)

*Blacus (Blacus) masoni* Van Achterberg, 1976: 235, figs. 378-384; Marsh, 1979: 267; Sarazin, 1985: 1185.

The biology is unknown, but has been reared from *Bombus*-nest in Canada. Known from Canada (Alberta, British Columbia, Manitoba, Quebec) and U.S.A. (California (Siskiyou Co., ca. 1800 m, CAS), Colorado, Wisconsin).

***Blacus (Blacus) modestus* Haeselbarth**  
 (figs. 315, 318, 319)

*Blacus modestus* Haeselbarth, 1973a: 132-133, figs. 49, 54; 1975a: 30.

*Blacus (Blacus) modestus*; Van Achterberg, 1976: 241.

A seldomly collected species, known from Europe (Austria, Bulgaria (Rhodopi Mts.), Denmark, West Germany).

***Blacus (Blacus) nivalis* spec. nov.**

(figs. 302-309, 311, 313)

Material. — Holotype, ♀, (Museo Insular de Ciencias Naturales, Santa Cruz de Tenerife): "Canary Isl.: Tenerife, on snowfield at Mt. Teide, 26.II.1984, N.P. Ashmole, RMNH'86". Paratype, 1 ♀, (RMNH), topotypic, but 15.II.1984.

Holotype, ♀, length of body and of fore wing both 1.7 mm.

Head. — Antennal segments 17, antenna somewhat widened apically (fig. 302), length of third, fourth and penultimate segments 3.5, 2.5, and 1.2 times their width, respectively (figs. 302, 304); length of maxillary palp 0.6 times height of head; frons smooth, largely glabrous; OOL : diameter of ocellus : POL = 14:5:15; length of eye in dorsal view 1.2 times temple (fig. 306); face smooth; malar suture absent; length of malar space twice basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides smooth dorsally and medially, rugose anteriorly and with some crenulae posteriorly (fig. 302); precoxal sulcus smooth, shallowly impressed (fig. 302); notauli smooth, distinct anteriorly and obsolescent posteriorly (fig. 313); mesoscutal lobes rather convex, and sparsely setose; scutellum smooth, its lateral carina absent; propodeal tubercles minute, indistinct (fig. 302); surface of propodeum largely smooth anteriorly, with some superficial sculpture (fig. 313).

Wings. — Fore wing: first discal cell acute anteriorly (fig. 303); 1-CU1 : 2-CU1 = 1:8; parastigma small (fig. 303); 2-M absent, only as unpigmented trace (fig. 303); marginal cell longer than of *instabilis* (figs. 303, 354); r about as long as width of pterostigma; 2-R1 absent; SR1 slightly curved (fig. 303).

Legs. — Hind coxa smooth, except for an oblique carina (fig. 302); length of femur, tibia, and basitarsus of hind leg 5.4, 10.3, and 7 times their width, respectively (figs. 307, 309).

Metasoma. — Length of first tergite 1.4 times its apical width, largely smooth, but longitudinally rugose medio-posteriorly (fig. 305), dorsal carinae distinct and close to apex of tergite; second tergite smooth as remainder of metasoma; length of ovipositor sheath 0.19 times fore wing, 0.8 times hind femur and 1.6 times first tergite.

Colour. — Black or blackish brown; antenna (except pedicellus, and annellus), hind coxa largely and metasoma (after first tergite), dark brown; fore and middle femora basally, hind femur largely, tibiae (except base), fore and middle tarsi, and hind telotarsus, more or less infuscated; annellus and palpi yellowish; wing membrane slightly infuscated.

Variation. — Length of fore wing 1.6-1.7 mm, length of first metasomal tergite 1.3-1.4 times its apical width and length of ovipositor sheath of both specimens 0.19 times fore wing.

Note. Closely related to *leptostigma* but *leptostigma* has more slender hind femur (fig. 310), first tergite extensively sculptured (fig. 314), third antennal segment more robust (about 3 times its width, fig. 312), eye somewhat larger (fig. 312), wider marginal cell of fore wing (fig. 373), vein cu-a of fore wing more distally situated (fig. 373) and (sparsely) sculptured precoxal sulcus.

**Blacus (Blacus) nigricornis** Haeselbarth  
(figs. 332, 337, 339)

*Blacus nigricornis* Haeselbarth, 1973a: 141-142, figs. 65, 68, 73; 1975a: 31.

*Blacus (Blacus) nigricornis*; Van Achterberg, 1976: 241.

Parasite of Nitidulidae (*Meligethes* sp.). Known from Europe (Czechoslovakia, England, France, Hungary, Ireland, Italy, Netherlands (Asperen, Leiden, Meijendel (dunes), Oostvoorne (id.), Putten (G.), Rijs (F.), St. Pietersberg, Wijster), Sweden) and Asia Minor (Turkey).

**Blacus (Blacus) paganus** Haliday  
(figs. 262-268, 320, 321, 351, 356, 1228)

*Blacus paganus* Haliday, 1835: 122, Haeselbarth, 1973a: 124-125, figs. 53, 117; 1975a: 30; Hellén, 1974: 16; Tobias, 1976: 116; Papp, 1983: 442.

*Blacus (Blacus) paganus*; Van Achterberg, 1976: 238-239, figs. 371-377, 388, 389; Marsh, 1979: 267.

*Blacus brevicornis* Ruthe, 1861: 146.

In the Haliday Collection (NMI) are 8 ♀ and 4 ♂ of *B. paganus*; 2 ♀ are excluded (from box 28). One ♀ is here designated lectotype; from box 8 with a label written by Haliday "June 15, 1834", and it is a specimen from Ireland. Paralectotypes (all box 8): 2 ♂ + 1 ♀ on one card, 2 ♂ separately mounted, 1 ♀ dissected on a card and with "Bl. paganus" in Haliday's handwriting and 3 ♀, all most likely from Ireland. The lectotype agrees with the usual interpretation.

Biology unknown but once collected from *Bombus*-nest together with *Antherophagus nigricornis* (F.) (Cryptophagidae). Known from Europe (Austria (up to 1400 m), Bulgaria (Rhodopi Mts.; Rila Mts., upto 1800 m), Czechoslovakia, Denmark, East Germany, Finland, France, Hungary, Ireland, Italy (upto 1350 m), Netherlands (Nunspeet, Waarder, Wijster), Sweden, U.S.S.R. (Latviya, Gruzinskaja S.S.R.), West Germany (Mainz (CNC)), Mongolia, and the Nearctic region: Canada (Alberta, British Columbia, Manitoba, Quebec) and U.S.A. (Georgia, North Carolina).

**Blacus (Blacus) pappianus** Haeselbarth  
(figs. 329, 340, 343-345, 1237)

*Blacus pappianus* Haeselbarth, 1973a: 148-149, figs. 70, 71, 91, 115, 119; 1975a: 31.  
*Blacus (Blacus) pappianus*; Van Achterberg, 1976: 240.

A seldomly collected species, known from Europe (Austria, Hungary, Italy, Spain (Torremolinos, Canary Islands (RMNH)), U.S.S.R. (Ukraina)).

**Blacus (Blacus) procerus** Haeselbarth  
(figs. 347, 348)

*Blacus procerus* Haeselbarth, 1973a: 149-150, figs. 72, 82.  
*Blacus (Blacus) procerus*; Van Achterberg, 1976: 241.

A seldomly collected species, known from Europe (Czechoslovakia) and Asia (Kazakhstan).

**Blacus (Blacus) radialis** Haeselbarth  
(figs. 353, 1227)

*Blacus radialis* Haeselbarth, 1973a: 126, fig. 50.  
*Blacus (Blacus) radialis*; Van Achterberg, 1976: 241-242.

Known from South Palaearctic area (U.S.S.R. (Kazakhstan), Nepal (1800-2700 m)) and Japan (Nagano Pref., Shimashima-dani, 1300-1600 m (ELF)).

**Blacus (Blacus) rufescens** Ruthe  
(figs. 327, 330, 334)

*Blacus rufescens* Ruthe, 1861: 141; Haeselbarth, 1973a: 147-148, figs. 90, 118, 120.

*Blacus (Blacus) rufescens*; Van Achterberg, 1976: 239.  
*Blacus spinifer* Thomson, 1892: 1735.

A seldomly collected species, known from Europe (Austria, Denmark, Yugoslavia, Netherlands (Waarder), Romania, Sweden, West Germany).

**Blacus (Blacus) rufipes** (Ashmead)  
(figs. 191-196)

*Dimeris rufipes* Ashmead, 1889: 626.  
*Blacus (Blacus) rufipes*; Van Achterberg, 1973a: 232, figs. 346-351; Marsh, 1979: 267.

Belongs to the *exilis*-complex and differs only by small differences in the convexity, shape and sculpture of first metasomal tergite; see note under *exilis*. Known from Canada (Saskatchewan) and U.S.A. (Indiana).

**Blacus (Blacus) stelfoxi** Haeselbarth  
(figs. 292-301, 346)

*Blacus stelfoxi* Haeselbarth, 1973a: 144-145, figs. 64, 66, 76; 1973b: 79; 1975a: 31; Hellén, 1974: 16.  
*Blacus (Blacus) stelfoxi*; Van Achterberg, 1976: 241.

A seldomly collected species, known from Europe (Austria, Bulgaria (Stoikite), Finland, France (Bagnols, Var, on *Salix* (RMNH)), Greece, Hungary, Netherlands (Brummen (Voorstonden), Waarder, Weesp), Sweden (from *Corylus* twig (CH)), West Germany (from *Quercus* (RMNH)) and Mongolia (1450 m).

**Blacus (Blacus) subquadratus** Papp

*Blacus subquadratus* Papp, 1971: 307; Haeselbarth, 1973a: 156-157; 1973b: 80.  
*Blacus (Blacus) subquadratus*; Van Achterberg, 1976: 240.

Only holotype from Mongolia known.

**Blacus (Blacus) tobiae** Haeselbarth  
(fig. 358)

*Blacus tobiae* Haeselbarth, 1973a: 162-163, fig. 89.  
*Blacus (Blacus) tobiae*; Van Achterberg, 1976: 240.

Only known from S. U.S.S.R. (Kazakhstan, Turkmenia).



Subgenus **Contochorus** Van Achterberg  
(figs. 379-418)

*Blacus* subgenus *Contochorus* Van Achterberg, 1976: 195.

Type-species: *Blacus glaber* Van Achterberg, 1976 (by monotypy). Gender: neuter.

Diagnosis. — Antennal segments of ♀ 17-23, of ♂ 16-29; eyes conspicuously setose (fig. 382); occipital carina complete, strong; malar suture present (fig. 397); precoxal sulcus smooth or with some crenulae (figs. 381, 386); notauli complete; scutellar sulcus with medio-longitudinal carina; scutellum smooth and its lateral carina complete; dorsal face of propodeum distinctly longer than posterior face (figs. 381, 391); propodeum without tubercles, at most carina somewhat protruding medio-posterior; propodeal medial area small rectangular, about as long as wide or somewhat longer (figs. 385, 391, 402); parastigma medium-sized (fig. 388); vein 1-SR of fore wing absent, first discal cell narrowly to widely truncate anteriorly (figs. 379, 388); vein M+CU of hind wing subequal or shorter than 1-M; fore claws of ♀ with blackish bristles (fig. 411); hind tibia gradually narrowed basally; second metasomal tergite at most sparsely punctate (fig. 392); hypopygium medium-sized (fig. 386); length of ovipositor sheath about 0.1 times fore wing; length of fore wing 1.5-2.5 mm.

Biology. — Unknown.

Contains four species, two species from Nepal (one also from Thailand and India) and two species from the Oriental region.

Key to species of the subgenus *Contochorus*

1. Antennal segments 21-23 (♀, fig. 386; unknown of *mellitarsis*) or 27-29 (♂); medial area of propodeum rectangular somewhat longer than wide (figs. 391, 402, 418); middle lobe of mesoscutum with subhorizontal, strong or crestlike carina at both sides anteriorly (figs. 386, 396, 407); lateral carina of scutellum strongly protruding apically (figs. 386, 396); middle claw of ♀ only setose (fig. 394) ..... 2
- Antennal segments of ♂ 16, of ♀ 17 (fig. 381); medial area of propodeum quadrangular, its height subequal to its width (fig. 385); middle lobe of mesoscutum without strong carina anteriorly (fig. 381); lateral carina of scutellum slightly protruding apically (fig. 381); middle claws of ♀ with blackish bristles (cf. fig. 393) ..... *glaber* Van Achterberg
2. Lateral carina of middle lobe of mesoscutum crest-like and protruding (figs. 404, 410); first discal cell of fore wing narrowly truncate anteriorly (figs. 398, 408); eye of ♀ in dorsal view 1.7-2.1 times temple (figs. 399,

- 417); notauli wide anteriorly (figs. 404, 410); conspicuously crenulate behind prepectal carina (fig. 407) ..... 3
- Lateral carina of middle lobe of mesoscutum moderately strong and not protruding (fig. 391); first discal cell of fore wing widely truncate anteriorly (fig. 388); length of eye of ♀ in dorsal view 1.3-1.6 times temple (fig. 390); notauli comparatively narrow (fig. 391); area behind prepectal carina less conspicuously crenulate (fig. 386) ..... *turbidus* Papp
  - 3. Vein M+CU of hind wing subequal to vein 1-M (fig. 398); tarsi whitish-yellow; eye of ♀ in dorsal view approx. 1.7 times temple (fig. 399); hind tarsus of ♀ as long as hind tibia (fig. 405) ..... *epomidus* spec. nov.
  - Vein M+CU of hind wing distinctly shorter than vein 1-M (fig. 408); tarsi (pale) brownish-yellow; eye of ♀ in dorsal view approx. 2.1 times temple (fig. 417); hind tarsus of ♀ somewhat shorter than hind tibia (fig. 416) ..... *mellitarsis* spec. nov.

***Blacus (Contochorus) epomidus* spec. nov.**  
(figs. 396-406)

Material. — Holotype, ♀, (UZM): "Philippines, Palawan, Mantalingajan, Tagembung, 1150 m., 16 Sept. 1961, Noona Dan Exp. 61-62". Paratypes, 3 ♂ (UZM, RMNH); topotypic, 16, 17 and 19 September, 1961, respectively.

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

Head. — Antennal segments 23, length of third segment 1.6 times fourth segment, length of third, fourth and penultimate segments 4, 2.5, and 1.3 times their width, respectively (figs. 396, 401); length of maxillary palp 0.9 times height of head; OOL : diameter of ocellus : POL = 5:4:7; length of eye in dorsal view 1.7 times temple (fig. 399); face smooth; area above antennal sockets with carina (fig. 399); length of malar space 1.5 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.2 times its height; lateral carina of middle lobe of mesoscutum crest-like and protruding (fig. 396); pronotal sides coarsely reticulate ventrally, dorsally smooth (fig. 396); area behind prepectal carina conspicuously crenulate coarsely (fig. 396); precoxal sulcus with four short crenulae (fig. 396); notauli wide anteriorly, crenulate (fig. 404); mesoscutal lobes rather convex, evenly setose; scutellum smooth, its lateral carina lamelliform, and strongly protruding apically (fig. 396); surface of propodeum smooth between carinae, its medial area narrow rectangular, slightly widened dorsally (fig. 402).

Wings. — Fore wing: first discal cell narrowly truncate anteriorly; 1-CU1 :

2-CU1 = 5:12; parastigma medium-sized (fig. 398). Hind wing: M+CU subequal to 1-M.

Legs. — Hind coxa with oblique carina and microsculptured; length of femur, tibia, and basitarsus of hind leg 5.5, 12.5, and 7.7 times their width, respectively; fore claws with blackish bristles and teeth (fig. 400); middle and hind claws simple (figs. 403, 406).

Metasoma. — Length of first tergite 2.3 times its apical width, reticulate medially, longitudinally striate laterally, dorsal carinae distinct in basal 0.9 (fig. 402); second tergite shallowly punctate, rest smooth; length of ovipositor sheath 0.10 times fore wing.

Colour. — Dark brown; metasoma (except first tergite) yellowish-brown; fore and middle femora apically, and tibiae mainly yellowish-brown; all tarsi mainly whitish-yellow; clypeus, labium, antenna (except scapus), antennal sockets, palpi and pterostigma brown; wing membrane slightly infuscated.

Variation. — Males very similar to female, antennal segments 28(1) or 29(1); length of fore wing 2.1-2.5 mm.

**Blacus (Contochorus) glaber** Van Achterberg  
(figs. 379-385)

*Blacus (Contochorus) glabrum* Van Achterberg, 1976: 196, figs. 134-140.

The male has a large parastigma and first discal cell more truncate than the female. Known from Nepal (ca. 600-1900 m).

**Blacus (Contochorus) mellitarsis** spec. nov.  
(figs. 407-418)

Material. — Holotype, ♀, (BPBM): "North Borneo, Liawan, 14-17.I.1959", "T.C. Maa, Collector BISHOP".

Holotype, ♀, length of body 1.9 mm, of fore wing 2 mm.

Head. — Remaining antennal segments 17 (at least apical segment missing), length of third segment 1.9 times fourth segment, length of third and fourth segments 4.2 and 2.2 times their width, respectively (figs. 407, 409); length of maxillary palp about 0.6 times height of head (not well visible by glue); OOL : diameter of ocellus : POL = 8:4:7; length of eye in dorsal view 2.1 times temple (fig. 417); face smooth; area above antennal sockets somewhat costate (fig. 417); length of malar space 0.6 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; lateral carina of middle lobe of mesoscutum crest-like and protruding (fig. 410); pronotal sides

crenulate posteriorly, coarsely reticulate anteriorly (fig. 407); area behind prepectal carina conspicuously crenulate (fig. 407); precoxal sulcus nearly complete and with three crenulae (fig. 407); notauli wide anteriorly, with few crenulae (fig. 410); mesoscutal lobes rather flat and glabrous; scutellum narrow and smooth, its lateral carina lamelliform and strongly protruding apically (fig. 407); surface of propodeum smooth between carinae, its medial area narrow but somewhat widened anteriorly (fig. 418).

Wings. — Fore wing: first discal cell narrowly truncate anteriorly (fig. 408); 1-CU1 : 2-CU1 = 5:12; parastigma medium-sized (fig. 408). Hind wing: M+CU shorter than 1-M (fig. 408).

Legs. — Hind coxa with strong oblique carina dorsally (fig. 416); length of femur, tibia, and basitarsus of hind leg 5.2, 9.2 and 7 times their width, respectively; fore claws with blackish bristles and teeth (fig. 411); middle and hind claws simple (figs. 412, 413).

Metasoma. — Length of first tergite 2.5 times its apical width, with some striae laterally and between dorsal carinae transversely costate (fig. 418), dorsal carinae distinct in basal 0.9 (fig. 418); second tergite only with some setiferous punctures; length of ovipositor sheath 0.12 times fore wing.

Colour. — Blackish to dark chestnut brown; pterostigma brown; antenna (but annellus light brown), tegulae, coxae, middle and hind femora, hind tibia, and metasoma behind first tergite, dark brown; tarsi largely brownish-yellow; remainder of legs yellowish-brown; wing membrane subhyaline.

***Blacus (Contochorus) turbidus* Papp**  
(figs. 386-395)

*Blacus (Ganychorus) turbidus* Papp, 1985a: 229-230, fig. 10.

Material. — Specimen figured and described, ♀, (CNC): Nepal, Ktm, Godavari, 6000'[ft], 1-3.VIII.1967, Mal. Tr., Can. Exp.". Additional specimens; 7 ♀ + 2 ♂, (BPBM, RMNH, CNC): 1 ♀, topotypic; 1 ♂: "Nepal, Ktm, Pulchauki, 7300'[ft], VIII-1-4, 1967, Mal. Tr., Can. Exp."; 1 ♀: "Thailand, Fang, 12-19.IV.1958", "T.C. Maa Collector Bishop Mus."; 2 ♀: "Thailand (NW): Chiangmai, Fang, 12-19.IV.1958", "T.C. Maa Collector Bishop"; 1 ♀: "Thailand, Chiangdao, 5-11.IV.1958", "T.C. Maa Collector Bishop Mus."; 1 ♂ + 1 ♀: "Thailand, Doi Suthep, 1-5.IV.1958", "T.C. Maa Collector Bishop Mus."; 1 ♀, paratype, (TMA): "India, Tamil Nadu, Coonoor, Nilgiri, Black Bridge Res. Forest, 2130 m", "No. 240, 14.III.1980, leg. Topál".

Figured specimen, ♀, length of body 2.1 mm, of fore wing 2.4 mm.

Head. — Antennal segments 23, length of third segment 1.8 times fourth segment, length of third, fourth and penultimate segments 5.5, 3, and 1.6 times their width, respectively (figs. 386, 387); length of maxillary palp 1.1 times height of head; area above antennal sockets with lamelliform carina (fig. );

OOL : diameter of ocellus : POL = 8:5:8; length of eye in dorsal view 1.4 times temple (fig. 390); face smooth; length of malar space 1.5 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; lateral carina of middle lobe of mesoscutum moderately strong and not protruding (figs. 386, 391); pronotal sides largely smooth dorsally, reticulate ventrally (fig. 386); area behind prepectal carina less conspicuously crenulate (fig. 386); precoxal sulcus complete, but only posterior two-third crenulate (fig. 391); notauli comparatively narrow, crenulate (fig. 391); mesoscutal lobes rather convex, and largely evenly setose; scutellum smooth, its lateral carina lamelliform, distinctly protruding apically (fig. 386); surface of propodeum smooth between carinae, its medial area rectangular (fig. 391).

Wings. — Fore wing: first discal cell widely truncate anteriorly (fig. 388); 1-CU1 : 2-CU1 = 3:11; parastigma rather large (fig. 388).

Legs. — Hind coxa with some oblique rugae, rest smooth; length of femur, tibia, and basitarsus of hind leg 6.1, 10.4 and 8.5 their width, respectively; fore claws with blackish bristles and teeth (fig. 393; middle and hind claws simple (fig. 394).

Metasoma. — Length of first tergite 2.5 times its apical width, reticulate, but laterally smooth, dorsal carinae complete (fig. 392); second tergite sparsely punctate; length of ovipositor sheath 0.11 times fore wing.

Colour. — Blackish to dark brown; palpi and labium, whitish; annellus, pedicellus, legs (but hind coxa basally, hind tibia, femur and basitarsus infuscated), tegulae, and metasoma (except first tergite) brownish(-yellow); pterostigma rather light brown; wing membrane slightly infuscated.

Variation. — Antennal segments of ♀ 21(2), 22(1) or 23(2), of ♂ 24(1); length of eye in dorsal view 1.3-1.6 times temple (♂♀); length of fore wing 1.8-2.4 mm; length of ovipositor sheath 0.10-0.12 times fore wing; parastigma and first discal cell of ♂ similar to ♀; tarsi pale or brownish-yellow but basitarsi infuscated or brown (however, hind tarsus unicolorous in types); hind femora brownish-yellow to blackish-brown; medial area of propodeum frequently more slender than figured.

#### Subgenus *Ganychorus* Haliday

(figs. 18, 19, 419-479, 482-801, 1222-1224)

*Ganychorus* Haliday, 1835: 39-40.

*Blacus* subgenus *Ganychorus*; Van Achterberg, 1976: 196-197.

Type-species: *Bracon ruficornis* Nees, 1812 (designation by Haliday, 1840). Gender: *masculine*.

Diagnosis. — Antennal segments of ♀ 15-25 (usually 19-21), of ♂ 16-26;

eyes usually glabrous, but sometimes with a few setae or distinctly setose (fig. 428); occipital carina complete, usually strongly developed; malar suture absent or present (figs. 428, 431); precoxal sulcus more or less crenulate striate (figs. 421, 432, 730, 767); notauli complete, but seldom completely absent (*insulcatus*) or largely reduced (*semisulcatus*); scutellar sulcus with medio-longitudinal carina; scutellum usually smooth, sometimes transversely rugose (fig. 748), its lateral carina well developed, complete, often lamelliform and more or less protruding apico-dorsally in several species (fig. 744); dorsal face of propodeum usually about as long as posterior face (fig. 421), but sometimes distinctly longer (fig. 703), usually largely smooth, and its carinae distinctly developed; propodeal tubercles absent, if present then minute (figs. 703, 706); medial area of propodeum absent, if seldom present then area narrow (fig. 639); parastigma small (figs. 444, 459, 534) to large (figs. 467, 492, 525); vein 1-SR of fore wing absent, seldom shortly developed (figs. 18, 419, 565); first discal cell acute to widely truncate anteriorly (figs. 419, 729); vein M+CU of hind wing usually shorter than vein 1-M, seldom equal or longer (figs. 419, 585, 687); fore claw of ♀ almost always (except *semisulcatus* and *mischocytus*) and usually also middle claws with blackish bristles and teeth (figs. 434, 435); hind tibia gradually narrowed basally; second metasomal tergite completely smooth or nearly so; hypopygium small to rather large (figs. 432, 730); length of ovipositor sheath 0.09-0.21 times fore wing; length of fore wing 1.7-4.5 mm.

**Biology.** — Parasites of Curculionidae (*armatulus*, *ruficornis*, *maculipes*), Staphylinidae (*ruficornis*), Cerambycidae (*errans*), Melyridae (*errans*) and Scolytidae (*errans*).

Contains 51 species, of which about two-third (35) occur in the Palaearctic and Oriental regions.

**Key to Palaearctic species of the subgenus *Ganychorus***  
(including Nepal; for Taiwan, see key to Oriental species)

1. Antennal segments of ♀ 15, of ♂ 16; (figs. 442, 443); posterior half of metasoma of ♀ depressed (cf. figs. 535, 544); base of second metasomal tergite with microstriae (cf. fig. 544); ovipositor short, scarcely protruding beyond metasoma and slightly bent upward . . . . . *strictus* Stelfox
- Antennal segments of ♀ 19-25, of ♂ 18-26; posterior half of metasoma of ♀ more or less compressed (fig. 421); second tergite usually smooth basally; ovipositor longer, distinctly protruding and slightly bent downward or straight . . . . . 2
2. Antennal segments of ♀ 23-25, of ♂ 24-26; length of fore wing 4.0-4.5

- mm; parastigma of ♂ enlarged ..... *pallipes* Haliday
- Antennal segments of ♀ 19-21, of ♂ 18-23; length of fore wing seldom exceeding 3.5 mm; parastigma of ♂ variable ..... 3
  - 3. Hind tibia largely infuscated, darker than yellowish base of hind coxa; middle claws of ♀ without blackish bristles (fig. 424); occipital carina subhorizontal dorsally (fig. 420); precoxal sulcus sparsely sculptured (fig. 421); (Nepal) ..... *pisinnus* spec. nov.
    - Hind tibia (except apex) yellowish as hind coxa, or if hind tibia largely (dark) brown then similarly coloured as hind coxae basally; middle claws of ♀ with blackish bristles (figs. 435, 510); if absent (*nitidus*) then occipital carina arched dorsally; precoxal sulcus usually extensively sculptured (figs. 432, 730) ..... 4
  - 4. Second and third metasomal tergites ivory or whitish-yellow; head yellowish-brown; surroundings of vein r of fore wing infuscated (fig. 429); pterostigma largely dark brown; hind femur somewhat infuscated; antennal segments of ♀ 21; first discal cell of fore wing rather truncate anteriorly (fig. 429); (Nepal) ..... *fulviceps* spec. nov.
    - Second and third tergites yellowish-brown, (dark) brown or black; head reddish-brown to black, exceptionally yellowish-brown; surroundings of vein r of fore wing subhyaline; if infuscated, then pterostigma yellowish; hind femur variable, if infuscated then ♀ usually with 20 antennal segments and first discal cell of fore wing acute anteriorly (figs. 455-457, 474) ..... 5
  - 5. Middle claws of ♀ without blackish bristles or teeth; body completely black (in fresh specimens) and hind femur completely yellowish; antennal segments of ♂ 23-24, long setose and parastigma of ♂ normal; hind coxa completely yellowish ..... *nitidus* Haeselbarth
    - Middle claws of ♀ with blackish bristles or teeth (fig. ); body at least partly dark brown; if blackish, then hind femur partly dark brown or blackish; antennal segments of ♂ 19-23; if 22 or 23, then parastigma of ♂ enlarged and wide (fig. 458); hind coxa variable ..... 6
      - Note. If minute propodeal tubercles are present, cf. subgenus *Hystero-bolus*.
  - 6. First metasomal tergite parallel-sided (fig. 750) and scutellum distinctly transversely rugose (fig. 748); length of malar space about 2.5 times basal width of mandible (fig. 446); lateral carina of scutellum rather spiniform protruding (fig. 744); (♂ unknown) ..... *armatulus* Ruthe
    - First tergite widened apically (figs. 472, 515, 727), or if parallel-sided then scutellum smooth; length of malar space 1.2-2.1 times basal width of mandible (figs. 515, 724); lateral carina of scutellum less spiniform (figs.

- 506, 723) ..... 7
7. Hind femur more or less dark brown or blackish subapically, but usually scarcely defined; antennal segments of ♀ 20-21, of ♂ 21-22; if ♂ has (nearly) yellowish hind femur then fore wing comparatively narrow and parastigma small to medium-sized (fig. 456) ..... 8
- Hind femur completely (brownish-)yellow; antennal segments of ♀ 19-20, of ♂ 20-22; ♂ usually with fore wing wider and large parastigma (fig. 500) ..... 14
8. Length of fourth antennal segment of ♀ about twice its width (fig. 449); parastigma of ♂ strongly enlarged ((fig. 458; more than in *macropterus*, fig. 1241) and first discal cell of fore wing widely truncate anteriorly (fig. 458); frons of ♀ finely striate antero-medially; propodeum of ♀ almost cubical, in lateral view angle between dorsal and posterior surfaces 95°-100°; fresh specimens blackish; hind femur may be completely blackish ..... *maculipes* Wesmael
- Length of fourth antennal segment of ♀ 2.5-3.8 times its width (453, 469, 475, 486, 487); parastigma of ♂ normal or somewhat enlarged and first discal cell of fore wing narrow or moderately truncate anteriorly (fig. 456, 463, 466), or distinctly enlarged and fore wing narrower (fig. 1224); (males of *koenigsmanni*, *kaszabi* and *dolosus* unknown); frons variable; propodeum of ♀ less cubical; fresh specimens partly (dark)brown; colour of hind femur variable ..... 9
9. Apical half of antenna of ♀ dark brown and its segments robust, submoniliform (fig. 453, 475); first discal cell of fore wing of ♀ acute, veins 1-M and 1-SR+M meeting each other (fig. 455), exceptionally narrow truncate; parastigma of ♂ (rather) small (figs. 456, 463, 466); frons smooth; fore wing of ♀ rather diffusely darkened; first metasomal tergite of ♀ rather robust (fig. 1147) ..... *diversicornis* (Nees)
- Apical half of antenna of ♀ largely yellowish and its segments less robust (figs. 451, 486, 487); first discal cell of fore wing of ♀ narrowly truncate (figs. 474, 1224), veins 1-M and 1-SR+M just separated; parastigma of ♂ of *macropterus* large (fig. 1241), but males of *koenigsmanni*, *kaszabi* and *dolosus* unknown); frons variable; fore wing of ♀ variable, one species has mainly the surroundings of veins of fore wing more or less infuscated (fig. 1224); first metasomal tergite variable, in some species rather slender (fig. 473) ..... 10
10. Antenna of ♀ with 21 segments (fig. 469); precoxal sulcus largely smooth; wing membrane of ♀ rather infuscated; (Korea) ..... *dolosus* Papp
- Antenna of ♀ with 20 segments (figs. 451, 486, 487); precoxal sulcus distinctly striate; wing membrane of ♀ variable ..... 11



11. Hind claw of ♀ with pair of blackish teeth basally (fig. 454); frons smooth; mesopleuron partly smooth; parastigma of ♂ enlarged (fig. 1241) . . 12
  - Hind claw of ♀ at most with one blackish tooth basally (cf. fig. 1244); frons more or less striate; mesopleuron almost completely striate (cf. fig. 1243); males unknown . . . . . 13
12. Female macropterous; ♂ with enlarged parastigma and first discal cell of fore wing wide anteriorly (fig. 1241), but less than in *maculipes* (fig. 458); (Europe, except Ireland) . . . . . *macropterus* Haeselbarth
  - Female micropterous; ♂ with normal parastigma and first discal cell narrow anteriorly (cf. fig. 463); (Ireland) . . . . . *ambulans* Haliday
13. Scutellum smooth; frons indistinctly striate; ♀: micropterous; length of malar space of ♀ about twice basal width of mandible; (Mongolia) . . . . . *kaszabi* Haeselbarth
  - Scutellum rather distinctly rugose; frons distinctly (finely) striate dorsally; ♀: macropterous; length of malar space of ♀ distinctly less than twice basal width of mandible; (Europe) . . . . . *koenigsmanni* Haeselbarth
14. Antennal segments of ♀ 19, of ♂ 19-20 (exceptionally 21); hind coxa at least dorsally brownish; first discal cell of fore wing comparatively slender, somewhat higher than wide (figs. 491-494), in ♂ variable anteriorly; first metasomal tergite distinctly widened apically (figs. 495, 1242) . . 15
  - Antennal segments of ♀ usually 20 (less frequently 19 (*tripudians*, *applicatus*) or 21 (common in *setosus*)), of ♂ 21 (exceptionally 18-20 or 22); if 19 then hind coxa usually completely yellowish; first discal cell of fore wing often somewhat wider than high (figs. 505, 516, 722), in ♂ widely truncate anteriorly (figs. 500, 503, 729, 741, 742, unknown of *setosus*); first tergite variable . . . . . 16
15. First discal cell of fore wing of both sexes acute anteriorly (figs. 493, 494); rugae of precoxal sulcus distinct near prepectal carina; scutellum slightly convex; groove in front of anterior ocellus obsolescent; length of malar space of ♀ slightly less than twice basal width of mandible . . . . .
  - . . . . . *conformis* Wesmael
  - First discal cell of fore wing of ♀ narrowly truncate anteriorly (much wider in ♂, figs. 491, 492); rugae of precoxal sulcus obsolescent or absent near prepectal carina; scutellum moderately convex; groove in front of anterior ocellus distinct; length of malar space of ♀ 1.4-1.6 times basal width of mandible . . . . . *capeki* Haeselbarth
16. First tergite distinctly widened apically (figs. 472, 515, 727, 734); length of first metasomal tergite of ♀ 1.4-1.8 times its apical width; precoxal sulcus of ♀ usually densely covered with fine rugae (figs. 723, 730); length of malar space of ♀ 1.2-1.5 times basal width of mandible, but up to 1.8 times

- in *setosifrons* (fig. 512), in ♂ somewhat shorter than basal width of mandible ..... 17
- First tergite (sub)parallel-sided (figs. 518, 527, 1223); length of first tergite of ♀ 2.0-3.0 times its apical width; precoxal sulcus comparatively remotely covered with rugae (figs. 517, 524) ); length of malar space of ♀ 1.6-2 times basal width of mandible, of ♂ slightly longer than basal width of mandible ..... 20
17. Hind claw of ♀ with a comparatively long basal tooth (fig. 485); third antennal segment of ♂ somewhat shorter, if compared with other segments (fig. 479); angle between dorsal and posterior surfaces of propodeum about 115°-120° ..... *pectinatus* Haeselbarth
- Hind claw of ♀ at most with a short dark basal tooth (fig. 484); third antennal segment of ♂ comparatively long (fig. 478); angle between dorsal and posterior surfaces of propodeum 125°-150° ..... 18
18. Frons largely glabrous, slightly impressed behind antennal sockets, and frequently with some fine rugulae or micro-striae (fig. 736), but flat and smooth in *applicatus*; length of malar space of ♀ 1.2-1.5 times basal width of mandible (fig. 733); body of ♀ largely (dark)brown ..... 19
- Frons densely setose, flat behind antennal sockets, and only punctulate, without rugulae (fig. 511); length of malar space of ♀ 1.4-1.8 times basal width of mandible (fig. 512); body of ♀ usually partly vividly coloured, especially head (largely), mesoscutum (partly), and tergites medially yellowish; (Nepal, Taiwan) ..... *setosifrons* spec. nov.
19. Antennal segments of ♀ usually 20 (fig. 476), of ♂ usually 21; frons slightly impressed behind antennal sockets and in ♀ frequently with some fine rugulae or micro-striae (fig. 736); fore wing of ♂ somewhat wider (fig. 500); (Holarctic) ..... *ruficornis* (Nees)
- Antennal segments of ♀ 19 (fig. 471), of ♂ 19 or 20; frons flat behind antennal sockets and smooth; fore wing of ♂ narrower; (Korea) ..... *applicatus* Papp
20. Veins r and 2-SR of fore wing of ♀ dark brown, contrasting with yellowish vein 3-SR+SR1, usually less in ♂; length of first metasomal tergite of ♀ 2.5-3 times its apical width (fig. 1223); vein 2-SR of fore wing slightly curved and comparatively long (fig. 122); costulae of propodeum less developed, not crest-like; pterostigma of ♀ largely yellowish and narrower (fig. 1222); antennal segments of ♀ usually 19; (Europe) ..... *tripudians* Haliday
- Veins r and 2-SR of fore wing similarly coloured as vein 3-SR+SR1; length of first tergite of ♀ 2.0-2.4 times its apical width (fig. ); vein 2-SR of fore wing straight and usually shorter (figs. 516, 525); costulae of propo-

- deum strong, more or less crest-like (fig. 518); pterostigma of ♀ largely dark brown and wider (fig. 516, 525); antennal segments of ♀ usually 20-21; (Nepal, Japan, Taiwan) . . . . . 21
21. Middle lobe of mesoscutum rather densely setose medio-dorsally (fig. 528) and narrowly rugose laterally (fig. 524); antennal segments of ♀ usually 21; length of third antennal segment of ♀ about 6 times its width (fig. 524) . . . . . *setosus* spec. nov.
- Middle lobe of mesoscutum largely glabrous or sparsely setose medio-dorsally and smooth laterally (fig. 517); antennal segments of ♀ usually 20; length of third antennal segment of ♀ about 4 times its width (fig. 517) . . . . . *apaches* Van Achterberg

Key to Oriental species of the subgenus *Ganychorus* Haliday  
(including Nepal and Taiwan)

1. Antennal segments of ♀ 15 (fig. 535); posterior half of metasoma of ♀ depressed (figs. 535, 544); base of second metasomal tergite micro-striate (fig. 544) . . . . . *parastrictus* spec. nov.
- Antennal segments of ♀ 19-21 (fig. 506); posterior half of metasoma of ♀ more or less compressed (fig. 506); base of second tergite usually smooth . . . . . 2
2. First discal cell of fore wing of ♀ acute anteriorly and distal branch of parastigma twice length of basal branch of parastigma or less (figs. 419, 545, 554, 572); length of third antennal segment of ♀ 1.6-1.9 times fourth segment (figs. 546, 555); antenna of ♀ (except sometimes scapus and/or pedicellus) unicolorous dark or reddish brown or twelfth (or thirteenth-seventeenth segments whitish-yellow; fore and middle claws of ♀ with (dark) brown, comparatively inconspicuous bristles (figs. 423, 552); eyes glabrous; if fore claw with conspicuous blackish bristles (*tuberculifer* (fig. 549)), then with distinct propodeal tubercles (fig. 546); precoxal sulcus (largely) impressed (figs. 421, 555); antennal segments of ♀ 19-20 (unknown of *tuberculifer*); second-fourth hind tarsal segments whitish or pale yellowish, contrasting with (dark) brown hind tibia . . . . . 3
- First discal cell of fore wing of ♀ (narrowly) truncate anteriorly (exceptionally nearly acute) and distal branch of parastigma longer than twice length of basal branch (figs. 429, 505); if discal cell acute and distal branch of parastigma comparatively short (fig. 585), then fore claws of ♀ with conspicuous blackish bristles (fig. 583), eyes with some setae (fig. 588), precoxal sulcus impressed medially only (fig. 582) and propodeal tubercles absent (fig. 582); length of third antennal segment 1.2-1.5 times

- fourth segment (figs. 432, 595); antenna of ♀ frequently partly pale yellowish or whitish; antennal segments of ♀ 19-21; colour of hind tarsal segments variable . . . . . 7
3. Propodeum with small tubercles (figs. 546, 555, 568); vein r of fore wing submedially or just behind middle of pterostigma inserted (figs. 545, 554, 565); fore claws of ♀ variable, if with blackish bristles and teeth (fig. 549) then malar suture present (fig. 547) . . . . . 4
- Propodeal tubercles absent and only carinae somewhat protruding (figs. 421, 574); vein r of fore wing comparatively distally inserted at pterostigma (figs. 419, 572); fore claw of ♀ with conspicuous blackish bristles and teeth (figs. 423, 579); malar suture absent (figs. 428, 575) . . . . . 6
4. Fore claws of ♀ with conspicuous blackish or dark brown bristles and teeth (figs. 549, 557); twelfth or thirteenth-seventeenth antennal segments of ♀ brownish(-yellow), contrasting with basal segments; malar suture distinct (fig. 547); hind coxa yellowish; first discal cell of fore wing of ♀ subsessile (figs. 545, 554); colour of hind femur variable . . . . . 5
- Fore claws of ♀ with inconspicuous brownish bristles (fig. 461); twelfth-seventeenth antennal segments of ♀ (dark) brown, not contrasting with basal segments; malar suture absent (fig. 570); hind coxa brownish; first discal cell of fore wing of ♀ often (sub)petiolate (figs. 459, 460, 565); hind femur unicolorous, not strongly darkened apically . . . . .
- . . . . . *mischocytus* Van Achterberg
5. Hind femur with dark subapical band, strongly contrasting with its pale yellowish basal half (fig. 552); middle tarsal claws with blackish bristles (cf. fig. 557) . . . . . *tuberculifer* spec. nov.
- Hind femur unicolorous, yellowish; middle claws only with yellowish setae (fig. 559) . . . . . *signifer* spec. nov.
6. Hind basitarsus slender (fig. 426) and similarly coloured as second tarsal segment; notauli smooth (fig. 425); twelfth-seventeenth antennal segments of ♀ brown; length of malar space approx. 2.3 times basal width of mandible (fig. 428) . . . . . *pisinnus* spec. nov.
- Hind basitarsus robust (fig. 576) and darker than second hind tarsal segment; notauli distinctly crenulate (fig. 573); twelfth-seventeenth antennal segments of ♀ whitish-yellow, contrasting with other dark segments; length of malar space approx. 1.5 times basal width of mandible (fig. 575) . . . . . *annulatus* spec. nov.
7. Frons of ♀ rather densely setose (fig. 511); first metasomal tergite of ♀ 1.6-1.9 times its apical width, robust and distinctly gradually widened and basally sculptured (figs. 515, 593), males have first tergite about 2.2 times its apical width and widened apically; subapical antennal segments dark-

- brown; posterior half of notauli largely smooth (figs. 513, 587); body of ♀ partly vividly coloured; vein 1r-m of hind wing comparatively long (figs. 505, 585) ..... 8
- Frons of ♀ sparsely setose or largely glabrous; first tergite of ♀ 2.0-2.9 times its apical width, not or slightly widened subapically (figs. 438, 603); if 1.8 times then first tergite sparsely sculptured and subapical antennal segments of ♀ pale yellow; posterior half of notauli, colour and vein 1r-m of hind wing variable (figs. 429, 596) ..... 9
8. Parastigma of ♀ small and first discal cell of fore wing acute anteriorly (fig. 585); antennal segments of ♀ 21; pterostigma completely light brown; middle tarsal claws of ♀ simple (fig. 586); precoxal sulcus narrowly crenulate (fig. 582); eyes with some setae (fig. 588); (Taiwan) ..... *mellistigmus* spec. nov.
- Parastigma of ♀ medium-sized (large in ♂) and first discal cell of fore wing narrowly truncate anteriorly (fig. 505); antennal segments of ♀ usually 20; pterostigma at least distally infuscated; middle tarsal claws of ♀ with conspicuous blackish bristles (fig. 510); precoxal sulcus widely rugose (fig. 506), but sculpture reduced in ♂; eyes glabrous (fig. 512); (Taiwan, Nepal, N. India) ..... *setosifrons* spec. nov.
9. Second and third metasomal segments ivory; antennal segments of ♀ 21, brownish; surroundings of vein r of fore wing distinctly infuscated (fig. 429); head yellowish-brown and pterostigma largely dark brown; first metasomal tergite (sub)parallel-sided or slightly widened (fig. 438) ..... *fulviceps* spec. nov.
- Second and third segments brownish or blackish, exceptionally yellowish; antennal segments of ♀ 19-20, often partly pale yellowish or whitish; surroundings of vein r of fore wing subhyaline or slightly infuscated; head usually dark brown; if yellowish, then first tergite distinctly widened posteriorly and/or basal half of pterostigma light brown or yellowish 10
10. Antenna of ♀ conspicuously widened submedially (fig. 595), its four apical segments pale yellowish; propodeum with long narrow areola (fig. 603); fore claw of ♀ pectinate, with pecten not surpassing apical tooth (fig. 598); scapus dark, contrasting with pale yellowish pedicellus; first discal cell of fore wing of ♀ widely truncate anteriorly (fig. 596) ..... *signicornis* spec. nov.
- Antenna of ♀ slender submedially (fig. 616), and colour of its apical segments variable; propodeum without areola (fig. 625); fore claw of ♀ with dark bristles, surpassing apical tooth (fig. 619); scapus and pedicellus usually largely concolorous; first discal cell of fore wing of ♀ usually narrower anteriorly (fig. 617) ..... 11

11. Whole hind femur and antenna dark brown (at most pedicellus apically and annellus yellowish; tarsi and apex of tibiae (more or less) pale, contrasting with dark remainder of tibiae; posterior half of precoxal sulcus narrowly impressed and sparsely sculptured (fig. 607); middle tarsal claws of ♀ with blackish bristles; (New Guinea) . . . . . *obscuripes* spec. nov.
- Hind femur at least partly yellowish or testaceous; antenna at least ventrobasally or subapically partly (pale) yellowish; tarsi and tibiae variable; precoxal sulcus usually only medially impressed (fig. 616) or extensively sculptured and completely impressed (figs. 517, 679) . . . . . 12
12. Antenna of ♀ almost completely dark brown dorsally, at most part of pedicellus, annellus, and scapus ventrally partly yellowish; hind tarsus slightly infuscated; notauli obsolescent posteriorly, anteriorly deeper than posteriorly (fig. 625); hind coxa largely dark brown; middle tarsal claws of ♀ with conspicuous blackish bristles; (Australian) . . . . .  
. . . . . *fuscitarsis* spec. nov.
- At least about quarter of antenna of ♀ pale yellowish or brown; hind tarsus (pale) yellowish; notauli evenly impressed, deep posteriorly; hind coxae yellowish; middle tarsal claws of ♀ variable; (Oriental, S. Palaearctic) . . . . . 13
13. Hind femur and tibia dark testaceous; mesoscutum and clypeus conspicuously whitish setose; pterostigma dark brown; apical half of antenna of ♀ (except apical segment) pale yellowish; (Vietnam) . . . . .  
. . . . . *mellicornis* spec. nov.
- Hind femur and tibia yellowish-brown or pale yellowish; mesosternum and clypeus yellowish setose and less conspicuous; pterostigma and antenna variable . . . . . 14
14. Antennal segments of ♀ 22 and long setose (fig. 638), of ♂ 20-21, very long setose, setae about 1.5 times maximum width of segment; base of hind tibia narrowly dark brown (fig. 644); propodeum with medial area (fig. 639); middle tarsal claw of ♀ only setose (fig. 645); first discal cell of fore wing comparatively wide anteriorly (fig. 636); (Taiwan) . . . . .  
. . . . . *comatus* spec. nov.
- Antennal segments of ♀ 20-21 and shorter setose (figs. 649, 669), of ♂ 18-21, shorter setose; base of hind tibia yellowish; propodeum without medial area (figs. 655, 675); middle claw of ♀ and first discal cell variable (figs. 647, 659) . . . . . 15
15. Apical half of antenna of ♀ dark brown; subapical antennal segments of ♀ robust, length of penultimate segment about 1.4 times its width (fig. 648); hind basitarsus robust compared with remainder of tarsus (fig. 653); malar suture partly absent (fig. 649); middle tarsal claws of ♀ only setose; (N.

- Borneo) ..... *hadrolophus* spec. nov.
- Apical half of antenna of ♀ largely pale yellowish or ivory; subapical antennal segments of ♀ less robust, length of penultimate segment 1.6 times or more (figs. 526, 658, 678); hind basitarsus and malar suture variable; middle tarsal claws of ♀ usually with conspicuous blackish bristles (fig. 532) ..... 16
16. Middle tarsal claw of ♀ only setose (fig. 661); apical and penultimate antennal segments dark brown, twelfth-eighteenth antennal segments pale yellowish, and remainder of antenna brownish-yellow; precoxal sulcus only with short crenulae (fig. 657); (North Borneo) .....  
 ..... *paucicrenulatus* spec. nov.
- Middle tarsal claws of ♀ with conspicuous blackish bristles (fig. 532); antenna bicolorous; precoxal sulcus variable (figs. 517, 669) ..... 17
17. Parastigma and base of pterostigma yellowish or whitish; middle lobe of mesoscutum usually distinctly (partly) setose (fig. 528); antenna (yellowish-)brown medially ..... 18
- Parastigma and base of pterostigma (evenly) brownish; middle lobe of mesoscutum largely glabrous; antenna pale yellowish medially ..... 19
18. Lateral carina of scutellum more protruding posteriorly (fig. 517); antennal segments of ♀ 20; length of penultimate antennal segment of 1.7-1.8 times its width (fig. 517); length of third antennal segment of ♀ 1.2-1.3 times its fourth segment and 4-4.5 times its width (fig. 517); (Nepal, Taiwan, Japan) ..... *apaches* Van Achterberg
- Lateral carina of scutellum less protruding (fig. 524); antennal segments of ♀ usually 21, seldom 20; length of penultimate antennal segments of ♀ 2-2.2 times its width (fig. 526); length of third antennal segment of ♀ 1.4-1.5 times its fourth segment and 5.2-6 times its width (fig. 524); (Nepal) ..... *setosus* spec. nov.
19. Apical antennal segment of ♀ pale yellowish; precoxal sulcus only with short crenulae (fig. 669); along notauli with several long setae; (Philippines) ..... *brevicrenulatus* spec. nov.
- Apical antennal segment of ♀ brown; precoxal sulcus extensively striate, some striae (nearly) reaching prepectal carina (fig. 679); mesoscutum glabrous; (Hong Kong) ..... *tenuipes* spec. nov.

Key to Afrotropical species of the subgenus *Ganychorus* Haliday

1. Notauli nearly absent, reduced; length of first metasomal tergite 2.2-3.1 times its apical width; vein 3-CU1 of fore wing often weakly bent or almost straight (figs. 18, 924); antenna of ♀ with a more or less developed

- subapical pale yellowish band ..... *genalis* Haeselbarth
- Notauli distinctly impressed (fig. 693); length of first tergite 1.3-1.9 times its apical width (figs. 691, 699); vein 3-CU1 of fore wing more or less distinctly bent (fig. 694); antenna of ♀ largely unicolorous ..... 2
  - 2. Length of malar space 1.1-1.5 times basal width of mandible; hind femur brownish-yellow; antenna slender (cf. fig. 476); first metasomal tergite distinctly widened (cf. fig. 727) ..... *dracomontanus* Haeselbarth
  - Length of malar space 1.7-2 times basal width of mandible; hind femur more or less infuscated; if antenna slender (fig. 696), then sides of first tergite subparallel (fig. 699) ..... 3
  - 3. Length of first metasomal tergite of ♀ approx. 1.3 times its apical width, distinctly dilated apically (fig. 691); lateral carina of scutellum not protruding apically (fig. 689); length of ovipositor sheath approx. 0.2 times fore wing; antenna of ♀ less slender (fig. 689) *haeselbarthi* Van Achterberg
  - Length of first tergite of ♀ approx. 1.9 times its apical width, scarcely dilated apically (fig. 699); lateral carina of scutellum somewhat protruding apically (fig. 696); length of ovipositor sheath approx. 0.15 times fore wing; antenna comparatively slender (fig. 696) . *stami* Van Achterberg

Key to Nearctic and Neotropical species of the subgenus *Ganychorus* Haliday

1. Propodeal tubercles small, but distinct (fig. 706); apex of tibia and base of hind leg infuscated (fig. 702; head narrowed ventrally (fig. 704); length of first metasomal tergite approx. 1.6 times its apical width (fig. 706) ..... *cracentis* Van Achterberg
  - Note. For ♀-specimens with scapus dark brown, contrasting with the yellowish third antennal segment and males with distinct propodeal tubercles and scutellum superficially reticulate, see subgenus *Hystero-bolus* (*B.(H.) trapezoides*).
- Propodeal tubercles absent, sometimes carinae somewhat protruding (figs. 727, 750); hind leg, head and first tergite variable ..... 2
2. Antennal segments of ♀ 23-24; medial carina of propodeum more or less branched posteriorly (fig. 721), at least in *fissus* forming a well-divided and rather narrow medial area (fig. 713); length of first metasomal tergite 2.2-2.3 times its apical width (figs. 713, 721) ..... 3
- Antennal segments of ♀ 19-22; medial carina of propodeum not branched posteriorly (figs. 750, 757); some specimens of *ruficornis* may have medial carina weakly developed or branched, being part of a more or less reticulate area on posterior face of propodeum (fig. 727), but have length of first tergite 1.4-1.8 times its apical width (fig. 727) ..... 4



3. Medial area of propodeum distinctly defined (fig. 713); all coxae and trochanters yellowish; at least basal half of hind femur yellowish; pedicellus yellowish, not contrasting with scapus . . . . . *fissus* Van Achterberg
  - Medial area of propodeum scarcely developed (fig. 721); all coxae and trochanters whitish; basal half of hind femur mainly dark brown; pedicellus whitish, contrasting with scapus . . . . . *albicoxis* spec. nov.
4. Hind femur and tibia completely yellowish; antenna rather slender (figs. 723, 744); wings normally developed . . . . . 5
  - Hind femur and/or tibia more or less darkened, brownish; antenna and wings variable . . . . . 6
5. Length of first metasomal tergite of ♀ 1.4-1.8 times its apical width, distinctly widened apically (fig. 727); malar space slightly longer than base of mandible (fig. 724); lateral carina of scutellum slightly protruding (fig. 723); parastigma of ♂ enlarged (fig. 729) . . . . . *ruficornis* (Nees)
  - Length of first tergite of ♀ 2.0-2.2 times its apical width, its sides parallel apically (fig. 750); length of malar space 2.5-3 times basal width of mandible (fig. 746); lateral carina of scutellum distinctly protruding (fig. 744); ♂ unknown . . . . . *armatulus* Ruthe
6. Mesosoma mainly red, exceptionally brownish; hind femur completely dark brown or nearly so; length of hind tibia 12.6-13.3 times its width (fig. 756); length of third antennal segment 5.0-5.8 times its width (fig. 751); length of first metasomal tergite 1.9-2.1 times its apical width (fig. 757) . . . . . *thoracicus* Van Achterberg
  - Mesosoma yellowish, brownish or blackish; hind femur partly yellowish, seldom completely infuscated; length of hind tibia 9-10 times its width (figs. 763, 769); length of third antennal segment 3.3-4.2 times its width (figs. 760, 767); length of first tergite 1.3-2.5 times its apical width (figs. 764, 772) . . . . . 7
7. Antenna strongly dilated medially, width of eleventh segment twice width of third segment (fig. 760); apex of antenna yellowish; length of first metasomal tergite approx. 2.5 times its apical width (fig. 764) . . . . . *dilaticornis* Van Achterberg
  - Antenna not or scarcely dilated medially (fig. 767); apex of antenna darkened or yellowish; length of first tergite 1.3-2.1 times its apical width (figs. 772, 780) . . . . . 8
8. Lateral carina of scutellum not or indistinctly raised apically (fig. 767); length of first tergite 1.3-1.4 times its apical width, distinctly widened apically (fig. 772); hind femur less darkened, but medially not different from subapical region; penultimate segments of antenna of ♀ infuscated; micropterous form occurs (fig. 1238) . . . . . *striatus* Van Achterberg

- Lateral carina of distinctly raised apically (figs. 774, 782); length of first tergite 1.7-2.1 times its apical width, slightly widened apically (figs. 780, 786, 794); hind femur yellowish submedially and darkened (sub)apically or mainly dark brown; penultimate segment of antenna of ♀ usually yellowish; micropterous form unknown . . . . . 9
- 9. Notauli completely absent (fig. 777) or present dorsally as a smooth, rather weak depression, widened posteriorly (fig. 784); antenna mainly blackish-brown . . . . . 10
  - Notauli present, deep on posterior half of mesoscutum, comparatively narrow (figs. 792, 801); antenna mainly yellowish . . . . . 11
- 10. Notauli completely absent (fig. 777); antenna yellowish but apical segment infuscated; hind coxa yellowish-brown; fore and middle claws of ♀ with blackish bristles . . . . . *insulcatus* spec. nov.
  - Notauli present dorsally as a smooth depression (fig. 784); antenna and hind coxa mainly dark brown; fore and middle claws of ♀ without blackish bristles . . . . . *semisulcatus* spec. nov.
- 11. Length of eye in dorsal view approx. 1.1 times length of temple (fig. 791); eyes in frontal view less protruding (fig. 790); length of ovipositor sheath 0.16-0.20 times fore wing; second metasomal tergite reddish-brown; parastigma of ♂ and ♀ similar, not enlarged . . . . . *collaris* (Ashmead)
  - Length of eye in dorsal view 1.4-1.6 times temple (fig. 798); eyes in frontal view distinctly protruding (fig. 796); length of ovipositor sheath 0.12-0.14 times fore wing; second tergite yellowish; parastigma of ♂ enlarged compared with ♀ . . . . . *epitolus* Van Achterberg

***Blacus (Ganychorus) albicoxis* spec. nov.**

(figs. 715-721)

Material. — Holotype, ♀, (CNC): "Jamaica, 4000 [ft], Hardwar Gap, VII-13-1966, Howden & Becker". Paratype, 1 ♂, (CNC): "Br. Honduras, Middlesex, 125 m, 1.IV.1965, E.C. Welling".

Holotype, ♀, length of body 2 mm, of fore wing 2.1 mm.

Head. — Antennal segments 23, long yellowish setose, length of third segment 1.6 times fourth segment, length of third, fourth and penultimate segments 7.5, 4.8, and 2 times their width, respectively (fig. 716); length of maxillary palp 1.2 times height of head; frons smooth; OOL : diameter of ocellus : POL = 22:9:18; length of eye in dorsal view 1.1 times temple (fig. 718); face smooth, at most somewhat pimply; malar suture distinct; length of malar space 1.5 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.2 times its height; pronotal sides

reticulate, except for apico-dorsal 0.4; precoxal sulcus almost complete, with widely spaced crenulae (fig. 716); notauli complete, deep and crenulate (fig. 720); mesoscutal lobes rather convex, smooth; scutellum smooth except for some short transverse rugae (fig. 720), its lateral carina lamelliform, distinctly protruding dorsally (fig. 716); propodeal tubercles absent; surface of propodeum reticulate, its medial area narrow and weakly indicated (fig. 721).

Wings. — Fore wing: first discal cell widely truncate anteriorly; 1-CU1 : 2-CU1 = 11:18; parastigma large (fig. 715).

Legs. — Hind coxa finely striate antero-dorsally; length of femur, tibia, and basitarsus of hind leg 6.1, 12.2, and 10.7 times their width, respectively; fore and middle claws with blackish bristles; hind claw simple.

Metasoma. — Length of first tergite 2.3 times its apical width, shiny, with some striae apico-laterally and superficially rugose medially, dorsal carinae complete (fig. 721); second tergite smooth; length of ovipositor sheath about 0.14 times fore wing.

Colour. — Dark reddish-brown; head anteriorly, antenna, second and third metasomal tergites, hind tarsus, vein C+SC+R and parastigma mainly, yellowish-brown; palpi, pedicellus, coxae and trochanters white, rest of fore and middle legs, whitish-yellow; femur (except extreme base) and tibia of hind leg dark brown; pterostigma mainly dark brown; fore wing near vein 1-M and below pterostigma somewhat infuscated (stronger than in *fissus*).

Variation. — Male has wing venation and propodeum similar to ♀, antennal segments 22, whitish, except darkened apical segments, length of fore wing 2.1 mm. Resembles ♂ of *epitulus* but femora of *albicoxis* are much darker, hind coxa whitish and malar space shorter.

### ***Blacus (Ganychorus) ambulans* Haliday s.s.**

*Blacus ambulans* Haliday, 1835: 43; Haeselbarth, 1973a: 100-103 (ssp. *macropterus* Haeselbarth excluded).

*Blacus (Ganychorus) ambulans*; Van Achterberg, 1976: 212.

Only known from Ireland; the female is brachypterous (especially fore wing strongly narrowed). The nearly normally winged male has first discal cell of fore wing narrow truncate anteriorly. Because both female and male are morphologically different there is no reason to treat *macropterus* as a subspecies of *ambulans*.

In the Haliday Collection (NMI) are 4 ♀ in box 8 and these are considered to be types. One ♀, an Irish specimen, is here designated lectotype. Paralectotypes: 1 ♀ on similar card as lectotype, and 2 ♀ on one card, both have the

metasoma lost. Excluded are 4 ♀ from box 28, because they are probably added later.

**Blacus (Ganychorus) annulatus** spec. nov.  
(figs. 572-581)

Material. — Holotype, ♀, (UZM): "Philippines, Palwan, Mantalingajan, Tagembung, 1150 meter, 20 sept. 1961, Noona Dan Exp. 61-62". Paratypes, 1 ♂, (BPBM): "P.I. [= Philippines]: Mindano, Mis. Or., Mt. Pomalihi, 21 km W. Gingoog City, 800-1000 m, 11.X.1965", "H.M. Torrevillas Collector, Bishop Museum".

Holotype, ♀, length of body and fore wing both 2 mm.

Head. — Antennal segments 19, length of third segment 1.9 times fourth segment, length of third, fourth and penultimate segments 4.3, 2.3 and 1.5 times their width, respectively (fig. 574); length of maxillary palp 0.8 times height of head; frons smooth; OOL : diameter of ocellus : POL = 7:4:7; length of eye in dorsal view 1.3 times temple (fig. 578); face smooth; malar suture absent; length of malar space 1.5 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides smooth dorsally, with some crenulae ventrally and crenulate posteriorly; precoxal sulcus smooth except for some short crenulae medially (fig. 574); notauli complete, rather deep, and rather coarsely crenulate (fig. 573); mesoscutal lobes rather convex; scutellum mainly smooth, its lateral carina lamelliform, and protruding apically (fig. 574); propodeal tubercles absent, but carinae somewhat protruding; surface of propodeum smooth between carinae, its medial area absent (fig. 577).

Wings. — Fore wing: first discal cell acute anteriorly, with short 1-SR (fig. 572); 1-CU1 : 2-CU1 = 5:9; parastigma small (fig. 572).

Legs. — Hind coxa with oblique carina and rugulose dorsally; length of femur, tibia, and basitarsus of hind leg 5.2, 10.6, and 6.3 times their width, respectively; fore and middle claws with dark brown bristles; hind claw only setose.

Metasoma. — Length of first tergite 1.7 times its apical width, longitudinally rugose laterally, reticulate-rugose medially, dorsal carinae distinct in basal 0.6 (fig. 577); second tergite smooth; length of ovipositor sheath 0.16 times fore wing.

Colour. — Dark brown; mandibles, antennal sockets, tegulae, second and third tergites and legs more or less yellowish; hind femur and tibia, hind basitarsus and all telotarsi brown, palpi, and rest of tarsi whitish-yellow; pterostigma dark brown; basal eleven antennal segments and both apical segments dark brown (pedicellus lighter) and twelfth-seventeenth segments

whitish-yellow; wing membrane slightly infuscated.

Variation. — Male has 22 antennal segments, apical third of antenna light brown, rest dark brown; length of third antennal segment 1.6 times fourth segment; parastigma small.

**Blacus (Ganychorus) apaches** Van Achterberg  
(figs. 516-523)

*Blacus (Ganychorus) apaches* Van Achterberg, 1976: 213, figs. 227-234.

Known from Nepal (Arum Valley below Tumlingtar, ca. 550 m), Taiwan (nr Musha, 2044 m, (BPBM); Nantou Hsien, Meifeng (WCAM, RMNH)) and Japan (Fukuoka Pref., Mt. Inunaki (ELF, RMNH)). Head may be yellowish (♀ Taiwan), brown (type from Nepal, intermediate in ♀ from Japan) or dark brown (♂ Taiwan); middle lobe of mesoscutum may be glabrous (Nepal), partly setose (Japan), or densely setose (Taiwan). Parastigma of ♂ very wide. Antennal segments 20 (4 ♀) or 21 (2 ♂).

**Blacus (Ganychorus) applicatus** Papp  
(figs. 467, 468, 471, 472)

*Blacus (Ganychorus) applicatus* Papp, 1985b: 353-356, figs. 11-14.

Holotype examined; type-series from North Korea.

**Blacus (Ganychorus) armatulus** Ruthe  
(figs. 441, 446, 744-750)

*Blacus armatulus* Ruthe, 1861: 137; Haeselbarth, 1973a: 111-112, figs. 22-26; 1975a: 30; 1975b: 50; Tobias, 1976: 116; Marsh, 1979: 267.

*Blacus (Ganychorus) armatulus*; Van Achterberg, 1976: 204-205, figs. 163-169.

Known from Europe (Albania, Austria, Czechoslovakia, East Germany, England, France, Hungary, Poland, Romania, U.S.S.R. (South to Kazakhstan and Azherbaidzhan), Sweden and Switzerland); Canada (Ontario) and U.S.A. (Michigan, Ann Arbor (RMNH)). Parasite of Curculionidae.

**Blacus (Ganychorus) brevicrenulatus** spec. nov.

(figs. 668, 676)

Material. — Holotype, ♀, (BPBM): "Philippines, Camarines Sur: Mt. Isarog, 20 km E. of Naga, 500-600 m, 6.IV.1963", "H.M. Torrevillas, light trap, Bishop".

Holotype, ♀, length of body and of fore wing both 1.9 mm.

Head. — Antennal segments 20, long whitish setose, slightly widened apically, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 4.7, 3.3 and 1.7 times their width, respectively (figs. 669, 670); length of maxillary palp 0.8 times height of head; OOL : diameter of ocellus : POL = 8:3:6; length of eye in dorsal view 1.3 times temple (fig. 673); face smooth; malar suture complete, narrow; length of malar space 1.5 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides rugose anteriorly, crenulate posteriorly, rest smooth; precoxal sulcus complete, only medially with some indistinct crenulae (fig. 669); notauli complete, narrowly crenulate (fig. 672); mesoscutal lobes rather convex, only near notauli long setose; scutellum smooth, its lateral carina lamelliform, distinctly protruding dorsally (fig. 669); propodeal tubercles absent; surface of propodeum smooth between carina, its medial area absent (fig. 675).

Wings. — Fore wing: first discal cell narrowly truncate anteriorly; 1-CU1 : 2-CU1 = 9:21; parastigma rather large (fig. 668).

Legs. — Hind coxa largely smooth; length of femur, tibia, and basitarsus of hind leg 6, 9.8 and 7 times their width, respectively; fore and middle claws with blackish bristles (not well visible by glue); hind claw simple; second hind tarsal segment narrower than basitarsus (fig. 674).

Metasoma. — Length of first tergite 2.1 times its apical width, largely smooth, dorsal carinae distinct in basal 0.9 (fig. 675); second tergite smooth; length of ovipositor sheath 0.13 times fore wing.

Colour. — Dark brown; palpi, eleventh-twentieth antennal segments pale yellowish, remainder of antenna dark brown; metasoma ventrally, second tergite, tegulae, pterostigma, parastigma and veins largely brown; legs (light) brownish-yellow, but telotarsi infuscated; wing membrane subhyaline.

**Blacus (Ganychorus) capeki** Haeselbarth

(figs. 488, 490-492, 495, 1242)

*Blacus capeki* Haeselbarth, 1973a: 95-96, figs. 13, 34, 95, 104, 112.

*Blacus (Ganychorus) capeki*; Van Achterberg, 1976: 214.

Known from Europe (Austria, Czechoslovakia ((RMNH) Trenčín, Brezina Park; Dev. Kobyła; Drietoma (on *Picea*), all Slovakia), Hungary, Yugoslavia and Romania).

***Blacus (Ganychorus) collaris* (Ashmead)**  
(figs. 788-794)

*Ganychorus collaris* Ashmead, 1894: 131.

*Blacus (Ganychorus) collaris*; Van Achterberg, 1976: 288-209, figs. 206-212; Marsh, 1979: 267.

Known from Argentina (Tucuman), Brazil (Santa Catarina, 300-500 m), Canada (Ontario (Trenton, (CNC)) Quebec), Colombia (Choco, 1000 m), Mexico (2400-3000 m, Durango), St. Vincent, Venezuela (Guanare, CAS) and U.S.A. (North Carolina (ca. 2000 m), Virginia (ca. 600 m)).

***Blacus (Ganychorus) comatus* spec. nov.**  
(figs. 636-646)

Material. — Holotype, ♀, (WCAM); "Taiwan, Nantou Hsien, Meifeng, V-22-1982, R. Whar-ton". Paratype: 1 ♂, (WCAM), topotypic and same date.

Holotype, ♀, length of body 2.2 mm, of fore wing 2.4 mm.

Head. — Antennal segments 22, long and densely setose (fig. 638), length of third segment 1.7 times fourth segment, length of third, fourth and penultimate segments 5, 3, and 1.8 times their width, respectively (figs. 637, 638); length of maxillary palp 1.2 times height of head; frons smooth and sparsely setose; OOL: diameter of ocellus : POL = 18:8:11; length of eye in dorsal view 1.9 times temple (fig. 643); face smooth; malar suture narrow; length of malar space 1.5 times basal width of mandible; anterior tentorial pits near lower level of eyes (fig. 642).

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides rugose, but smooth dorsally; precoxal sulcus with only some fine rugulae medially (fig. 638); notauli deep and distinctly crenulate, but weakly posteriorly (fig. 640); mesoscutal lobes rather convex, evenly and long setose; scutellum smooth, its lateral carina lamelliform, strongly protruding dorsally (fig. 638); propodeal tubercles absent; surface of propodeum largely smooth, its medial area narrow, long and parallel-sided (fig. 639).

Wings. — Fore wing: first discal cell widely truncate anteriorly (fig. 636); 1-CU1 : 2-CU1 = 3:11; parastigma wide (fig. 636).

Legs. — Hind coxa with some rugae dorsally; length of femur, tibia and basitarsus of hind leg 6.4, 11.2, and 9.3 times their width, respectively; fore claw with blackish bristles (fig. 641); middle and hind claws only setose (figs. 645, 646).

Metasoma. — Length of first tergite 2.3 times its apical width, spaced rugose (fig. 639), and dorsal carinae nearly reaching apex; second tergite smooth; length of ovipositor sheath 0.13 times fore wing; metasoma long setose (fig. 638).

Colour. — Dark (reddish-)brown; palpi, five basal antennal segments, clypeus, mandible, labrum, and legs (except telotarsi and base of hind tibia) yellowish; telotarsi and base of hind tibia dark brown; tegulae, veins, para- and pterostigma, brown; metasoma (except first tergite) largely brown; remainder of antenna dark brown; wing membrane subhyaline.

Variation. — The male lacks the medial area of propodeum, has 20 (left) or 21 (right) antennal segments and the antennal segments are very long setose, about 1.5 times maximum width of segment.

***Blacus (Ganychorus) conformis* Wesmael**

(figs. 489, 493, 494)

*Blacus conformis* Wesmael, 1835: 96; Haeselbarth, 1973a: 109-111, figs. 30, 102, 108; 1975a: 30. *Blacus (Ganychorus) conformis*; Van Achterberg, 1976: 214.

Known from Europe (Austria, Belgium, France, West Germany (Aachen (RMNH))).

***Blacus (Ganychorus) cracentis* Van Achterberg**

(figs. 701-707)

*Blacus (Ganychorus) cracentis* Van Achterberg, 1976: 201-202, figs. 141-142, 144-148, (holotype only); Sarazin, 1985: 1184.

Known from Mexico (Sinaloa (ca. 2000 m)). See note under *Blacus (Hystero-robotus) trapezoides*.

***Blacus (Ganychorus) dilaticornis* Van Achterberg**

(figs. 758-764)

*Blacus (Ganychorus) dilaticornis* Van Achterberg, 1976: 206, figs. 182-188.

Only known from Brazil (Santa Catarina, 300-500 m; Pernambuco (CNC)).



Specimens (2 ♀) from Pernambuco have 6 apical antennal segments whitish, parastigma larger than in holotype, second-fourth metasomal tergites punctate and yellowish-brown.

**Blacus (Ganychorus) diversicornis** (Nees)  
(figs. 452, 453, 455, 456, 462-466, 475, 1243, 1247)

*Bracon diversicornis* Nees, 1834: 49.

*Blacus diversicornis*; Haeselbarth, 1973a: 107-109, figs. 12, 24, 29, 100, 109; 1975a: 29; 1975b: 49; Tobias, 1976: 166.

*Blacus (Ganychorus) diversicornis*; Van Achterberg, 1976: 212.

*Blacus compar* Ruthe, 1861: 136.

Known from Europe and C. Asia (Albania (1300 m), Austria, Bulgaria, Czechoslovakia, Denmark, East Germany, England, Finland, France, Hungary, Ireland, Italy (up to ca. 2100 m), Yugoslavia, Netherlands (Lippenhuizen (F.), Nunspeet, Oegstgeest, Putten (G.), Rotterdam, Waarder), Poland, West Germany, Romania, Sweden, Switzerland, U.S.S.R. (south to Kazakhstan, 2000 m). Micropterous ♀-specimens occur rather frequently.

**Blacus (Ganychorus) dolosus** Papp  
(figs. 469, 470, 473, 474)

*Blacus (Ganychorus) dolosus* Papp, 1985b: 356-359, figs. 20-22.

Holotype (and only known specimen) examined; reported from North Korea.

**Blacus (Ganychorus) dracomontanus** Haeselbarth  
(figs. 469, 470, 473, 474)

*Blacus dracomontanus* Haeselbarth, 1974: 67-68.

*Blacus (Ganychorus) dracomontanus*; Van Achterberg, 1976: 210.

Known from S. Africa (Natal, Transvaal, Cape Prov. (Pondoland)) and Ethiopia (Koram, ca. 2700 m, (BMNH)). Length of malar space 1.3-1.5 times basal width of mandible; antennal segments of ♀ 20 (7); length of ovipositor sheath 0.16-0.18 times fore wing and length of hind basitarsus of ♀ 5.6-6 times its width. Close to *stami*, but *stami* has a longer malar space, hind femur

brown, no fine striae at malar space, and temple slightly more narrowed dorsally (fig. 696).

**Blacus (Ganychorus) epitulus** Van Achterberg  
(figs. 795-801)

*Blacus (Ganychorus) epitulus* Van Achterberg, 1976: 209-210, figs. 213-219.

Known from Brazil (Santa Catarina, 300-500 m) and Surinam.

**Blacus (Ganychorus) fissus** Van Achterberg  
(figs. 708-714)

*Blacus (Ganychorus) fissus* Van Achterberg, 1976: 202-203, figs. 149-155.

Known from Brazil (Santa Catarina, 300-500 m).

**Blacus (Ganychorus) fulviceps** spec. nov.  
(figs. 429-439)

Material. — Holotype, ♀, (CNC): "Nepal, Ktm., Pulchauki, 7300 '[ft], 13-17.VIII.1967, Mal. tr., Can. Exp.". Paratype, 1 ♀, (BPBM): "Vietnam, Fyan, 900-1000 m, 11.VII-9.VIII.[19]61", "N.R. Spencer Collector Bishop".

Holotype, ♀, length of body 3.2 mm, of fore wing 3.4 mm.

Head. — Antennal segments 21, of equal width, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 6.3, 4.5 and 2.2 times their width, respectively (figs. 432, 433); length of maxillary palp 1.3 times height of head; frons smooth; OOL : diameter of ocellus : POL = 13:6:6; length of eye in dorsal view 1.2 times temple (fig. 436); dorsal half of face rugulose, rest smooth (fig. 431); malar suture deep; length of malar space 1.8 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides coarsely reticulate (fig. 432); precoxal sulcus complete and obliquely rugose (fig. 432); notauli complete, largely smooth anteriorly and with well-defined edges (fig. 430); mesoscutal lobes rather convex, evenly setose; scutellum smooth except short crenulae laterally, its lateral carina lamelliform, distinctly protruding apically (fig. 432); propodeal tubercles absent; surface of propo-

deum largely smooth, its medial area absent (fig. 438).

Wings. — Fore wing: first discal cell rather widely truncate anteriorly (fig. 429); 1-CU1 : 2-CU1 = 13:22; parastigma medium-sized (fig. 429).

Legs. — Hind coxa coriaceous-rugulose, with some oblique rugae dorsally; length of femur, tibia, and basitarsus of hind leg 6.7, 12.2 and 11.7 times their width, respectively; all claws with blackish bristles, but of hind claw slender (figs. 434, 435, 439).

Metasoma. — Length of first tergite 2.8 times its apical width, coarsely rugose, (sub)parallel-sided, its dorsal carinae distinct in basal quarter, rest merging in sculpture (fig. 438); second tergite smooth; length of ovipositor sheath 0.19 times fore wing.

Colour. — Dark reddish-brown; head, scapus, mesonotum partly, and legs (but hind femur partly weakly infuscated and telotarsi distinctly infuscated), yellowish-brown; palpi, tegulae, coxae largely, trochanters, base of pterostigma, second and third metasomal segments, more or less whitish-yellow or ivory; rest of pterostigma (except yellowish apex) dark brown; middle third of fore wing membrane and wing veins infuscated; five apical antennal segments, dark brown; rest of antenna (except scapus) brownish-yellow; rest of wing veins yellowish; rest of wing membrane subhyaline.

Variation. — Length of fore wing of ♀ 2.3-2.8 mm, length of first metasomal tergite 2.3-2.8 times its apical width, and notauli largely smooth or distinctly crenulate.

**Blacus (Ganychorus) fuscitarsis spec. nov.**

(figs. 616-625)

Material. — Holotype, ♀, (BPBM): "New Guinea: NE, Bulldog Rd., Ridge, 2650 m, 20-23.V.1967", "J.L. Gressitt, Malaise trap, Bishop Museum", "J. Sedlacek, Malaise trap, Bishop".

Holotype, ♀, length of body 2.4 mm, of fore wing 2.6 mm.

Head. — Antennal segments 20, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 4.7, 3.3 and 1.4 times their width, respectively (figs. 616, 620); length of maxillary palp 0.9 times height of head; frons smooth; OOL : diameter of ocellus : POL = 6:3:8; length of eye in dorsal view 0.9 times temple (fig. 623); face smooth; malar suture narrow; length of malar space 1.6 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides medially and posteriorly crenulate and antero-ventrally rugose; precoxal sulcus only medially impressed and with few short striae (fig. 616); anterior half of notauli deep and crenulate, posterior half obsolescent and smooth (fig. 625);

mesoscutal lobes rather convex, and only lateral lobes setose; scutellum smooth, its lateral carina rather obtuse posteriorly, wide, and weakly protruding dorsally (fig. 616); propodeal tubercles absent; surface of propodeum smooth between carinae, its posterior face comparatively short (fig. 625), its medial area absent (fig. 625).

Wings. — Fore wing: first discal cell narrowly truncate anteriorly; 1-CU1 : 2-CU1 = 1:2; parastigma rather large (fig. 617).

Legs. — Hind coxa with several oblique carinae and striae; length of femur, tibia, and basitarsus of hind leg 6.6, 11.4 and 9 times their width, respectively; fore and middle claws with long blackish bristles (fig. 619); hind claw with only yellowish bristles (fig. 618).

Metasoma. — Length of first tergite 2.1 times its apical width, coarsely reticulate medially, partly rugose laterally, dorsal carinae complete (fig. 622); second tergite smooth; length of ovipositor sheath approx. 0.21 times fore wing.

Colour. — Blackish or dark brown; radix, apex of pedicellus, annellus, and palpi, yellowish; rest of antenna and tegulae dark brown; wing membrane subhyaline; pterostigma and veins (rather dark) brown; hind and middle coxae rather strongly and rest of legs weakly infuscated.

***Blacus (Ganychorus) genalis* Haeselbarth**

(figs. 18, 19, 924, 925)

*Blacus genalis* Haeselbarth, 1974: 68-70.

*Blacus (Ganychorus) genalis*; Van Achterberg, 1976: 210, figs. 10, 11, 175.

Known from S. Africa (Transvaal, Cape Province) and Zaïre (Shaba, Kivu (1000-2324 m. (MAC))).

The colour of the large series from Zaïre is rather variable: hind femur of ♀ may be slightly darkened (more extensively in ♂), antenna of ♀ only subapically yellowish (but apical segment dark). The antenna of ♂ is completely dark and the parastigma is not enlarged. Antennal segments of ♀ 20(6), of ♂ 21(2) and length of first metasomal tergite 2.2-3.1 times its apical width.

***Blacus (Ganychorus) hadrolophus* spec. nov.**

(figs. 647-656)

Material. — Holotype, ♀, (BPBM): "British N. Borneo, Tenompok, 13.II.1959", "T.C. Maa, Collector, Bishop". Paratype, 1 ♀, (RMNH); topotypic, 10-19.II.1959.

Holotype, ♀, length of body 2 mm, of fore wing 2.1 mm.

Head. — Antennal segments 20, of equal width, length of third segment 1.5 times fourth segment, length of third, fourth and penultimate segments 4, 2.8 and 1.4 times their width, respectively (figs. 649, 648); length of maxillary palp 0.9 times height of head; frons smooth; OOL : diameter of ocellus : POL = 9:3:7; length of eye in dorsal view equal to temple (fig. 652); face smooth; malar suture only near eye shallowly impressed; length of malar space 1.7 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides reticulate ventrally, dorsally smooth; precoxal sulcus slightly impressed and with few rugae medially (fig. 649); notauli complete, rather deep, smooth except anteriorly (fig. 655); mesoscutal lobes rather convex, and largely setose; scutellum smooth, except for few short rugae, its lateral carina lamelliform and protruding dorsally (fig. 649); propodeal tubercles absent, but carinae somewhat protruding; surface of propodeum smooth between carinae, its medial area absent (fig. 655).

Wings. — Fore wing: first discal cell broadly truncate anteriorly; 1-CU1 : 2-CU1 = 2:3; parastigma rather large (fig. 647).

Legs. — Hind coxa with some rugae dorsally; length of femur, tibia, and basitarsus of hind leg 5.6, 10.4 and 6.8 times their width, respectively; fore claws with blackish bristles; middle and hind claws simple (fig. 650, 654); hind tarsus narrowed below basitarsus (fig. 653).

Metasoma. — Length of first tergite 2.1 times its apical width, rugose medially, with some striae laterally, dorsal carinae distinct in basal 0.8 (fig. 656); second tergite smooth; length of ovipositor sheath approx. 0.21 times fore wing.

Colour. — Dark reddish-brown; four basal antennal segments, legs (telotarsi darkened), palpi and metasoma baso-ventrally, brownish-yellow; tegulae (dark) brown; rest of antenna dark brown; second metasomal tergite and base of third, brown; ptero- and parastigma brown; wing membrane subhyaline, but near vein 1-M slightly infuscated.

Variation. — Antennal segments of ♀ 20(2); palpi brownish-yellow or induscat notauli largely smooth or finely crenulate; length of fore wing 2.1-2.3 mm; length of ovipositor sheath 0.16-0.2 times fore wing.

***Blacus (Ganychorus) haeselbarthi* Van Achterberg**  
(figs. 687-693)

*Blacus (Ganychorus) haeselbarthi* Van Achterberg, 1976: 210-211, figs. 220-226.

Known from Tanzania (Arusha, 2500-2600 m).

**Blacus (Ganychorus) insulcatus spec. nov.**

(figs. 774-780)

Material. — Holotype, ♀, (CNC): "Brasilien, Nova Teutonia, 27°11'B - 52°23'L, Fritz Plaumann, III.1967, 300-500 m".

Holotype, ♀, length of body 2.3 mm, of fore wing 2.2 mm.

Head. — Antennal segments 20, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 5.5, 4 and 1.9 times their width, respectively (fig. 774); length of maxillary palp 0.9 times height of head; frons smooth and glabrous; OOL : diameter of ocellus : POL = 5:4:9; length of eye in dorsal view 1.2 times temple (fig. 778); face smooth; malar suture absent; length of malar space twice basal width of mandible.

Mesosoma. — Length of mesosoma 1.2 times its height; pronotal sides mainly rugose ventrally, smooth dorsally; precoxal sulcus complete, with some strong rugae (fig. 774); notauli completely absent (fig. 777); mesoscutum strongly convex, with some setae along imaginary course of notauli (fig. 777); scutellum smooth except some short crenulae, its lateral carina lamelliform, protruding dorsally (fig. 774); propodeal tubercles absent; surface of propodeum smooth, dorsally, reticulate posteriorly, its medial area absent (fig. 774).

Wings. — Fore wing: first discal cell narrowly truncate anteriorly; 1-CU1 : 2-CU1 = 9:21; parastigma rather small (fig. 776).

Legs. — Hind coxa mainly rugose dorso-anteriorly; length of femur, tibia, and basitarsus of hind leg 6, 11.6 and 10 times their width, respectively; fore and middle claws with large blackish bristles; hind claw simple.

Metasoma. — Length of first tergite 2.0 times its apical width, rugose, dorsal carinae distinct in basal half (fig. 780); second tergite smooth; length of ovipositor sheath 0.21 times fore wing.

Colour. — Dark reddish-brown; palpi, antenna (except mainly brown apical segment), legs largely, second and third metasomal segments and tegulae, yellowish; telotarsi and apical half of hind femur dark brown; pronotum reddish anteriorly; pterostigma light brown; wing membrane slightly infuscated.

**Blacus (Ganychorus) kaszabi Haeselbarth**

(fig. 486)

*Blacus kaszabi* Haeselbarth, 1973b: 75-78, fig. 1.

*Blacus (Ganychorus) kaszabi*; Van Achterberg, 1976: 212.

Only known from Mongolia.

**Blacus (Ganychorus) koenigsmanni** Haeselbarth  
(fig. 487)

*Blacus koenigsmanni* Haeselbarth, 1973a: 103-104, fig. 19.

*Blacus (Ganychorus) koenigsmanni*; Van Achterberg, 1976: 212.

Known from Europe (Austria).

**Blacus (Ganychorus) macropterus** Haeselbarth stat. nov.  
(figs. 450, 451, 454, 1224, 1241)

*Blacus ambulans macropterus* Haeselbarth, 1973a: 102-103, figs. 4, 5, 6, 11, 17, 97; 1975a: 29; 1976b: 49; Papp, 1983: 442.

*Blacus (Ganychorus) ambulans macropterus*; Van Achterberg, 1976: 212.

*Blacus macropterus*; Hellén, 1974: 16.

Described by Haeselbarth as a subspecies of *ambulans*; the typical *ambulans* is known from Ireland only, *macropterus* of the rest of Europe. Because the differences of the males of both taxa are very distinct (shape of first discal cell of fore wing), it is justified to treat *macropterus* as species. Known from Europe except Ireland (Albania, Austria, Bulgaria, Czechoslovakia, England, Finland, Hungary, Italy (up to montane parts), Yugoslavia, Poland, Romania, Scotland, Sweden, Switzerland, U.S.S.R. (N.W. part), West Germany), and Mongolia.

**Blacus (Ganychorus) maculipes** Wesmael  
(figs. 448, 449, 457, 458, 1244)

*Blacus maculipes* Wesmael, 1835: 94; Haeselbarth, 1973a: 104-106, figs. 10, 18, 36, 94, 114; 1975a: 29; Tobias, 1976: 116.

*Blacus (Ganychorus) maculipes*; Van Achterberg, 1976: 212.

Common in hilly and mountainous areas (up to 2000 m), especially males are commonly collected; known from Europe, except Ireland (Austria (Gastern; Ebriach, 580-840 m (RMNH)), Belgium, Bulgaria, Czechoslovakia, Denmark (Skiveren (RMNH)), East Germany, England, Finland, Hungary (Debreczen (USNM, RMNH)), Italy (up to 1600 m), Yugoslavia, Netherlands (Appelscha (F.), Epen (L.), Meijendel (swarming during summer evening in the dunes), Terschelling (Midland-Noord), Veenendaal, Westernieland (G.) and Wijster), Poland, Romania, Scotland, Sweden (Ang., Ålske, Värmland,

Transtrand (RMNH, HC)), Switzerland, U.S.S.R. (European parts), West Germany). Parasite of Curculionidae.

**Blacus (Ganychorus) mellicornis** spec. nov.  
(figs. 626-635)

Material. — Holotype, ♀, (BPBM): "Viet Nam, M'Drak, E. of Ban Me Thuot, 4-600 m, 8-19.XII.(19)60", "C.M. Yoshimoto Collector". Paratypes, 2 ♂, (BPBM, RMNH), topotypic.

Holotype, ♀, length of body and fore wing both 2.2 mm.

Head. — Antennal segments 20, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 5.3, 4.3 and 1.8 times their width, respectively (figs. 627, 630); length of maxillary palp equal to height of head; frons smooth; OOL : diameter of ocellus : POL = 10:5:8; length of eye in dorsal view 1.2 times temple (fig. 633); face largely smooth, with some rugae near antennal sockets; malar suture present; length of malar space 1.4 times basal width of mandible; clypeus conspicuously whitish setose (fig. 630).

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides reticulate ventrally, crenulate medially, rest largely smooth; precoxal sulcus complete, with some partly long rugae, one reaching prepectal carina (fig. 630); notauli complete, narrowly crenulate (fig. 631); mesoscutal lobes rather convex, laterally only long whitish setose; scutellum smooth, except some short carinae, its lateral carina lamelliform, protruding dorsally (fig. 630); propodeal tubercles absent; surface of propodeum smooth between carinae, its medial area absent (fig. 632).

Wings. — Fore wing: first discal cell narrowly truncate anteriorly; 1-CU1 : 2-CU1 = 7:12; parastigma medium-sized (fig. 626).

Legs. — Hind coxa with two oblique rugae; length of femur, tibia, and basitarsus of hind leg 5.8, 10 and 8 times their width, respectively; fore claws with conspicuous blackish bristles (fig. 628); middle and hind claws with inconspicuous yellowish or brownish bristles and setae (fig. 635).

Metasoma. — Length of first tergite 2.5 times its apical width, rugose medially, with some aciculae laterally, dorsal carinae distinct in basal 0.7 (fig. 632); second tergite smooth; length of ovipositor sheath 0.18 times fore wing.

Colour. — Chestnut brown; head anteriorly yellowish-brown; antenna brownish-yellow, but apical half largely pale yellow and apical segment dark brown; scapus somewhat darker than pedicellus; pterostigma dark brown; parastigma, veins and tegulae brown; fore and middle legs (and more or less hind coxa), hind trochanters, palpi and basal half of metasoma ventrally,



brownish-yellow; apical half of metasoma blackish; hind femur (and to a lesser degree hind tibia and basitarsus) dark testaceous; rest of hind tarsus (except apex) pale yellowish; wing membrane weakly infuscated, more pronounced below pterostigma.

Variation. — Males: parastigma strongly enlarged; antenna (except pedicellus) and pterostigma dark brown; antennal segments 21(1) or 22(1); precoxal sulcus as in holotype or crenulae short.

**Blacus (Ganychorus) mellistigmus spec. nov.**  
(figs. 582-591, 593)

Material. — Holotype, ♀ (BPBM): "Taiwan: Arisan, 2130 m (7300'), 17.VIII.1947", "J.L. Gressitt, Collector Bishop Museum".

Holotype, ♀, length of body 2.6 mm, of fore wing 2.8 mm.

Head. — Antennal segments 21, antenna widened apically and long setose; length of third segment 1.5 times fourth segment, length of third, fourth and penultimate segments 4, 2.7 and 1.5 times their width, respectively (figs. 582, 584); length of maxillary palp 0.6 times height of head; frons smooth and densely setose; OOL : diameter of ocellus : POL = 10:4:9; length of eye in dorsal view 0.9 times temple (fig. 589); eye with some setae (fig. 588); face smooth except some rugulae near eyes; malar suture absent, except trace near eyes; length of malar space twice basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides rugose, but dorsally smooth; precoxal sulcus medially depressed only, with three rugae (fig. 582); notauli complete, narrowly crenulate (fig. 587); mesoscutal lobes rather convex, rather long setose, sparser medio-anteriorly on lateral lobes; scutellum largely smooth, its lateral carina lamelliform, protruding dorsally (fig. 582); propodeal tubercles absent, but carina somewhat protruding; surface of propodeum largely smooth between carinae, its medial area absent.

Wings. — Fore wing: first discal cell acute anteriorly; 1-CU1 : 2-CU1 = 7:9; parastigma small (fig. 585).

Legs. — Hind coxa rugose dorsally; length of femur, tibia, and basitarsus of hind leg 7.4, 11.6 and 10.5 times their width, respectively; fore claw with brownish bristles (fig. 583); middle and hind claws simple (figs. 586, 590).

Metasoma. — Length of first tergite 1.7 times its apical width, rugose medially, with oblique rugae laterally, dorsal carinae distinct in basal 0.6 (fig. 593); second tergite smooth; length of ovipositor sheath 0.16 times fore wing.

Colour. — Reddish-brown; lateral lobes of mesoscutum medially, nine

apical antennal segments, pronotum largely (except dorsally), rest of mesosoma (except mesoscutum and scutellum), first tergite and main part of following tergites, dark brown; palpi, rest of antenna, legs (but telotarsi darkened) and tegulae, light yellowish; para- and pterostigma light brown; wing membrane subhyaline, only near veins slightly darker.

**Blacus (Ganychorus) mischocytus** Van Achterberg  
(figs. 459-461, 565-571)

*Blacus (Ganychorus) mischocytus* Van Achterberg, 1976: 214-215, figs. 235-241.

Known from Indonesia (Java, 1500-2100 m) and Sarawak (Bau District, 90-240 m; (BPBM)).

**Blacus (Ganychorus) nitidus** Haeselbarth  
(figs. 440, 445, 592, 594)

*Blacus nitidus* Haeselbarth, 1973: 112-114, figs. 20, 32; 1975a: 30; Hellén, 1974: 16.

*Blacus (Ganychorus) nitidus*; Van Achterberg, 1976: 213.

*Blacus petiolatus* Tobias, 1976: 117, 228-229, figs. 65-5,6, **syn. nov.**

Known from Austria, England, Finland (Utsjoki (RMNH)), Hungary, Italy (1600 m), Japan (Nagano Pref., Shimashima-dani, 900-1300 m (ELF)), Norway, Sweden, Switzerland, U.S.S.R. (Georgian SSR, Sochi).

The holotype of *petiolatus* (ZIL, examined) is a normal male of *nitidus*: antennal segments 23, length of third antennal segment 1.6 times third segment; precoxal sulcus only medially impressed, with a few weak rugae; first discal cell acute anteriorly; length of first tergite 2.2 times its apical width and coarsely reticulate-rugose; length of fore wing 2.6 mm. Both females from Japan have also precoxal sulcus reduced and sparsely crenulate and antennal segments 20(1) or 21(1).

**Blacus (Ganychorus) obscuripes** spec. nov.  
(figs. 607-615)

Material. — Holotype, ♀, (BPBM): "New Guinea: Neth., Vogelkop, Bomberi, 700-900 m, VI-9-'59", "J.L. Gressitt Collector". Paratype, 1 ♀ + 1 ♂: ♂, (BPBM), topotypic; ♀ (RMNH): "New Guinea: W.E., Wau, Hospital CK, 1150-1250 m, 27.I.1966", "J. Sedlacek, Malaise trap, Bishop".

Holotype, ♀, length of body 2 mm, of fore wing 2.3 mm.

Head. — Remaining antennal segments 15, length of third segment 1.4 times fourth segment, length of third and fourth segments 5, 7 and 4 times their width, respectively (fig. 607); length of maxillary palp equal to height of head; frons smooth;  $00L : \text{diameter of ocellus} : POL = 12:6:19$ ; length of eye in dorsal view 1.4 times temple (fig. 613); face smooth, except setiferous tiny punctures; malar suture deep; length of malar space 1.2 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides smooth but medially crenulate, posteriorly with some crenulae and ventrally with some rugae; precoxal sulcus absent anteriorly and sparsely sculptured posteriorly (fig. 607); notauli complete, crenulate, except posteriorly (fig. 609); mesoscutal lobes rather convex, middle lobe setose, rest largely glabrous; scutellum smooth, its lateral carina lamelliform and protruding dorsally (fig. 607); propodeal tubercles absent, but carina somewhat protruding; surface of propodeum smooth between carinae, its medial area absent (fig. 609).

Wings. — Fore wing: first discal cell moderately truncate anteriorly;  $1-CU1 : 2-CU1 = 5:11$ ; parastigma rather large (fig. 608).

Legs. — Hind coxa with an oblique carina and some rugae; length of femur, tibia, and basitarsus of hind leg 6.5, 10.5 and 9.5 times their width, respectively; fore claw with long blackish bristles (fig. 612); hind claw with only brownish bristles; middle claw missing, but in ♀-paratype also with blackish bristles.

Metasoma. — Length of first tergite 2.4 times its apical width, largely smooth, between dorsal carinae some rugae and laterally with some superficial sculpture, dorsal carinae nearly complete (fig. 615); second tergite smooth; length of ovipositor sheath approx. 0.22 times fore wing.

Colour. — Dark brown or blackish; thirteenth-fifteenth antennal segments, annellus, palpi, apices of all tibiae (but of hind tibia narrowly), all tarsi (except telotarsi), pale yellowish, rest of legs rather dark brown but hind femur blackish; tegulae yellowish-brown; ptero- and parastigma and veins, brown; wing membrane subhyaline.

Variation. — Antenna of ♂ completely dark brown and with 21 segments; length of malar space 1.0-1.2 times basal width of mandible; length of fore wing 2.1-2.6 mm; length of ovipositor sheath 0.19-0.22 times fore wing; parastigma of ♂ very large and first discal cell widely truncate anteriorly; length of first tergite 2.1-2.4 times its apical width; hind basitarsus of ♀-paratype rather brownish; male has tarsi pale yellowish, contrasting with rather dark brown hind tibia and apices of tibiae brown.

**Blacus (Ganychorus) pallipes Haliday**  
(fig. 447)

*Blacus pallipes* Haliday, 1835: 41; Haeselbarth, 1973a: 92-93, fig. 33; 1975a: 28.

*Blacus (Ganychorus) pallipes*; Van Achterberg, 1976: 213, figs. 1-8.

*Blacus tuberculatus* Wesmael, 1835: 98.

*Blacus barynoti*; Tobias, 1976: 115.

In the Haliday Collection (NMI) are 6 ♀ + 1 ♂ (all box 8, except 1 ♀ from box 9). As lectotype is here designated an Irish ♀, incorrectly labelled as British by Stelfox: "Ganychorus pallipes Hal., Type!, ♀, AWS, 31.5.1936". The other specimens (5 ♀ + 1 ♂) are labelled paralectotypes. The lectotype has 24 antennal segments.

Known from Europe (Austria, Belgium, Bulgaria, Czechoslovakia (Trenčín (RMNH)), Denmark, East Germany, England, Finland, France, Hungary, Italy (up to 1550 m), Netherlands (Appelscha, Heemstede, Kerkrade, Meijendel (dunes), Ulvenhout, Voorschoten, Waarder, Weesp, Wijster), Sweden, Switzerland, U.S.S.R. (N.W. part, south to Kazakhstan and Armenia), West Germany). Parasite of Curculionidae.

**Blacus (Ganychorus) parastrictus spec. nov.**  
(figs. 534-544)

Material. — Holotype, ♀, (WCAM): "Taiwan, Nontou Hsien, Tsuifeng, V-23-1982, R. Wharton".

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

Head. — Antennal segments 15, long whitish setose, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 5, 4.3, and 2.2 times their width, respectively (figs. 535, 536); length of maxillary palp 0.7 times height of head; frons smooth and setose; OOL : diameter of ocellus : POL = 14:5:11; length of eye in dorsal view 0.9 times temple (fig. 538); eyes with some setae; face smooth; malar suture absent; length of malar space 1.8 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides with some rugae, largely smooth; precoxal sulcus absent except for a shallow depression (fig. 535); notauli complete, largely smooth and narrow (fig. 537); mesoscutal lobes rather convex, setose except lateral lobes medially; scutellum smooth, its lateral carina complete, weak and slightly protruding dorsally (fig. 535); propodeal tubercles absent; surface of propodeum largely smooth between strong carinae, its medial area absent (fig. 544).

Wings. — Fore wing: first discal cell acute anteriorly (fig. 534); 1-CU1 : 2-CU1 = 5:7; parastigma small (fig. 534).

Legs. — Hind coxa with dorsal rugae; length of femur, tibia and basitarsus of hind leg 6.7, 10.3, and 9 times their width, respectively; fore and middle claws with rather short blackish pecten (figs. 539, 541); hind claw only setose (fig. 543).

Metasoma. — Length of first tergite 2.0 times its apical width, rugose, and dorsal carinae distinct in basal 0.6 (fig. 544); second tergite shortly striate basally (fig. 544); tergites beyond first tergite depressed (figs. 535, 544); length of ovipositor sheath 0.09 times fore wing.

Colour. — Blackish; antenna (except pedicellus and annellus), tegulae, pterostigma, parastigma, veins, hind coxa dorsally, second tergite and telotarsi dark brown; pedicellus, annellus, and remainder of legs, brownish-yellow; palpi infuscated; wing membrane somewhat infuscated.

Note. Close to the European *B. (G.) strictus*, but *strictus* has mesopleuron finely striate medially, face rugulose-punctate, and vein r of fore wing shorter (fig. 444).

***Blacus (Ganychorus) paucicrenulatus* spec. nov.**  
(figs. 657- 667)

Material. — Holotype, ♀, (BPBM): “Sarawak: Nanga Pelagus, 7-14.VIII.[19]58”, “T.C. Maa Collector, Bishop”. Paratypes, 2 ♀: 1 ♀, (RMNH), topotypic (but added “nr Kapit, 180-585 m”); 1 ♀, (BPBM): “Sarawak, Merirai Valley, nr Kapit, 30-300 m, 1-6.VII.[19]58”, “T.C. Maa Collector, Bishop”.

Holotype, ♀, length of body and fore wing both 1.7 mm.

Head. — Antennal segments 20, somewhat widened apically, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 4.1, 3 and 1.7 times their width, respectively (figs. 657, 658); length of maxillary palp equal to height of head; frons smooth; OOL : diameter of ocellus : POL = 15:5:13; length of eye in dorsal view 1.2 times temple (fig. 664); face smooth; malar suture rather deep; length of malar space approx. 1.5 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides reticulate-rugose, dorsally smooth; precoxal sulcus narrowly crenulate medially, rest shallowly impressed (fig. 657); notauli complete, narrowly crenulate (fig. 665); mesoscutal lobes rather convex, nearly completely glabrous; scutellum smooth, its lateral carina lamelliform, and protruding dorsally (fig. 657); propodeal tubercles absent; surface of propodeum smooth between

carinae, its medial area absent.

Wings. — Fore wing: first discal cell narrowly truncate anteriorly; 1-CU1 : 2-CU1 = 7:19; parastigma rather large (fig. 659).

Legs. — Hind coxa with some rugae dorsally; length of femur, tibia, and basitarsus of hind leg 6, 9.5 and 8.5 times their width, respectively; fore claw with blackish bristles (fig. 660); middle and hind claw simple (figs. 661, 662).

Metasoma. — Length of first tergite 2.0 times its apical width, largely smooth, dorsal carinae distinct in basal half (fig. 667); second tergite smooth; length of ovipositor sheath 0.18 times fore wing.

Colour. — Dark brown; scapus, nineteenth and twentieth antennal segments, dark brown; twelfth-eighteenth antennal segments and palpi, pale yellowish; rest of antenna brownish-yellow; legs (except infuscated telotarsi) brownish-yellow; tegulae dark brown; wing membrane slightly infuscated, especially near veins; ptero- and parastigma and veins, brown.

Variation. — Antennal segments of ♀ 20(3), nineteenth antennal segment pale yellowish in paratypes, length of first tergite 1.9-2.0 times its apical width; length of fore wing 1.5-1.8 mm.

***Blacus (Ganychorus) pectinatus* Haeselbarth**

(figs. 477, 479, 483, 485, 499, 501, 504)

*Blacus pectinatus* Haeselbarth, 1973a: 99-100, figs. 9, 15, 101, 106, 111; 1975a: 29; Hellén, 1974: 16.

*Blacus (Ganychorus) pectinatus*; Van Achterberg, 1976: 214.

Very closely related to *ruficornis*, the ♀ of *pectinatus* differs mainly by the more robust penultimate antennal segments and the robust blackish basal tooth at hind claw. *B. ruficornis* females have at most blackish bristles at hind claws.

Known from Europe (Austria, Czechoslovakia, Finland, Hungary).

***Blacus (Ganychorus) pisinnus* spec. nov.**

(figs. 419-428)

Material. — Holotype, ♀, (CNC): "Nepal, Ktmd., Pulchauki, 8000'[ft], VIII-4-7-1967, Mal. tr., Can. Exp.". Paratype, 6 ♀ + 1 ♂: 2 ♀ + 1 ♂, (CNC, RMNH), topotypic, but at 7300 ft; 1 ♀, (CNC), topotypic, but at 6800 ft, VII-14-21-1967; 1 ♀, (RMNH): "Nepal, Ktmd., Godavari, 6000'[ft], VIII-7-13-1967, Mal. tr., Can. Exp."; 1 ♀, (CNC), id., but 17-20.VIII.1967; 1 ♀, (CNC), id., but 5000 ft and 3-7.VIII.1967.

Holotype, ♀, length of body 1.9 mm, of fore wing 2.1 mm.

Head. — Antennal segments 20, antenna slightly narrowed basally, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 4.3, 3 and 1.4 times their width, respectively (figs. 421, 422); length of maxillary palp equal to height of head; frons smooth and densely whitish setose; OOL : diameter of ocellus : POL = 10:3:7; length of eye in dorsal view 0.8 times temples (fig. 420); face smooth; malar suture absent; length of malar space 2.3 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides largely smooth dorsally, reticulate ventrally; precoxal sulcus completely impressed, but with only three short setae (fig. 421); notauli complete, largely smooth (fig. 425); mesoscutal lobes rather convex, evenly and rather long setose; scutellum largely smooth, its lateral carina lamelliform, and protruding dorsally (fig. 421); propodeal tubercles indistinct, only carina protruding (fig. 427); surface of propodeum largely smooth, but strongly areolated, its medial area absent (fig. 427).

Wings. — Fore wing: first discal cell acute anteriorly; 1-CU1 : 2-CU1 = 5:8; parastigma small (fig. 419).

Legs. — Hind coxa finely rugulose, with oblique dorsal carina; length of femur, tibia, and basitarsus of hind leg 5.2, 10.2 and 8 times their width, respectively; fore claws with blackish bristles and teeth (fig. 423); middle and hind claws only bristly (fig. 424).

Metasoma. — Length of first tergite 2.2 times its apical width, rugose medially, with some striae laterally, dorsal carinae distinct in basal half (fig. 427); second tergite smooth; length of ovipositor sheath 0.15 times fore wing.

Colour. — Dark (reddish-)brown; antenna (but apically and scapus dark brown), mesoscutum (somewhat darkened), scutellum, wing veins, pterostigma (but base yellowish), metasoma (except first tergite), brown; palpi, tegulae and legs largely, brownish-yellow; apical half of hind femur, tibia (except base) and telotarsus (largely) infuscated; wing membrane subhyaline.

Variation. — Antennal segments of ♀ 18(2), 19(2), 20(1), 21(1), of ♂ 20(1); length of first tergite 1.9(2)-2.0(1)-2.1(3)-2.2 (1 ♀ + 1 ♂) times its apical width; length of ovipositor sheath 0.15-0.19 times fore wing; length of fore wing 1.7-2.5 mm; paratypes have antenna darkened, but second and third segments (largely) yellowish, to a lesser degree also twelfth-fourteenth segments; hind coxa always completely yellowish and hind femur of 2 ♀-paratypes and of ♂ completely yellowish. Wing venation of ♂ similar to venation of ♀.

**Blacus (Ganychorus) ruficornis** (Nees)  
(figs. 476, 478, 482, 484, 496, 722-743)

*Bracon ruficornis* Nees, 1812: 18.

*Blacus ruficornis*; Haeselbarth, 1973a: 97-99, figs. 3, 7, 8, 14, 35, 96, 105, 113; 1975a: 29; 1975b: 49; Tobias, 1976: 116.

*Blacus (Ganychorus) ruficornis*; Van Achterberg, 1976: 203-204, figs. 156-162, 170; Marsh, 1979: 267.

*Microgaster bisstigmata* Say, 1836: 264.

*Dacnusa cerealis* Curtis, 1860: 294-295, **syn. nov.**

*Blacus cerealis*; Van Achterberg, 1976: 250.

*Blacus dentatus* Hellén, 1958: 24.

Parasite of Curculionidae and Staphylinidae; most common species of *Blacus* in the Holarctic region. Known from Europe (Albania, Andorra (920 m), Austria (up to 1400 m), Belgium, Bulgaria, Cyprus (up to 1200 m), Czechoslovakia, Denmark, East Germany, England, Finland, France, Greece, Hungary, Ireland, Italy, Yugoslavia, Netherlands (Appelscha, Asperen, Assel (G.), Biesbosch, Delft, Ede (G.), Emmen, Epen (L.), Haamstede, Meerkerk (Z.H.), Meijndel (dunes), Melissant, Nunspeet, Oostvoorne (dunes), Ouddorp, Planken Wambuis, Putten (G.), Ritthem (L.), Rotterdam, Schweibergerbos (L.), St. Pietersberg, Waarder, Weesp, Wijster), Norway, Poland, Romania, Scotland, Spain (Malaga, Alcuçuz, c. 300 m, at light (RMNH)), Sweden, Switzerland (up to 1800 m), U.S.S.R. (European parts), Wales, West Germany), N. Africa (Tunisia), Japan (Kunamot Prof., Mt. Hakuchôzan, 1300 m; Nagano Pref., Shimashima-dani, 900-1300 m (ELF, RMNH)), Canada (Alberta, British Columbia, Manitoba, Northwest Territories, Nova Scotia, Ontario, Quebec, Saskatchewan, Yukon Territory), U.S.A. (Alaska, Arizona, California (up to 2100 m), Colorado, Georgia, Idaho, Illinois, Indiana, Louisiana, Maryland, Michigan, Minnesota, Nebraska, New Jersey, New York, North and South Carolina, Ohio, South Dakota, Tennessee, Texas, Virginia, Washington, Wisconsin), and Mexico (1500-2700 m).

The type-series of *cerealis* has been examined and proved to belong to *ruficornis*.

A ♀ of *ruficornis* from Wijster (Netherlands) is figured (figs. 730-740) because it is a peculiar blend of secondary female and male characters. The head (excluding antenna) and wings are male-like, however, the remainder of the body (including genitalia) are typical female-like. It may be that the diploid genome of the ♀ did not function normally in the head and wing region, mimicing the male (haploid) genome, resulting in the local development of secondary male characters.

The variation within *ruficornis* is considerable; the scutellum may be rugose



or smooth, frons largely or narrowly microsculptured, face extensively rugulose, only medially rugulose or completely smooth; first discal cell of fore wing of ♀ rather narrow or (somewhat) wider and middle lobe of mesoscutum of ♀ densely setose or largely glabrous. However, the ♂ has generally a less setose mesoscutum and cannot be associated with one of the forms of the ♀. There are several intermediates and it seems most likely that all are part of a variable and widely distributed species.

**Blacus (Ganychorus) semisulcatus spec. nov.**  
(figs. 781-787)

Material. — Holotype, ♀, (CNC): “Colombia, Caldas, 3300-3500 m, 5°15'N, 76°25'W, J. Helava, 5-IV-[19]73”.

Holotype, ♀, length of body 2.5 mm, of fore wing 2.9 mm.

Head. — Antennal segments 21, length of third segment 1.5 times fourth segment, length of third, fourth and penultimate segments 5.2, 3.5 and 1.5 times their width, respectively (fig. 782); length of maxillary palp about equal to height of head; frons smooth; OOL : diameter of ocellus : POL = 7:3:6; length of eye in dorsal view 0.9 times temple (fig. 787); face smooth, somewhat pimply; malar suture narrow; length of malar space 1.8 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.2 times its height; pronotal sides reticulate-rugose, with dorso-posterior corner smooth (fig. 782); precoxal sulcus narrowly depressed with five short crenulae medially (fig. 782); notauli smooth, shallowly impressed anteriorly, ending posteriorly in round depression (fig. 784); mesoscutal lobes rather convex, densely setose, except lateral lobes medially; scutellum rugose laterally, smooth medially, its lateral carina protruding dorsally (fig. 782); propodeal tubercles absent; surface of propodeum smooth between carinae, its medial area absent, medial carina very strong.

Wings. — Fore wing: first discal cell acute anteriorly; 1-CU1 : 2-CU1 = 5:39; parastigma rather small (fig. 783).

Legs. — Complete hind coxa finely rugose; length of femur, tibia, and basitarsus of hind leg 7.4, 13.6 and 9 times their width, respectively; all claws without blackish bristles, at most with some yellowish setae.

Metasoma. — Length of first tergite 3.2 times its apical width, finely rugose laterally, coarsely rugose-reticulate dorsally, dorsal carinae distinct in basal third, converging (fig. 786); second tergite smooth, setae of third-sixth tergites

spread, not in rows as other spp.; length of ovipositor sheath 0.11 times fore wing.

Colour. — Blackish-brown; anellus, apical half of pedicellus, fore and middle coxae and femora, hind trochanter and trochantellus, yellowish-brown; metasoma (except first tergite) reddish-brown, apically darkened; all tibiae and tarsi, dark yellowish-brown; hind coxa mainly, and hind femur dark brown; tegulae, palpi and pterostigma (light) brown.

***Blacus (Ganychorus) setosifrons* spec. nov.**

(figs. 505-515)

Material. — Holotype, ♀, (BPBM): "China: C. Taiwan, Sung-kang, nr Musha, 2044 m, 6.XII.1963", "T.C. Maa, Collector Bishop". Paratypes, 14 ♀ + 2 ♂; 1 ♀, (BPBM): "Taiwan C., Alisan, 2400 m, 3-9.VII.1972", "T.C. Maa Collector"; 1 ♀, (RMNH): "Taiwan: Arisan, 2130 m (7300 ft), 17.VIII.1947", "J.L. Gressitt Collector, Bishop Museum"; 1 ♀, (BPBM): "N. India, Goom, 25 km SW of Darjeeling, 2100-2400 m, 24-28.IV.1966", "J. & M. Sedlacek Collectors, Bishop Museum"; 1 ♀, (BMNH): "Taplejung Dist.: between Sangu and Tamrang [Nepal], x-xi-1961", "deep river gorge c. 5200'[ft]"; 5 ♀ + 1 ♂ (CNC, RMNH): "Nepal, nr Ktmd., Bhurumche, 85-9500 ft, oak forest, 23.V.1967, Can. Nepal Exp."; 1 ♂, (CNC): "Nepal, Ktmd., Godavari, 6000 ft, 1-3. VIII.1967"; 1 ♀, (CNC): "27°58'N, 85°00'E, Nepal; 11,100 ft, 25 May, 1967"; 1 ♀ (CNC): "Pulchauki, Nepal, Ktmd, 8000 ft, 31.VII.1967"; 1 ♀ (WCAM): "Taiwan, Nantou Hsien, Tsuifeng, V-23-1982; R. Wharton"; 2 ♀ (WCAM, RMNH): "Taiwan, Natou Hsien, Meifeng, V-22-1982, R. Wharton". In addition 8 ♂ (WCAM, RMNH) from Taiwan, which are excluded from the type-series because they are completely blackish and have the frons largely glabrous.

Holotype, ♀, length of body 2.6 mm, of fore wing 2.9 mm.

Head. — Antennal segments 20, densely and rather short setose, of equal width, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 4, 3 and 1.9 times their width, respectively (figs. 506, 507); length of maxillary palp 1.1 times height of head; frons largely smooth (only setiferous punctulation), densely setose (fig. 511); OOL : diameter of ocellus : POL = 5:2:5; length of eye in dorsal view 1.2 times temple (fig. 511), glabrous; face largely transversely or obliquely rugulose; malar suture weakly impressed; length of malar space 1.7 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides densely and extensively reticulate-rugose, but smooth dorsally; precoxal sulcus complete, rather spaced and widely rugose (fig. 506); notauli complete, rather narrow, only anteriorly crenulate (fig. 513); mesoscutal lobes rather convex, nearly completely setose; scutellum with few rugulae (fig. 513), its lateral carina not protruding dorsally (fig. 506); propodeal tubercles absnt; surface of propodeum largely smooth, angle between both faces  $125\frac{5}{8}$ - $150\frac{5}{8}$ , its medial area absent; medial carina non-lamelliform (fig. 515).

Wings. — Fore wing: first discal cell widely truncate anteriorly; 1-CU1 : 2-CU1 = 5:13; parastigma large (fig. 505).

Legs. — Hind coxa rugose dorsally; length of femur, tibia, and basitarsus of hind leg 7.4, 11.3 and 10.3 times their width, respectively; fore and middle claws with blackish bristles and teeth (figs. 508, 510); hind claw simple, only whitish (bristly) setae (fig. 509).

Metasoma. — Length of first tergite 1.8 times its apical width, extensively reticulate-rugose medially, dorsal carinae only near dorsope (fig. 515); second tergite smooth, except setiferous punctures; length of ovipositor sheath approx. 0.16 times fore wing.

Colour. — Dark reddish-brown; head (face medially and clypeus dorsally dark brown), basal two-thirds of antenna, mesoscutum, mesosternum, mesopleuron ventrally and partly dorsally, and scutellum, yellowish-brown; palpi, legs (but telotarsi dark brown), tegulae, vein C+SC+R of fore wing, parastigma, pterostigma (except infuscated margins of apical half), metasoma behind first tergite largely, pale yellowish; second and third tergites laterally, and following tergites posteriorly dark brown; rest of veins brown; wing membrane hyaline.

Variation. — Antennal segments of ♀ 20(7) or 21(1), length of fore wing 2.4-2.7 mm; length of first tergite of ♀ 1.4-1.8 times its apical width; length of ovipositor sheath 0.15-0.19 times fore wing; length of malar space of ♀ 1.4-1.7 times basal width of mandible; frons setose, at most along medial groove glabrous; stemmatium or whole head may be infuscated, or dark brown, including scapus (sometimes only dorsally); 2 ♀ from Taiwan (WCAM, RMNH) have mesosoma (except reddish mesoscutum) and metasoma largely dark brown; male has parastigma strongly enlarged (as male of *ruficornis*), body mainly dark brown and precoxal sulcus smooth; the excluded 8 ♂ from Taiwan have moderately long setose antennae, and with 21(7) or 22(1) segments.

Note. Obviously a species of high altitudes in the South Palaearctic area.

***Blacus (Ganychorus) setosus* spec. nov.**  
(figs. 524-533)

Material. — Holotype, ♀, (CNC): "Nepal, Ktmd., Pulchauki, 6000 ft, 1-14.VIII.1967, Can. Nepal. Expd.". Paratypes, 4 ♀: 1 ♀, (CNC): "27°58'N, 85°00'E, Mal. tr.; 11,100'[ft], 24 June 1967, Can. Nepal Exped."; 1 ♀ (CNC): "Nepal, Ktmd., Godavari, 6000'[ft], 23-26.VII.1967, Mal. tr., Can. Nepal Exped."; 1 ♀, (CNC), id., but 30.VII.1967; 1 ♀, (RMNH), id., but 13-19.VIII.1967.

Holotype, ♀, length of body and fore wing both 2.3 mm.

Head. — Antennal segments 21, long setose, length of third segment 1.5 times fourth segment, length of third, fourth and penultimate segments 6, 4, and 2.2 times their width, respectively (figs. 524, 526); length of maxillary palp 1.2 times height of head; frons smooth and setose; OOL : diameter of ocellus : POL = 5:2:4; length of eye in dorsal view 1.4 times temple (fig. 530); face largely smooth; malar suture narrow; length of malar space 1.7 times basal width of mandible; anterior tentorial pits distinctly below lower level of eyes (fig. 529).

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides reticulate-rugose, but smooth dorsally; precoxal sulcus complete, with spaced, long rugae (fig. 524); notauli deep and finely crenulate (fig. 528); mesoscutal lobes rather flat, evenly and rather long setose, middle lobe somewhat rugulose laterally (fig. 524); scutellum largely smooth, its lateral carina lamelliform, somewhat protruding dorsally (fig. 524); propodeal tubercles absent; surface of propodeum largely smooth, its medial area absent (fig. 528).

Wings. — Fore wing: first discal cell moderately truncate anteriorly; 1-CU1 : 2-CU1 = 1:2; parastigma rather wide (fig. 525).

Legs. — Hind coxa with some rugae only dorsally; length of femur, tibia, and basitarsus of hind leg 6.2, 12.2 and 10 times their width, respectively; fore and middle claws with blackish bristles (fig. 532); hind claw only setose (fig. 533).

Metasoma. — Length of first tergite 2.1 times its apical width, with some rugae, dorsal carinae distinct in basal 0.9 (fig. 527); second tergite smooth; length of ovipositor sheath 0.17 times fore wing.

Colour. — Dark (reddish-)brown; palpi, tegulae, mandible, labrum, and legs (but telotarsus dark brown), light yellowish; veins and pterostigma largely dark brown; base of pterostigma yellowish; parastigma largely whitish; metasoma (except first tergite, but including hypopygium) brown; basal half of metasoma yellowish ventrally; antenna brown (darkened apically) but pedicellus and annellus yellowish ventrally; wing membrane subhyaline.

Variation. — Antennal segments of ♀ 20(1) or 21(4), length of fore wing 2.2-2.3 mm; length of ovipositor sheath 0.17-0.22 times fore wing; length of first tergite 2.0-2.2 times its apical width; notauli finely crenulate or smooth; precoxal sulcus complete or absent anteriorly; mesoscutum and/or scutellum partly yellowish-brown or dark brown; infuscation near vein r may be indistinctly developed.

**Blacus (Ganychorus) signicornis** spec. nov.  
(figs. 595-606)

Material. — Holotype, ♀, (BPBM): "Thailand (NW), Chiangmai, Fang, 12-19.IV.1958", "T.C. Maa, Collector Bishop".

Holotype, ♀, length of body 1.6 mm, of fore wing 1.9 mm.

Head. — Antennal segments 21, antenna widened medially, basally very slender, length of third segment 1.9 times fourth segment, length of third, fourth and penultimate segments 5, 2.7 and 1.8 times their width, respectively (figs. 595, 597); length of maxillary palp equal to height of head; frons smooth; OOL : diameter of ocellus : POL = 16:5:13; length of eye in dorsal view 1.2 times temple (fig. 600); face smooth; malar suture very narrow; length of malar space 1.2 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides smooth dorsally, medially and posteriorly crenulate, ventrally with some rugae; precoxal sulcus shallow, with three crenulae (fig. 595); notauli complete and crenulate (fig. 604); mesoscutal lobes rather convex, distinctly setose; scutellum smooth medially, with some rugae laterally, its lateral carina lamelli-form, and strongly protruding dorsally (fig. 595); propodeal tubercles absent; surface of propodeum smooth between carinae, its medial area long and slender (fig. 603).

Wings. — Fore wing: first discal cell widely truncate anteriorly; 1-CU1 : 2-CU1 = 4:10; parastigma rather large (fig. 596).

Legs. — Hind coxa with some rugae; length of femur, tibia, and basitarsus of hind leg 6.2, 10.8 and 9.5 their width, respectively; fore claw pectinate (fig. 598); middle and hind claw only setose, apical tooth angularly bent (figs. 599, 606).

Metasoma. — Length of first tergite 3.0 times its apical width, reticulate-rugose, remainder largely smooth, dorsal carinae distinct in basal 0.9 (fig. 603); second tergite largely smooth, with some punctures; length of ovipositor sheath 0.11 times fore wing.

Colour. — Dark brown; second-seventh and 18th-21th antennal segments pale yellowish, remainder (especially widened part) dark brown; palpi whitish; tegulae, and legs (but hind tibia largely, more testaceous), brownish-yellow; metasoma (except first tergite) brown; ptero- and parastigma and veins light brown; wing membrane subhyaline.

**Blacus (Ganychorus) signifer** spec. nov.  
(figs. 554-564)

Material. — Holotype, ♀, (WCAM): "Taiwan, Nantou Hsien, Meifeng, V-22-1982, R. Whar-ton".

Holotype, ♀, length of body 1.7 mm, of fore wing 2 mm.

Head. — Antennal segments 19, long whitish setose, length of third segment 1.8 times fourth segment, length of third, fourth, and penultimate segments 4.8, 2.8, and 1.7 times their width, respectively (figs. 555, 556); length of maxillary palp 0.7 times height of head; frons smooth and setose posteriorly; OOL : diameter of ocellus : POL = 10:3:9; length of eye in dorsal view 1.1 times temple (fig. 615); face smooth; malar suture narrow; length of malar space 1.7 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides with oblique carina, crenulate posteriorly, reticulate anteriorly and remainder smooth (fig. 555); proxal sulcus complete, but medially narrowly crenulate only (fig. 555); notauli complete, and narrowly crenulate (fig. 560); mesoscutal lobes convex, and setose (except lateral lobes medially); scutellum largely smooth, its lateral carina lamelliform, and protruding dorsally (fig. 555); propodeal tubercles distinct, rather small, mainly formed by carinae and rather acute apically (fig. 555); surface of propodeum smooth anteriorly and posteriorly, reticulate-rugose medially (fig. 562), its medial area absent.

Wings. — Fore wing: first discal cell sessile and acute anteriorly (fig. 554); 1-CU1 : 2-CU1 = 2:3; parastigma rather small (fig. 554); r inserted submedially at pterostigma.

Legs. — Hind coxa with few rugae dorsally, laterally rugulose; length of femur, tibia and basitarsus of hind leg 5.4, 9.8, and 7.3 times their width, respectively; fore claw with dark brown bristles (fig. 552); middle and hind claws long yellowish setose (figs. 559, 563).

Metasoma. — Length of first tergite 1.6 times its apical width, rugose medially, dorsal carinae distinct in basal 0.8 (fig. 562); second tergite smooth; length of ovipositor sheath 0.18 times fore wing.

Colour. — Blackish; pterostigma, parastigma and veins brown; tegulae dark brown; wing membrane subhyaline; 13th-17th antennal segments, apex of pedicellus, and annellus, (yellowish-)brown; telotarsi, and hind tibia (except base) infuscated; palpi and remainder of legs brownish-yellow, second-fourth hind tarsal segments paler than hind basitarsus.

**Blacus (Ganychorus) stami** Van Achterberg  
(figs. 694-700)

*Blacus (Ganychorus) stami* Van Achterberg, 1976: 215, figs. 242-248.

Only known from Zaïre (Shaba).

**Blacus (Ganychorus) striatus** Van Achterberg  
(figs. 765-773, 1238)

*Blacus (Ganychorus) striatus* Van Achterberg, 1976: 207-208, figs. 189-194, 197-205; Marsh, 1979: 267; Sarazin, 1985: 1186.

A species with also micropterous (fig. 1238) females and seldom males. Known from Canada (Alberta, British Columbia, Manitoba, Northwest Territory, Nova Scotia, Ontario, Quebec (Lac Philipe, (CNC)), Saskatchewan, Yukon Territory) and U.S.A. (Alaska, New Hampshire (ca 1200 m)). A female from Alberta (McMurray (CNC)) has been examined which has the length of the first metasomal tergite 1.1 times its apical width and eyes comparatively large, resembling *diversicornis*, but the antenna and striation of mesopleuron are typical for *striatus*.

**Blacus (Ganychorus) strictus** Stelfox  
(figs. 442-444)

*Blacus strictus* Stelfox, 1941: 121, fig. ; Haeselbarth, 1973a: 119-120, figs. 21, 38, 98.  
*Blacus (Ganychorus) strictus*; Van Achterberg, 1976: 211.

The Haliday Collection (NMI) contains the holotype of *strictus*: "Aug. 20, 39 [= 1839]" and has a small green label of Haliday "strictus", "Box 28 AWS/Ireland, Haliday, 20.2.82" "Clifden", "Hwd, Co. Do., A.H.H. 20 Aug. 1839, Ganychorus strictus ♀, Type! Hal. MS. Stelfox 1940". One paratype (from box 9) is housed in the same collection.

Only known from NW. Europe (Finland, Ireland, Scotland, West Germany).

**Blacus (Ganychorus) tenuipes** spec. nov.  
(figs. 677-687)

Material. — Holotype, ♀, (BPBM): "Hong Kong: N.T., Sai Kung Station, 20.X.1964", "W.J. Voss & Hui Wai Ming Collectors, Bishop Mus."

Holotype, ♀, length of body and of fore wing both 1.7 mm.

Head. — Antennal segments 20, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 4, 3.3 and 1.6 times their width, respectively (figs. 678, 679); maxillary palp uncomplete; frons smooth; OOL : diameter of ocellus : POL = 13:4:13; length of eye in dorsal view 1.3 times temple (fig. 682); face smooth; malar suture deep; length of malar space 1.5 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; anterior subalar depression with carina; pronotal sides rugose, but smooth dorsally; precoxal sulcus extensively spaced striate-rugose (fig. 679); notauli complete, and largely smooth (fig. 684); mesoscutal lobes rather convex, glabrous; scutellum smooth, its lateral carina lamelliform, weakly protruding dorsally (fig. 679); propodeal tubercles absent; surface of propodeum smooth, its medial area absent (fig. 683).

Wings. — Fore wing: first discal cell truncate anteriorly; 1-CU1 : 2-CU1 = 3:10; parastigma rather large (fig. 677).

Legs. — Hind coxa with some dorsal rugae; length of femur, tibia, and basitarsus of hind leg 6, 10.8 and 7.5 times their width, respectively; hind tarsus slender, basitarsus gradually merging in rest of tarsus (fig. 685); fore and middle claws with blackish bristles and teeth (fig. 681); hind claw simple (fig. 686).

Metasoma. — Length of first tergite 1.9 times its apical width, with some rugae medially, and some striae laterally, dorsal carinae distinct in basal quarter (fig. 683); second tergite smooth; length of ovipositor sheath 0.21 times fore wing.

Colour. — Rather reddish-brown; 13th-18th antennal segments, palpi, tegulae and legs (except middle telotarsus), pale yellowish; pterostigma, veins and rest of antenna, light brown.

***Blacus (Ganychorus) thoracicus* Van Achterberg**  
(figs. 751-757)

*Blacus (Ganychorus) thoracicus* Van Achterberg, 1976: 205-206, figs. 172, 176-181; Sarazin, 1985: 1187.

Only known from Mexico (Durango (up to 2400 m); Chiapas (up to approx. 2100 m)). Antennal segments of ♀ 20(1) or 21(9).



***Blacus (Ganychorus) tripudians* Haliday**  
(figs. 497, 502, 503, 1222, 1223)

*Blacus tripudians* Haliday, 1835: 41; Haeselbarth, 1973a: 94-95, figs. 1, 31, 93, 103, 107; 1975a: 28-29.

*Blacus (Ganychorus) tripudians*; Van Achterberg, 1976: 212.

In the Haliday Collection (NMI) are 3 (2 ♀ + 1 ♂) types, of which one ♀ is designated here as lectotype "AWS, Box 8/British Haliday 20.2.82" (which is most likely wrong, it is an Irish specimen), "tripudians Hal., ♀, AWS, 1.6.1936". Paralectotypes in NMI: 1 ♀ (from box 9) and 1 ♂ (from box 8). In the remnants of the Ratzeburg Collection (Eberswalde) is one ♀-paralectotype ("94 Haliday ♀").

Known from Europe (Austria, Belgium (Robertville (RMNH)), Bulgaria, Czechoslovakia, Denmark, East Germany, England, France, Greece (Lakonia, Parnon Oros, 1700 m; Mt. Taysetas, 1000 m (RMNH)), Hungary, Ireland, Yugoslavia, Netherlands (Appelscha, Delft, Ede (G.), Lelystad (Larserbos), Oostvoorne (dunes), Petten (G.), Thorn (L.), Venlo, Voorschoten, Waarder, Westerbork (Mantingerbos), Wijster), Romania, Sweden, Switzerland, West Germany). This species seems to prefer rather wet lowland habitats (Haeselbarth, 1973a: 95).

***Blacus (Ganychorus) tuberculifer* spec. nov.**  
(figs. 545-553)

Material. — Holotype, ♀, (BPBM): "Laos: Vientiane Prov., Ban Van Eue, 30.IX.1967", "Native Collector, London-Bishop Mus. Collection".

Holotype, ♀, length of body 2 mm, of fore wing 2.2 mm.

Head. — Remaining antennal segments 17, long whitish setose, length of third segment 1.9 times fourth segment, length of third, and fourth segments 4.3 and 2.3 times their width, respectively (fig. 546); length of maxillary palp 0.9 times height of head; frons smooth and setose; OOL : diameter of ocellus : POL = 11:5:10; length of eye in dorsal view 1.2 times temple (fig. 553); face smooth; malar suture narrow; length of malar space 1.5 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides smooth dorsally, reticulate ventrally; precoxal sulcus complete, only medially narrowly crenulate (fig. 546); notauli complete, and narrowly crenulate (fig. 550); mesoscutal lobes rather convex, and setose, except lateral lobes medial-

ly; scutellum largely smooth, its lateral carina lamelliform, and protruding dorsally (fig. 546); propodeal tubercles distinct, rather small and obtuse; surface of propodeum largely smooth, reticulate posteriorly, its medial area absent (fig. 550).

Wings. — Fore wing: first discal cell subsessile, but acute anteriorly; 1-CU1 : 2-CU1 = 6:8; parastigma rather small (fig. 545); r inserted submedially at pterostigma.

Legs. — Hind coxa with few striae and microsculptured; length of femur, tibia, and basitarsus of hind leg 4.9, 9.8 and 7 times their width, respectively; fore and middle claws with blackish bristles (fig. 549); hind claw only with long brownish setae (fig. 551).

Metasoma. — Length of first tergite 1.6 times its apical width, rugose medially, with some fine striae laterally, dorsal carinae distinct in basal 0.8 (fig. 548); second tergite smooth; length of ovipositor sheath 0.14 times fore wing.

Colour. — Blackish; pterostigma (except base narrowly), parastigma, and veins (dark) brown; tegulae brown; wing membrane rather infuscated; 12th-17th antennal segments, apex of pedicellus, anellus, base of third antennal segment, yellowish-brown; telotarsi, hind tibia (except base) and subapical band at hind femur dark brown; rest of hind leg (including hind coxa), fore and middle legs and palpi, pale yellowish.

Subgenus **Hysterobolus** Viereck  
(figs. 480, 481, 802-879, 1225, 1226)

*Hysterobolus* Viereck, 1913: 559.

*Blacus* subgenus *Hysterobolus*; Van Achterberg, 1976: 215-216.

Type-species: *Hysterobolus mallochi* Viereck, 1913 (by monotypy). Gender: masculine.

Diagnosis. — Antennal segments of ♀ 18-19, seldom 17 or 20-21, of ♂ 21-25; eyes with some short setae (figs. 480, 809); occipital carina complete, strong; malar suture absent or weakly developed; frons smooth or punctulate; precoxal sulcus distinct, with at least few striae (figs. 803, 816) or crenulate (fig. 871); notauli complete; scutellar sulcus with medio-longitudinal carina; scutellum usually reticulate(-rugose) (figs. 481, 863), its lateral carina well developed and complete; medial carina of propodeum unbranched posteriorly, more or less merging into sculpture, without medial area (fig. 814); dorsal face of propodeum (somewhat) longer than posterior face (figs. 810, 852, 860), usually (largely) distinctly reticulate or rugose; propodeal tubercles of ♀ (rather) large to medium-sized (figs. 803, 810, 1245) (small in ♂) (fig. 852);

parastigma small or slightly enlarged; first discal cell of fore wing acute anteriorly, sometimes with short vein 1-SR (figs. 851, 870); vein M+CU of hind wing subequal to vein 1-M; fore claw of ♀ usually with medium-sized dark brown or blackish bristles ((figs. 866, 1225, 1246); rather variable, indistinct or absent in (some specimens of) *robustus*, *hemicastaneus*, and *redactus* (fig. 1226)), middle and hind claws of ♀ simple, without dark bristles (fig. 865); hind tibia (rather) gradually narrowed basally (fig. 813); hind coxa reticulate-rugose dorsally; second metasomal tergite completely smooth; hypopygium of ♀ small to medium-sized (figs. 860, 871); length of ovipositor sheath 0.15-0.22 times fore wing; length of fore wing 1.9-2.6 mm.

Biology. — Unknown.

Contains ten species, four species in the Nearctic, one species in the Holarctic, four species in the Palaearctic (including Nepal) and one species in the Oriental region.

Note. The number of antennal segments of ♀ is more variable than in other subgenera, at least in *nixonii*, *mamillanus*, *fuscitibialis* and *trapezoides*.

#### Key to Nearctic species of the subgenus *Hysterobolus*

1. Propodeal tubercles slender, acute apically, and medium-sized to rather small (fig. 803); face comparatively short (fig. 804); length of eye of ♀ in dorsal view about equal to length of temple (fig. 805); (Mexico, Colombia) . . . . . *trapezoides* Van Achterberg
- Propodeal tubercles robust, more or less truncate apically and large (figs. 810, 828), exceptionally medium-sized (fig. 816); face comparatively long (figs. 809, 823) or similar to *trapezoides* (fig. 831); length of eye of ♀ in dorsal view 0.7-0.9 times temple (figs. 812, 817, 839); (N. America) . 2
2. First metasomal tergite of ♀ comparatively slender, its length 2-2.2 times its apical width (fig. 814); length of ovipositor sheath 0.20-0.23 times fore wing; mesoscutal lobes slightly convex; fourth antennal segment of ♀ rather robust and widened apically (fig. 810) . . . . . *mallochi* (Viereck)
- First tergite of ♀ less slender, its length 1.4-1.7 times its apical width (figs. 820, 832); length of ovipositor sheath 0.15-0.19 times fore wing, if about 0.22 times (*redactus*) then mesoscutal lobes distinctly convex; fourth antennal segment of ♀ less robust and widened apically (figs. 822, 828) 3
3. Precoxal sulcus with some widely spaced rugae (fig. 816); length of ovipositor sheath 0.22 times fore wing; face of ♀ with distinctly defined, smooth triangle medially (fig. 815); notauli rather wide (fig. 818);

- antennal segments of ♀ 19 ..... *redactus* Van Achterberg
- Precoxal sulcus with longer, closely spaced rugae (fig. ); length of ovipositor sheath 0.15-0.19 times fore wing; face of ♀ completely rugose or smooth area indistinctly defined (figs. 823, 831); notauli variable (figs. 825, 833); antennal segments of ♀ 17-18 ..... 4
  - 4. Mesoscutal lobes flattened posteriorly (fig. 825); notauli rather wide (fig. 825); antennal segments of ♀ 17 ..... *patulus* Van Achterberg
  - Mesoscutal lobes moderately convex (figs. 833, 836); notauli rather narrow (figs. 833, 836); antennal segments of ♀ 18 . *robustus* Haeselbarth

Key to Palaearctic and Oriental species of the subgenus *Hystero bolus*

1. Scutellum (superficially) rugulose or smooth (fig. 836); malar suture weakly developed (fig. 857); propodeal tubercle of ♀ comparatively small (fig. 1245), of ♂ minute (fig. 852) ..... 2
  - Scutellum coarsely rugose (figs. 481, 863, 879); malar suture (largely) absent (figs. 867, 878); propodeal tubercle of ♀ rather large (figs. 860, 871) ..... 3
2. Scutellum smooth; first metasomal tergite about twice its apical width; tenth antennal segment of ♀ about 1.3 times its width (fig. 842); length of malar space almost twice basal width of mandible (fig. 846); antennal segments less setose; (Central Europe) ..... *varius* Haeselbarth
  - Scutellum (superficially) rugulose (fig. 856); first tergite 1.6-1.7 times its apical width (fig. 858); tenth antennal segment of ♀ about 1.7 times its width (fig. 843); length of malar space of about 1.5 times (of ♂ about 1.1 times (fig. 857)) basal width of mandible (fig. 847); antennal segments long setose, especially of ♂ (fig. 852); (South & West Europe) ..... *nixoni* Haeselbarth
3. Length of eye in dorsal view approx. 1.1 times temple (fig. 864, 876); length of penultimate antennal segment of ♀ about 1.5 times its width (figs. 862, 872); fore claw of ♀ at most with brownish bristles (fig. 866); (South Palaearctic area and Oriental region) ..... 4
  - Length of eye in dorsal view 0.7-0.9 (exceptionally 1.0) times temple (fig. 480); length of penultimate antennal segment of ♀ 1.3 times its width or less (fig. 844); fore claw of ♀ with blackish bristles (fig. 1225); (West Palaearctic area) ..... 5
4. Hind tibia infuscated medially (fig. 869); first metasomal tergite widened apically (fig. 868); precoxal sulcus wider striate (fig. 860); face rugose (fig. 867); (Nepal) ..... *fuscitibialis* spec. nov.

- Hind tibia completely yellowish; first tergite parallel-sided (fig. 877); precoxal sulcus narrowly sculptured (fig. 871); face smooth (fig. 878); (Vietnam) ..... *hemicastaneus* spec. nov.
- 5. Length of malar space of ♀ about 1.7 times basal width of mandible (fig. 831); length of eye in dorsal view of ♀ 0.8-0.10 times temple (figs. 480, 849); mesoscutum usually completely blackish; both sexes known and macropterous only ..... *robustus* Haeselbarth
- Note. If antenna are comparatively slender (fig. 843), cf. *nixonii*.
- Length of malar space of ♀ about 2.2 times basal width of mandible (figs. 1249, 1250); length of eye in dorsal view of ♀ about 0.7 times temple (fig. 580); mesoscutum reddish, at least anteriorly; only ♀ known and usually micropterous ..... *mamillanus* Ruthe

***Blacus (Hysterobolus) fuscitibialis* spec. nov.**  
(figs. 860-869)

Material. — Holotype, ♀, (CNC): “Nepal, Ktmtd., Pulchauki, 6800'[ft.], 21.VII.1967, Mal. Tr., Can. Exp.”. Paratypes, 12 + 3 ♂: 7 + 3 ♂, (CNC, RMNH), topotypic, 3, 6600 ft, 14-21.VII.1967; 2 + 2 ♂, 7300 ft, 1-4.VIII.1967; 2 + 1 ♂, 8000 ft, 13-17.VIII.1967; 5, (CNC, RMNH): “Nepal, Ktmtd., Godavari, 6000'[ft.], 1-3.VIII.1967”.

Holotype, ♀, length of body 2.4 mm, of fore wing 2.3 mm.

Head. — Antennal segments 19, length of third segment 1.7 times fourth segment, length of third, fourth and penultimate segments 5, 3 and 1.5 times their width, respectively (figs. 860, 862); length of maxillary palp equal to height of head; frons smooth, but punctulate posteriorly; OOL : diameter of ocellus : POL = 16:2:5; length of eye in dorsal view 1.1 times temple (fig. 864); face transversely rugose, but medially rugulose; malar suture absent; length of malar space twice basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides smooth dorsally, remainder coarsely reticulate; precoxal sulcus distinctly impressed, with a few striae (fig. 860); notauli complete, narrowly crenulate (fig. 863); mesoscutal lobes rather convex, densely setose; scutellum reticulate, its lateral carina lamelliform, distinctly protruding apically (fig. 860); propodeal tubercles large, reticulate and rather acute apically (fig. 860); surface of propodeum rugulose, and partly smooth anteriorly, rugose posteriorly (fig. 868).

Wings. — Fore wing: first discal cell acute anteriorly; 1-CU1 : 2-CU1 = 7:10; parastigma small (fig. 861).

Legs. — Hind coxa rugose, with strong dorsal carina; length of femur, tibia,

and basitarsus of hind leg 5.1, 9.6 and 8 times their width, respectively; fore claw with slender brownish bristles (fig. 866); middle and hind claws simple (fig. 865).

**Metasoma.** — Length of first tergite 1.7 times its apical width, widened apically, sublongitudinally rugose, but smooth laterally, dorsal carinae distinct in basal 0.7 (fig. 868); second tergite smooth; length of ovipositor sheath 0.18 times fore wing.

**Colour.** — Blackish or dark brown; antenna (but its apex and scapus dark brown), palpi and tegulae, yellowish; clypeus, and metasoma (but first tergite dark brown), brown; mesoscutum and upper corner of mesoscutum reddish-brown; hind coxa dorsally, hind femur and tibia largely (except base and apex) and telotarsus, infuscated; remainder of legs yellowish; wing veins and pterostigma (except yellowish base), dark brown; wing membrane slightly infuscated.

**Variation.** — Antennal segments of ♀ 18(4) or 19(9), of ♂ 22 (3); antenna of ♀ always largely yellowish, of ♂ completely dark brown (except pedicellus); mesoscutum of largely reddish-brown, of ♂ dark brown or blackish; hind femur and tibia of ♂ nearly completely dark brown (as in one ♀ from Godavari), propodeal tubercles of ♂ less developed; length of first tergite 1.6-1.9 times its apical width; length of ovipositor sheath 0.17-0.20 times fore wing; length of fore wing 2.1-2.6 mm.

**Note.** — Closely related to *redactus* and *robustus*. Differs from both spp. by the slender penultimate segment of antenna of (its length about 1.5 times its width, instead of about 1.2 times in both spp.) and the medially infuscated hind tibia. The hind tibia is at most apically infuscated in the Nearctic form of *robustus*. Additionally *robustus* has first tergite more robust and eyes smaller.

***Blacus (Hysterobolus) hemicastaneus* spec. nov.**

(figs. 870-879)

**Material.** — Holotype, ♀, (BPBM): "Viet Nam: Dalat, 6 km S., 1400-1500 m, 9.VI-7.VII.1961", "M.R. Spencer, Collector".

**Holotype,** ♀, length of body 1.7 mm, of fore wing 1.9 mm.

**Head.** — Antennal segments 18, antenna somewhat widened apically, long setose, length of third segment 1.5 times fourth segment, length of third, fourth and penultimate segments 4.5, 3 and 1.5 times their width, respectively (figs. 871, 872); length of maxillary palp equal to height of head; frons smooth and spaced long setose; OOL : diameter of ocellus : POL = 5:2:3; length of eye

in dorsal view 1.1 times temple (fig. 876); face smooth; malar suture absent; length of malar space 1.7 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides reticulate-rugose, except dorsally; precoxal sulcus complete, narrowly crenulate (fig. 871); notauli complete, distinctly crenulate (fig. 879); mesoscutal lobes rather flat, remotely setose; scutellum reticulate, its lateral carina lamelliform, distinctly protruding apically (fig. 871); propodeal tubercles medium-sized, obtuse apically (fig. 871); surface of propodeum sparsely rugulose anteriorly, spaced rugose posteriorly (fig. 879).

Wings. — Fore wing: first discal cell acute anteriorly; 1-CU1 : 2-CU1 = 7:15; parastigma small (fig. 870).

Legs. — Hind coxa rugose; length of femur, tibia, and basitarsus of hind leg 4.8, 9.3 and 7 times their width, respectively; all claws (including fore claw) without blackish bristles, setose only (figs. 874, 875).

Metasoma. — Length of first tergite 2.0 times its apical width, parallel-sided, dorsal carinae distinct in basal half (fig. 877); second tergite smooth; length of ovipositor sheath 0.18 times fore wing.

Colour. — Blackish; clypeus, scapus, pronotum, mesoscutum (but lateral lobes darkened medially), chestnut brown; metasoma after first tergite rather brown; pterostigma largely and veins brown; base of pterostigma and parastigma yellowish; four apical antennal segments dark brown; remainder of antenna, legs, palpi, tegulae, brownish-yellowish; four apical antennal segments dark brown; remainder of antenna, legs, palpi, tegulae, brownish-yellow; telotarsi infuscated.

**Blacus (*Hysterobolus*) mallochi** (Viereck)  
(figs. 808-814)

*Hysterobolus mallochi* Viereck, 1913: 559.

*Blacus* (*Hysterobolus*) *mallochi*; Van Achterberg, 1976: 217, figs. 255-261; Marsh, 1979: 267.

A seldomly collected species, with certainty only known from New York (Ulster Co., (AMNH)), and Virginia (U.S.A.). Antennal segments of 18(1) or 19(1).

**Blacus (Hysterobolus) mamillanus** Ruthe

(figs. 850, 1240, 1246, 1248-1250)

*Blacus mamillanus* Ruthe, 1861: 144; Haeselbarth, 1973a: 118-119, fig. 39.*Blacus (Hysterobolus) mamillanus*; Van Achterberg, 1976: 220-221, fig. 288.*Blacus aptenodytes* Marshall, 1889: 174.

Known from Europe (Czechoslovakia, Denmark, East Germany, England, Netherlands (Hoenderlo), Sweden (Ly. (CH)), Switzerland, West Germany).  
Antennal segments of 18(11) or 19(2).

**Blacus (Hysterobolus) nixonii** Haeselbarth

(figs. 843, 847, 848, 851-859, 1245)

*Blacus nixonii* Haeselbarth, 1973a: 115-116, figs. 16, 27, 37; 1975a: 30.*Blacus (Ganychorus) nixonii*; Van Achterberg, 1976: 211.

Known from West and South Europe (Bulgaria, Cyprus (types), Netherlands (Meijendel, dunes, 11-18.X.1974), Portugal (Oeiras, 18-22.VII.1979)).  
Antennal segments of ♀ 17(2), 18(9) or 19(4), setae of antenna long, nearly as long as width of segments.

The male has been unknown, but I have examined a male from Spain: "S. Spain (Malaga), Elviria (nr. Marbella), near sea coast, 21.II.1986, RMNH '86", "Exc. Univ. Leiden, R. Schouten", which very likely belongs to this species. It has 22 antennal segments, which are long setose (figs. 852, 853), the length of malar space is 1.1 times basal width of mandible (fig. 857), the first discal cell of fore wing is acute anteriorly (fig. 851), the fore wing is comparatively narrow (fig. 851), the propodeal tubercle is minute (fig. 852), the scutellum is (rather weakly) rugulose (fig. 856), the first metasomal tergite is robust (fig. 858), its length 1.6 times its apical width, length of both body and fore wing 2.4 mm.

Colour. — Black; pedicellus largely, annellus, third antennal segment (except apex) and clypeus ventrally, reddish-brown; palpi, hind coxa basally, hind tibia (except base), all tarsi, metasoma (except first tergite), dark brown; remainder of legs and tegula yellowish-brown; parastigma and humeral plate brown; pterostigma (except its narrowly pale base), and veins dark brown; wing membrane subhyaline.

I transfer *nixonii* from the subgenus *Ganychorus* to the subgenus *Hysterobolus* because it is very similar to *robustus*, and even may possess a rugose scutellum. This species seems to prefer coastal habitats (dunes especially).



**Blacus (Hysterobolus) patulus** Van Achterberg  
(figs. 822-827)

*Blacus (Hysterobolus) patulus* Van Achterberg, 1976: 219, figs. 275-280; Marsh, 1979: 267; Sarazin, 1985: 1186.

Known only from British Columbia (Canada). Antennal segments of ♀ 17(1).

**Blacus (Hysterobolus) redactus** Van Achterberg  
(figs. 815-821)

*Blacus (Hysterobolus) redactus* Van Achterberg, 1976: 218-219, figs. 268-274; Marsh, 1979: 267.

Known only from Michigan (U.S.A.). Antennal segments of ♀ 19(1).

**Blacus (Hysterobolus) robustus** Haeselbarth  
(figs. 480, 481, 828-839, 841, 844, 849, 1226, 1239)

*Blacus robustus* Haeselbarth, 1973a: 116-117, figs. 23, 40, 99; 1973b: 78.

*Blacus (Hysterobolus) robustus*; Van Achterberg, 1976: 220, figs. 249-254, 281-287.

*Blacus conifer* Tobias, 1977: 476-478, fig. 4; Papp, 1983: 442, **syn. nov.**

Known from the Palaearctic (Austria, Czechoslovakia, Mongolia, Spain (Granada, 19.VII.1960, 700 m (CNC)); San Sebastian, 17.VII.1960), U.S.S.R. (Kazakhstan), West Germany) and the Nearctic region: Canada (Ontario, Quebec) and U.S.A. (Arizona, Georgia, Michigan, New York, North Carolina). Antennal segments of ♀ of the Palaearctic specimens 17(1), 18(5) or 19(1), of the Nearctic region I have seen only specimens with 18 segments. Antennal segments of ♂ 21 (4 Palaearctic specimens) or 23-24 (in Nearctic specimens which probably belong to *robustus*). The macropterous females from Spain have the mesoscutum reddish (as sometimes of Nearctic specimens) and dorsal length of eye 0.8 times temple. The Nearctic specimens probably represent a distinct subspecies because of the dark apex of the hind femur, but I have not seen enough specimens to be sure and I prefer to leave the Nearctic form or subspecies unnamed. In the Nearctic region it comes close to *redactus*.

*Blacus conifer* Tobias (1 ♀-paratype examined) belongs to *robustus* despite it has 17 antennal segments and length of eye in dorsal view equal to temple.

**Blacus (Hysterobolus) trapezoides** Van Achterberg  
(figs. 802-807, 1225)

*Blacus (Hysterobolus) trapezoides* Van Achterberg, 1976: 218, figs. 143, 173, 174. 262-267;  
Sarazin, 1985: 1186.

Known from Colombia (approx. 2100 m) and Mexico (Chiapas (1900-2100 m), Durango (2100-2700 m), Sinaloa (1500-1900 m)) and very variable in number of antennal segments (♀: 18(1), 19(4), 20(6), 21(1); ♂: 24(1), 25(1)), shape of first metasomal tergite (♀: length 1.7-2.1 times its apical width) and colour of hind leg (partly slightly infuscated to largely dark brown).

Some specimens of *trapezoides* are clearly intermediate to *B. (Ganychorus) cracentis* Van Achterberg. Both species can be separated as follows:

1. Propodeal tubercle weakly developed, small (fig. 703); scutellum smooth (fig. 705); antenna more slender, fourth antennal segment of about 4 times its width (fig. 703); both scapus and third antennal segments of brownish; face nearly smooth (fig. 704); fore claw of ♀ with brownish bristles . . . . . *cracentis* Van Achterberg
- Propodeal tubercle well developed, rather large to medium-sized (fig. 803); scutellum reticulate (fig. 806), rugose to nearly smooth; antenna somewhat less slender, fourth antennal segment of 2.7-3.5 times its width (fig. 803); scapus of darker than third antennal segment; face rugose below antennal segments (fig. 804); fore claw of ♀ with more or less blackish bristles (fig. 1225) . . . . . *trapezoides* Van Achterberg

According to this key the paratypes of *cracentis* (despite their aberrant morphology) fall between the limits of *trapezoides*.

**Blacus (Hysterobolus) varius** Haeselbarth  
(figs. 840, 842, 845, 846)

*Blacus varius* Haeselbarth, 1973a: 114-115, figs. 25, 28, 92, 110.  
*Blacus (Ganychorus) varius*; Van Achterberg, 1976: 211.

Known from Europe (North Italy, 650-1400 m). Despite the smooth scutellum it is transferred to the subgenus *Hysterobolus* because of the medium-sized propodeal tubercles and it is closely related to *nixonii*, a species included in this genus too.

Subgenus **Ischnotron** Van Achterberg  
(figs. 880-889)

*Blacus* subgenus *Ischnotron* Van Achterberg, 1976: 183.

Type-species: *Blacus parvus* Haeselbarth, 1974 (by original designation). Gender: neuter.

Diagnosis. — Antennal segments of ♀ 17-18 (♂ unknown); eyes glabrous; head in frontal view short (fig. 884); occipital carina completely absent; malar suture distinct (fig. 884); frons smooth; precoxal sulcus reduced, only with short crenulae in middle (fig. 882); notauli reduced, with its posterior half (virtually) absent (fig. 885); scutellar sulcus with medio-longitudinal carina; scutellum smooth, its lateral carina obsolescent, often partly absent (fig. 885); medial carina of propodeum branched posteriorly, with medial area distinct, parallel-sided or nearly so (fig. 887); dorsal face of propodeum subequal to posterior face (fig. 882), smooth between carinae; propodeal tubercles absent; parastigma rather small (fig. 880); first discal cell of fore wing truncate anteriorly (fig. 880); vein M+CU of hind wing shorter than vein 1-M (fig. 880); all claws of ♀ simple, without dark bristles (figs. 886, 888); hind tibia gradually narrowed basally; hind coxa (largely) smooth; second metasomal tergite largely sculptured to smooth, depressed; metasoma of from third tergite onwards strongly compressed (fig. 887); hypopygium of ♀ medium-sized (fig. 882); length of ovipositor sheath 0.26-0.38 times fore wing; length of fore wing 1.5-2 mm.

Biology. — Unknown.

Contains only the Afrotropical type-species.

Note. Originally the subgenus *Ischnotron* was separated to include all species of the *Tarpeion*-group without occipital carina. Further study of the Blacini revealed more species with reduced occipital carina, which are not closely related to the type-species of *Ischnotron*. As indicated by the different shape of the metasoma of the ♀, the strong (lamelliform) lateral carina of scutellum and the shape of head in frontal view. The reduction of the occipital carina occurred obviously several times convergentially in the *Tarpeion*-group. Therefore this character is not longer used for the subgeneric division and the subgenus is restricted to the aberrant Afrotropical type-species.

**Blacus (Ischnotron) parvus** Haeselbarth  
(figs. 880-889)

*Blacus parvus* Haeselbarth, 1974: 78-79.

*Blacus (Ischnotron) parvus*; Van Achterberg, 1976: 184, figs. 58-64.

Known from South Africa (Cape Province, Transvaal) and Zaïre (Kivu (1250-1820 m, MAC); Shaba).

**Subgenus Leioblacus** Van Achterberg  
(figs. 362, 368, 890-923, 927-929)

*Blacus* subgenus *Leioblacus* Van Achterberg, 1976: 180-181.

Type-species: *Blacus compressiventris* Van Achterberg, 1976 (by original designation). Gender: masculine.

Diagnosis. — Antennal segments of ♀ 17-18, of ♂ 15-16; eyes glabrous; occipital carina complete; malar suture absent, at most slightly impressed; frons smooth; precoxal sulcus absent or reduced to a crenulate medial depression (figs. 890, 901, 908); notauli largely absent to complete; scutellar sulcus without medio-longitudinal carina (at most obsolescent), wide or subquadrate (figs. 899, 904, 916); scutellum smooth, its lateral carina complete and usually not protruding apically; medial carina of propodeum branched posteriorly, enclosing a (usually slender) medial area (figs. 897, 917, 921) or posterior face of propodeum completely smooth, without area; dorsal face of propodeum subequal to length of posterior face, its surface mainly smooth between carinae; propodeal tubercles absent; parastigma small (figs. 892, 909); first discal cell of fore wing acute or narrowly truncate anteriorly (figs. 892, 902); vein M+CU of hind wing subequal to vein 1-M (figs. 909, 919) or vein cu-a of hind wing absent (figs. 892, 902); all claws ♀ of simple, without dark bristles (figs. 895, 896); hind tibia gradually narrowed basally; hind coxa smooth; second metasomal tergite smooth; metasoma after first tergite usually strongly compressed, even in the males examined; hypopygium ♀ of small; ovipositor slightly curved downwards; length of ovipositor sheath 0.24-0.7 times fore wing; length of fore wing 1.3-2.5 mm.

Biology. — Unknown.

Contains five species: one species from the Palaearctic region, two species from the Nearctic region, one species of the Neotropical region, and one species from the Oriental region.

Key to species of the subgenus *Leioblacus*

1. Notauli deep, complete (figs. 899, 904); length of ovipositor sheath 0.2-0.3 times fore wing; precoxal sulcus present medially (figs. 890, 901); vein SR1 of fore wing evenly curved (figs. 892, 902); ven cu-a of hind wing absent (fig. 892) ..... 2
  - Notauli absent posteriorly (fig. 919) or obsolescent (fig. 916); length of ovipositor sheath 0.35-0.7 times fore wing; precoxal sulcus absent (fig. 908); vein SR1 of fore wing straight (figs. 909, 919); vein cu-a of hind wing present (fig. 909) ..... 3
2. Head large, its maximum height 0.8 times height of mesosoma (fig. 890); vertex strongly convex (fig. 898); medial area of propodeum strongly narrowed posteriorly (fig. 897); notauli wider and distinctly crenulate (fig. 899); hind femur (except base), apical 0.4 of hind tibia and hind telotarsus infuscated; length of fore wing approx. 1.3 mm; hind basitarsus of ♀ robust, approx. 6 times its maximum width (fig. 900) .....
  - ..... *macrocephalus* spec. nov.
  - Head medium-sized, its maximum height 0.6 times height of mesosoma (fig. 901); vertex moderately convex (fig. 903); medial area of propodeum less narrowed posteriorly (fig. 906); notauli narrower and superficially crenulate (fig. 904); hind leg largely yellowish; length of fore wing approx. 1.9 mm; hind basitarsus of ♀ slender, approx. 8 times its maximum width (fig. 907) ..... *aulacus* Van Achterberg
3. Medial area of propodeum very narrow (fig. 917) or absent; length of ovipositor sheath 0.3-0.4 times fore wing (fig. 908); (Taiwan) .....
  - ..... *whartoni* spec. nov.
  - Medial area of propodeum wide and distinct (fig. 921); length of ovipositor sheath 0.5-0.7 times fore wing (fig. 919); (Holarctic) ..... 4
4. Mesoscutum smooth, usually notauli even basally absent (fig. 923); hind femur somewhat more slender (fig. 922); first metasomal tergite yellowish, remainder of metasoma brownish and contrasting; (Nearctic) ...
  - ..... *compressiventris* Van Achterberg
  - Mesoscutum with notauli weakly developed (fig. 929); hind femur somewhat less slender (fig. 927); first tergite brownish as remainder of metasoma and not contrasting; (Palearctic) ..... *fischeri* Haeselbarth

**Blacus (Leioblacus) aulacis** Van Achterberg  
(figs. 901-907)

*Blacus (Leioblacus) aulacis* Van Achterberg, 1976: 181-182, figs. 37, 38, 40-50.  
Marsh, 1979: 267; Sarazin, 1985: 1183.

Only known from the holotype from Mexico (Durango, approx. 2500 m).

**Blacus (Leioblacus) compressiventris** Van Achterberg  
(figs. 918-923)

*Blacus (Leioblacus) compressiventris* Van Achterberg, 1976: 182-183, figs. 51-54, 56, 57; Marsh, 1979: 267; Sarazin, 1985: 1185.

Known from Canada (British Columbia, Ontario, Quebec) and U.S.A. (Georgia, New Hampshire, New York (Adirondack Mts., CAS), North Carolina, South Carolina, Virginia (Falls Church, on fungus (CNC))).

**Blacus (Leioblacus) fischeri** Haeselbarth  
(figs. 362, 386, 927-929)

*Blacus fischeri* Haeselbarth, 1973a: 122-1223, figs. 41, 44.  
*Blacus (Leioblacus) fischeri*; Van Achterberg, 1976: 183, figs. 40, 41, 55.

Described from Central Europe (Austria, Romania, Yugoslavia, West Germany). Dr. L.E.M. Vet (Wageningen) reared this species from a fresh mushroom of *Amanita rubescens* Persoon ex Fries collected at Voorschoten (Horsten, Netherlands); this is the first report from the Netherlands and West Europe.

**Blacus (Leioblacus) macrocephalus** spec. nov.  
(figs. 890-900)

Material. — 1 ♀, holotype, (WCAM): "Costa Rica, San Vito, Puntarenas, 15 December, 1974, M. Palmer".

Holotype, ♀, length of body 1.2 mm, of fore wing 1.3 mm.

Head. — Antennal segments 17, antenna narrowed basally (fig. 890), length of third segment 1.2 times fourth segment, length of third, fourth and penulti-

mate segments 2.3, 3.0, and 1.8 times their width, respectively (figs. 890, 891); maxillary palp lost; occipital carina interrupted narrowly dorsally, nearly complete; frons smooth; OOL : diameter of ocellus : POL = 10:3:7; length of eye in dorsal view equal to temple (fig. 894); face smooth; malar suture absent; length of malar space 1.5 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides largely smooth, with some crenulae and rugae; precoxal sulcus only medially present, rugose (fig. 890); notauli distinctly crenulate and rather wide (fig. 899); mesoscutal lobes rather convex, largely glabrous; scutellum smooth, its lateral carina complete, distinctly protruding dorsally (fig. 890); surface of propodeum smooth except the carinae, its medial area medium-sized, strongly narrowed posteriorly (fig. 897).

Wings. — Fore wing: first discal cell acute anteriorly; 1-CU1 : 2-CU1 = parastigma minute (fig. 892); r:3-SR+SR1:2-SR = 9:52:14.

Legs. — Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 5.5, 10, and 5.5 times their width, respectively; all claws only setose (figs. 895, 896).

Metasoma. — Length of first tergite 2.7 times its apical width, its surface smooth, dorsal carinae about distinct to its apex (fig. 897); length of ovipositor sheath 0.24 times fore wing.

Colour. — Dark brown; 3 basal antennal segments, palpi, and legs largely, and metasoma, yellowish-brown; hind femur (except base), middle femur to lesser degree, apical 0.4 of hind and middle tibia and telotarsus infuscated; tegulae, veins and parastigma brown; pterostigma rather dark brown; wing membrane subhyaline.

***Blacus (Leioblacus) whartoni* spec. nov.**

(figs. 908-917)

Material. — ♀, holotype, (WCAM): "Taiwan, Nantou Hsien, Meifeng, V-22-1982, R. Wharton"; 1 ♂, (WRAM), topotypic, same date; 2 ♂, (WCAM, RMNH), "Taiwan, Nantou Hsien, Tsuifeng, V-23-1982, R. Wharton".

Holotype, ♀, length of body 2.2 mm, of fore wing 2.3 mm.

Head. — Antennal segments 17, antenna narrowed basally (fig. 908), length of third segment 1.1 times fourth segment, length of third, fourth and penultimate segments 3.0, 2.7, and 1.5 times their width, respectively (figs. 908, 910); length of maxillary palp 0.9 times height of head; occipital carina complete, but weak dorsally; frons smooth and largely whitish setose; OOL : diameter of ocellus : POL = 9:4:6; length of eye in dorsal view 0.9 times temple (fig. 912);

face smooth; malar suture absent; length of malar space 1.5 times basal width of mandible.

**Metasoma.** — Length of mesosoma 1.4 times its height; pronotal sides smooth dorsally, largely rugose ventrally; precoxal sulcus completely absent; notauli obsolescent, posterior with a longitudinal ruga (fig. 916); mesoscutal lobes rather convex, setose except middle of lateral lobes; surface of propodeum largely smooth, its medial carina absent except anteriorly, posterior face of propodeum distinctly shorter than dorsal face and with medial area narrow and parallel-sided (fig. 917; absent in paratypes).

**Wings.** — Fore wing: first discal cell acute anteriorly; 1-CU1 : 2-CU1 = 4:13; parastigma minute (fig. 909); r : 3-SR+SR1 : 2-SR = 8:43:13.

**Legs.** — Hind coxa smooth; length of femur, tibia and basitarsus of hind leg 6.2, 11.6, and 7.5 times their width, respectively; all claws with only a few yellowish bristles (figs. 911, 915).

**Metasoma.** — Length of first tergite 2.3 times its apical width, its surface rugulose medially, smooth laterally and dorsal carinae at basal 0.9 (fig. 917); length of ovipositor sheath 0.37 times fore wing.

**Colour.** — Dark brown; 5 basal antennal segments, tegulae, pterostigma and metasoma (except first tergite), brown; tibiae (except base), and tarsi (except hind basitarsus) more or less infuscated; remainder of legs, and palpi yellowish; wing membrane subhyaline.

**Variation.** — Antennal segments of ♀ 17(1) or 20(1), of ♂ 19(1); all paratypes have no medial area of propodeum, no medial ruga of mesoscutum and precoxal sulcus shallowly impressed; length of first metasomal tergite 2.3-2.7 times its apical width (♂), length of ovipositor sheath 0.28-0.4 times fore wing, length of fore wing 2.3-2.4 mm; male has pronotum orange.

**Note:** It is a pleasure to me to dedicate this species to its collector and well-known specialist of Alysini, Dr. R.A. Wharton (College Station, Texas).

#### Subgenus **Neoblacus** Ashmead

(figs. 1215-1221)

*Neoblacus* Ashmead, 1900: 122.

*Blacus* subgenus *Neoblacus*; Van Achterberg, 1976: 243-244.

Type-species: *Neoblacus rufipes* Ashmead, 1900 (nec *Blacus rufipes* (Ashmead, 1889) (by monotypy)). Gender: masculine.

**Diagnosis.** — Antennal segments of ♀ 17, of ♂ 18 (but apical segment may be partly subdivided); eyes glabrous; occipital carina complete, distinct; malar suture absent; frons smooth; precoxal sulcus complete, reticulate-rugose (fig. 1217); anterior half of notauli distinctly developed and only crenulate, poste-



rior half rather shallow (fig. 1219), sometimes nearly complete; scutellar sulcus with medio-longitudinal carina; scutellum rugose-reticulate (fig. 1219), its lateral carina weakly developed, scarcely discernable from lateral rugosity; medial carina of propodeum obsolescent posteriorly, without medial area; dorsal face of propodeum about equal to length of posterior face, its surface rugose dorsally and reticulate posteriorly (fig. 1221); propodeal tubercles distinct, blunt and lowly attached (fig. 1217); parastigma small (fig. 1215); veins 1-SR+M and 2-M of fore wing absent, discal cell open anteriorly (fig. 1215); vein M+CU of hind wing distinctly longer than vein 1-M (fig. 1215); all claws of simple; hind tibia gradually narrowed basally; hind coxa with some rugae and a carina dorsally; second metasomal tergite finely rugose medio-basally (fig. 1221) or nearly smooth; metasoma rather compressed; hypopygium of medium-sized; ovipositor slightly bent downwards (fig. 1217); length of ovipositor sheath 0.22-0.25 times fore wing; length of fore wing 1.5-2 mm.

Biology. — Parasite of Scolytidae, also found associated with mushrooms and cones of Coniferae.

Contains only the Holarctic type-species.

**Blacus (Neoblacus) koenigi** Fischer  
(figs. 1215-1221)

*Neoblacus rufipes* Ashmead, 1900: 122 (nec *Blacus rufipes* (Ashmead, 1889)).

*Blacus koenigi* Fischer, 1966: 333-335, fig. 13; Haeselbarth, 1973a: 133-134, fig. 60.

*Blacus (Neoblacus) koenigi*; Van Achterberg, 1976: 244-245, figs. 447-453; Marsh, 1979: 268.

Known from Europe (Austria, Czechoslovakia), Canada (Ontario, Quebec) and U.S.A. (California, Maryland, Massachusetts, New Hampshire, Wisconsin).

Subgenus **Tarpeion** Van Achterberg  
(figs. 361, 367, 375, 376, 926, 930-1214, 1229-1231)

*Blacus* subgenus *Tarpeion* Van Achterberg, 1976: 185-186.

Type-species: *Blacus chillcotti* Van Achterberg, 1976 (by original designation). Gender: neuter.

Diagnosis. — Antennal segments of ♀ 18-27 (usually 20-23), of ♂ 19-22 (but unknown of many species); eyes glabrous; occipital carina complete, reduced dorsally, or completely absent; malar suture present; frons smooth; precoxal sulcus complete, more or less crenulate (figs. 934, 957, 982); notauli complete, usually wide and crenulate; scutellar sulcus wide, with medio-longitudinal carina; scutellum smooth, its carina distinct, usually strong and complete;

medial carina of propodeum branched posteriorly, enclosing a medial area, which is usually widened dorsally (figs. 932, 935, 990, 1014, 1021); dorsal face of propodeum subequal to posterior face; propodeal tubercles absent; parasigma medium-sized to large (figs. 1005, 1115); first discal cell of fore wing acute to truncate anteriorly; vein M+CU of hind wing usually about as long as vein 1-M (figs. ); fore claw of ♀ simple or with blackish bristles (figs. 985, 998, 1025); middle (except of *alternipes*) and hind claws of simple, without blackish bristles (fig. 1043); hind tibia gradually narrowed basally; hind coxae smooth to rugose dorsally; second metasomal tergite usually sculptured medio-basally (figs. 980, 1040); metasoma of weakly or moderately compressed; hypopygium of ♀ (rather) large (figs. 964, 977, 982); ovipositor more or less curved downwards (figs. 982, 994); length of ovipositor sheaths 0.16-0.43 times fore wing; length of fore wing 1.3-3.5 mm.

Biology. — Unknown.

Cosmopolitan; contains 40 species: five species from the Neotropical region, one species from the Nearctic region, seven species from the Palearctic region (including Himalayan area), ten species from the Afrotropical region, twelve species from the Oriental region, and five species from the Australian region.

#### Key to Nearctic and Neotropical species of the subgenus *Tarpheion*

1. Fore claw of ♀ with distinct blackish bristles (figs. 939, 948); length of ovipositor sheath 0.19-0.23 times fore wing (figs. 934, 944) . . . . . 2
  - Fore claw of ♀ normally setose, at most with yellowish and short bristles (fig. 970); length of ovipositor sheath 0.29-0.36 times fore wing (figs. 952, 964) . . . . . 3
2. First discal cell of fore wing widely truncate anteriorly (fig. 936); lateral carina of scutellum evenly developed (fig. 940); pterostigma comparatively slender, vein r somewhat longer than its maximum width (fig. 936); first metasomal tergite less dilated apically and constricted subbasally (fig. 935) . . . . . *cerinus* Van Achterberg
  - First discal cell of fore wing acute or narrowly truncate anteriorly (fig. 942); lateral carina of scutellum weakly developed medially, less than posteriorly (fig. 946); pterostigma stout, vein r subequal to its width (fig. 942); first tergite more dilated apically and constricted subbasally (fig. 949) . . . . . *constrictus* Van Achterberg
3. Occipital carina present medio-dorsally (fig. 961); lateral carina of scutellum not or slightly protruding apically (figs. 952, 957); antennal segments of ♀ 20-23; vein 1-M of fore wing straight (fig. 950) . . . . . 4



- temple (figs. 997, 1007); antennal segments of ♀ 17-19; length of malar space of ♀ variable ..... 3
- Length of vein r about 1.4 times maximum width of pterostigma (fig. 983); third and fourth antennal segment only slightly paler brown than fifth segment; first tergite (except dorsal carinae) smooth (fig. 993); posterior half of notauli narrow and smooth (fig. 990); length of eye in dorsal view approx. 1.3 times temple (fig. 991); antennal segments of ♀ about 20; length of malar space about equal to basal width of mandible ..... *incarinaticeps* spec. nov.
3. Wing membrane infuscated submedially near veins (fig. 995); length of first tergite of ♀ approx. 2.1 times its apical width (figs. 1004, 1014); base of second tergite finely sculptured (fig. 1004); face yellowish-brown; length of malar space 0.6-0.7 times basal width of mandible; length of ovipositor sheath 0.2-0.3 times fore wing (fig. 994, 1006) ..... 4
- Wing membrane subhyaline near veins (fig. 1022); length of first tergite of ♀ 2.4-3.1 times its apical width (figs. 932, 1029); base of second tergite smooth or indistinctly coriaceous (figs. 932, 1031); head and malar space variable; length of ovipositor sheath approx. 0.3 times fore wing (fig. 1024) ..... 5
4. Medial area of propodeum distinctly widened dorsally, large (fig. 1004); antennal segments of ♀ about 19; length of ovipositor sheath approx. 0.2 times fore wing; fourth antennal segment of ♀ yellowish; length of fore wing approx. 2 mm; head and mesosoma completely yellowish-brown ..... *fuscinervis* spec. nov.
- Medial area of propodeum parallel-sided and smaller (fig. 1014); antennal segments of ♀ about 17; length of ovipositor sheath approx. 0.3 times fore wing; fourth antennal segment of ♀ dark brown; length of fore wing approx. 1.4 mm; head infuscated dorsally, remainder yellowish-brown; mesosoma dark brown ..... *parallelus* spec. nov.
5. Length of first metasomal tergite of ♀ approx. 3.1 times its apical width (fig. 1021); length of eye of ♀ in dorsal view approx. 1.4 times temple (fig. 1020); mesosoma yellowish; notauli wider and deeper (fig. 1018); scutellum stout (fig. 1018); head in frontal view distinctly narrowed ventrally (fig. 1019); length of malar space equal to basal width of mandible; (Oriental) ..... *javensis* Van Achterberg
- Length of first tergite of ♀ 2.3-2.5 times its apical width (fig. 932); length of eye of ♀ in dorsal view 1.5-1.7 times temple (fig. 933); mesosoma dark reddish-brown; notauli narrower and less deep (fig. 931); scutellum more slender (fig. 931); head in frontal view less narrowed ventrally (fig. 930); length of malar space distinctly less than basal width of mandible; (Pa-

- laearctic) ..... *achterbergi* Haeselbarth
6. Antenna of ♀ dark brown apically and pale yellowish subapically; middle lobe of mesoscutum largely glabrous dorsally and smooth laterally (fig. 1024); first discal cell of fore wing comparatively narrow anteriorly (fig. 1022); scapus brown; fore and middle claws of ♀ with blackish bristles and teeth (figs. 1025, 1028); fore and middle tarsi robust compared with hind tarsus (figs. 1025, 1028, 1031) ..... *alternipes* spec. nov.
- Antenna of ♀ usually concolorous apically and subapically; middle lobe of mesoscutum distinctly setose dorsally and frequently with some rugae laterally (figs. 1035, 1087); first discal cell of fore wing wider anteriorly (figs. 1034, 1055); scapus yellowish; at least middle claws ♀ without blackish bristles and teeth (figs. 1037, 1109); all tarsi slender (figs. 1036, 1037, 1043) ..... 7
7. Middle lobe of mesoscutum with subvertical to moderately oblique lamelliform (crestlike) carina antero-laterally up to ventral margin of mesoscutum (figs. 1035, 1046); area below pterostigma and near vein r slightly infuscated (figs. 1034, 1044); marginal cell of fore wing rather robust (figs. 1034, 1044) ..... 8
- Middle lobe of mesoscutum with subhorizontal crestlike carina, not reaching ventral margin of mesoscutum (figs. 1069, 1099, 1104, 1118), or carina absent (fig. 1053), or only with oblique rugae antero-laterally, not reaching mesoscutal disk (fig. 1087); area below pterostigma usually subhyaline; marginal cell of fore wing usually somewhat more slender (fig. 1070) ..... 9
8. Lamelliform carina of middle lobe of mesoscutum subvertical and very strong (fig. 1035); occipital carina widely interrupted medio-dorsally; vein r of fore wing strongly oblique (fig. 1034); metasoma (except three basal tergites) yellowish-brown; pterostigma normal (fig. 1034); length of ovipositor sheath 0.3-0.4 times fore wing (fig. 1033); length of fore wing 2.0-2.2 mm; fore claws of ♀ with blackish bristles (fig. 1036) ..... *bicolor* spec. nov.
- Lamelliform carina of middle lobe of mesoscutum moderately oblique and weaker (fig. 1046); occipital carina complete; vein r of fore wing slightly oblique (fig. 1044); metasoma dark brown; pterostigma rather swollen (fig. 1044); length of ovipositor sheath approx. 0.2 times fore wing (fig. 1046); length of fore wing approx. 1.7 mm; fore claws of ♀ only normally setose (fig. 1049) ..... *brevichorus* spec. nov.
9. Vein SR1 of fore wing continuous with vein 2-SR (figs. 1055, 1062); vein 2-1A of fore wing absent or with short stub (figs. 1055, 1062); vein 3-CU1 of fore wing subhorizontal, near level of vein 2-CU1 (fig. 1055); second

- metasomal tergite finely sculptured or largely smooth (figs. 1059, 1063); vein r of fore wing more or less oblique (figs. 1055, 1062); length of third antennal segment 7-8 times its width (figs. 1053, 1060); hind basitarsus dark brown; occipital carina absent dorsally; (Australian) . . . . . 10
- Vein SR1 of fore wing normal, discontinuous with vein 2-SR (figs. 1070, 1080); vein 2-1A of fore wing distinct, at least basal half sclerotized (figs. 1080, 1089); vein 3-CU1 of fore wing distinctly curved and below level of vein 2-CU1 (fig. 1080); second tergite frequently distinctly sculptured (fig. 1096); vein r usually subvertical (figs. 1080, 1089); length of third antennal segment 5.5-7 times its width (figs. 1078, 1087); hind basitarsus and occipital carina variable . . . . . 11
10. Hind basitarsus infuscated and remainder of hind tarsus pale yellowish; vein 2-1A of fore wing completely absent (fig. 1055); vein r medially from pterostigma (fig. 1055); length of eye of ♀ in dorsal view approx. 2 times temple (fig. 1056); temple gradually narrowed posteriorly (fig. 1056); length of ovipositor sheath approx. 0.2 times fore wing and about as long as first tergite (fig. 1053); first discal cell of fore wing narrow anteriorly (fig. 1055) . . . . . *hemicarinatus* spec. nov.
- Whole hind tarsus dark brown; short stub of vein 2-1A of fore wing present (fig. 1062); vein r distinctly behind middle of pterostigma (fig. 1062); length of eye of ♀ in dorsal view approx. 3 times temple (fig. 1064); temple directly narrowed posteriorly (fig. 1064); length of ovipositor sheath approx. 0.3 times fore wing and approx. 1.3 times first tergite (fig. 1060); first discal cell of fore wing wide anteriorly (fig. 1062) . . . . . *rectinervis* spec. nov.
11. Hind coxa, femur, and mandible more or less infuscated, (dark) brown; middle lobe of mesoscutum weakly convex or straight anteriorly (figs. 1076, 1085); antenna completely dark brown; second metasomal tergite completely smooth; (Australian) . . . . . 12
- Hind coxa, femur, and mandible pale yellowish; middle lobe of mesoscutum and antenna variable, but the Australian spp. have middle lobe slightly concave anteriorly (fig. 1110) and basal quarter of antenna pale yellowish; second tergite more or less sculptured (fig. 1114); (mostly South Palaearctic and Oriental) . . . . . 13
12. Penultimate segment of antenna of ♀ approx. 2.2 times its width (fig. 1071; ♂ unknown); middle lobe of mesoscutum with isolated short crest antero-laterally (fig. 1069); medial area of propodeum narrower and weaker developed (fig. 1077); sclerotized part of vein 2-M of fore wing shorter (fig. 1070); vein 1-SR+M of fore wing distinctly curved (fig. 1070) . . . . . *brevicarinatus* spec. nov.

- Penultimate segment of antenna of ♀ 1.6-1.7 (♂: 1.8-2.3) times its width (fig. 1079); middle lobe of mesoscutum without trace of crest (fig. 1078); medial area of propodeum usually somewhat wider and strongly developed (fig. 1081); sclerotized part of vein 2-M of fore wing usually long (fig. 1080); vein 1-SR+M of fore wing (nearly) straight (fig. 1080) ..... *fuscicoxis* spec. nov.
- 13. Middle lobe of mesoscutum with crestlike, subhorizontal or oblique carina antero-laterally, just reaching mesoscutal disk (figs. 1087, 1099, 1104, 1112, 1118); middle lobe slightly, but distinctly concave anteriorly (figs. 1101, 1110, 1120) or truncate (fig. 1092); head largely yellowish; Oriental spp. have apical antennal segments usually pale yellowish or whitish
  - Middle lobe of mesoscutum at most with oblique rugae antero-laterally, not reaching mesoscutal disk (figs. 1128, 1148); middle lobe slightly convex anteriorly (figs. 1142, 1150); apical antennal segments (dark) brown; colour of head variable ..... 17
- 14. Claws with very long apical tooth (figs. 1088, 1093); length of ovipositor sheath approx. 0.2 times fore wing, shorter than first tergite (fig. 1087); apical half of antenna of ♀ dark brown ..... *ungularis* spec. nov.
  - Claws normal, with medium-sized apical tooth (figs. 1108, 1109); length of ovipositor sheath 0.1-0.4 times fore wing; if 0.1-0.2 times then four or five subapical antennal segments of ♀ more or less yellowish-white . 15
- 15. Length of ovipositor sheath 0.13-0.16 times fore wing, shorter than first metasomal tergite (fig. 1099); four or five subapical segments of antenna of ♀ more or less yellowish-white; length of fore wing approx. 1.5 mm ..... *apicalis* Van Achterberg
  - Length of ovipositor sheath 0.27-0.37 times fore wing, 1.2-1.6 times length of first tergite (figs. 1104, 1115); at most one subapical antennal segment of ♀ pale; length of fore wing 1.7-2.1 mm ..... 16
- 16. First metasomal tergite widened posteriorly (fig. 1114); first discal cell of fore wing wide anteriorly, truncate (fig. 1106); second metasomal tergite distinctly sculptured (fig. 1114); medial area of propodeum wider anteriorly (fig. 1114); apical segment of antenna of ♀ brown; vein 2-SR of fore wing discontinuous with vein 3-SR+SR1 (fig. 1106); length of ovipositor sheath approx. 0.3 times fore wing, approx. 1.2 times first tergite (fig. 1104); vein cu-a of fore wing pigmented; length of hind basitarsus approx. 12 times its width (fig. 1107); tegula (dark) reddish-brown; (Australian) ..... *diversus* spec. nov.
  - First tergite parallel-sided (fig. 1126); first discal cell of fore wing narrow anteriorly, acute (fig. 1117); second tergite smooth (fig. 1126); medial area of propodeum less widened anteriorly (fig. 1126); apical antennal

- segment of ♀ pale yellowish; vein 2-SR of fore wing nearly continuous with vein 3-SR+SR1 (fig. 1117); length of ovipositor sheath approx. 0.4 times fore wing, approx. 1.6 times first tergite (fig. 1115); vein cu-a of fore wing unpigmented; length of hind basitarsus approx. 8 times its width (fig. 1124); tegula pale yellowish; (Oriental) . . . . . *linearis* spec. nov.
17. Length of ovipositor sheath approx. 0.1 times fore wing and 0.7 times first metasomal tergite; antenna (except paler pedicellus) unicolorous yellowish or pale brownish; length of first metasomal tergite of ♀ approx. 2.6 times its apical width . . . . . *votrus* Papp  
 – Length of ovipositor sheath 0.2-0.4 times fore wing, 0.9-1.8 times first tergite; antenna at least dark brown apically or paler basally than apically; length of first tergite of ♀ 2-2.5 times its apical width (figs. 1135, 1146, 1164) . . . . . 18
18. Length of ovipositor sheath 0.3-0.4 times fore wing, 1.2-1.8 times first metasomal tergite (figs. 1135, 1146); basal half of antenna yellowish  
 – Length of ovipositor sheath approx. 0.2 times fore wing, slightly shorter than first tergite (fig. 1128); basal half of antenna largely (dark) brown, but basal four segments yellowish . . . . . *albiventris* spec. nov.
19. Lateral lobes of mesoscutum largely glabrous medially; head shorter ventrally, more transverse (fig. 1140); hypopygium brown, rather darkened basally . . . . . *melliceps* spec. nov.  
 – Lateral lobes of mesoscutum setose medially; head longer ventrally and less transverse (figs. 1151, 1170); hypopygium yellowish or brown . . 20
20. Fore claw of ♀ with rather conspicuous blackish bristles (fig. 1152); mesosoma and first metasomal tergite reddish-brown, contrasting with dark brown or blackish dorsal aspect of head *nigrocephalus* spec. nov.  
 – Fore claw of ♀ with less conspicuous brownish bristles or setose (figs. 1165, 1179); mesosoma and first tergite darker or similarly coloured as head dorsally . . . . . 21
21. Pterostigma dark brown; 13th-17th antennal segments of ♀ paler than 5th-12th segments; length of fore wing approx. 2.3 mm; antenna of ♀ somewhat longer than fore wing and segments comparatively slender (figs. 1158, 1163); face yellowish, similarly coloured as clypeus . . . . .  
 . . . . . *antennalis* spec. nov.  
 – Pterostigma brown or yellowish; 13th-17th antennal segments of ♀ similarly coloured as basal segments; length of fore wing 1.6-1.9 mm, if longer (*artomandibularis*) than antenna of ♀ somewhat shorter than fore wing, segments less slender (figs. 1171, 1176, 1187) and face brown, contrasting with yellowish clypeus . . . . . 22
22. Head (except clypeus) reddish-brown; length of malar space 1.0-1.2 times



- basal width of mandible (fig. 1171); length of fore wing 2.2-2.3 mm; length of penultimate antennal segment of ♀ approx. twice its width (fig. 1171); first discal cell of fore wing narrow truncate anteriorly (fig. 1169) . . . . .  
 . . . . . *artomandibularis* Van Achterberg
- Head yellowish-brown, at most darkened posteriorly; length of malar space 1.5-1.7 times basal width of mandible (figs. 1176, 1187); length of fore wing 1.6-1.9 mm; length of penultimate antennal segment of ♀ 3.4-4.3 times its width (figs. 1176, 1187); first discal cell variable . . . . . 23
23. Middle third of antenna of ♀ (largely) yellowish; first discal cell of fore wing comparatively narrow truncate anteriorly, at most narrowly truncate (fig. 1177); surroundings of veins of fore wing faintly infuscated . . . . .  
 . . . . . *angichorus* spec. nov.
- Middle third of antenna of ♀ largely brown; first discal cell wide anteriorly (fig. 1188); surroundings of veins of fore wing subhyaline . . . . .  
 . . . . . *soror* spec. nov.

#### Key to Afrotropical species of the subgenus *Tarpeion*

1. Occipital carina completely absent; antennal segments of 20; length of first metasomal tergite of ♀ approx. twice its apical width . . . . .  
 . . . . . *fulvicollis* Haeselbarth
- Occipital carina at least laterally present; antennal segments of ♀ 18 or 21-27; length of first tergite variable . . . . . 2
2. Antennal segments of ♀ 26-27, with 5-8 subapical segments whitish; scutellum strongly and completely reticulate; fore claw of ♀ with long blackish bristles (cf. fig. 939) . . . . . *annulicornis* Haeselbarth
- Antennal segments of ♀ 18-23, without distinct whitish segments; scutellum largely smooth; fore claw of ♀ only setose . . . . . 3
3. Length of malar space approx. twice basal width of mandible (fig. 1199); eye in dorsal view slightly shorter than temple (fig. 1200); mesoscutum slender (fig. 1202); (Malagasy) . . . . . *decaryi* Granger
- Length of malar space about equal to basal width of mandible (fig. 1203) or shorter; eye in dorsal view much longer than temple (figs. 1206, 1212) . . . . . 4
4. Antennal segments of ♀ 18; occipital carina present dorsally . . . . .  
 . . . . . *nanulus* Haeselbarth
- Antennal segments of ♀ 21-23; occipital carina variable . . . . . 5
5. Antennal segments of ♀ 22-23; lateral carina of scutellum bent (fig. 1234); hind femur somewhat widened subapically (fig. 1229) . . . . .

- ..... *schimitscheki* Haeselbarth
- Antennal segments of ♀ 21 (but unknown of *convexus* and *transversus*, of ♂ 21-22); lateral carina of scutellum rather straight (fig. 1235); hind femur less widened (figs. 1230, 1231) ..... 6
  - 6. Length of ovipositor sheath about 1.15-1.2 times length of hind tibia . 7
  - Length of ovipositor sheath about equal to length of hind tibia or shorter ..... 8
  - 7. First metasomal tergite evenly longitudinally striate (fig. 926), its dorsal carinae comparatively weak; precoxal sulcus widely spaced reticulate-rugose anteriorly; (sub)apical antennal segments of ♀ wider; basal half of second tergite striate (fig. 926); (Continental Africa) *gibber* Haeselbarth
  - First tergite scarcely striate, and its dorsal carinae strongly developed (figs. 1207, 1213, 1233); precoxal sulcus with some weak crenulae (fig. 1205); (sub)apical antennal segments of ♀ more slender (fig. 1205); basal 0.7 of second tergite striate (fig. 1207); (Malagasy) .....  
..... *transversus* Van Achterberg
  - 8. Hypopygium of ♀ yellowish or whitish; lateral carina of scutellum absent anteriorly or indistinct; occipital carina absent dorsally; length of ovipositor sheath about equal to length of hind tibia .... *townesi* Haeselbarth
  - Hypopygium of ♀ brownish; lateral carina of scutellum distinct anteriorly (figs. 1214, 1235); occipital carina more or less developed dorsally; length of ovipositor sheath usually 0.7-1.0 times length of hind tibia ..... 9
  - 9. Anterior half of precoxal sulcus (usually extensively) sculptured; second metasomal tergite distinctly sculptured basally; (Continental Africa) ..... *schwenkei* Haeselbarth
  - Anterior half of precoxal sulcus smooth or nearly so (fig. 1209); second tergite slightly sculptured (fig. 1213); (Malagasy) .....  
..... *convexus* Van Achterberg

***Blacus (Tarpheion) achterbergi* Haeselbarth**  
(figs. 361, 367, 930-933)

*Blacus gracilis* Haeselbarth, 1973a: 121-122, figs. 42, 43, 45 (nec Brues, 1908); Hellén, 1974: 16.

*Blacus (Ischnotron) gracilis*; Van Achterberg, 1976: 185, figs. 42-45.

*Blacus achterbergi* Haeselbarth, 1976: 144 (nom. nov.)

Known from Austria, Czechoslovakia, Finland, Hungary (Fánien, Vértes Mts, 24.VIII.1986, H.J. Vlug (RMNH)), N. Italy (650-700 m), Switzerland and N. USSR (Karelia).

**Blacus (Tarpheion) albipalpis** spec. nov.  
(figs. 975-981)

Material. — Holotype, ♀, (CNC): "Mexico, Chiapas, Muste, 440 m, near Huixtla, X.1970, Mal. trap, Welling".

Holotype, ♀, length of body 3.1 mm, of fore wing 2.7 mm.

Head. — Antennal segments 26, length of third segment 1.5 times fourth segment, length of third, fourth and penultimate segments 6.3, 4.3, and 2.3 times their width, respectively (fig. 977); length of maxillary palp 1.2 times height of head; occipital carina widely interrupted dorsally, distinct laterally; frons smooth; OOL : diameter of ocellus : POL = 20:9:11; length of eye in dorsal view 3.4 times temple (fig. 979); face superficially punctulate; malar suture present; length of malar space 0.9 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides coarsely rugose-reticulate, less dorsally; precoxal sulcus complete, reticulate, and widened medially (fig. 977); notauli complete, crenulate-rugose (fig. 976); mesoscutal lobes nearly flat, smooth; scutellum with some short lateral crenulae and some superficial punctures, rest smooth, its lateral carina complete, lamelliform and protruding dorsally (fig. 977); surface of propodeum smooth anteriorly and reticulate posteriorly, its medial area not visible by reticulation (fig. 977).

Wings. — Fore wing: first discal cell widely truncate anteriorly; 1-CU1 : 2-CU1 = 2:5; parastigma rather large (fig. 975); r:3-SR+SR1:2-SR = 11:45:11.

Legs. — Hind coxa superficially rugose dorso-anteriorly, with an oblique dorsal carina; length of femur, tibia, and basitarsus of hind leg 5.2, 10.2, and 7.6 times their width, respectively; fore middle claw with short brownish-yellow bristles; middle and hind claws only setose.

Metasoma. — Length of first tergite 1.5 times its apical width, rather coarsely longitudinally rugose, medially more reticulate, dorsal carinae distinct in basal half (fig. 980); basal two-thirds of second tergite with coarse, oblique rugae, laterally and posteriorly smooth (fig. 980); length of ovipositor sheath approx. 0.33 times fore wing.

Colour. — Reddish-brown; scapus, pedicellus, face, frons and temples mainly, tegulae, legs (except fore coxae), pterostigma and wing veins, yellowish; third-ninth antennal segments, coxae, and ventral half and apex of metasoma, whitish-yellow; palpi white.

Note. This Neotropical species is very similar to *Blacus townesi* Haeselbarth from S. Africa. However, *townesi* has lateral carina of scutellum without

lamelliform protruding apical part, medial area of propodeum distinct and antennal segments of ♀ 21.

**Blacus (Tarpheion) albiventris spec. nov.**  
(figs. 1127-1135)

Material. — Holotype, ♀, (CNC): "Nepal, Ktm., Pulchauki, 6800' [= ft], 21.VII.1967, Mal.Tr., Can. Exp.". Paratypes, 7 ♀, (CNC, RMNH); 1 ♀, topotypic; 1 ♀, id., but 1-4.VIII.1967, 7300 ft; 1 ♀, id., but 4-7.VIII.1967, 6600 ft; 4 ♀, Nepal, Godavari, 6000 ft: 2 ♀ of 1-3.VIII.1967, 1 ♀ of 7-13.VIII.1967 and 1 ♀ of 13-17.VIII.1967.

Holotype, ♀, length of body 1.6 mm, of fore wing 1.9 mm.

Head. — Antennal segments 20, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 6.5, 4.5, and 2.5 times their width, 1128, 1130); length of maxillary palp 1.1 times height of head; occipital carina complete; frons slightly punctulate and setose; OOL : diameter of ocellus : POL = 18:8:9; length of eye in dorsal view 1.6 times temple (fig. 1133); face virtually smooth; malar suture narrow but distinct; length of malar space 1.7 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal side crenulate-reticulate, dorsally smooth; precoxal sulcus complete, only medially with distinct rugae (fig. 1128); notauli deep and rather crenulate (fig. 1131); mesoscutal lobes rather convex, evenly setose, middle lobe truncate anteriorly; scutellum smooth, its lateral carina complete, not lamelliform laterally, truncate posteriorly, slightly protruding dorsally (fig. 1128); propodeal tubercles absent; surface of propodeum smooth between carinae, its medial area distinctly widened dorsally (fig. 1135).

Wings. — Fore wing: first discal cell broadly sessile anteriorly; 1-CU1 : 2-CU1 = 5:26; parastigma narrow and long (fig. 1127); r:3-SR+SR1:2-SR = 9:41:9.

Legs. — Hind coxa with some rugae; length of femur, tibia, and basitarsus of hind leg 6.4, 12, and 10 times their width, respectively; all claws only setose.

Metasoma. — Length of first tergite 2.5 times its apical width, medially spaced rugose, smooth laterally, dorsal carinae distinct in basal 0.6 (fig. 1135); second tergite with weak rugae, absent in apical quarter (fig. 1135); length of ovipositor sheath 0.18 times fore wing and slightly shorter than first tergite (fig. 1128).

Colour. — Dark brown; head largely brown; clypeus and four basal antennal segments yellowish; veins brown; pterostigma and tegulae light brown; metasoma (except dark first tergite), brown but below first tergite

whitish; palpi whitish; legs pale yellow; wingmembrane slightly infuscated.

Variation. — Length of fore wing 1.9-2.2 mm, of body 1.3-1.9 mm; antennal segments of ♀ 20(6); length of ovipositor sheath 0.13-0.18 times fore wing; head may be dark brown dorsally.

**Blacus (Tarpheion) alternipes** spec. nov.

(figs. 1022-1032)

Material. — Holotype, ♀, (BPBM): "Laos: Vientiane Prov., Gi Sion Vill., de Tha Ngone, 5-19.XII.1965", "Native Collector, Rondon-Bishop Mus. Collection, Malaise Trap".

Holotype, ♀, length of body 1.7 mm, of fore wing 1.8 mm.

Head. — Antennal segments 20, antenna somewhat widened apically (fig. 1024), length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 4.6, 3.5 and 1.6 times their width, respectively (figs. 1023, 1024); length of maxillary palp 0.8 times height of head; occipital carina complete, distinct dorsally; frons smooth and laterally somewhat setose only; OOL : diameter of ocellus : POL = 18:5:12; length of eye in dorsal view 1.1 times temple (fig. 1027); face smooth; malar suture distinct; length of malar space twice basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides largely smooth, antero-medially rugose; precoxal sulcus complete, narrowly and spaced crenulate (fig. 1024); notauli complete and smooth (fig. 1026); mesoscutal lobes rather convex, near notauli setose only, middle lobe convex anteriorly; scutellum smooth, its lateral carina completely lamelliform, not distinctly protruding dorsally (fig. 1024); surface of propodeum smooth, between carinae, its medial area weakly widened dorsally (fig. 1029).

Wings. — Fore wing: first discal cell acute anteriorly; 1-CU1 : 2-CU1 = 4:7; parastigma medium-sized (fig. 1022); r:3-SR+SR1:2-SR = 11:80:21.

Legs. — Hind coxa with few rugae dorso-basally; length of femur, tibia, and basitarsus of hind leg 6.2, 9.8, and 11 times their width, respectively; fore and middle claws with blackish bristles and teeth (figs. 1025, 1028); hind claw only setose (fig. 1031); fore and middle tarsi robust compared with hind tarsus (figs. 1025, 1028, 1031).

Metasoma. — Length of first tergite 2.3 times its apical width, with few rugae laterally, sparsely rugose medially, dorsal carinae distinct nearly up to apex (fig. 1029); second tergite smooth except for some inconspicuous traces of sculpture; length of ovipositor sheath 0.20 times fore wing.

Colour. — Dark reddish-brown; second-fourth antennal segments brownish-yellow; first, fifth-twelfth and 18th-20th segments (more or less dark)

brown; 13th-17th antennal segments, palpi, tegulae, and legs (except infuscated tarsi), pale yellowish; clypeus, second and third tergites and metasoma ventrally (including hypopygium), brown; wing membrane subhyaline; veins, para- and pterostigma (rather light) brown.

Note. The middle claw with its blackish bristles, and the nearly completely smooth second metasomal tergite make this species intermediate between the subgenera *Tarpheion* and *Ganychorus* in these aspects. However, the rather wide medial area of propodeum, the medium-sized hypopygium and the presence of the malar suture indicate that it fits best in *Tarpheion* albeit as an aberrant species.

***Blacus (Tarpheion) angichorus* spec. nov.**  
(figs. 1176-1186)

Material. — Holotype, ♀, (BPBM): "Laos: Vientiana Prov., Ban Van Eue, 31.XII.1965", "Native Collector, Rondon-Bishop Museum Collection".

Holotype, ♀, length of body 1.5 mm, of fore wing 1.6 mm.

Head. — Antennal segments 20, with apical segment subdivided, antenna not widened apically (fig. 1176), length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 6.0, 4.5, and 3.4 times their width, respectively (figs. 1176, 1178); length of maxillary palp 1.1 times height of head; occipital carina narrowly interrupted dorsally, distinct laterally; frons smooth and densely setose; OOL : diameter of ocellus : POL = 17:7:9; length of eye in dorsal view 2.8 times temple (fig. 1181); face smooth; malar suture medium-sized; length of malar space 1.7 times basal width of mandible; head in frontal view longer and less transverse than in *melliceps*.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides rugose, smooth dorsally; precoxal sulcus complete, largely narrow crenulate, with few longer rugae (fig. 1176); notauli complete, cellulate crenulate (fig. 1183); mesoscutal lobes rather convex, evenly setose; middle lobe of mesoscutum slightly convex anteriorly (fig. 1183); scutellum smooth, its lateral carina interrupted medio-laterally, anteriorly with short stub, posteriorly lamelliform and slightly protruding dorsally (fig. 1176); surface of propodeum smooth between carinae, its medial area wide (fig. 1185).

Wings. — Fore wing: first discal cell narrow truncate anteriorly; 1-CU1 : 2-CU1 = 7:20; parastigma medium-sized (fig. 1177); r:3-SR+SR1:2-SR = 7:40:10.

Legs. — Hind coxa rugose dorsally; length of femur, tibia, and basitarsus of hind leg 6, 10, and 8.5 times their width, respectively; fore claw with dark

brown bristles (fig. 1179), other claws yellowish setose (figs. 1180, 1184).

**Metasoma.** — Length of first tergite 2.0 times its apical width, remotely rugose, dorsal carinae distinct nearly up to apex but weak apically (fig. 1185); second tergite rugose, but apically smooth; length of ovipositor sheath 0.28 times fore wing.

**Colour.** — Rather dark reddish-brown; head yellowish-brown; antenna (but apical quarter (= 6 segments) dark brown), palpi, tegulae, legs, metasoma ventrally largely (including complete hypopygium), pale yellowish; metasoma dark brown subapically, brown apically; pterostigma (except narrow pale base) rather dark brown; veins brown; wing membrane subhyaline, but near veins very faintly infuscated; parastigma yellowish.

#### **Blacus (Tarpheion) annulicornis** Haeselbarth

*Blacus annulicornis* Haeselbarth, 1974: 71-72.

*Blacus (Tarpheion) annulicornis*; Van Achterberg, 1976: 190-191.

Known from South Africa (N. Transvaal, Entabeni Forest) and Tanzania (Mahali Peninsula, 1800 m).

#### **Blacus (Tarpheion) antennalis** spec. nov. (figs. 1158-1168)

**Material.** — Holotype, ♀, (BMNH): "Taplejung Distr., Old mixed forest above Sangu, c6299" [= ft], 25-28.x.1961", "Brit. Mus. East Nepal Exp., 1961-62, R.L. Coe Coll., B.M.1962-177", "♀ B. (Tarpheion) artomandibularis sp.n., C. van Achterberg, 1973 MS, Paratype".

Holotype, ♀, length of body and of fore wing both 2.3 mm.

**Head.** — Antennal segments 20, antenna longer than fore wing (figs. 1158, 1159; shorter in *artomandibularis*), not widened apically, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segment 5.8, 4.2, and 2.7 times their width, respectively (figs. 1158, 1163); length of maxillary palp 1.3 times height of head; occipital carina narrowly interrupted medio-dorsally, distinct laterally; frons smooth and densely setose; OOL : diameter of ocellus : POL = 8:2:3; length of eye in dorsal view 1.6 times temple (fig. 1161); face smooth; malar suture deep, complete; length of malar space 1.4 times basal width of mandible.

**Mesosoma.** — Length of mesosoma 1.4 times its height; pronotal sides largely rugose, except dorsally (fig. 1158); precoxal sulcus complete, its extre-

mes smooth, longest crenulae medially (fig. 1158)); notauli complete, cellulate crenulate (fig. 1162); mesoscutal lobes rather convex, and evenly setose; middle lobe of mesoscutum truncate anteriorly; scutellum smooth, its lateral carina complete, crenulate along inner side, slightly protruding dorsally (fig. 1158); surface of propodeum between carinae largely smooth, its medial area wide dorsally (fig. 1164).

Wings. — Fore wing: first discal cell narrow truncate anteriorly; 1-CU1 : 2-CU1 = 5:11; parastigma medium-sized (fig. 1159); r : 3-SR+SR1 : 2-SR = 8:41:11.

Legs. — Hind coxa rugose dorsally; length of femur, tibia and basitarsus of hind leg 6.2, 12, and 10 times its width, respectively; fore claw with inconspicuous brownish bristles (fig. 1165); middle and hind claws yellowish setose (figs. 116, 1168).

Metasoma. — Length of first tergite 2.5 times its apical width, rugose medially, with some longitudinal rugae laterally, and dorsal carinae distinct in basal 0.6 (fig. 1164); second tergite distinctly rugose basally, but smooth posteriorly (fig. 1164); length of ovipositor sheath 0.28 times fore wing (0.39 times in *artomandibularis*).

Colour. — Dark brown; head yellowish-brown dorsally, yellowish anteriorly; 1st-12th antennal segments, tegulae, legs, and basal half of metasoma ventrally, yellowish; palpi, and 13th-17th antennal segments pale yellowish; 18th-20th antennal segments and pterostigma (except extreme pale base), dark brown; parastigma and veins 3-SR+SR1 and 1-R1 of fore wing yellow; remaining veins and hypopygium brown; wing membrane subhyaline.

***Blacus (Tarpheion) apicalis* Van Achterberg**  
(figs. 1097-1103)

*Blacus (Tarpheion) apicalis* Van Achterberg, 1976: 193-194, figs. 120-126.

Type-series originates from Nepal, collected at an altitude of about 600 m.

***Blacus (Tarpheion) artomandibularis* Van Achterberg**  
(figs. 1169-1175)

*Blacus (Tarpheion) artomandibularis* Van Achterberg, 1976: 194-195, figs. 127-133.

The holotype and an additional female (CNC) originate from Nepal, the holotype was collected at an altitude of about 2000 m. In addition I have



examined two females (WCAM, RMNH) from Taiwan (Nantou Hsien, Tsui-feng, V-23-1982), which differ by the darker antenna; the apical half is brownish.

**Blacus (Tarpheion) bicolor** spec. nov.  
(figs. 1033-1043)

Material. — Holotype, ♀, (BPBM): “Laos: Vientiane Prov., Ban Van Euc, 15.VIII.1967”, “Native Collector, Rondon-Bishop Mus. Collection”. Paratypes: 6 ♀, (BPBM, RMNH): 2 ♀, topotypic (1 ♀: 30.VI.1967); 1 ♀: “Thailand: Fang, 12-19.IV.1958”, “T.C. Maa, Collector, Bishop Mus.”; 1 ♀: “Thailand (NW); Chiangmai, Fang, 12-19.IV.1958”, “T.C. Maa, Collector Bishop Mus.”; 2 ♀, (RMNH, Bogor Museum): “Indonesia: C. Sulawesi, Lore-Lindu N.P., c.1100 m, 1°15'S 120°20'E, 6-9.XII.1985”, “nr Dongi-Dongi shelter, Mal. trap 6 (PW 58), C.v. Achterberg RMNH '86”. Additionally one specimen (non-type) from the Philippines (BPBM: “Mindanao, Agusan, S. Francisco, 10 km SE, 14.XI.1959”) without metasoma.

Holotype, ♀, length of body and of fore wing both 2.2 mm.

Head. — Remaining antennal segments 13 (20 in one paratype), length of third segment 1.4 times fourth segment, length of third, and fourth segments 6.3, and 4.7 times their width, respectively (fig. 1033); length of maxillary palp 1.1 times height of head; occipital carina laterally only, medio-dorsally widely absent; frons smooth and densely setose; OOL: diameter of ocellus : POL = 12:5:8; length of eye in dorsal view 3.5 times temple (fig. 1041); face smooth except for some setiferous punctulation; malar suture deep; length of malar space 0.8 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides rugose, but dorsal triangle smooth; precoxal sulcus complete, rather widely rugose medially (fig. 1033); notauli complete, largely narrow crenulate (fig. 1039); mesoscutal lobes rather convex, evenly setose; middle lobe slightly concave anteriorly (fig. 1039) and with subvertical and very strong lamelliform carina laterally (fig. 1035); scutellum smooth, its lateral carina non-lamelliform, complete and not protruding dorsally (fig. 1033); surface of propodeum smooth between carinae, its medial area widened dorsally (fig. 1034).

Wings. — Fore wing: first discal cell widely truncate anteriorly; 1-CU1 : 2-CU1 = 2:7; pterostigma normal (fig. 1034); parastigma long (fig. 1034); r:3-SR+SR1:2-SR = 9:51:10; r strongly oblique and first submarginal cell comparatively narrow (fig. 1034).

Legs. — Hind coxa largely smooth, with some sculpture dorsally; length of femur, tibia, and basitarsus of hind leg 5.4, 10.4, and 9.7 times their width, respectively; fore claw with dark brown bristles (fig. 1036), other claws normally setose (figs. 1037, 1043).

Metasoma. — Length of first tergite 1.8 times its apical width, rugose medially, with some oblique striae laterally, dorsal carinae distinct in basal half (fig. 1040); second tergite rather coarsely obliquely striate, smooth apically (fig. 1040); length of ovipositor sheath 0.42 times fore wing.

Colour. — Dark brown; nine basal antennal segments, palpi, base of pterostigma and legs, pale yellowish; head (except dark brown stemmaticum), tegulae, and metasoma ventrally and posteriorly, yellowish; occiput infuscated; remainder of pterostigma dark brown; wing membrane subhyaline, but area below pterostigma near vein r slightly infuscated, to a lesser degree near vein 1-M.

Variation. — Length of fore wing 2.0-2.6 mm, of body 2.1-2.3 mm; length of ovipositor sheath 0.33-0.42 times fore wing; length of first metasomal tergite 1.8-2.2 times its apical width; second tergite largely striate to largely smooth; specimen from the Philippines has 21 antennal segments, one female from Sulawesi has 20 antennal segments, its seven basal segments yellowish, rest dark brown but apical segment somewhat paler than penultimate segment.

**Blacus (Tarpheion) brevicarinatus spec. nov.**

(figs. 1069-1077)

Material. — Holotype, ♀, (BPBM): "New Guinea: NE, Morobe District, Mt. Kaindi, N. Peak, 2350 m, 14-20.X.(19)66", "G.A. Samuelson Collector, Bishop Museum".

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

Head. — Antennal segments 20, of equal width, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 6.0, 4.5, and 2.2 times their width, respectively (figs. 1069, 1071); length of maxillary palp 1.1 times height of head; occipital carina present up to ventral 0.7 of eye, absent dorsally; frons smooth and venly setose; OOL : diameter of ocellus : POL = 19:6:9; length of eye in dorsal view 1.8 times temple (fig. 1075); face smooth; malar suture distinct; length of malar space 1.4 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides crenulate-rugose smooth dorsally; precoxal sulcus complete and narrowly crenulate (fig. 1069); notauli complete and largely smooth (fig. 1076); mesoscutal lobes rather convex, lateral lobes medially glabrous, rest setose; middle lobe of mesoscutum weakly convex anteriorly (fig. 1076) and with isolated short crest antero-laterally (fig. 1069); scutellum smooth, its lateral carina complete, rather weak, slightly protruding dorsally (fig. 1069); surface of propodeum smooth between carinae, its medial area rather narrow and weak (fig. 1077).

Wings. — Fore wing: first discal cell widely truncate anteriorly; 1-CU1 : 2-CU1 = 2:15; parastigma wide (fig. 1070); r 3-SR+SR1:2-SR = 9:51:12; sclerotized part of 2-M short; 1-SR+M distinctly curved (fig. 1070).

Legs. — Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 7, 13.6, and 11 times their width, respectively; all claws only setose.

Metasoma. — Length of first tergite 2.5 times its apical width, rugose medially and posteriorly, rest smooth, dorsal carinae distinct in basal 0.7 (fig. 1077); second tergite smooth; length of ovipositor sheath 0.23 times fore wing.

Colour. — Black(ish); antenna completely, legs largely (fore and middle femora paler), palpi basally (rest yellowish) and metasoma, rather dark brown; pterostigma, parastigma and veins, brown; basal half of metasoma rather brownish; mandible dark brown; wing membrane subhyaline.

***Blacus (Tarpheion) brevichorus* spec. nov.**  
(figs. 1044-1052)

Material. — Holotype, ♀, (BPBM): "Laos: Vientiane Prov., Ban Van Euc, 31.XII.1965", "Native Collector, Rondon-Bishop Mus. Collection, Malaise Trap".

Holotype, ♀, length of body 1.6 mm, of fore wing 1.7 mm.

Head. — Antennal segments 20, of equal width, length of third segment 1.5 times fourth segment, length of third, fourth and penultimate segments 6.0, 4.0, and 2.9 times their width, respectively (figs. 1045, 1046); length of maxillary palp 1.2 times height of head; occipital carina complete; frons smooth and densely short setose; OOI : diameter of ocellus : POL = 18:7:7; length of eye in dorsal view 2.4 times temple (fig. 1047); face smooth; malar suture distinct; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides largely reticulate-rugose, smooth dorsally; precoxal sulcus complete, narrowly crenulate (fig. 1046); notauli complete, spaced crenulate (fig. 1051); mesoscutal lobes rather flat, densely setose, middle lobe truncate anteriorly (fig. 1051) and lamelliform carina moderately oblique and weaker than in *bicolor* (fig. 1046); scutellum smooth, its lateral carina complete, narrow lamelliform, not protruding dorsally (fig. 1046); surface of propodeum smooth between carinae, its medial area distinctly widened dorsally (fig. 1052).

Wings. — Fore wing: first discal cell widely truncate anteriorly; 1-CU1 : 2-CU1 = 5:26; pterostigma rather swollen (fig. 1044); parastigma large (fig. 1044); r:3-SR+SR1:2-SR = 9:38:9; r slightly oblique and first submarginal cell comparatively wide (fig. 1044).

Legs. — Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 5.8, 10.7, and 9.5 times their width, respectively; all claws normally setose (fig. 1049).

Metasoma. — Length of first tergite 2.4 times its apical width, finely rugose, dorsal carinae distinct in basal 0.7 (fig. 1052); second tergite with six oblique rugae and some microsculpture; length of ovipositor sheath 0.18 times fore wing.

Colour. — Dark brown; stemmaticum infuscated; remainder of head, palpi, four basal antennal segments and legs, brownish-yellow; remainder of antenna dark brown; tegulae and complete hypopygium rather dark brown; pterostigma, veins r, 1-M and CU1 of forewing rather dark brown; rest of veins yellowish-brown; wing membrane subhyaline, but slightly infuscated near veins r and 1-M of fore wing.

**Blacus (Tarpheion) cerinus** Van Achterberg  
(figs. 934-941)

*Blacus (Tarpheion) cerinus* Van Achterberg, 1976: 187-188, figs. 72-79.

Known from Brazil (Santa Catarina, Nova Teutonia, type-series) and Panama (RMNH:Barro Colorado Island; with pterostigma dark brown).

**Blacus (Tarpheion) chillcotti** Van Achterberg  
(figs. 950-956)

*Blacus (Tarpheion) chillcotti* Van Achterberg, 1976: 189-109, figs. 88-94; Marsh, 1979: 268; Sarazin, 1985: 1183.

Known from Canada (Ontario), U.S.A. (North Carolina, Highlands; South Carolina (RMNH); New Jersey; Georgia), and Mexico (Durango, ca 2000 m; Sinaloa, 1500-2000 m, (CNC)). The specimens from Mexico are rather aberrant, both females have ovipositor sheath about 0.35 times fore wing, one has pterostigma yellowish, the other dark brown. The male from Mexico has basal 0.9 of second tergite striate, length of first tergite 2.6 times its apical width, and antennal segments 22.

**Blacus (Tarpheion) constrictus** Van Achterberg  
(figs. 942-949)

*Blacus (Tarpheion) constrictus* Van Achterberg, 1976: 188-189, figs. 80-87.

Known from Brazil (Santa Catarina, 300-500 m) and Ecuador (Pompeya, Napo River, (CNC)). The specimens (1 ♀ + 1 ♂) from Ecuador are somewhat aberrant; length of vein r is about 1.1 times maximum height of pterostigma. The male has 23 antennal segments.

**Blacus (Tarpheion) convexus** Van Achterberg  
(figs. 1209-1214)

*Blacus (Tarpheion) convexus* Van Achterberg, 1976: 191-192, figs. 108-113.

Only known from Malagasy: Ankaratra and Ambositra.

**Blacus (Tarpheion) decaryi** Granger  
(figs. 1197-1202)

*Blacus decaryi* Granger, 1949: 331-332, fig. 342; Schenefelt, 1969: 18.

*Blacus (Tarpheion) decaryi*; Van Achterberg, 1976: 191, figs. 102-107.

Unfortunately only known from one male; the type-locality is Malagasy, Amparafaravola, near Alaotrai Lake.

**Blacus (Tarpheion) diversus** spec. nov.  
(figs. 1104-1114)

Material. — Holotype, ♀, (BPBM): "Australia: SE Qld., Mt. Glorious, Rain forest, 24-28.II.1961", "L. & M. Gressitt Collectors, Bishop Mus."

Holotype, ♀, length of body 1.8 mm, of fore wing 2.1 mm.

Head. — Antennal segments 20, of subequal width (fig. 1104), length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 7.0, 5.0, and 3.9 times their width, respectively (figs. 1104, 1105); length of maxillary palp 1.3 times height of head; occipital carina present up to ventral 0.7 of eye, absent dorsally; frons smooth; OOL : diameter of ocellus : POL = 10:3:5; length of eye in dorsal view 3.8 times temple (fig. 1113); face

smooth; malar suture distinct; length of malar space equal to basal width of mandible.

**Mesosoma.** — Length of mesosoma 1.4 times its height; pronotal sides rugose anteriorly, crenulate posteriorly, remainder largely smooth; precoxal sulcus complete, largely smooth anteriorly, and rugose medially (fig. 1104); notauli complete and rather crenulate (fig. 1110); mesoscutal lobes rather convex, setose, but lateral lobes sparsely, middle lobe slightly concave anteriorly (fig. 1110), and with crest-like carina antero-laterally (fig. 1112); scutellum smooth; its lateral carina complete, not protruding dorsally (fig. 1104); surface of propodeum smooth between carinae, its medial area strongly widened dorsally (fig. 1114).

**Wings.** — Fore wing: first discal cell wide truncate anteriorly; 1-CU1 : 2-CU1 = 3:17; parastigma large (fig. 1106); r:3-SR+SR1:2-SR = 15:97:22; 2-SR discontinuous with 3-SR+SR1 (fig. 1106); cu-a normally pigmented.

**Legs.** — Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 6.1, 11, and 12 times their width, respectively; fore and middle claws normally setose (figs. 1108, 1109); hind claw missing.

**Metasoma.** — Length of first tergite 2.0 times its apical width, longitudinally striate, rugulose between striae medially, widened posteriorly, dorsal carinae distinct nearly up to apex of tergite (fig. 1114); second tergite longitudinally striate, smooth posteriorly; length of ovipositor sheath 0.27 times fore wing and 1.2 times first tergite.

**Colour.** — Dark reddish-brown; palpi, legs, humeral plate (but tegulum dark brown), six basal antennal segments, and metasoma baso-ventrally, pale yellowish; head yellowish-brown; hypopygium and remainder of antenna, brown; pterostigma (except base and apex narrowly) dark brown; parastigma, base and apex of pterostigma, veins M+CU1, 1-SR+M, m-cu and 1-R1 of fore wing brownish-yellow; remainder of veins of fore wing brown; wing membrane subhyaline but near veins 1-M, 1-CU1 and r slightly infuscated.

***Blacus (Tarpheion) erugatus* Van Achterberg**  
(figs. 957-963)

*Blacus (Tarpheion) erugatus* Van Achterberg, 1976: 190, figs. 95-101; Sarazin, 1985: 1184.

Known from Ecuador (Pompeya, Napo River) and Brazil (Nova Teutonia and Jatai, Goiás (CNC)). The ♀-specimen from Brazil has first metasomal tergite densely sculptured and its length 1.7 times its apical width.

**Blacus (Tarpheion) fulvicollis** Haeselbarth

*Blacus fulvicollis* Haeselbarth, 1974: 79-80.

*Blacus (Ischnotron) fulvicollis*; Van Achterberg, 1976: 184.

Fits better in the subgenus *Tarpheion* (e.g. *notauli* deep and complete) despite the lack of the occipital carina. Known from South Africa (N. Transvaal, Entabeni Forest).

**Blacus (Tarpheion) fuscicoxis** spec. nov.

(figs. 1078-1086)

Material. — Holotype, ♀, (BPBM): "New Guinea (SE), Mt. Giluwe, 2500-3300 m, 2.VI.1963", "M. Sedlacek, Bishop". Paratypes, 1 ♀ + 3 ♂, (BPBM, RMNH): 1 ♀, "New Guinea, NE, E. Highlands, Purosa, 1700 m, 17-25.V.1966", "Gressitt & Tawi, Collectors Bishop"; 2 ♂, "New Guinea (Neth.), Vogelkop; Sururai Vill. area, W. shore Lake Anggi Giji, 1850 m, VII-25-1957", "D. Elmo Hardy Collector Bishop Museum"; 1 ♂, "New Guinea, Mt. Suckling 1500-2300 m, 14.VII.1972", "J.L. Gressitt Collector, Bishop Museum".

Holotype, ♀, length of body 2.3 mm, of fore wing 2.6 mm.

Head. — Antennal segments 20, of equal width (fig. 1078), antenna about 0.9 times fore wing, length of third segment 1.6 times fourth segment, length of third, fourth and penultimate segments 5.5, 3.5, and 1.6 times their width, respectively (figs. 1078, 1079); length of maxillary palp equal to height of head; occipital carina present up to ventral 0.7 of eye, strongly curved, absent dorsally; frons smooth and largely glabrous; OOL : diameter of ocellus : POL = 11:4:7; length of eye in dorsal view 1.3 times temple (fig. 1083); face smooth; malar suture rather shallow; length of malar space 1.6 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides largely smooth, with some crenulae and a ruga (fig. 1078); precoxal sulcus largely smooth, with four short crenulae medially (fig. 1078); notauli completely, narrowly crenulate (fig. 1085); mesoscutal lobes rather convex, setose, but lateral lobes sparsely, middle lobe straight anteriorly (fig. 1085) and without crest antero-laterally (fig. 1078); scutellum smooth, its lateral carina complete, not lamelliform, not protruding dorsally (fig. 1078); surface of propodeum smooth between strong carinae, its medial area widened dorsally (fig. 1081).

Wings. — Fore wing: first discal cell moderately truncate anteriorly; 1-CU1 : 2-CU1 = 2:13; parastigma medium-sized (fig. 1080); sclerotized part of 2-M longer than in *brevicarinatus* (fig. 1080); r:3-SR+SR1:2-SR = 8:51:14; 1-SR+M (nearly) straight.

Legs. — Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 5.8, 9.5, and 11 times their width, respectively; fore and middle claws in glue, invisible; hind claw normally setose.

Metasoma. — Length of first tergite 1.8 times its apical width, smooth; dorsal carinae distinct and nearly reaching apex of tergite (fig. 1081); second tergite completely smooth; length of ovipositor sheath 0.38 times fore wing.

Colour. — Black; pedicellus yellowish-brown; remainder of antenna, metasoma medially, hypopygium, ovipositor sheath, all coxae, and tegulae, dark brown; remainder of legs, ptero- and parastigma and veins, brown; palpi pale brownish-yellow; wing membrane subhyaline.

Variation. — Length of fore wing 1.8-3.0 mm; antennal segments 20 (2 ♀, 2♂); length of penultimate segment of antenna 1.6-1.7 (♀) or 1.8-2.3 (♂) times its width; four basal antennal segments may be brown; side of middle lobe of mesoscutum with oblique ruga ♀ (paratype) or smooth (holotype); veins of fore wing of ♂ wider than of ♀.

***Blacus (Tarpheion) fuscinervis* spec. nov.**

(figs. 994-1004)

Material. — Holotype, ♀, (BPBM): "Laos: Vientiane Prov., Ban Van Eue, 15.II.1966", "Native Collector, Bishop Museum".

Holotype, ♀, length of body and of fore wing both 2.0 mm.

Head. — Antennal segments 19, antenna slightly widened apically (fig. 994), length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 4.6, 3.9, and 2.4 times their width, respectively (figs. 994, 996); length of maxillary palp equal to height of head; occipital carina completely absent; frons smooth; OOL : diameter of ocellus : POL = 7:3:5; length of eye in dorsal view 1.8 times temple (fig. 997); face smooth; malar suture rather shallow; length of malar space 0.6 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides reticulate-crenulate anteriorly, remainder smooth; precoxal sulcus only shallowly impressed medially, with some weak rugae (fig. 994); notauli deeply impressed, wide posteriorly and distinctly crenulate (fig. 1001); mesoscutal lobes rather convex, setose; scutellum largely smooth, with some rugae posteriorly, its lateral carina complete, not protruding dorsally (fig. 994); surface of propodeum largely smooth, with some rugae, its medial area large (fig. 1004).

Wings. — Fore wing: first discal cell wide truncate anteriorly; 1-CU1 : 2-CU1 = 3:31; parastigma large (fig. 995); r:3-SR+SR1:2-SR = 9:45:13;



length of r 1.1 times maximum width of pterostigma.

Legs. — Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 5.4, 12, and 8 times their width, respectively; fore claw with blackish bristles (fig. 998); middle and hind claws normally setose (figs. 999, 1002).

Metasoma. — Length of first tergite 2.1 times its apical width, largely rugose; dorsal carinae distinct in basal half (fig. 1004); second tergite weakly rugose medially, remainder smooth (fig. 1004); length of ovipositor sheath about 0.2 times fore wing.

Colour. — Yellowish-brown; four basal antennal segments, palpi, legs, parastigma largely, basal half of metasoma ventrally, and tegulae, light yellowish; arolia, remainder of antenna and of metasoma (but second and seventh tergites and hypopygium light brown), pterostigma (except minute yellowish basal patch), dark brown; wing membrane near veins 1-M, m-cu, r, 2-SR, CU1 of fore wing, and middle of hind wing infuscated; remainder of wing membrane subhyaline.

**Blacus (Tarpheion) geijskesi spec. nov.**  
(figs. 964-974)

Material. — Holotype, ♀, (RMNH): "Museum Leiden, Surinam, Phedra, 21-28.XII.1964", "D.C. Geijskes, rainforest in hilly interior". Paratype: 1 ♀, (RMNH), topotypic and same date.

Holotype, ♀, length of body and of fore wing both 2.5 mm.

Head. — Antennal segments 26, long setose, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 5.4, 4.0, and 2.3 times their width, respectively (figs. 964, 968); length of maxillary palp 1.2 times height of head; occipital carina widely absent medio-dorsally, present behind eyes only; frons smooth; OOL : diameter of ocellus : POL = 16:6:7; length of eye in dorsal view 4.2 times temple (fig. 967); face punctulate; malar suture narrow; length of malar space 0.8 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides largely smooth, rugose medially; precoxal sulcus complete, with eight spaced crenulae (fig. 964); notauli narrow, deep, indistinctly crenulate (fig. 969); mesoscutal lobes rather flat, evenly setose; scutellum, its lateral carina complete, lamelliform posteriorly only, distinctly protruding dorsally (fig. 964); surface of propodeum spaced reticulate laterally and posteriorly, smooth anteriorly, its medial area wide dorsally (fig. 972).

Wings. — Fore wing: first discal cell rather widely truncate (but less than in *albialpispis*) anteriorly (fig. 965); 1-CU1 : 2-CU1 = 5:12; parastigma large (fig.

965); r:3-SR+SR1:2-SR = 9:45:12.

Legs. — Hind coxa with some rugae baso-dorsally; length of femur, tibia, and basitarsus of hind leg 4.9, 11.6, and 9.5 times their width, respectively; fore and middle claws with yellowish bristles only (figs. 970, 971); hind claw very slender apically, distinctly bent and normally setose (fig. 973).

Metasoma. — Length of first tergite 2.1 times its apical width, coarsely longitudinally rugose laterally, rugulose medially, dorsal carinae complete (fig. 972); basal three-quarters of second tergite coarsely spaced striate, remainder smooth (fig. 972); length of ovipositor sheath 0.38 times fore wing.

Colour. — Dark (chestnut) brown; first-fifth antennal segments and base of sixth, palpi, legs, metasoma ventrally and narrowly apically, yellowish; tegulae, pterostigma, and veins, largely brown; membrane of middle of fore wing (e.g. first discal cell and below pterostigma), slightly infuscated; rest of membrane subhyaline.

Variation. — Paratype has 26 antennal segments, also sixth and base of seventh antennal segment yellowish; first tergite rather reddish-brown basally; length of first metasomal tergite 1.8 times its apical width; length of fore wing 2.7 mm; length of body 3.0 mm; length of ovipositor sheath 0.38 times fore wing; first discal cell of fore wing narrow anteriorly.

Note. It is a great 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.

***Blacus (Tarpheion) gibber* Haeselbarth**  
(fig. 926)

*Blacus gibber* Haeselbarth, 1974: 73-74, fig. 2

*Blacus (Tarpheion) gibber*; Van Achterberg, 1976: 192, fig. 39.

Known from South Africa (N. Transvaal, Entabeni Forest) only.

***Blacus (Tarpheion) hemicarinatus* spec. nov.**  
(figs. 1053-1059)

Material. — Holotype, ♀, (AMNH): "Louisiade Arch., Sudest Island: Mt. Riu, West slopes, 250-350 m, Camp 10, IX.1.1956", "Fifth Archbold Exped. to New Guinea, L.J. Brass". Paratype; 1 ♀, (CNC): "N.G. (= New Guinea), Papua, 8 mi. S. of Tonda, 24.IX.1972, Tenttrap, J. Stibick".

Holotype, ♀, length of body and of fore wing both 1.3 mm.

Head. — Antennal segments 20, length of third segment 1.6 times fourth segment, length of third, fourth and penultimate segments 8.0, 5.0, and 3.0

times their width, respectively (fig. 1053); length of maxillary palp 0.7 times height of head; occipital carina largely absent, present behind ventral half of eye; frons smooth; OOL : diameter of ocellus : POL = 12:3:7; length of eye in dorsal view 2.0 times temple (fig. 1056); temple gradually narrowed posteriorly (fig. 1056); face smooth; malar suture distinct; length of malar space 1.2 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides largely smooth, weakly crenulate medially and posteriorly, and with some rugae anteriorly; precoxal sulcus weakly impressed, its posterior two-thirds with short crenulae (fig. 1053); notauli complete, distinctly crenulate (fig. 1057); mesoscutal lobes rather convex; scutellum smooth, its lateral carina irregular, complete, not protruding dorsally (fig. 1053); surface of propodeum smooth between distinct carinae, its medial area somewhat widened dorsally (fig. 1059).

Wings. — Fore wing: first discal cell narrow truncate anteriorly; 1-CU1 : 2-CU1 = 1:18; parastigma rather large (fig. 1055); r oblique and medially from pterostigma (fig. 1055); r:3-SR+SR1:2-SR = 10:45:11; SR1 continuous with 2-SR (fig. 1055); 2-1A absent (fig. 1055); 3-CU1 subhorizontal and near level of 2-CU1.

Legs. — Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 5.8, 11, and 10 times their width, respectively; all claws normally setose.

Metasoma. — Length of first tergite 2.0 times its apical width, indistinctly striate, dorsal carinae complete (fig. 1059); second tergite largely smooth, but with some weak striae basally; length of ovipositor sheath 0.22 times fore wing and as long as first tergite (fig. 1053).

Colour. — Dark brown; scapus, pedicellus, annellus, legs (except hind basitarsus), palpi, antennal sockets and tegulae, whitish or pale yellowish; hind basitarsus infuscated; wing membrane somewhat brownish.

Variation. — Paratype has length of fore wing and of body both 1.5 mm, length of ovipositor sheath 0.22 times fore wing, medial area of propodeum parallel-sided and second tergite somewhat more sculptured basally.

Note. With Sudest Island is probably meant Cape Siri (= Cape Sudes), the S.E. part of Tagula Island, the main island of the Louisiade Archipelago, situated S.E. of New Guinea.

***Blacus (Tarpheion) incarinaticeps* spec. nov.**  
(figs. 982-993)

Material. — Holotype, ♀, (BPBM): "Nepal: Bokaihunde, 20 km N. of Trisuli (Nawakot), 2100 m, 13-17.XI.1963", "L.W. Quate collector".

Holotype, ♀, length of body 2.0 mm, of fore wing 2.5 mm.

Head. — Antennal segments 20, long whitish setose, of subequal width (fig. 982), length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 5.5, 4.0, and 2.0 times their width, respectively (figs. 982, 984); length of maxillary palp 1.3 times height of head; occipital carina completely absent; frons smooth and setose laterally; OOL : diameter of ocellus : POL = 16:6:13; length of eye in dorsal view 1.3 times temple (fig. 991); face smooth; malar suture shallow; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides crenulate and with some rugae medially, with some microsculpture ventrally; precoxal sucus short, only in middle of mesopleuron and shallowly crenulate (fig. 982); notauli complete, narrow, largely smooth (fig. 990); mesoscutal lobes rather convex, evenly setose; scutellum smooth, its lateral carina complete, rather weak and not protruding dorsally (fig. 982); surface of propodeum smooth, its medial area large, widened dorsally (fig. 990).

Wings. — Fore wing: first discal cell truncate anteriorly; 1-CU1 : 2-CU1 = 1:21; parastigma long, narrow (fig. 983); r:3-SR+SR1:2-SR = 11:55:13; length of r 1.4 times maximum width of pterostigma (fig. 983).

Legs. — Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 8.3, 12.5, and 9 times their width, respectively; fore claw with dark brown bristles (fig. 985); middle and hind claw normally setose (figs. 987, 992).

Metasoma. — Length of first tergite 2.8 times its apical width, largely smooth; dorsal carinae distinct in basal 0.8 (fig. 993); second tergite smooth; length of ovipositor sheath 0.22 times fore wing.

Colour. — Dark reddish-brown; scapus, pedicellus, palpi, legs, and basal half of metasoma ventrally, yellowish; propleuron rather light brownish; third and fourth antennal segments brownish, somewhat paler than fifth segment; hypopygium rather light brownish; tegulae and veins brownish; pterostigma dark brown, but base and apex whitish; wing membrane subhyaline.

**Blacus (Tarpheion) javensis** Van Achterberg  
(figs. 1015-1021)

*Blacus (Ischnotron) javensis* Van Achterberg, 1976: 184-185, figs. 65-70.

Only known from Indonesia (Java: Bogor).

**Blacus (Tarpheion) linearis** spec. nov.  
(figs. 1115-1126)

Material. — Holotype, ♀, (BPBM): "North Borneo (SE), Forest Camp, 19 km N. of Kalabakan, 60m, 19.X.1962", "K.J. Kuncheria Collector Bishop".

Holotype, ♀, length of body 1.5 mm, of fore wing 1.7 mm.

Head. — Antennal segments 20, of subequal width (fig. 1115), length of third segment 1.6 times fourth segment, length of third, fourth and penultimate segments 7.0, 4.5, and 2.6 times their width, respectively (figs. 1115, 1116); length of maxillary palp 0.9 times height of head; occipital carina present up to ventral 0.8 of eye, absent dorsally; frons smooth; OOL : diameter of ocellus : POL = 10:2:5; length of eye in dorsal view 4.7 times temple (fig. 1125); face smooth; malar suture rather shallow; length of malar space equal to basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides rugose anteriorly, crenulate posteriorly and rest smooth; precoxal sulcus complete, narrow crenulate (fig. 1115); notauli complete, widely crenulate (fig. 1120); mesoscutal lobes rather flat, lateral lobes glabrous medially, rest setose; middle lobe concave anteriorly (fig. 1120), and with crest-like carina antero-laterally (fig. 1118); scutellum smooth, its lateral carina complete, regular, not protruding dorsally (fig. 1115); surface of propodeum largely smooth between carinae, its medial area long and widened dorsally (fig. 1126).

Wings. — Fore wing: first discal cell acute anteriorly; 1-CU1 : 2-CU1 = 2:13; parastigma small (fig. 1117); r:3-SR+SR1:2-SR = 14:80:19; 2-SR nearly continuous with 3-SR+SR1 (fig. 1117); cu-a unpigmented.

Legs. — Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 4.8, 11, and 8 times their width, respectively; all claws only setose (figs. 1119, 1121, 1123).

Metasoma. — Length of first tergite 2.4 times its apical width, medially obliquely rugose, remainder largely smooth, parallel-sided; dorsal carinae distinct in basal 0.7 (fig. 1126); second tergite smooth; length of ovipositor sheath 0.37 times fore wing and 1.6 times first tergite.

Colour. — Reddish-brown; head, palpi, legs, tegulae, metasoma basoventrally and two basal antennal segments, brownish-yellow; remainder of antenna dark brown, but apical segment pale yellowish and penultimate segment brown; apical half of metasoma dark brown dorsally; wing membrane slightly infuscated; veins brown; pterostigma dark brown with base narrowly subhyaline.

**Blacus (Tarpheion) melliceps spec. nov.**  
(figs. 1136-1146)

Material. — Holotype, ♀, (BPBM): "Ryukyu Is., Okinawa I., Yona, 24.III.1964", "C.M. Yoshimoto & J. Harrell Collectors", "U.S.-Japan Co-op. Sci. Programme".

Holotype, ♀, length of body 1.7 mm, of fore wing 1.8 mm.

Head. — Antennal segments 20, of equal width (fig. 1138), length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 5.0, 3.5, and 2.4 times their width, respectively (figs. 1137, 1138); length of maxillary palp 1.1 times height of head; occipital carina present up to dorsal level of eyes, absent dorsally; frons smooth and densely setose; OOL : diameter of ocellus : POL = 10:3:4; length of eye in dorsal view 2.6 times temple (fig. 1145); face smooth; malar suture moderately impressed; length of malar space 1.3 times basal width of mandible; head in frontal view comparatively short and more transverse (fig. 1140).

Mesosoma. — Length of mesosoma 1.5 times its height; pronotal sides spaced crenulate-rugose, smooth dorsally; precoxal sulcus nearly complete, longer rugose medially than anteriorly and posteriorly (fig. 1138); notauli complete, rather widely crenulate (fig. 1142); mesoscutal lobes rather convex, lateral lobes glabrous medially, remainder of mesoscutum setose; middle lobe convex anteriorly (fig. 1142); scutellum smooth, its lateral carina complete, non-lamelliform and not protruding dorsally (fig. 1138); surface of propodeum smooth, except carinae and some short carinae, its medial area large, strongly widened dorsally (fig. 1146).

Wings. — Fore wing: first discal cell narrow truncate anteriorly; 1-CU1 : 2-CU1 = 1:2; parastigma rather long (fig. 1136); r:3-SR+SR1:2-SR = 9:47:11.

Legs. — Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 6.2, 11, and 8 times their width, respectively; fore claw with some dark brown bristles (fig. 1139); middle and hind claws normally setose (figs. 1141, 1144).

Metasoma. — Length of first tergite 2.1 times its apical width, largely smooth, with some superficial short rugae; dorsal carinae complete (fig. 1146); second tergite longitudinally, rather weakly striate, smooth posteriorly (fig.

1146); length of ovipositor sheath 0.33 times fore wing.

Colour. — Dark brown; eight basal segments of antenna (rest brown, dark brown apically), palpi, tegulae, metasoma baso-ventrally, and legs, pale yellowish; stemmaticum dark brown; remainder of head yellowish-brown; hypopygium brown, rather darkened basally; wing membrane subhyaline; base of pterostigma pale, rest of pterostigma, parastigma and veins, dark brown.

**Blacus (Tarpheion) nanulus** Haeselbarth

*Blacus nanulus* Haeselbarth, 1974: 78.

*Blacus (Tarpheion) nanulus*; Van Achterberg, 1976: 192.

Only known from South Africa (N. Transvaal, Entabeni Forest).

**Blacus (Tarpheion) nigrocephalus** spec. nov.

(figs. 1147-1157)

Material. — Holotype, ♀, (WCAM): "Taiwan, Nantou Hsien, Tsuifeng, V-23-1982, R. Whar-ton".

Holotype, ♀, length of body 2.4 mm, of fore wing 2.5 mm.

Head. — Antennal segments 20, antenna not widened apically (fig. 1148), length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 6.3, 4.7, and 2.2 times their width (figs. 1148, 1149); length of maxillary palp 1.2 times height of head; occipital carina rather widely interrupted medio-dorsally, distinct laterally; frons smooth and densely setose; OOL : diameter of ocellus : POL = 24:7:10; length of eye in dorsal view 2.4 times temple (fig. 1106); face smooth; malar suture medium-sized; length of malar space 1.7 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides rugose, smooth dorsally (fig. 1148); precoxal sulcus complete, crenulate except anteriorly, only medially with rugae (fig. 1148); notauli complete, cellulate crenulate (fig. 1150); mesoscutal lobes rather convex, and evenly setose; middle lobe of mesoscutum truncate anteriorly (fig. 1150); scutellum smooth, its lateral carina moderate, complete, slightly protruding dorsally (fig. 1148); surface of propodeum smooth between carinae, its medial area wide dorsally (fig. 1157).

Wings. — Fore wing: first discal cell narrow truncate anteriorly (fig. 1147); 1-CU1 : 2-CU1 = 4:11; parastigma medium-sized (fig. 1147); r : 3-SR + SR1 : 2-SR = 8:45:11.

Legs. — Hind coxa rugose dorsally; length of femur, tibia, and basitarsus of hind leg 6.6, 11.8 times their width, respectively; fore claw with rather conspicuous blackish bristles (fig. 1152), other claws yellowish setose (figs. 1153, 1154).

Metasoma. — Length of first tergite 2.6 times its apical width, with some striae sublaterally, dorsal carinae at basal 0.7 (fig. 1157); second tergite with some rugae (fig. 1157), smooth apically; length of ovipositor sheath 0.28 times fore wing.

Colour. — Dark brown or blackish; mesosoma, first and second tergites, and hypopygium reddish-brown; basal half of antenna, and of metasoma ventrally, clypeus, tegulae, legs, parastigma and vein 3-SR+SR1 of fore wing, yellowish; remainder of veins and of antenna brown; wing membrane subhyaline.

**Blacus (Tarpheion) parallelus** spec. nov.

(figs. 1005-1014)

Material. — Holotype, ♀, (RMNH): "Indonesia: N. Sulawesi, Dumoga-Bone N.(ational)P.(ark), ca. 220 m, Mal(aise) trap: Maze Toraut R(iver), 1-9.XI.1985, 0°34'N 123°54'E, C.v. Achterberg, RMNH '86".

Holotype, ♀, length of body 1.5 mm, of fore wing 1.4 mm.

Head. — Antennal segments 17, antenna about 0.9 times fore wing (figs. 1005, 1006), slightly widened apically, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 4.2, 3.5, and 1.8 times their width, respectively (figs. 1006, 1010); length of maxillary palp equal to height of head; occipital carina completely absent; frons smooth and largely glabrous (except laterally); OOL : diameter of ocellus : POL = 14:6:9; length of eye in dorsal view 1.7 times temple (fig. 1007); face smooth; malar suture deep, complete; length of malar space 0.7 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides largely smooth, except medially and anteriorly (fig. 1006); precoxal sulcus absent except a short medially impression, largely smooth, with few microcrenulae (fig. 1006); notauli complete, rather narrowly cellulate crenulate (fig. 1011); mesoscutal lobes rather flat and remotely setose; middle lobe of mesoscutum truncate anteriorly and smooth laterally (fig. 1006); scutellum smooth, its lateral carina complete, but weak, and not protruding dorsally; surface of propodeum smooth between carinae, its medial area parallel-sided and rather short (fig. 1014).



Wings. — Fore wing: first discal cell distinctly truncate anteriorly (fig. 1005); 1-CU1 : 2-CU1 = 1:9; parastigma wide (fig. 1005); r : 3-SR+SR1 : 2-SR = 8:44:9; 2-1A absent; CU1a near level of 2-CU1 (fig. 1005); r about as long as maximum width of pterostigma (fig. 1005).

Legs. — Hind coxa smooth; length of femur, tibia and basitarsus of hind leg .2, 9, and 6.5 times their width, respectively; fore claw with rather conspicuous dark brown bristles (fig. 1009); middle and hind claws yellowish setose (fig. 1012).

Metasoma. — Length of first tergite 2.1 times its apical width, largely smooth, with some superficial rugosity medially and dorsal carinae distinct in basal 0.9 (fig. 1014); second tergite largely smooth, only basally with some short striae (fig. 1014); length of ovipositor sheath 0.29 times fore wing.

Colour. — Dark brown; face, clypeus, temple, three basal antennal segments, and legs, yellowish; remainder of head rather dark brown; palpi, parastigma and metasoma ventro-basally, whitish; tegulae and metasoma behind first tergite dorsally, brown; hypopygium brown laterally, whitish ventrally; pterostigma largely and most veins rather dark brown; base, costal margin, and apex of pterostigma paler; wing membrane subhyaline, but slightly infuscated, especially near veins 1-M and r.

***Blacus (Tarpheion) rectinervis* spec. nov.**  
(figs. 1060-1068)

Material. — Holotype, ♀, (BPBM): "New Guinea: N.E., Swart Val., Karubaka, 1400 m, XI.6.1958", "J.L. Gressitt Collector".

Holotype, ♀, length of body 3.0 mm, of fore wing 2.8 mm.

Head. — Antennal segments 20, of equal width (fig. 1060) and long whitish setose; length of third segment 1.5 times fourth segment, length of third, fourth and penultimate segments 7.0, 4.7, and 2.8 times their width, respectively (figs. 1060, 1061); length of maxillary palp 1.4 times height of head; occipital carina present upto ventral half of eye, absent dorsally; frons smooth; OOL : diameter of ocellus : POL = 15:4:9; length of eye in dorsal view 3.2 times temple (fig. 1064); temple directly narrowed posteriorly (fig. 1064); face smooth; malar suture distinct; length of malar space 0.9 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.3 times its height; pronotal sides crenulate medio-anteriorly and posteriorly, rest smooth; precoxal sulcus complete, crenulate, except anteriorly (fig. 1060); notauli complete, distinctly densely crenulate (fig. 1068); mesoscutal lobes rather convex, lateral lobes

largely glabrous, middle lobe convex anteriorly and setose; scutellum smooth, its lateral carina complete, strong, rather protruding dorsally (fig. 1060); surface of propodeum largely smooth between sublamelliform carinae, its medial area wide dorsally (fig. 1063).

Wings. — Fore wing: first discal cell widely truncate anteriorly; 1-CU1 : 2-CU1 = 1:12; parastigma wide (fig. 1062); 3-SR+SR1 continuous with 2-SR (fig. 1062); r oblique and behind middle of pterostigma (fig. 1062); r:3-SR+SR1:2-SR = 11:36:14; short stub of 2-1A present (fig. 1062); 3-CU1 subhorizontal and near level of 2-CU1 (fig. 1062).

Legs. — Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 6.6, 13.8, and 11 times their width, respectively; fore claw missing; middle and hind claws normally setose (fig. 1066).

Metasoma. — Length of first tergite 2.6 times its apical width, with rugae-medio-posteriorly, with some fine striae laterally, and remainder smooth, dorsal carinae distinct in basal 0.8 (fig. 1063); second tergite weakly finely striate basally, rest smooth; length of ovipositor sheath 0.30 times fore wing and 1.3 times first tergite (fig. 1060).

Colour. — Black; annellus and apex of pedicellus, yellowish; remainder of antenna, tegulae, legs (fore and middle tarsis yellowish), more or less dark brown (especially hind coxae dark brown); wing membrane slightly infuscated, spot below vein 3-CU1 dark; ptero- and parastigma, and veins dark brown, but vein SR1 of fore wing yellowish.

Note. Closely related to *B. hemicarinatus* spec. nov. (vein r of fore wing oblique, occipital carina reduced, vein 3-CU1 of fore wing nearly straight). *B. rectinervis* spec. nov. has hind tarsus completely infuscated, length of ovipositor sheath about 0.3 times fore wing (about 0.2 times in *hemicarinatus*), vein r behind middle of pterostigma, and length of eye in dorsal view about 3 times temples (about 2 times in *hemicarinatus*).

***Blacus (Tarpheion) schimitscheki* Haeselbarth**  
(figs. 1229, 1234)

*Blacus schimitscheki* Haeselbarth, 1974: 72-73, fig. 1.

*Blacus (Tarpheion) schimitscheki*; Van Achterberg, 1976: 192, fig. 291.

Only known from South Africa: N. Transvaal (Entabeni Forest) and Pondo-land.

**Blacus (Tarpheion) schwenkei** Haeselbarth  
(figs. 1230, 1233, 1235)

*Blacus schwenkei* Haeselbarth, 1974: 75-76, fig. 3.

*Blacus (Tarpheion) schwenkei*; Van Achterberg, 1976: 193, figs. 289, 290.

Known from South Africa: (N. Transvaal (Entabeni Forest)) and Zaïre, 1250-2300 m (Kivu (MAC, RMNH)). The series from Zaïre (16 ♀, 4 ♂) shows a considerable variation in shape of scutellum, length of ovipositor sheath (0.7-1 times hind tibia) and colour of ♀-hypopygium (light to dark brown), and is partly very similar to *convexus* from Malagasy. The complete antenna of 5 ♀ consists of 21 segments.

**Blacus (Tarpheion) soror** spec. nov.  
(figs. 1187, 1197)

Material. — Holotype, ♀, (BPBM): "Thailand: Doi Aneka, nr. Chiangmai, 9.IV.1953", "T.C.Maa, Light trap, Bishop".

Holotype, ♀, length of body 1.8 mm, of fore wing 1.9 mm.

Head. — Remaining antennal segments 17, of equal width and long setose (fig. 1187); length of third segment 1.4 times fourth segment, length of third and fourth segments 6.0, and 4.3 times their width, respectively (fig. 1187); length of maxillary palp 1.2 times height of head; occipital carina absent medio-dorsally, rest distinct; frons smooth and setose; OOL : diameter of ocellus : POL = 19:6:11; length of eye in dorsal view 2.7 times temple (fig. 1189); face smooth; malar suture distinct; length of malar space 1.5 times basal width of mandible; head in frontal view longer and less transverse than in *melliceps* (fig. 1190).

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides rugose, smooth dorsally; precoxal sulcus nearly complete, sparsely crenulate and with one longer ruga (fig. 1187); notauli complete, distinctly crenulate (fig. 1196); mesoscutal lobes rather convex, evenly setose, middle lobe somewhat convex anteriorly (fig. 1196); scutellum smooth, its lateral carina irregular, weak laterally, distinct posteriorly and not protruding dorsally (fig. 1187); surface of propodeum smooth between carinae, its medial area wide dorsally (fig. 1193).

Wings. — Fore wing: first discal cell wide truncate anteriorly; 1-CU1 : 2-CU1 = 4:11; parastigma rather large (fig. 1188); r:3-SR+SR1:2-SR = 17:87:22.

Legs. — Hind coxa with few rugae; length of femur, tibia, and basitarsus of hind leg 6.4, 11.2, and 10 times their width, respectively; all claws normally setose (figs. 1191, 1192, 1194).

Metasoma. — Length of first tergite 2.1 times its apical width, with some spaced rugae, rest smooth, dorsal carinae nearly complete (fig. 1193); second tergite with few short striae anteriorly, rest smooth; length of ovipositor sheath 0.34 times fore wing.

Colour. — Reddish-brown; basal half of antenna, palpi, and legs, pale yellowish; remainder of antenna dark brown; metasoma ventrally (including complete hypopygium) and apically yellowish; head yellowish-brown, but medio-posteriorly darkened; pterostigma rather dark brown, but apex pale, veins largely brown; wing membrane subhyaline.

Note. Very close to *B. angichorus* spec. nov., but *soror* differs by the shape of the first discal cell, more elongate fore wing, surroundings of veins of fore wing subhyaline and different colour of antenna.

***Blacus (Tarpheion) townesi* Haeselbarth**  
(fig. 1231)

*Blacus townesi* Haeselbarth, 1974: 76-77, fig. 4.

*Blacus (Tarpheion) townesi*: Van Achterberg, 1976: 193.

Known from South Africa only: Tsitsikama Forest (Cape Province), Pietermaritzburg, Entabeni Forest (N. Transvaal), and Port St. John (Pondoland).

***Blacus (Tarpheion) transversus* Van Achterberg**  
(figs. 1203-1208)

*Blacus (Tarpheion) transversus* Van Achterberg, 1976: 192-193, figs. 114-119.

Only known from the type-series from Malagasy (La Mandraka).

***Blacus (Tarpheion) unguaris* spec. nov.**  
(figs. 1087-1096)

Material. — Holotype, ♀, (RMNH): "Indonesia: C. Sulawesi, Lore-Lindu N(ational P(ark)), ca. 1100 m, 1°15'S 120°20'E, 6-9.XII.1985", "nr Dongi-Dongi Shelter, Mal(aise) trap 6 (PW58), C. van Achterberg, RMNH '86".

Holotype, ♀, length of body 2.1 mm, of fore wing 2.0 mm.

Head. — Antennal segments 20, antenna distinctly longer than fore wing (figs. 1087, 1089), not widened apically and long setose, length of third segment 1.5 times fourth segment, length of third, fourth and penultimate segments 6.7, 4.5, and 2.9 times their width, respectively (figs. 1087, 1090); length of maxillary palp 1.3 times height of head; occipital carina complete; frons smooth and densely setose; OOL : diameter of ocellus : POL = 16:6:9; length of eye in dorsal view 2.1 times temple (fig. 1095); face smooth; malar suture complete, rather deep; length of malar space 1.2 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.4 times its height; pronotal sides largely coarsely reticulate rugose, but dorsally largely smooth (fig. 1087); precoxal sulcus complete, posteriorly narrow and medially wide and distinctly crenulate (fig. 1087); notauli complete, cellulate crenulate (fig. 1092); mesoscutal lobes long setose and rather convex; middle lobe of mesoscutum truncate anteriorly and with oblique rugae anteriorly (fig. 1087), and an oblique crest-like carina just reaching mesoscutal disk and far removed from ventral margin of mesoscutum; scutellum smooth and with some setae, its lateral carina weak laterally, stronger and transverse posteriorly (fig. 1092) and slightly protruding dorsally (fig. 1087); surface of propodeum largely smooth between carinae, its medial area large, and strongly widened dorsally (fig. 1096).

Wings. — Fore wing: first discal cell narrow truncate anteriorly (fig. 1089); 1-CU1 : 2-CU1 = 1:4; parastigma rather large (fig. 1089); r : 3-SR + SR1 : 2-SR = 8:35:9; 3-CU1 below level of 2-CU1.

Legs. — Hind coxa smooth; length of femur, tibia and basitarsus of hind leg 6, 11, and 9.5 times their width, respectively; all claws setose only and with very long apical tooth (figs. 1088, 1093).

Metasoma. — Length of first tergite 2.1 times its apical width, with some longitudinal rugae, and dorsal carinae distinct in basal 0.9 (fig. 1096); second tergite distinctly obliquely rugose in basal half, remainder smooth (fig. 1096); length of ovipositor sheath 0.18 times fore wing, and shorter than first tergite.

Colour. — Dark brown or blackish; four basal antennal segments, face, clypeus, frons largely, and legs, (brownish-)yellow; basal ventral half of metasoma, palpi and parastigma pale yellowish or whitish; vertex and tegulae brown; occiput, stemmaticum and remainder of antenna, dark brown; pterostigma (but basally and apically somewhat paler) and most veins, dark brown; wing membrane subhyaline, but especially near veins 1-M and r somewhat infuscated.

**Blacus (Tarpheion) votrus Papp**  
(figs. 375, 376)

*Blacus (Tarpheion) votrus* Papp, 1985a: 230-232, figs. 12-15.

Material. — Holotype, ♀, (MAC): "India, W. Bengal, Darjeeling Distr. Ghum Senchal Res. Forest, 2000 m", "No. 772, 7.x.1967, leg. Topál", "Holotypus ♀ *Blacus (Tarpheion) votrus* sp. n., Papp, 1985 / ant. 20 art.", "Hym. Typ. No. 7020, Mus. Budapest"; 1 ♀, (WCAM): "Taiwan, Nantou Hsien, Tsuifeng, V-23-1982, R. Wharton".

Holotype has 20 antennal segments, whole antenna pale-yellowish, palpi whitish, body in dorsal view completely brown, clypeus and legs yellowish, face yellowish-brown, hypopygium brownish-yellow, length of third antennal segment 5.8 times its width, and 1.3 times fourth segment, occipital carina complete, middle lobe of mesoscutum only rugose, without crest-like carina (fig. 375), first discal cell of fore wing moderately truncate anteriorly (fig. 376), parastigma medium-sized, vein r of fore wing vertical, medial area of propodeum strongly widened dorsally, length of first metasomal tergite 2.6 times its apical width, second tergite (except apically) largely costate; length of ovipositor sheath 0.13 times fore wing, 0.7 times hind tibia or first tergite, length of fore wing 1.8 mm.

Specimen from Taiwan has pedicellus paler than scapus, antennal segments 20, and length of first tergite 2.6 times its apical width.

EXCLUDED SPECIES

***Blacus chinensis* Watanabe**

*Blacus chinensis* Watanabe, 1950: 25; Shenefelt, 1969: 18; Van Achterberg, 1976: 250.

Owing to the kindness of Prof. Dr. Y. Hirashima and Dr. K. Maetô (Fukuoka) I was able to examine the holotype (♀) and paratype (♂) of *B. chinensis* Watanabe. They proved to be closely related to *Eubazus (Calyptus) flavipes* (Haliday, 1835). *B. chinensis* differs from *flavipes* by the largely glabrous middle lobe of mesoscutum, the clypeus largely smooth and yellowish, and the mesosoma yellowish-brown ventrally and laterally. The correct name for this species is *Eubazus (Calyptus) chinensis* (Watanabe, 1950) comb. nov.

## LIST AND ABBREVIATIONS OF TYPE-DEPOSITORIES

- AMNH - American Museum of Natural History, New York.  
BMNH - British Museum (Natural History), London.  
BPBM - Bernice P. Bishop Museum, Honolulu.  
CAS - Californian Academy of Sciences, San Francisco.  
CC - Čapek Collection, Banská Stiavnica.  
CH - Hedqvist Collection, Vallentuna.  
CNC - Canadian National Collection, Biosystematics Research Institute, Ottawa.  
ELF - Entomological Laboratory, Fukuoka.  
MG - Muséum d'Histoire Naturelle, Genève.  
HC - Haeselbarth Collection, München.  
KBIN - Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussel.  
MAC - Musée Royal de l'Afrique Centrale, Tervuren.  
MCZ - Museum of Comparative Zoology, Harvard Univ., Cambridge, Massachusetts.  
MNHN - Muséum National d'Histoire Naturelle, Paris.  
NMI - National Museum of Ireland, Dublin.  
NMV - National Museum of Victoria, Abbotsford.  
NMW - Naturhistorisches Museum, Zoologische Abteilung, Wien.  
NR - Naturhistoriska Riksmuseet, Stockholm.  
PC - Provancher Collection, Univ. Laval, Quebec.  
RMNH - Rijksmuseum van Natuurlijke Historie, Leiden.  
TC - Townes Collection, American Entomological Institute, Gainesville, Florida.  
TMA - Természettudományi Múzeum Allatára, Budapest.  
USNM - U.S. National Museum of Natural History, Washington D.C.  
UZM - Universitetets Zoologiske Museum, København.  
WCAM - Wharton Collection, A & M University, College Station, Texas.  
ZIL - Zoological Institute, Akademia NAUK USSR, Leningrad.  
ZMB - Zoologisches Museum der Humboldt-Universität, Berlin.  
ZMH - Zoological Museum of the Univ. of Helsinki, Helsinki.  
ZML - Zoological Institute, Lund.  
ZSB - Zoologische Sammlung des Bayerischen Staates, München.

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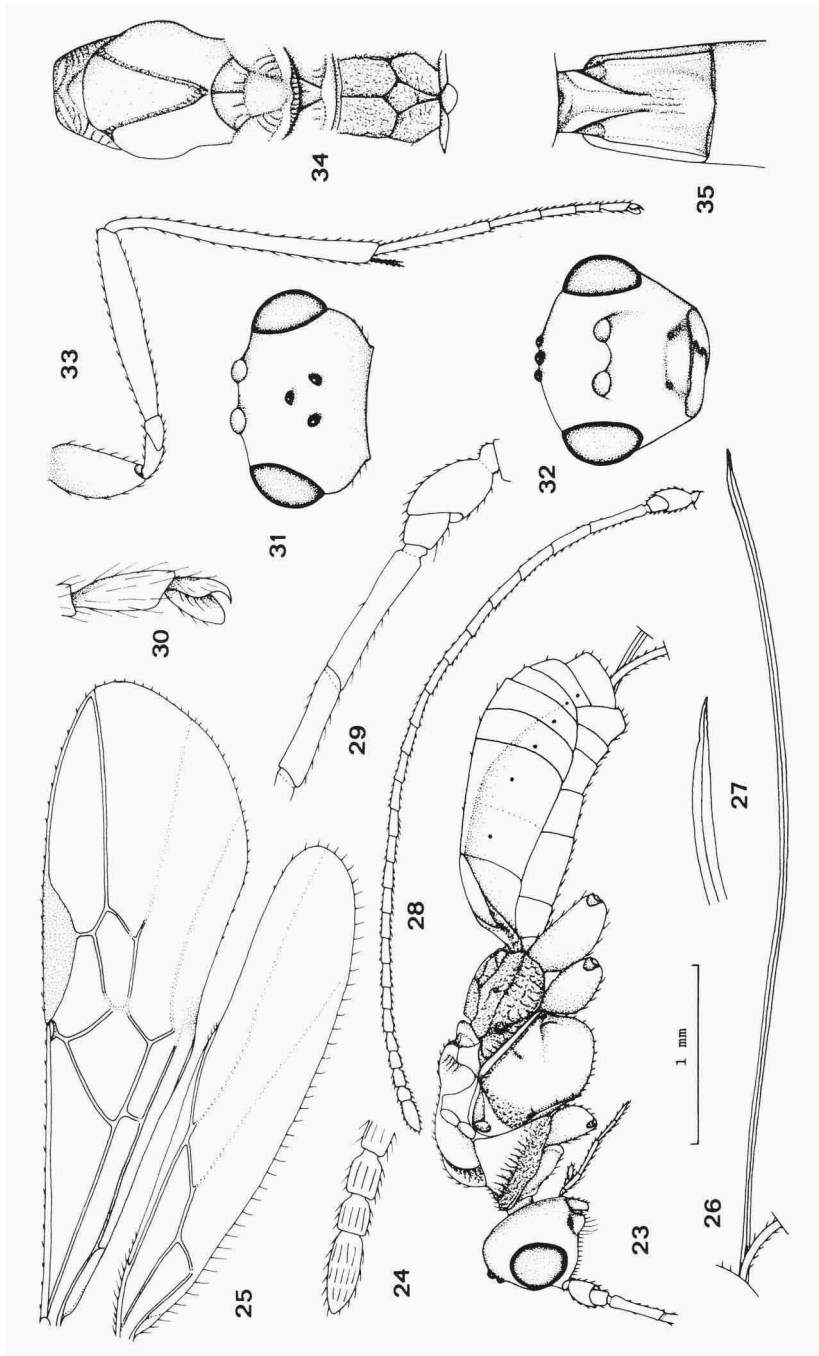
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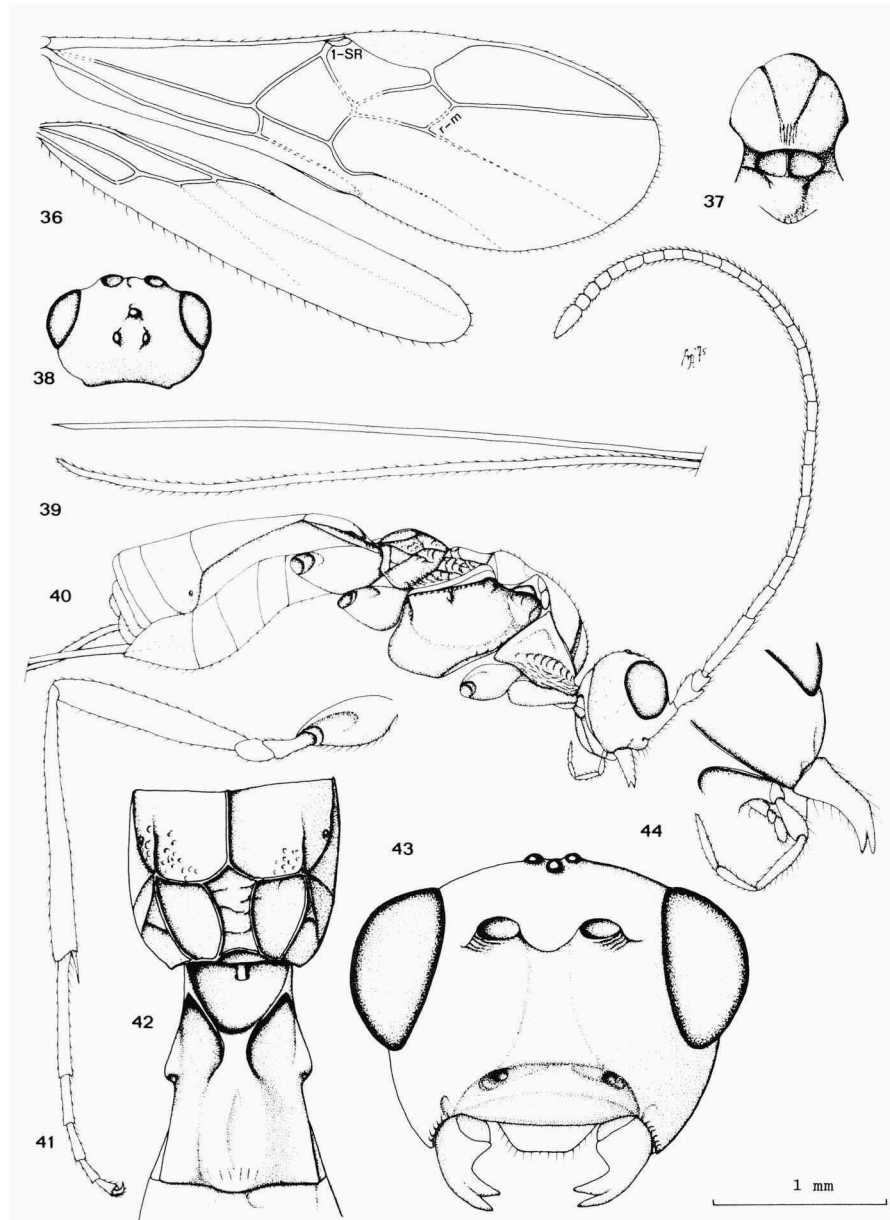


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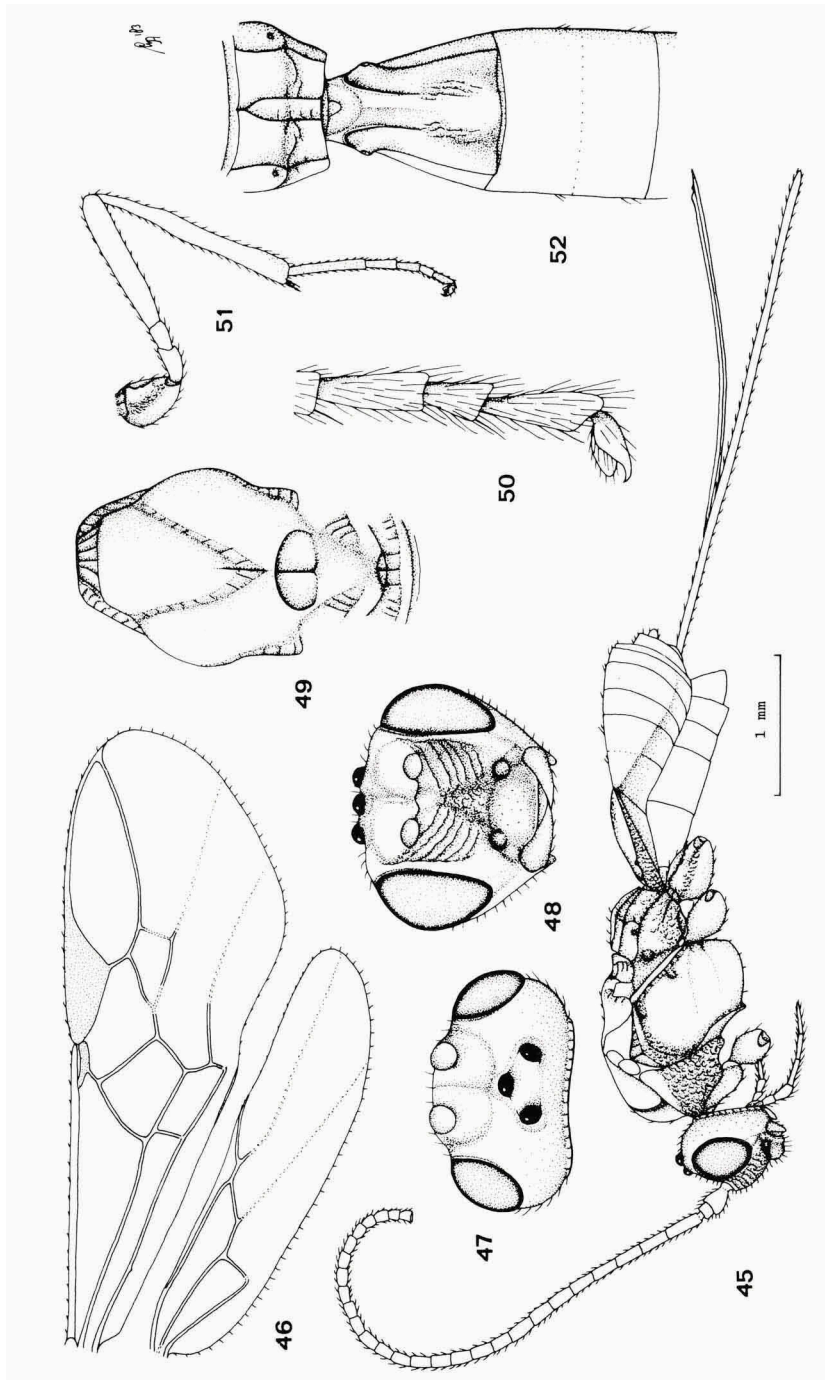
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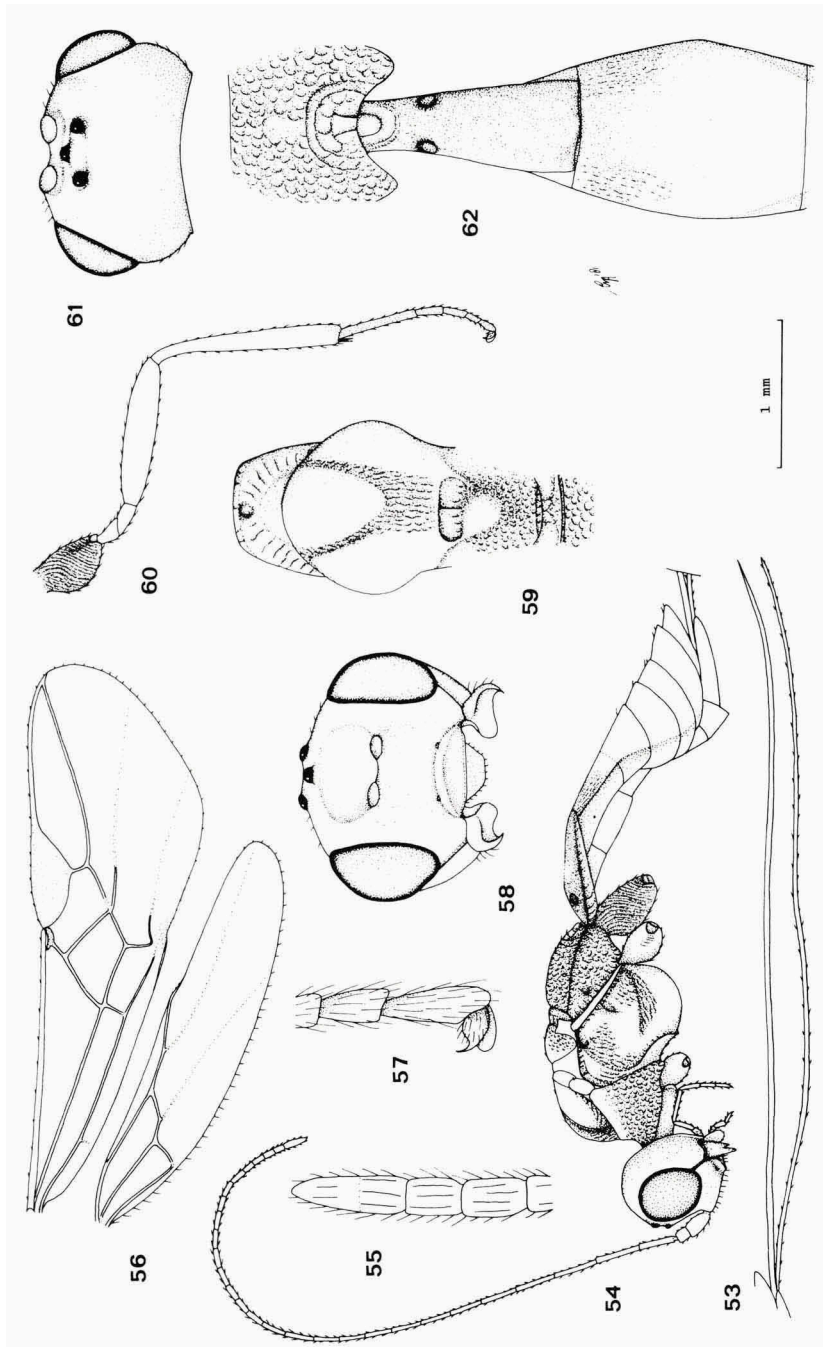
Figs. 23-35, *Dyscoletes canadensis* Mason, ♀, paratype. 23, habitus, lateral aspect; 24, apex of antenna; 25, wings; 26, ovipositor; 27, apex of ovipositor; 28, antenna; 29, base of antenna; 30, hind claw; 31, head, dorsal aspect; 32, head, frontal aspect; 33, hind leg; 34, mesosoma, dorsal aspect; 35, first metasomal tergite, dorsal aspect. 23, 25, 26, 28, 33: scale-line (= 1 x); 24, 27, 29, 30: 2.5 x; 31, 32, 34, 35: 1.6 x.



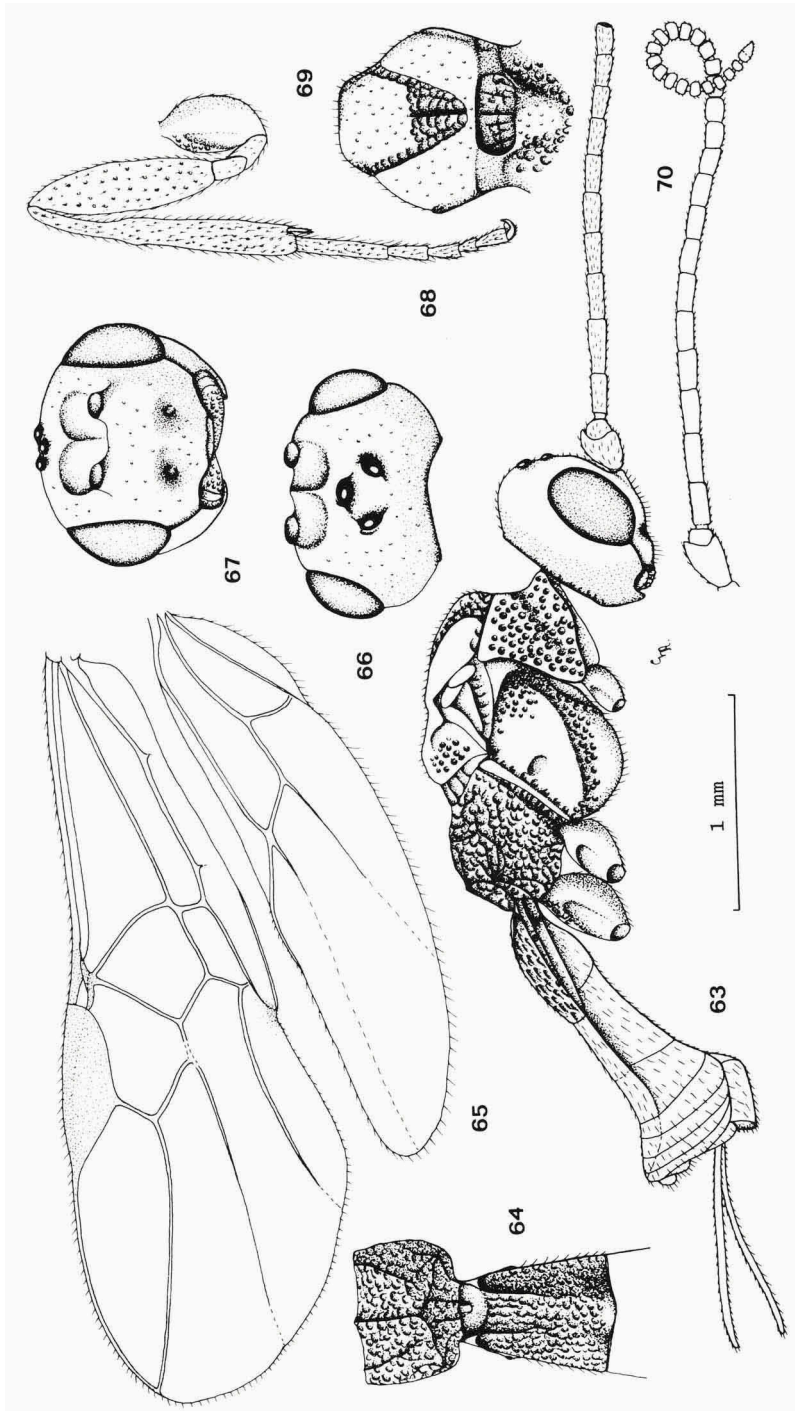
Figs. 36-44, *Elachistocentrum similis* (Szépligeti) (= *Dyscoletes lancifer* (Haliday)), ♀, lectotype (but hind wing of ♂ paralectotype). 36, wings; 37, mesonotum, dorsal aspect; 38, head, dorsal aspect; 39, ovipositor; 40, habitus, lateral aspect; 41, hind leg; 42, propodeum and first metasomal tergite, dorsal aspect; 43, head, frontal aspect; 44, detail of palpi. 36, 39-41: scale-line (= 1 x); 37, 38: 1.2 x; 42, 44: 2.5 x; 43: 3 x.



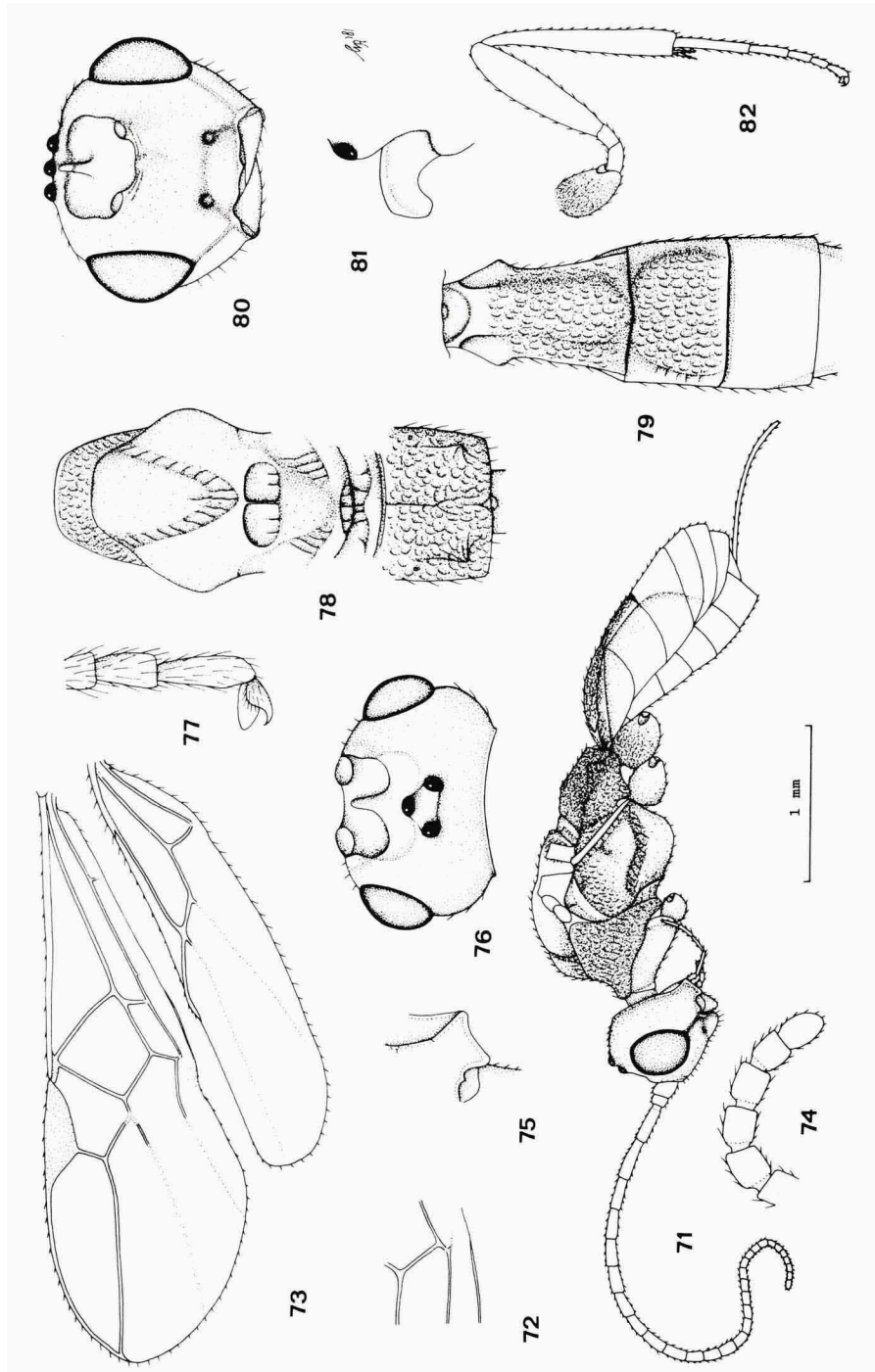
Figs. 45-52, *Hellenius semiruber* (Hellén), ♀, holotype. 45, habitus, lateral aspect; 46, wings; 47, head, dorsal aspect; 48, head, frontal aspect; 49, thorax, dorsal aspect; 50, hind claw; 51, hind leg, 52, propodeum, first-third metasomal tergites, dorsal aspect. 45, 46, 51: scale-line (= 1 x); 47-49, 52: 2 x; 50: 5 x.



Figs. 53-62, *Chalarope petiolatus* gen. et spec. nov., ♀, holotype. 53, ovipositor; 54, habitus, lateral aspect; 55, apex of antenna; 56, wings; 57, hind claw; 58, head, frontal aspect; 59, mesosoma, dorsal aspect; 60, hind leg; 61, head, dorsal aspect; 62, propodeum, first-third metasomal tergites, dorsal aspect. 53, 54, 56, 70: scale-line (= 1 x); 55, 57: 5 x; 58, 59, 61, 62: 2 x.

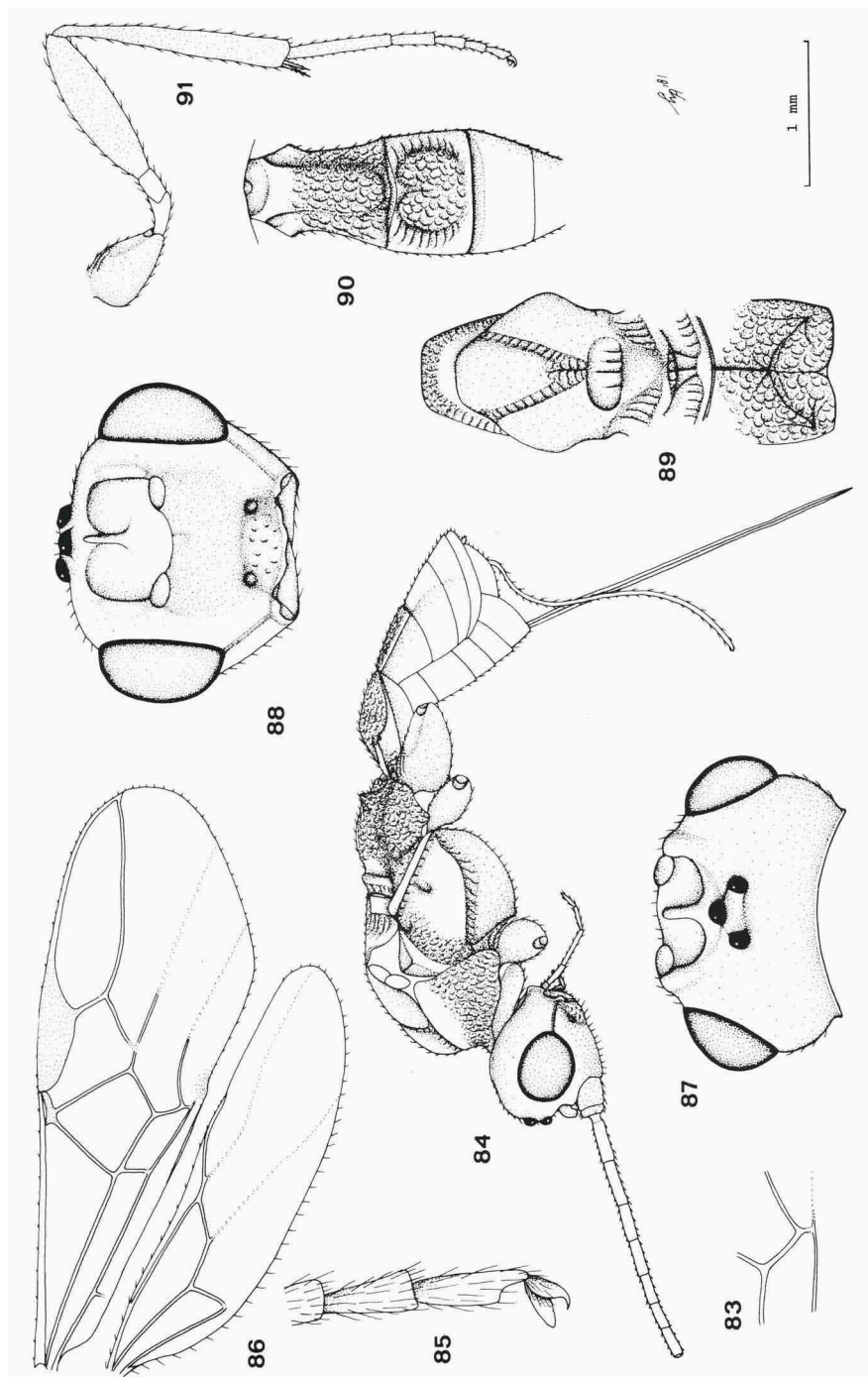


Figs. 63-70, *Blacozona psychora* Van Achterberg, ♀, holotype (but 67, 68 and 70 of ♀ paratype). 63, habitus, lateral aspect; 64, propodeum and first metasomal tergite, dorsal aspect; 65, wings; 66, head, dorsal aspect; 67, head, frontal aspect; 68, hind leg; 69, mesonotum, dorsal aspect; 70, antenna. 63, 65, 68, 70: scale-line (= 1 x); 64, 66, 67, 69: 1.2 x.

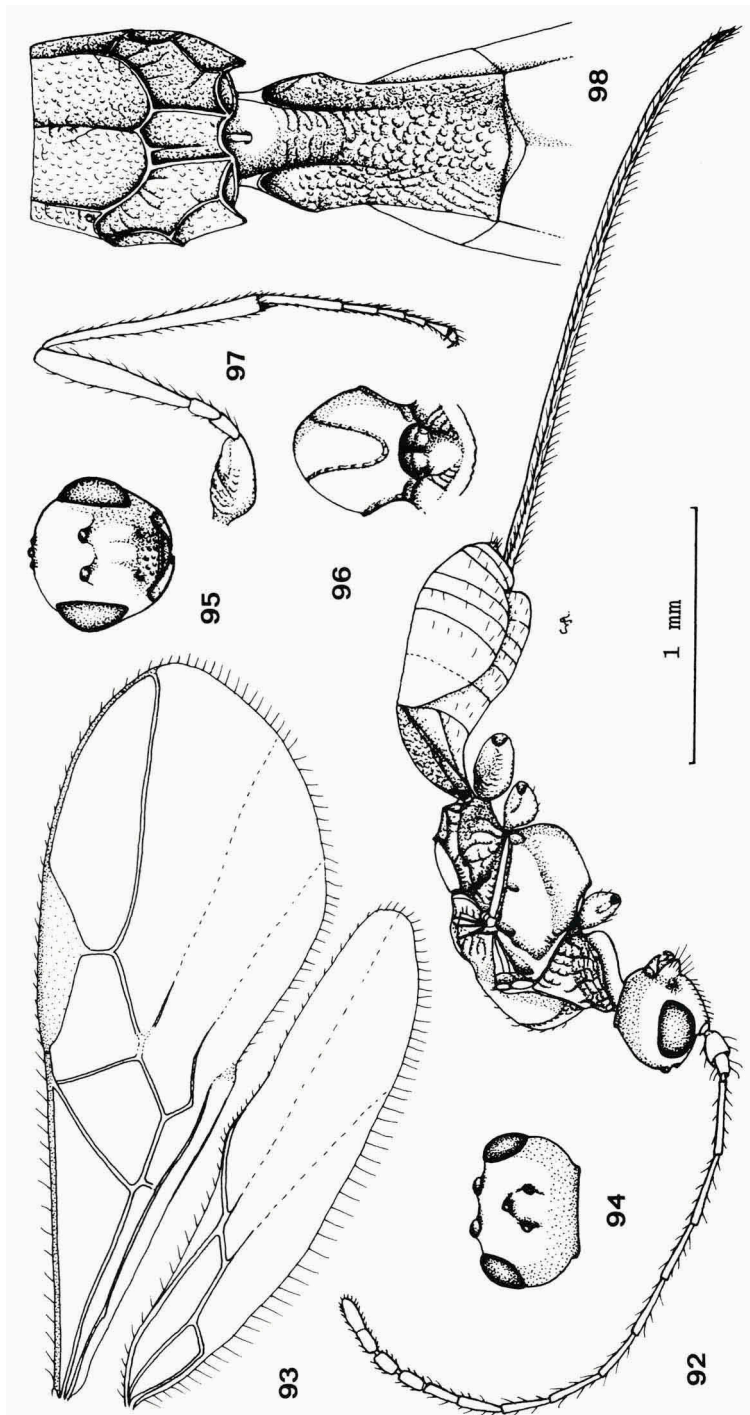


Figs. 71-82, *Grypokeros curticaudis* gen. et spec. nov., ♀, holotype. 71, habitus, lateral aspect; 72, detail of vein CU1b of fore wing; 73, wings; 74, apex of antenna; 75, detail of occipital flange, lateral aspect; 76, head, dorsal aspect; 77, hind claw; 78, mesosoma, dorsal aspect; 79, first-third metasomal tergites, dorsal aspect; 80, head, frontal aspect; 81, frontal horn, lateral aspect; hind leg. 71, 73, 82: scale-line (= 1 x); 72, 76, 78-80: 2 x; 74, 75: 2.3 x; 74, 77: 5 x.

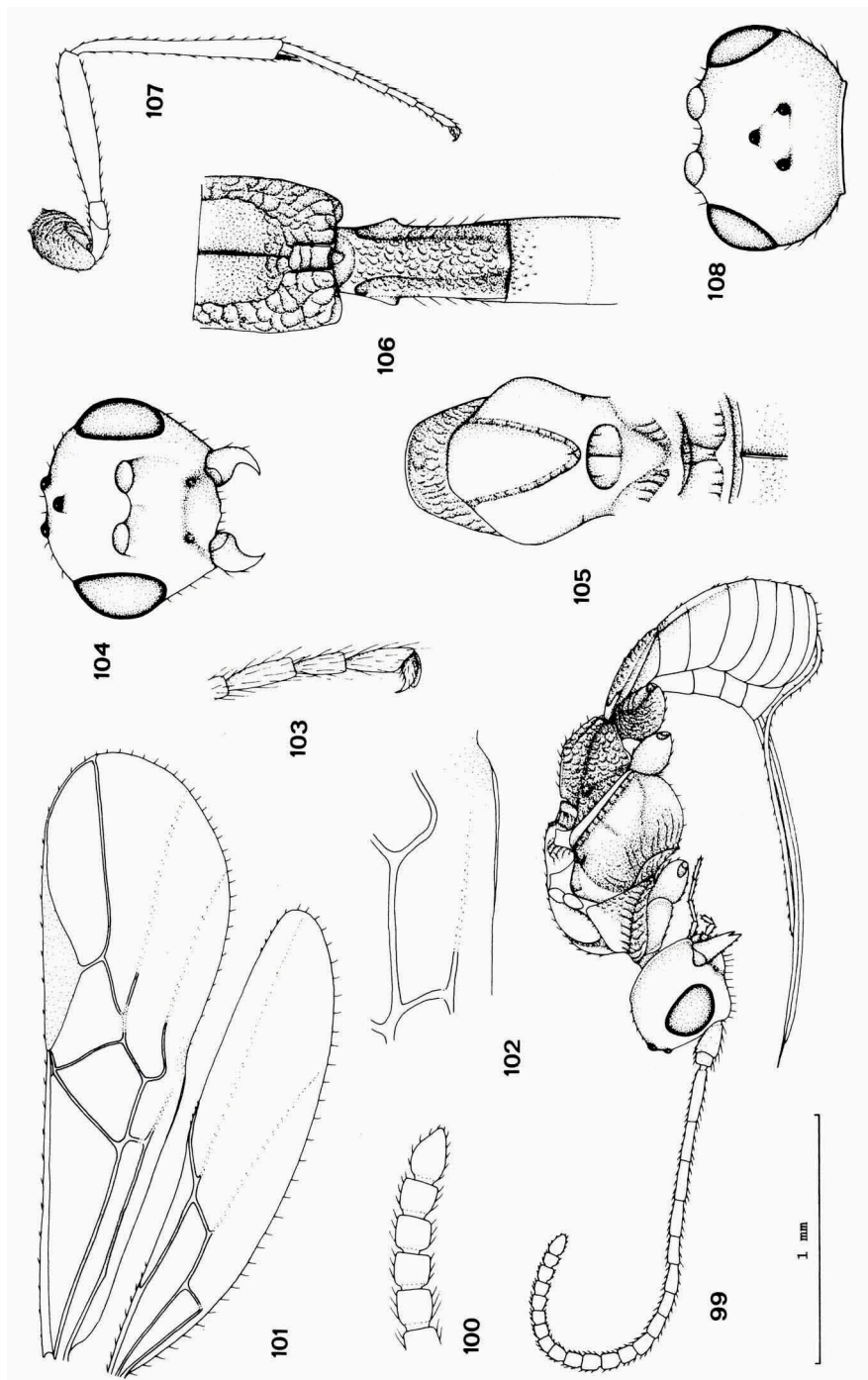




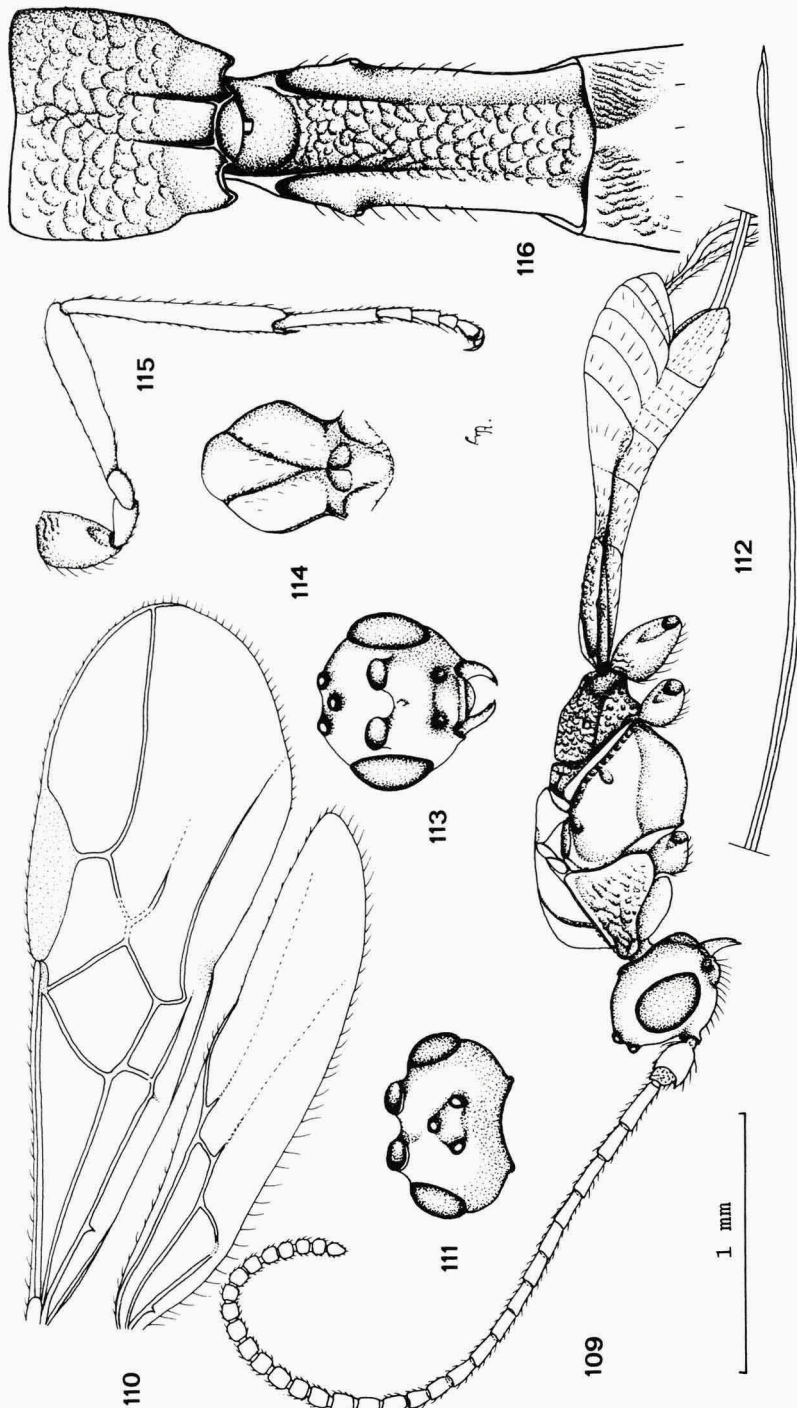
Figs. 83-91, *Grypokeros fuscifemur* gen. et spec. nov., ♀, holotype. 83, detail of vein CU1b of fore wing; 84, habitus, lateral aspect; 85, hind claw; 86, wings; 87, head, dorsal aspect; 88, head, frontal aspect; 89, mesosoma, dorsal aspect; 90, first-third metasomal tergites, dorsal aspect; 91, hind leg. 83, 87, 88: 2 x; 84, 86, 91: scale-line (= 1 x); 85: 5x; 89, 90: 1.2 x.



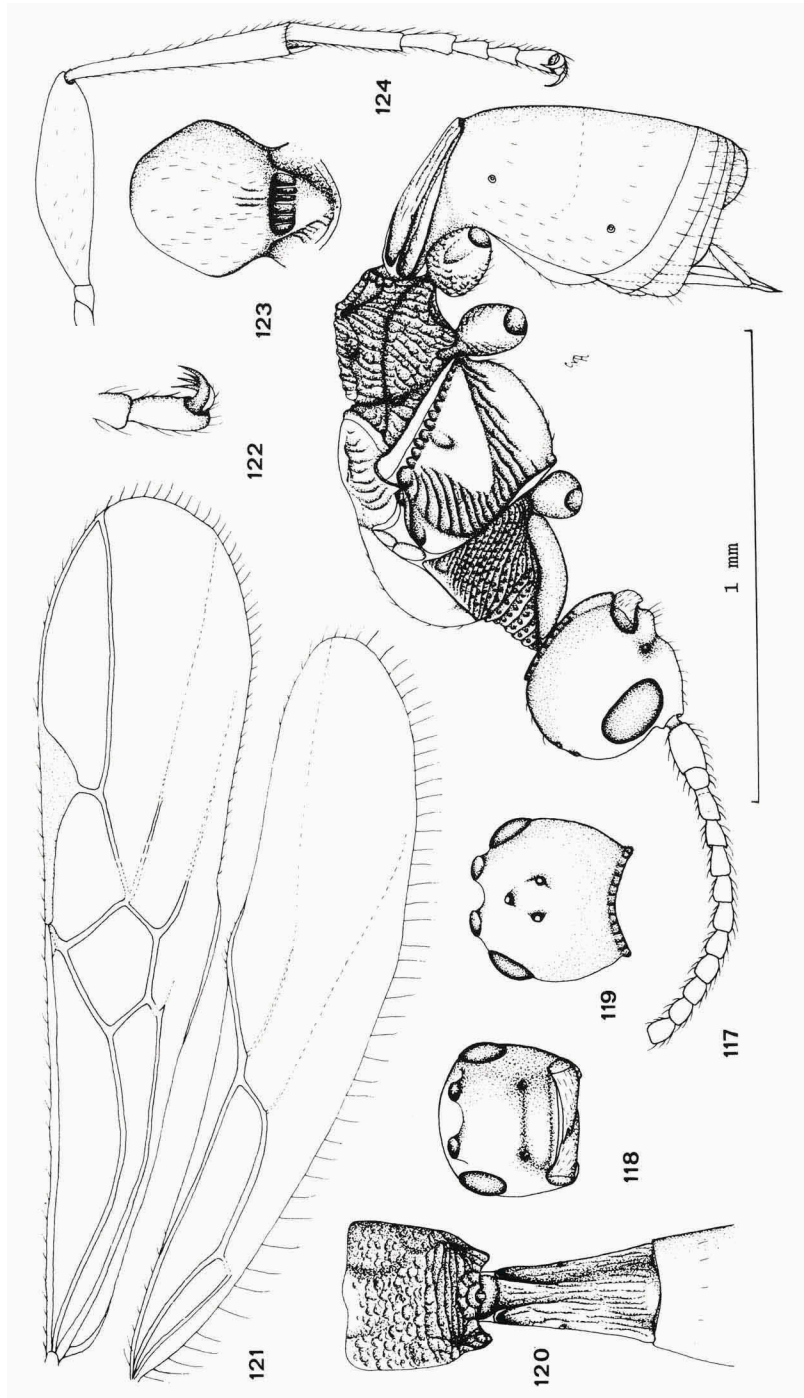
Figs. 92-98, *Mesoxiphium monostigmaticum* (Van Achterberg), ♀, holotype. 92, habitus, lateral aspect; 93, wings; 94, head, dorsal aspect; 95, head, frontal aspect; 96, mesonotum, dorsal aspect; 97, hind leg; 98, propodeum and first metasomal tergite, dorsal aspect. 92, 93, 97: scale-line (= 1 x); 94-96: 1.2 x; 98: 2.5 x.



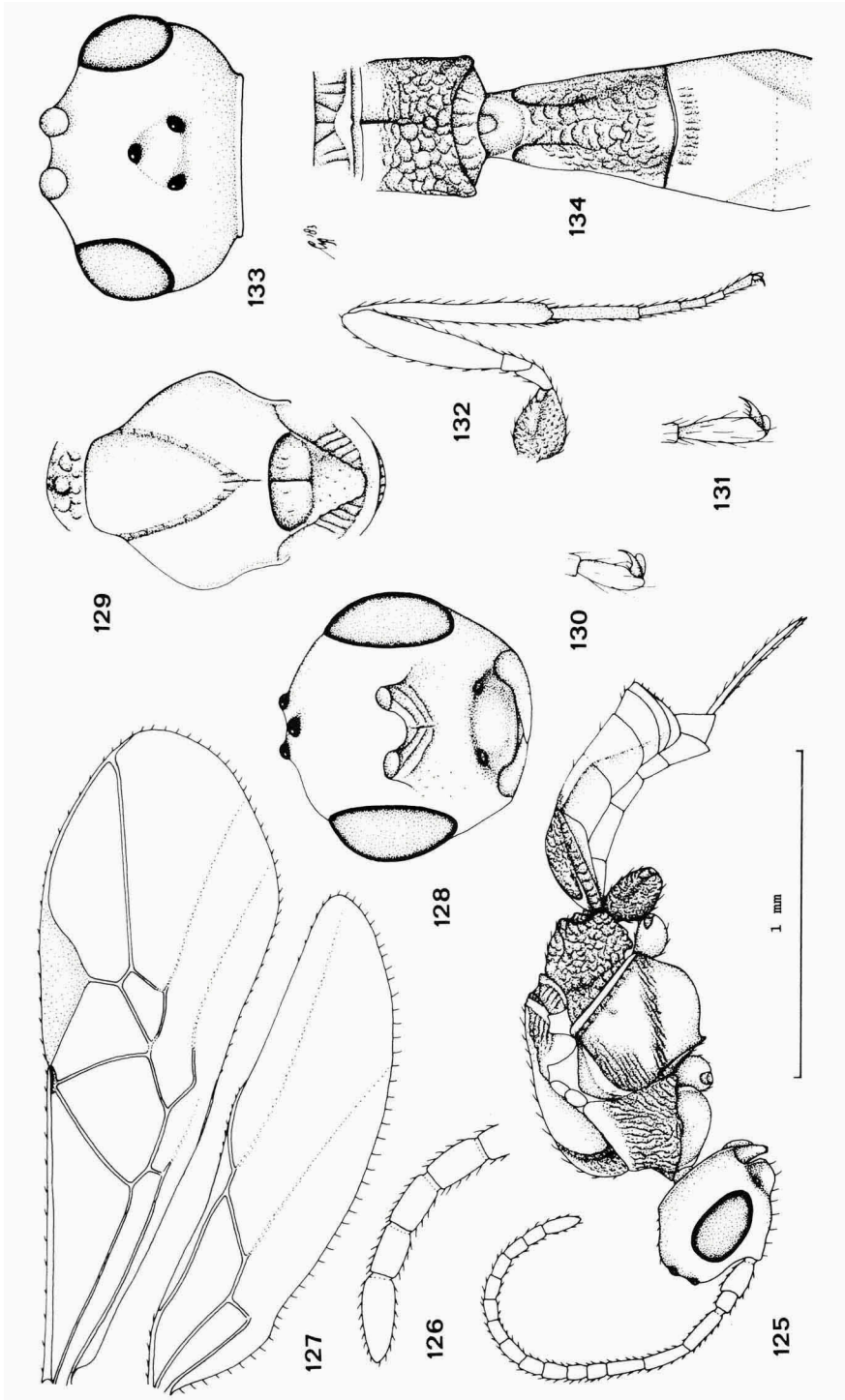
Figs. 99-108, *Mesoxiphium tenuicornis* spec. nov., ♀, holotype. 99, habitus, lateral aspect; 100, apex of antenna; 101, wings; 102, detail of first subdiscal cell of fore wing; 103, hind claw; 104, head, frontal aspect; 105, mesosoma, dorsal aspect; 106, propodeum, first and second metasomal tergites; 107, hind leg; 108, head, dorsal aspect. 99, 101, 107: scale-line (= 1 x); 100, 102, 103: 2.5 x; 104-106, 108: 1.5 x.



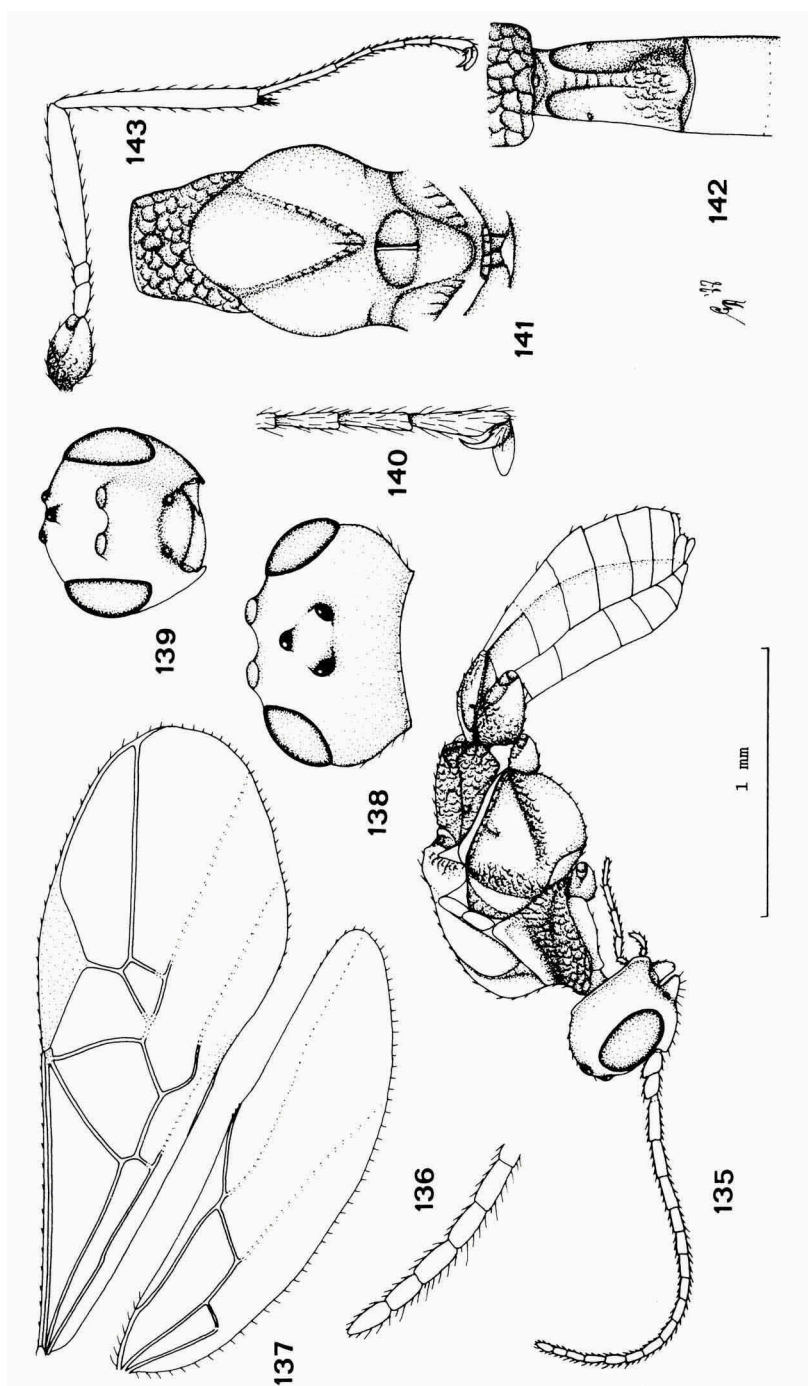
Figs. 109-116, *Stegocella calyptoides* Van Achterberg, ♀, holotype. 109, habitus, lateral aspect; 110, wings; 111, head, dorsal aspect; 112, ovipositor; 113, head, frontal aspect; 114, mesonotum, dorsal aspect; 115, hind leg; 116, propodeum, first and second metasomal tergites, dorsal aspect. 109, 110, 112, 115; scale-line (= 1 x); 111, 113, 114: 1.2 x; 116: 2.5x.



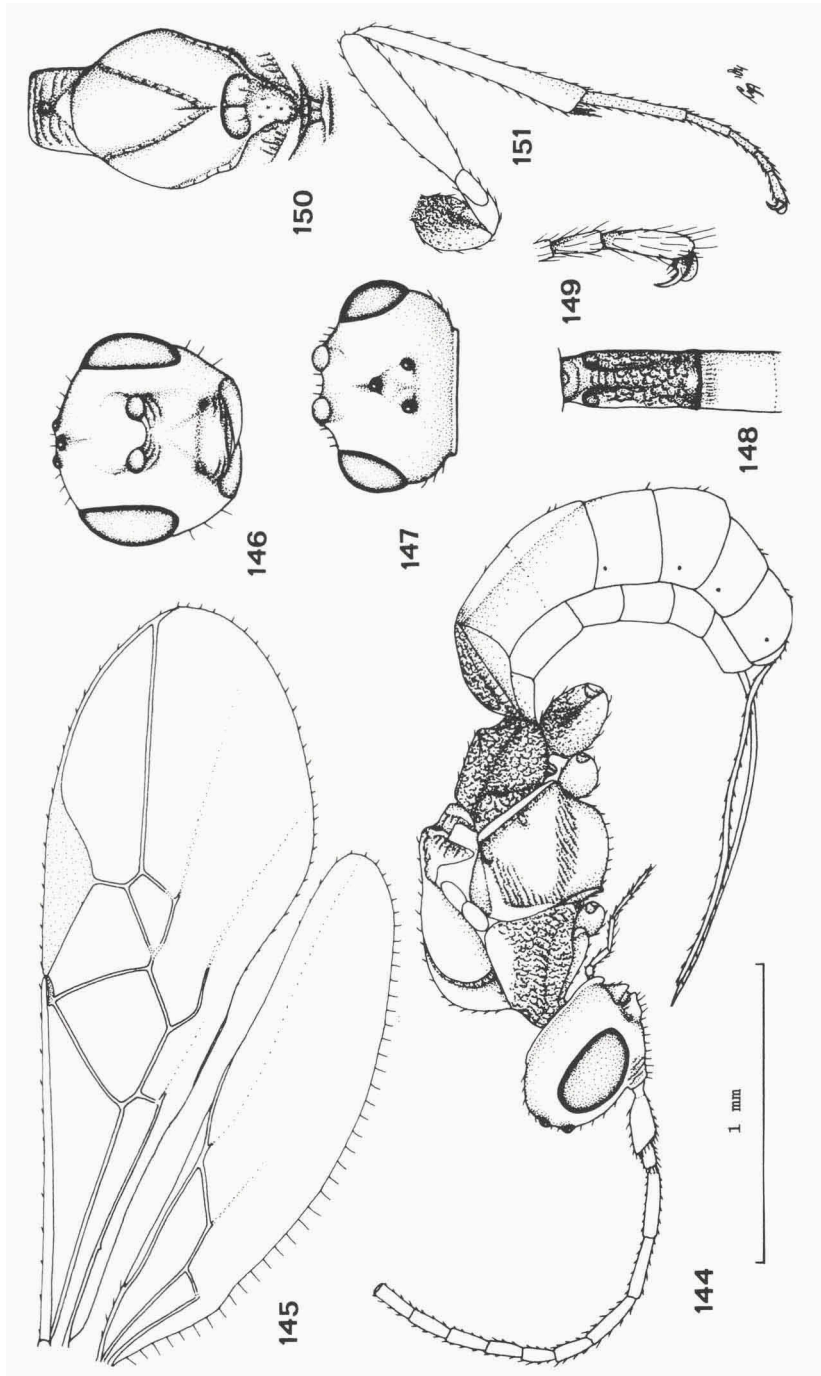
Figs. 117-124, *Apoblacus centistoides* Van Achterberg, ♀, holotype. 117, habitus, lateral aspect; 118, head, frontal aspect; 119, head, dorsal aspect; 120, propodeum, first and second metasomal tergites, dorsal aspect; 121, wings; 122, middle claw; 123, mesonotum, dorsal aspect; 124, hind leg. 117-119, 121, 123, 124: scale-line (= 1 x); 122: 2 x; 120: 1.1x.



Figs. 125-134, *Blacomeiteorus brevicauda* (Hellén), ♀, lectotype. 125, habitus, lateral aspect; 126, apex of antenna; 127, wings; 128, head, frontal aspect; 129, thorax, dorsal aspect; 130, fore claw; 131, hind claw; 132, hind leg; 133, head, dorsal aspect; 134, propodeum, first and second metasomal tergites, dorsal aspect. 125, 127, 132: scale-line (= 1 x); 126, 130, 131: 2.5 x; 128, 129, 133, 134: 1.4 x.

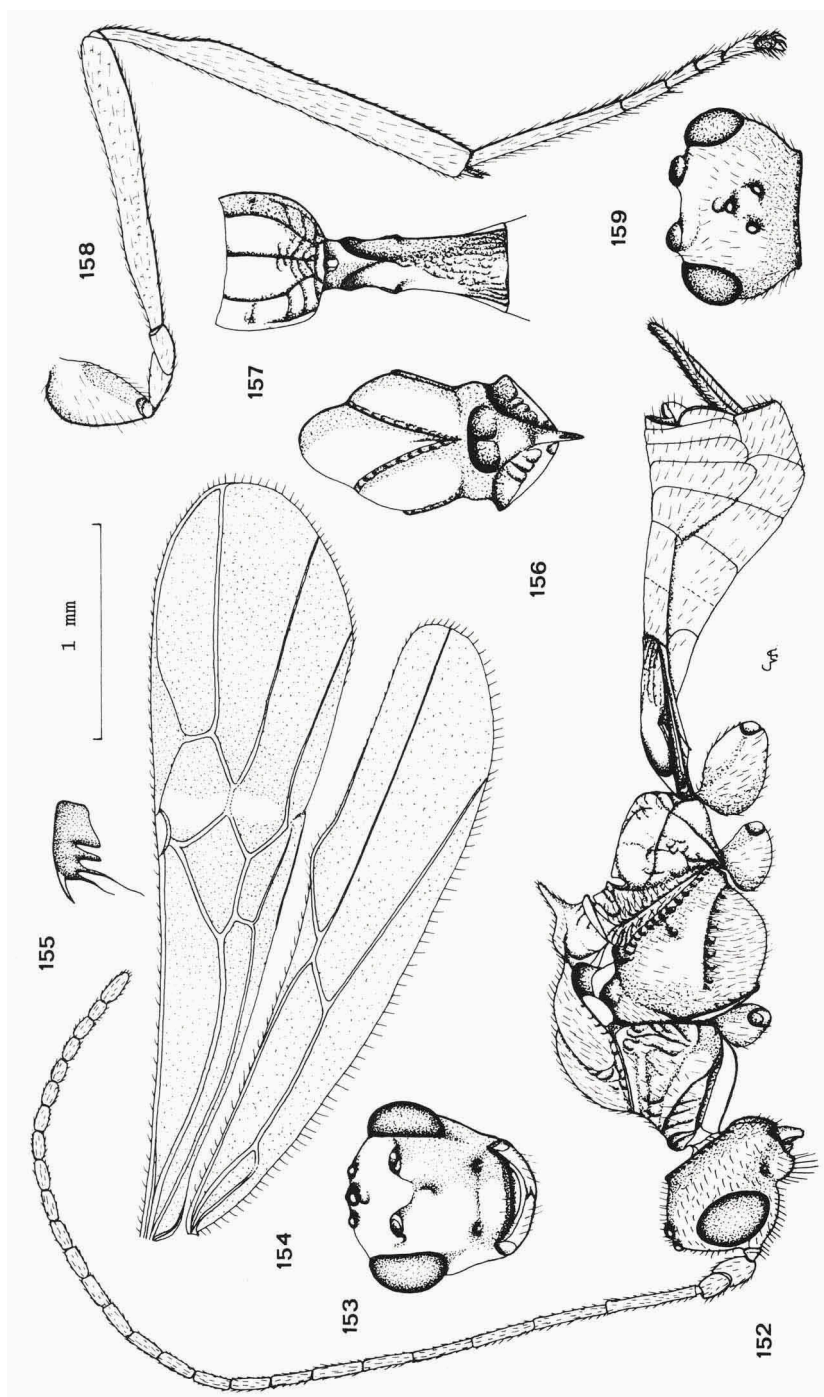


Figs. 135-143, *Blacometeorus intermedius* Tobias, ♂, holotype. 135, habitus, lateral aspect; 136, apex of antenna; 137, wings; 138, head, dorsal aspect; 139, head, frontal aspect; 140, hind claw; 141, thorax, dorsal aspect; 142, first and second metasomal tergites, dorsal aspect; 143, hind leg. 135, 137, 143: scale-line (= 1 x); 136, 140: 2.5 x; 138, 141, 142: 1.8 x; 139: 1.2 x.

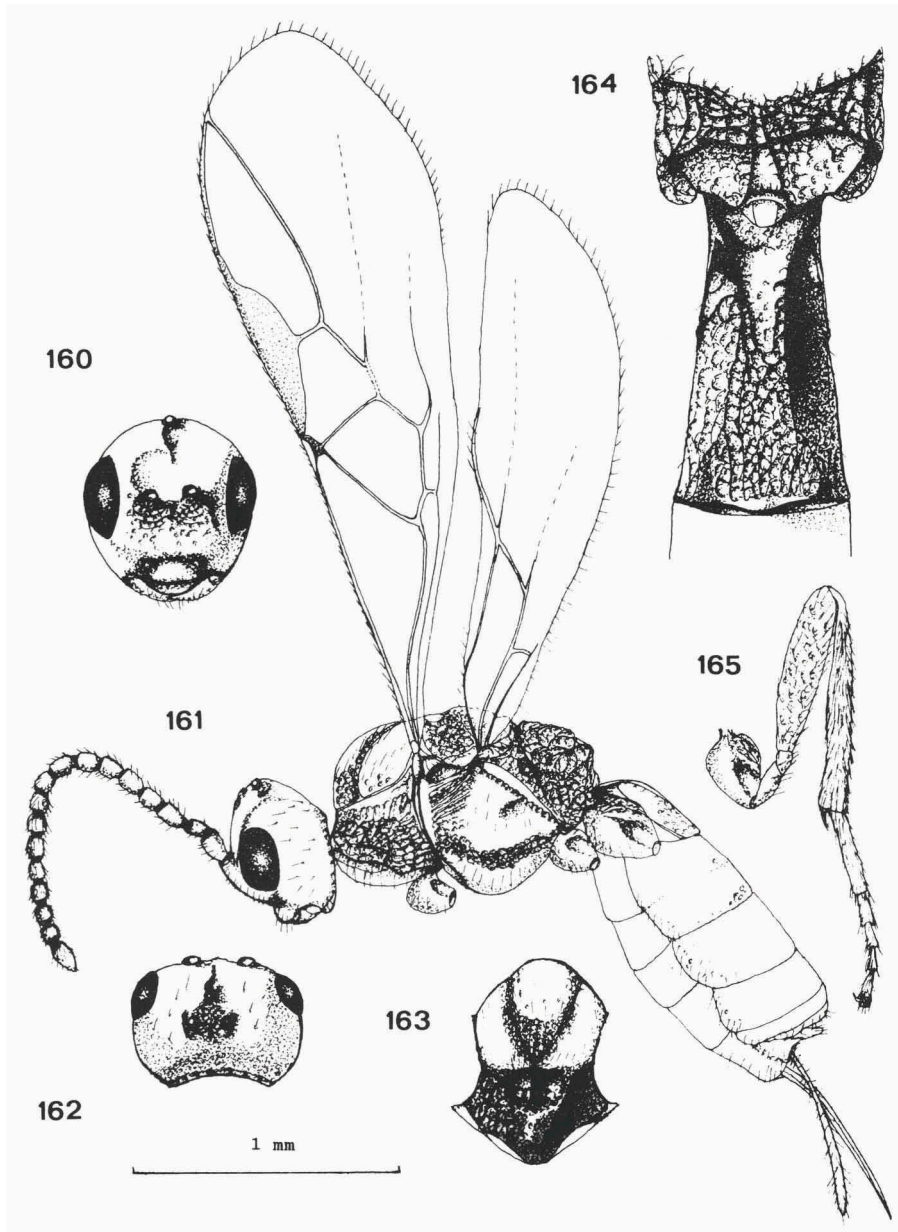


Figs. 144-151, *Blacometeorus pusillus* (Hellén), ♀, holotype. 144, habitus, lateral aspect; 145, wings; 146, head, frontal aspect; 147, head, dorsal aspect; 148, first and second metasomal tergites, dorsal aspect; 149, hind claw; 150, thorax, dorsal aspect; 151, hind leg. 144, 145, 151: scale-line (= 1 x); 146-148, 150: 1.1 x; 149: 2.5 x.

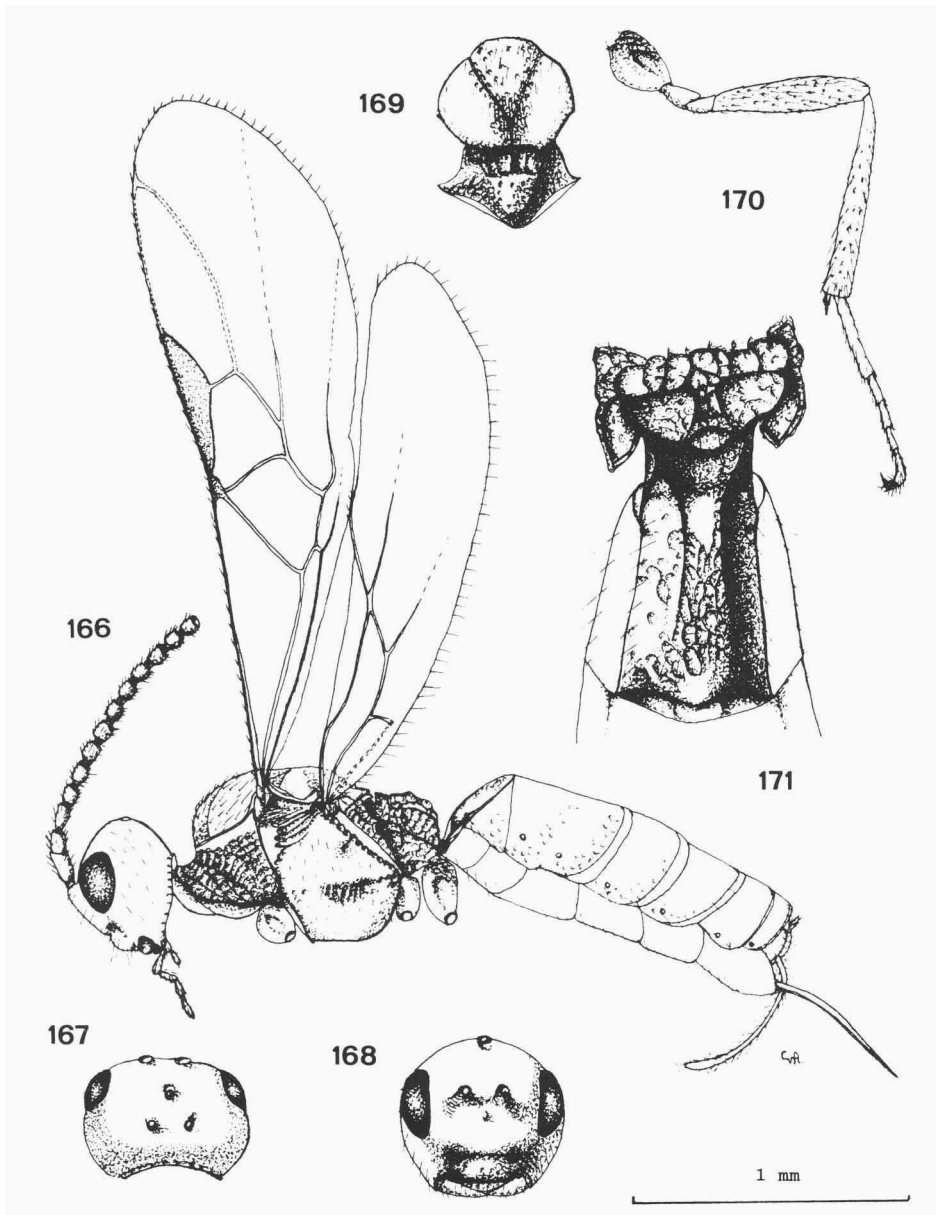




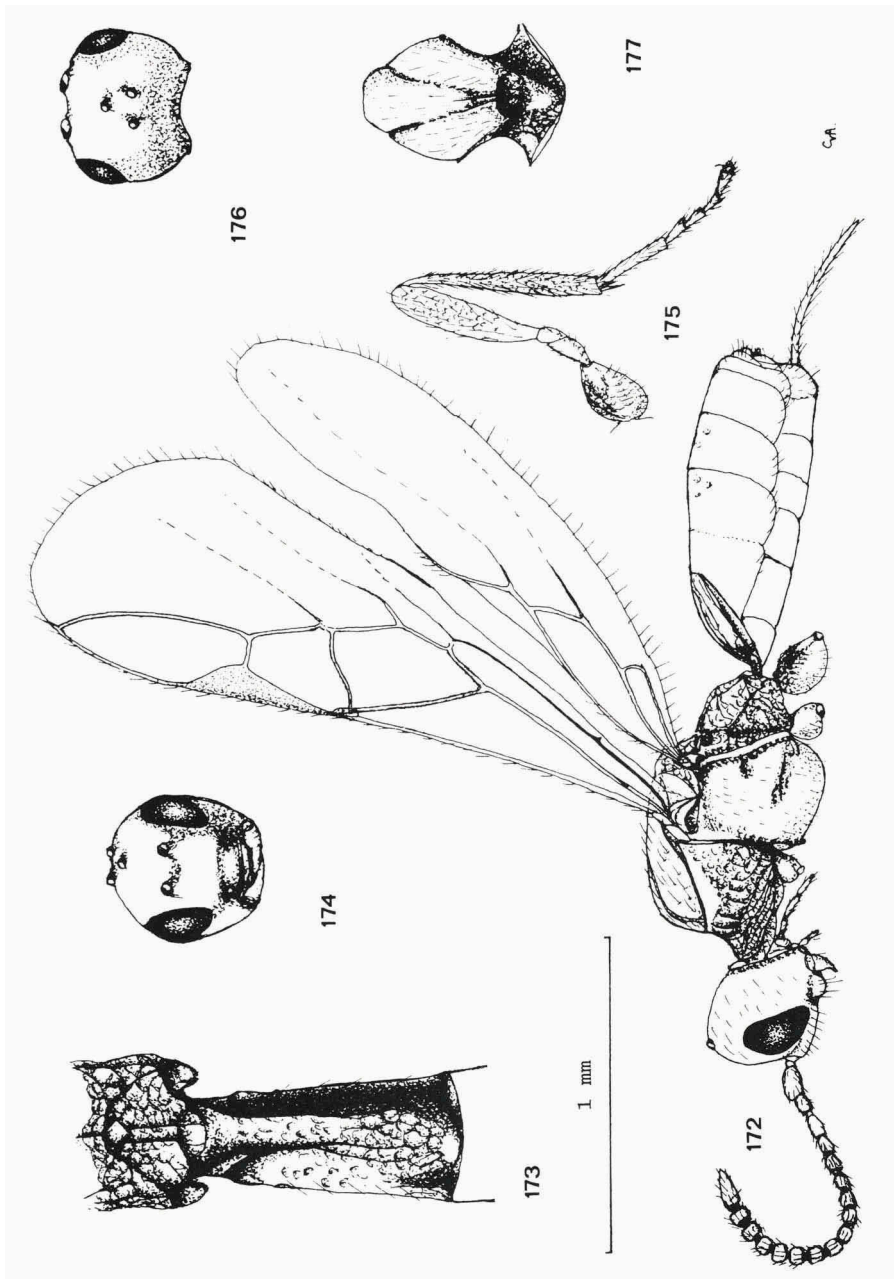
Figs. 152-159, *Blacus (Artocrus) spinarius* (Van Achterberg), ♀, holotype. 152, habitus, lateral aspect; 153, head, frontal aspect; 154, wings; 155, fore claw; 156, mesonotum, dorsal aspect; 157, propodeum and first metasomal tergite, dorsal aspect; 158, hind leg; 159, head, dorsal aspect. 152, 154, 158: scale-line (= 1 x); 153, 156, 159: 1.2 x; 155: 5 x; 157: 1.3 x.



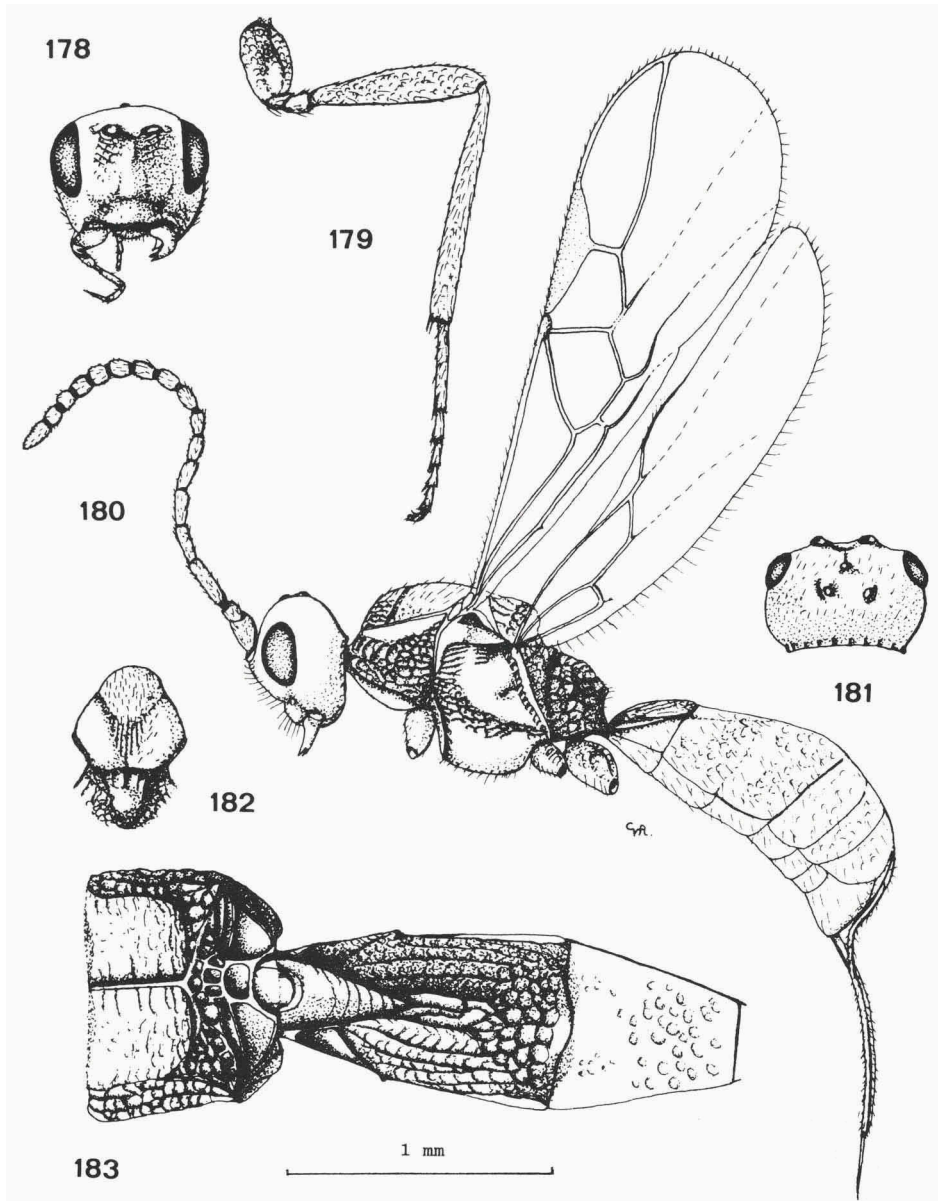
Figs. 160-165, *Blacus (Blacus) maryi* f. *nidicola* Hedqvist, ♀, Canada, Yukon Territory. 160, head, frontal aspect; 161, habitus, lateral aspect; 162, head, dorsal aspect; 163, mesonotum, dorsal aspect; 164, propodeum and first metasomal tergite, dorsal aspect; 165, hind leg. 160, 162, 163: 1.2 x; 161, 165: scale-line (= 1 x); 164: 2.5 x.



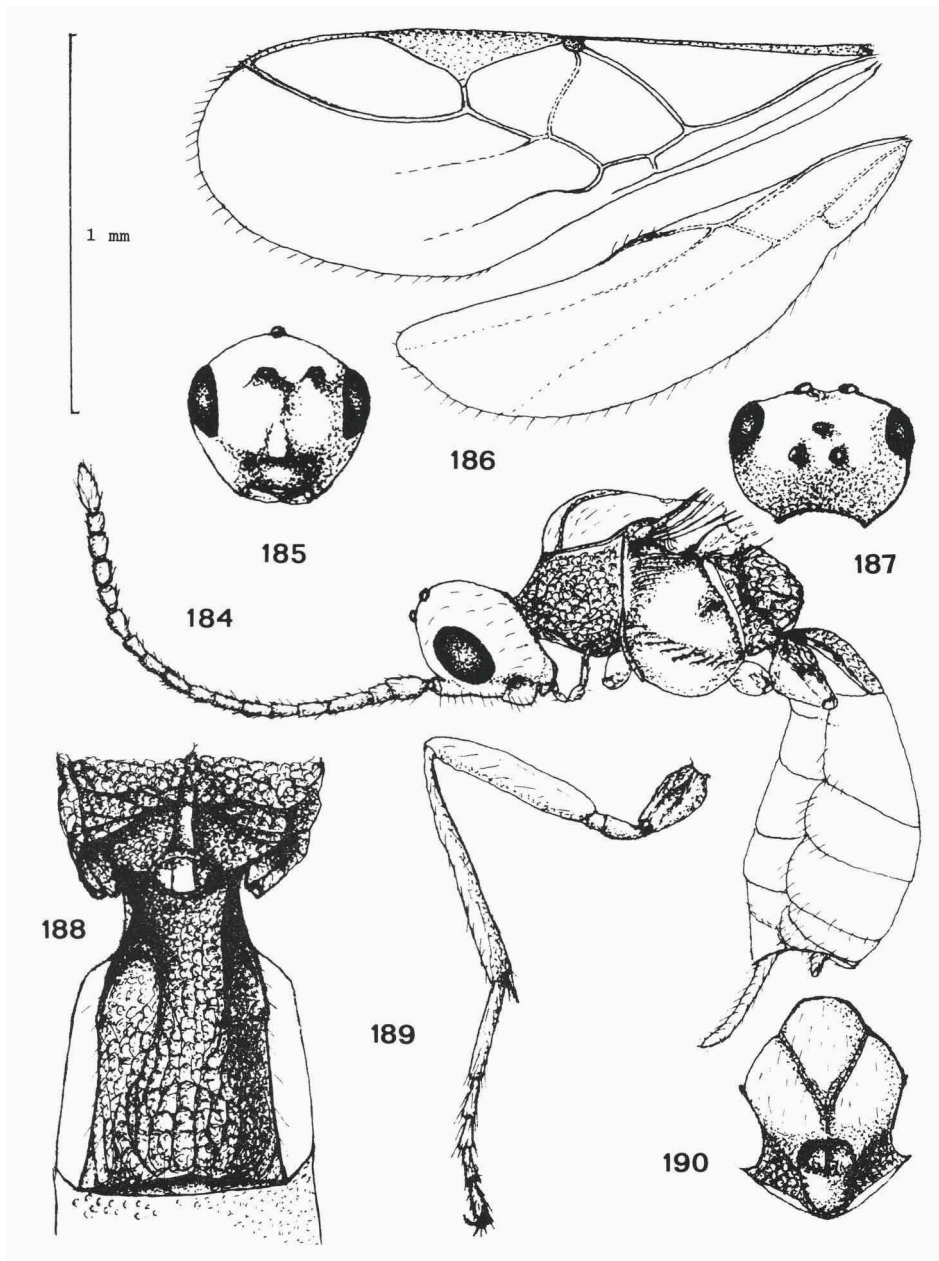
Figs. 166-171, *Blacus (Blacus) maryi* f. Hellén f. nom., ♀, Canada, British Columbia, Pete Lake. 166, habitus, lateral aspect; 167, head, dorsal aspect; 168, head, frontal aspect; 169, mesonotum; 170, hind leg; 171, propodeum and first metasomal tergite. 166, 170: scale-line (= 1 x); 167-169: 1.2 x; 171: 2.5 x.



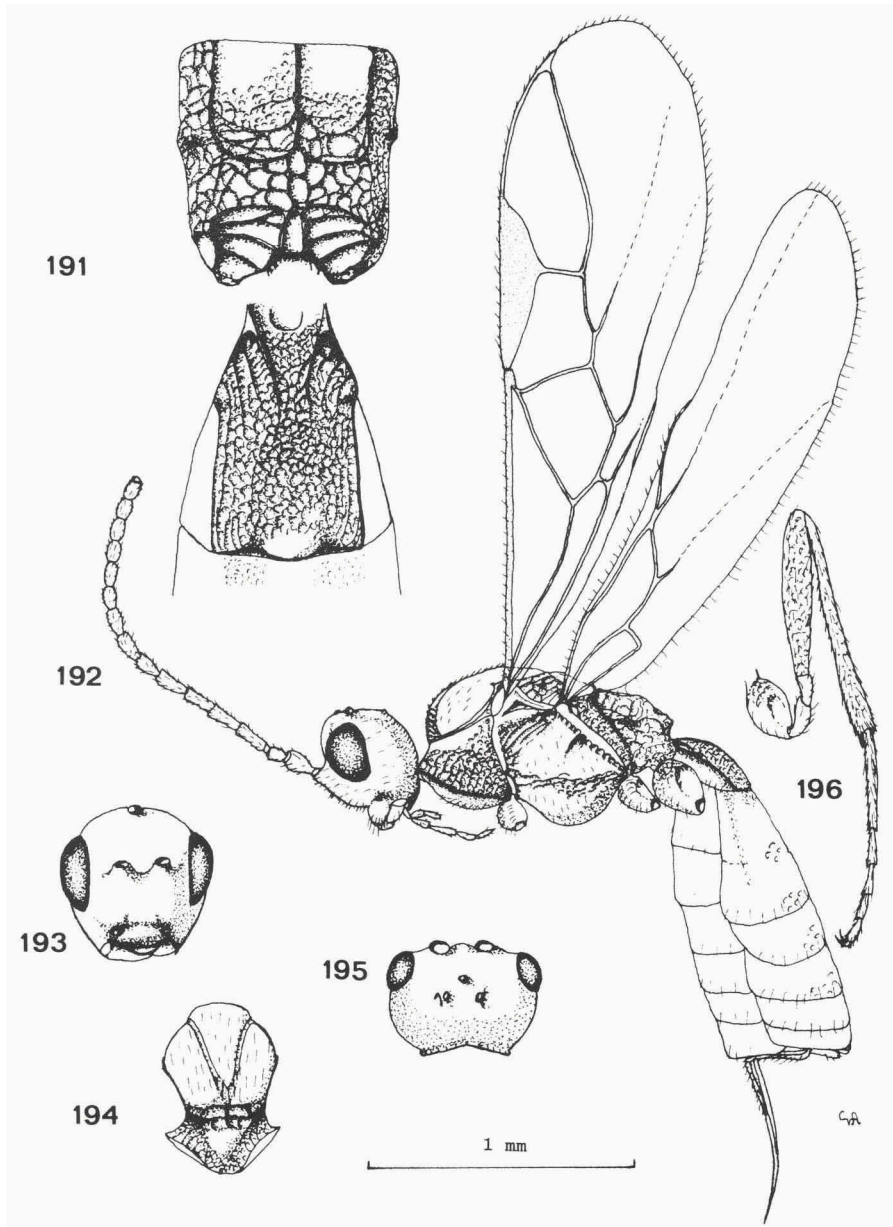
Figs. 172-177, *Blacus (Blacus) crassicus* Van Achterberg, ♀, holotype. 172, habitus, lateral aspect; 173, propodeum and first metasomal tergite, dorsal aspect; 174, head, frontal aspect; 175, hind leg; 176, head, dorsal aspect; 177, mesonotum, dorsal aspect. 172, 175: scale-line (= 1 x); 173: 2.5 x; 174, 176, 177: 1.2 x.



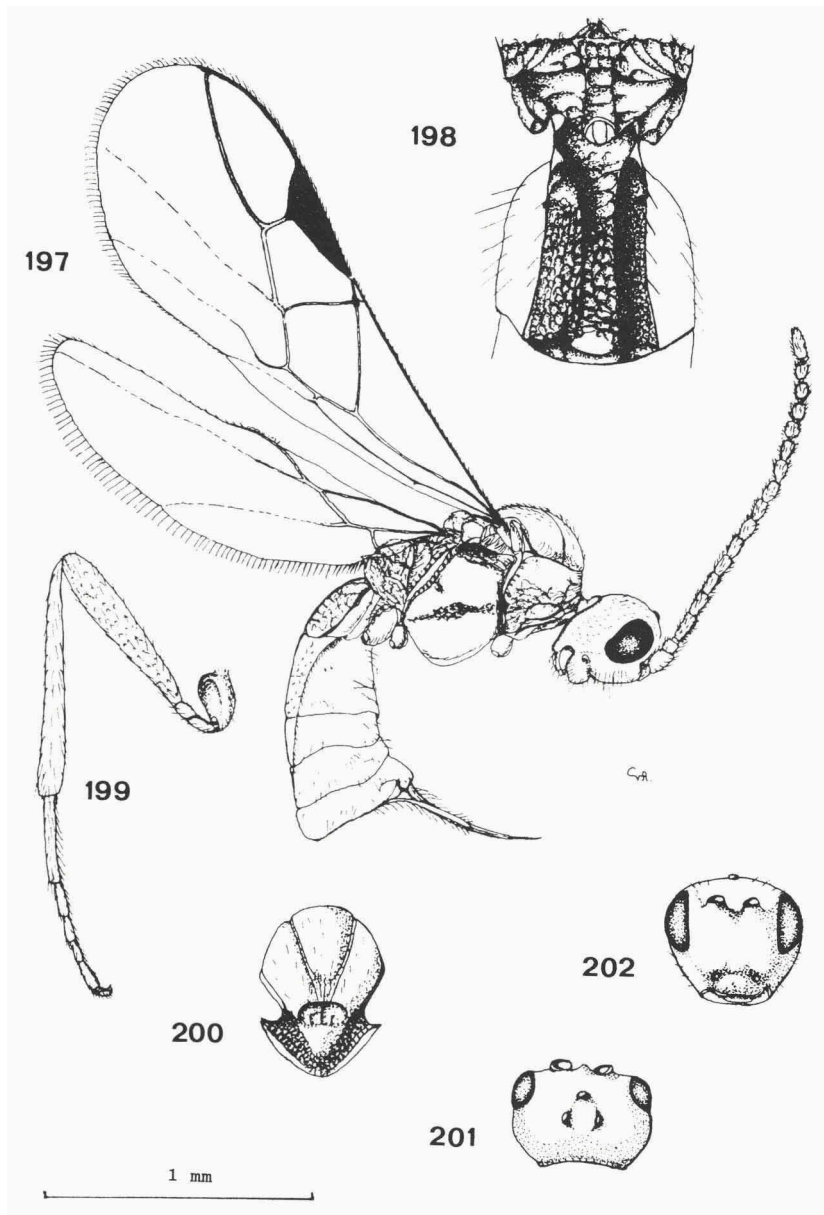
Figs. 178-183, *Blacus (Blacus) cohibilis* Van Achterberg, ♀, holotype. 178, head, frontal aspect; 179, hind leg; 180, habitus, lateral aspect; 181, head, dorsal aspect; 182, mesonotum, dorsal aspect; 183, propodeum, first and second metasomal tergites, dorsal aspect. 178-182: scale-line (= 1 x); 183: 2.5 x.



Figs. 184-190, *Blacus (Blacus) asaphus* Van Achterberg, ♀, holotype. 184, habitus, lateral aspect; 185, head, frontal aspect; 186, wings; 187, head, dorsal aspect; 188, propodeum and first metasomal tergite, dorsal aspect; 189, hind leg; 190, mesonotum. 184, 186, 189: scale-line (= 1 x); 185, 187, 190: 1.2 x; 188: 2.5 x.

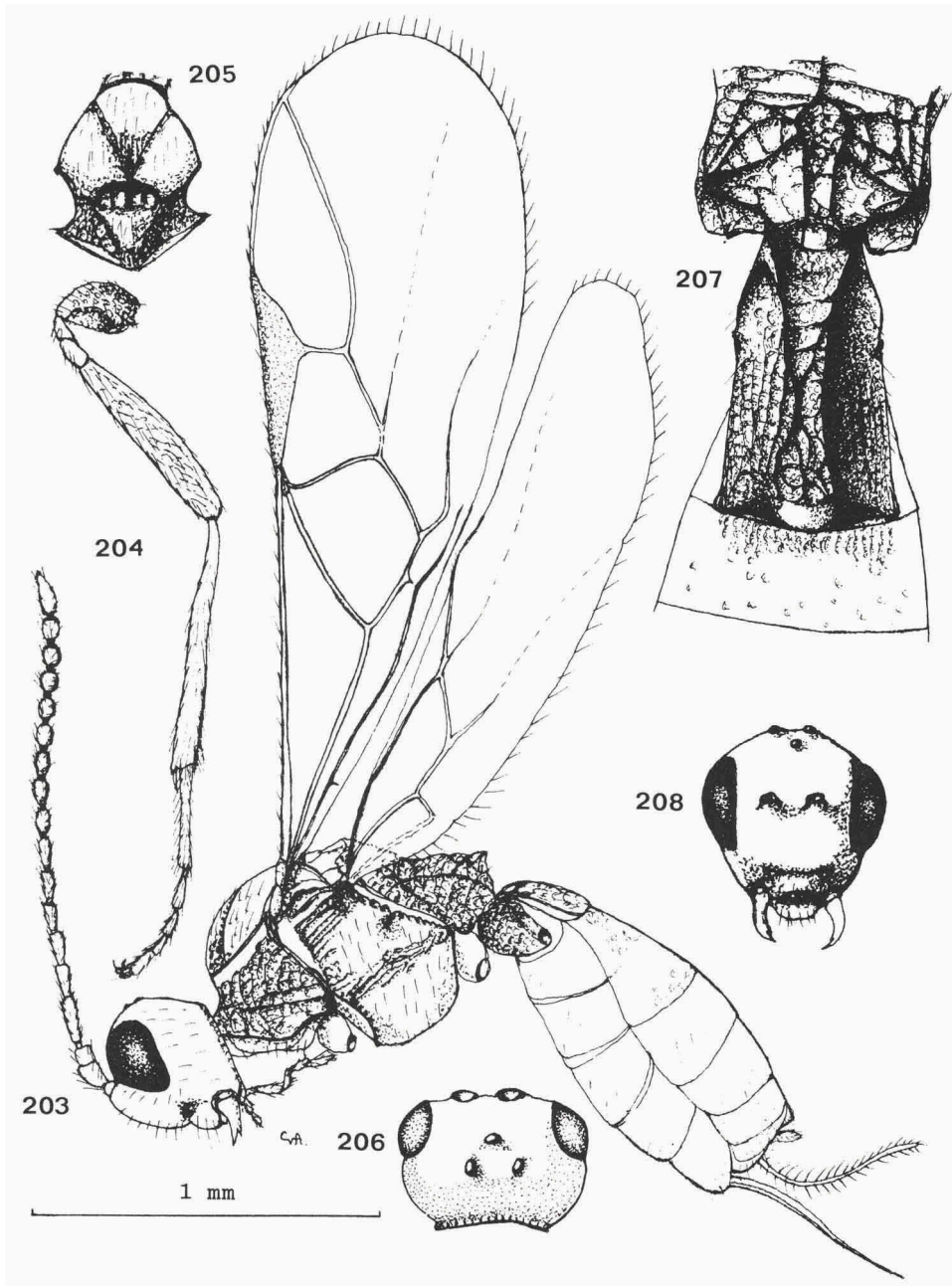


Figs. 191-196, *Blacus (Blacus) rufipes* (Ashmead), ♀, Canada, Saskatchewan, Swift Current. 191, propodeum and first metasomal tergite, dorsal aspect; 192, habitus, lateral aspect; 193, head, frontal aspect; 194, mesonotum, dorsal aspect; 195, head, dorsal aspect; 196, hind leg. 191: 2.5 x; 192, 196: scale-line (= 1 x); 193-195: 1.2 x.

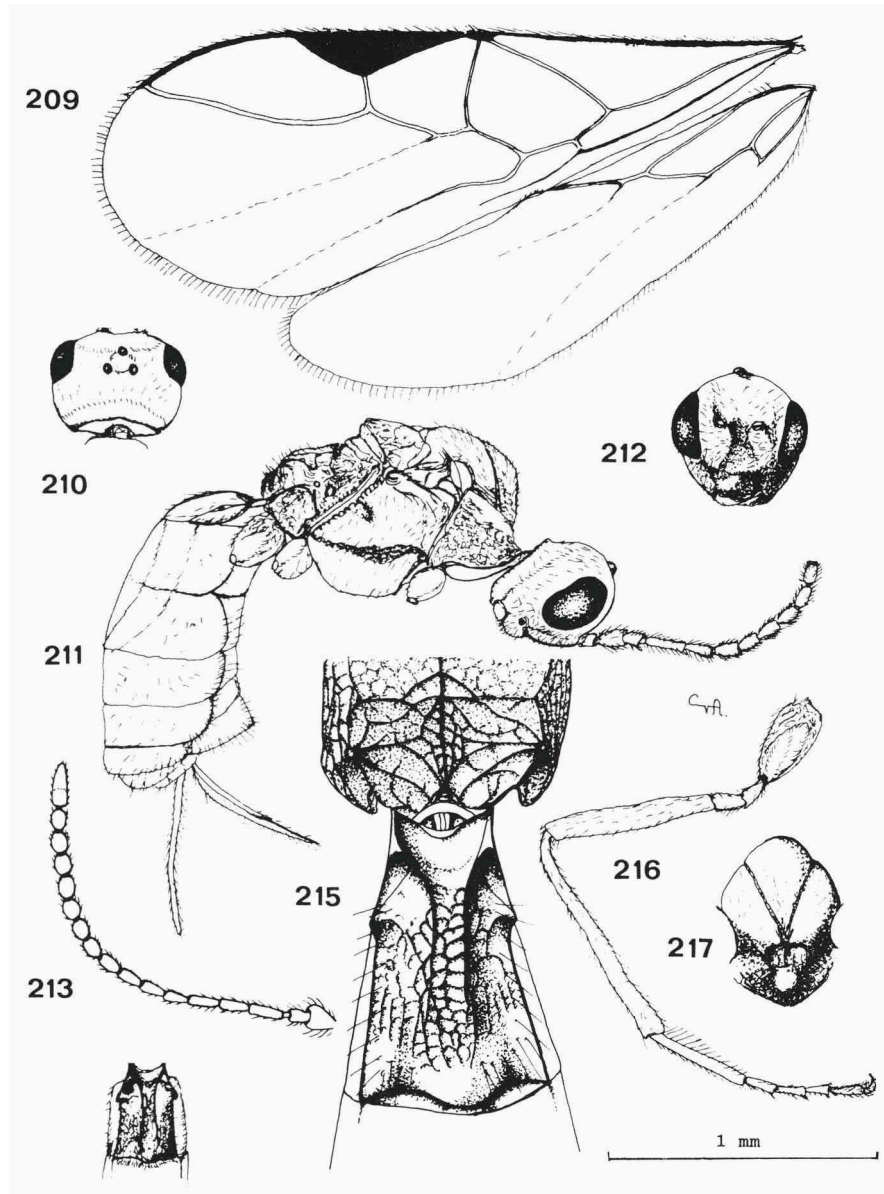


Figs. 197-202, *Blacus (Blacus) exilis* (Nees), ♀, U.S.A., Iowa, Sioux City. 197, habitus, lateral aspect, 198, propodeum and first metasomal tergite, dorsal aspect; 199, hind leg; 200, mesonotum, dorsal aspect; 201, head, dorsal aspect; 202, head, frontal aspect. 197, 199: scale-line (= 1 x); 198: 2.5 x; 200-202: 1.2 x.

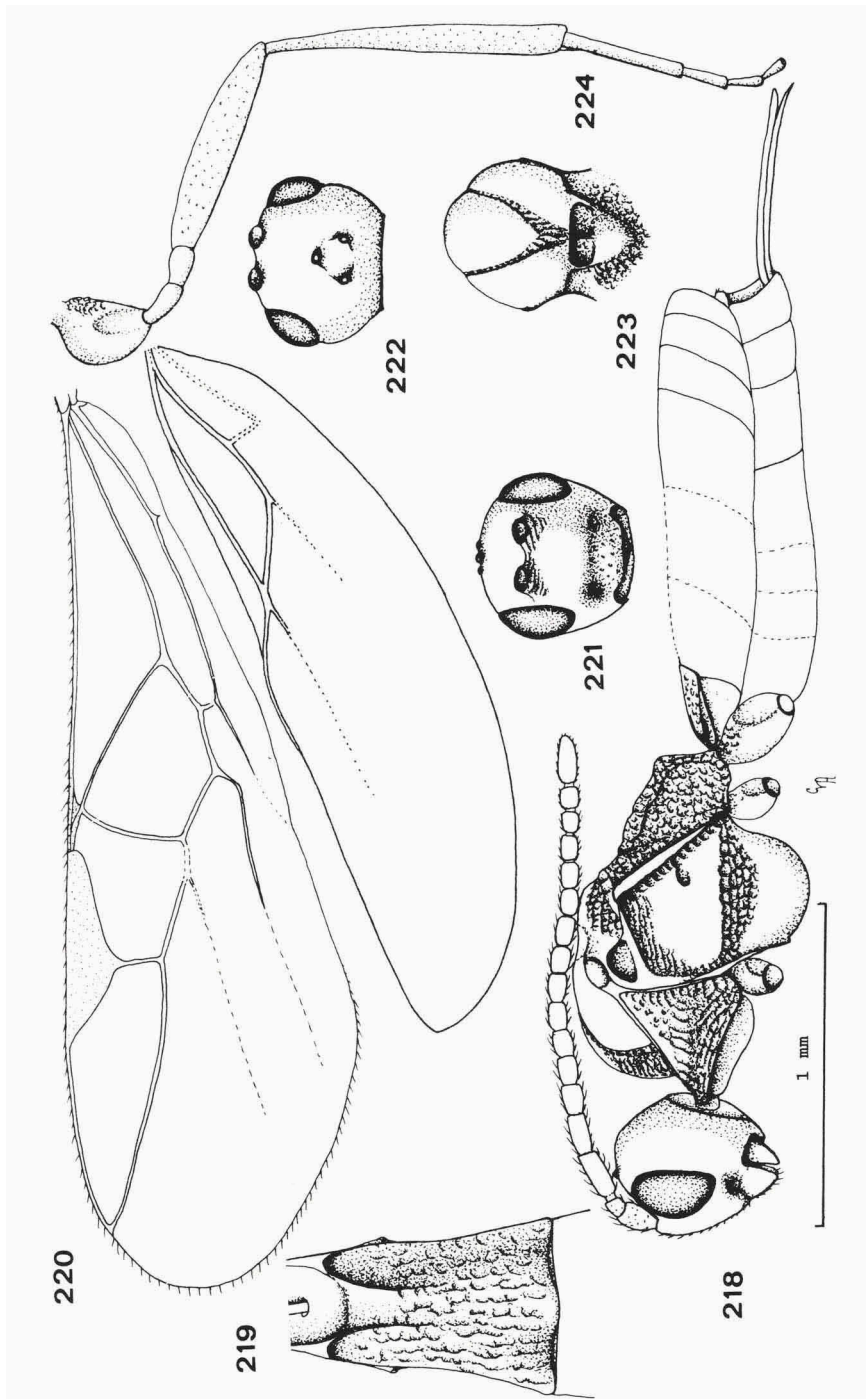




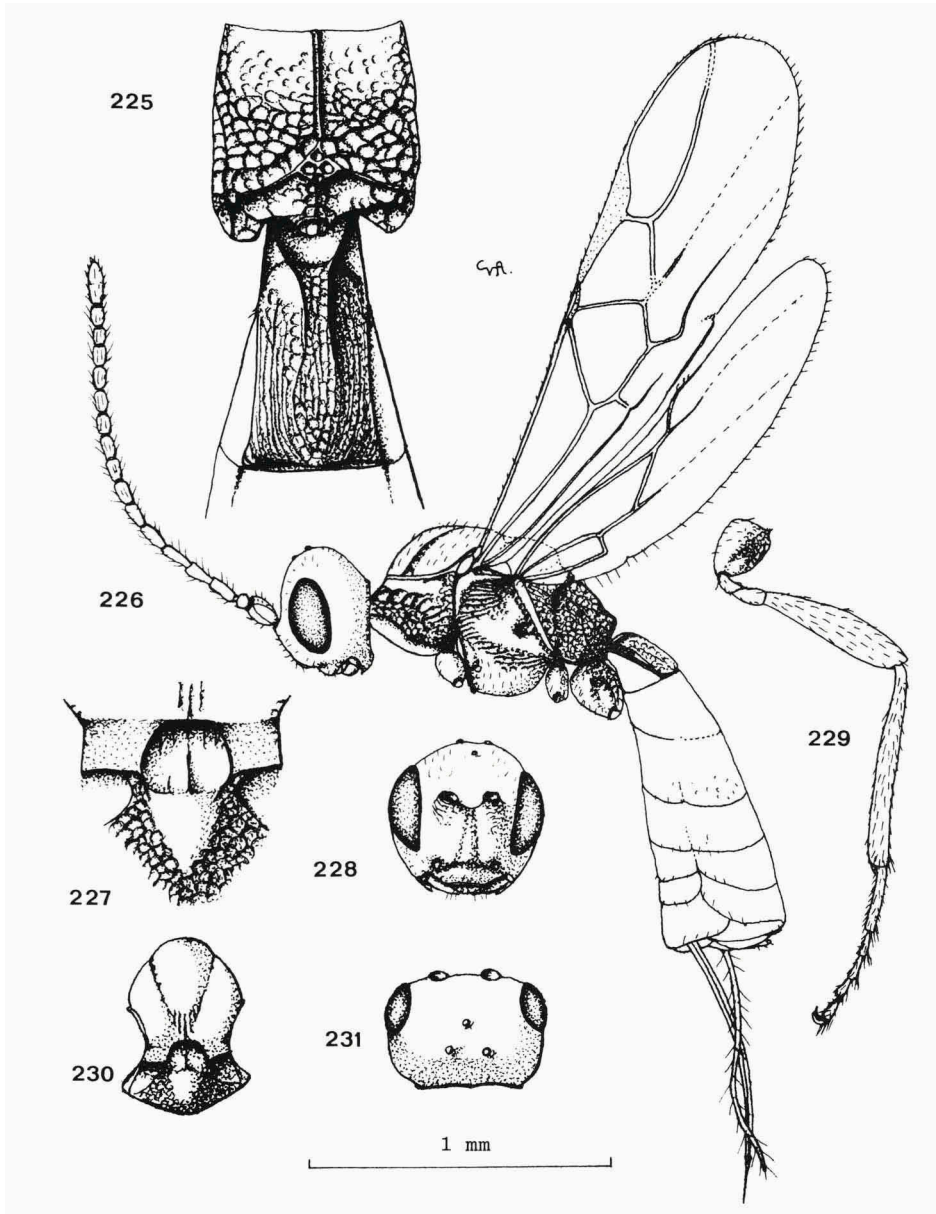
Figs. 203-208, *Blacus (Blacus) cognatus* Van Achterberg, ♀, holotype. 203, habitus, lateral aspect; 204, hind leg; 205, mesonotum, dorsal aspect; 206, head, dorsal aspect; 207, propodeum, first and second metasomal tergites, dorsal aspect; 208, head, frontal aspect. 203, 204: scale-line (= 1 x); 205, 206, 208: 1.2 x; 207: 2.5 x.



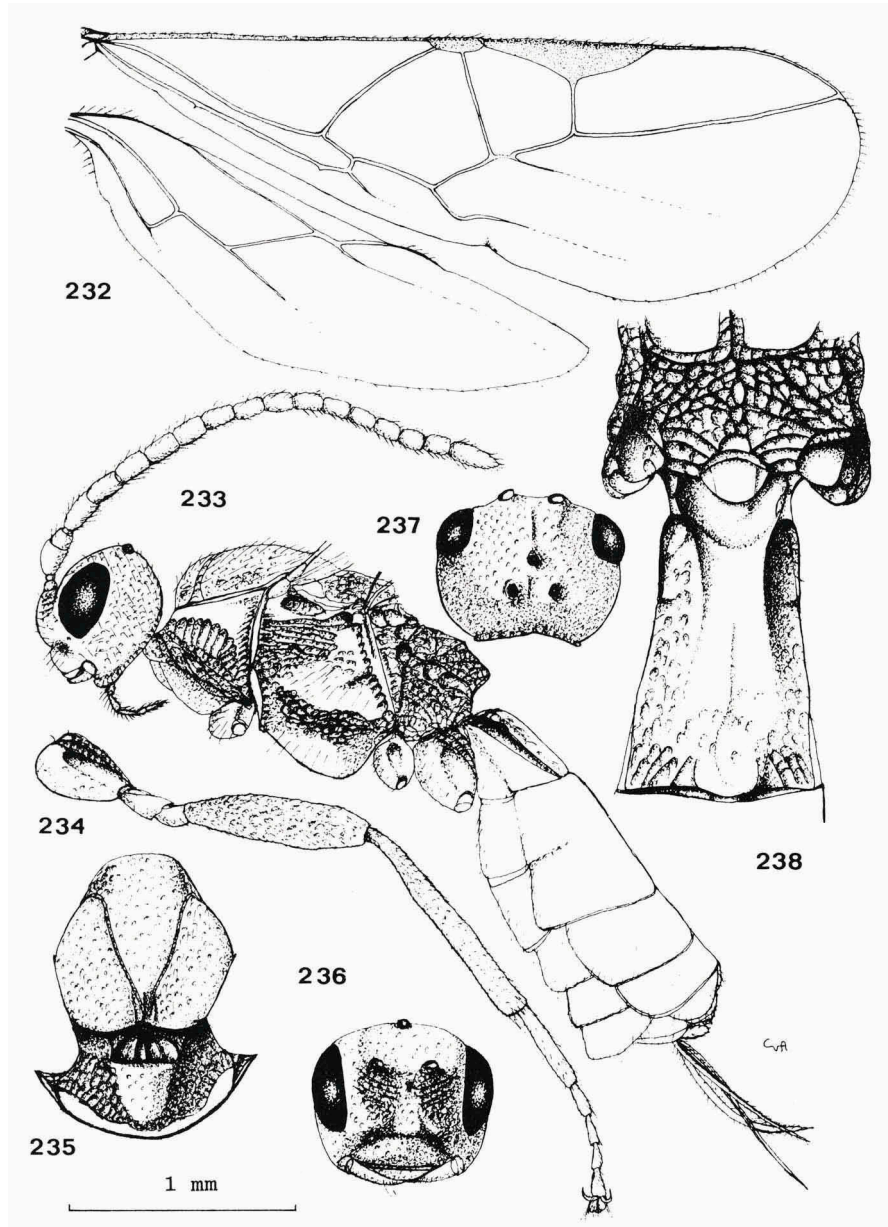
Figs. 209-217, *Blacus (Blacus) defectuosus* (Provancher), ♀, holotype, but 213 and 215 after females from Canada, Saskatchewan, Saskatoon. 209, wings; 210, head, dorsal aspect; 211, habitus, lateral aspect; 212, head, frontal aspect; 213, antenna; 214, first metasomal tergite, dorsal aspect; 215, propodeum and first metasomal tergite, dorsal aspect; 216, hind leg; 217, mesonotum. 209-214, 216-217: scale-line (= 1 x); 215: 2.5 x.



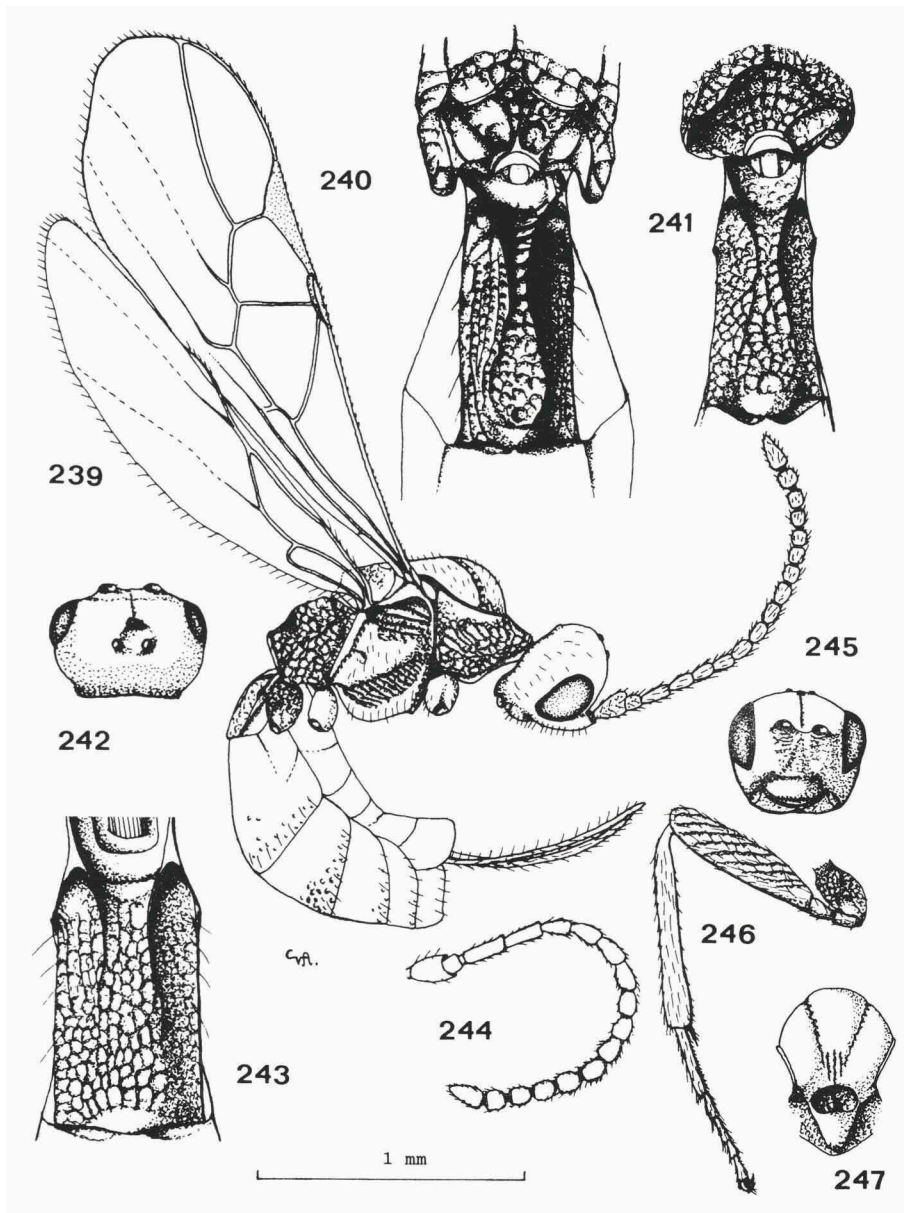
Figs. 218-224, *Blacus (Blacus) chilensis* Van Achterberg, ♀, holotype. 218, habitus, lateral aspect; 219, first metasomal tergite, dorsal aspect; 220, wings; 221, head, frontal aspect; 222, head, dorsal aspect; 223, mesonotum, dorsal aspect; 224, hind leg. 218, 220-224: scale-line (= 1 mm); 219: 2.1 x.



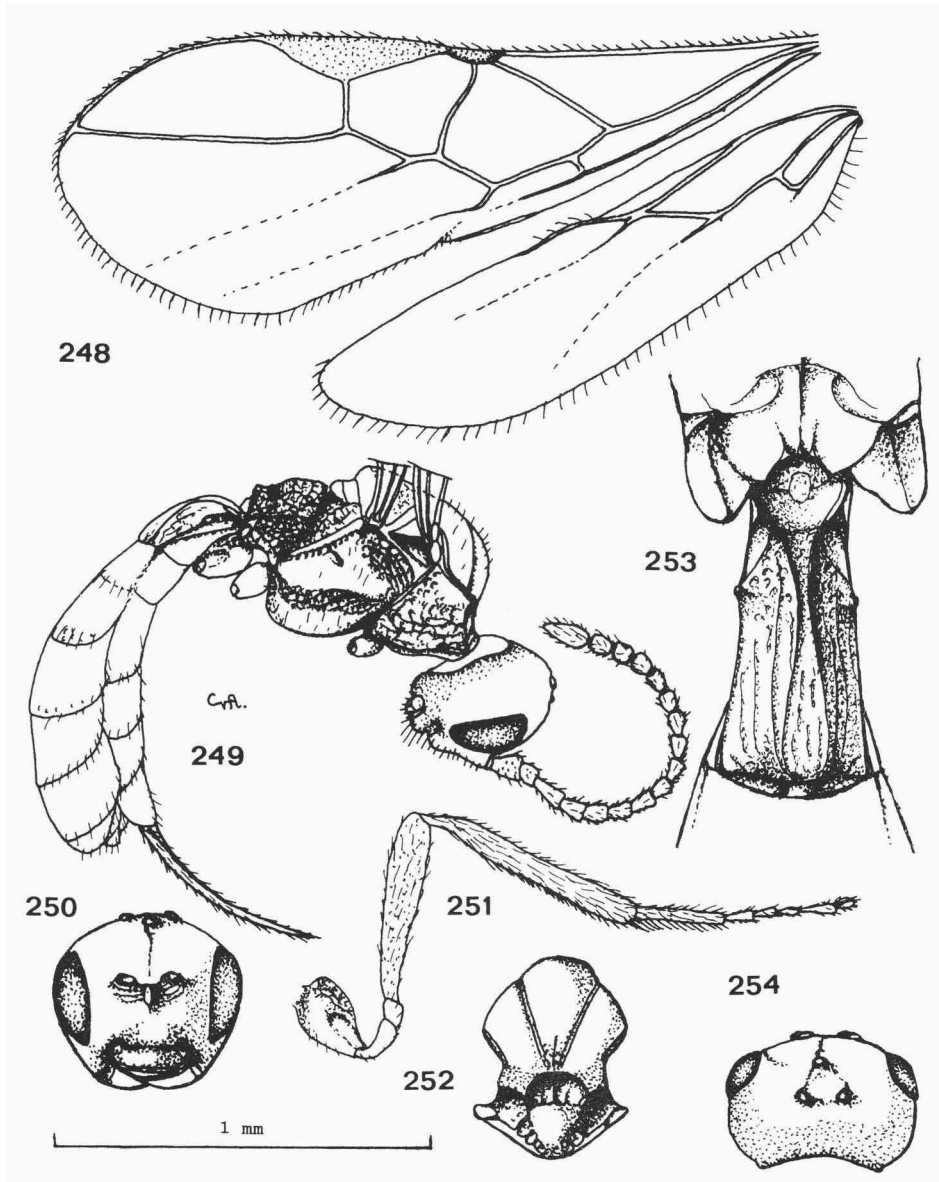
Figs. 225-231, *Blacus (Blacus) apodastus* Van Achterberg, ♀, holotype. 225, propodeum and first metasomal tergite, dorsal aspect; 226, habitus, lateral aspect; 227, detail of scutellum, dorsal aspect; 228, head, frontal aspect; 229, hind leg; 230, mesonotum, dorsal aspect; 231, head, dorsal aspect. 225: 2.5 x; 226, 229: scale-line (= 1 x); 227: 3 x; 228, 230, 231: 1.2 x.



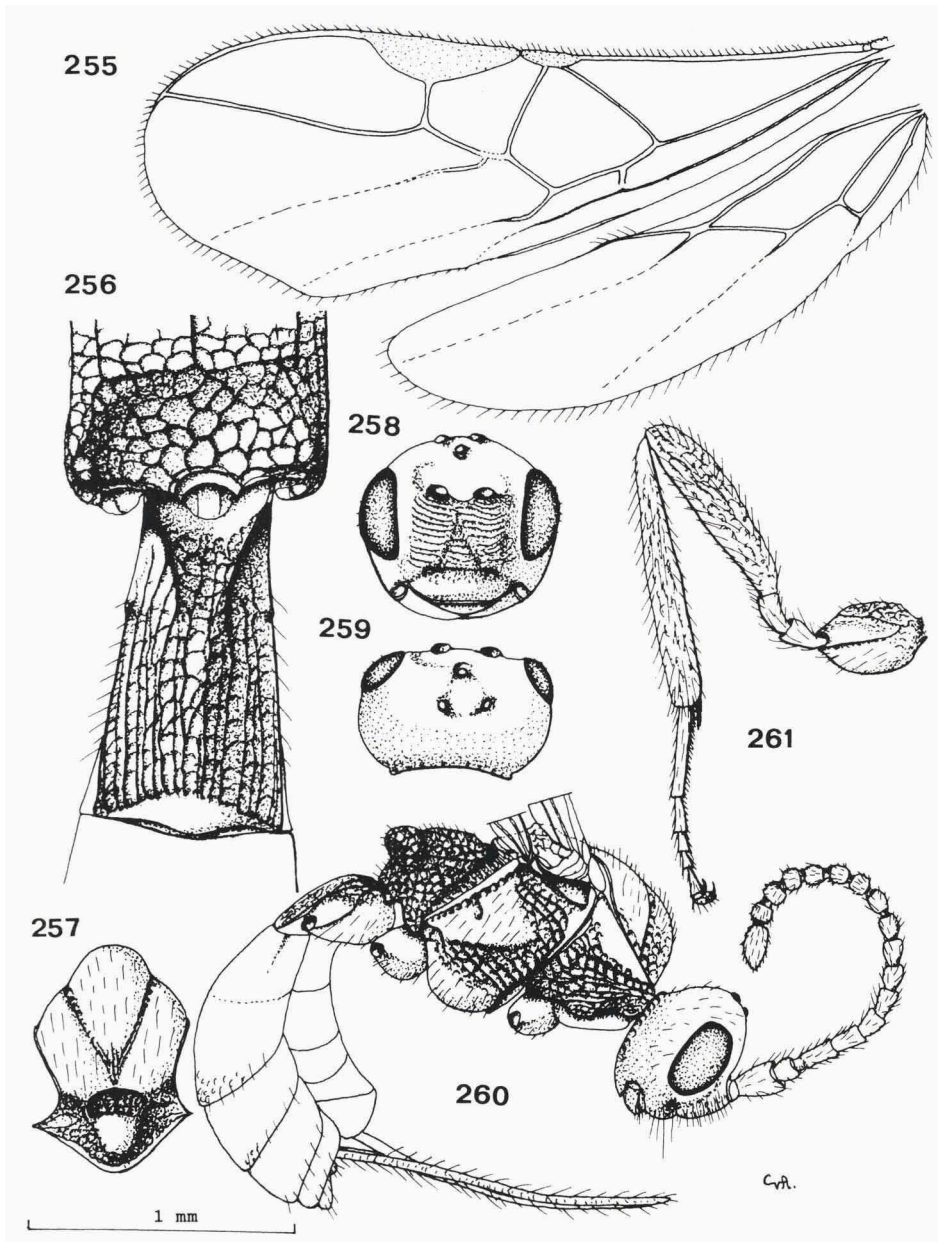
Figs. 232-238, *Blacus (Blacus) masoni* Van Achterberg, ♀, holotype. 232, wings; 233, habitus, lateral aspect; 234, hind leg; 235, mesonotum, dorsal aspect; 236, head, frontal aspect; 237, head, dorsal aspect; 238, propodeum and first metasomal tergite, dorsal aspect. 232-234: scale-line (= 1 x); 235-237: 1.2 x; 238: 2.5 x.



Figs. 239-247, *Blacus (Blacus) humilis* (Nees), ♀; 239, 240, 242, 246, 247, U.S.A., West Virginia, Cacapon; 243-245, Canada, Quebec, Old Chelsea; 241, Canada, British Columbia, Hixon. 239, habitus, lateral aspect; 240-241, propodeum and first metasomal tergite, dorsal aspect; 242, head, dorsal aspect; 243, first metasomal tergite, dorsal aspect; 244, antenna; 245, head, frontal aspect; 246, hind leg; 247, mesonotum, dorsal aspect. 239, 244, 246: scale-line (= 1 x); 242, 245, 247: 1.2 x; 240, 241, 243: 2.5 x.

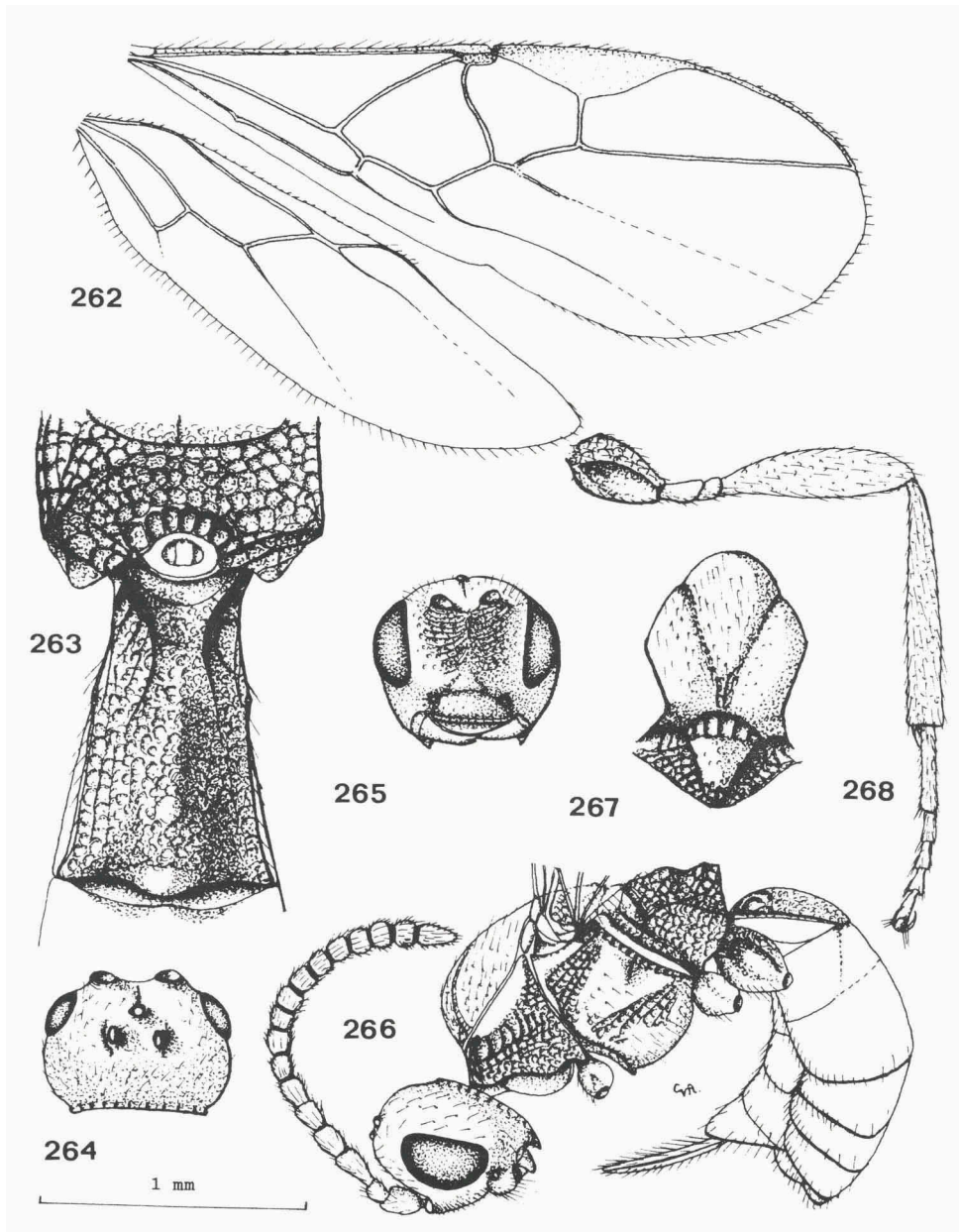


Figs. 248-254, *Blacus (Blacus) humilis* (Nees), slender form, ♀, U.S.A., California, Santa Cruz. 248, wings; 249, habitus, lateral aspect; 250, head, frontal aspect; 251, hind leg; 252, mesonotum, dorsal aspect; 253, propodeum and first metasomal tergite, dorsal aspect; 254, head, dorsal aspect. 248, 249, 251: scale-line (= 1 x); 250, 252, 254: 1.3 x; 253: 2.8 x.

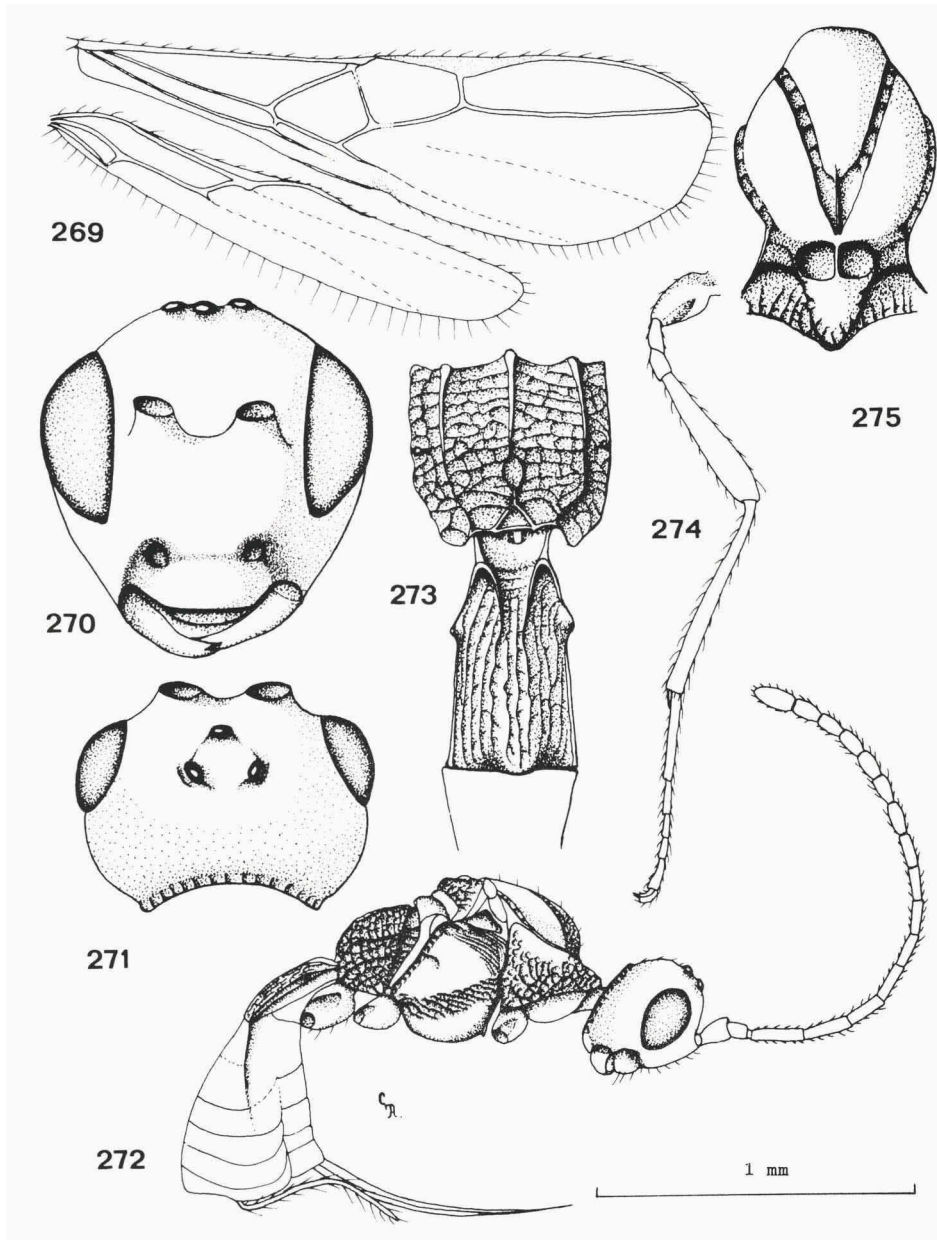


Figs. 255-261, *Blacus (Blacus) caduceus* Van Achterberg, ♀, holotype. 255, wings; 256, propodeum and first metasomal tergite, dorsal aspect; 257, mesonotum, dorsal aspect; 258, head, frontal aspect; 259, head, dorsal aspect; 260, habitus, lateral aspect; 261, hind leg. 255, 260, 261: scale-line (= 1 x); 256: 2.5 x; 257-259: 1.2 x.

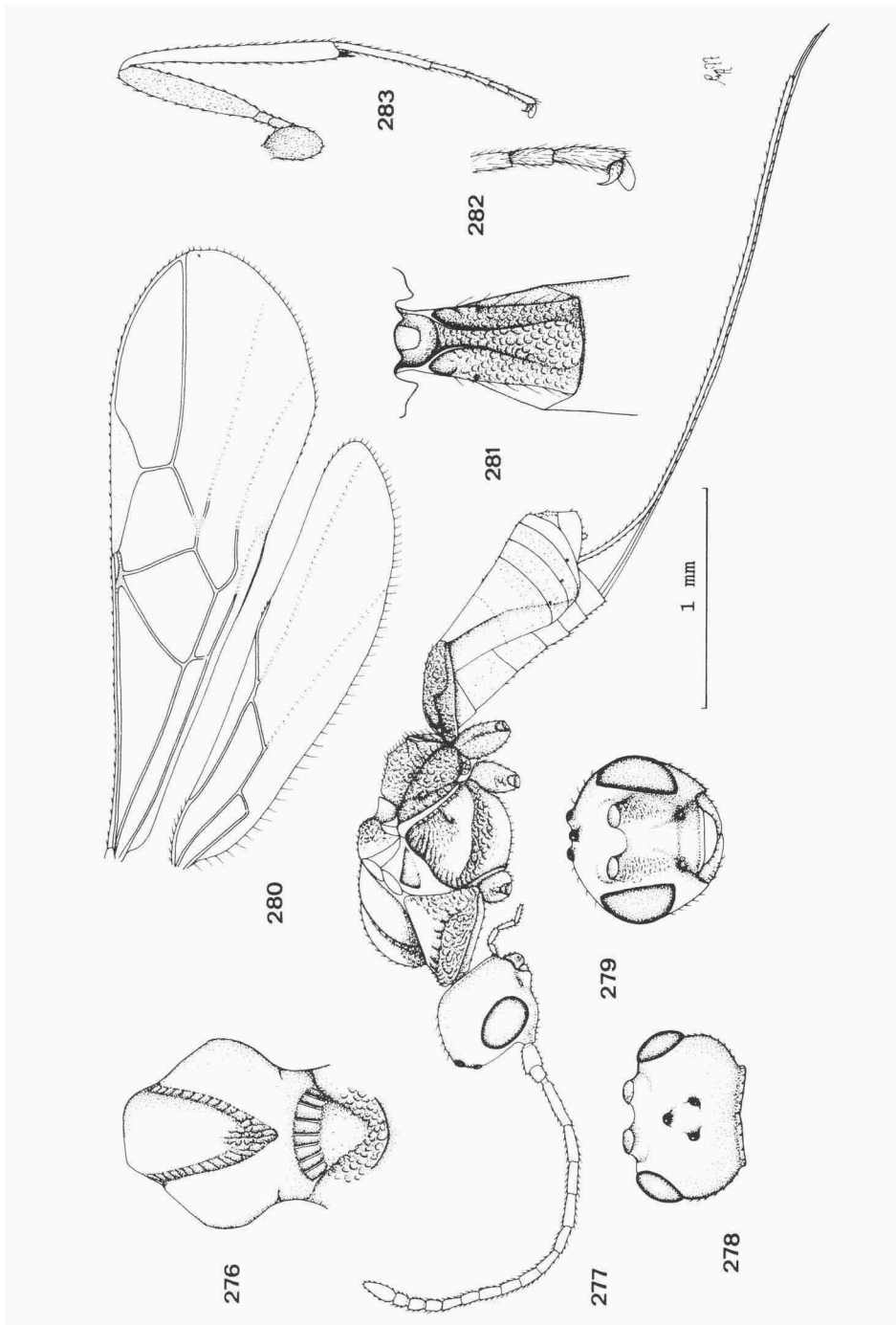




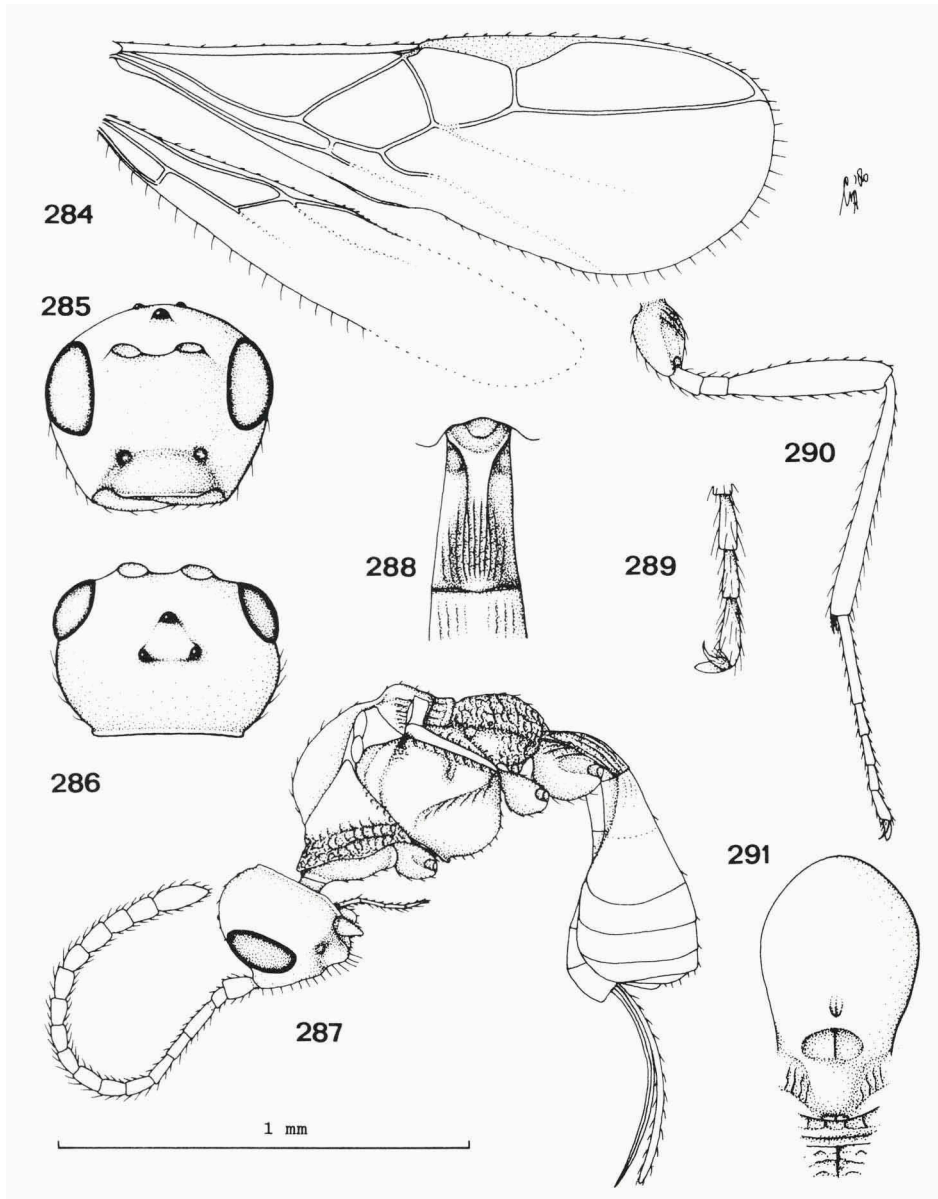
Figs. 262-268, *Blacus (Blacus) paganus* Haliday, Nearctic form, ♀, U.S.A., North Carolina, Highlands. 262, wings; 263, propodeum and first metasomal tergite, dorsal aspect; 264, head, dorsal aspect; 265, head, frontal aspect; 266, habitus, lateral aspect; 267, mesonotum, dorsal aspect; 268, hind leg. 262, 266, 268: scale-line (= 1 x); 263: 2.5 x; 264-267: 1.2 x.



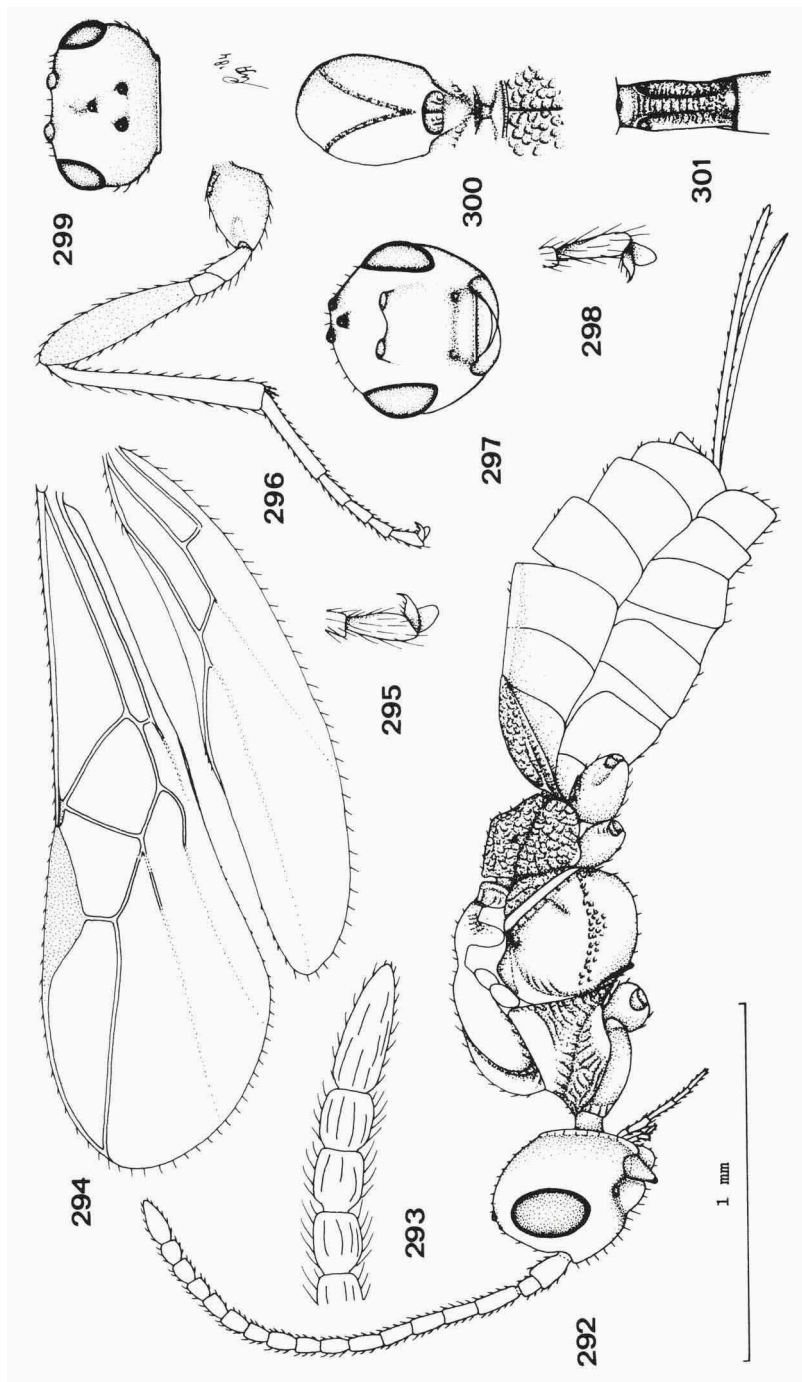
Figs. 269-275, *Blacus (Blacus) inopinus* Van Achterberg, ♀, holotype. 269, wings; 270, head, frontal aspect; 271, head, dorsal aspect; 272, habitus, lateral aspect; 273, propodeum and first metasomal tergite, dorsal aspect; 274, hind leg; 275, mesonotum, dorsal aspect. 269, 272, 274: scale-line (= 1 x); 270, 272, 275: 2.1 x, 273: 2.5 x.



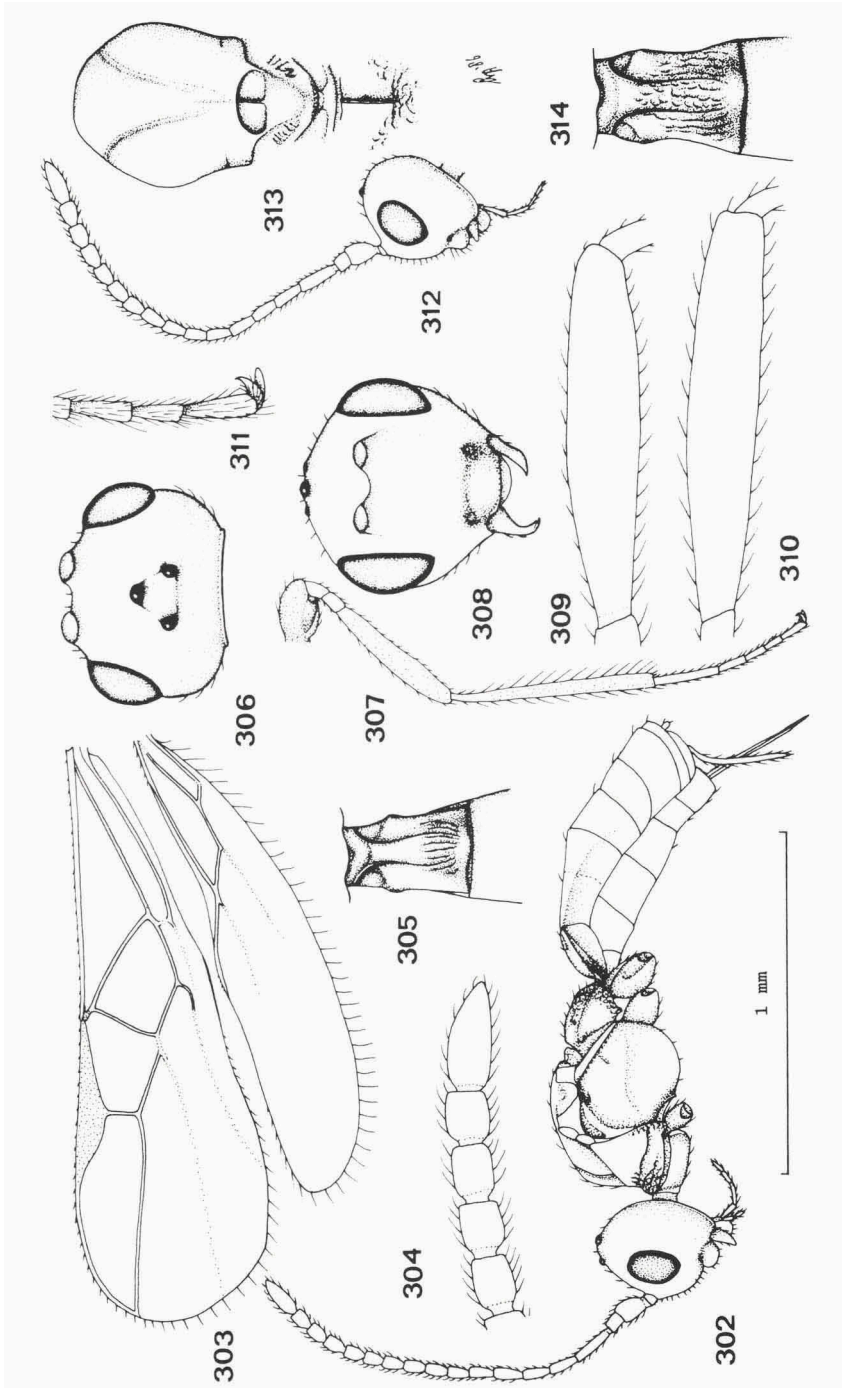
Figs. 276-283, *Blacus (Blacus) longicaudatus* Tobias, ♀, holotype. 276, mesonotum, dorsal aspect; 277, habitus, lateral aspect; 278, head, dorsal aspect; 279, head, frontal aspect; 280, wings; 281, first metasomal tergite, dorsal aspect; 282, hind claw; 282, hind leg. 276, 281: 1.8 x; 277, 280, 283: scale-line (= 1 x); 278, 279: 1.3 x; 282: 2.5 x.



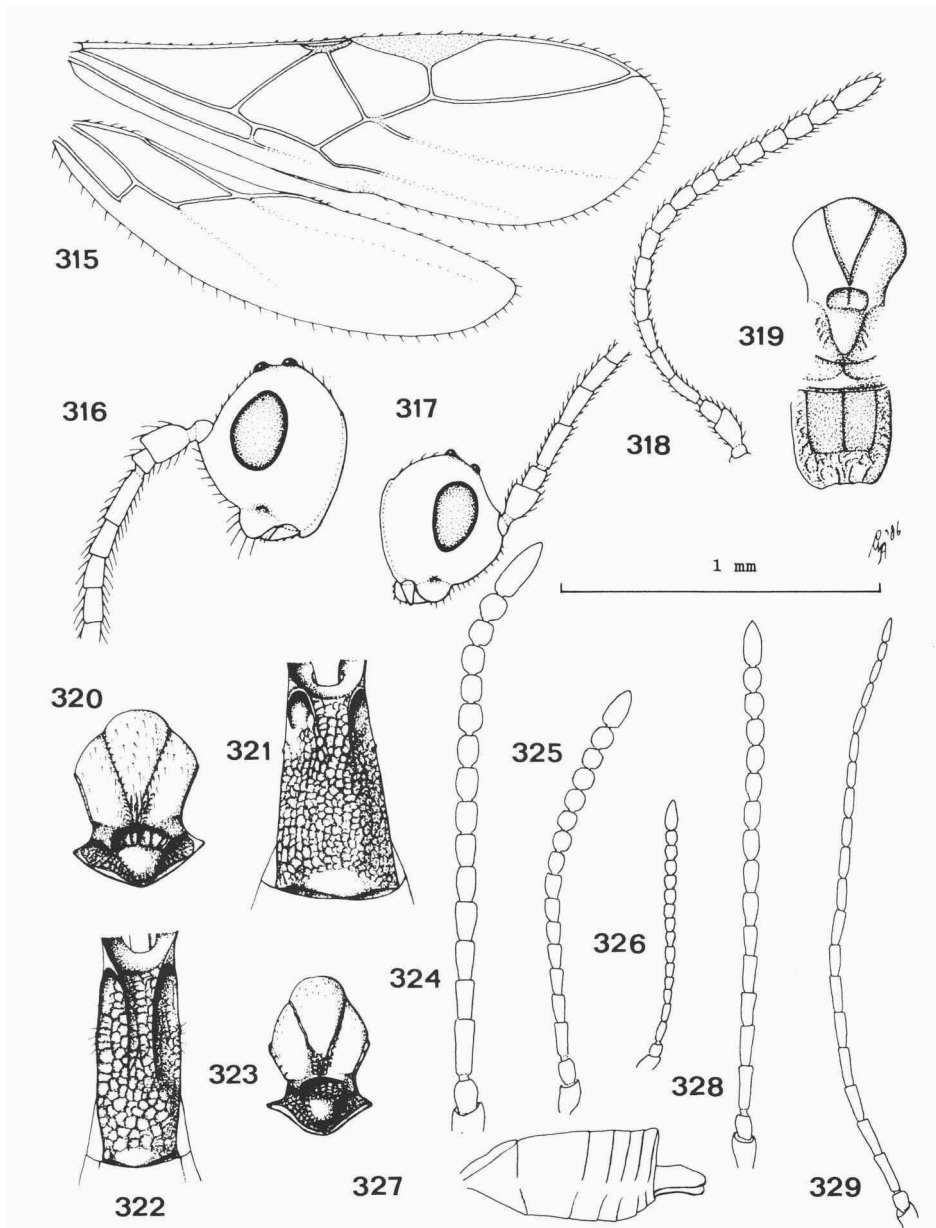
Figs. 284-291, *Blacus (Blacus) evilectus* spec. nov., ♀, holotype. 284, wings; 285, head, frontal aspect; 286, head, dorsal aspect; 287, habitus, lateral aspect; 288, first metasomal tergite, dorsal aspect; 289, hind claw; 290, hind leg; 291, mesosoma, dorsal aspect. 284, 287, 290: scale-line (= 1 x); 285, 286, 288, 291: 1.5 x; 289: 2 x.



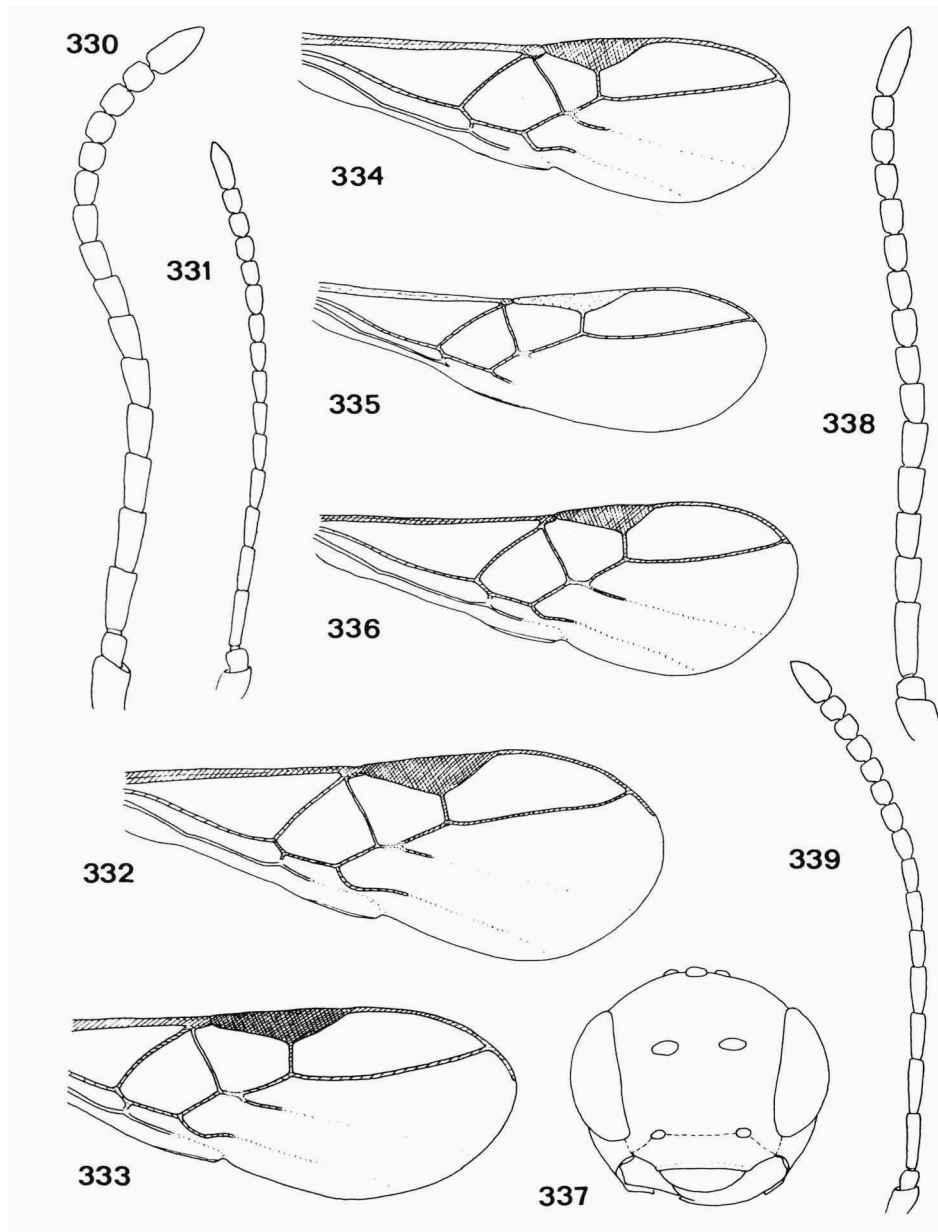
Figs. 292-301, *Blacus (Blacus) stelfoxi* Haeselbarth, ♀, Netherlands, Waarder. 292, habitus, lateral aspect; 293, apex of antenna; 294, wings; 295, fore claw; 296, hind claw; 297, head, frontal aspect; 298, hind claw; 299, head, dorsal view; 300, mesosoma, dorsal aspect; 301, first metasomal tergite, dorsal aspect. 292, 294, 296-297, 299-301: scale-line (= 1 x); 293, 295, 298: 2.5 x.



Figs. 302-309, 311, 313, *Blacus (Blacus) nivalis* spec. nov., ♀, holotype. 302, habitus, lateral aspect; 303, wings; 304, apex of antenna; 305, first metasomal tergite, dorsal aspect; 306, head, dorsal aspect; 307, hind leg; 308, head, frontal aspect; 309, hind femur; 311, hind claw; 313, mesosoma, dorsal aspect. Figs. 310, 312, 314, *Blacus (Blacus) leptostigma* Ruthe, ♀, Germany (Ruthe Coll.). 310, hind femur; 312, head and antenna, lateral aspect; 314, first metasomal tergite, dorsal aspect. 302, 303, 307, 312: scale-line (=1 x); 304, 309-311: 2.5 x; 305, 306, 308, 313, 314: 1.5 x.

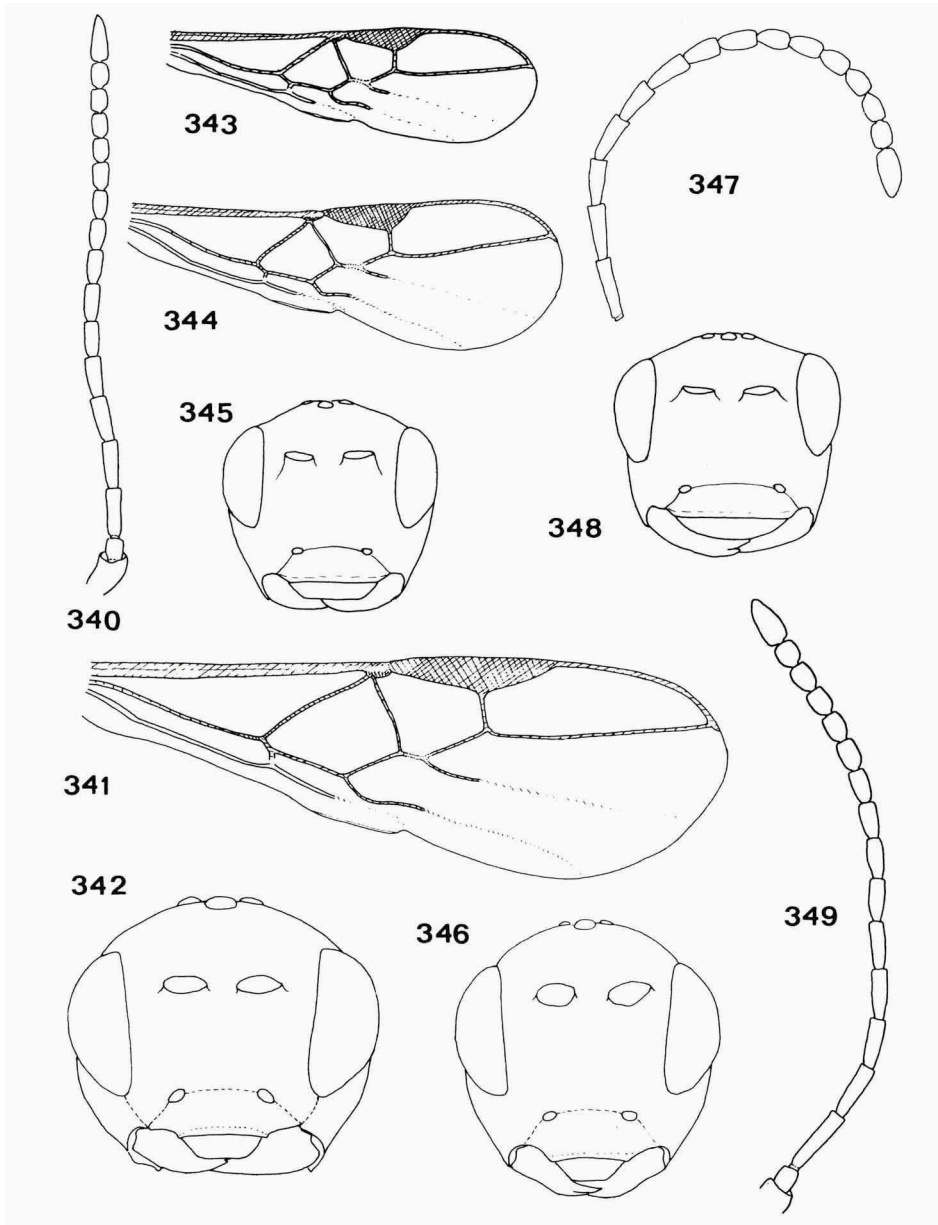


Figs. 315, 318, 319, *Blacus (Blacus) modestus* Haeselbarth, ♀, paratype; fig. 316, *Blacus (Blacus) exilis* (Nees), ♀, Netherlands, Hooerveen; fig. 317, id., ♀, Netherlands, Waarder; figs. 324-326, id., ♀, 324, var. B; 325, typical; 326, var. A; figs. 320, 321, *Blacus (Blacus) paganus* Haliday, Palaearctic form, ♀, Norway, Selva; figs. 322, 323, *Blacus (Blacus) longipennis* (Gravenhorst), ♀, Netherlands, Waarder; figs. 324, 327, *Blacus (Blacus) rufescens* Ruthe, ♂; fig. 328, *Blacus (Blacus) filicornis* Haeselbarth, ♀; fig. 329, *Blacus (Blacus) pappianus* Haeselbarth, ♂; 324-329, after Haeselbarth, 1973a. 315: 0.4 x; 316: 1.7 x; 317-319: scale-line (= 1 x); 320, 323: 0.8 x; 321, 322: 1.3 x.

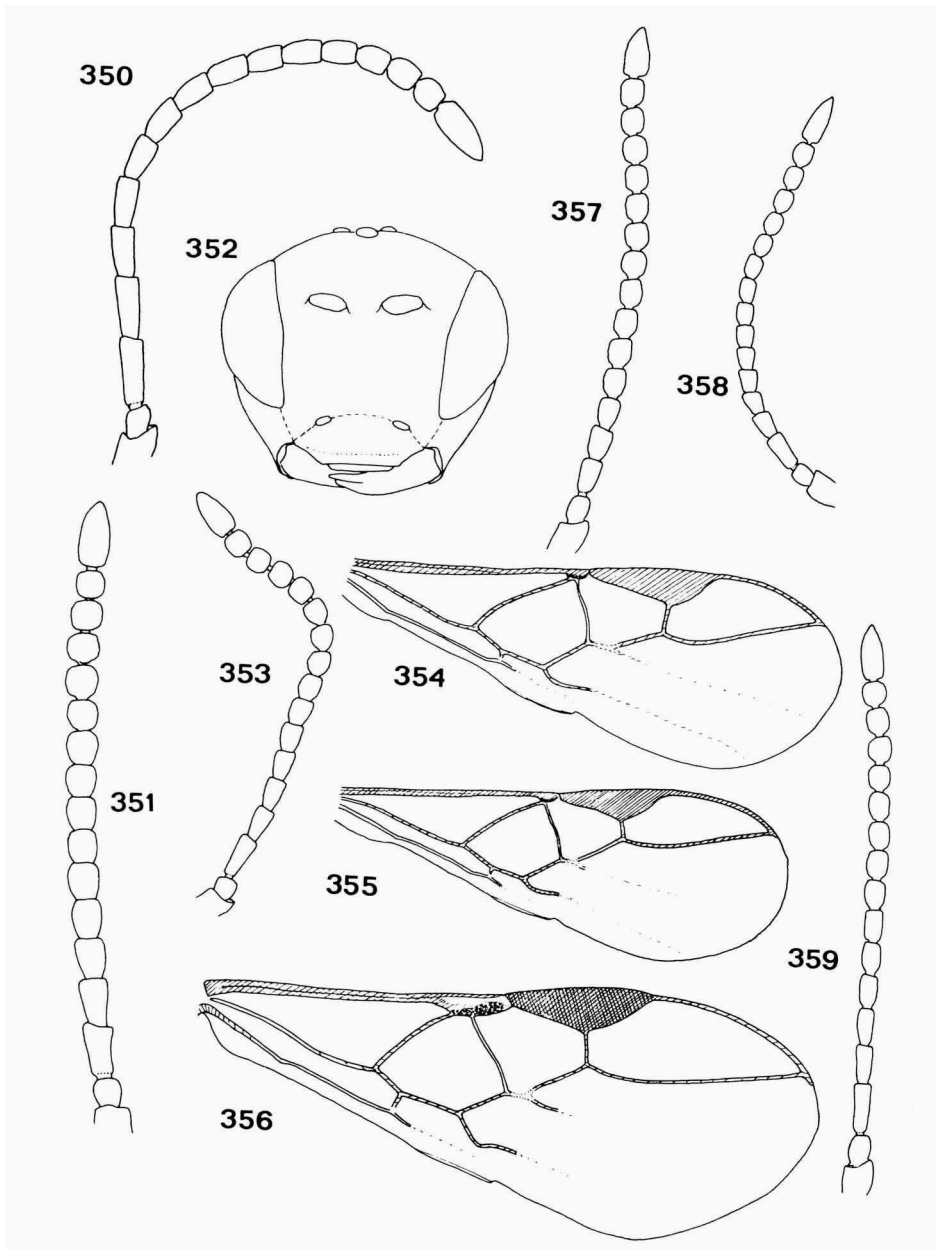


Figs. 330, 334, *Blacus (Blacus) rufescens* Ruthe, 330, ♀, 334, ♂; figs. 331, 335, *Blacus (Blacus) interstitialis* Ruthe, ♀; figs. 332, 337, 339, *Blacus (Blacus) nigricornis* Haeselbarth, ♀; fig. 333, *Blacus (Blacus) bovistae* Haeselbarth, ♀; figs. 336, 338, *Blacus (Blacus) hastatus* Haliday, ♀. After Haeselbarth, 1973a. 330, 331, 338, 339, antenna; 332-336, fore wing; 337, head, frontal aspect.





Figs. 340, 343-345, *Blacus (Blacus) pappianus* Haeselbarth, 340, 343, 345, ♀; 344, ♂; figs. 341, 342, 349, *Blacus (Blacus) errans* (Nees), ♀; figs. 347, 348, *Blacus (Blacus) procerus* Haeselbarth, ♀; fig. 346, *Blacus (Blacus) stelfoxi* Haeselbarth, ♀. After Haeselbarth, 1973a. 340, 347, 349, antenna; 341, 343, 344, fore wing; 342, 345, 346, 348, head, frontal aspect; 341, fore wing.



Figs. 350, 352, *Blacus (Blacus) hostilis* Haeselbarth, ♀; figs. 351, 356, *Blacus (Blacus) paganus* Haliday, 351, ♀; 356, ♂; fig. 353, *Blacus (Blacus) radialis* Haeselbarth, ♀; figs. 354, 359, *Blacus (Blacus) instabilis* Ruthe, ♀; fig. 355, *Blacus (Blacus) filicornis* Haeselbarth, ♀; fig. 357, *Blacus (Blacus) maryi* Hellén, ♀; fig. 358, *Blacus (Blacus) tobiae* Haeselbarth, ♀. After Haeselbarth, 1973a. 350, 351, 353, 357-359, antenna; 352, head, frontal aspect; 354-356, fore wing.

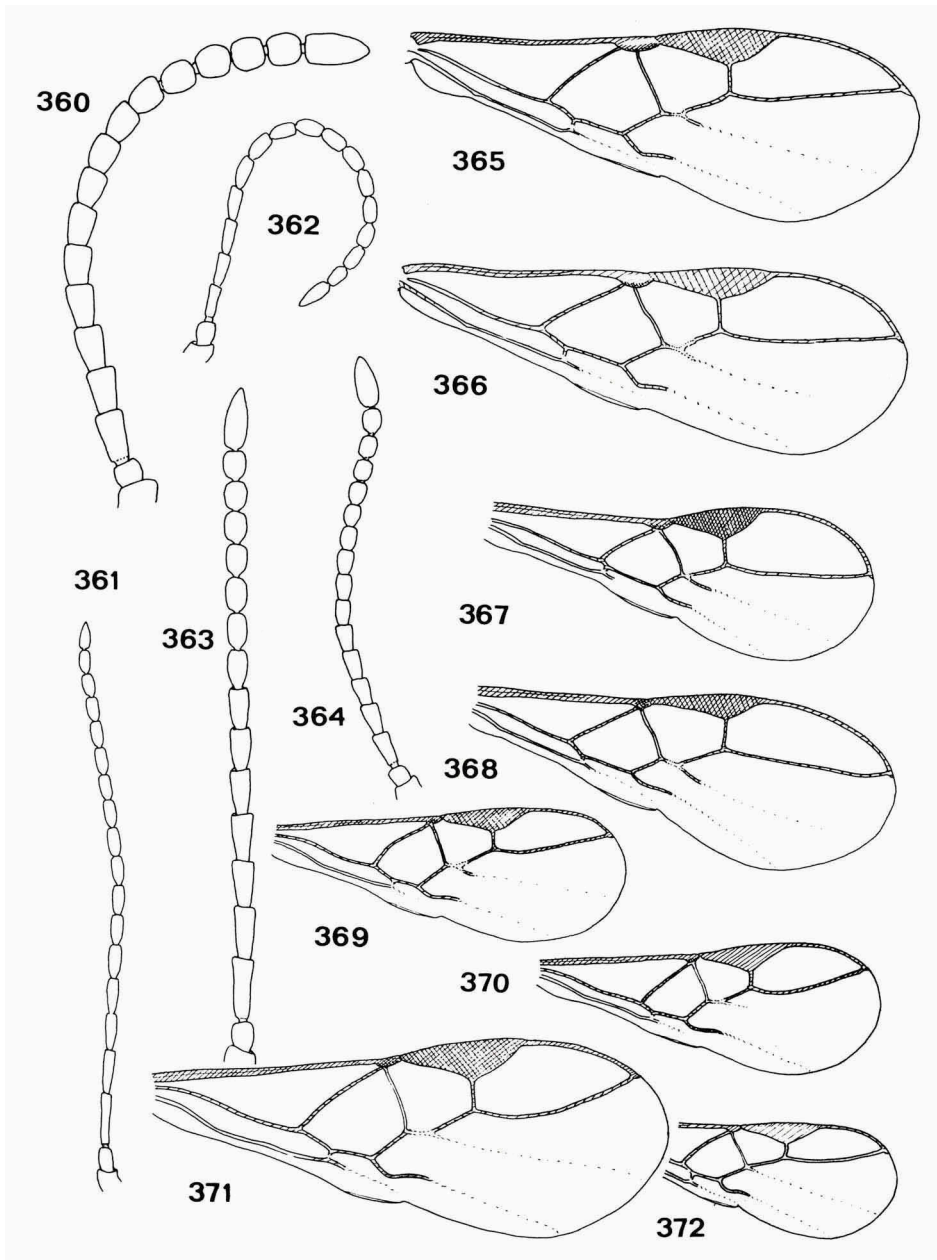


Fig. 360, *Blacus (Blacus) forticornis* Haeselbarth, ♀; figs. 361, 367, *Blacus (Tarpheion) achterbergi* Haeselbarth, ♀; figs. 362, 368, *Blacus (Leioblacus) fischeri* Haeselbarth, ♀; figs. 363, 366, *Blacus (Blacus) longipennis* (Gravenhorst), ♀; figs. 364, 365, *Blacus (Blacus) humilis* (Nees), ♀; figs. 369-372, *Blacus (Blacus) exilis* (Nees), 369, ♀, typical; 370, ♀, var. A; 371, ♀ var. B; 372, ♂, var. A. After Haeselbarth, 1973a. 360-364, antenna; 365-372, fore wing.

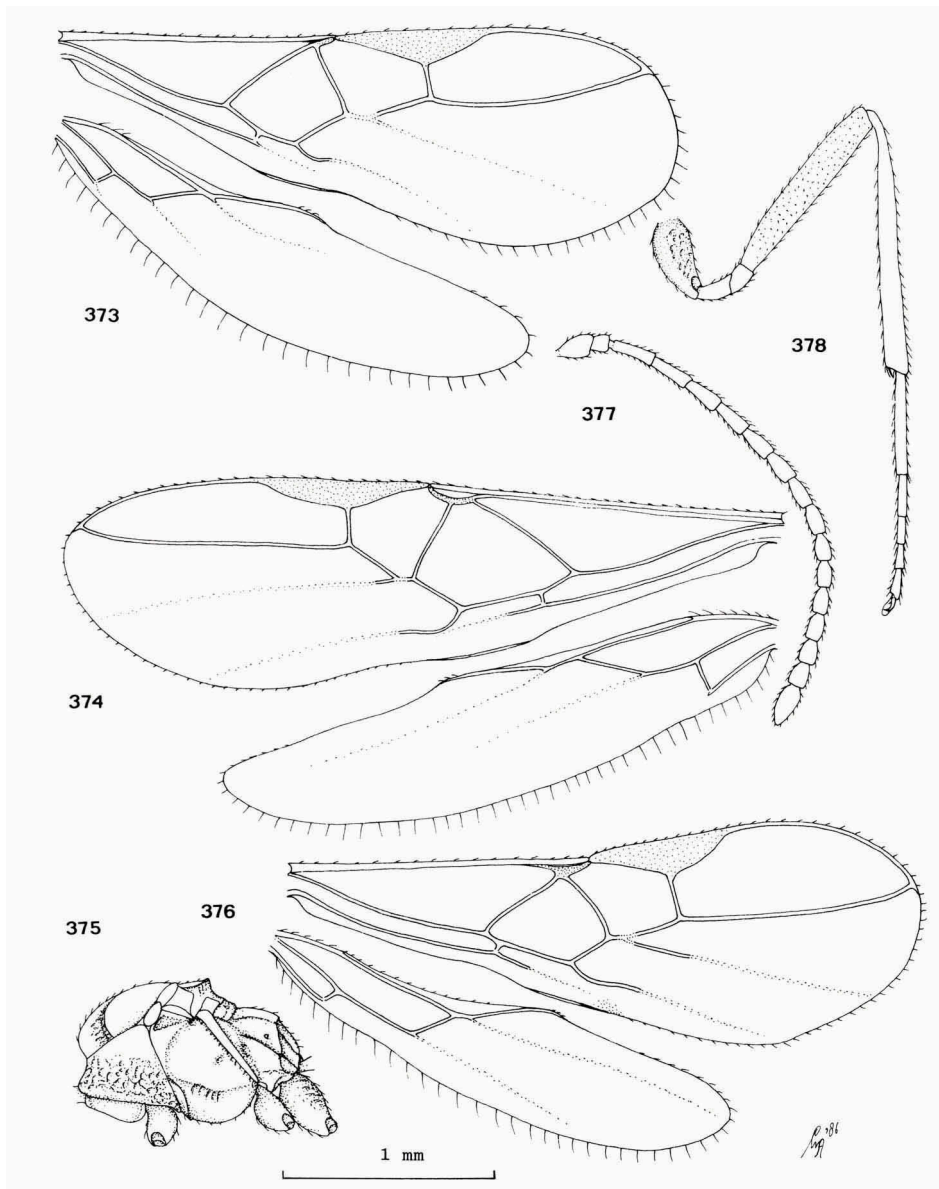
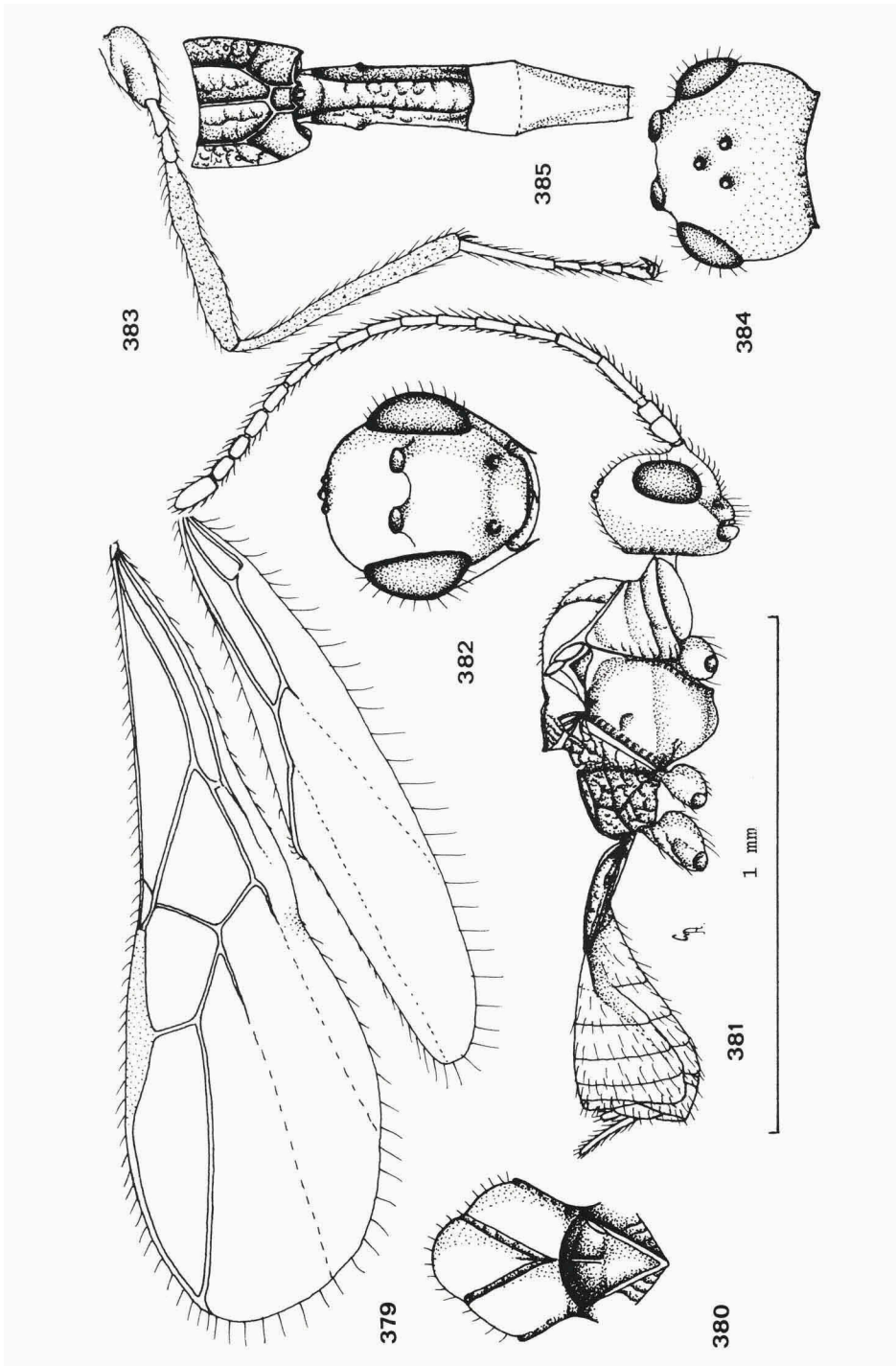
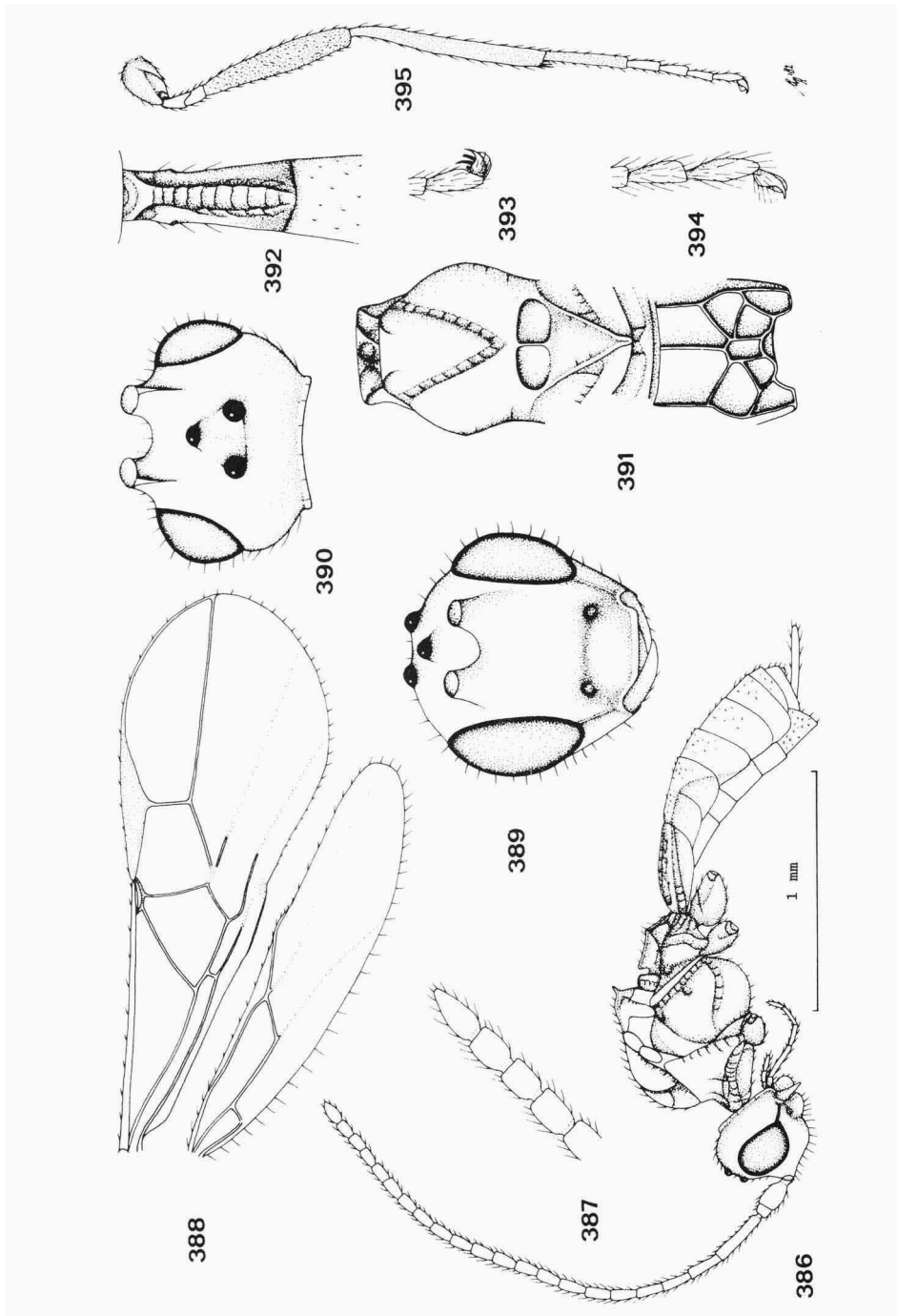


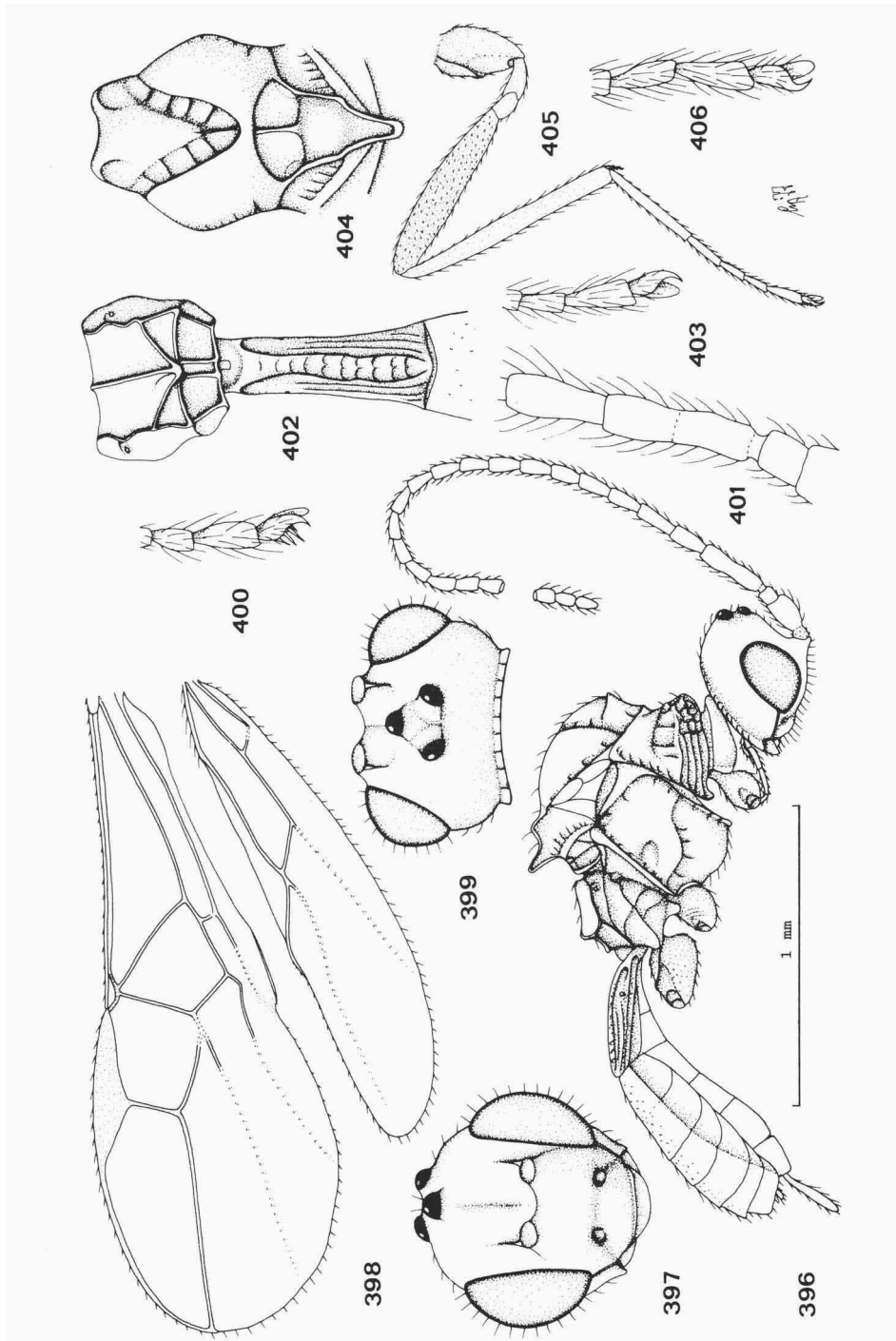
Fig. 373, *Blacus (Blacus) leptostigma* Ruthe, ♀, Germany, Ruthe Coll. ; figs. 374, 377, 378, *Blacus (Blacus) imitator* Papp, ♀, holotype; figs. 375, 376, *Blacus (Tarpheion) vorrus* Papp, ♀, holotype. 373, 374, 376, wings; 375, mesosoma, lateral aspect; 377, antenna; 378, hind leg. 373, 375, 377, 378: 1.5 x; 374, 376: scale-line (= 1 x).



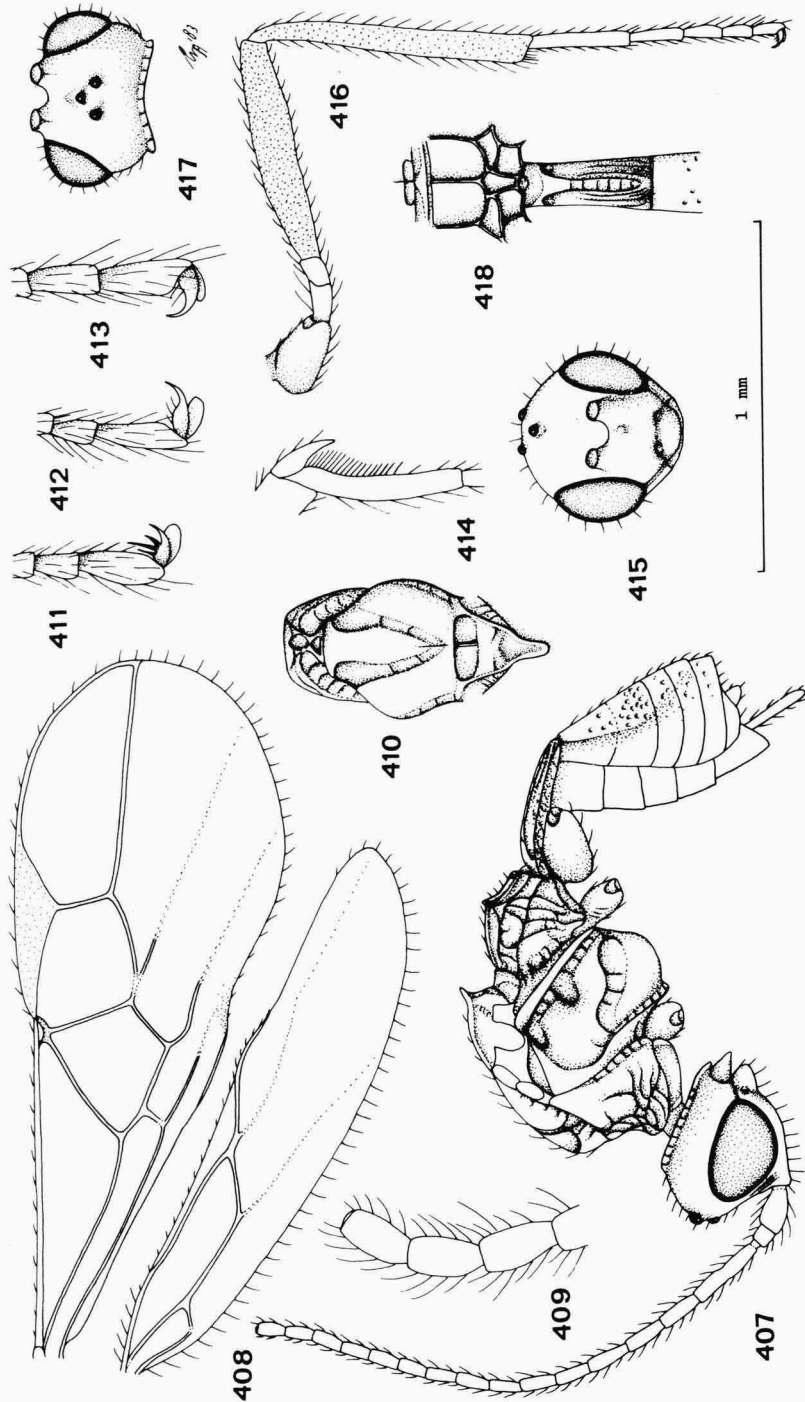
Figs. 379-385, *Blacus (Contochorus) glaber* Van Achterberg, ♀, holotype. 379, wings; 380, mesonotum, dorsal aspect; 381, habitus, lateral aspect; 382, head, frontal aspect; 383, hind leg; 384, head, dorsal aspect; 385, propodeum, first-third metasomal tergites, dorsal aspect. 379, 381, 383: scale-line (= 1 x); 380, 382, 384, 385: 1.5 x.



Figs. 386-395, *Blacus (Contochorus) turbidus* Papp, ♀, Nepal, Godavari. 386, habitus, lateral aspect; 387, apex of antenna; 388, wings; 389, head, frontal aspect; 390, head, dorsal aspect; 391, mesosoma, dorsal aspect; 392, first metasomal tergite, dorsal aspect; 393, fore claw; 394, hind claw; 395, hind leg. 386, 388, 395: scale-line (= 1 x); 387, 393, 394: 2.5 x; 389-392: 2 x.

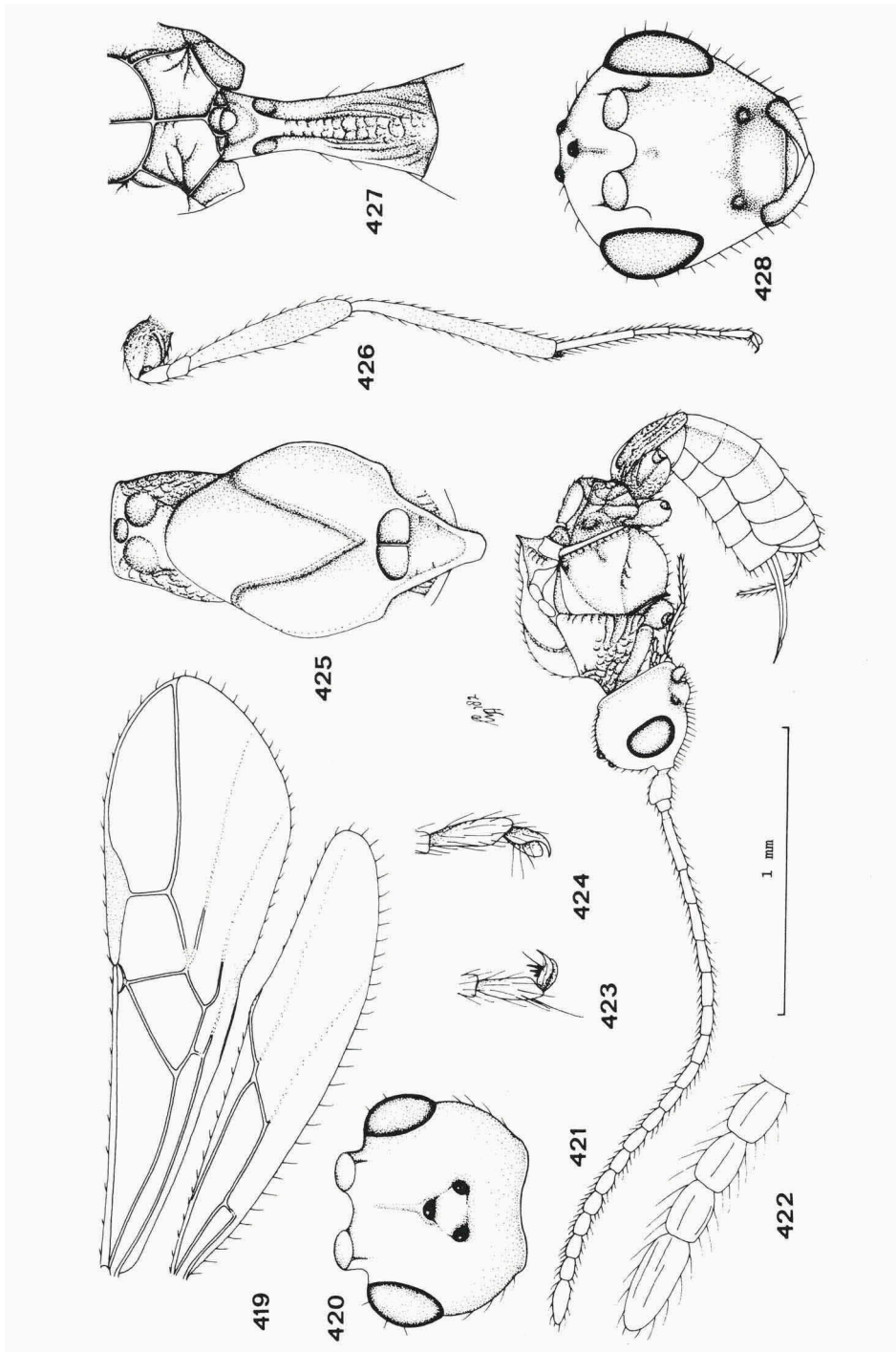


Figs. 396-406, *Blacus (Contochorus) epomidus* spec. nov., ♀, holotype. 396, habitus, lateral aspect; 397, head, frontal aspect; 398, wings; 399, head, dorsal aspect; 400, fore claw; 401, second-fourth antennal segments; 402, propodeum and first metasomal tergite; 403, middle claw; 404, mesonotum, dorsal aspect; 405, hind leg; 406, hind claw. 396, 398, 405: scale-line (= 1 x); 397, 399, 402, 404: 1.5 x; 400, 401, 403, 406: 2.5 x.

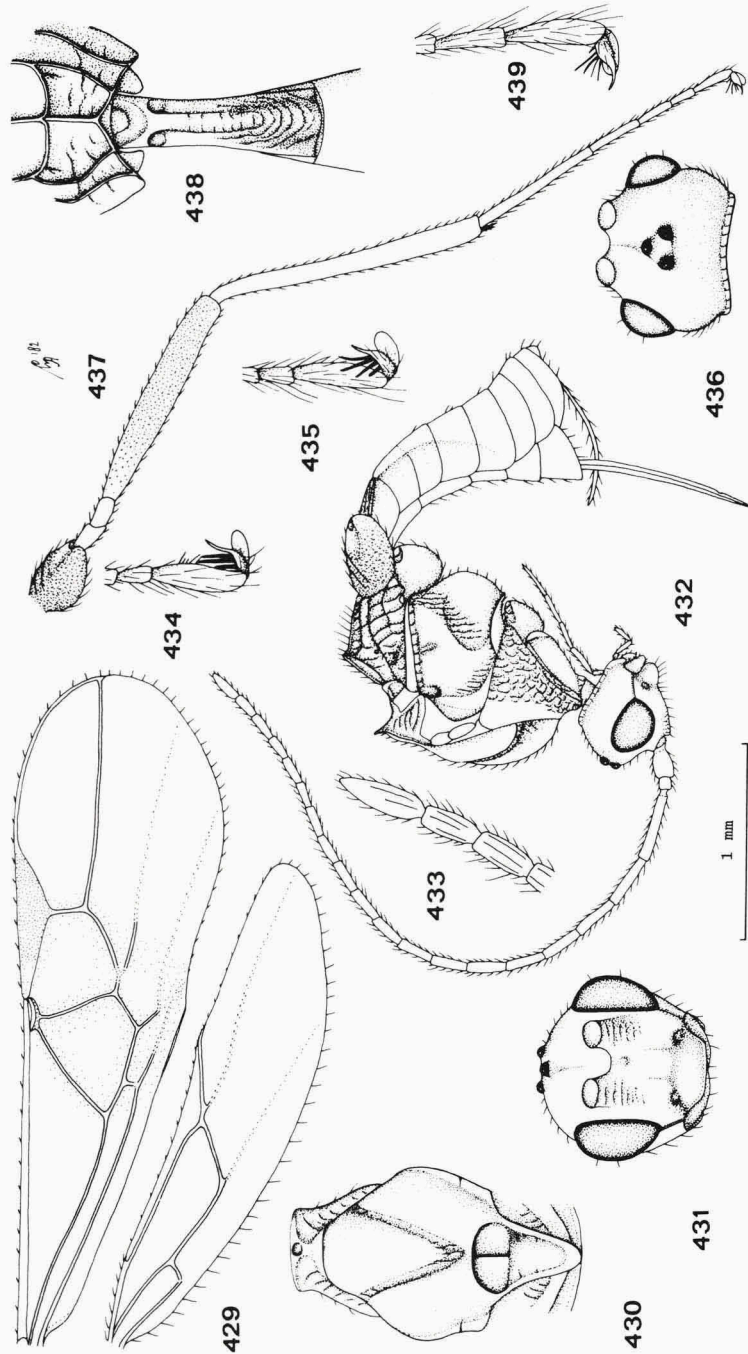


Figs. 407-418, *Blacus (Contochorus) mellitarsis* spec. nov., ♀, holotype. 407, habitus, lateral aspect; 408, wings; 409, subapical antennal segments; 410, thorax, dorsal aspect; 411, fore claw; 412, middle claw; 413, hind claw; 414, fore spur; 415, head, frontal aspect; 416, hind leg; 417, head, dorsal aspect; 418, propodeum and first metasomal tergite, dorsal aspect. 407, 408, 410, 415-417: scale-line (= 1 x); 409, 411-414: 2.5 x.

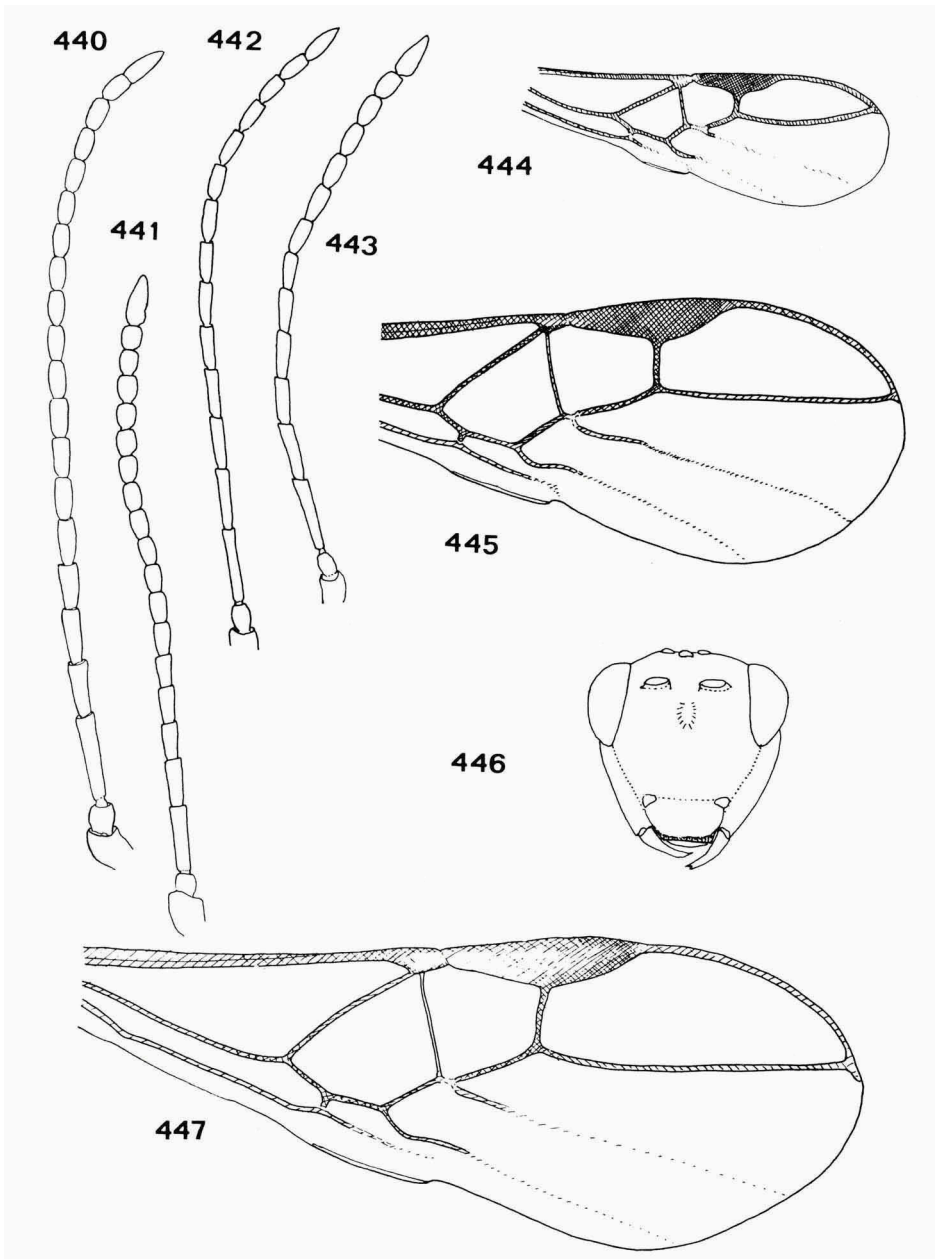




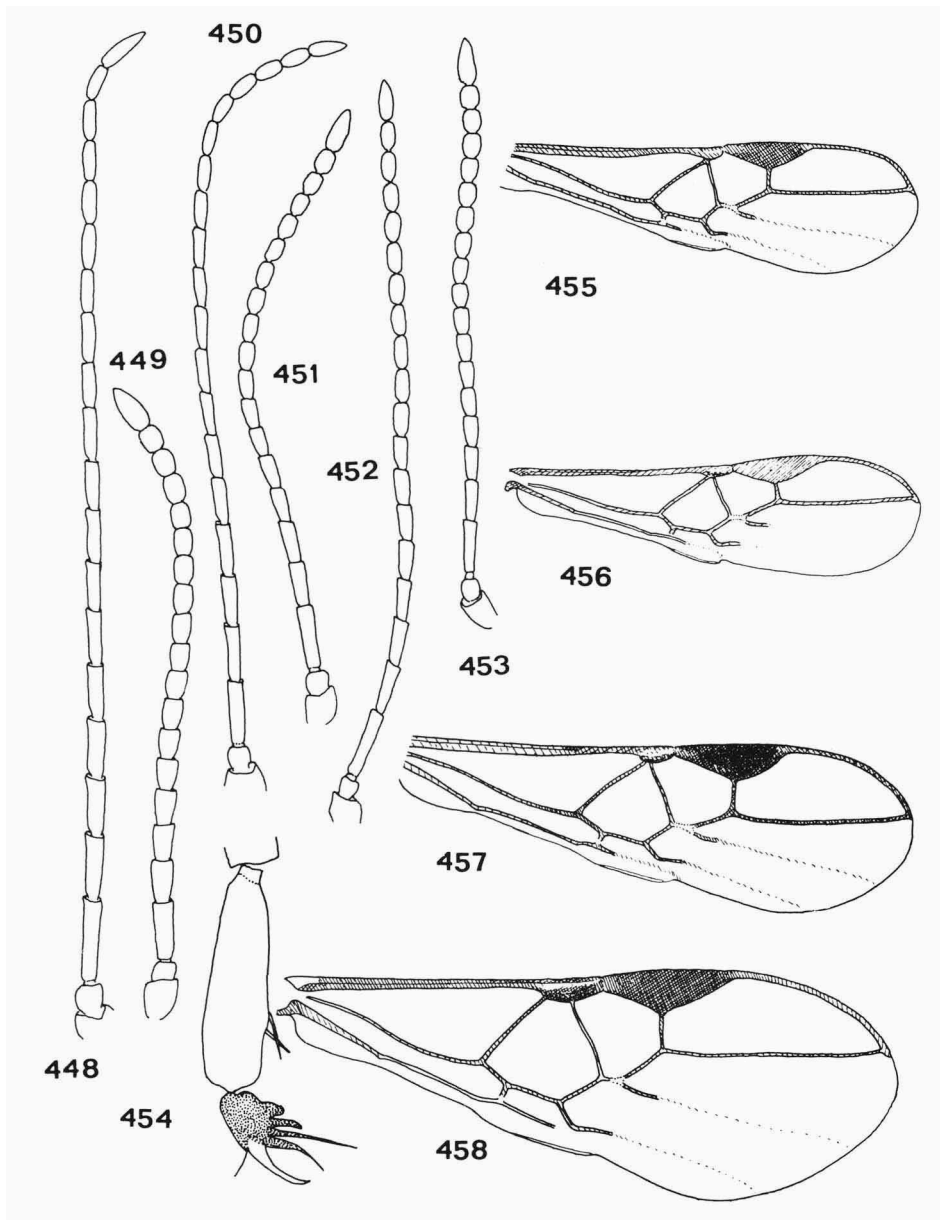
Figs. 419-428, *Blacus (Ganychorus) pisinnus* spec. nov., ♀, holotype. 419, wings; 420, head, dorsal aspect; 421, habitus, lateral aspect; 422, apex of antenna; 423, fore claw; 424, hind claw; 425, thorax, dorsal aspect; 426, hind leg; 427, propodeum and first metasomal tergite, dorsal aspect; 428, head, frontal aspect. 419, 421, 426: scale-line (= 1 x); 420, 425, 427, 428: 1.8 x; 422-424: 2.5 x.



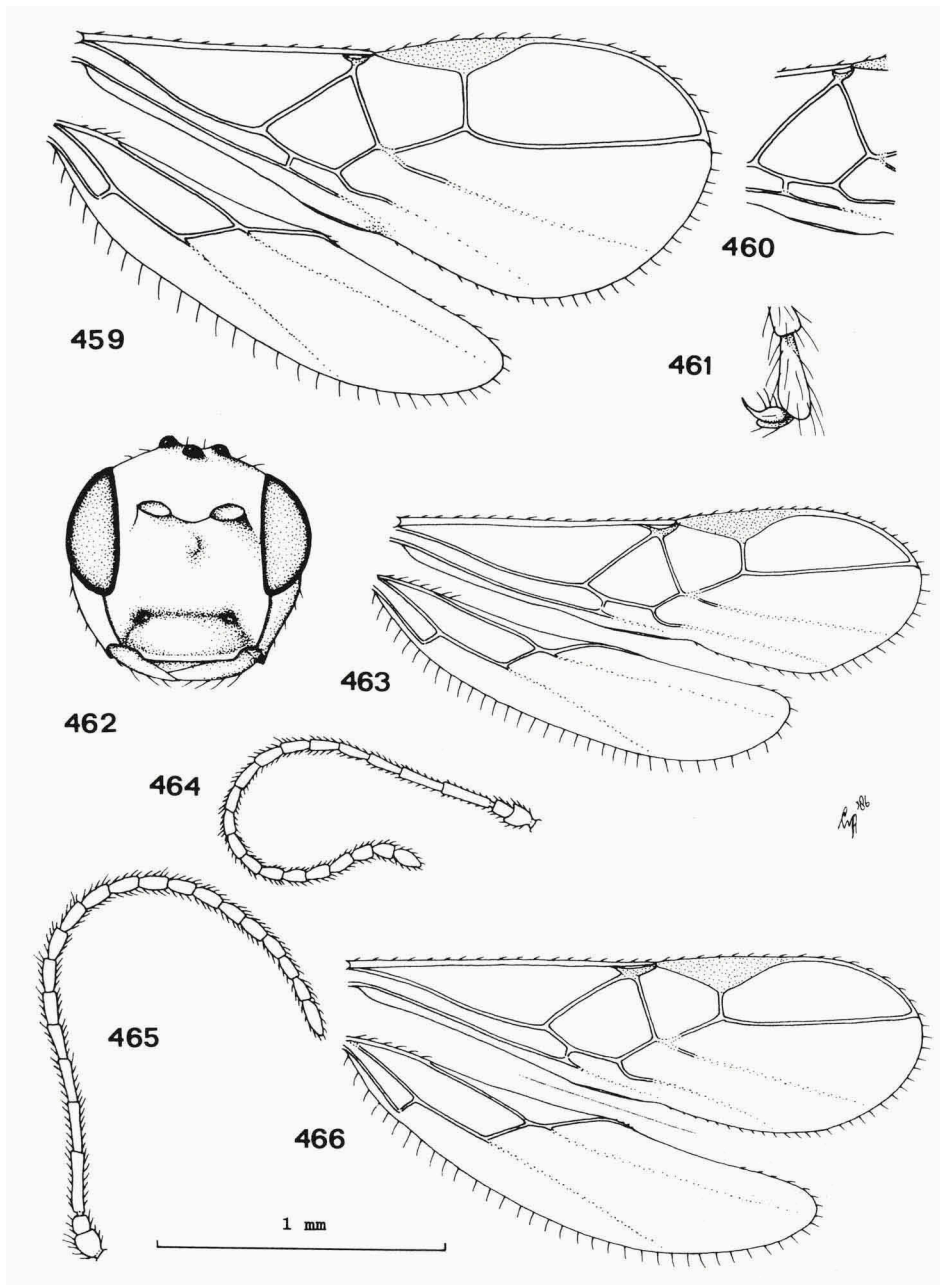
Figs. 429-439, *Blacus (Ganychorus) fulviceps* spec. nov., ♀, holotype. 429, wing; 430, thorax, dorsal aspect; 431, head, frontal aspect; 432, habitus, lateral aspect; 433, apex of antenna; 434, fore claw; 435, middle claw; 436, head, dorsal aspect; 437, hind leg; 438, propodeum and first metasomal tergite, dorsal aspect; 439, hind claw. 429, 432, 437: scale-line (= 1 x); 430, 431, 436, 438: 1.5 x; 433-435, 439: 2.5 x.



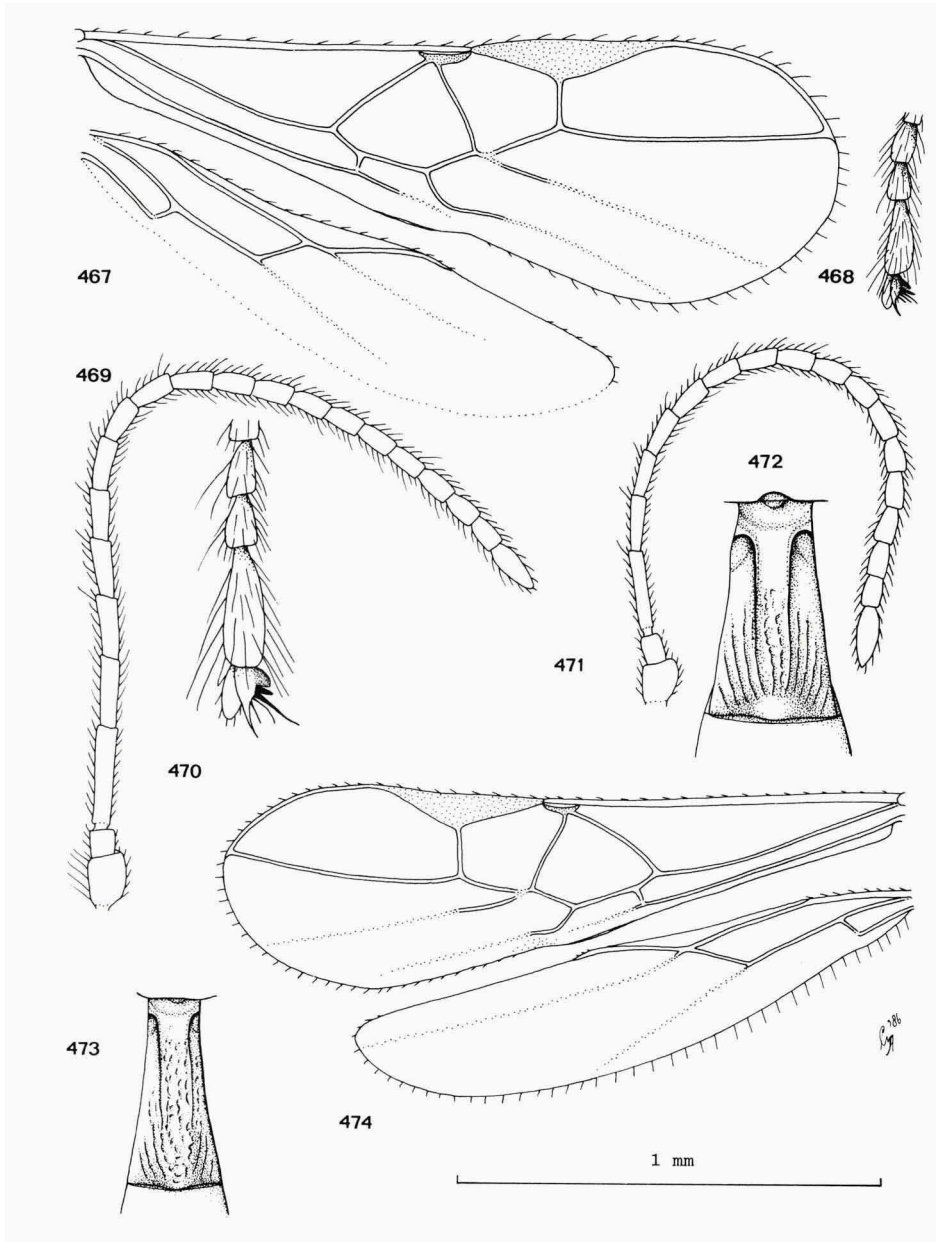
Figs. 440, 445, *Blacus (Ganychorus) nitidus* Haeselbarth, ♀; figs. 441, 446, *Blacus (Ganychorus) armatulus* Ruthe, ♀; figs. 442-444, *Blacus (Ganychorus) strictus* Stelfox, 442, ♂; 443, 444, ♀; fig. 447, *Blacus (Ganychorus) pallipes* Haliday, ♀. After Haeselbarth, 1973a. 440-443, antenna; 444, 445, 447, fore wing; 446, head, frontal aspect.



Figs. 448, 449, 457, 458, *Blacus (Ganychorus) maculipes* Wesmael, 448, 458, ♂; 449, 457, ♀; figs. 450, 451, 454, *Blacus (Ganychorus) macropterus* Haeselbarth, 450, ♂; 451, 454, ♀; figs. 452, 453, 455, 456, *Blacus (Ganychorus) diversicornis* (Nees), 452, 456, ♂; 453, 455, ♀. After Haeselbarth, 1973a. 448-453: antenna; 454, hind claw; 455-458, fore wing.



Figs. 459-461, *Blacus (Ganychorus) mischocytus* Van Achterberg, ♀, North Borneo; figs. 462-466, *Blacus (Ganychorus) diversicornis* (Nees), ♂, 462-464, Netherlands, Nunspeet; 465-466, Netherlands, Waarder. 459, 463, 466, wings; 460, detail of opposite fore wing of 459; 461, fore claw; 462, head, frontal aspect; 464, 465, antenna. 459, 460: 1.2 x; 461: 2.8 x; 462: 2 x; 463-466: scale-line (= 1 x).



Figs. 467, 468, 471, 472, *Blacus (Ganychorus) applicatus* Papp, ♀, holotype; figs. 469, 470, 473, 474, *Blacus (Ganychorus) dolosus* Papp, ♀, holotype. 467, 474, wings; 468, 470, middle claw; 469, 471, antenna; 472, 473, first metasomal tergite, dorsal aspect. 467, 469, 473: scale-line (= 1 x); 468, 470, 472: 1.9 x; 471: 1.2 x; 474: 0.6 x.

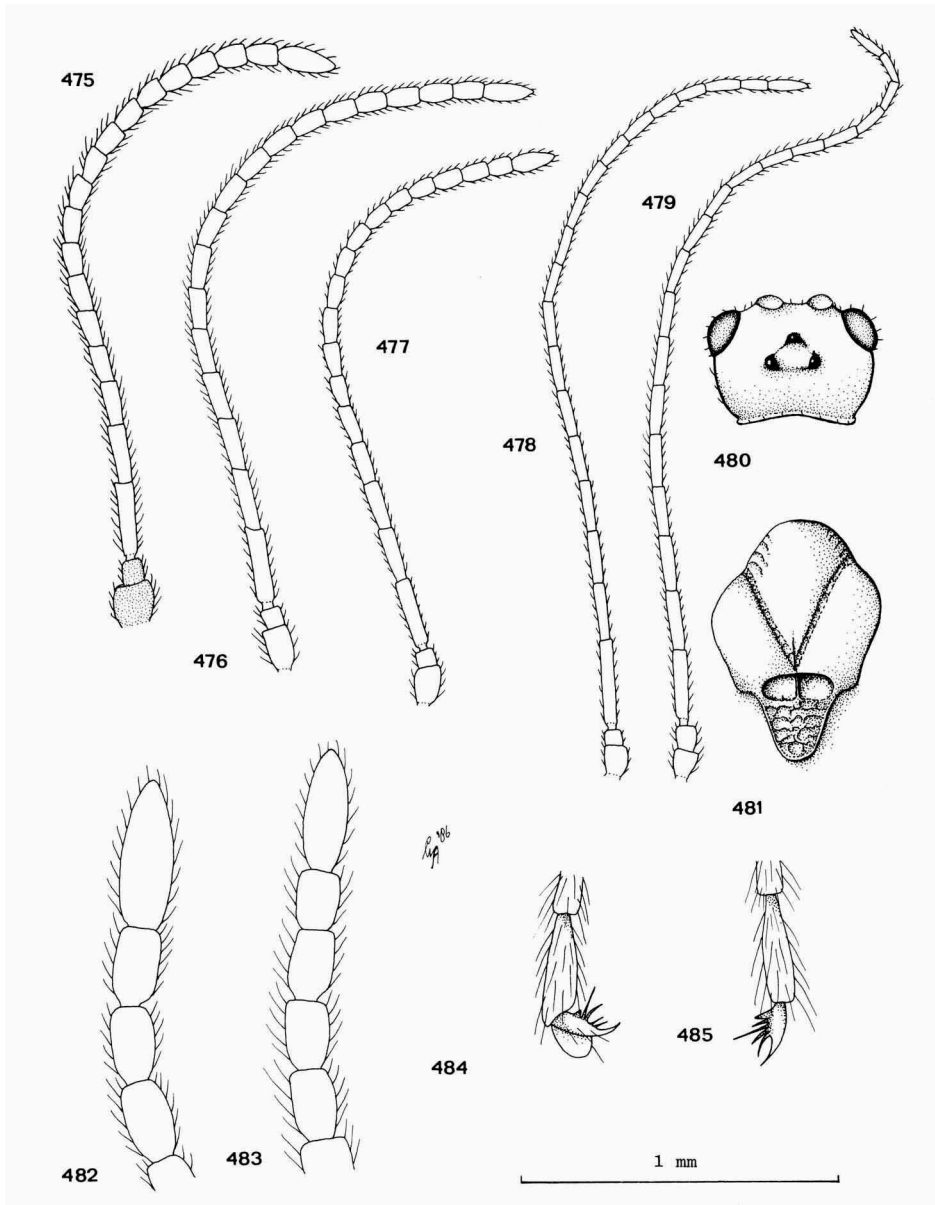


Fig. 475, *Blacus (Ganychorus) diversicornis* (Nees), ♀, Netherlands, Oegstgeest; figs. 476, 478, 482, 484, *Blacus (Ganychorus) ruficornis* (Nees), 476, 482, 484, ♀, West Germany, Harthausen; 478, ♂, West Germany, Eberschütz; figs. 477, 479, 483, 485, *Blacus (Ganychorus) pectinatus* Haeselbarth, 477, 483, 485, ♀, paratype; 479, ♂, paratype; figs. 480, 481, *Blacus (Hysterobolus) robustus* Haeselbarth, ♀, paratype. 475-479, antenna; 480, head, dorsal aspect; 481, mesonotum, dorsal aspect; 482, 483, apex of antenna; 484, 485, outer hind claw. 475-479: 1.3 x; 476-481: scale-line (= 1 x); 482-485: 2.5 x.

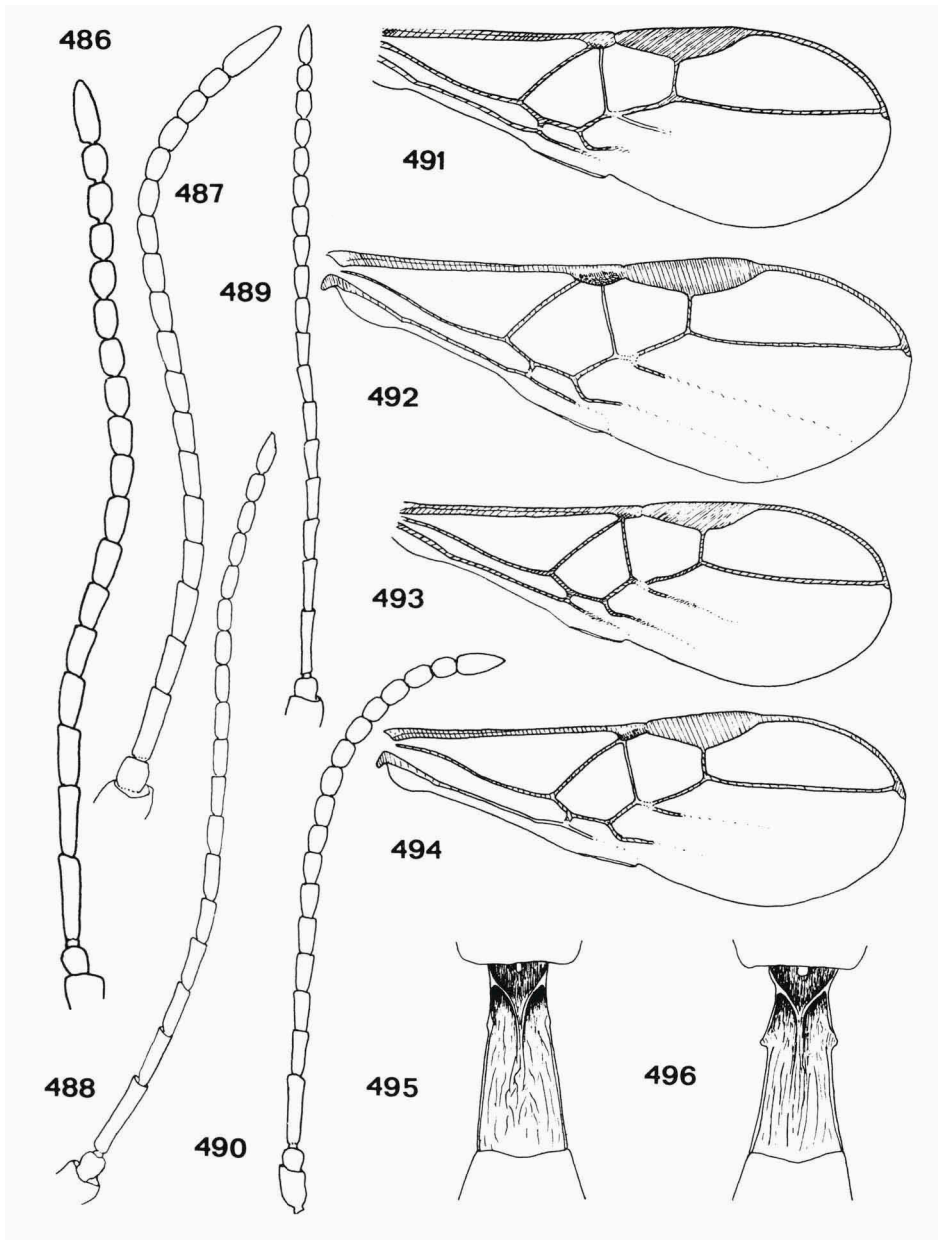
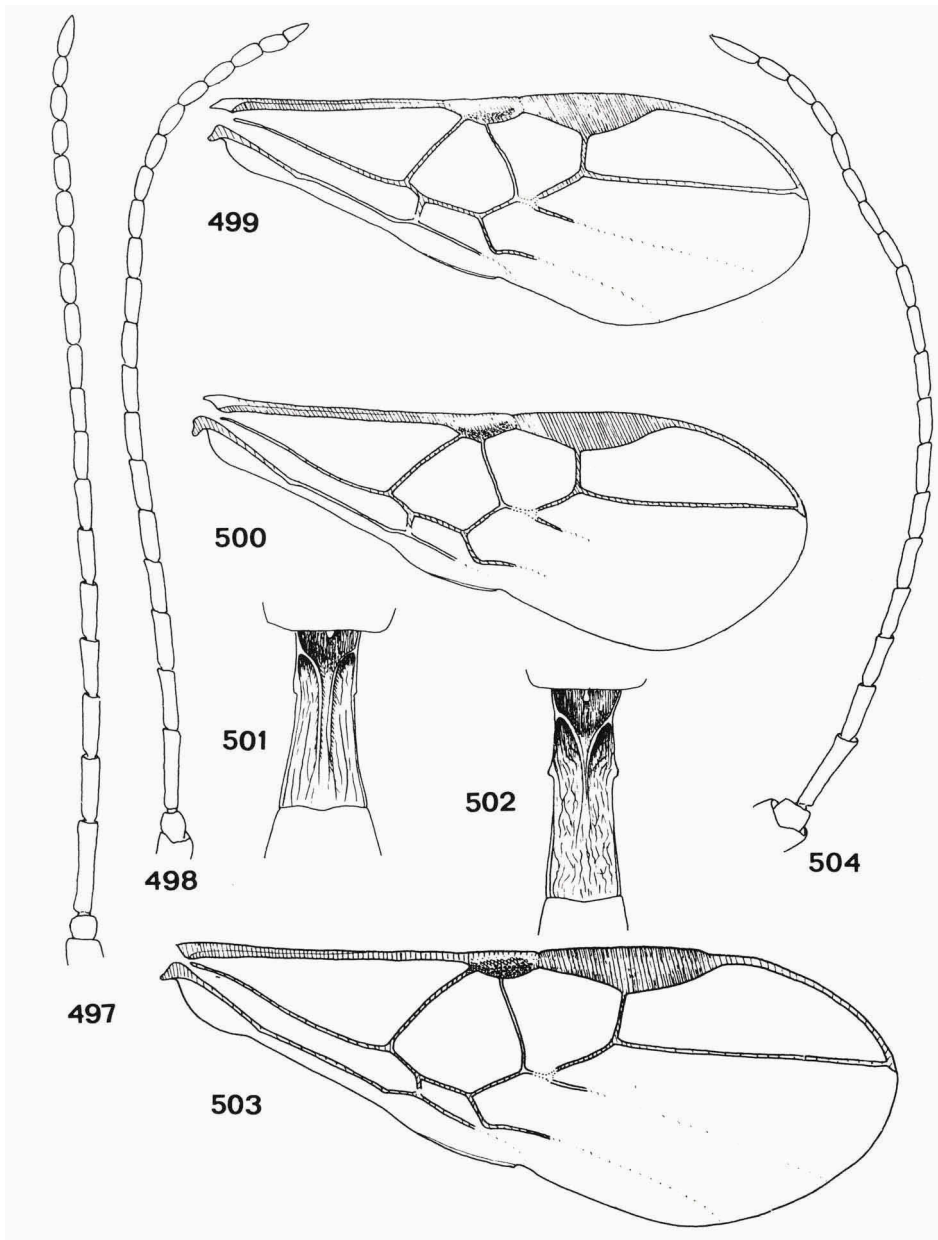
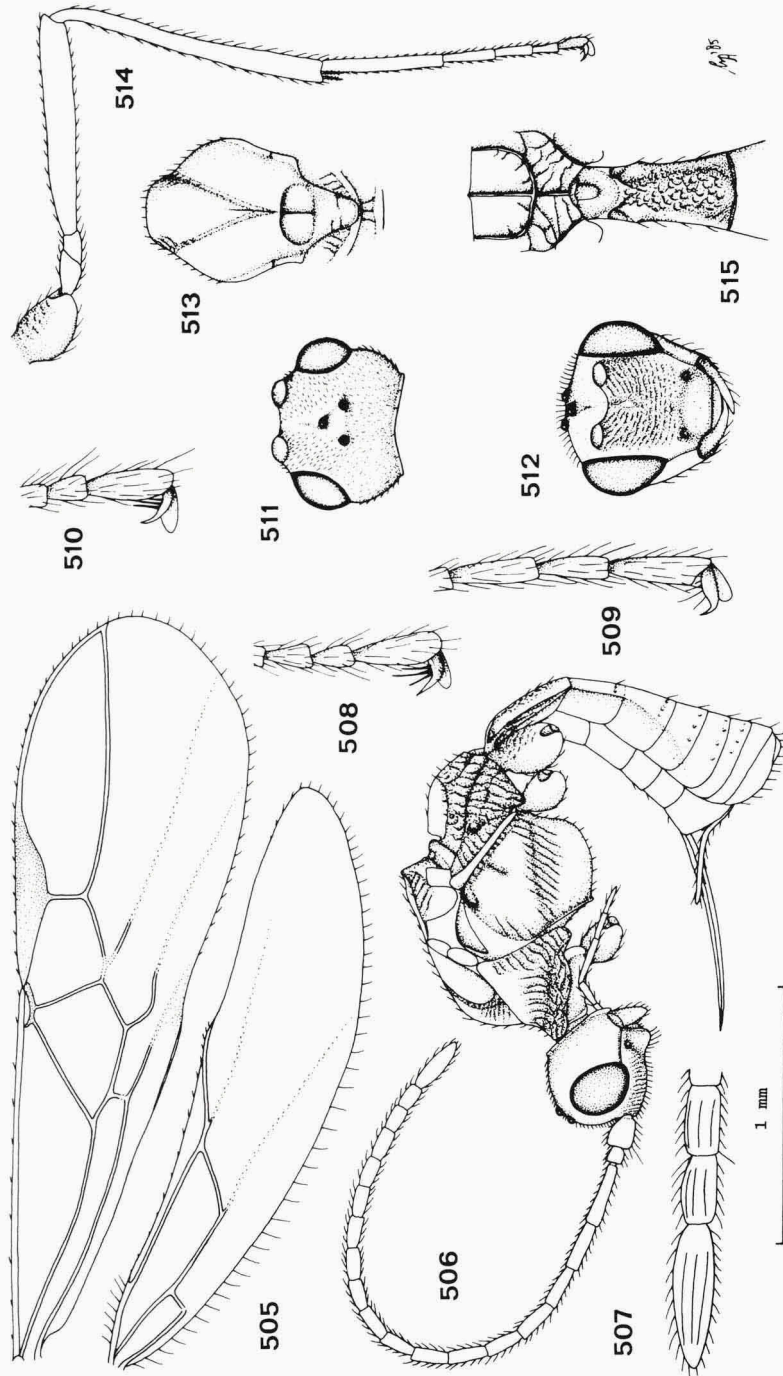


Fig. 486, *Blacus (Ganychorus) kaszabi* Haeselbarth, ♀, holotype; fig. 487, *Blacus (Ganychorus) koenigsmanni* Haeselbarth, ♀; figs. 488, 490-492, 495, *Blacus (Ganychorus) capeki* Haeselbarth, 488, 492, 495, ♂; 490, 491, ♀; ; figs. 489, 493, 494, *Blacus (Ganychorus) conformis* Wesmael, 489, 494, ♂; 493, ♀; fig. 496, *Blacus (Ganychorus) ruficornis* (Nees), ♂. After Haeselbarth, 1973a (but 486 after 1973b). 486-490, antenna; 491-494, fore wing; 495, 496, first metasomal tergite, dorsal aspect.

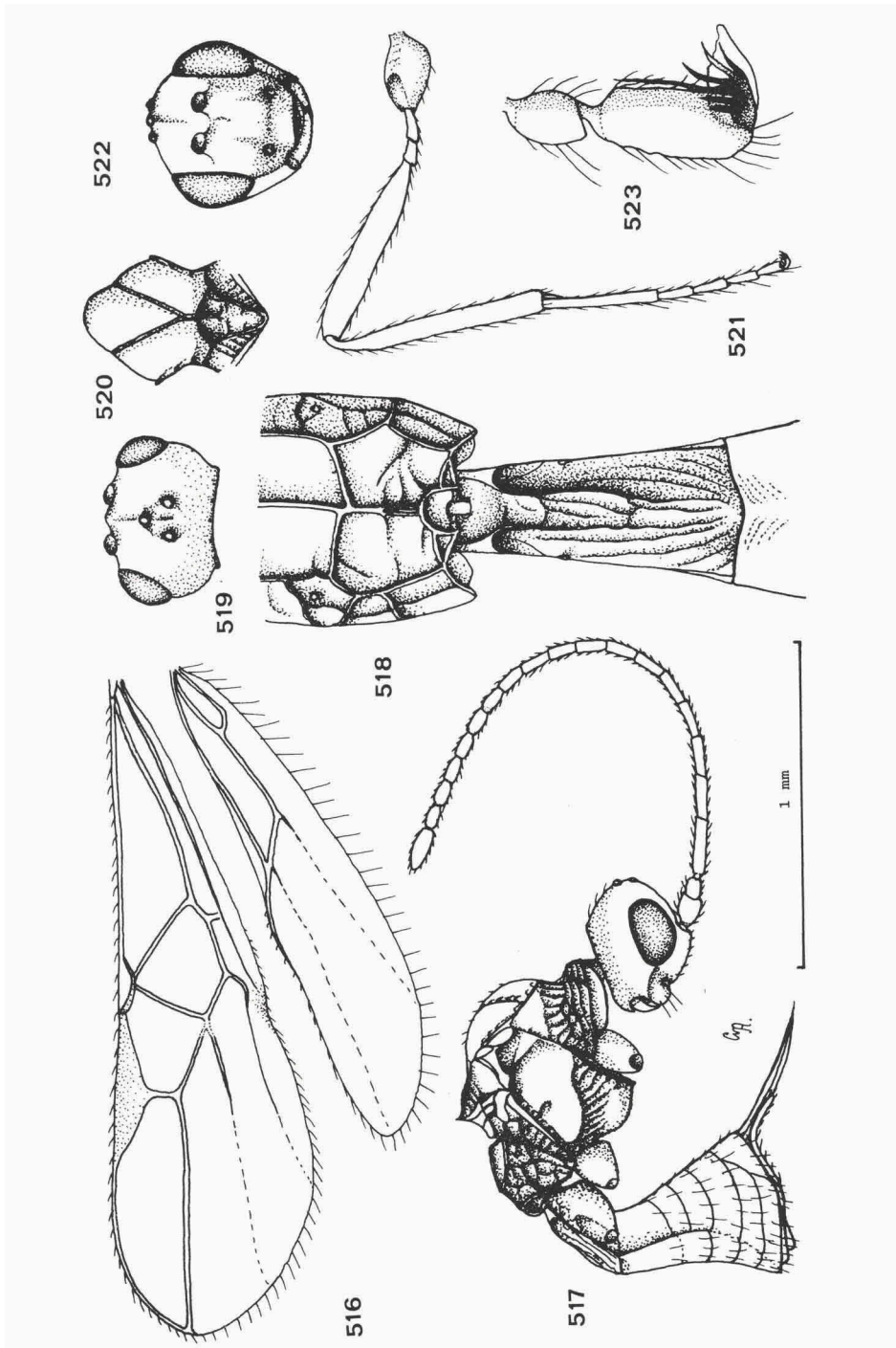




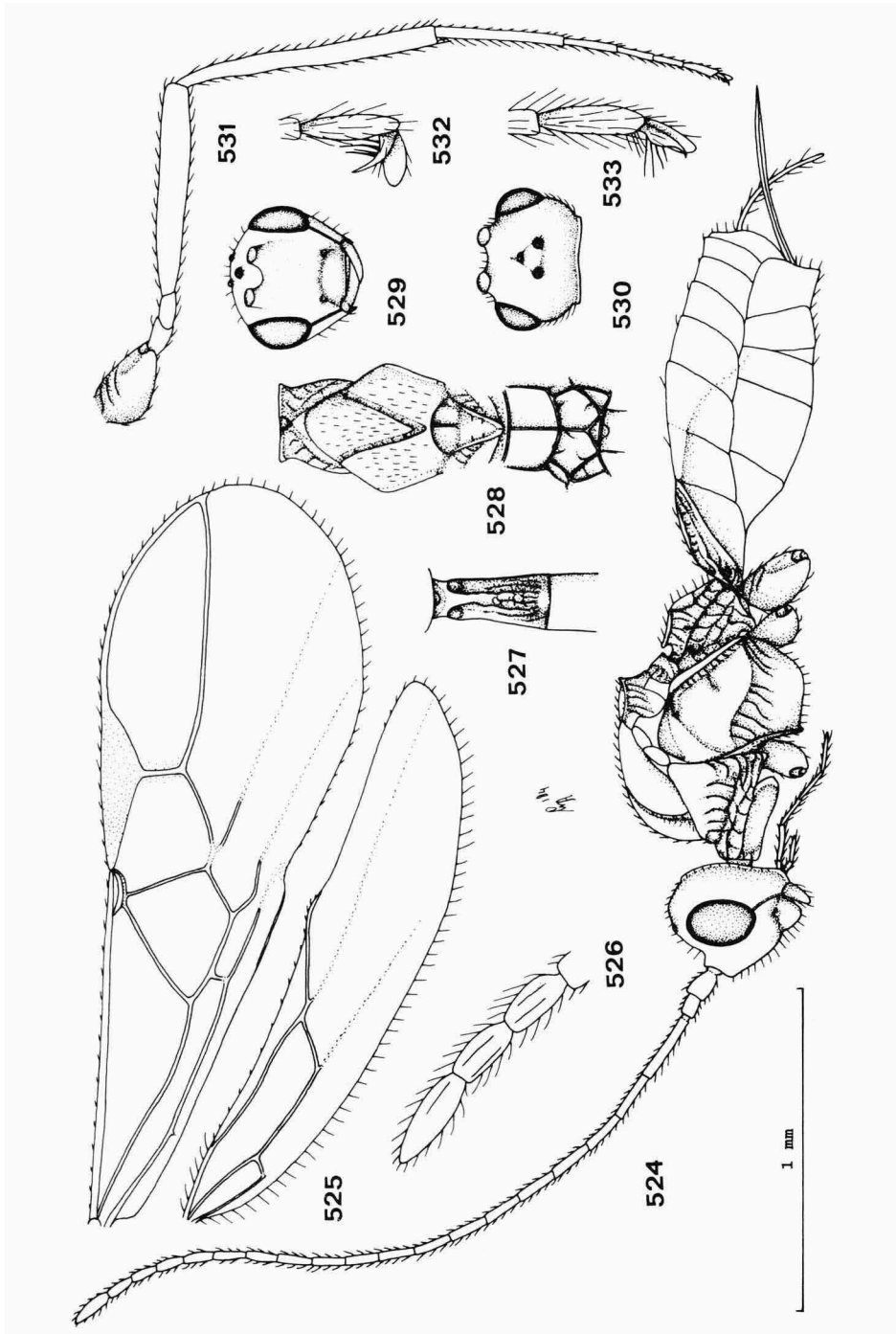
Figs. 497, 502, 503, *Blacus (Ganychorus) tripudians* Haliday, ♂; figs. 498, 500, *Blacus (Ganychorus) ruficornis* (Nees), ♂; figs. 499, 501, 504, *Blacus (Ganychorus) pectinatus* Haeselbarth, ♂. After Haeselbarth, 1973a. 497, 498, 504, antenna; 499, 500, 503, fore wing; 501, 502, first metasomal tergite, dorsal aspect.



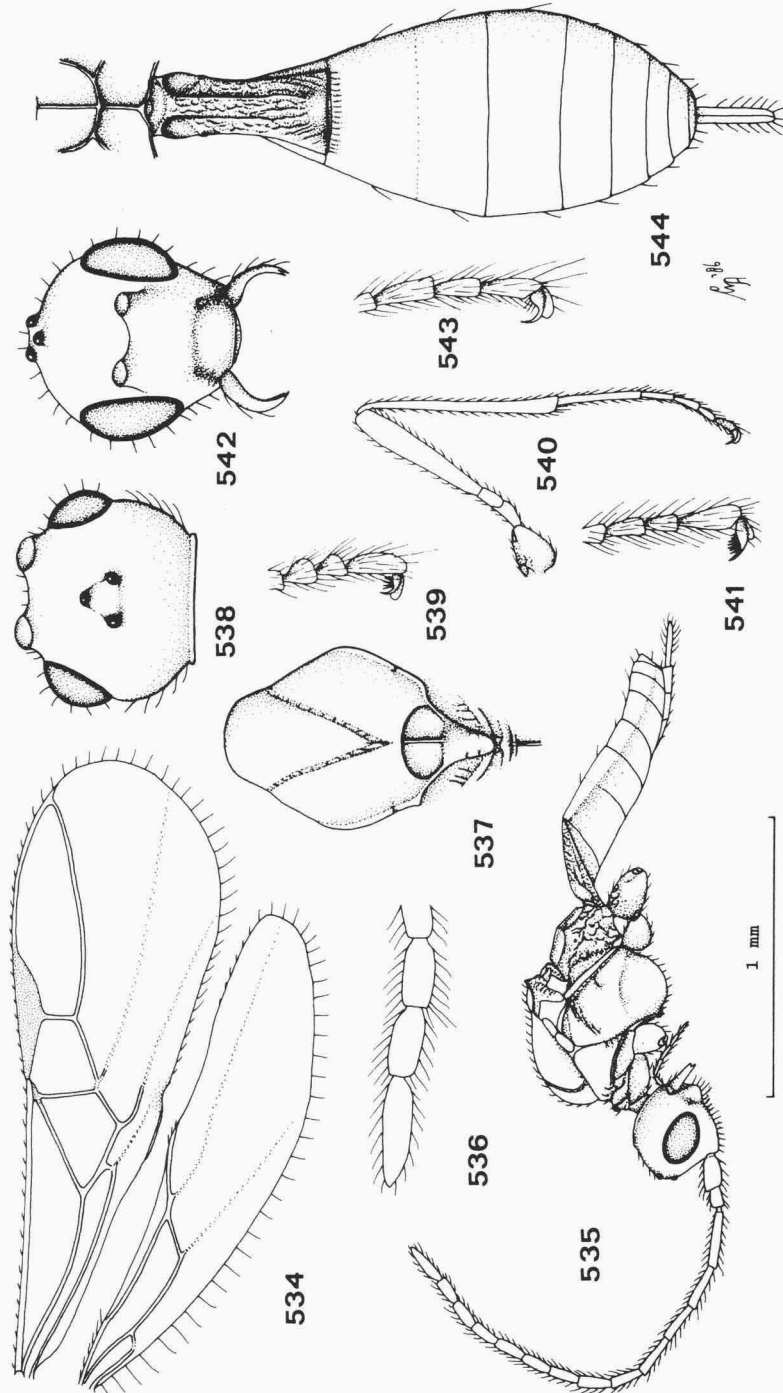
Figs. 505-515, *Blacus (Ganychorus) setosifrons* spec. nov., ♀, holotype. 505, wings; 506, habitus; 507, antenna; 508, fore claw; 509, hind claw; 510, middle claw; 511, head, dorsal view; 512, head, frontal aspect; 513, mesonotum, dorsal aspect; 514, hind leg; 515, propodeum and first metasomal tergite, dorsal aspect. 505, 506, 514: scale-line (= 1 x); 507, 508-510: 2.5 x; 511-515: 1.3 x.



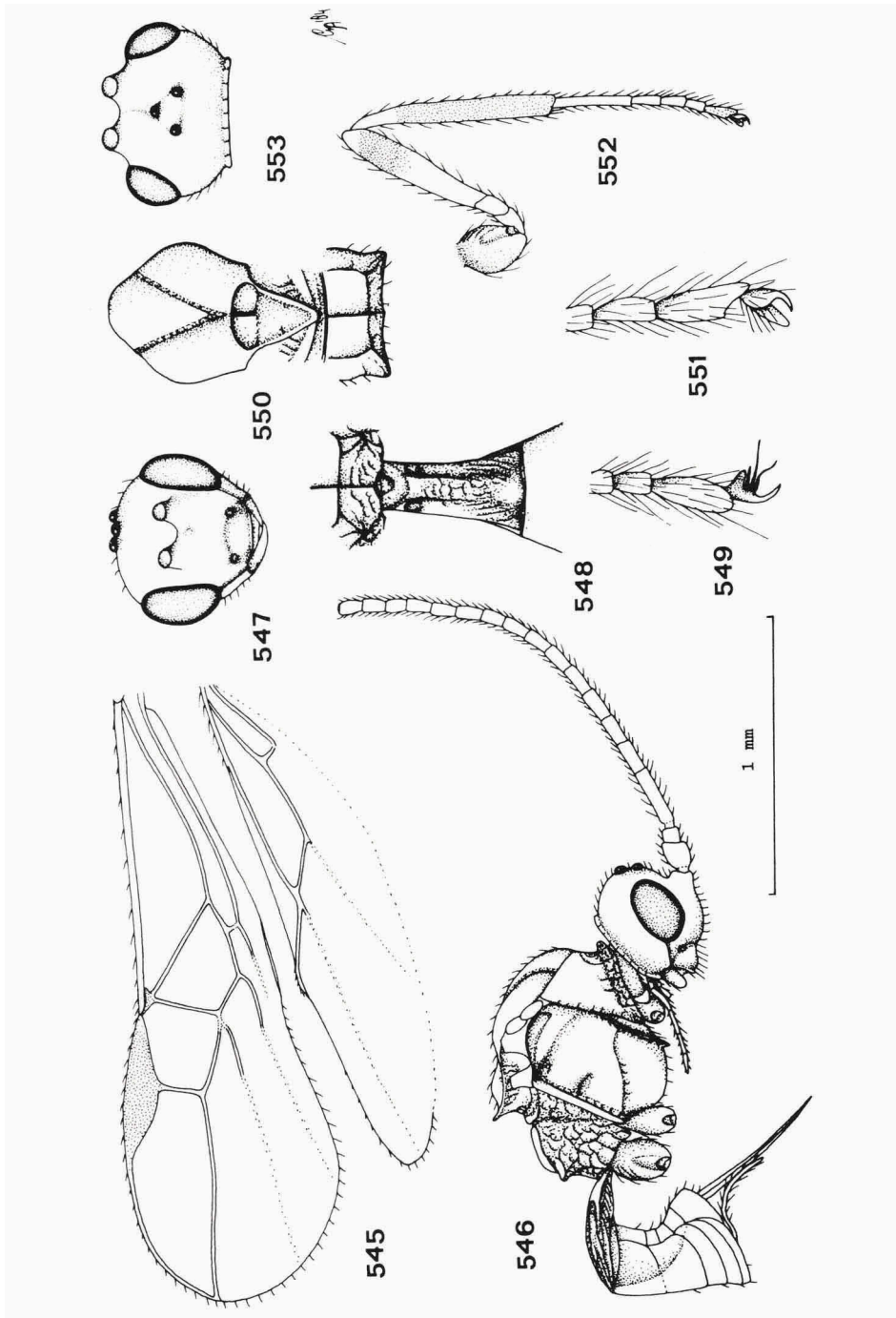
Figs. 516-523, *Blacus (Ganychorus) apaches* Van Achterberg, ♀, holotype. 516, wings; 517, habitus, lateral aspect; 518, propodeum and first metasomal tergite, dorsal aspect; 519, head, dorsal aspect; 520, mesonotum, dorsal aspect; 521, hind leg; 522, head, frontal aspect; 523, middle claw. 516, 517, 521: scale-line (= 1 x); 518: 2.5 x; 519, 520, 522: 1.2 x; 523: 5 x.



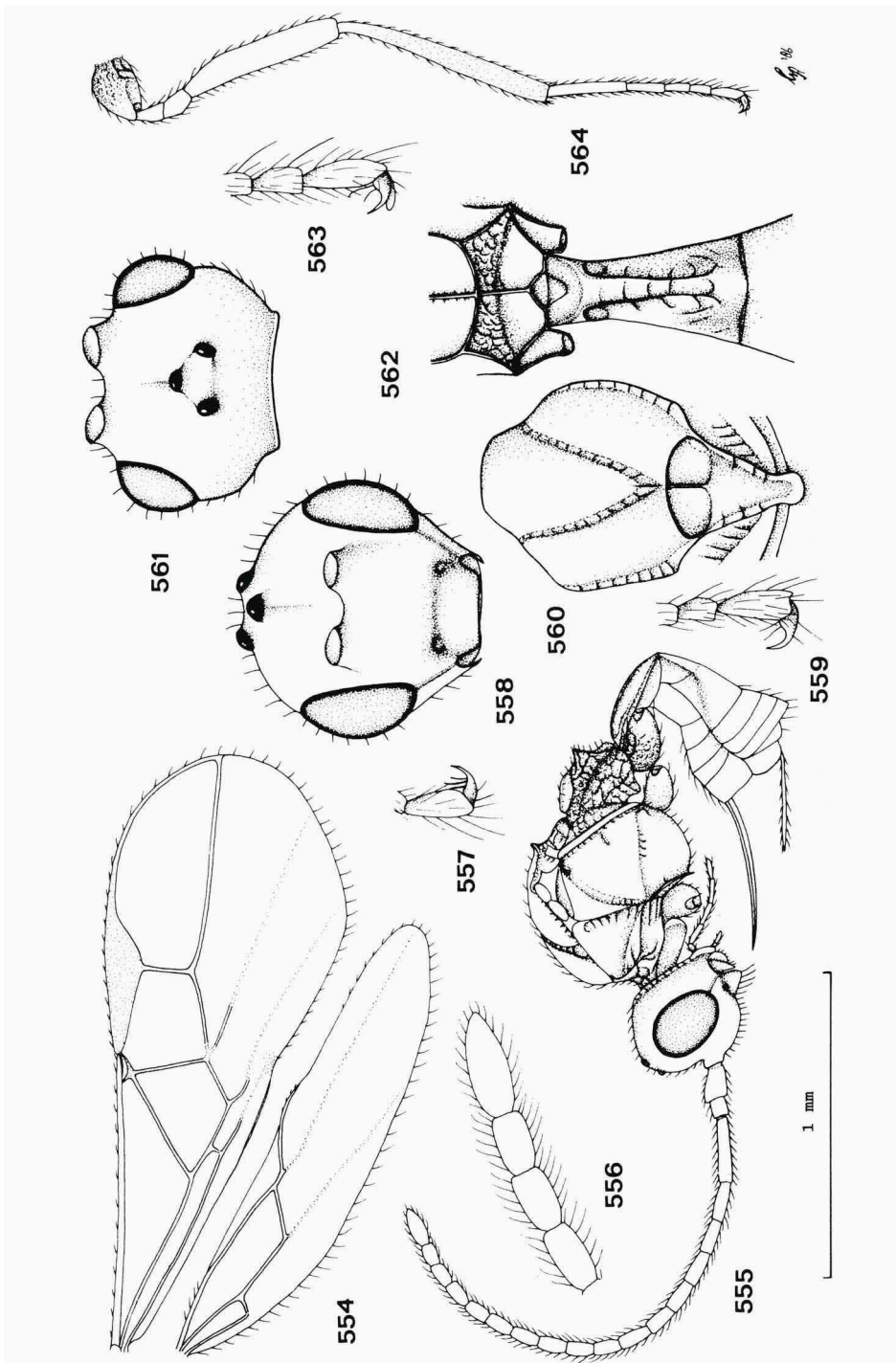
Figs. 524-533, *Blacus (Ganychorus) setosus* spec. nov., ♀, holotype. 524, habitus, lateral aspect; 525, wings; 526, apex of antenna; 527, first metasomal tergite, dorsal aspect; 528, mesosoma, dorsal aspect; 529, head, frontal aspect; 530, head, dorsal aspect; 531, hind leg; 532, middle claw; 533, hind claw. 524, 525, 527-531: scale-line (= 1 x); 526, 532, 533: 2.5x.



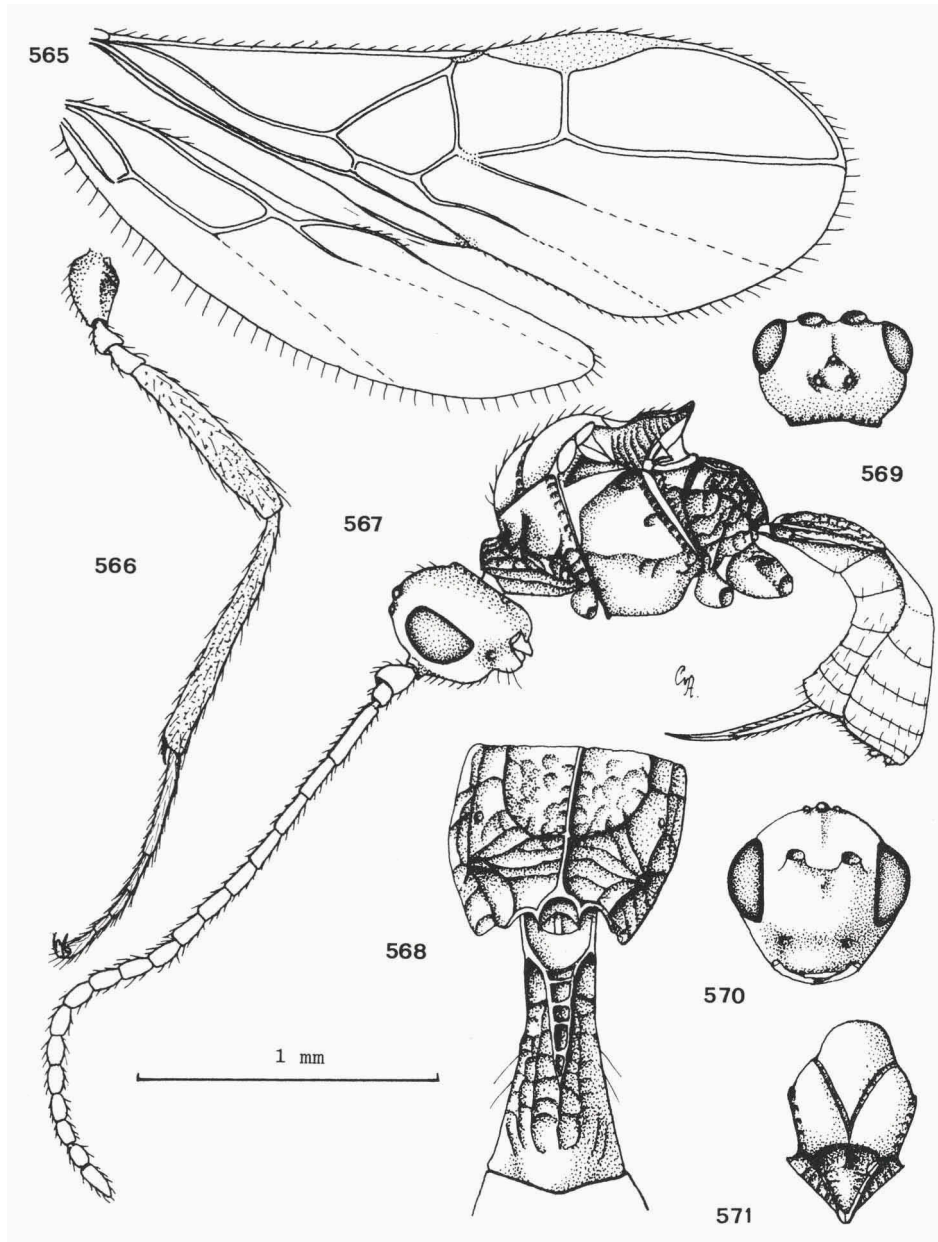
Figs. 534-544, *Blacus (Ganychorus) parastrictus* spec. nov., ♀, holotype. 534, wings; 535, habitus, lateral aspect; 536, apex of antenna; 537, mesonotum, dorsal aspect; 538, head, dorsal aspect; 539, fore claw; 540, hind leg; 541, middle claw; 542, head, frontal aspect; 543, hind claw; 544, propodeum and metasoma, dorsal aspect. 534, 535, 540: scale-line (= 1x); 536, 539, 541, 543: 2.5 x; 537, 538, 542, 544: 2 x.



Figs. 545-553, *Blacus (Ganychorus) tuberculifer* spec. nov., ♀, holotype. 545, wings; 546, habitus, lateral aspect; 547, head, frontal aspect; 548, propodeum and first metasomal tergite, dorsal aspect; 549, fore claw; 550, mesosoma, dorsal aspect; 551, hind claw; 552, hind leg; 553, head, dorsal aspect. 545, 546, 552: scale-line (= 1 x); 547, 548, 550, 553: 1.1 x; 549, 551: 2.5 x.

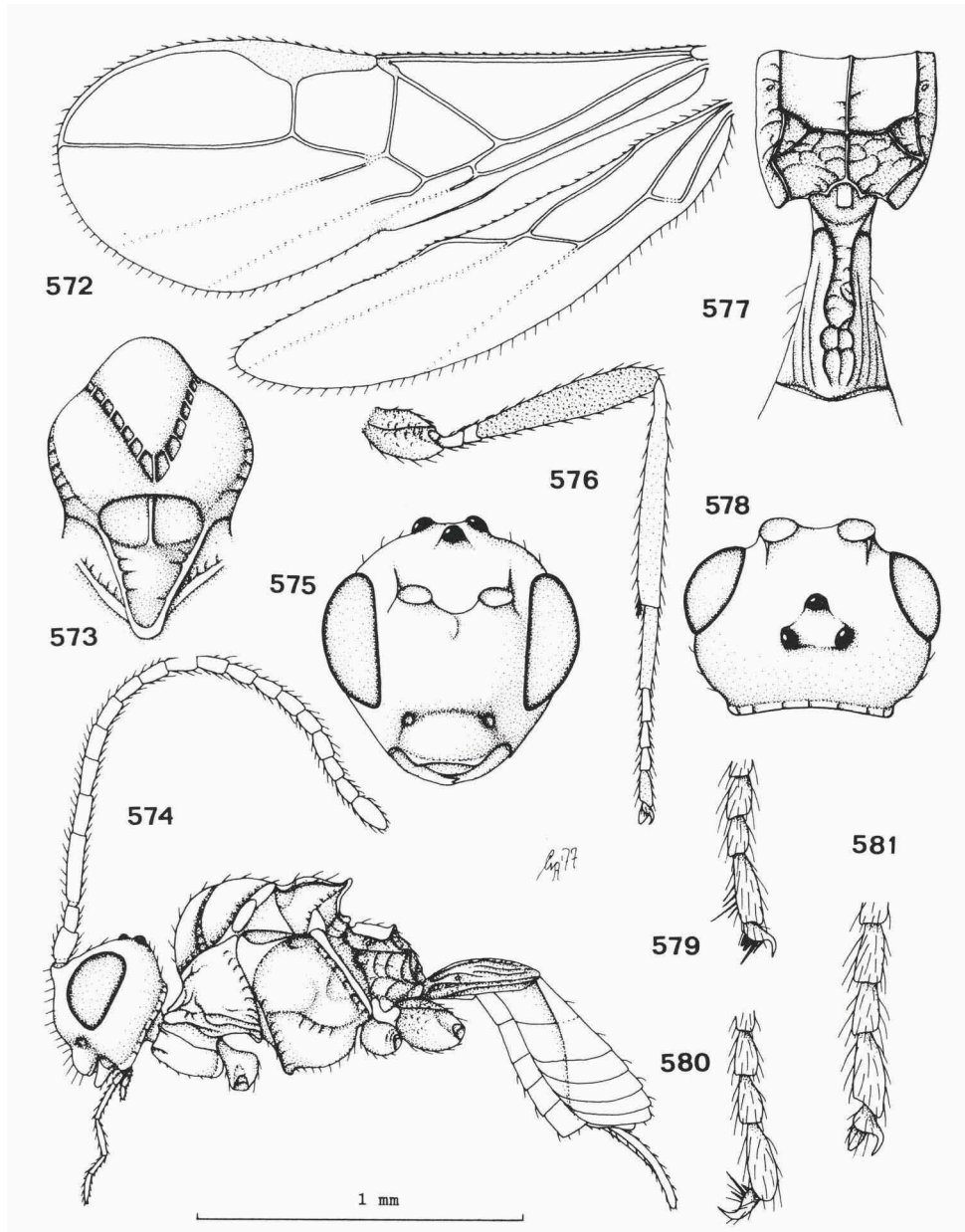


Figs. 554-564, *Blacus (Ganychorus) signifer* spec. nov., ♀, holotype. 554, wings; 555, habitus, lateral aspect; 556, apex of antenna; 557, fore claw; 558, head, frontal aspect; 559, middle claw; 560, mesonotum, dorsal aspect; 561, head, dorsal aspect; 562, propodeum and first metasomal tergite, dorsal aspect; 563, hind claw; 564, hind leg. 554, 555, 564: scale-line (= 1 x); 556, 557, 559, 563: 2.5 x; 558, 560-562: 1.8 x.

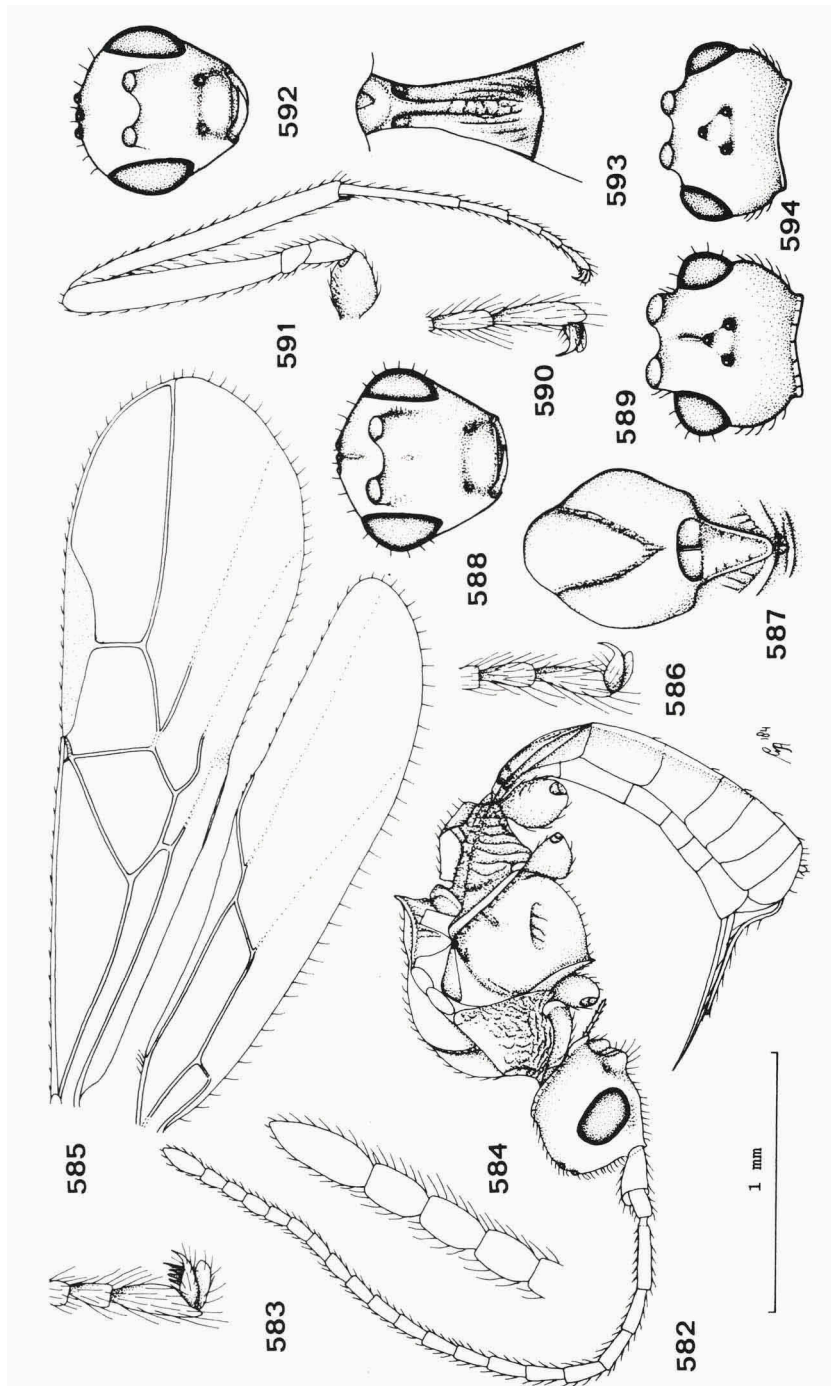


Figs. 565-571, *Blacus (Ganychorus) mischocytus* Van Achterberg, ♀, holotype. 565, wings; 566, hind leg; 567, habitus, lateral aspect; 568, propodeum and first metasomal tergite, dorsal aspect; 569, head, dorsal aspect; 570, head, frontal aspect; 571, mesonotum, dorsal aspect. 565-567: scale-line (= 1 x); 568: 2.5 x; 569-571: 1.2 x.

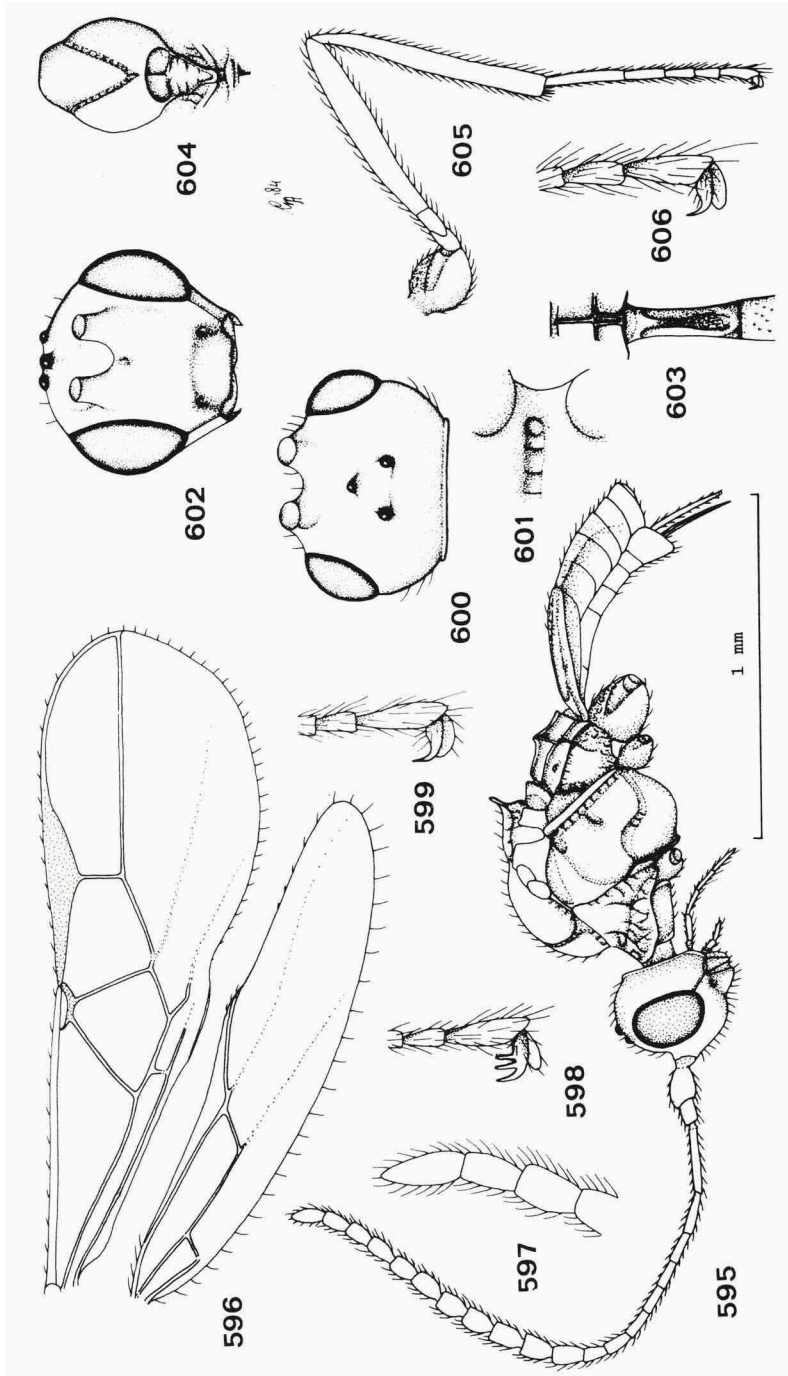




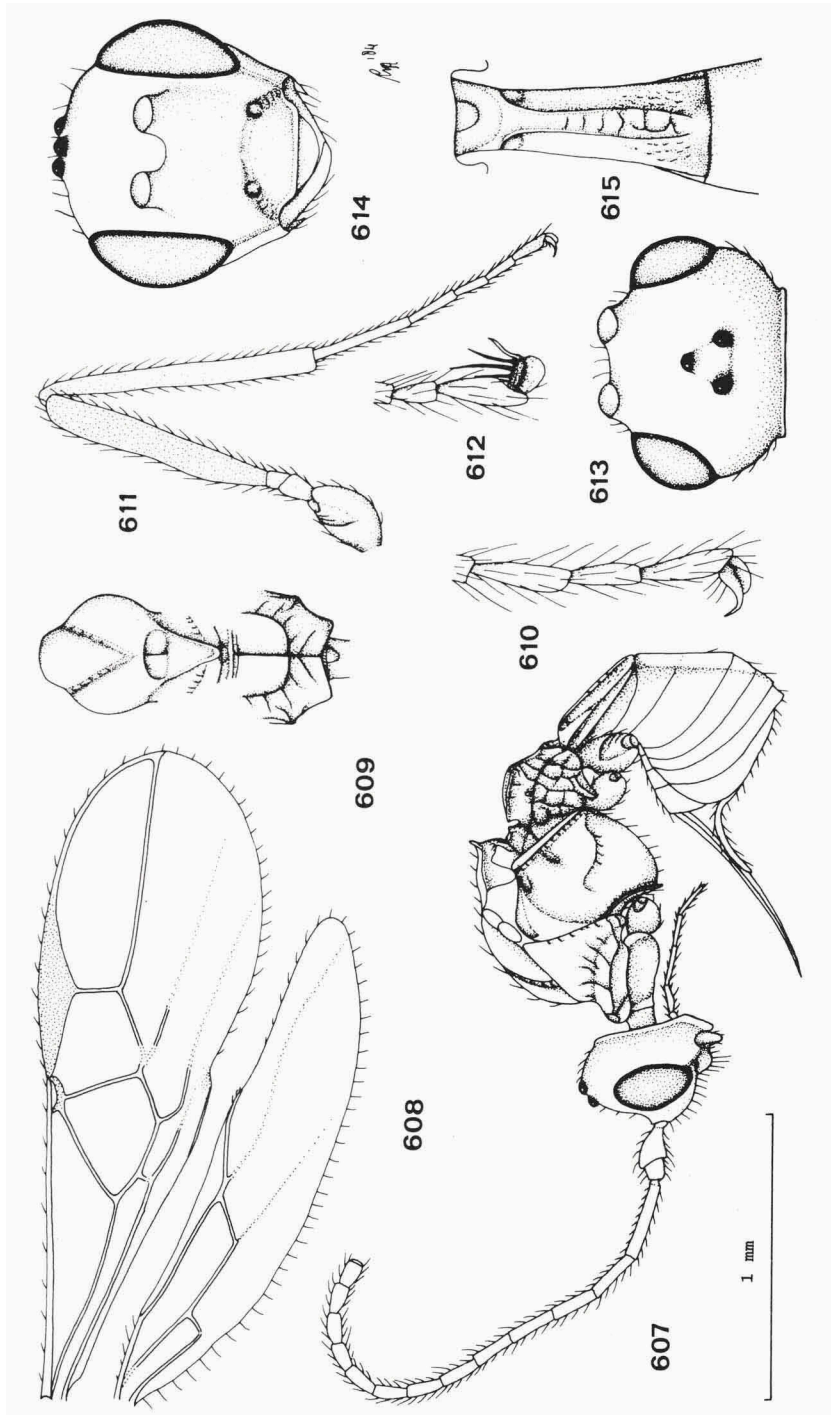
Figs. 572-581, *Blacus (Ganychorus) annulatus* spec. nov., ♀, holotype. 572, wings; 573, mesonotum, dorsal aspect; 574, habitus, lateral aspect; 575, head, frontal aspect; 576, hind leg; 577, propodeum and first metasomal tergite, dorsal view; 578, head, dorsal aspect; 579, fore claw; 580, middle claw; 581, hind claw. 572, 574, 576: scale-line (= 1 x); 573, 575, 577, 578: 1.5 x; 579-581: 2.5 x.



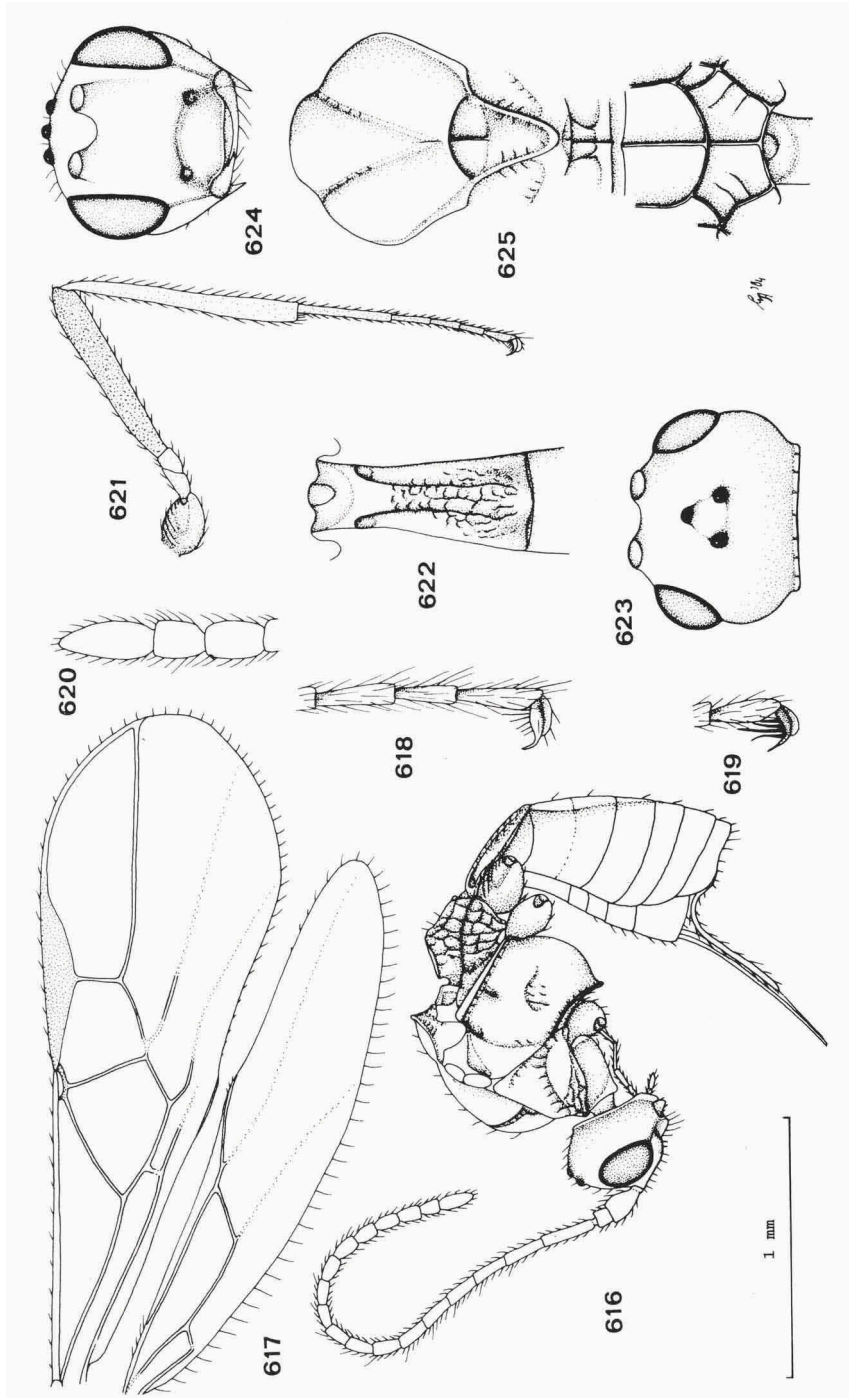
Figs. 582-591, 593, *Blacus (Ganychorus) mellistigmus* spec. nov., ♀, holotype; figs. 592, 594, *Blacus (Ganychorus) nitidus* Haeselbarth, ♀, Finland, Utsjoki. 582, habitus, lateral aspect; 583, fore claw; 584, apex of antenna; 585, wings; 586, middle claw; 587, thorax, dorsal aspect; 588, 592, head, frontal aspect; 589, 594, head, dorsal aspect; 590, hind claw; 591, hind leg; 593, first metasomal tergite, dorsal aspect. 582, 585, 591: scale-line (=1 x); 583, 584, 586, 590: 2.5 x; 587-589, 592-594: 1.2 x.



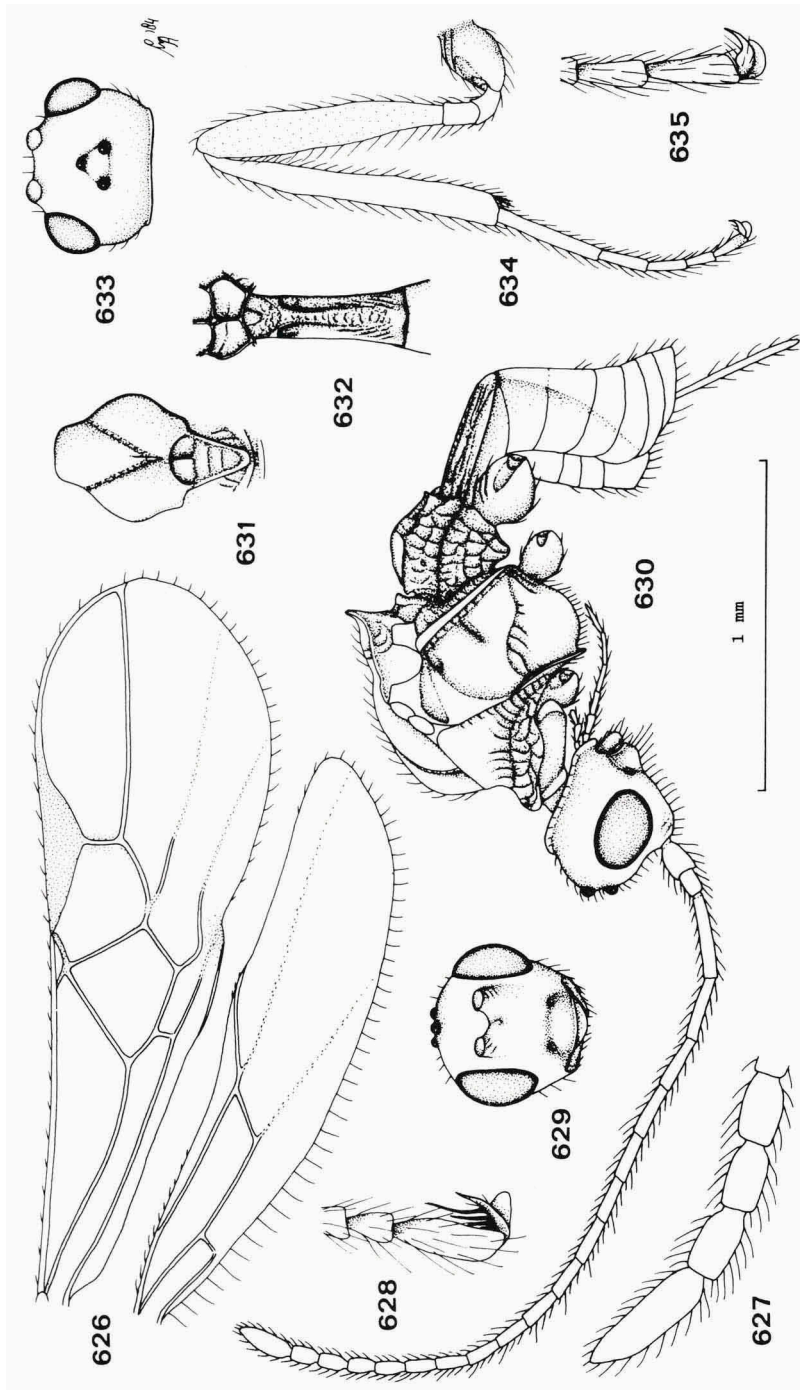
Figs. 595-606, *Blacus (Ganychorus) signicornis* spec. nov., ♀, holotype. 595, habitus, lateral aspect; 596, wings; 597, apex of antenna; 598, fore claw; 599, middle claw; 600, head, dorsal aspect; 601, apical part of mesosternal sulcus, ventral aspect; 602, head, frontal aspect; 603, propodeum and first metasomal tergite, dorsal aspect; 604, thorax, dorsal aspect; 605, hind leg; 606, hind claw. 595, 596, 603-605: scale-line (= 1 x); 597-599, 601, 606: 2.5 x; 600, 602: 1.6 x.



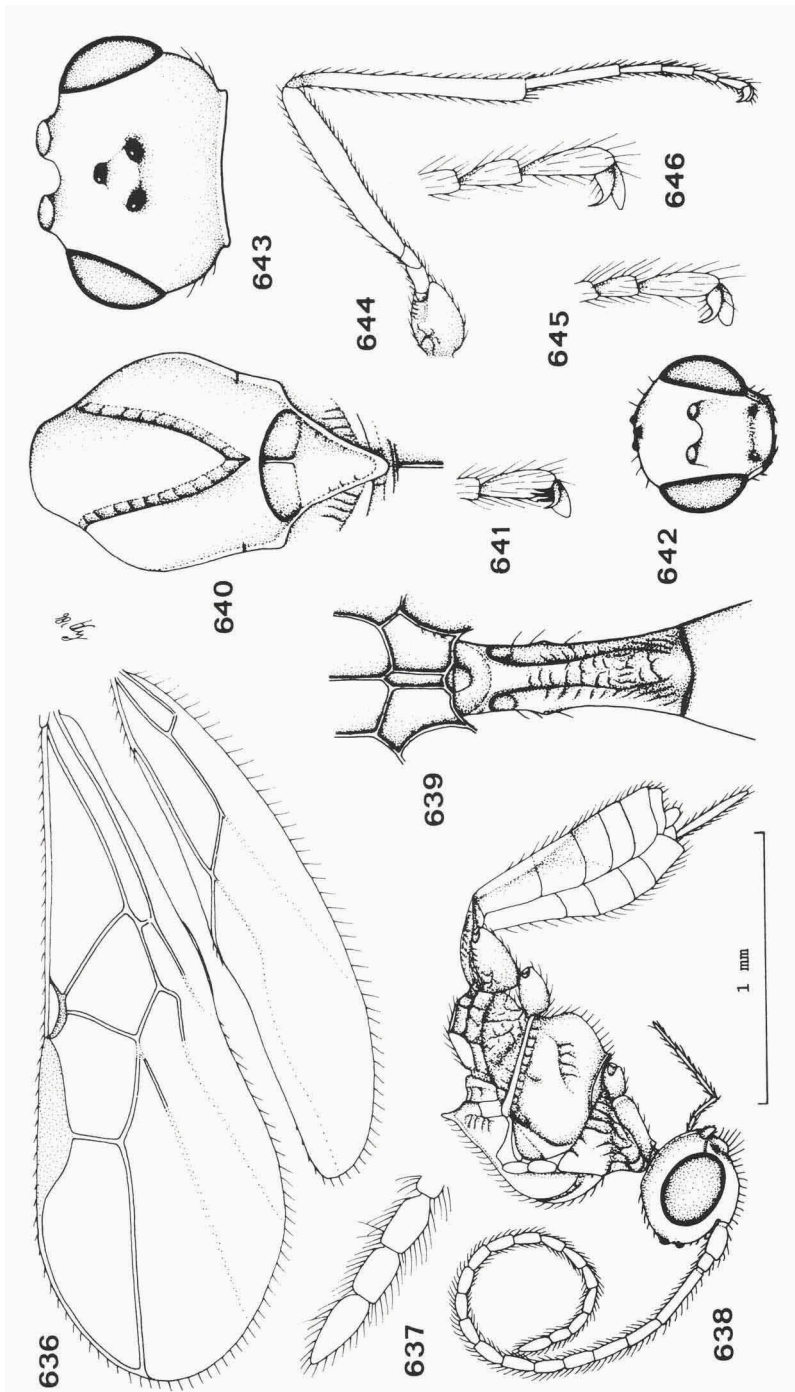
Figs. 607-615, *Blacus (Ganychorus) obscuripes* spec. nov., ♀, holotype. 607, habitus, lateral aspect; 608, wings; 609, mesosoma, dorsal aspect; 610, hind claw; 611, hind leg; 612, fore claw; 613, head, dorsal aspect; 614, head, frontal aspect; 615, first metasomal tergite, dorsal aspect. 607, 608, 611: scale-line (= 1 x); 609: 1.1 x; 610, 612: 2.5 x; 613-615: 1.8 x.



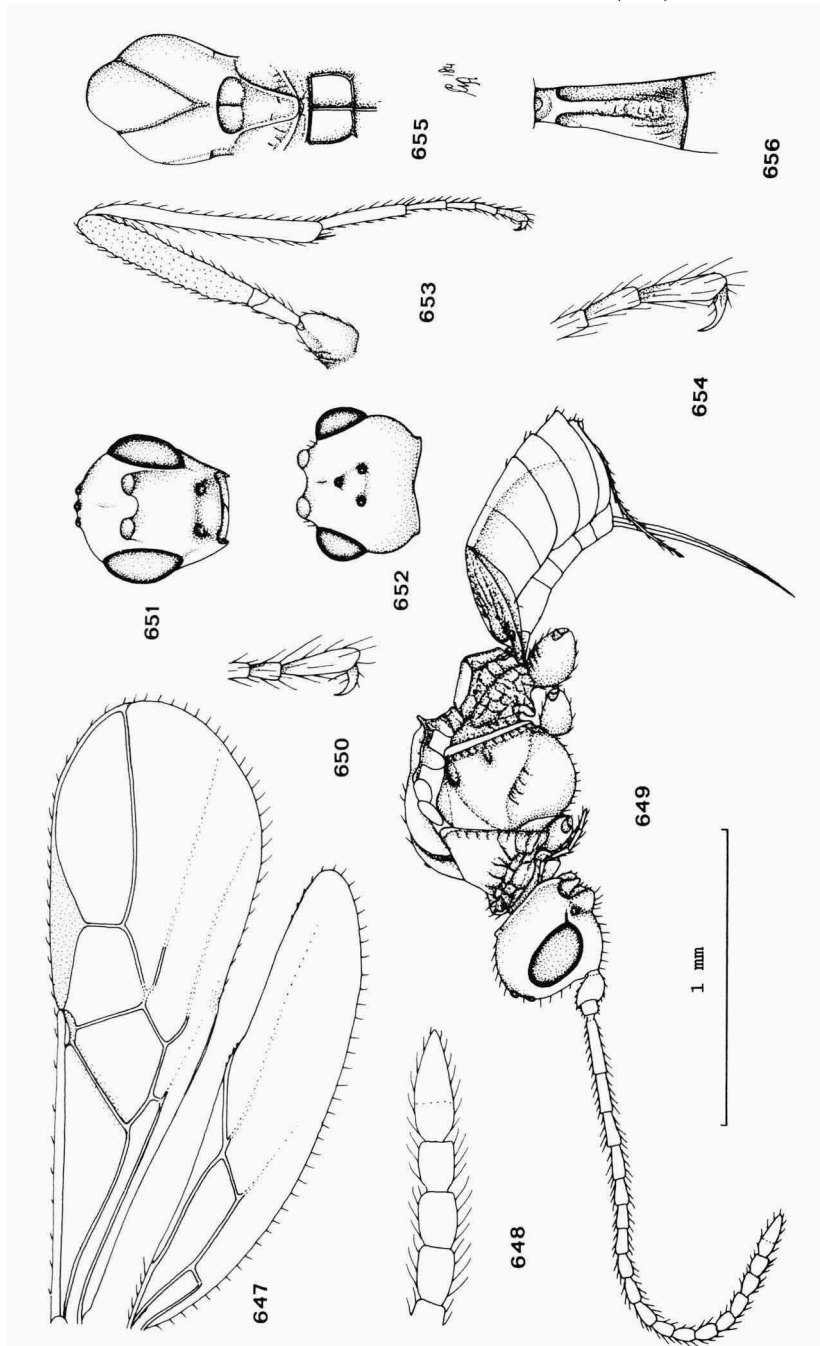
Figs. 616-625, *Blacus (Ganychorus) fuscitarsis* spec. nov., ♀, holotype. 616, habitus, lateral aspect; 617, wings; 618, hind claw; 619, middle claw; 620, apex of antenna; 621, hind leg; 622, first metasomal tergite, dorsal aspect; 623, head, dorsal aspect; 624, head, frontal aspect; 625, mesosoma, dorsal aspect. 616, 617, 621: scale-line (= 1 x); 618-620: 2.5 x; 622-625: 1.8 x.



Figs. 626-635, *Blacus (Ganychorus) mellicornis* spec. nov., ♀, holotype. 626, wings; 627, apex of antenna; 628, fore claw; 629, head, frontal aspect; 630, habitus, lateral aspect; 631, thorax, dorsal aspect; 632, propodeum and first metasomal tergite, dorsal aspect; 633, head, dorsal aspect; 634, hind leg; 635, hind claw. 626, 629, 630-634: scale-line (= 1 x); 627, 628, 635: 2.5 x.

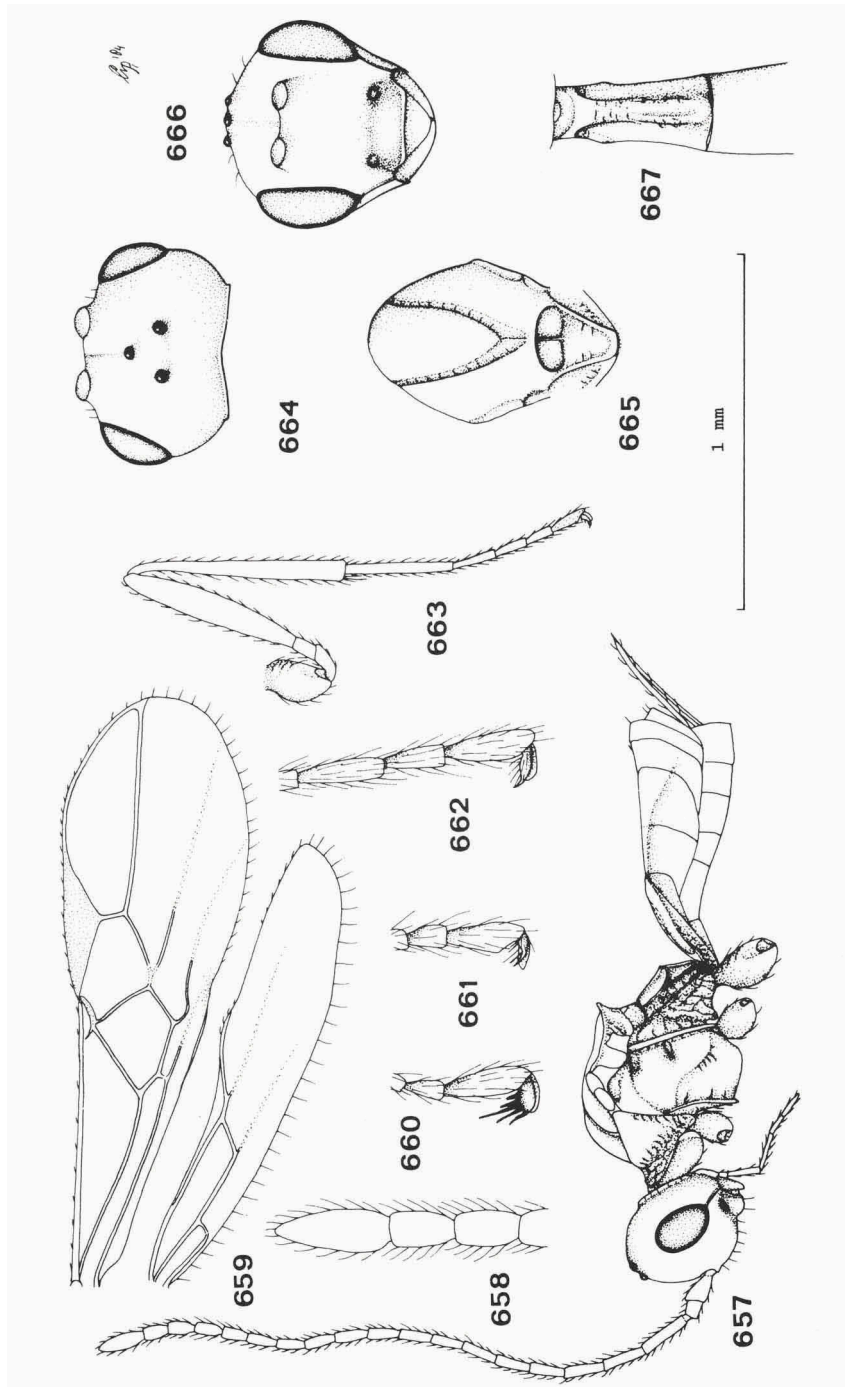


Figs. 636-646, *Blacus (Ganychorus) comatus* spec. nov., ♀, holotype. 636, wings; 637, apex of antenna; 638, habitus, lateral aspect; 639, propodeum and first metasomal tergite, dorsal aspect; 640, mesosoma, dorsal aspect; 641, fore claw; 642, head, frontal aspect; 643, head, dorsal aspect; 644, hind leg; 645, middle claw; 646, hind claw. 636, 638, 644: scale-line (= 1 x); 637, 641, 645, 646: 2.5 x; 639, 640, 643: 2 x; 642: 1.1 x.

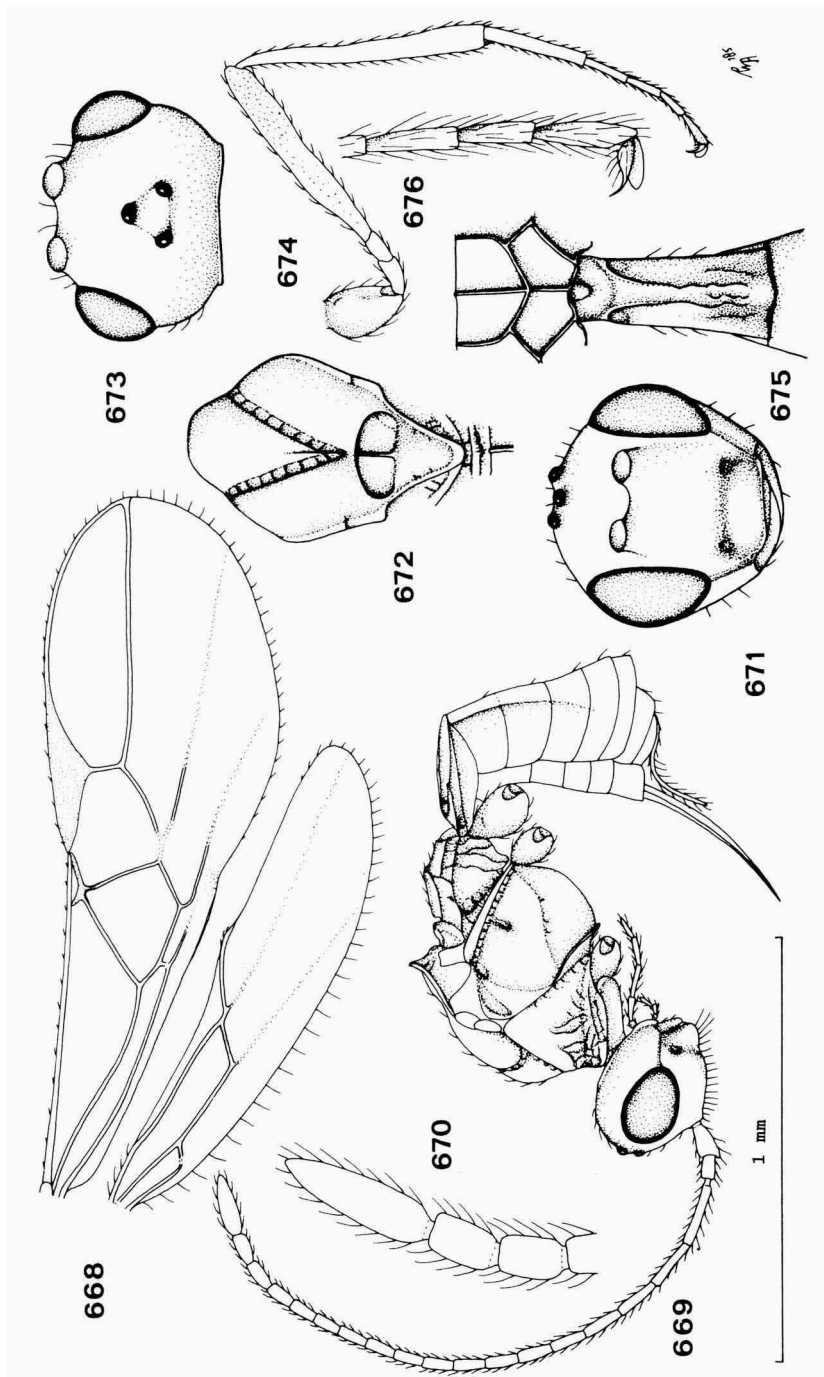


Figs. 647-656, *Blacus (Ganychorus) hadrolophus* spec. nov., ♀, holotype. 647, wings; 648, apex of antenna; 649, habitus, lateral aspect; 650, middle claw; 651, head, frontal aspect; 652, head, dorsal aspect; 653, hind leg; 654, hind claw; 655, mesosoma, dorsal aspect; 656, first metasomal tergite, dorsal aspect. 647, 649, 653: scale-line (= 1 x); 648, 650, 654: 2.5x; 651, 652, 655, 656: 1.1 x.

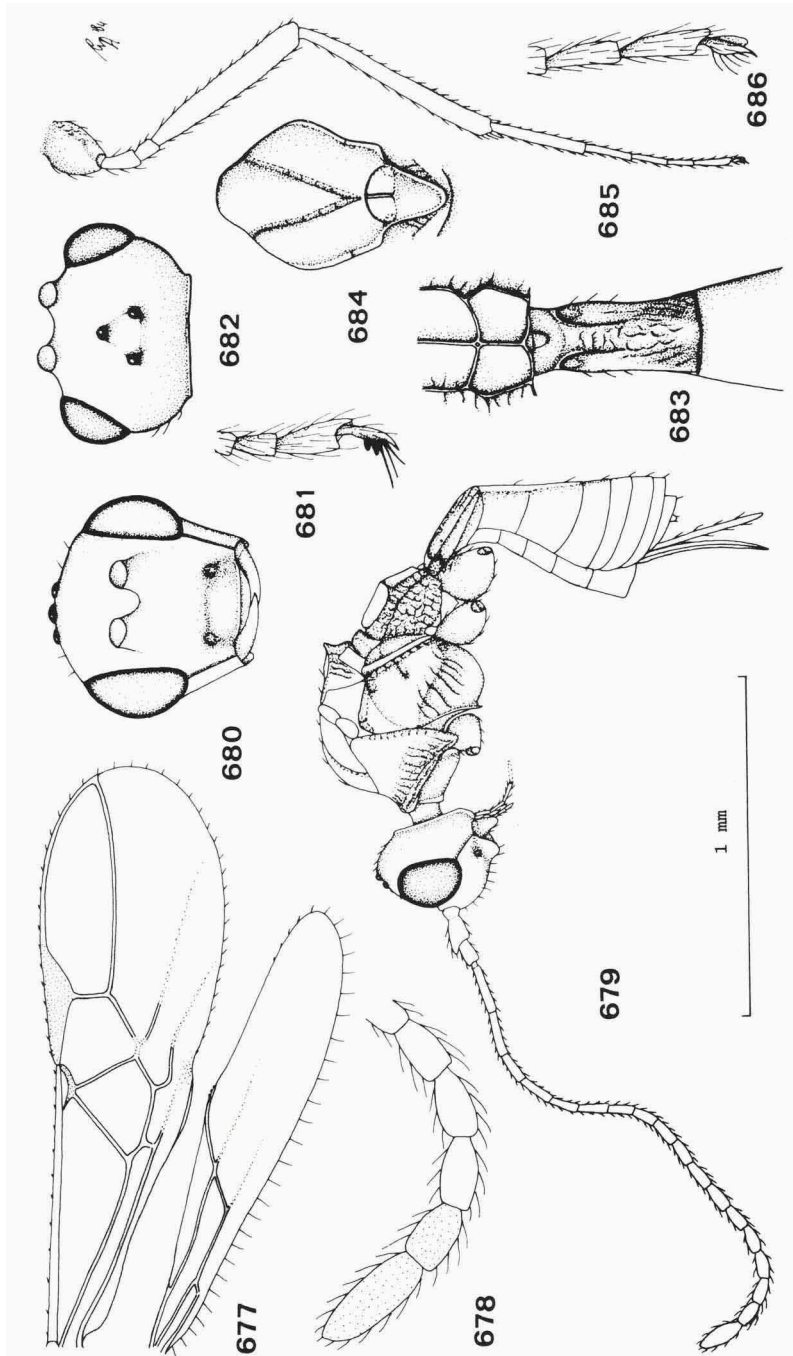




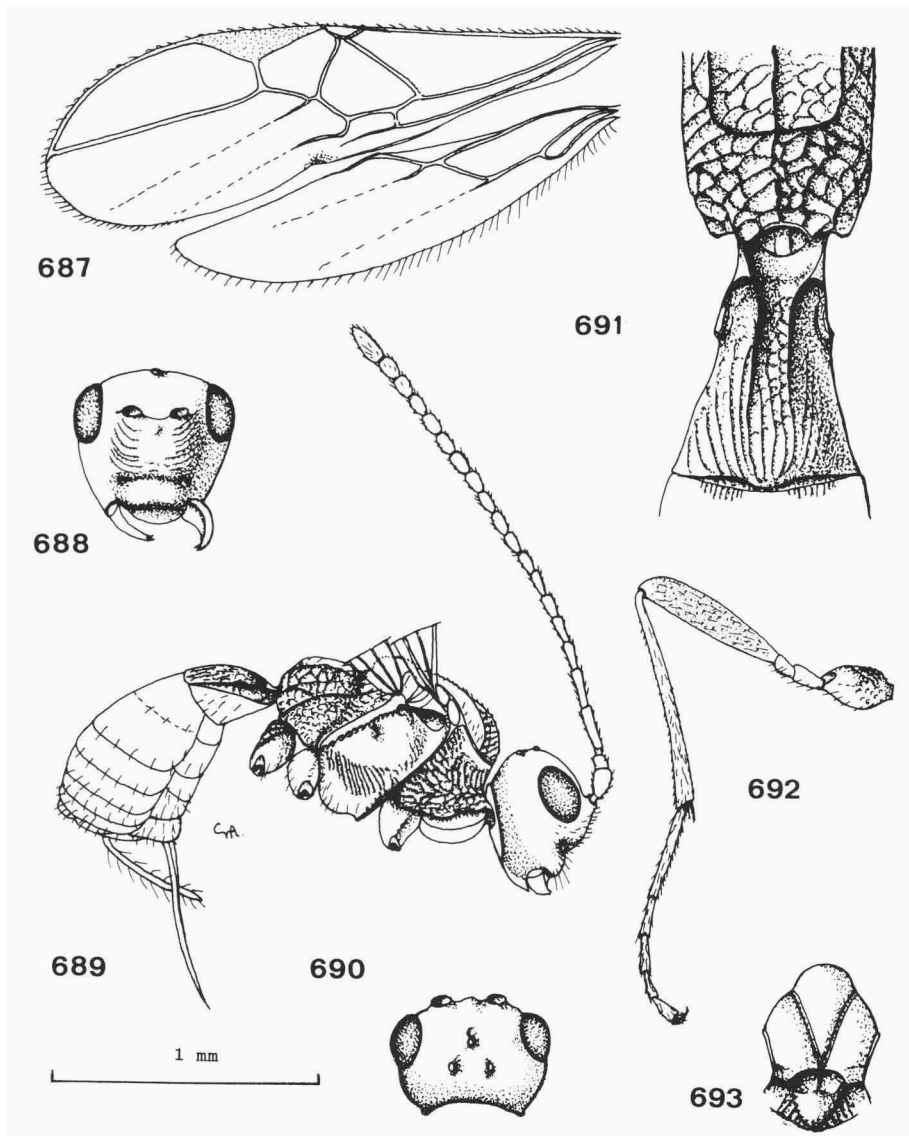
Figs. 657-667, *Blacus (Ganychorus) paucicrenulatus* spec. nov., ♀, holotype. 657, habitus, lateral aspect; 658, apex of antenna; 659, wings; 660, fore claw; 661, middle claw; 662, hind claw; 663, hind leg; 664, head, dorsal aspect; 665, mesonotum, dorsal aspect; 666, head, frontal aspect; 667, first metasomal tergite, dorsal aspect. 657, 659, 663: scale-line (= 1 x); 658, 660-662: 2.5 x; 664-667: 1.5 x.



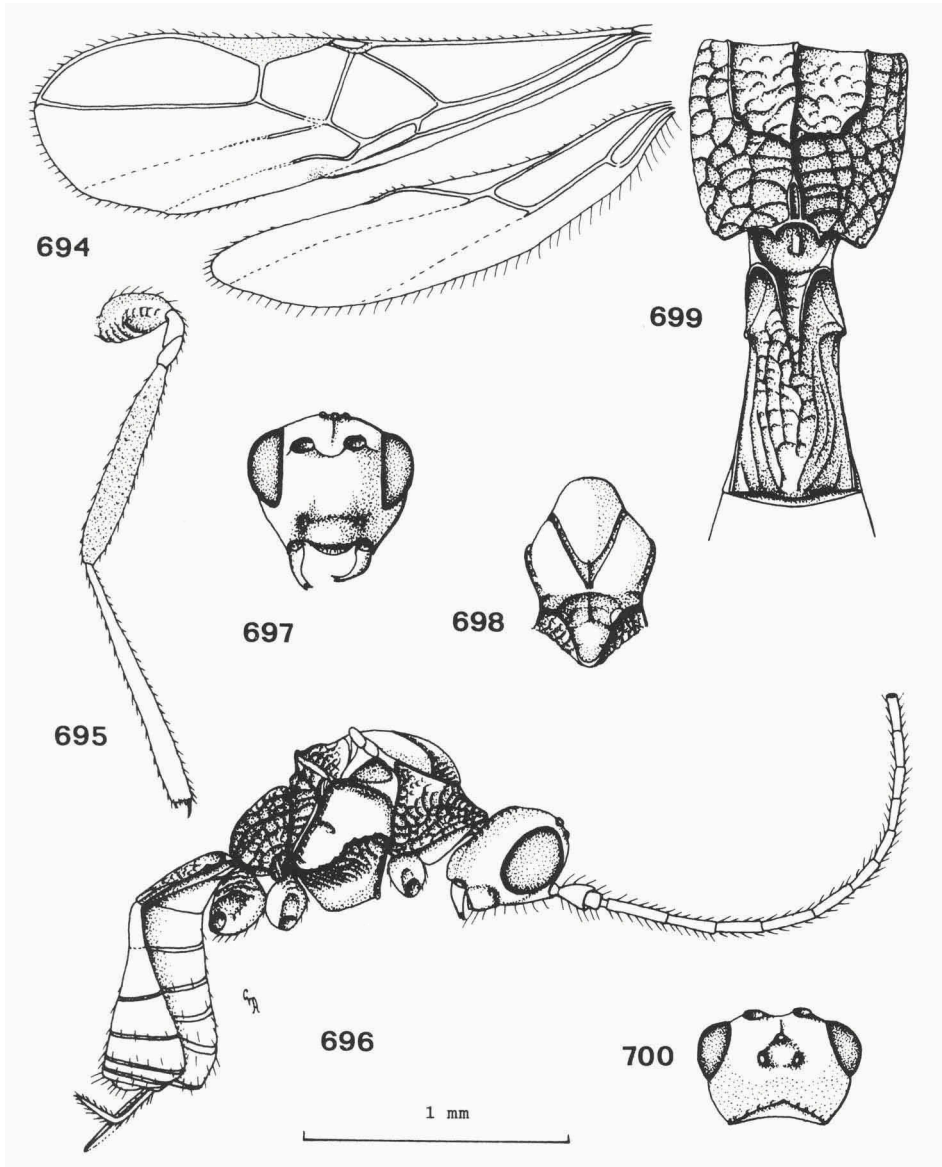
Figs. 668-676, *Blacus (Ganychorus) brevicrenulatus* spec. nov., ♀, holotype. 668, wings; 669, habitus, lateral aspect; 670, apex of antenna; 671, head, frontal aspect; 672, mesosoma, dorsal aspect; 673, head, dorsal aspect; 674, hind leg; 675, propodeum and first metasomal tergite, dorsal aspect; 676, hind claw. 668, 669, 674: scale-line (= 1 x); 670, 676: 2.5 x; 671-673, 675: 1.5 x.



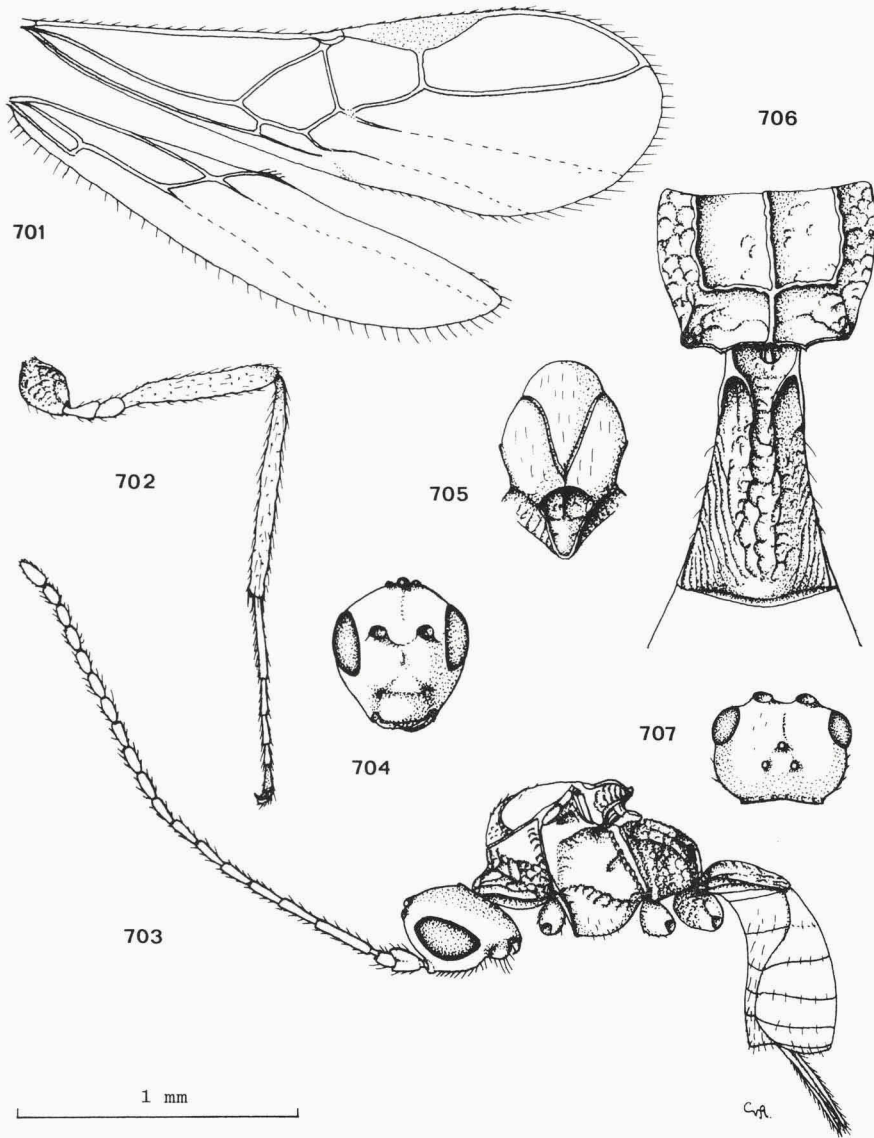
Figs. 677-686, *Blacus (Ganychorus) tenuipes* spec. nov., ♀, holotype. 677, wings; 678, apex of antenna; 679, habitus, lateral aspect; 680, head, frontal aspect; 681, fore claw; 682, head, dorsal aspect; 683, propodeum, first and second metasomal tergites, dorsal aspect; 684, mesonotum, dorsal aspect; 685, hind leg; 686, hind claw. 677, 679, 685: scale-line (= 1x); 680, 682-684: 1.6 x; 678, 681, 686: 2.5 x.



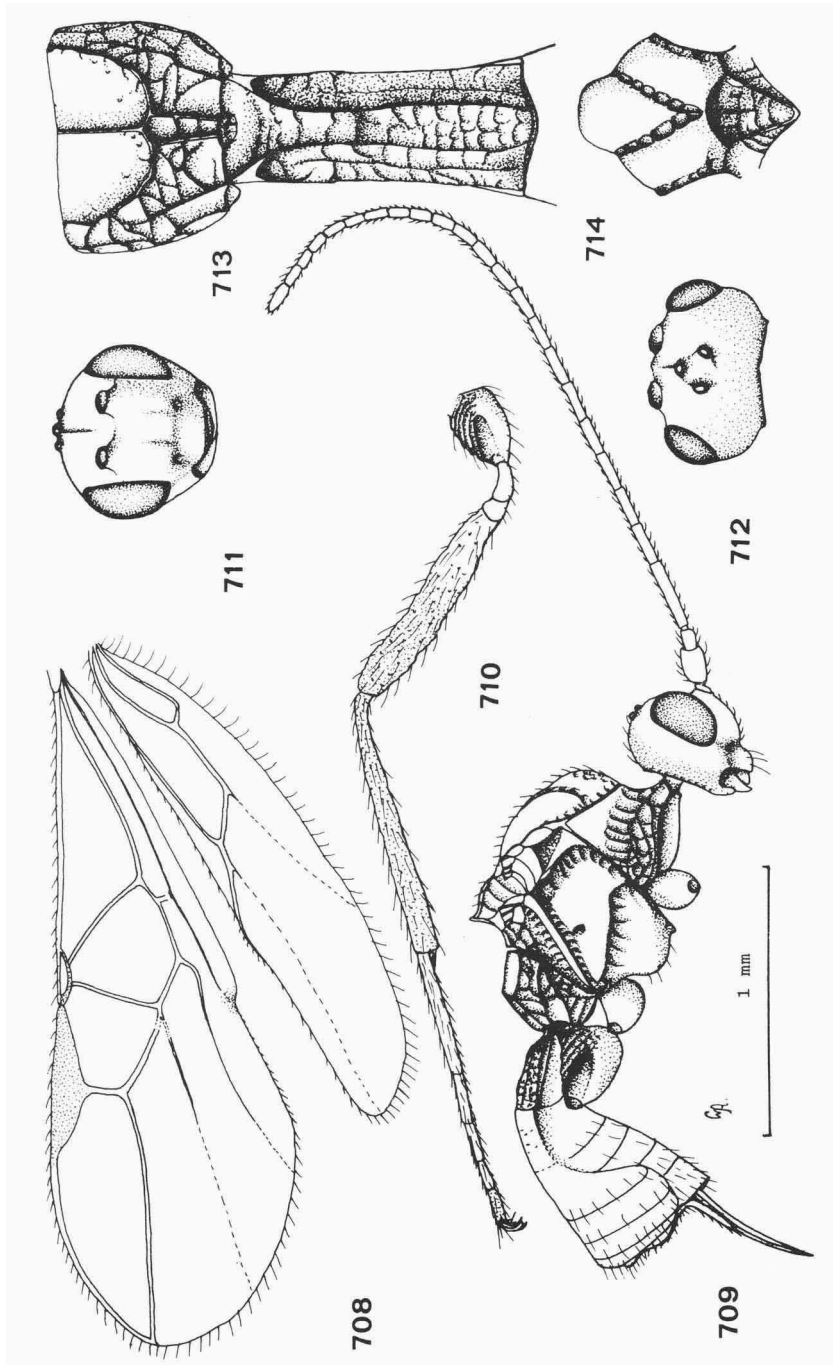
Figs. 687-693, *Blacus (Ganychorus) haeselbarthi* Van Achterberg, ♀, holotype. 687, wings; 688, head, frontal aspect; 689, habitus, lateral aspect; 690, head, dorsal aspect; 691, propodeum and first metasomal tergite, dorsal aspect; 692, hind leg; 693, mesonotum, dorsal aspect. 687, 689, 692: scale-line (= 1 x); 688, 690, 693: 1.2 x; 691: 2.5 x.



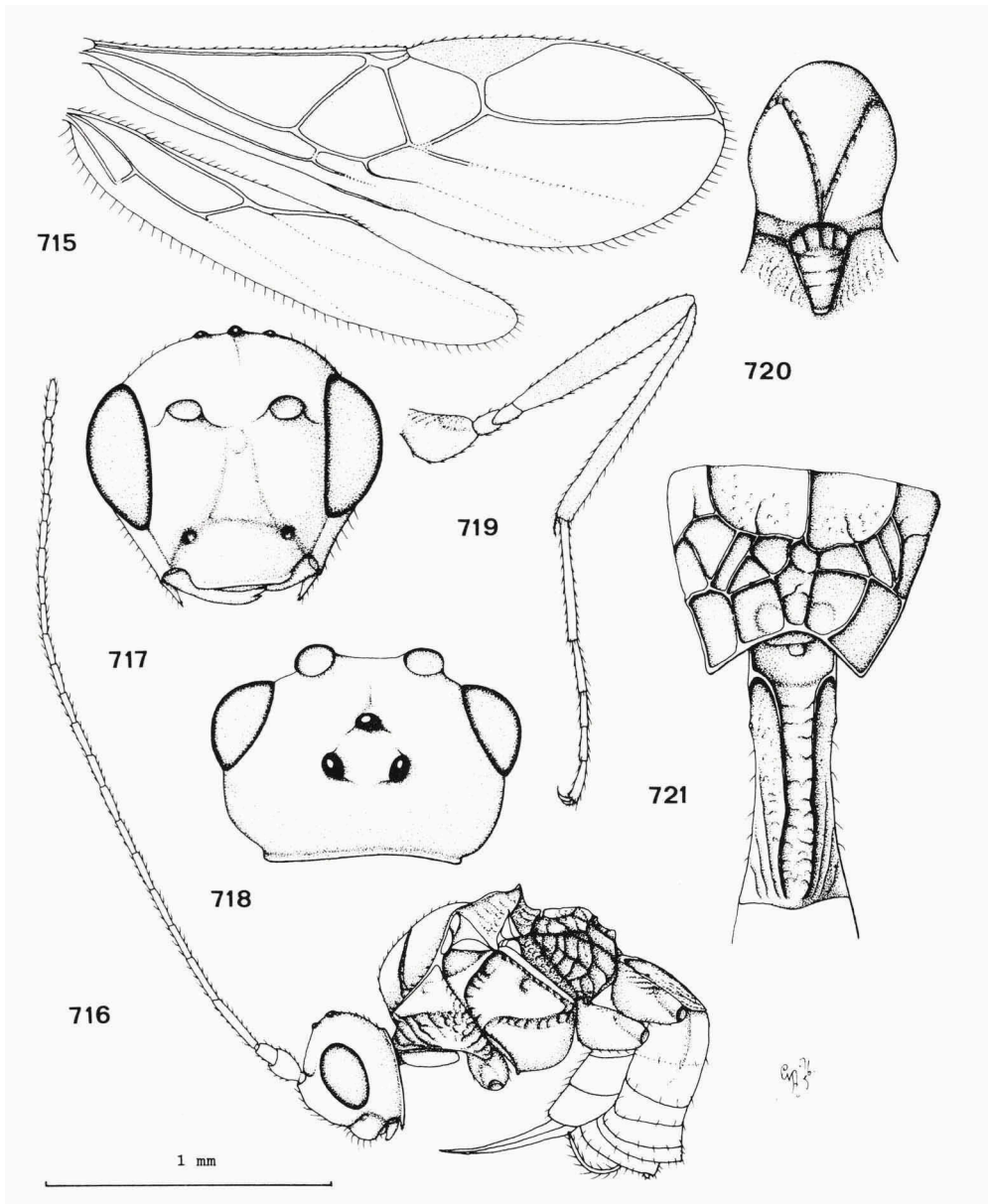
Figs. 694-700, *Blacus (Ganychorus) stami* Van Achterberg, ♀, holotype. 694, wings; 695, hind leg; 696, habitus, lateral aspect; 697, head, frontal aspect; 698, mesonotum, dorsal aspect; 699, propodeum and first metasomal tergite, dorsal aspect; 700, head, dorsal aspect. 694-696: scale-line (= 1 x); 697, 698, 700: 1.2 x; 699: 2.5 x.



Figs. 701-707, *Blacus (Ganychorus) cracentis* Van Achterberg, ♀, holotype. 701, wings; 702, hind leg; 703, habitus, lateral aspect; 704, head, frontal aspect; 705, mesonotum, dorsal aspect; 706, propodeum and first metasomal tergite, dorsal aspect; 707, head, dorsal aspect. 701-703: scale-line (= 1 x); 704, 705, 707: 1.2 x; 706: 2.5 x.

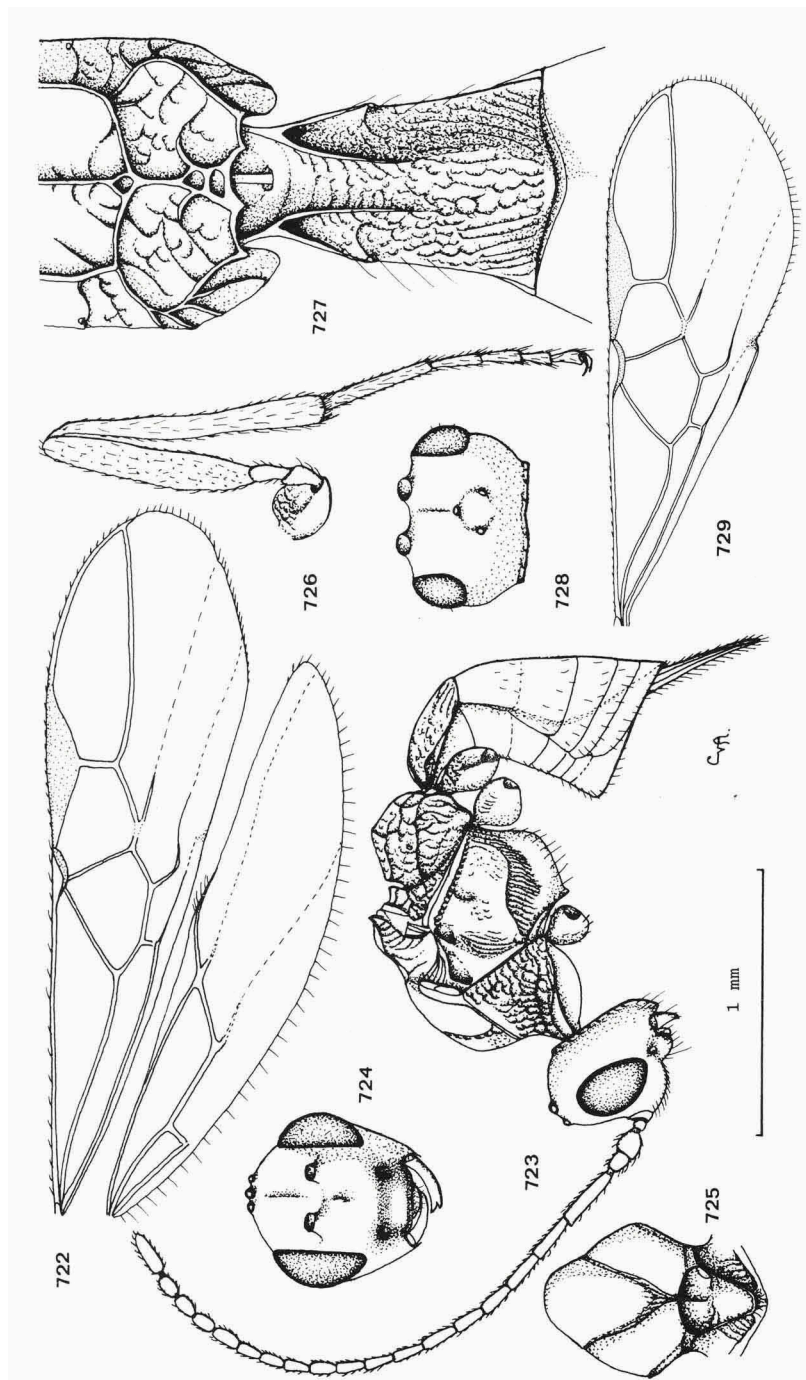


Figs. 708-714, *Blacus (Ganychorus) fissus* Van Achterberg, ♀, holotype. 708, wings; 709, habitus, lateral aspect; 710, hind leg; 711, head, frontal aspect; 712, head, dorsal aspect; 713, propodeum and first metasomal tergite, dorsal aspect; 714, mesonotum, dorsal aspect. 708-710: scale-line (= 1 x); 711, 712, 714: 1.2 x; 713: 2.5 x.

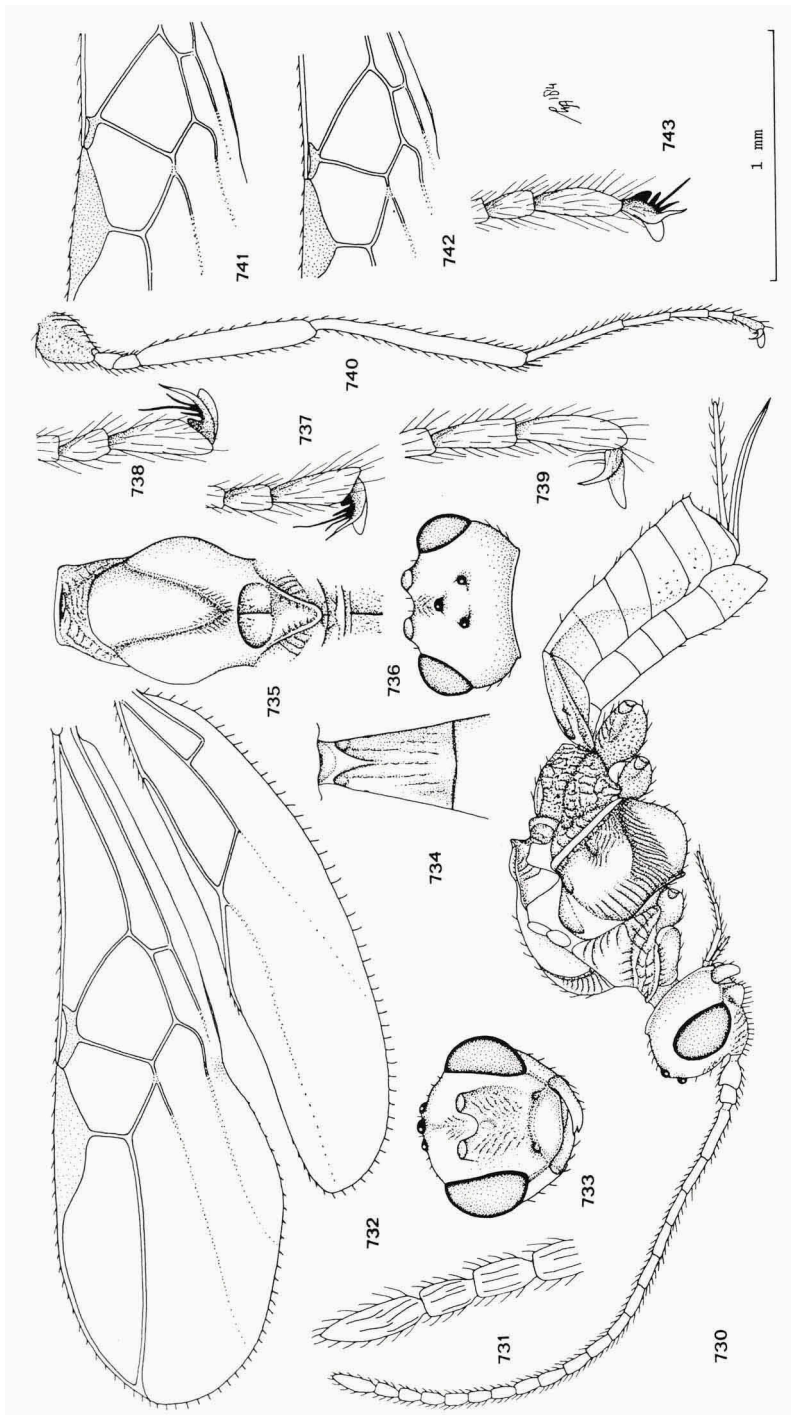


Figs. 715-721, *Blacus (Ganychorus) albicoxis* spec. nov., ♀, holotype. 715, wings; 716, habitus, lateral aspect; 717, head, frontal aspect; 718, head, dorsal aspect; 719, hind leg; 720, mesonotum, dorsal aspect; 721, propodeum and first metasomal tergite, dorsal aspect. 715, 716, 719: scale-line (= 1 x); 717, 718, 721: 2.1 x; 720: 1.4 x.

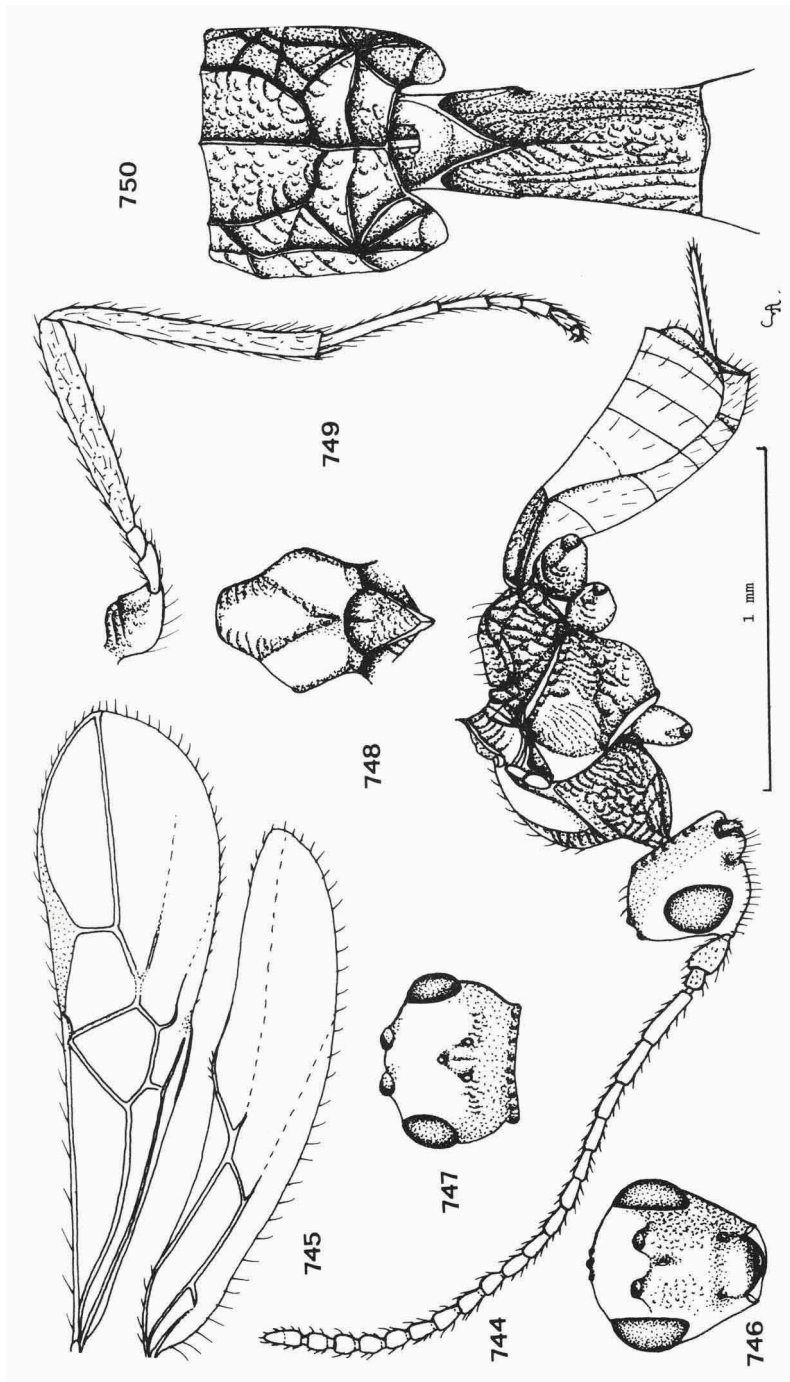




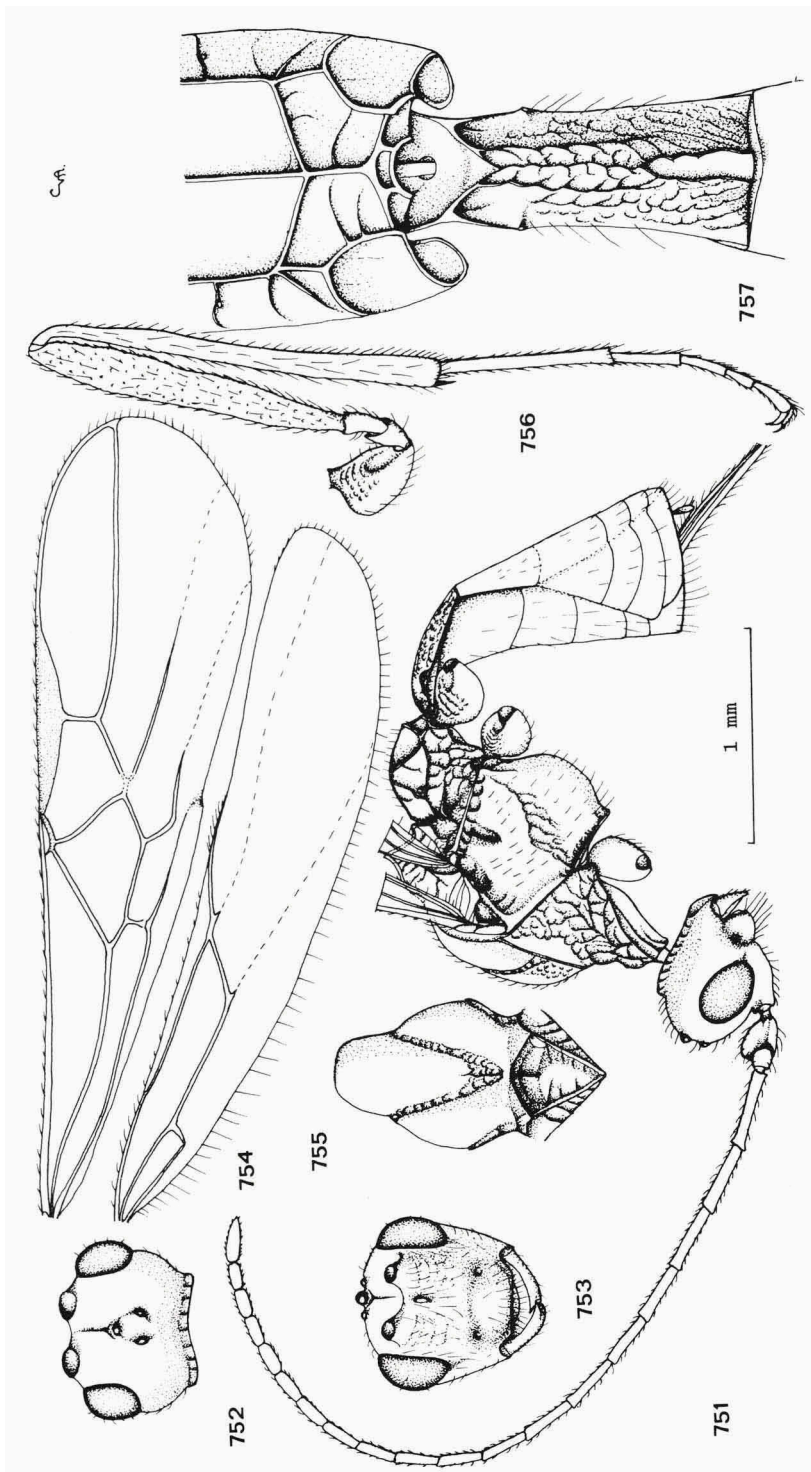
Figs. 722-729, *Blacus (Ganychorus) ruficornis* (Nees), ♀, Canada, Saskatchewan, Val Marie, but 729 of ♂, U.S.A., Texas, Kerrville. 722, wings; 723, habitus, lateral aspect; 724, head, frontal aspect; 725, mesonotum, dorsal aspect; 726, hind leg; 727, propodeum and first metasomal tergite; 728, head, dorsal aspect; 729, fore wing. 722, 723, 725: scale-line (= 1x); 724, 726, 728: 1.2 x; 727: 2.5 x; 729: 0.9 x.



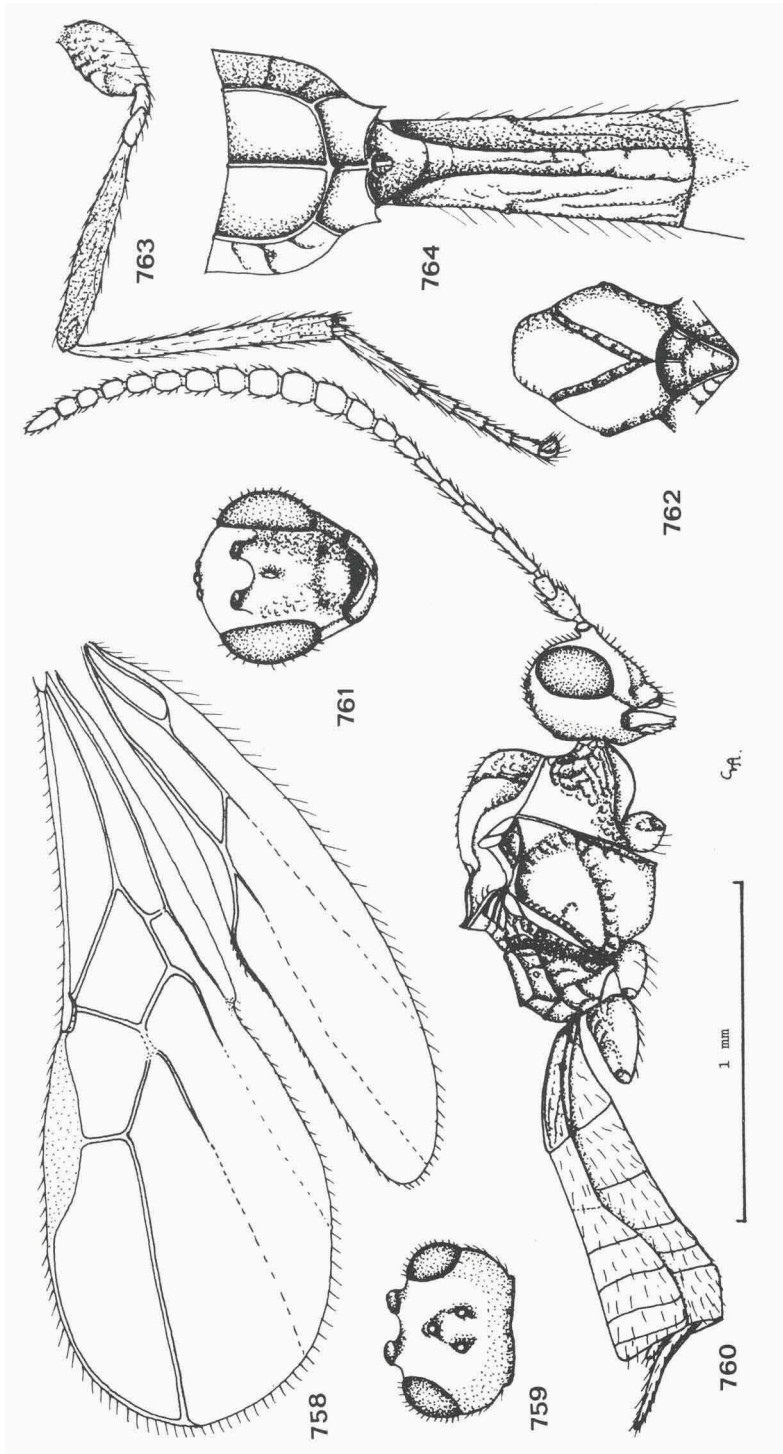
Figs. 730-743, *Blacus (Ganychorus) ruficornis* (Nees), aberrant form, ♀, Netherlands, Wijster, but 741-743 after 2 typical ♀ from Wijster. 730, habitus, lateral aspect; 731, apex of antenna; 732, wings; 733, head, frontal aspect; 734, first metasomal tergite, dorsal aspect; 735, metasoma, dorsal aspect; 736, head, dorsal aspect; 737, middle claw; 738, fore claw; 739, hind claw; 740, hind leg; 741, 742, detail of first discal cell of fore wing; 743, fore claw. 730, 732, 740-742: scale-line (= 1 x); 731: 2.5 x; 737-739, 743: 3 x; 733-736: 1.2x.



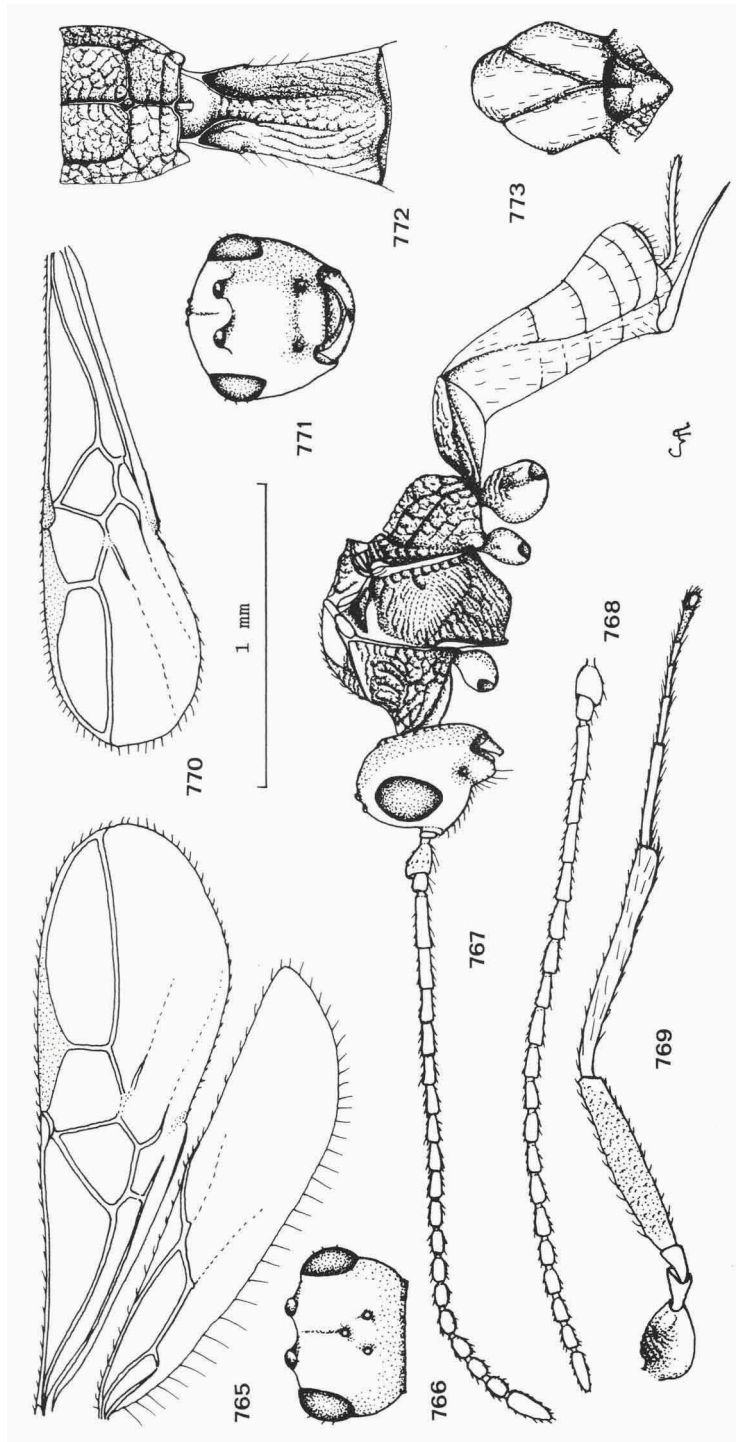
Figs. 744-750, *Blacus (Ganychorus) armatulus* Ruthe, ♀, Canada, Ontario, Innisville. 744, habitus, lateral aspect; 745, wings; 746, head, frontal aspect; 747, head, dorsal aspect; 748, mesonotum, dorsal aspect; 749, hind leg; 750, propodeum and first metasomal tergite, dorsal aspect. 744, 745, 749: scale-line (= 1 x); 746-748: 1.2 x; 750: 2.5 x.



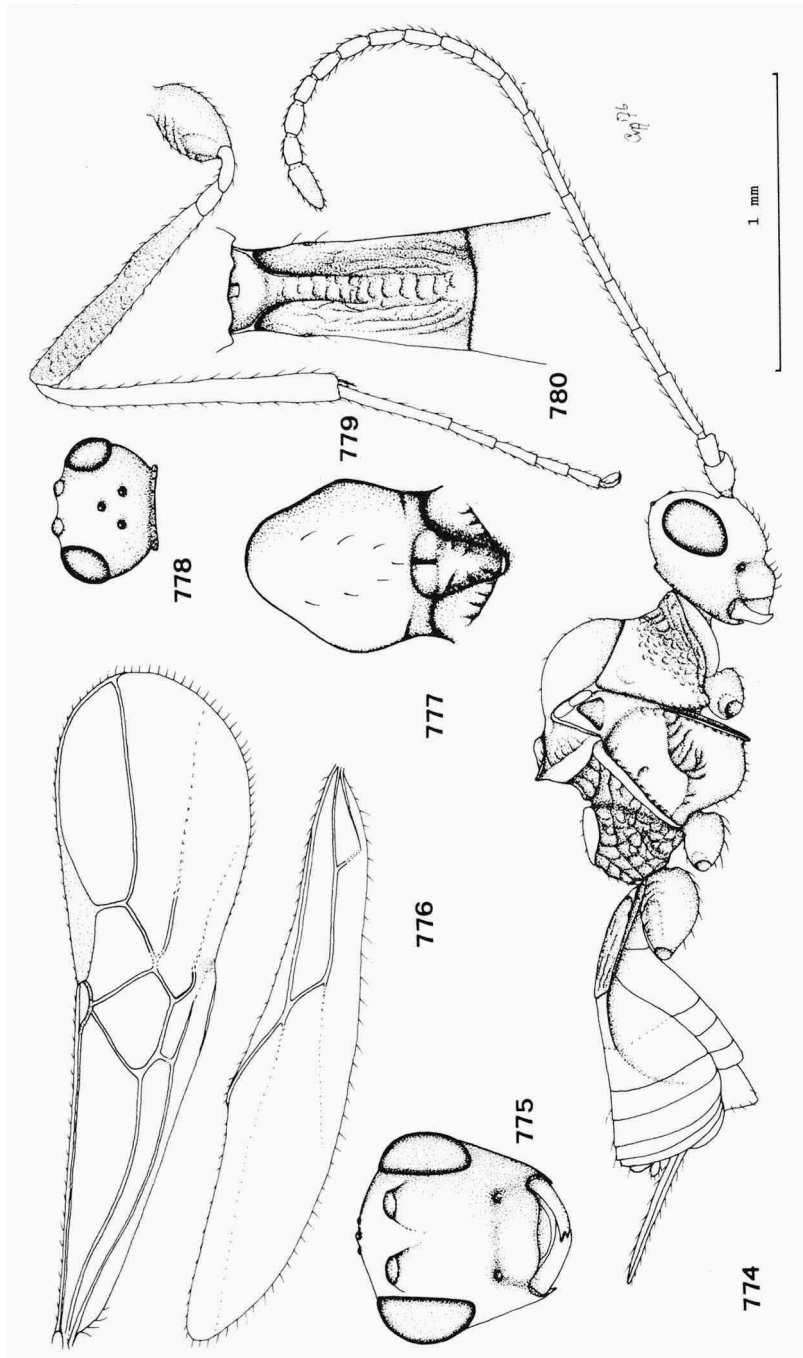
Figs. 751-757, *Blacus (Ganychorus) thoracicus* Van Acnterberg, ♀, holotype. 751, habitus, lateral aspect; 752, head, dorsal aspect; 753, head, frontal aspect; 754, wings; 755, mesonotum, dorsal aspect; 756, hind leg; 757, propodeum and first metasomal tergite, dorsal aspect. 751, 754, 756: scale-line (= 1 x); 752, 753, 755: 1.2 x; 757: 2.5 x.



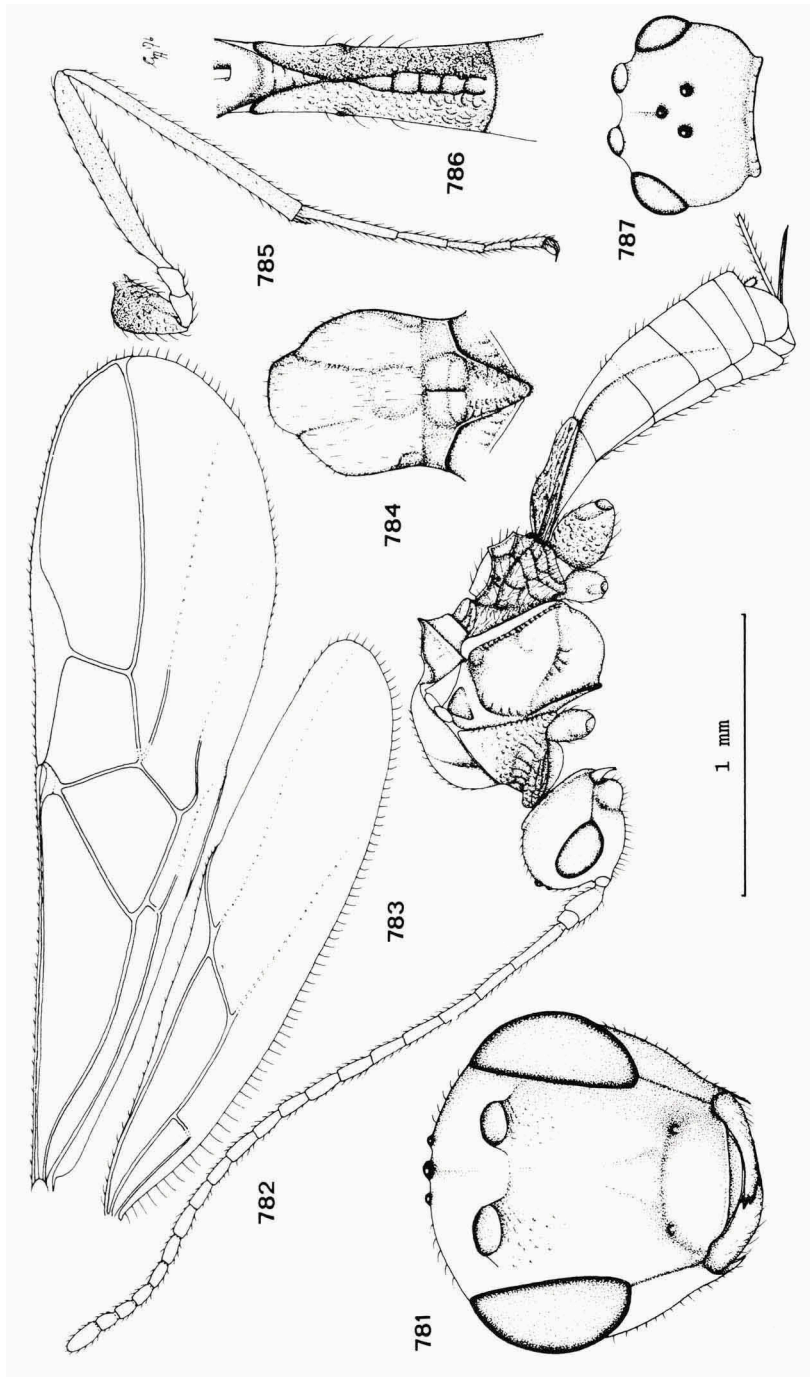
Figs. 758-764, *Blacus (Ganychorus) dilaticornis* Van Achterberg, ♀, holotype. 758, wings; 759, head, dorsal aspect; 760, habitus, lateral aspect; 761, head, frontal aspect; 762, mesonotum, dorsal aspect; 763, hind leg; 764, propodeum and first metasomal tergite, dorsal aspect. 758, 760, 763: scale-line (= 1 x); 759, 761, 762: 1.2 x; 764: 2.5 x.



Figs. 765-773. *Blacus (Ganychorus) striatus* Van Achterberg, ♀, holotype, but 768 and 770 after male from Canada, Ontario, Chatterton. 765, wings; 766, head, dorsal aspect; 767, habitus, dorsal aspect; 768, antenna; 769, hind leg; 770, fore wing; 771, head, frontal aspect; 772, propodeum and first metasomal tergite, dorsal aspect. 765, 767-770: scale-line (= 1 x); 766, 771, 773: 1.2 x; 772: 2 x.

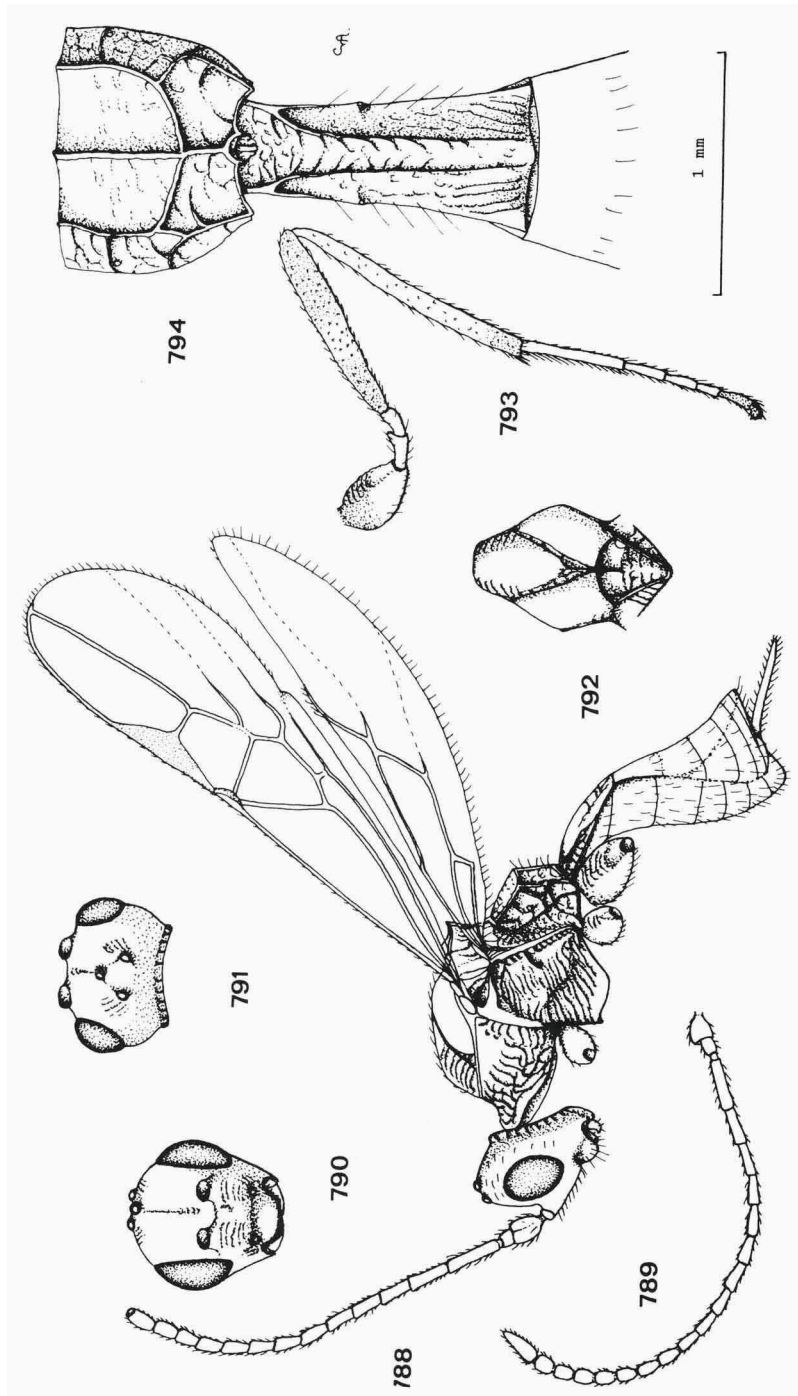


Figs. 774-780, *Blacus (Ganychorus) insulcatus* spec. nov., ♀, holotype. 774, habitus, lateral aspect; 775, head, frontal aspect; 776, wings; 777, mesonotum, dorsal aspect; 778, head, dorsal aspect; 779, hind leg; 780, first metasomal tergite, dorsal aspect. 774, 776, 778, 779: scale-line (= 1 x); 775, 777: 1.4 x; 780: 2 x.

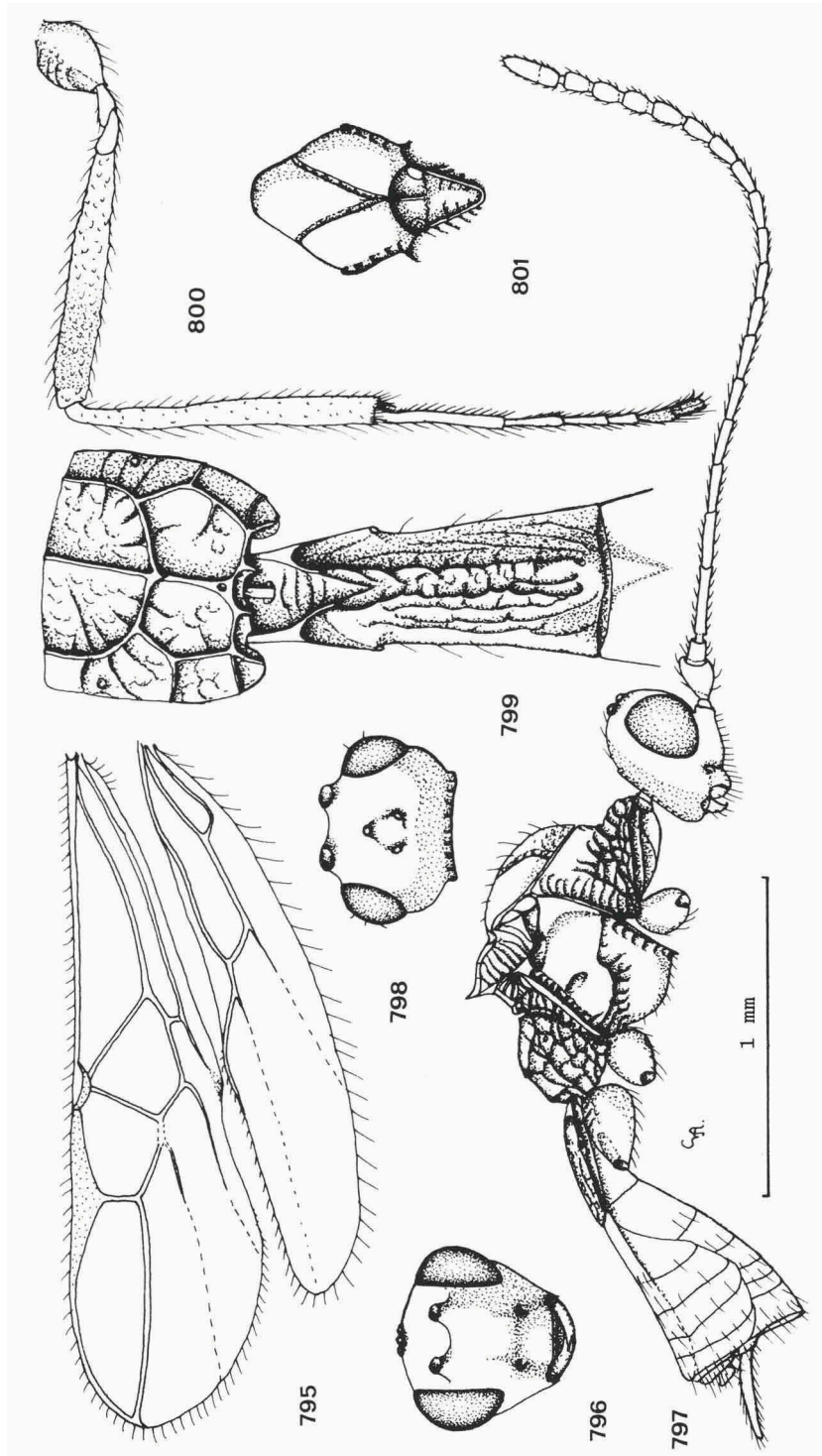


Figs. 781-787, *Blacus (Ganychorus) semisulcatus* spec. nov., ♀, holotype. 781, head, frontal aspect; 782, habitus, lateral aspect; 783, wings; 784, mesonotum, dorsal aspect; 785, hind leg; 786, first metasomal tergite, dorsal aspect; 787, head, dorsal aspect. 781, 786: 2.1 x; 782, 783, 785: scale-line (= 1 x); 784, 787: 1.4 x.

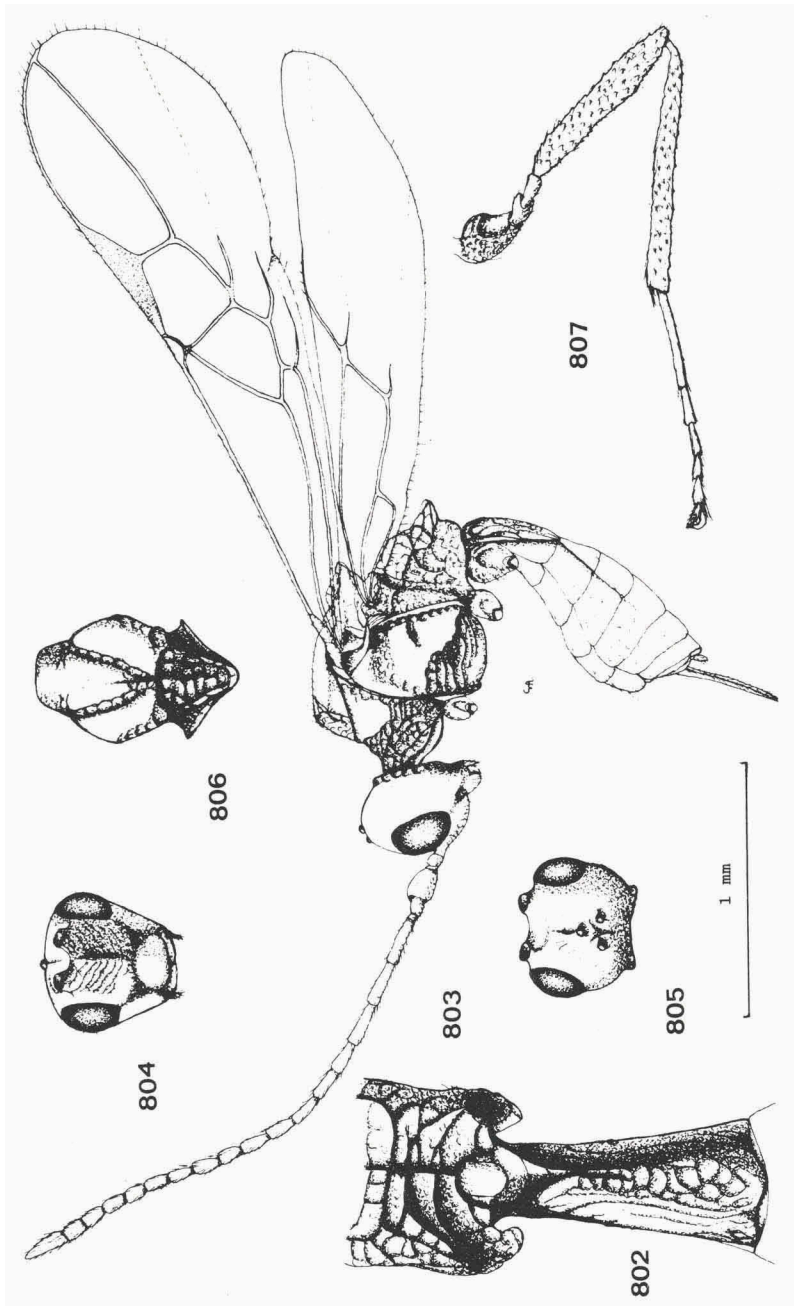




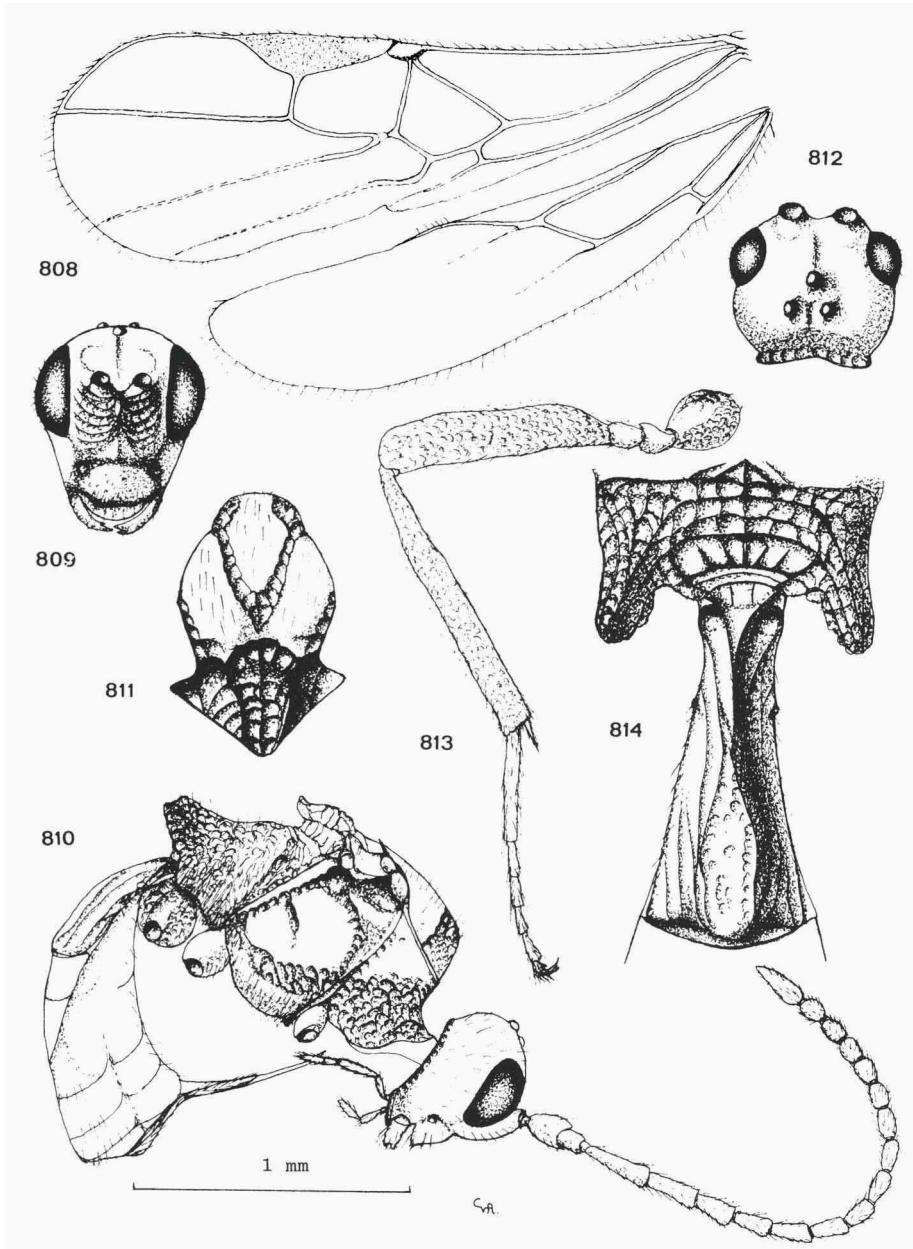
Figs. 788-794, *Blacus (Ganychorus) collaris* (Ashmead), ♀, Canada, Quebec, Parke Reserve, but 789 after ♀ from U.S.A., Virginia, Blacksburg. 788, habitus, lateral aspect; 789, antenna; 790, head, frontal aspect; 791, head, dorsal aspect; 792, mesonotum, dorsal aspect; 793, hind leg; 794, propodeum and first metasomal tergite, dorsal aspect. 788, 789, 793: scale-line (= 1 x); 790-792: 1.2 x; 794: 2 x.



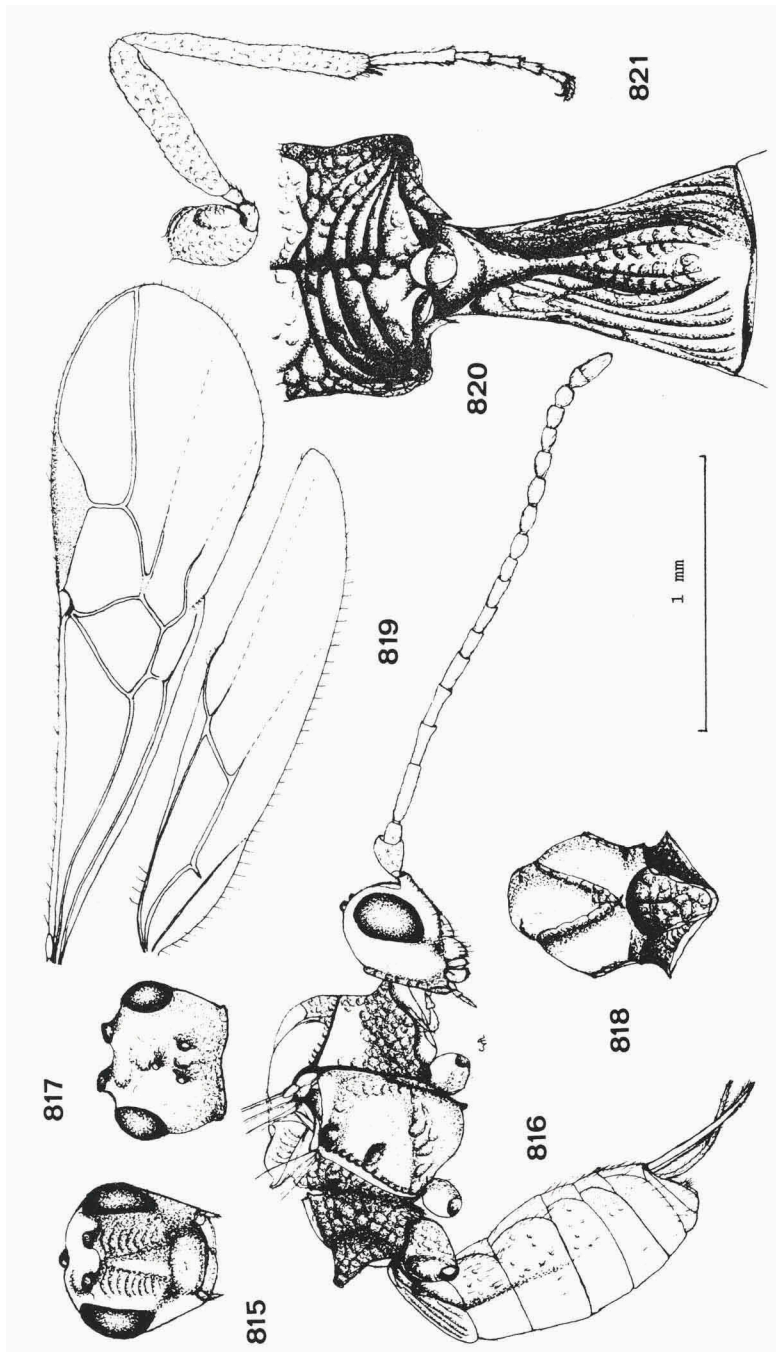
Figs. 795-801, *Blacus (Ganychorus) epitulus* Van Achterberg, ♀, holotype. 795, wings; 796, head, frontal aspect; 797, habitus, lateral aspect; 798, head, dorsal aspect; 799, propodeum and first metasomal tergite, dorsal aspect; 800, hind leg; 801, mesonotum, dorsal view. 795, 797, 800: scale-line (= 1 x); 796, 798, 801: 1.2 x; 799: 2.5 x.



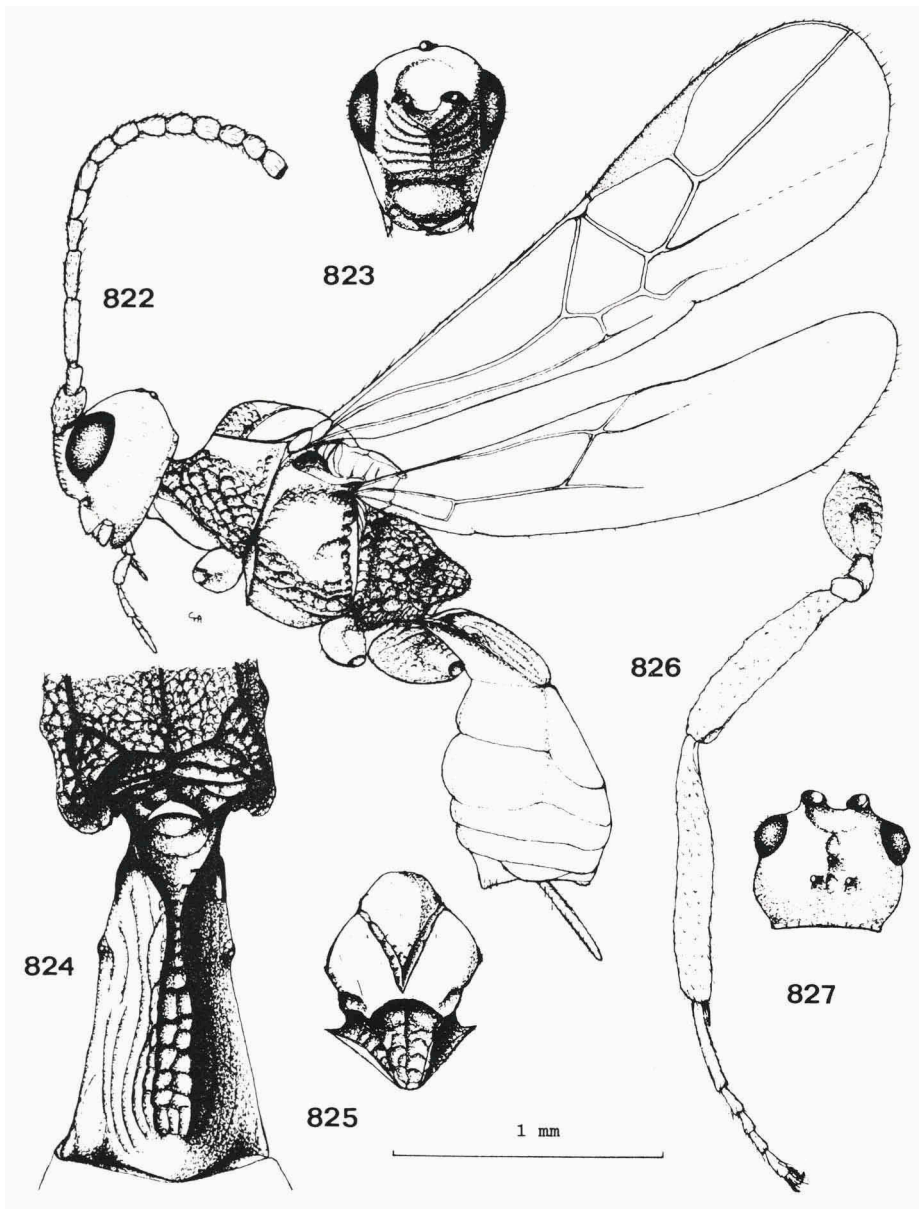
Figs. 802-807, *Blacus (Hysterobolus) trapezoides* Van Achterberg, ♀, holotype. 802, propodeum and first metasomal tergite, dorsal aspect; 803, habitus, lateral aspect; 804, head, frontal aspect; 805, head, dorsal aspect; 806, mesonotum, dorsal aspect; 807, hind leg. 802: 2.5 x; 803, 807: scale-line (= 1 x); 804-806: 1.2 x.



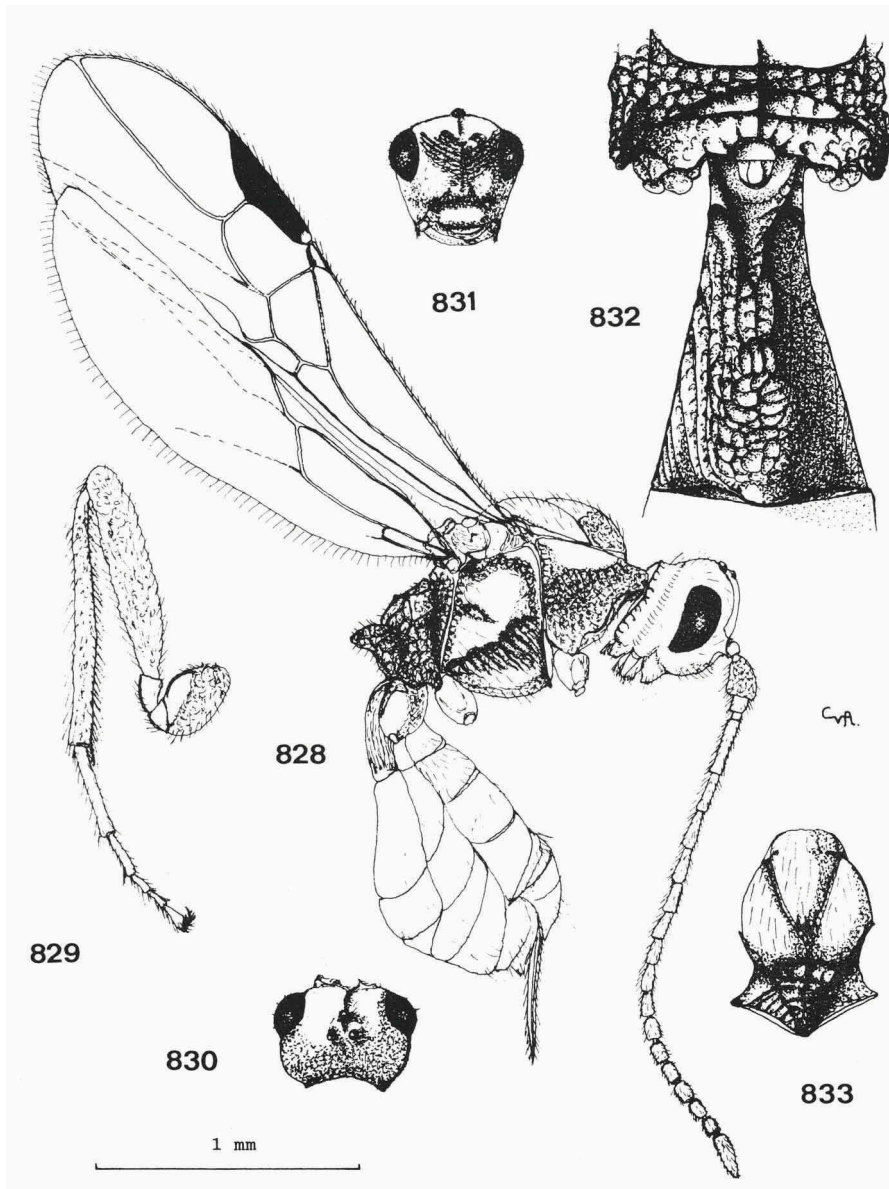
Figs. 808-814, *Blacus (Hysterobolus) mallochi* (Viereck), ♀, holotype. 808, wings; 809, head, frontal aspect; 810, habitus, lateral aspect; 811, mesonotum, dorsal aspect; 812, head, dorsal aspect; 813, hind leg; 814, propodeum and first metasomal tergite, dorsal aspect. 808, 810, 813: scale-line (= 1 x); 809, 811, 812: 1.2 x; 814: 2.5 x.



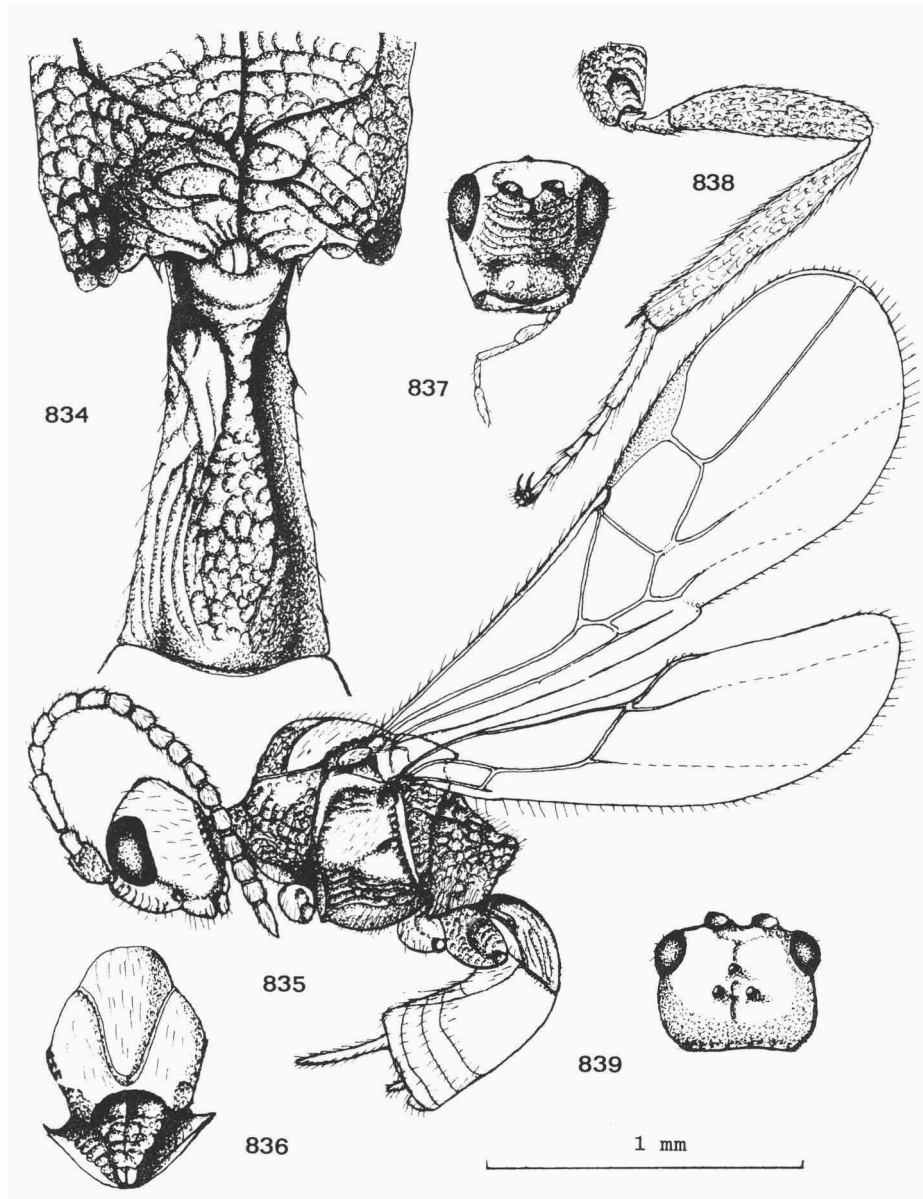
Figs. 815-821, *Blacus (Hysterobolus) redactus* Van Achterberg, ♀, holotype. 815, head, frontal aspect; 816, habitus, lateral aspect; 817, head, dorsal aspect; 818, mesonotum, dorsal aspect; 819, wings; 820, propodeum and first metasomal tergite, dorsal aspect; 821, hind leg. 815, 817, 818: 1.2 x; 816, 819, 821: scale-line (= 1 x); 820: 2.5 x.



Figs. 822-827, *Blacus (Hysterobolus) patulus* Van Achterberg, ♀, holotype. 822, habitus, lateral aspect; 823, head, frontal aspect; 824, propodeum and first metasomal tergite, dorsal aspect; 825, mesonotum, dorsal aspect; 826, hind leg; 827, head, dorsal aspect. 822, 826: scale-line (= 1 x); 823, 825, 827: 1.2 x; 824: 2.5 x.

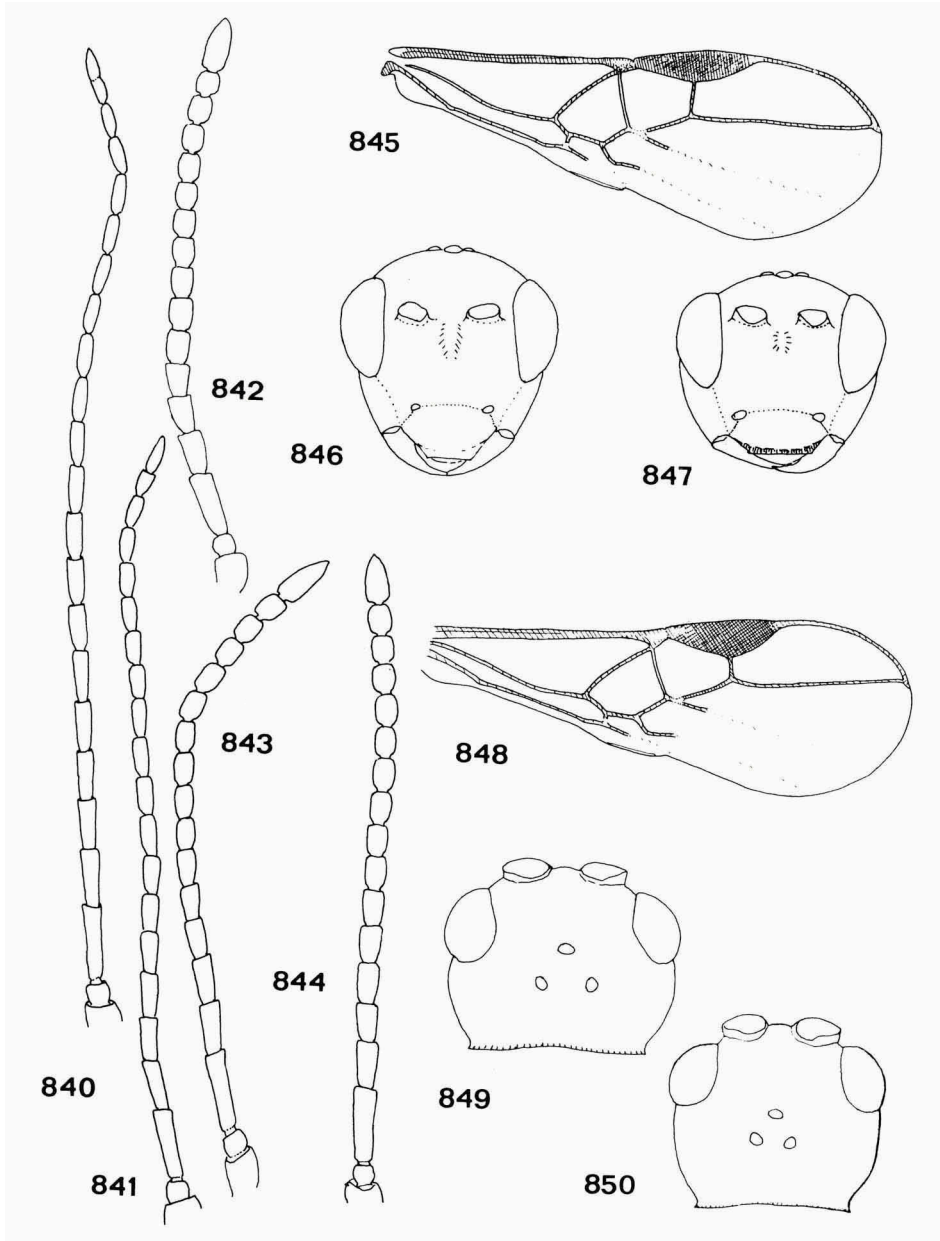


Figs. 828-833, *Blacus (Hysterobolus) robustus* Haeselbarth, Nearctic form, ♀, U.S.A., Arizona, Rustlers Park. 828, habitus, lateral aspect; 829, hind leg; 830, head, dorsal aspect; 831, head, frontal aspect; 832, propodeum and first metasomal tergite, dorsal aspect; 833, mesonotum, dorsal aspect. 828-831, 833: scale-line (= 1 x); 832: 2.5 x.

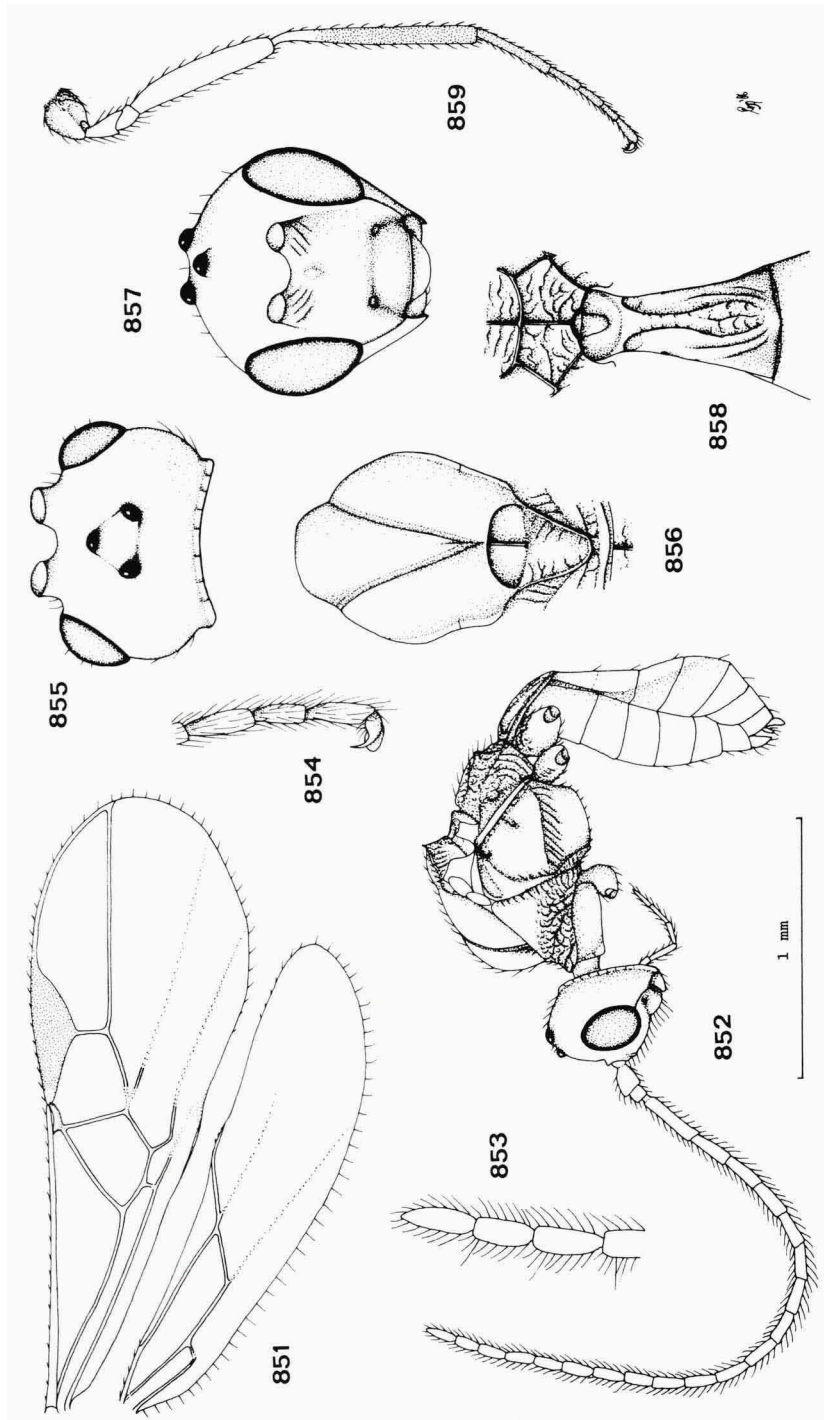


Figs. 834-839, *Blacus (Hysterobolus) robustus* Haeselbarth, small Nearctic form, ♀, U.S.A., North Carolina, Clingman's Dome. 834, propodeum and first metasomal tergite, dorsal aspect; 835, habitus, dorsal aspect; 836, mesonotum, dorsal aspect; 837, head, frontal aspect; 838, hind leg; 839, head, dorsal aspect. 834: 3 x; 835, 838: scale-line (= 1 x); 836, 837, 839: 1.2 x.

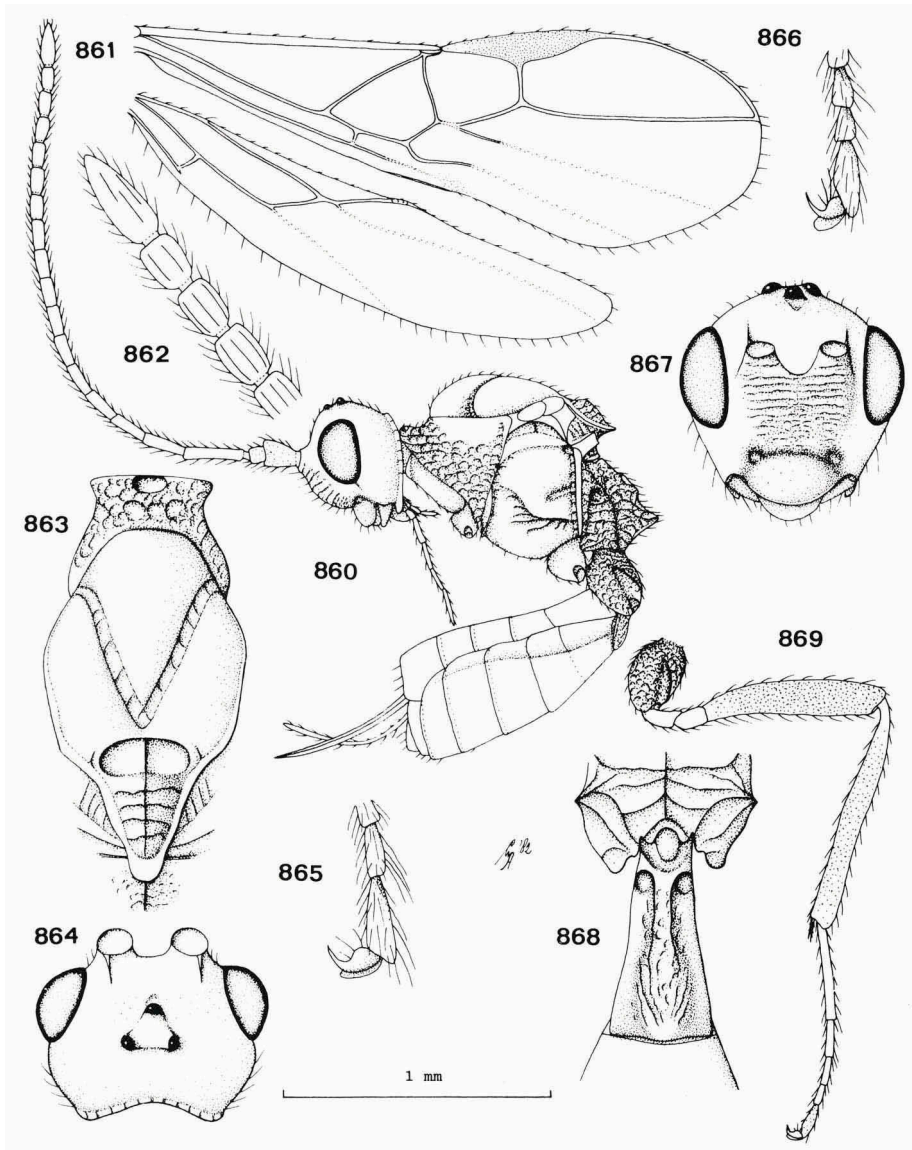




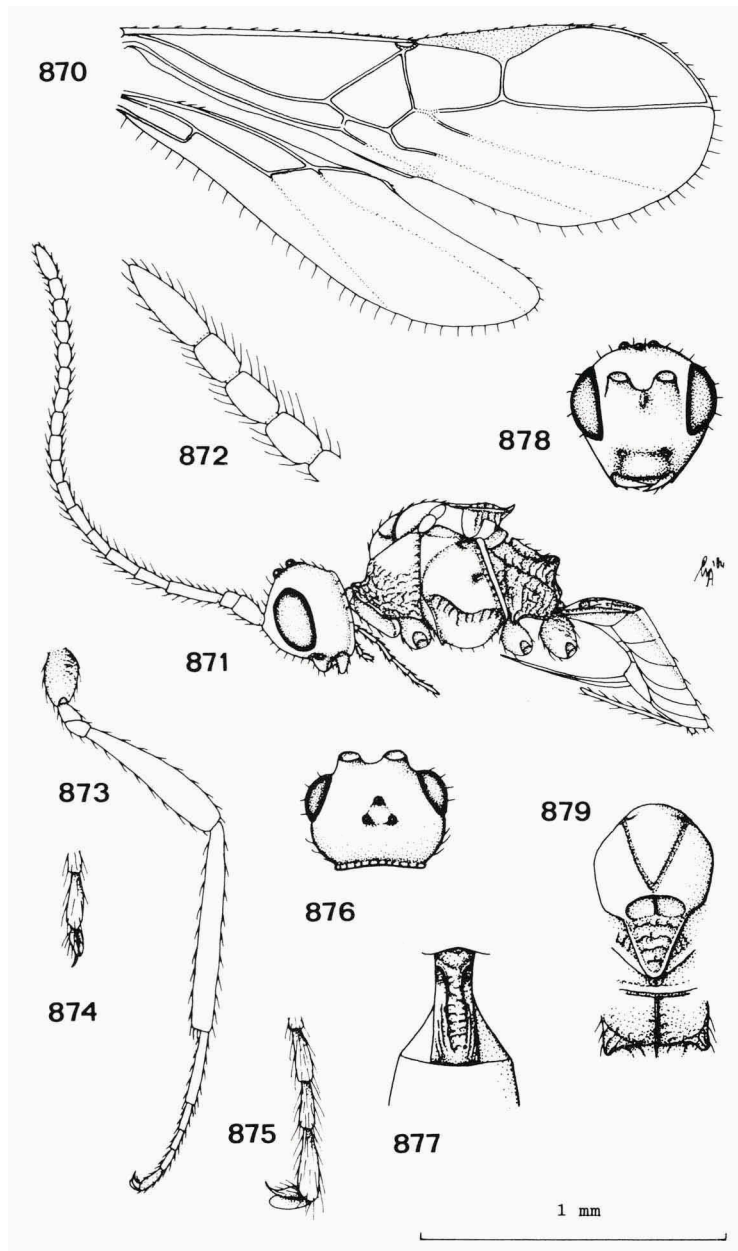
Figs. 840, 842, 845, 846, *Blacus (Hysterobolus) varius* Haeselbarth, 840, 845: ♂; 842, 846: ♀; figs. 841, 844, 849, *Blacus (Hysterobolus) robustus* Haeselbarth, 841: ♂; 844, 849: ♀; figs. 843, 847, 848, *Blacus (Hysterobolus) nixonii* Haeselbarth, ♀; fig. 850, *Blacus (Hysterobolus) mamillanus* Ruthe, ♀. After Haeselbarth, 1973a.



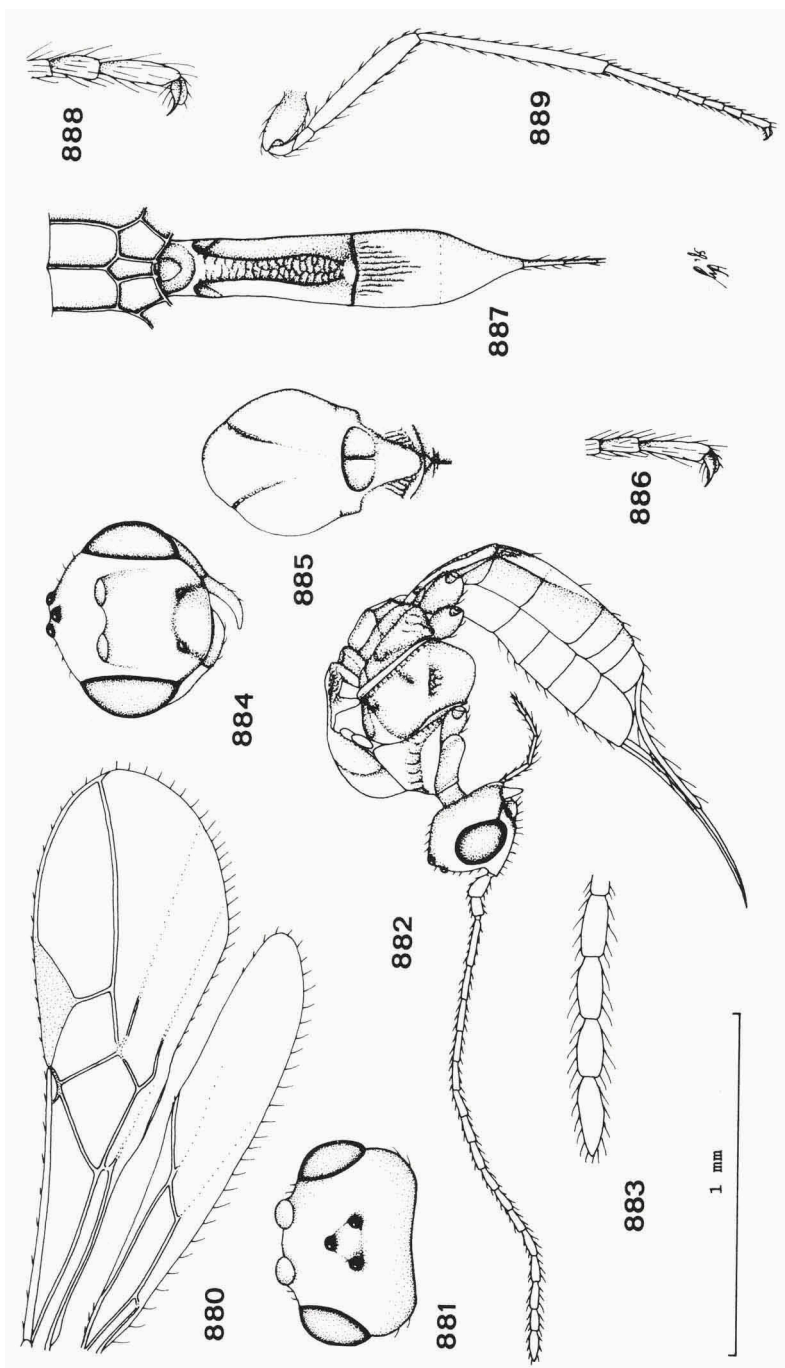
Figs. 851-859, *Blacus (Hysterobous) nixonii* Haeselbarth, ♂, Spain, Elviria. 851, wings; 852, habitus, lateral aspect; 853, apex of antenna; 854, hind claw; 855, head, dorsal aspect; 856, thorax, dorsal aspect; 857, head, frontal aspect; 858, propodeum and first metasomal tergite, dorsal aspect; 859, hind leg. 851, 852, 859: scale-line (= 1 x); 853, 854: 2.5 x; 855-858: 2 x.



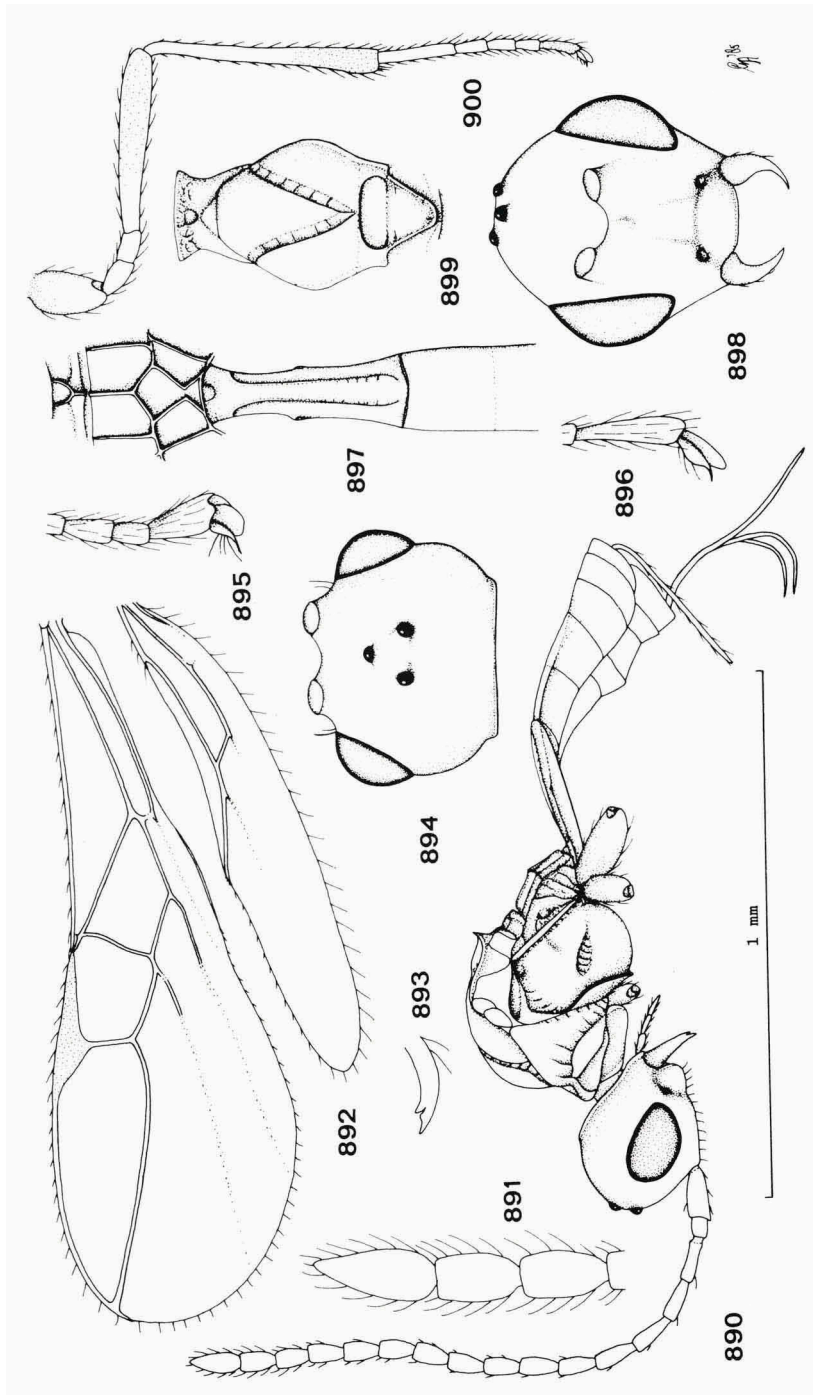
Figs. 860-869, *Blacus (HysteroBolus) fuscitibialis* spec. nov., ♀, holotype. 860, habitus, lateral aspect; 861, wings; 862, apex of antenna; 863, mesosoma, dorsal aspect; 864, head, dorsal aspect; 865, hind claw; 866, fore claw; 867, head, frontal aspect; 868, propodeum and first metasomal tergite, dorsal aspect; 869, hind leg. 860, 861, 869: scale-line (= 1 x); 862, 865, 866: 2.5 x; 863, 864, 867, 868: 1.7 x.



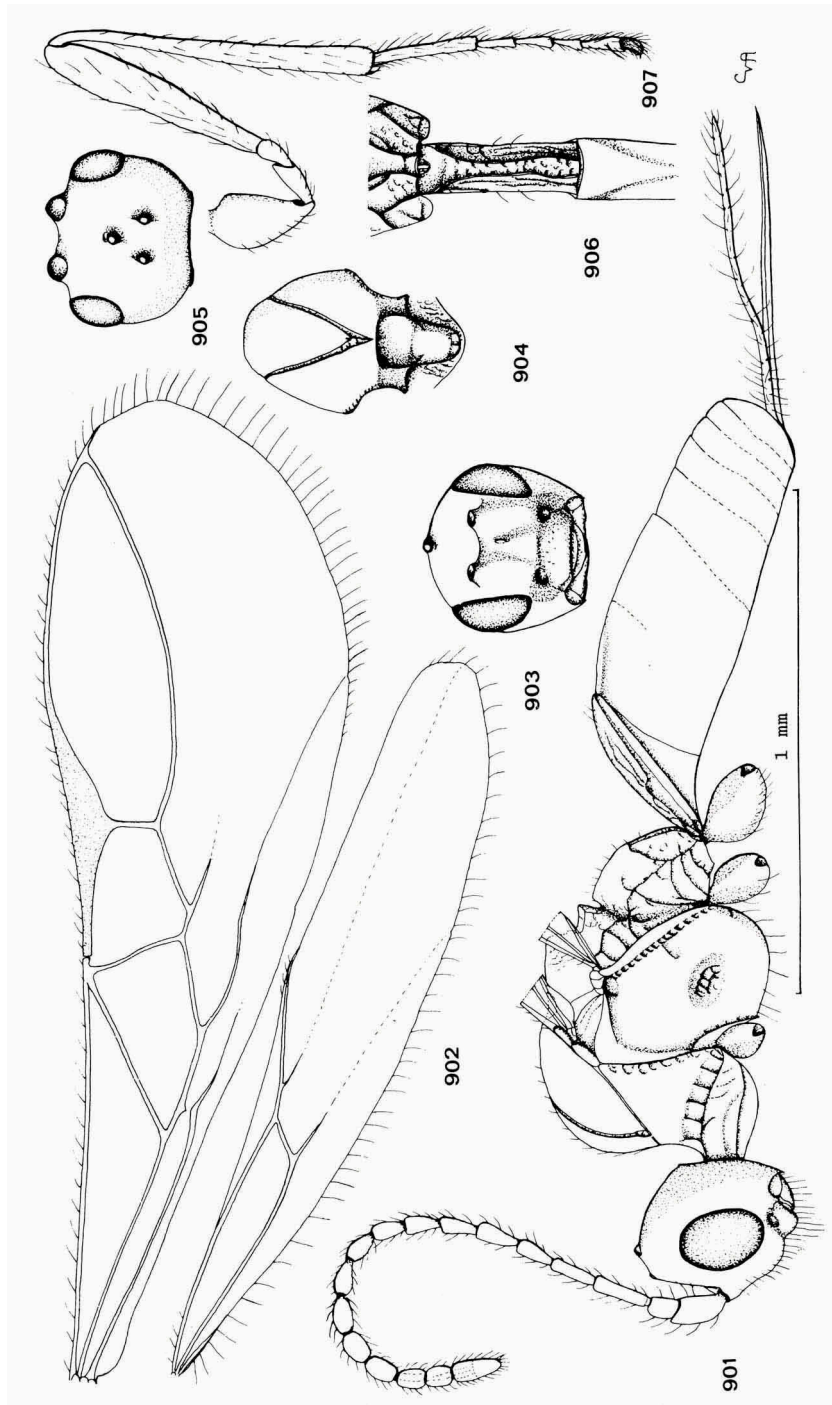
Figs. 870-879, *Blacus (Hysterobolus) hemicastaneus* spec. nov., ♀, holotype. 870, wings; 871, habitus, lateral aspect; 872, apex of antenna; 873, hind leg; 874, middle claw; 875, hind claw; 876, head, dorsal aspect; 877, first metasomal tergite, dorsal aspect; 878, head, frontal aspect; 879, mesosoma, dorsal aspect. 870, 871, 873: scale-line (= 1 x); 872, 874, 875: 2.5 x; 876-879: 1.3 x.



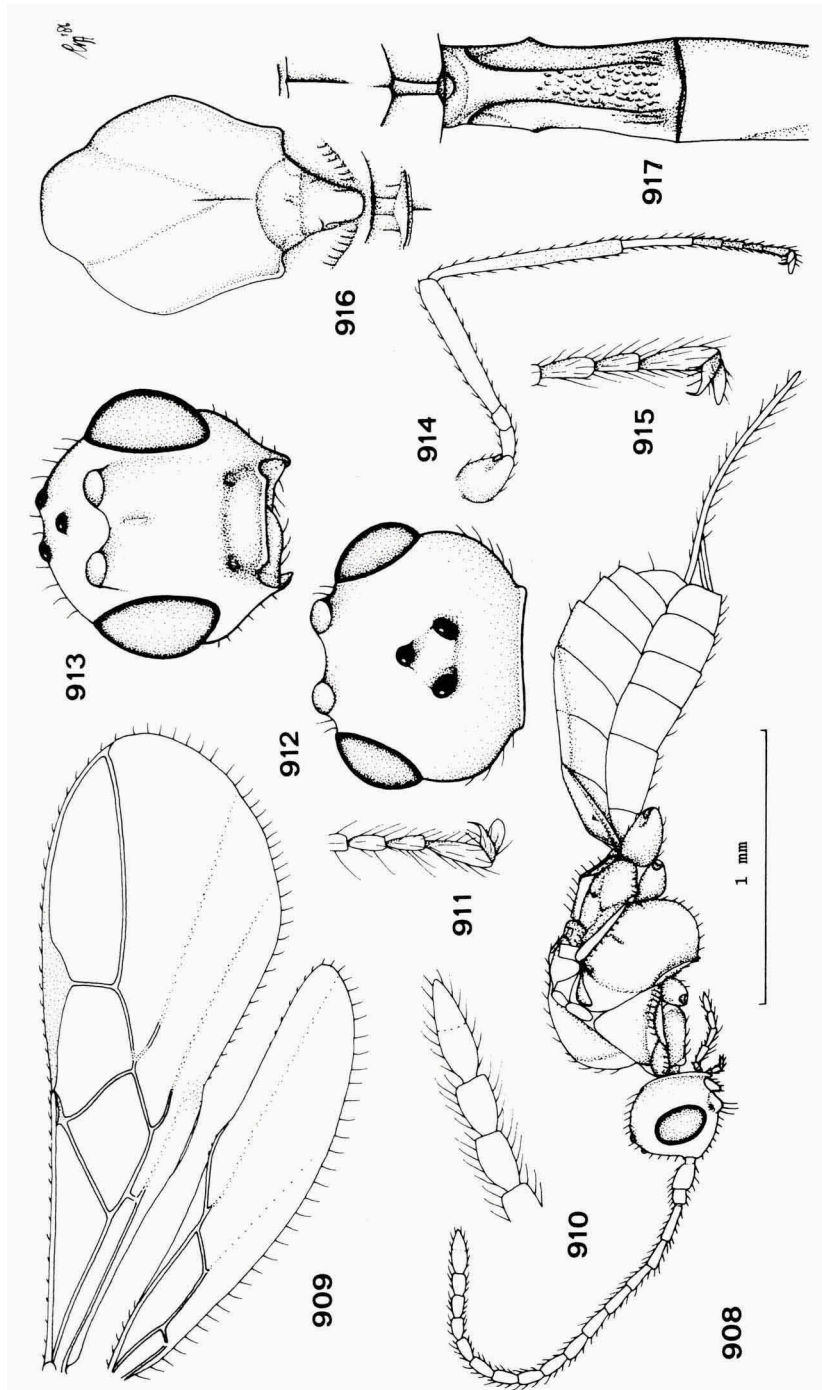
Figs. 880-889, *Blacus (Ischnotron) parvus* Haeselbarth, ♀, paratype. 880, wings; 881, head, dorsal aspect; 882, habitus, lateral aspect; 883, apex of antenna; 884, head, frontal aspect; 885, thorax, dorsal aspect; 886, fore claw; 887, propodeum and metasoma, dorsal aspect; 888, hind claw; 889, hind leg. 880, 882, 889: scale-line (= 1 x); 881, 884, 885, 887: 1.6 x; 883, 886, 888: 2.5 x.



Figs. 890-900, *Blacus (Leioblacus) macrocephalus* spec. nov., ♀, holotype. 890, habitus, lateral aspect; 891, apex of antenna; 892, wings; 893, mandible, dorsal aspect; 894, head, dorsal aspect; 895, fore claw; 896, hind claw; 897, propodeum, first and second metasomal tergites, dorsal aspect; 898, head, frontal aspect; 899, thorax, dorsal aspect; 900, hind leg. 890, 892, 900: scale-line (= 1 x); 891, 893, 895, 896: 2.5 x; 894, 897-899: 1.3 x.

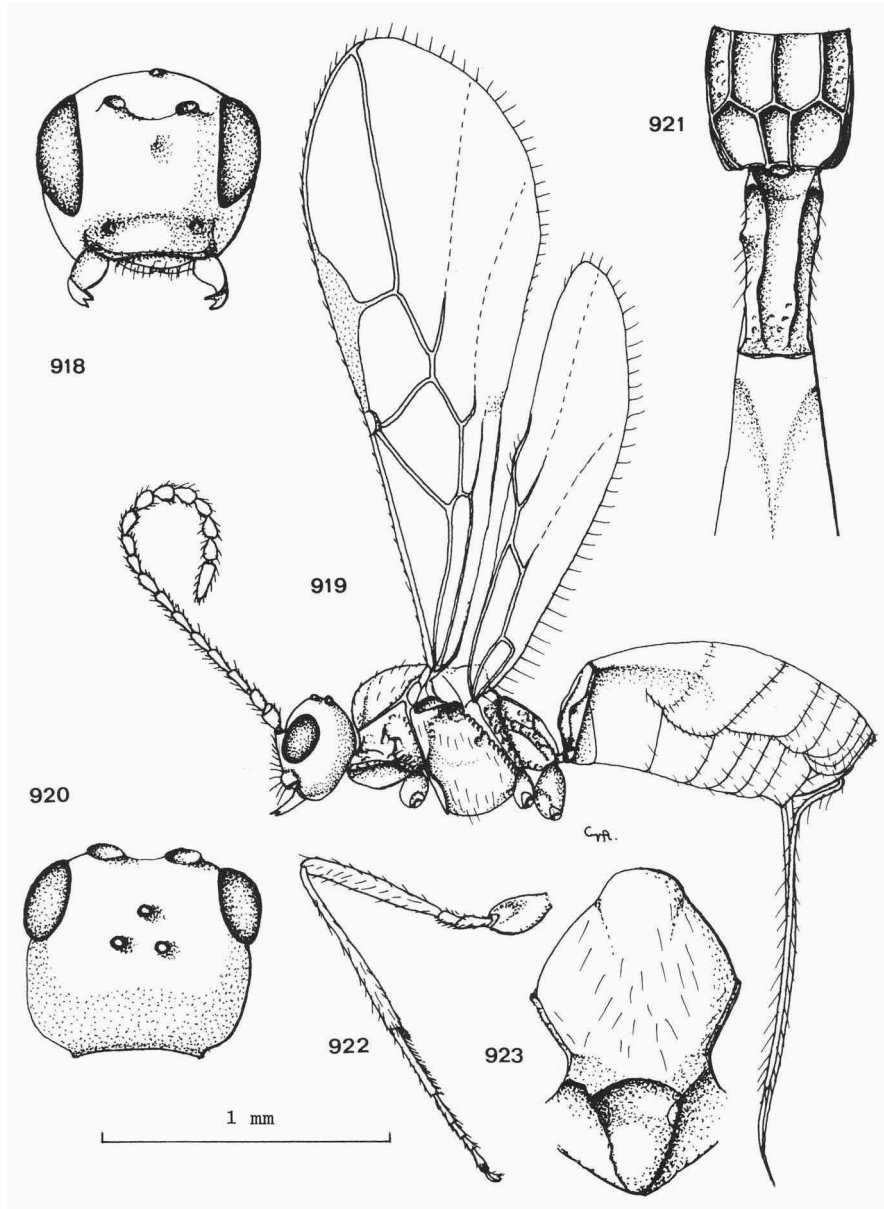


Figs. 901-907, *Blacus (Leioblacus) aulacis* Van Achterberg, ♀, holotype. 901, habitus, lateral aspect; 902, wings; 903, head, frontal aspect; 904, mesonotum, dorsal aspect; 905, head, dorsal aspect; 906, part of propodeum, first and second metasomal tergites, dorsal aspect; 907, hind leg. 901-907: scale-line.

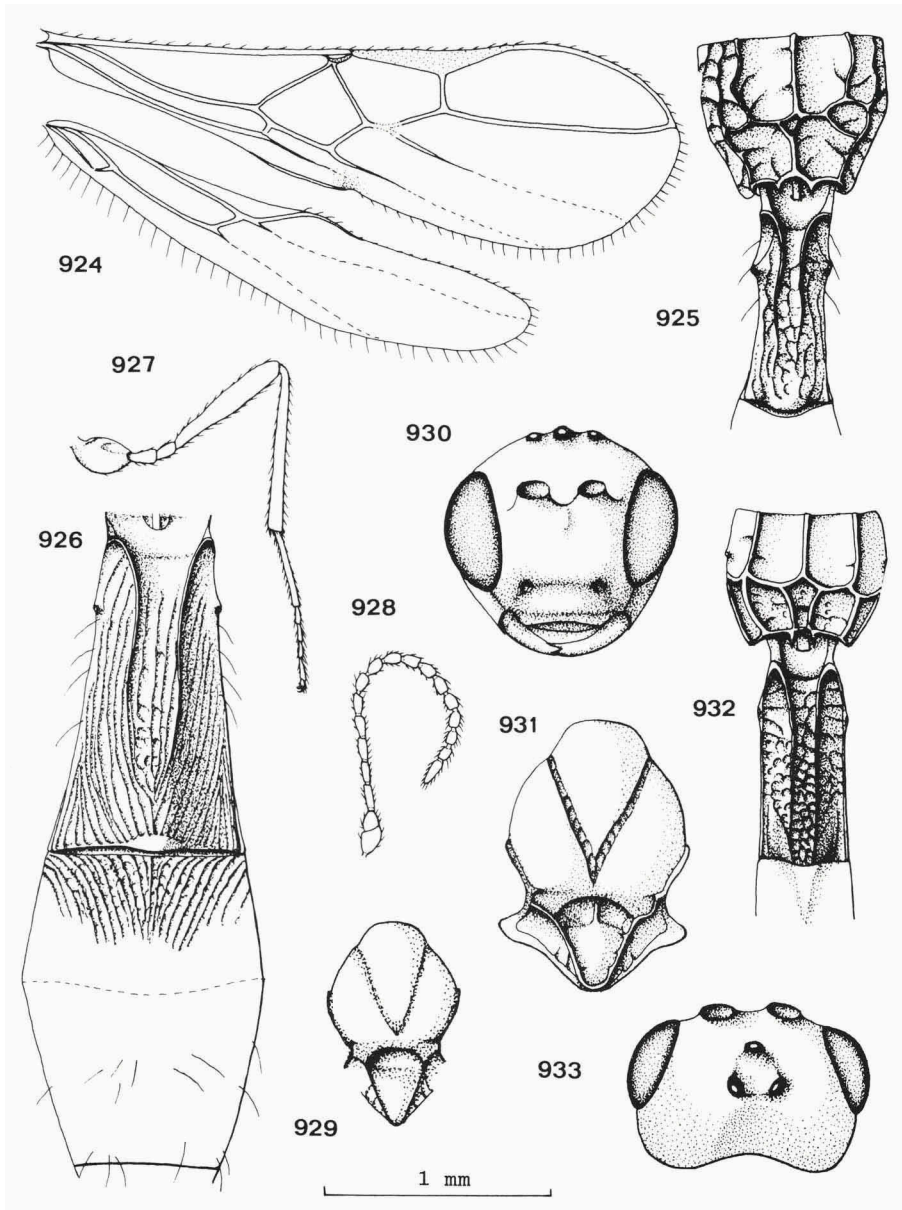


Figs. 908-917, *Blacus (Leioblacus) whartoni* spec. nov., ♀, holotype. 908, habitus, lateral aspect; 909, wings; 910, apex of antenna; 911, fore claw; 912, head, dorsal aspect; 913, head, frontal aspect; 914, hind leg; 915, hind claw; 916, thorax, dorsal aspect; 917, propodeum, first and second metasomal tergites, dorsal aspect. 908, 909, 914: scale-line (= 1 x); 910-913, 915-917: 2.5 x.

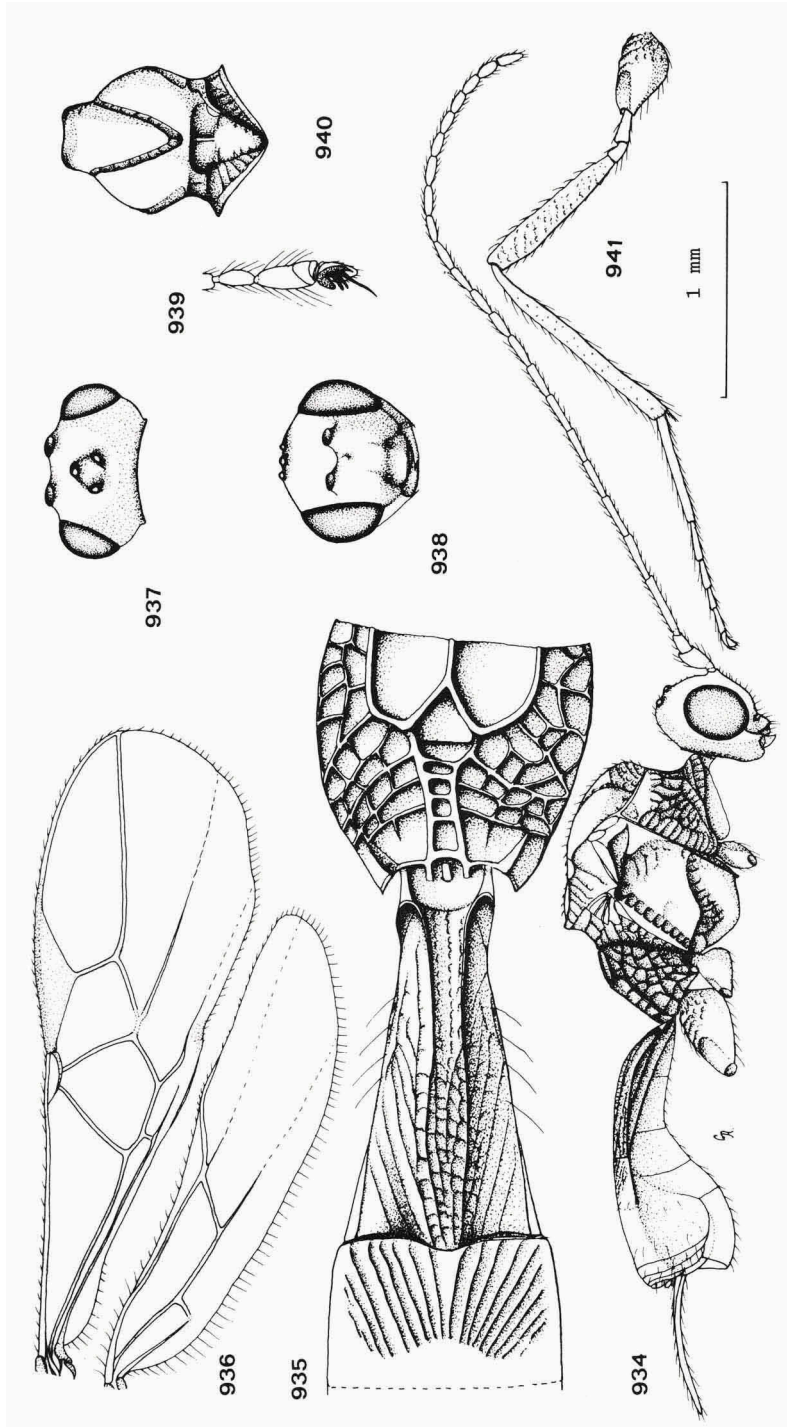




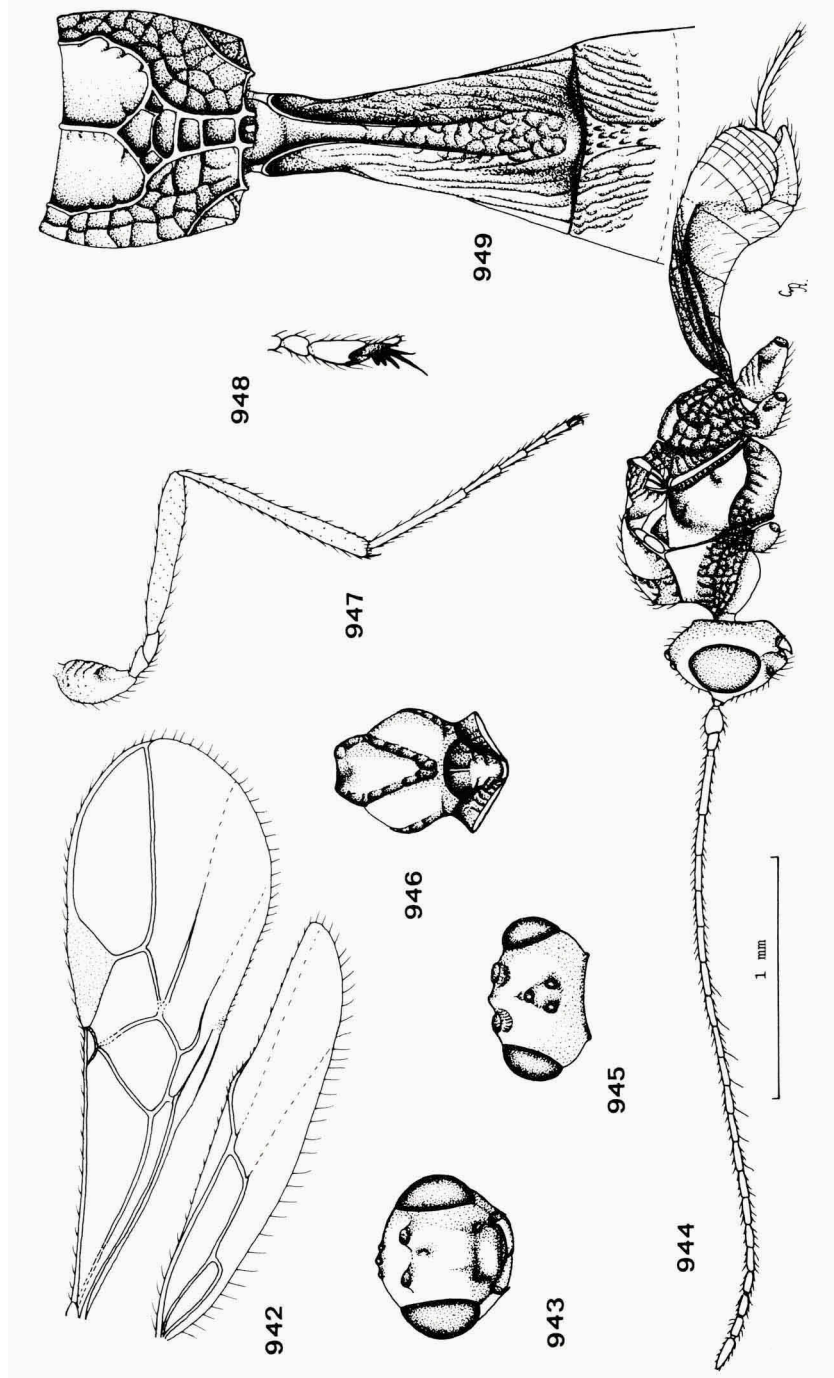
Figs. 918-923, *Blacus (Leioblacus) compressiventris* Van Achterberg, ♀, holotype. 918, head, frontal aspect; 919, habitus, lateral aspect; 920, head, dorsal aspect; 921, propodeum, first and second metasomal tergites, dorsal aspect; 922, hind leg; 923, mesonotum, dorsal aspect. 919, 922: scale-line (= 1 x); 918, 920, 921, 923: 2.5 x.



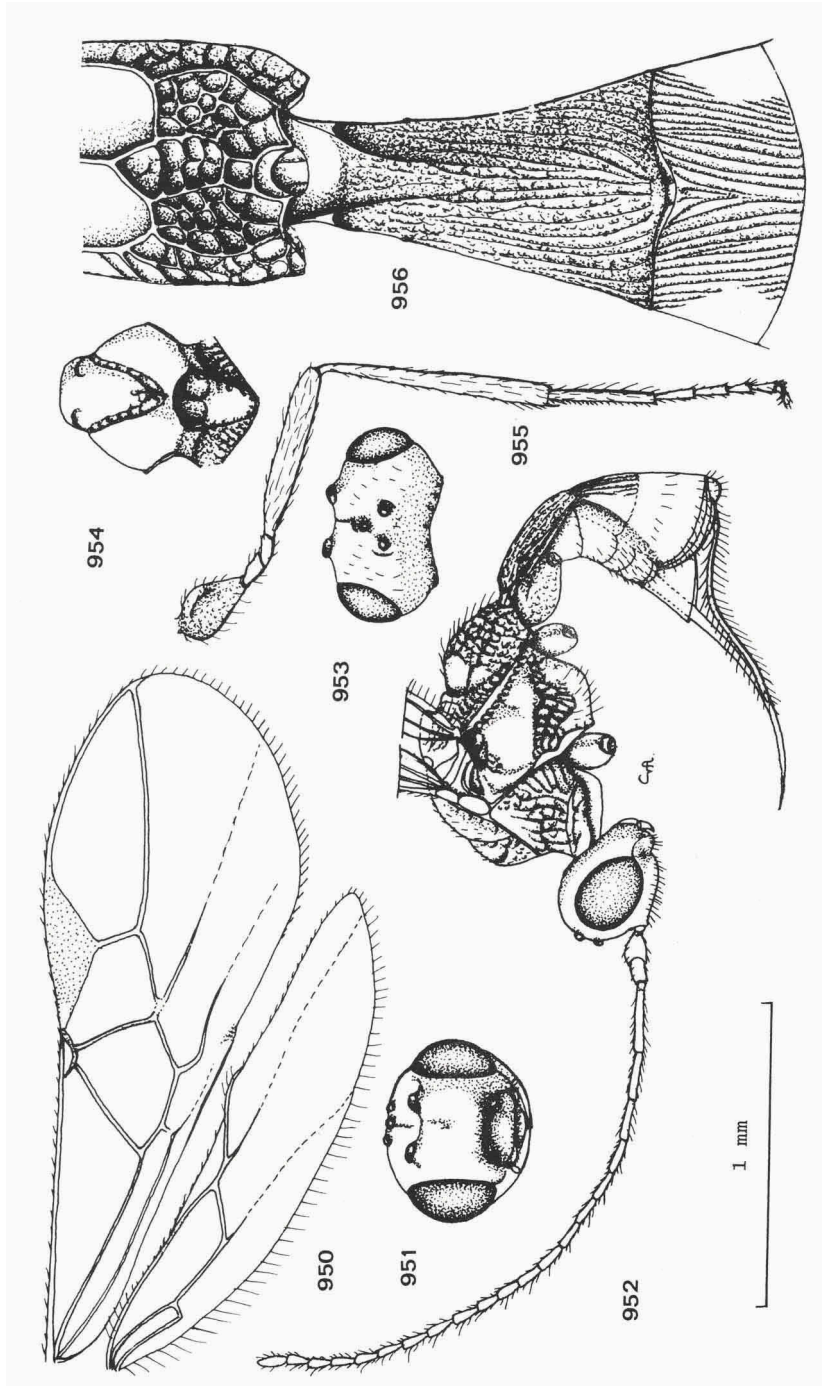
Figs. 924-925, *Blacus (Ganychorus) genalis* Haeselbarth, ♀, Zaire, Lubumbashi; fig. 926, *Blacus (Tarpheion) gibber* Haeselbarth, ♀, paratype; figs. 927-929, *Blacus (Leioblacus) fischeri* Haeselbarth, ♀, holotype; figs. 930-933, *Blacus (Tarpheion) achterbergi* Haeselbarth, ♀, paratype. 924, wings; 925, 932, propodeum and first metasomal tergite, dorsal aspect; 926, first-third metasomal tergites, dorsal aspect; 927, hind leg; 928, antenna; 929, mesonotum, dorsal aspect; 930, head, frontal aspect; 931, mesonotum, dorsal aspect; 933, head, dorsal aspect. 924, 927, 928: scale-line (= 1 x); 925, 926, 930-933: 2.5 x; 929: 1.4 x.



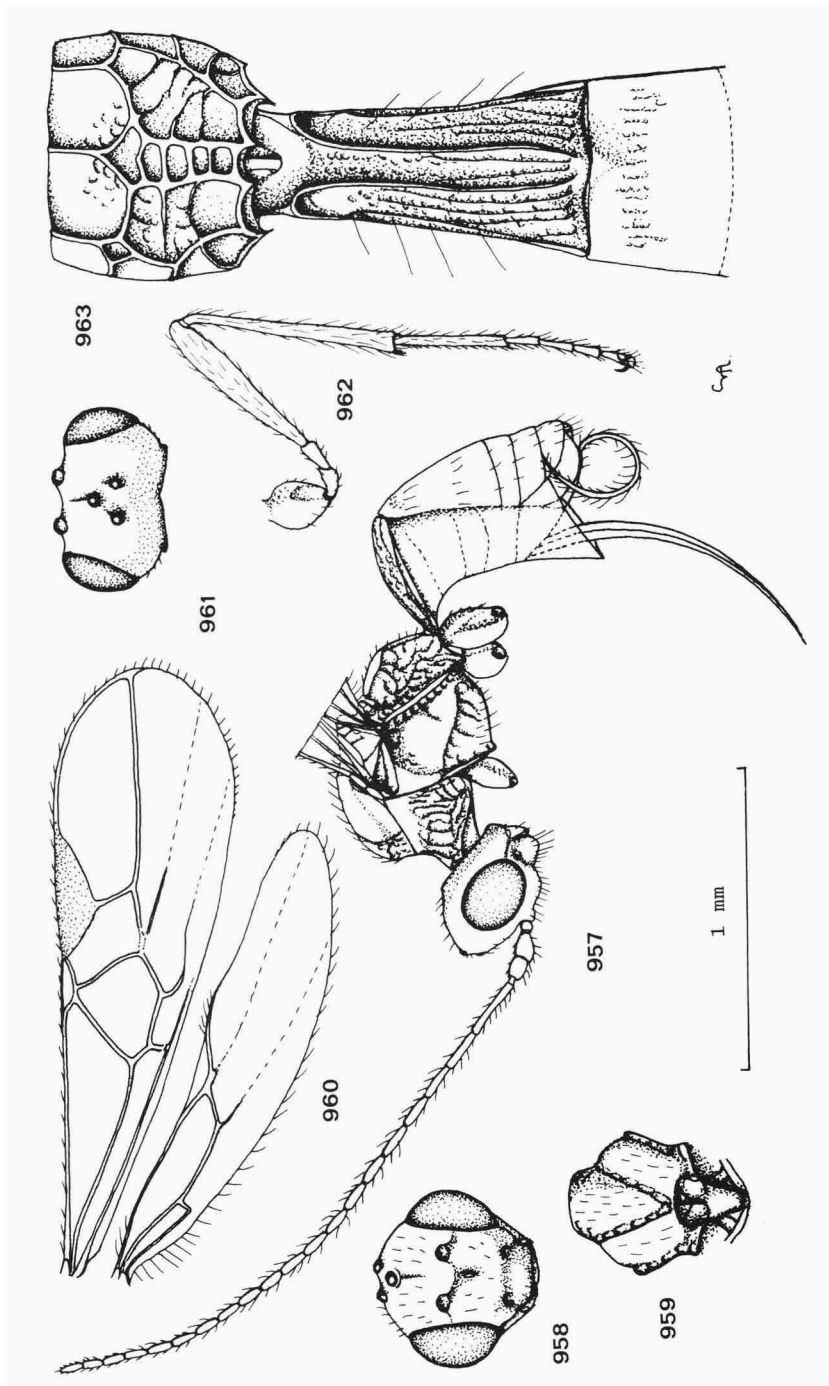
Figs. 934-941, *Blacus (Tarpheion) cerinus* Van Achterberg, ♀, holotype. 934, habitus, lateral aspect; 935, propodeum, first and second metasomal tergites, dorsal aspect; 936, wings; 937, head, dorsal aspect; 938, head, frontal aspect; 939, fore claw; 940, mesonotum, dorsal aspect; 941, hind leg. 934, 936, 941: scale-line (= 1 x); 935, 939: 2.5 x; 937, 938, 940: 1.2 x.



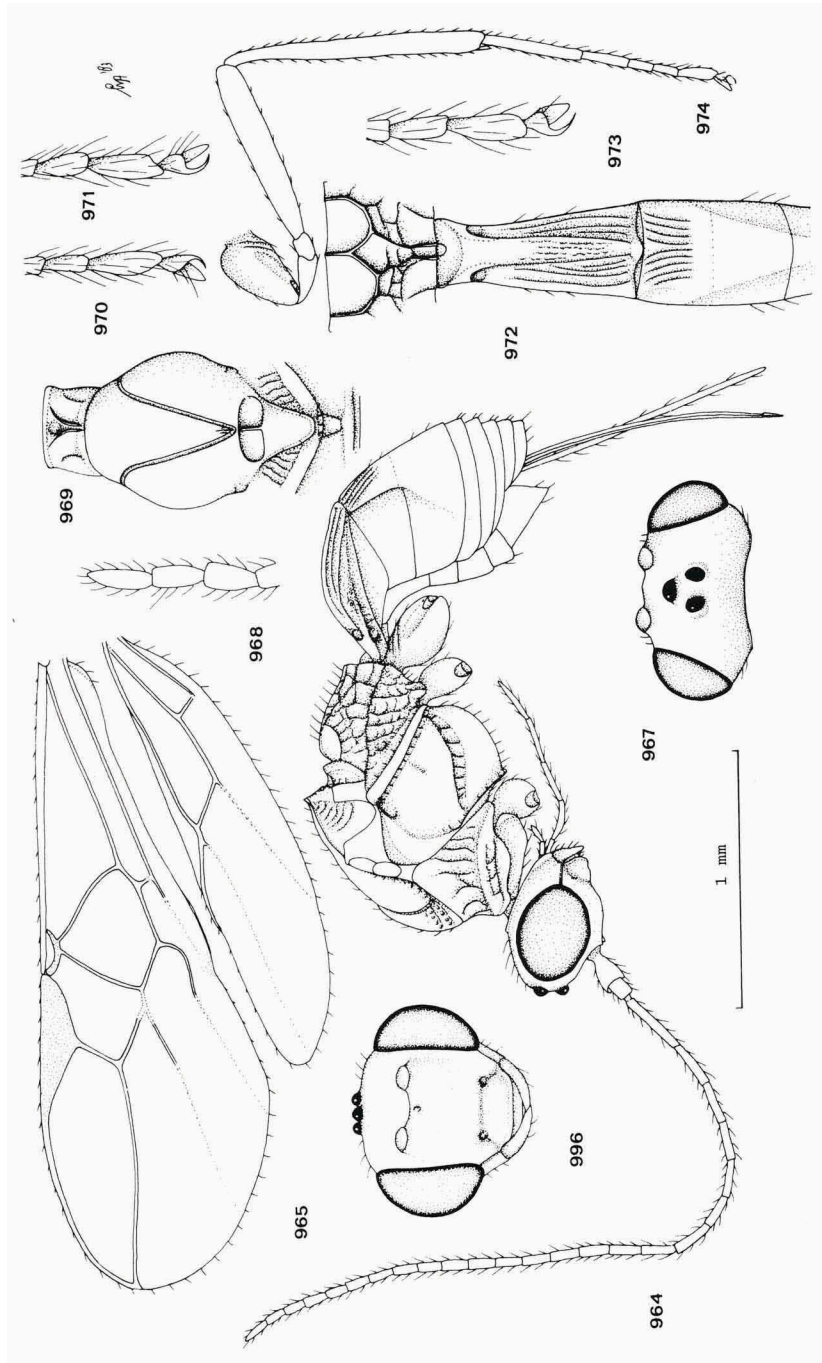
Figs. 942-949, *Blacus (Tarpheion) constrictus* Van Achterberg, ♀, holotype. 942, wings; 943, head, frontal aspect; 944, habitus, lateral aspect; 945, head, dorsal aspect; 946, mesonotum, dorsal aspect; 947, hind leg; 948, fore claw; 949, propodeum, first and second metasomal tergites, dorsal aspect. 942, 944, 947: scale-line (= 1 x); 943-946: 1.2 x; 948, 949: 2.5 x.



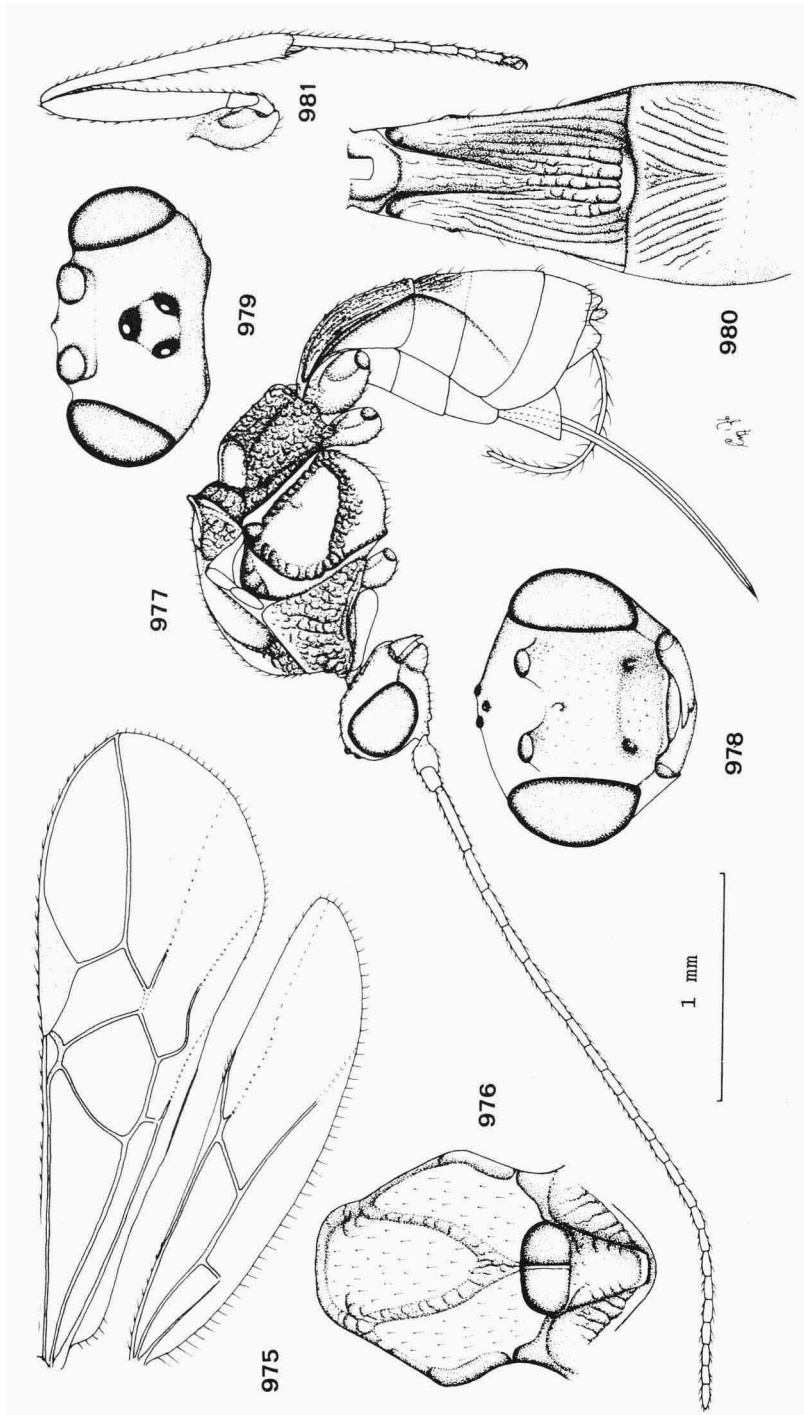
Figs. 950-956, *Blacus (Tarpeion) chillcotti* Van Achterberg, ♀, holotype. 950, wings; 951, head, frontal aspect; 954, mesonotum, dorsal aspect; 955, hind leg; 956, propodeum, first and second metasomal tergites, dorsal aspect. 950, 952, 955: scale-line (= 1 x); 951, 953, 954: 1.2 x; 956: 2.5 x.



Figs. 957-963, *Blacus (Tarpheion) erugatus* Van Achterberg, ♀, holotype. 957, habitus, lateral aspect; 958, head, frontal aspect; 959, mesonotum, dorsal aspect; 960, wings; 961, head, dorsal aspect; 962, hind leg; 963, propodeum, first-third metasomal tergites, dorsal aspect. 957, 960, 962: scale-line (= 1 x); 958, 959, 961: 1.2 x; 963: 2.5 x.

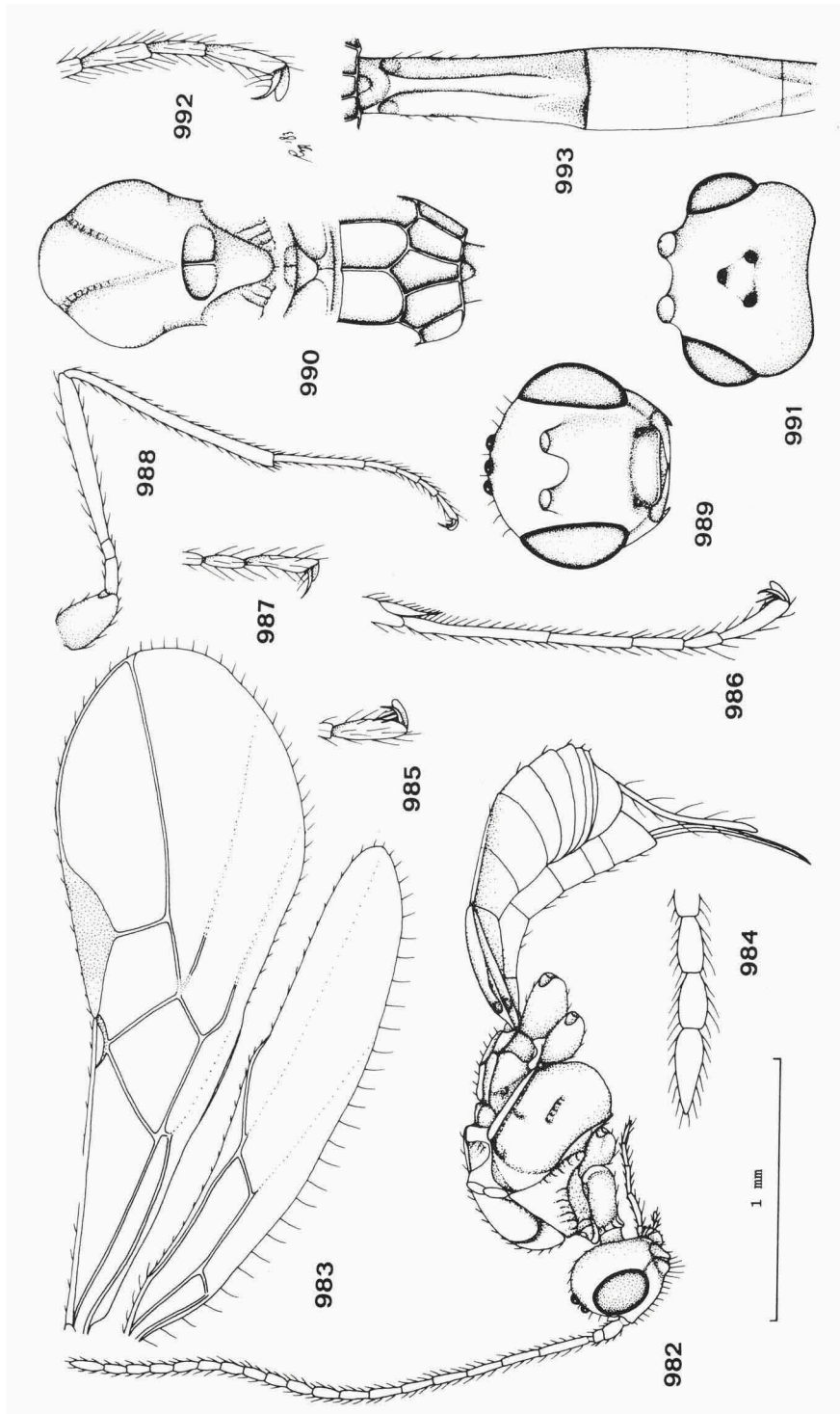


Figs. 964-974, *Blacus (Tarpheion) geijskesi* spec. nov., ♀, holotype. 964, habitus, lateral aspect; 965, wings; 966, head, frontal aspect; 967, head, dorsal aspect; 968, apex of antenna; 969, thorax, dorsal aspect; 970, fore claw; 971, middle claw; 972, propodeum, and first-third metasomal tergites, dorsal aspect; 973, hind claw; 974, hind leg. 964, 965, 974: scale-line (= 1 x); 966, 967, 969, 972: 1.2 x; 968, 970, 971, 973: 2.5 x.

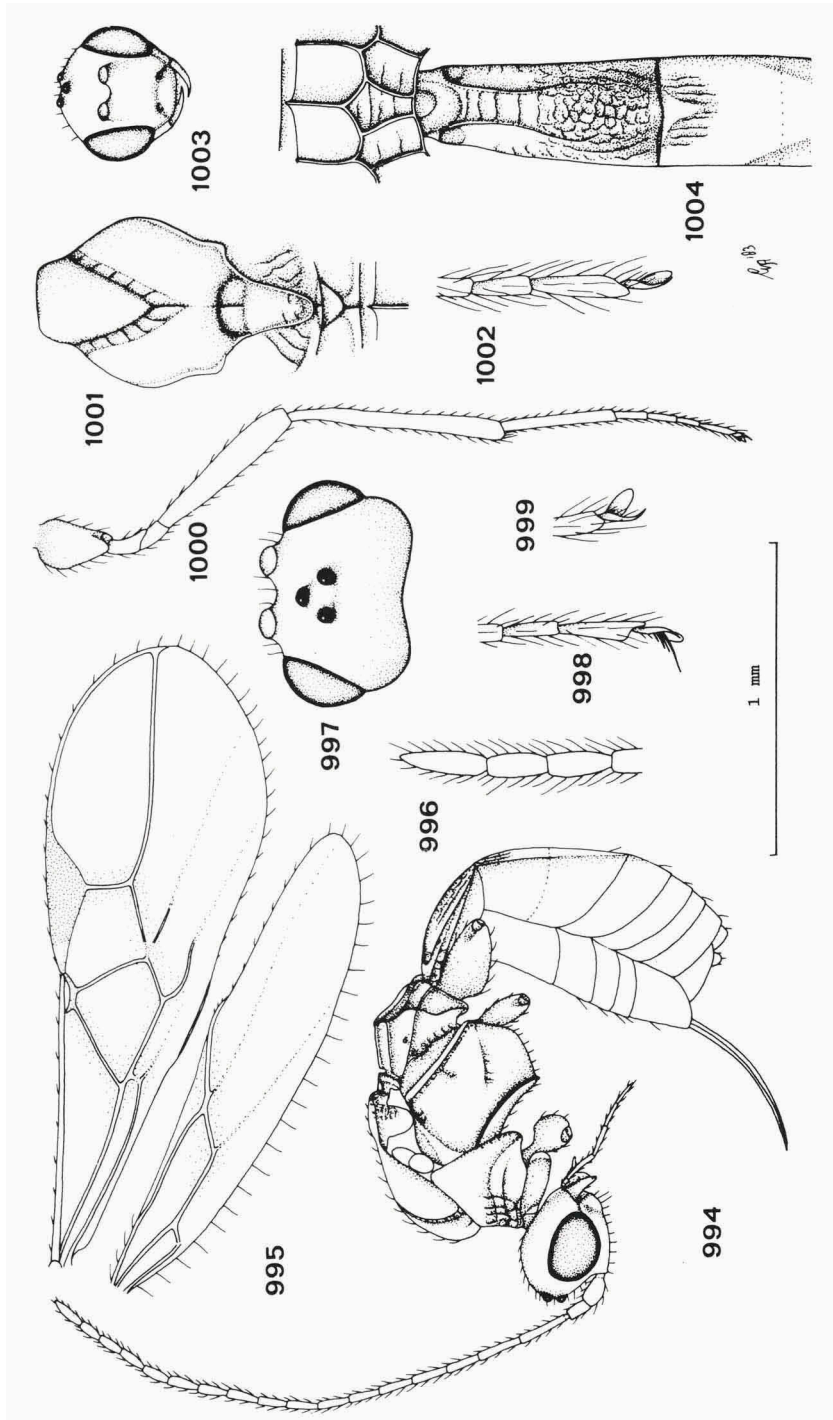


Figs. 975-981, *Blacus (Tarpheion) albipalpis* spec. nov., ♀, holotype. 975, wings; 976, mesonotum, dorsal aspect; 977, habitus, lateral aspect; 978, head, frontal aspect; 979, head, dorsal aspect; 980, first and second metasomal tergites, dorsal aspect; 981, hind leg. 975, 977, 981: scale-line (= 1 x); 976, 978-980: 1.7 x.

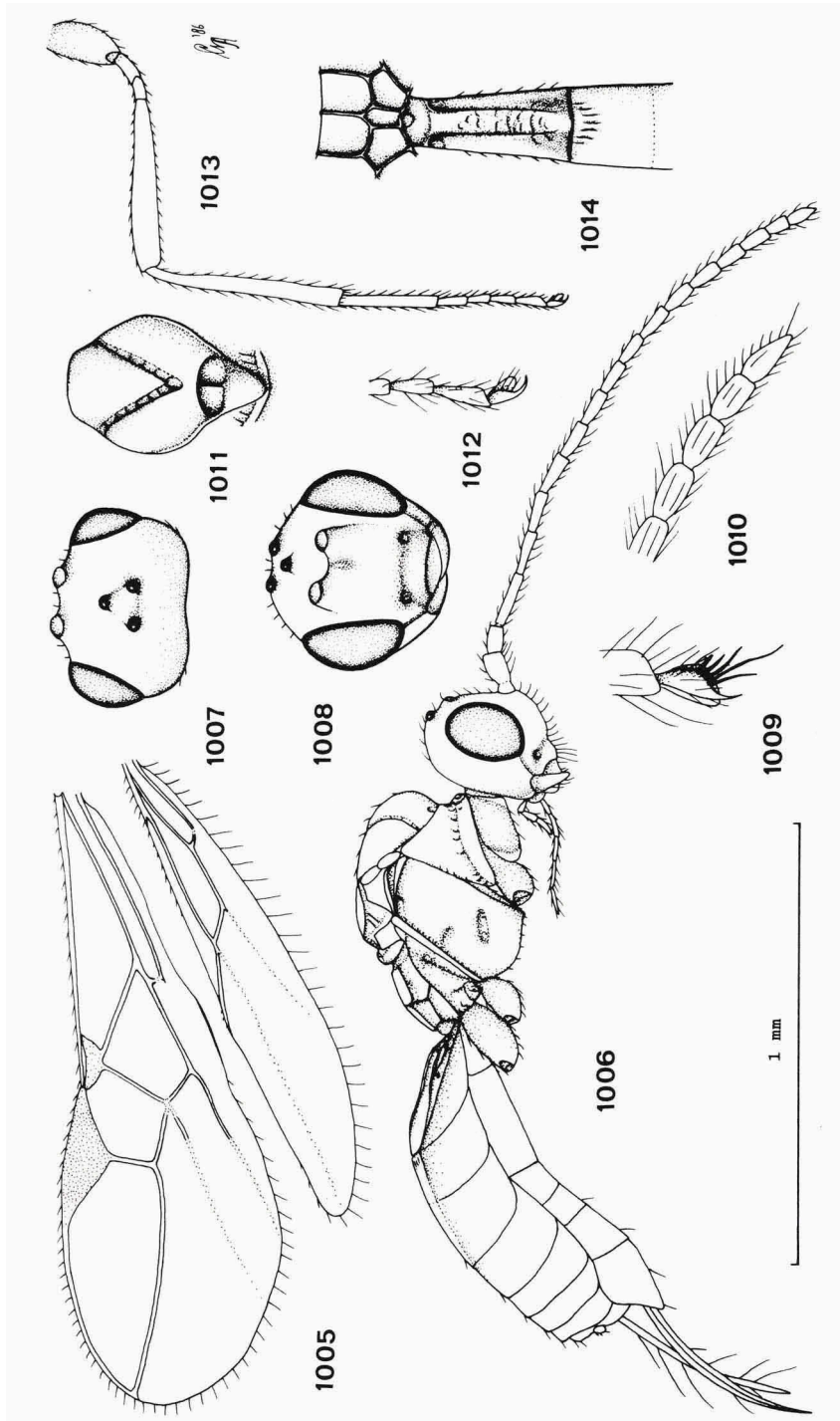




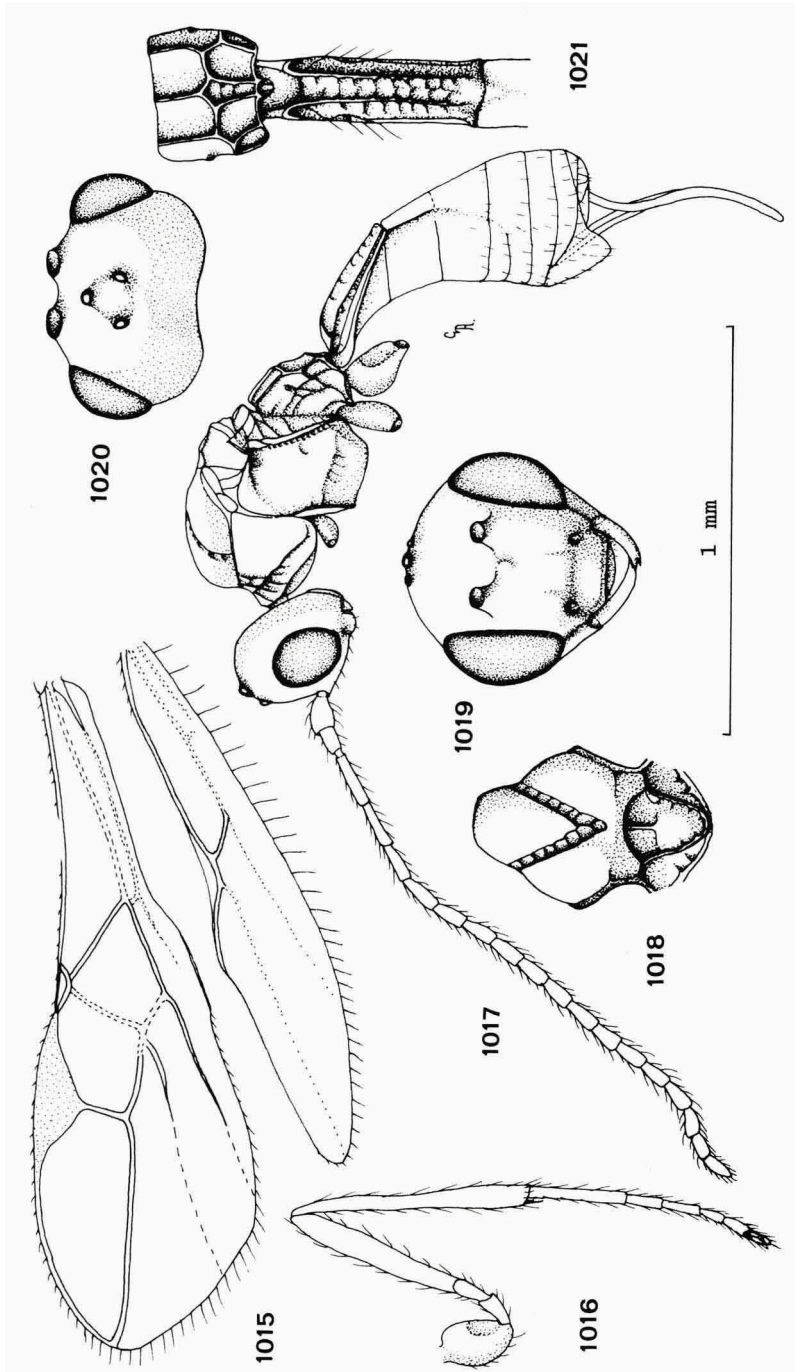
Figs. 982-993, *Blacus (Tarpheion) incarinaticeps* spec. nov., ♀, holotype. 982, habitus, lateral aspect; 983, wings; 984, apex of antenna; 985, fore claw; 986, fore tarsus; 987, middle claw; 988, hind leg; 989, head, frontal aspect; 990, mesosoma, dorsal aspect; 991, head, dorsal aspect; 992, hind claw; 993, first-third metasomal tergites, dorsal aspect. 982, 983, 988: scale-line (= 1 x); 984-987, 992: 2.5 x; 989-991, 993: 1.8 x.



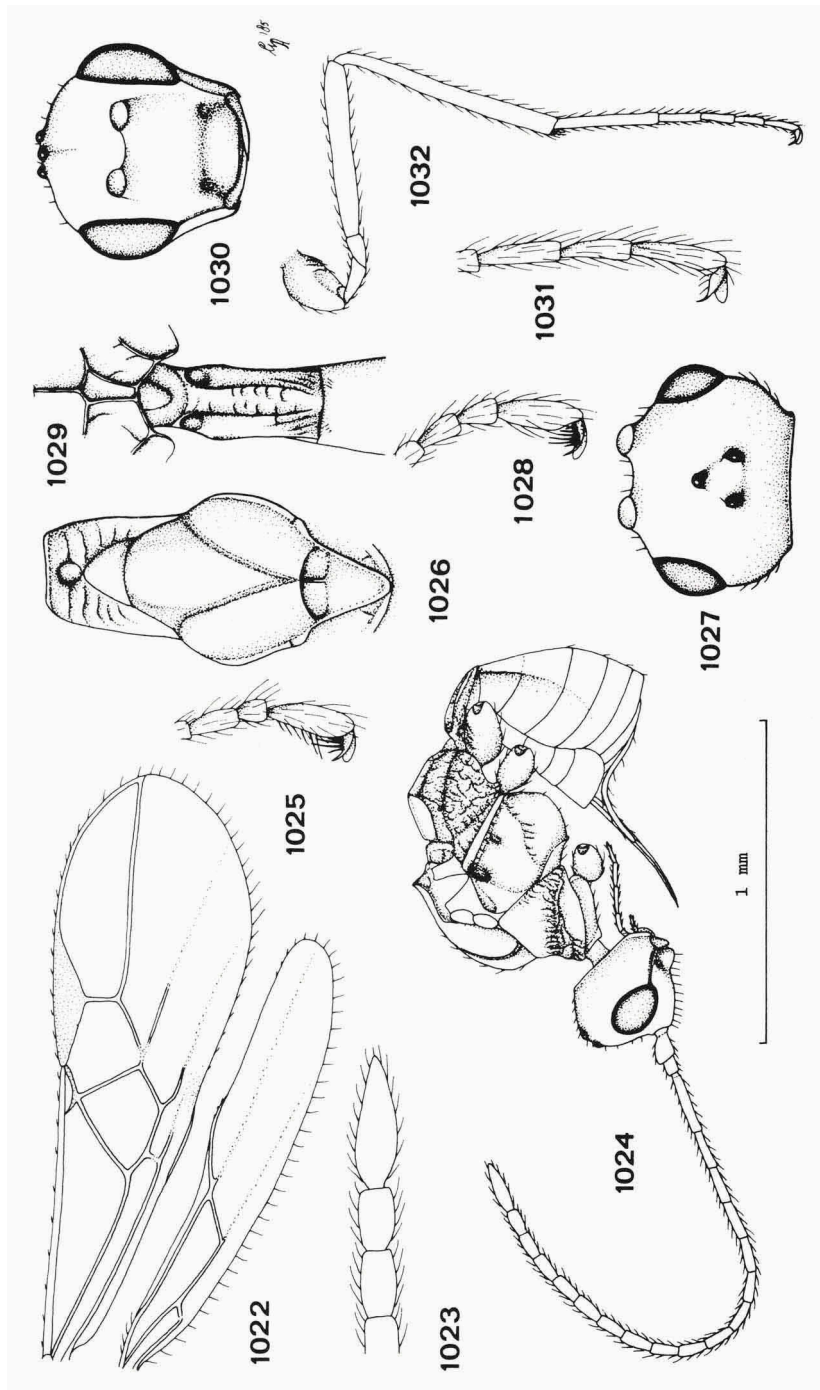
Figs. 994-1004, *Blacus (Tarpheion) fuscinervis* spec. nov., ♀, holotype. 994, habitus, lateral aspect; 995, wings; 996, apex of antenna; 997, head, dorsal aspect; 998, fore claw; 999, middle claw; 1000, hind leg; 1001, mesosoma, dorsal aspect; 1002, hind claw; 1003, head, frontal aspect; 1004, propodeum, first and second metasomal tergites, dorsal aspect. 994, 995, 1000, 1003: scale-line (= 1 x); 996, 998, 999, 1002: 2.5 x; 997, 1001, 1004: 1.7 x.



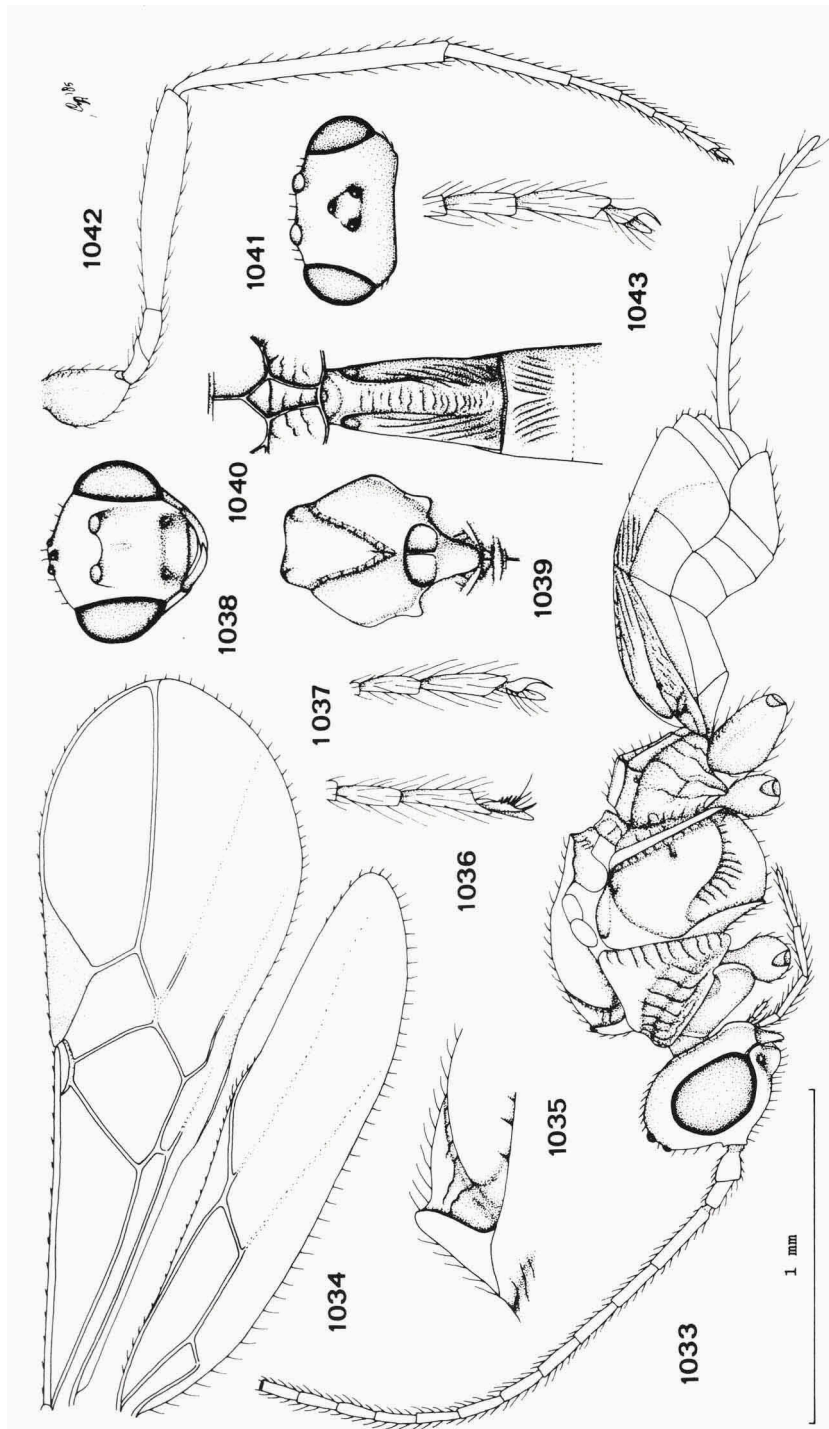
Figs. 1005-1014, *Blacus (Tarpheion) parallelus* spec. nov., ♀, holotype. 1005, wings; 1006, habitus, lateral aspect; 1007, head, dorsal aspect; 1008, head, frontal aspect; 1009, fore claw; 1010, apex of antenna; 1011, mesonotum, dorsal aspect; 1012, hind claw; 1013, hind leg; 1014, propodeum, first and second metasomal tergites, dorsal aspect. 1005, 1006, 1013: scale-line (= 1 x); 1007, 1008, 1011, 1014: 1.5 x; 1009: 5 x; 1010, 1012: 2 x.



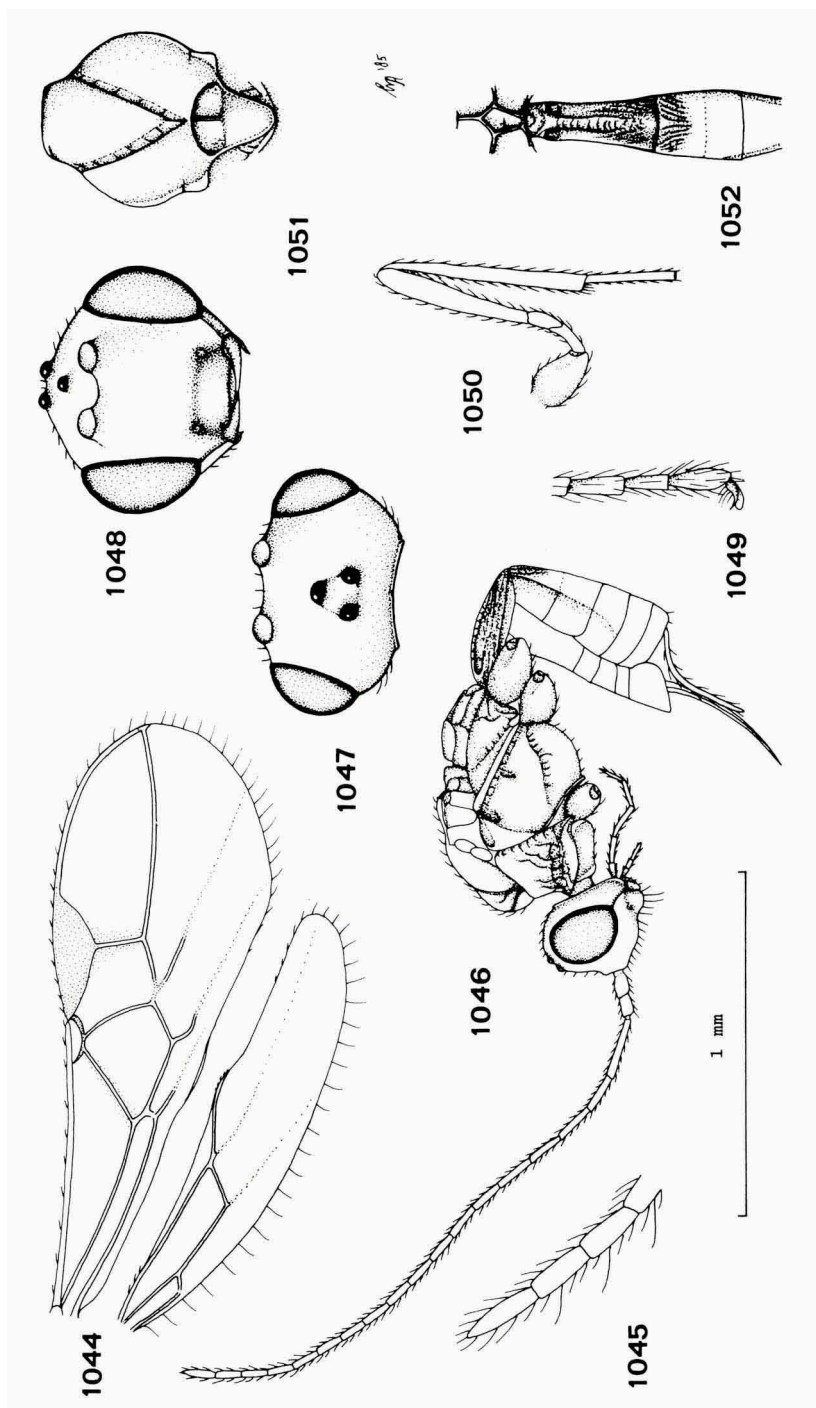
Figs. 1015-1021, *Blacus (Tarpheion) javensis* Van Achterberg, ♀, holotype. 1015, wings; 1016, hind leg; 1017, habitus, lateral aspect; 1018, mesonotum, dorsal aspect; 1019, head, frontal aspect; 1020, head, dorsal aspect; 1021, propodeum and first metasomal tergite, dorsal aspect. 1015-1017: scale-line (= 1 x); 1018-1021: 1.5 x.



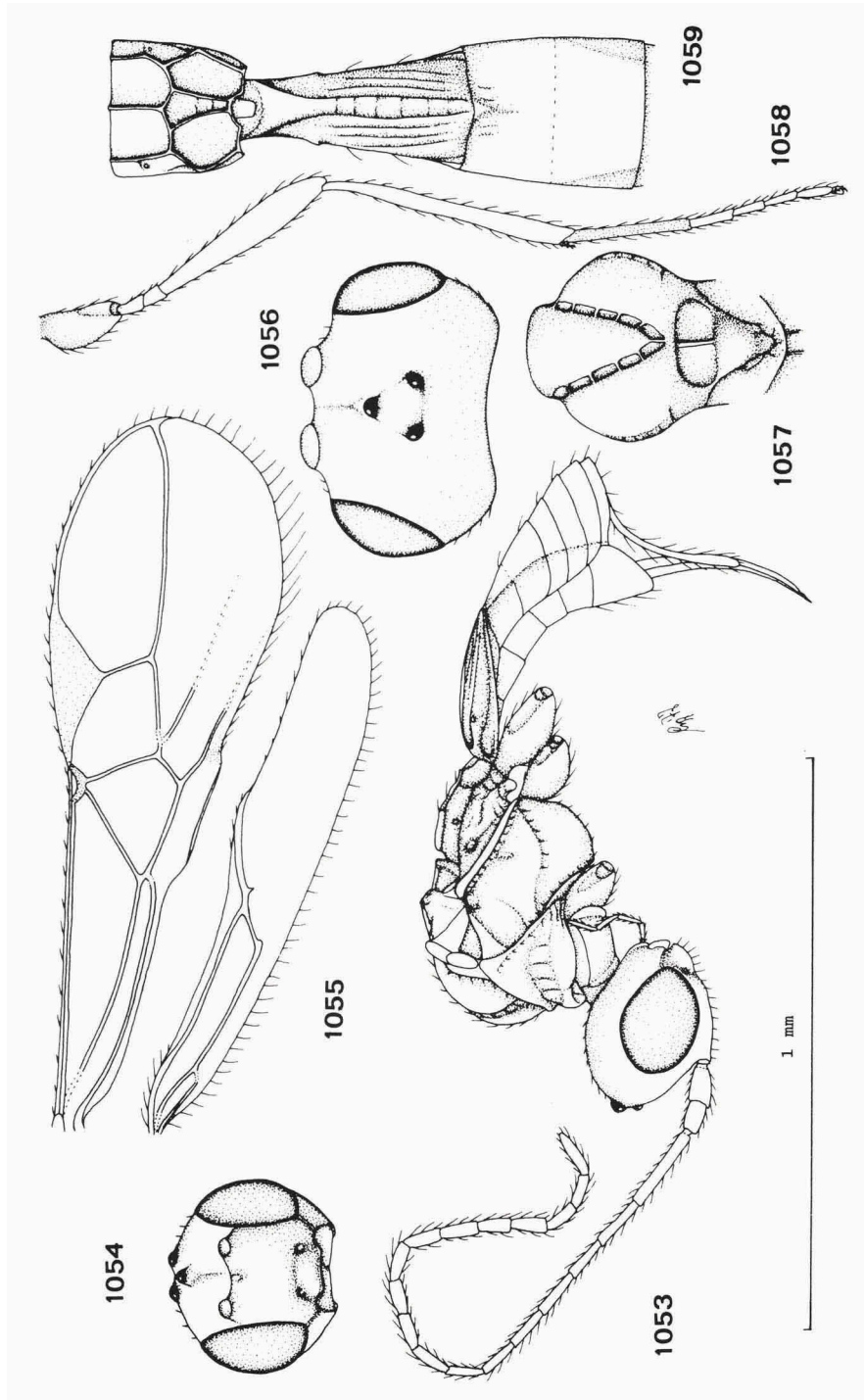
Figs. 1022-1032, *Blacus (Tarpheion) alternipes* spec. nov., ♀, holotype. 1022, wings; 1023, apex of antenna; 1024, habitus, lateral aspect; 1025, fore claw; 1026, thorax, dorsal aspect; 1027, head, dorsal aspect; 1028, middle claw; 1029, propodeum, first and second metasomal tergites, dorsal aspect; 1030, head, frontal aspect; 1031, hind claw; 1032, hind leg. 1022, 1024, 1032: scale-line (= 1 x); 1023, 1025, 1028, 1031: 2.5 x; 1026, 1027, 1029, 1030: 1.6 x.



Figs. 1033-1043, *Blacus (Tarpheion) bicolor* spec. nov., ♀, holotype. 1033, habitus, lateral aspect; 1034, wings; 1035, detail of mesoscutum, lateral aspect; 1036, fore claw; 1037, middle claw; 1038, head, frontal aspect; 1039, thorax, dorsal aspect; 1040, propodeum, first and second metasomal tergites, dorsal aspect; 1041, head, dorsal aspect; 1042, hind leg; 1043, hind claw. 1033, 1034, 1039-1042: scale-line (= 1 x); 1035-1037, 1043: 2.5 x.

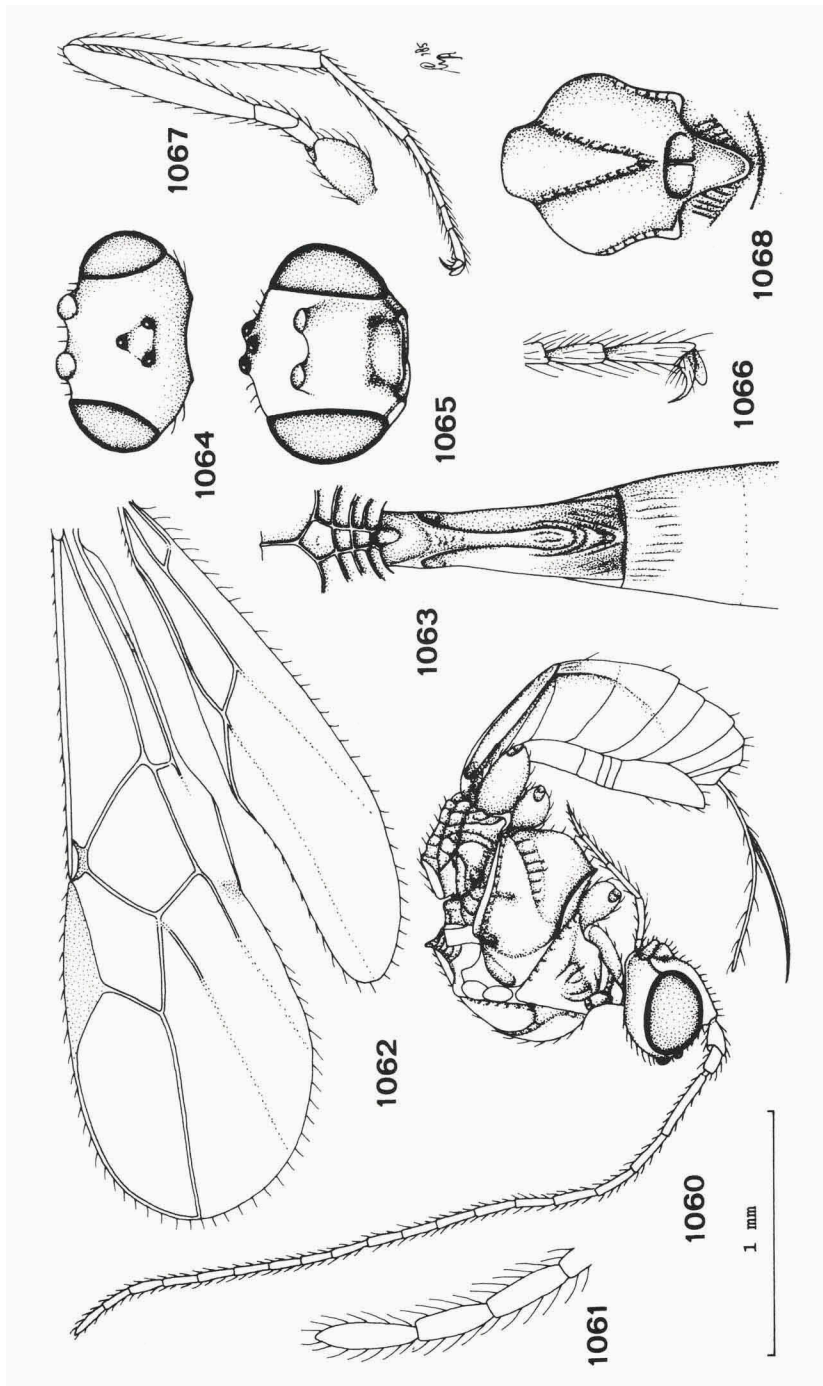


Figs. 1044-1052, *Blacus (Tarpheion) brevichorus* spec. nov., ♀, holotype. 1044, wings; 1045, apex of antenna; 1046, habitus, lateral aspect; 1047, head, dorsal aspect; 1048, head, frontal aspect; 1049, fore claw; 1050, hind leg; 1051, mesonotum, dorsal aspect; 1052, propodeum, and first-fourth metasomal tergites, dorsal aspect. 1044, 1046, 1050, 1052: scale-line (= 1 x); 1045, 1049: 2.5 x; 1047, 1048, 1051: 1.6 x.

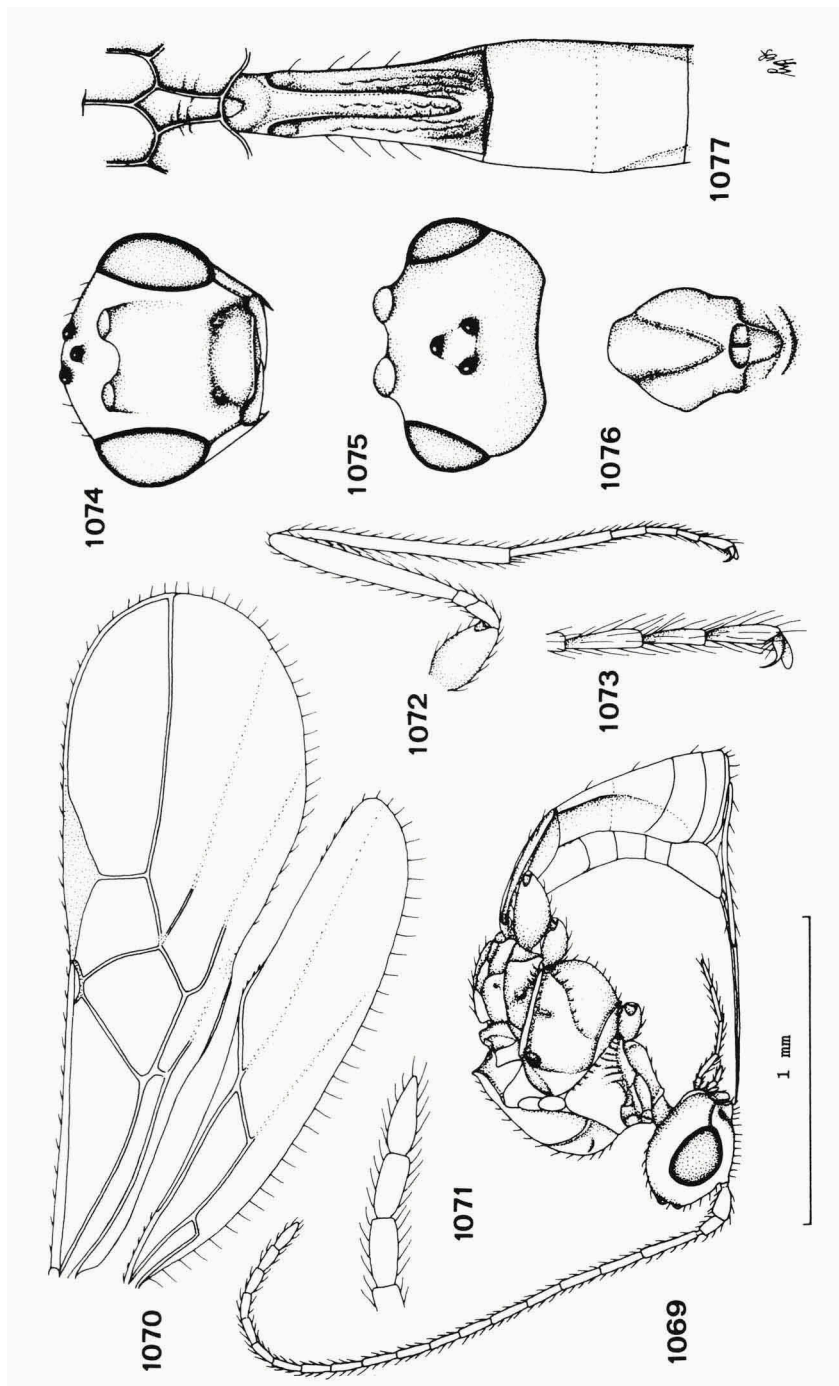


Figs. 1053-1059, *Blacus (Tarpheion) hemicarinatus* spec. nov., ♀, holotype. 1053, habitus, lateral aspect; 1054, head, frontal aspect; 1055, wings; 1056, head, dorsal aspect; 1057, mesonotum, dorsal aspect; 1058, hind leg; 1059, propodeum, and first-third metasomal tergites, dorsal aspect. 1053-1055, 1058: scale-line (= 1 x); 1056, 1057, 1059: 1.25 x.

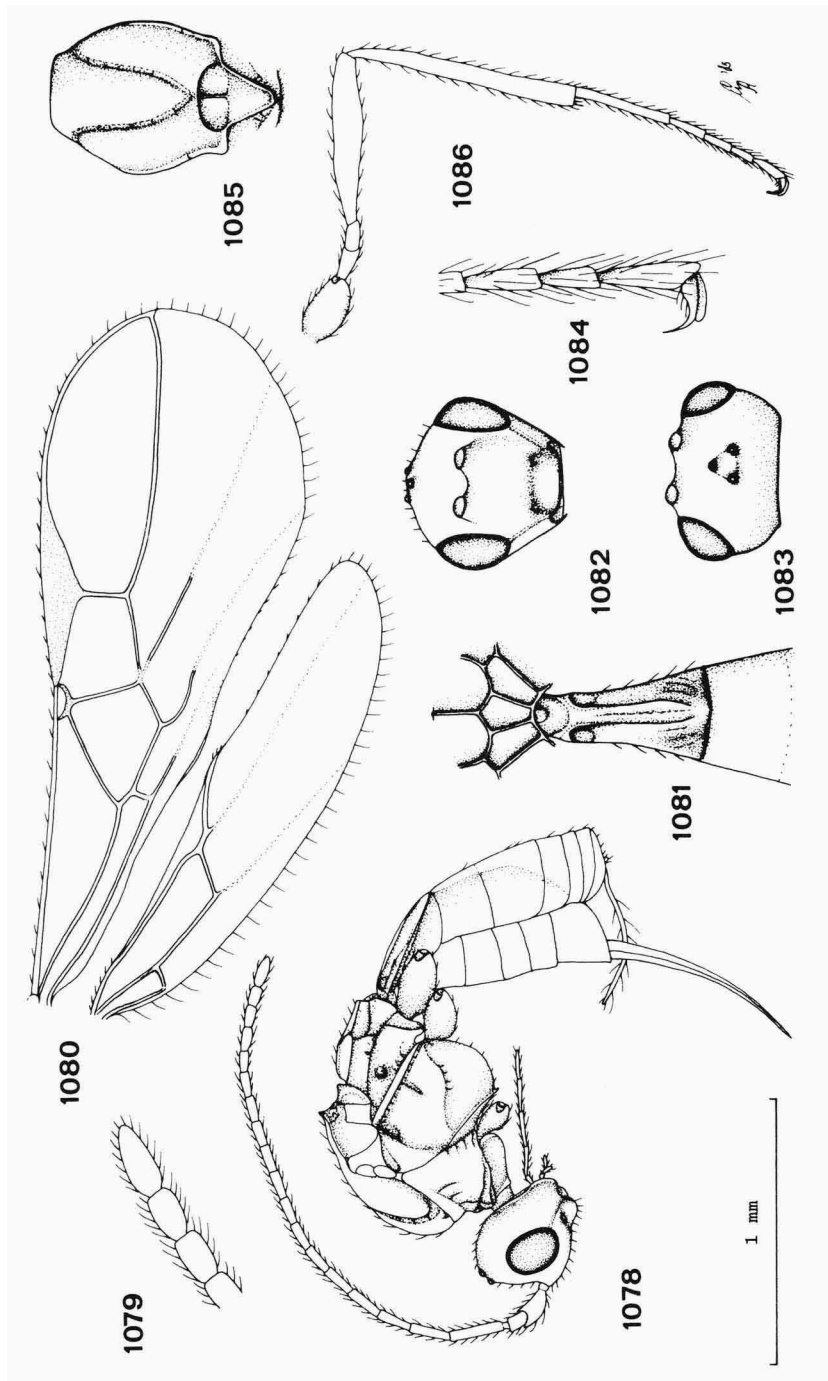




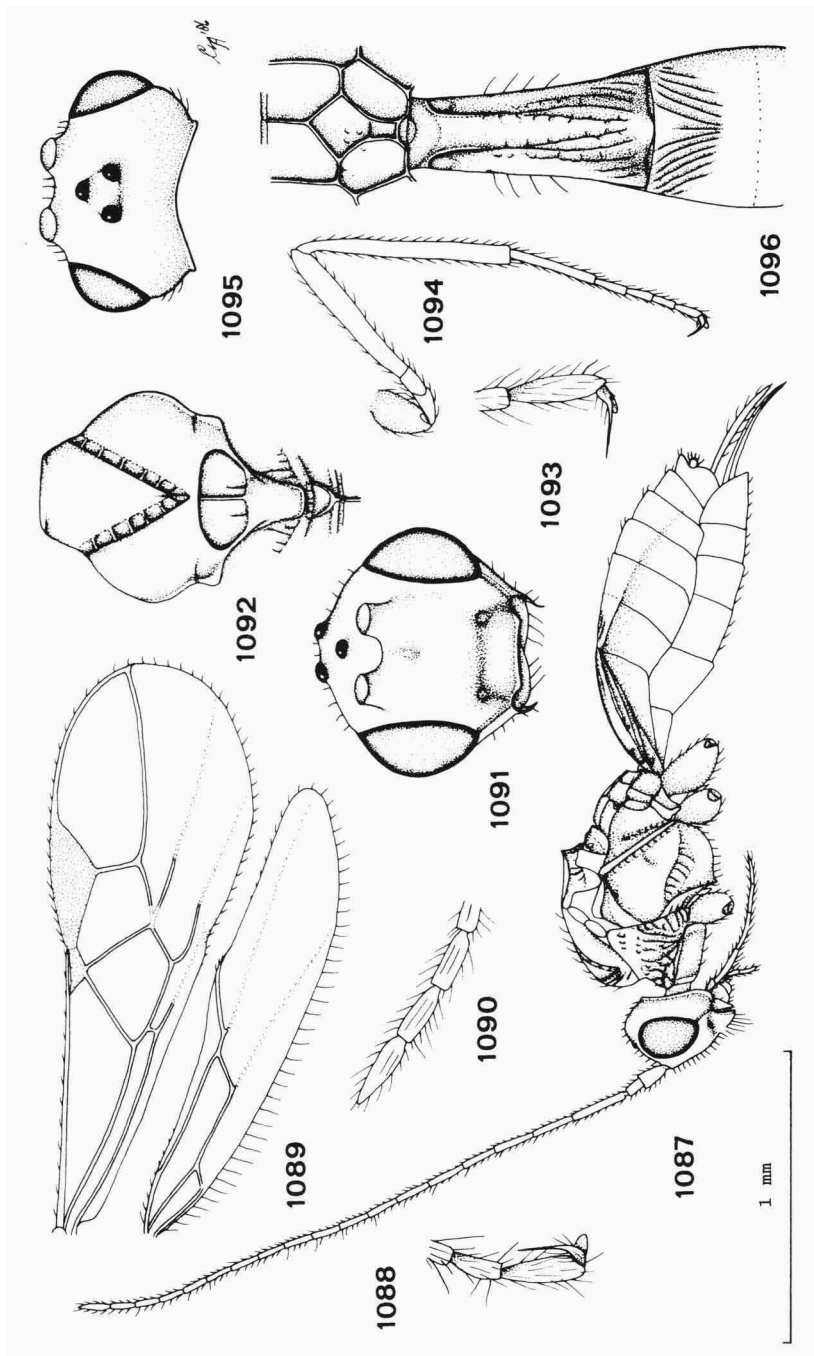
Figs. 1060-1068, *Blacus (Tarpheion) rectinervis* spec. nov., ♀, holotype. 1060, habitus, lateral aspect; 1061, apex of antenna; 1062, wings; 1063, propodeum, first and second metasomal tergites, dorsal aspect; 1064, head, dorsal aspect; 1065, head, frontal aspect; 1066, hind claw; 1067, hind leg; 1068, mesonotum, dorsal aspect. 1060, 1062, 1067: scale-line (= 1 x); 1061, 1066: 2.5 x; 1063-1065, 1068: 1.5 x.



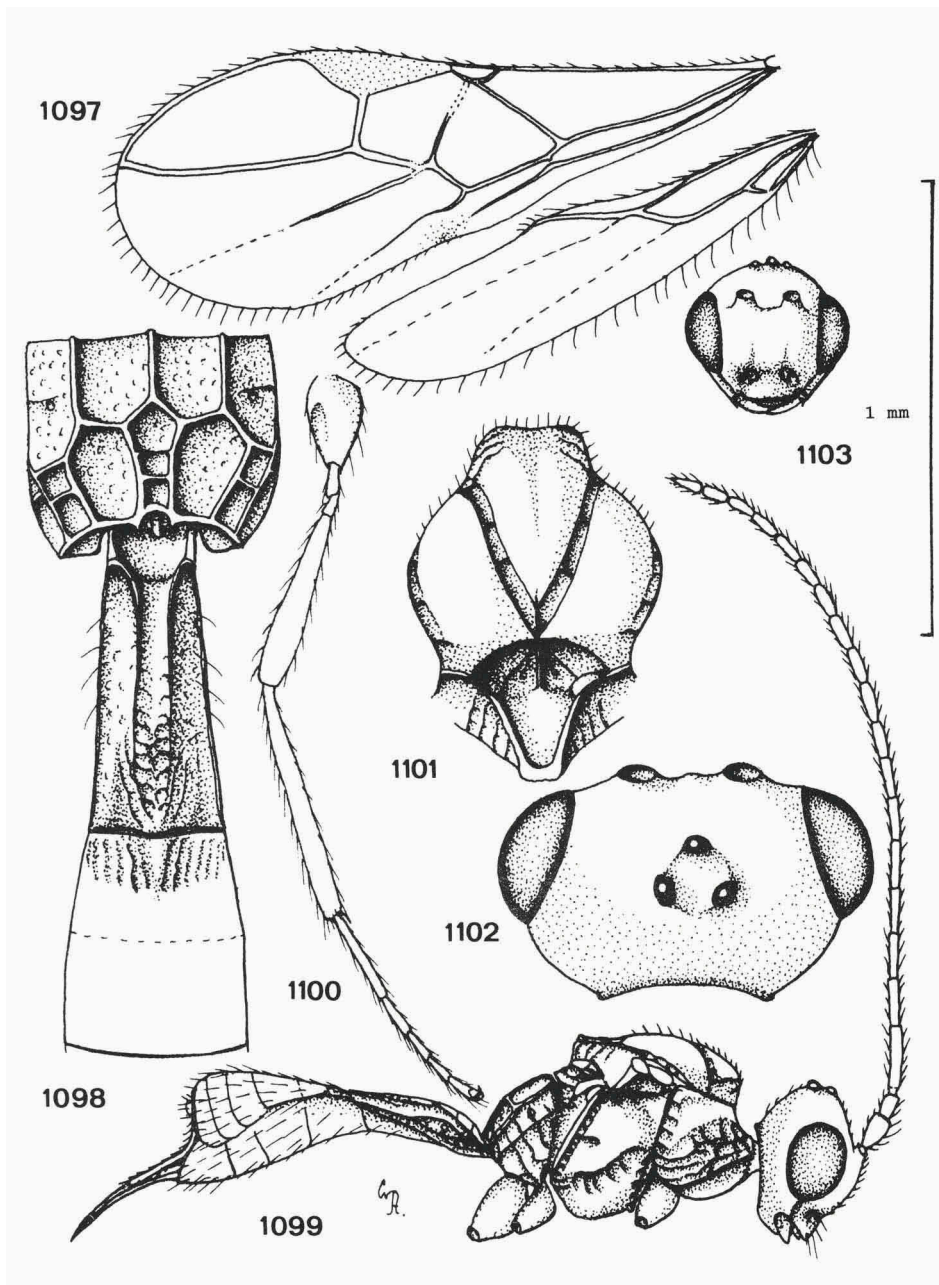
Figs. 1069-1077, *Blacus (Tarpheion) brevicarinatus* spec. nov., ♀, holotype. 1069, habitus, lateral aspect; 1070, wings; 1071, apex of antenna; 1072, hind leg; 1073, hind claw; 1074, head, frontal aspect; 1075, head, dorsal aspect; 1076, mesonotum, dorsal aspect; 1077, propodeum, and first-third metasomal tergites, dorsal aspect. 1069, 1070, 1072: scale-line (= 1 x); 1071, 1073: 2.5 x; 1074-1077: 1.9 x.



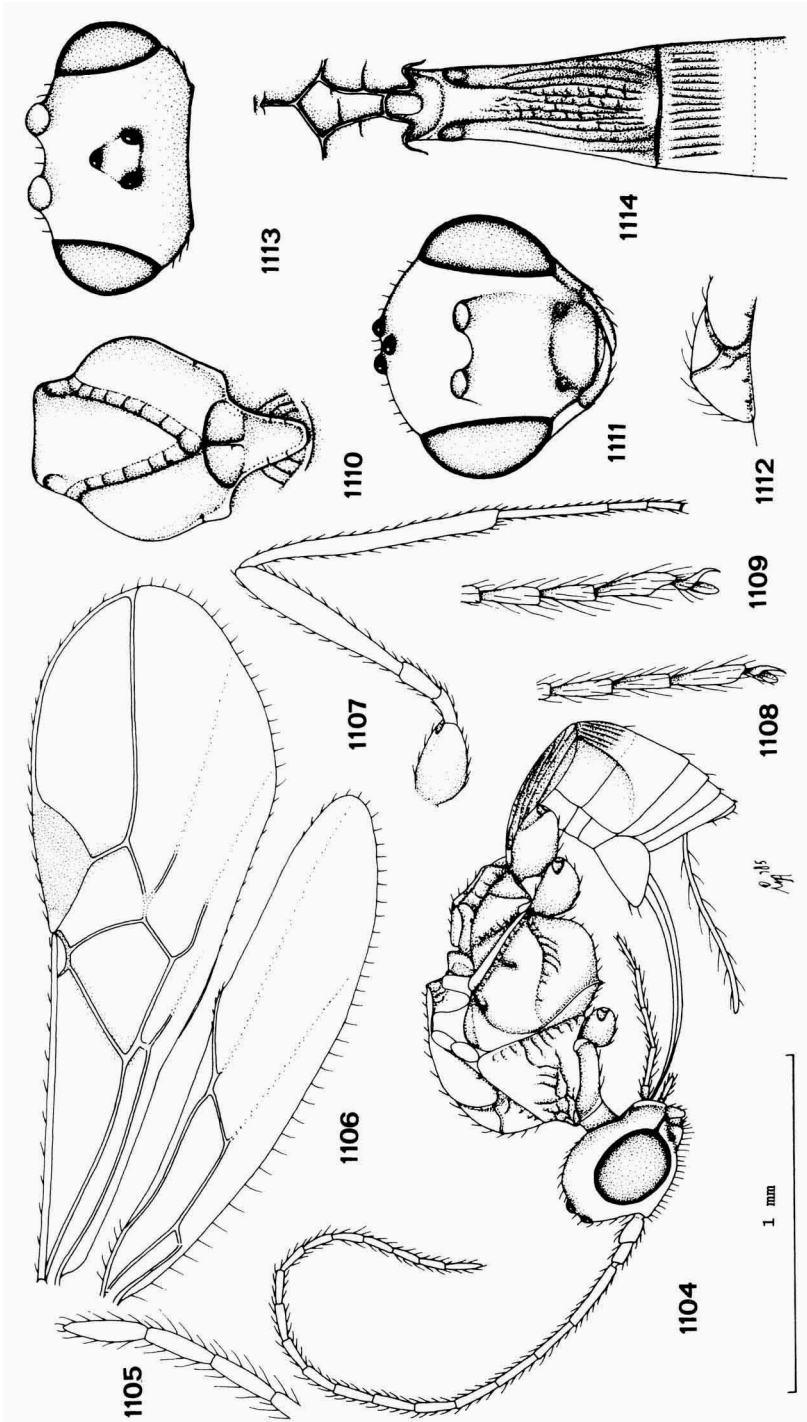
Figs. 1078-1086, *Blacus (Tarpheion) fuscicoxis* spec. nov., ♀, holotype. 1078, habitus, lateral aspect; 1079, apex of antenna; 1080, wings; 1081, propodeum; first and second metasomal tergites, dorsal aspect; 1082, head, frontal aspect; 1083, head, dorsal aspect; 1084, hind claw; 1085, mesonotum, dorsal aspect; 1086, hind leg. 1078, 1080, 1086: scale-line (= 1 x); 1079, 1084: 2.5 x; 1081-1083, 1085: 1.3 x.



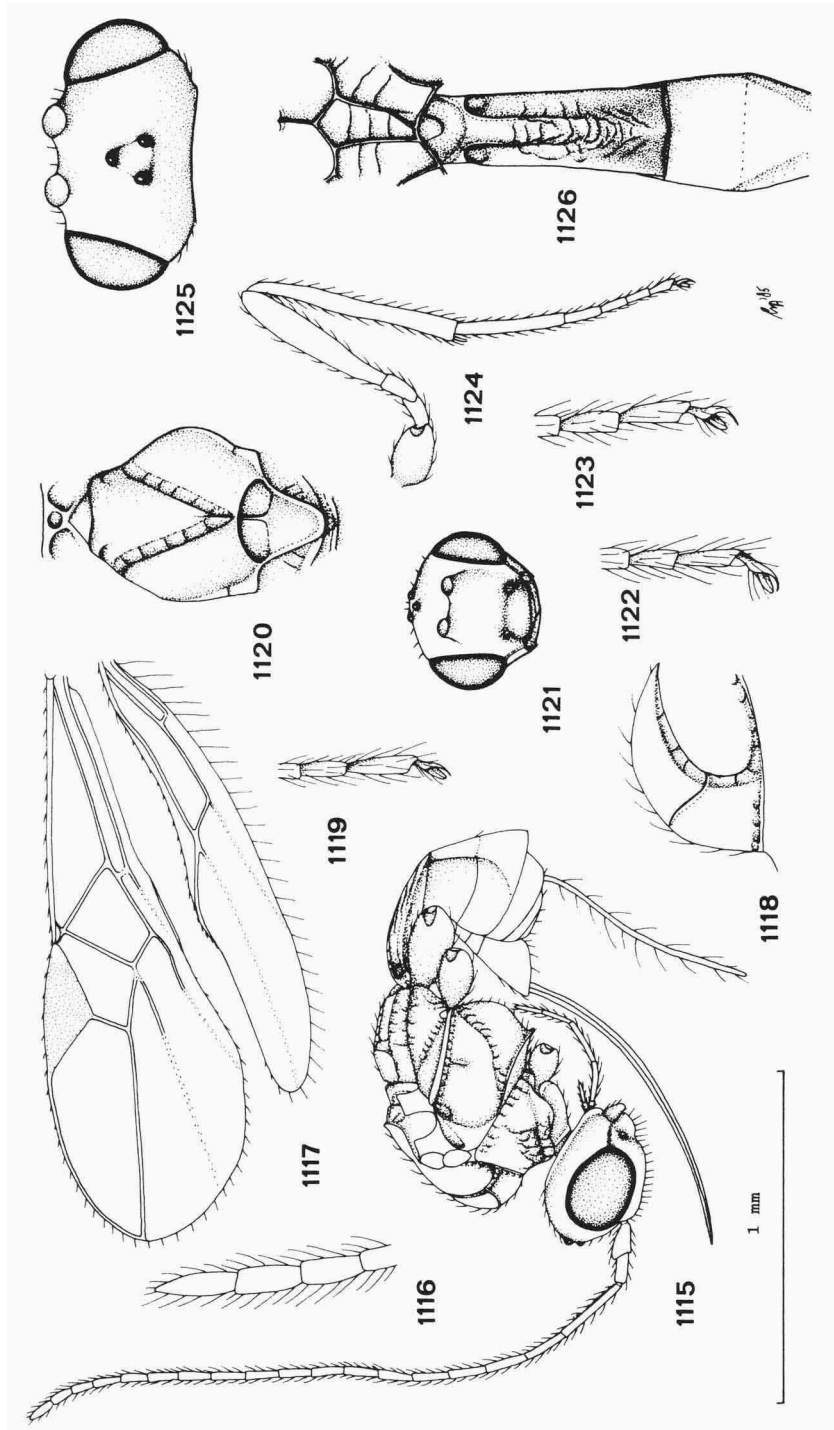
Figs. 1087-1096, *Blacus (Tarpheion) unguularis* spec. nov., ♀, holotype. 1087, habitus, lateral aspect; 1088, fore claw; 1089, wings; 1090, apex of antenna; 1091, head, frontal aspect; 1092, thorax, dorsal aspect; 1093, hind claw; 1094, hind leg; 1095, head, dorsal aspect; 1096, propodeum, first and second metasomal tergites, dorsal aspect. 1087, 1089, 1094: scale-line (= 1 x); 1088, 1093: 2.7 x; 1090: 2.5 x; 1091, 1092, 1095, 1096: 1.8 x.



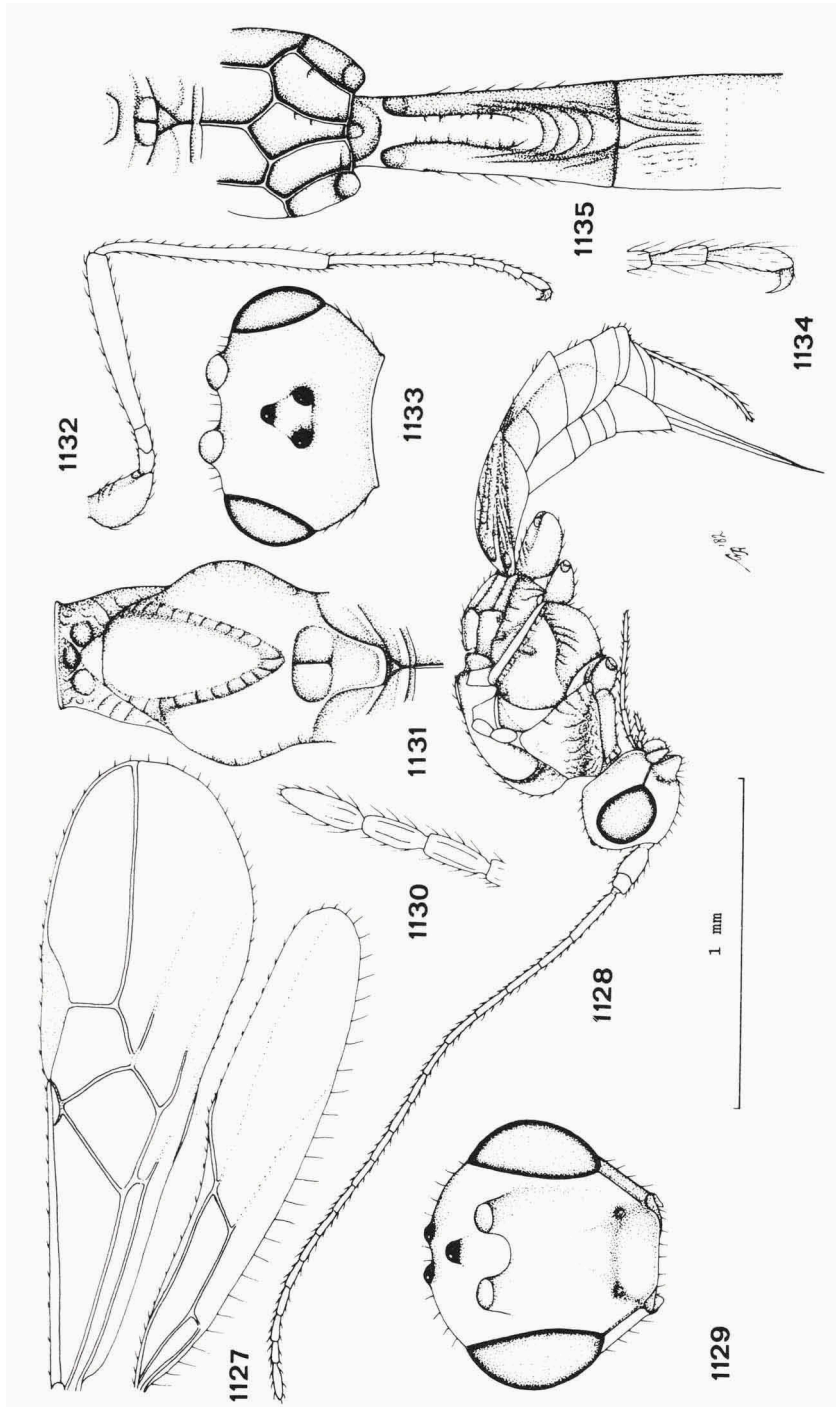
Figs. 1097-1103, *Blacus (Tarpheion) apicalis* Van Achterberg, ♀, holotype. 1097, wings; 1098, propodeum, and first-third metasomal tergites, dorsal aspect; 1099, habitus, lateral aspect; 1100, hind leg; 1101, mesonotum, dorsal aspect; 1102, head, dorsal aspect; 1103, head, frontal aspect. 1097, 1099, 1100, 1103: scale-line (= 1 x); 1098, 1101, 1102: 2.1 x.



Figs. 1104-1114, *Blacus (Tarpheion) diversus* spec. nov., ♀, holotype. 1104, habitus, lateral aspect; 1105, apex of antenna; 1106, wings; 1107, hind leg; 1108, fore claw; 1109, middle claw; 1110, mesonotum, dorsal aspect; 1111, head, frontal aspect; 1112, mesoscutum, lateral aspect; 1113, head, dorsal aspect; 1114, propodeum, first and second metasomal tergites, dorsal aspect. 1104, 1106, 1107: scale-line (= 1 x); 1105, 1108, 1109: 2.5 x; 1110-1114: 1.5 x.

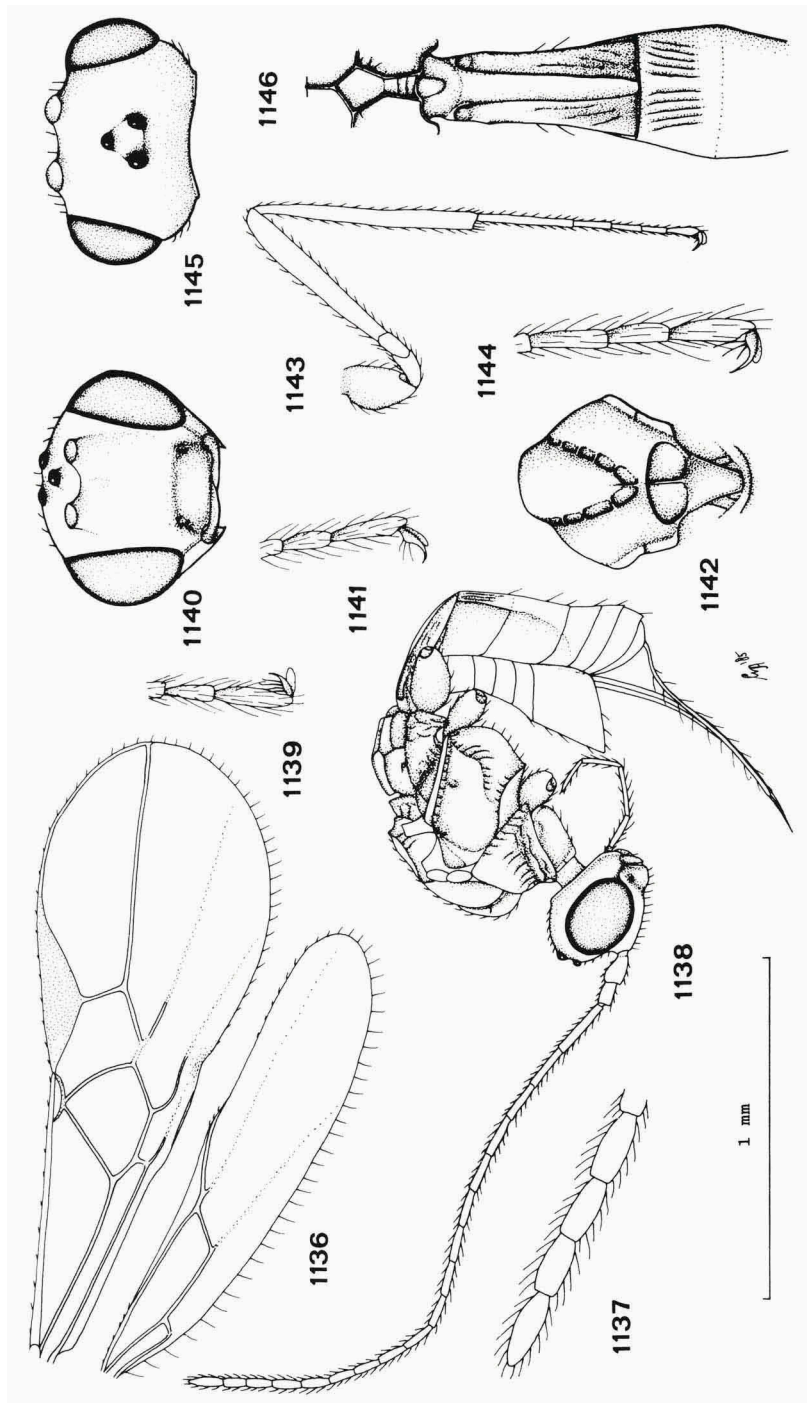


Figs. 1115-1126, *Blacus (Tarpheion) linearis* spec. nov., ♀, holotype. 1115, habitus, lateral aspect; 1116, apex of antenna; 1117, wings; 1118, mesoscutum, lateral aspect; 1119, fore claw; 1120, thorax, dorsal aspect; 1121, head, frontal aspect; 1122, middle claw; 1123, hind claw; 1124, hind leg; 1125, head, dorsal aspect; 1126, propodeum, and first-third metasomal tergites, dorsal aspect. 1115, 1117, 1121, 1124: scale-line (= 1 x); 1116, 1118, 1119, 1122, 1123: 2.5; 1120, 1124-1126: 1.5 x.

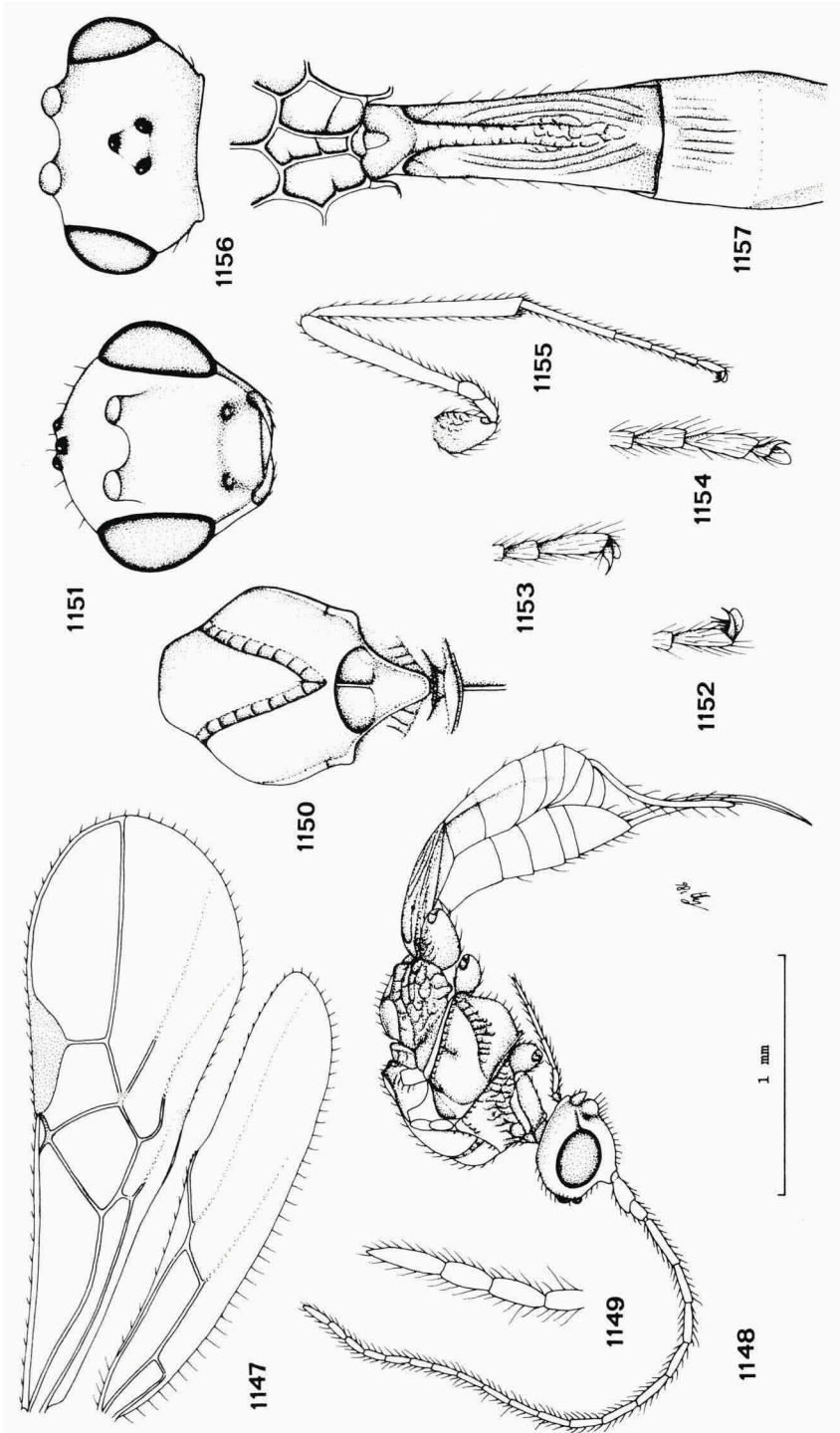


Figs. 1127-1135, *Blacus (Tarpheion) albiventris* spec. nov., ♀, holotype. 1127, wings; 1128, habitus, lateral aspect; 1129, head, frontal aspect; 1130, apex of antenna; 1131, thorax, dorsal aspect; 1132, hind leg; 1133, head, dorsal aspect; 1134, hind claw; 1135, propodeum, first and second metasomal tergites, dorsal aspect. 1127, 1128, 1132: scale-line (= 1 x); 1129, 1131, 1133, 1135: 2 x; 1130, 1134: 2.5 x.

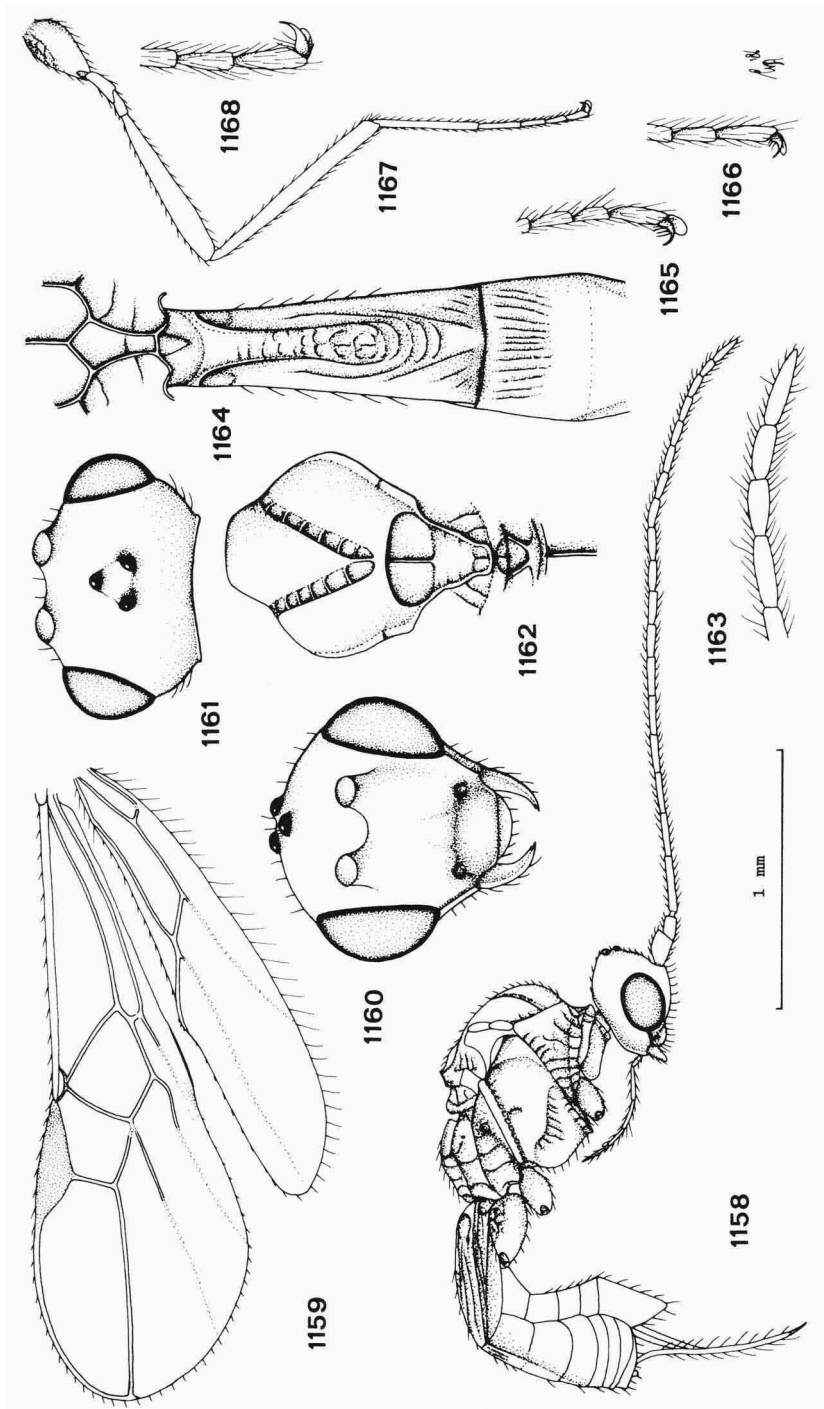




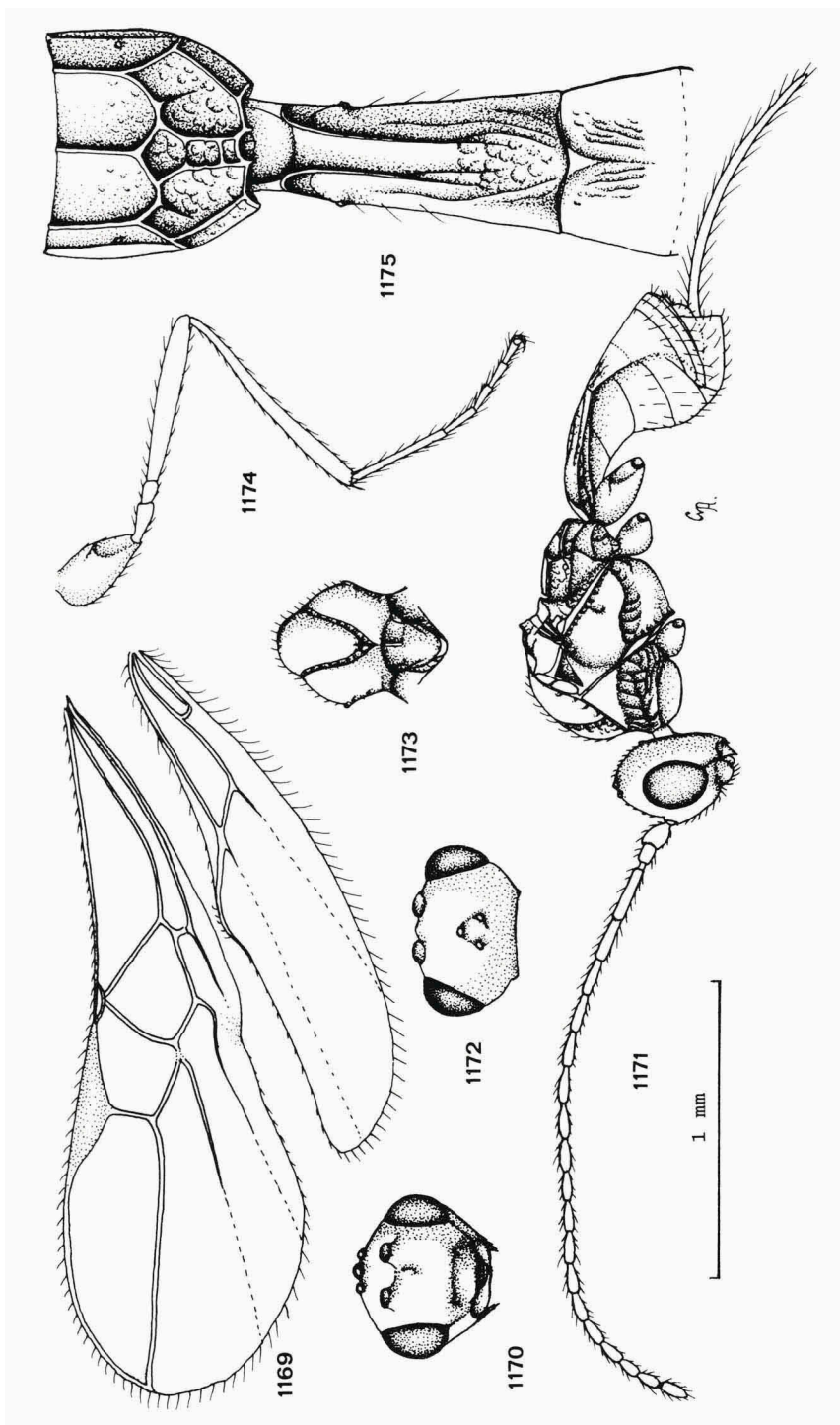
Figs. 1136-1146, *Blacus (Tarpheion) melliceps* spec. nov., ♀, holotype. 1136, wings; 1137, apex of antenna; 1138, habitus, lateral aspect; 1139, fore claw; 1140, head, frontal aspect; 1141, middle claw; 1142, mesonotum, dorsal aspect; 1143, hind leg; 1144, hind claw; 1145, head, dorsal aspect; 1146, propodeum, and first-third metasomal tergites, dorsal aspect. 1136, 1138, 1143: scale-line (= 1 x); 1137, 1139, 1141, 1144: 2.5 x; 1140, 1142, 1145, 1146: 1.5 x.



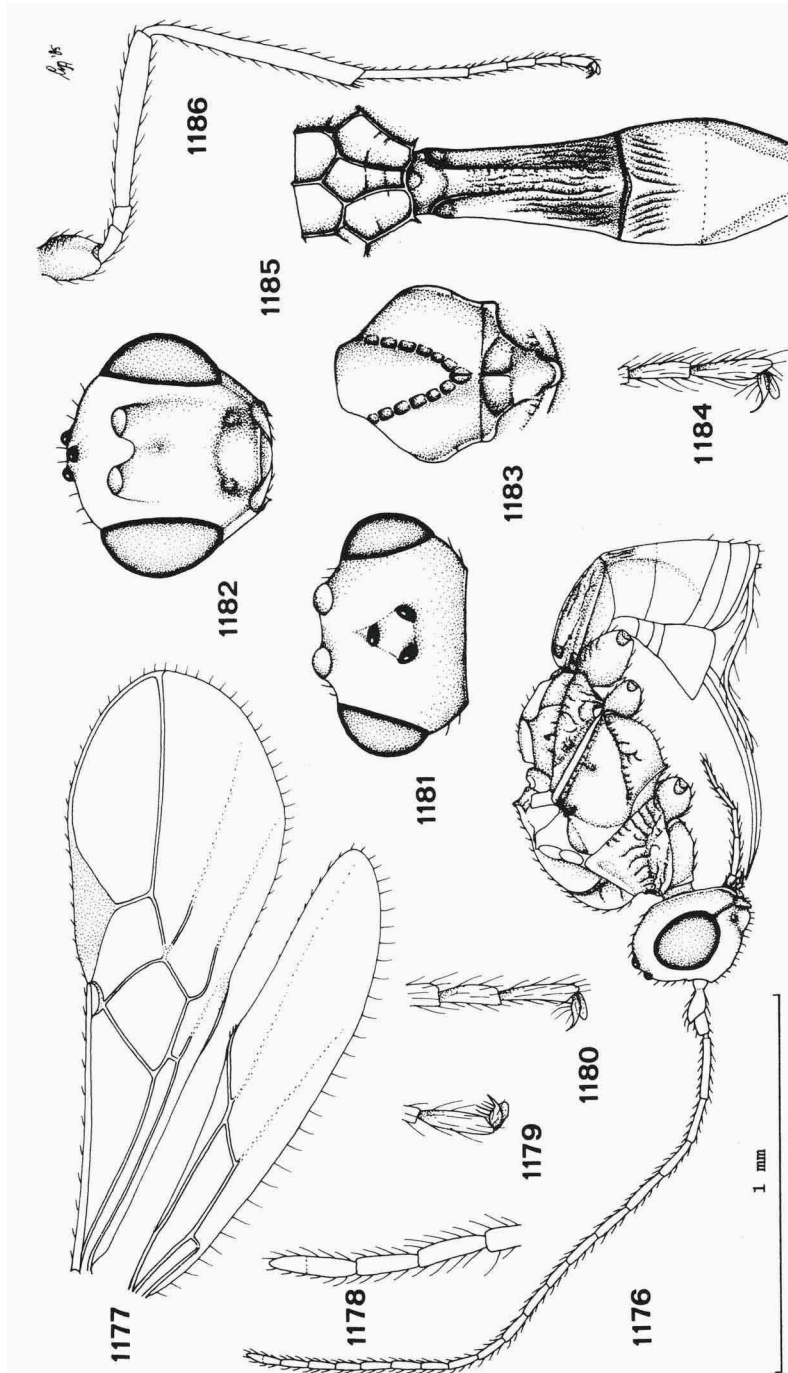
Figs. 1147-1157, *Blacus (Tarpheion) nigrocephalus* spec. nov., ♀, holotype. 1147, wings; 1148, habitus, lateral aspect; 1149, apex of antenna; 1150, metasoma, dorsal aspect; 1151, head, frontal aspect; 1152, fore claw; 1153, middle claw; 1154, hind claw; 1155, hind leg; 1156, head, dorsal aspect; 1157, propodeum, first and second metasomal tergites, dorsal aspect. 1147, 1148, 1155: scale-line (= 1 x); 1149, 1152-1154: 2.5 x; 1150, 1151, 1156, 1157: 2 x.



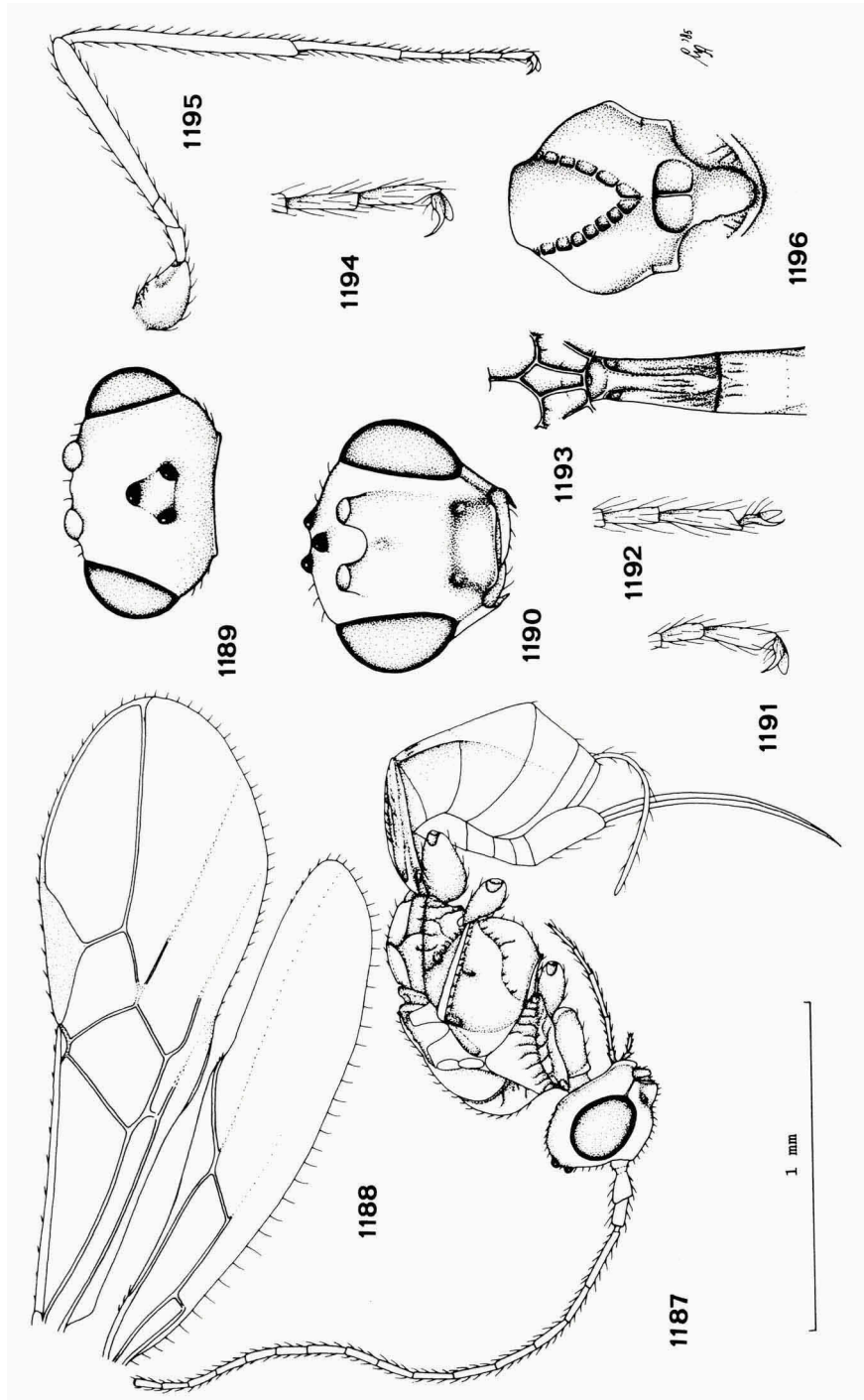
Figs. 1158-1168, *Blacus (Tarpheion) antennalis* spec. nov., ♀, holotype. 1158, habitus, lateral aspect; 1159, wings; 1160, head, frontal aspect; 1161, head, dorsal aspect; 1162, mesosoma, dorsal aspect; 1163, apex of antenna; 1164, propodeum, first and second metasomal tergites, dorsal aspect; 1165, fore claw; 1166, middle claw; 1167, hind leg; 1168, hind claw. 1158, 1159, 1167: scale-line (= 1 x); 1160-1162, 1164: 2 x; 1163, 1165, 1166, 1168: 2.5 x.



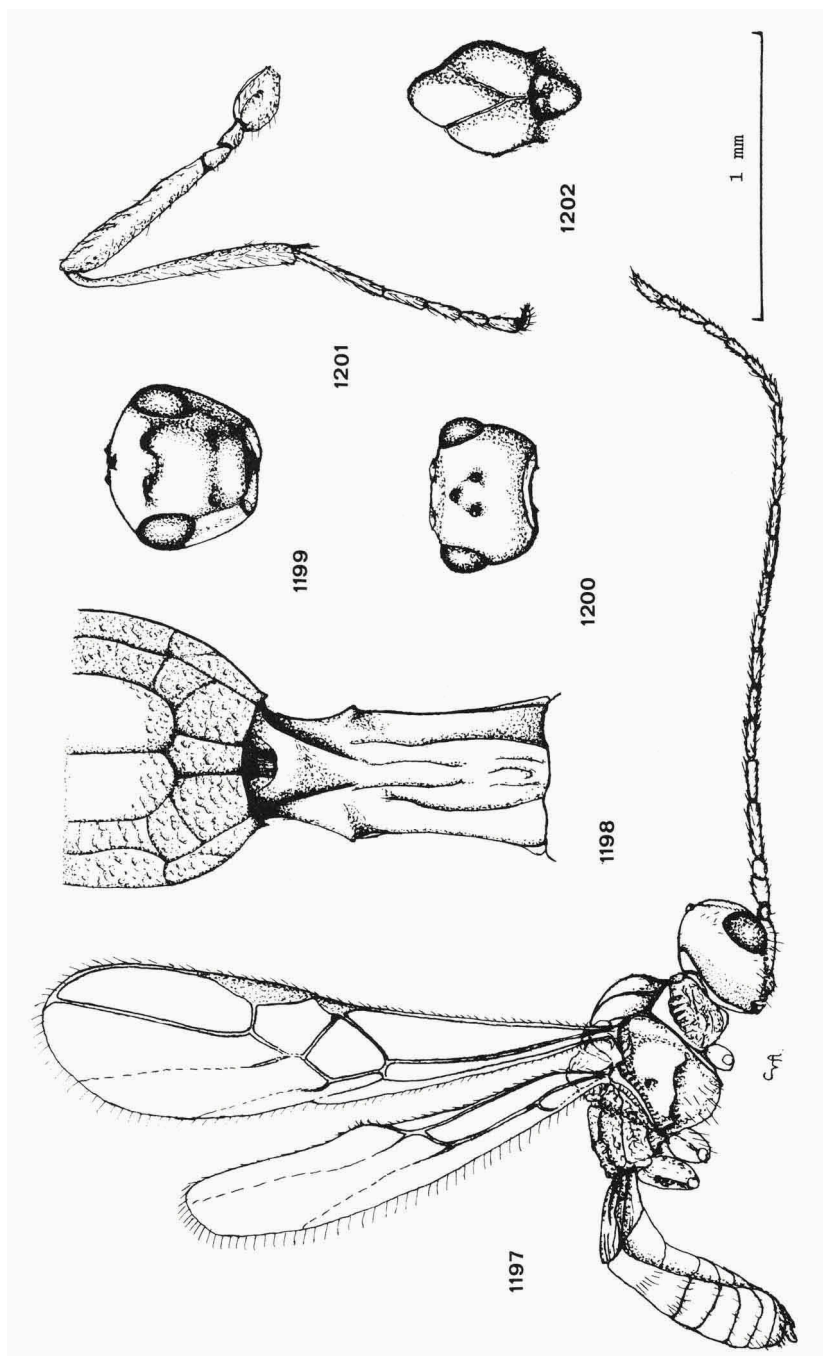
Figs. 1169-1175, *Blacus (Tarpeion) artomandibularis* Van Achterberg, ♀, holotype. 1169, wings; 1170, head, frontal aspect; 1171, habitus, lateral aspect; 1172, head, dorsal aspect; 1173, mesonotum, dorsal aspect; 1174, hind leg; 1175, propodeum, first and second metasomal tergites, dorsal aspect. 1169, 1171, 1174: scale-line (= 1 x); 1170, 1172, 1173: 1.2 x; 1175: 2.5 x.



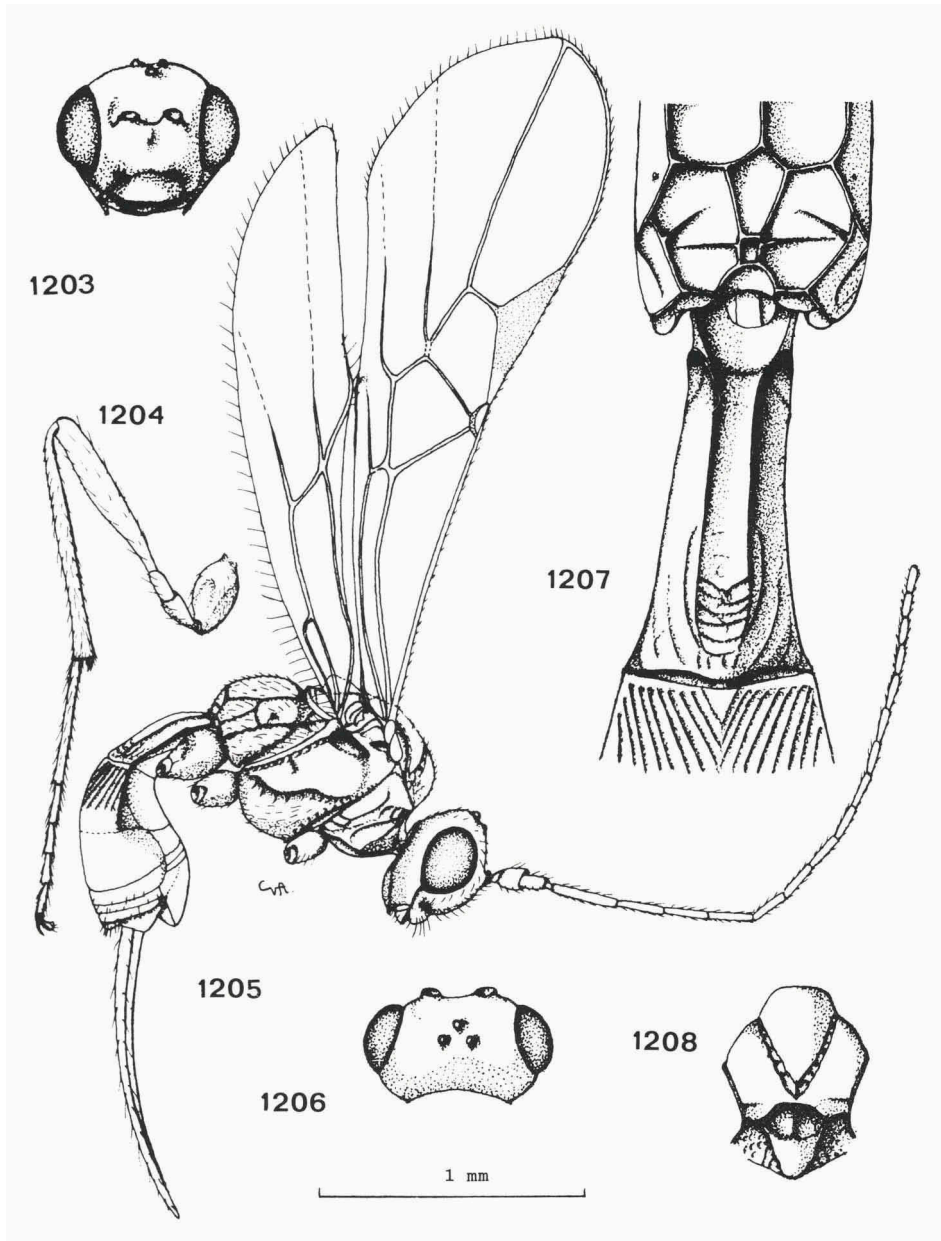
Figs. 1176-1186, *Blacus (Tarpheion) angichorus* spec. nov., ♀, holotype. 1176, habitus, lateral aspect; 1177, wings; 1178, apex of antenna; 1179, fore claw; 1180, middle claw; 1181, head, dorsal aspect; 1182, head, frontal aspect; 1183, mesonotum, dorsal aspect; 1184, hind claw; 1185, propodeum, and first-third metasomal tergites, dorsal aspect; 1186, hind leg. 1176, 1177, 1186: scale-line (= 1 x); 1178-1180, 1184: 2.5 x; 1181-1183, 1185: 1.5 x.



Figs. 1187-1196, *Blacus (Tarpheion) soror* spec. nov., ♀, holotype. 1187, habitus, lateral aspect; 1188, wings; 1189, head, dorsal aspect; 1190, head, dorsal aspect; 1191, fore claw; 1192, middle claw; 1193, propodeum, first and second metasomal tergites, dorsal aspect; 1194, hind claw; 1195, hind leg; 1196, mesonotum, dorsal aspect. 1187, 1188, 1193, 1195: scale-line (= 1 x); 1189, 1190, 1196: 1.5 x; 1191, 1192, 1194: 2.5 x.

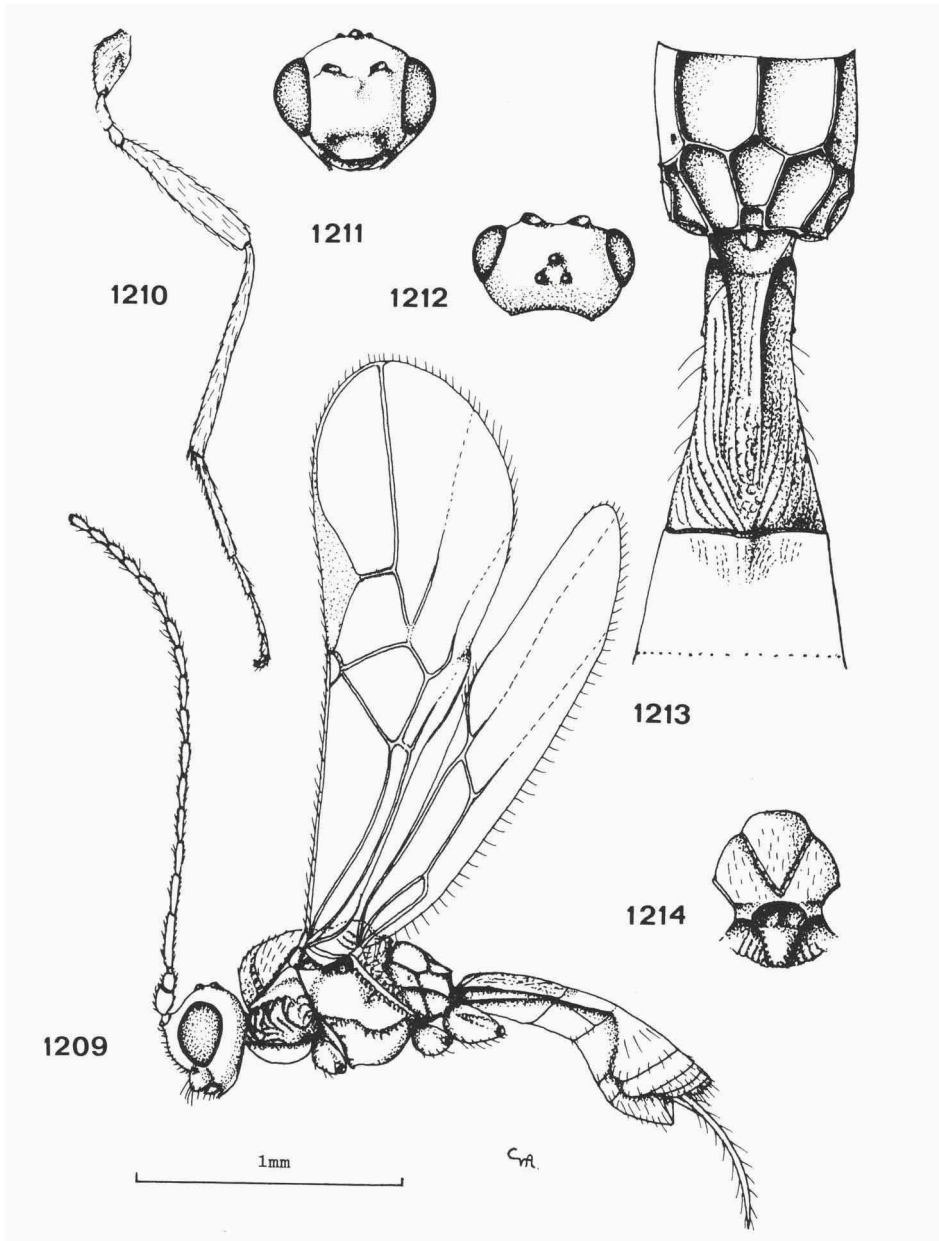


Figs. 1197-1202, *Blacus (Tarpheion) decaryi* Granger, ♂, holotype. 1197, habitus, lateral aspect; 1198, propodeum and first metasomal tergite, dorsal aspect; 1199, head, frontal aspect; 1200, head, dorsal aspect; 1201, hind leg; 1202, mesonotum, dorsal aspect. 1197, 1201: scale-line (= 1 x); 1198: 3 x; 1199, 1200, 1202: 1.2 x.

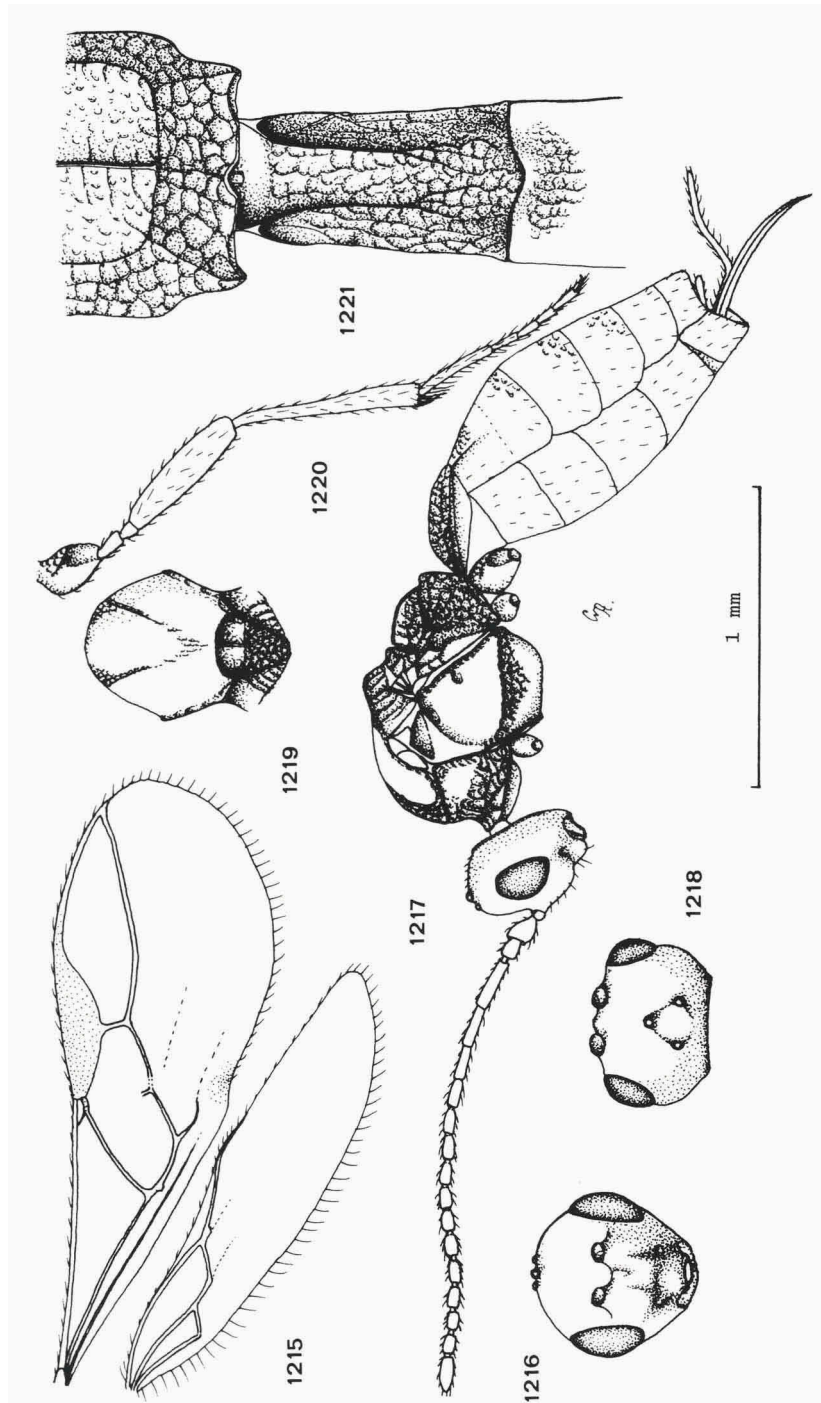


Figs. 1203-1208, *Blacus (Tarpheion) transversus* Van Achterberg, ♀, holotype. 1203, head, frontal aspect; 1204, hind leg; 1205, habitus, lateral aspect; 1206, head, dorsal aspect; 1207, propodeum; first and second metasomal tergites, dorsal aspect; 1208, mesonotum, dorsal aspect. 1203, 1206, 1208: 1.2 x; 1204, 1205: scale-line (= 1 x); 1207: 3 x.

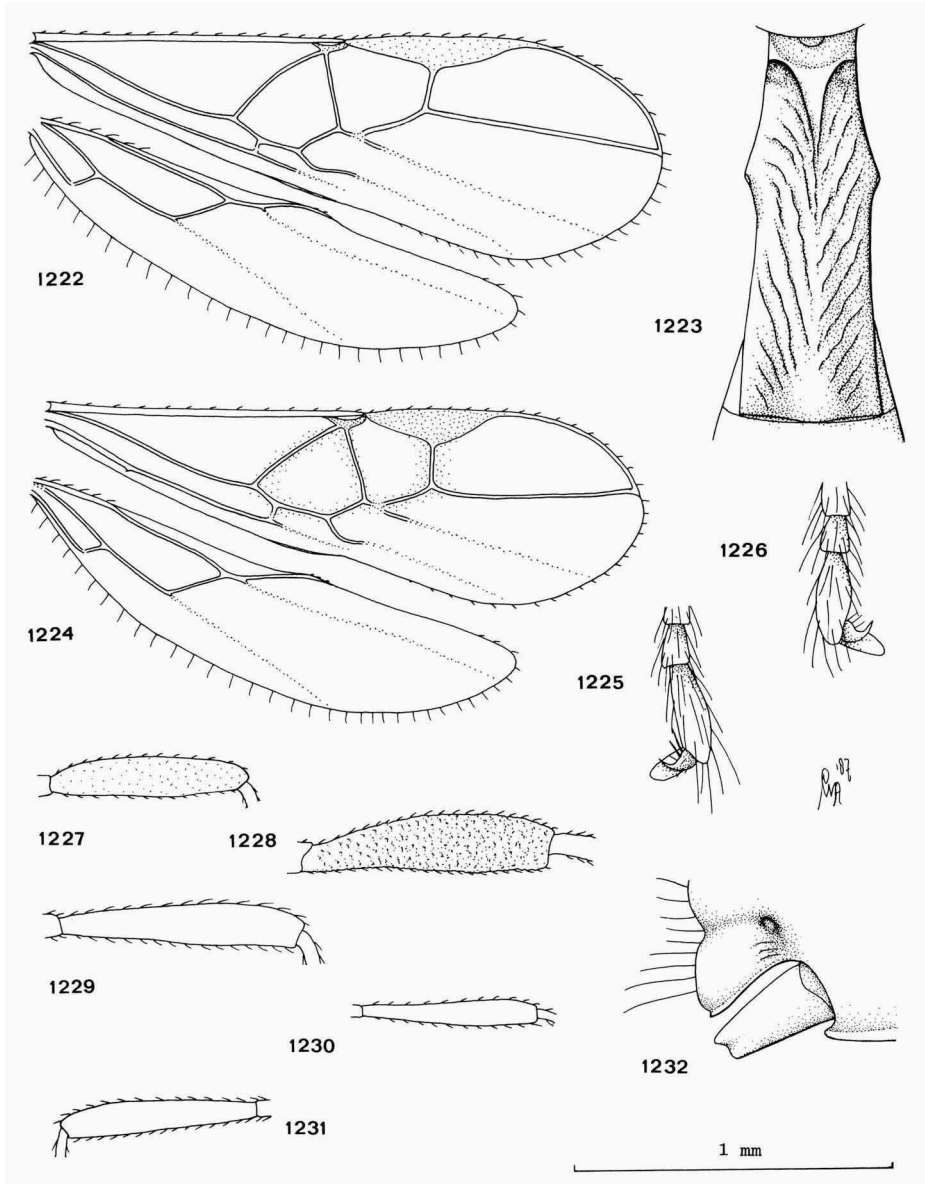




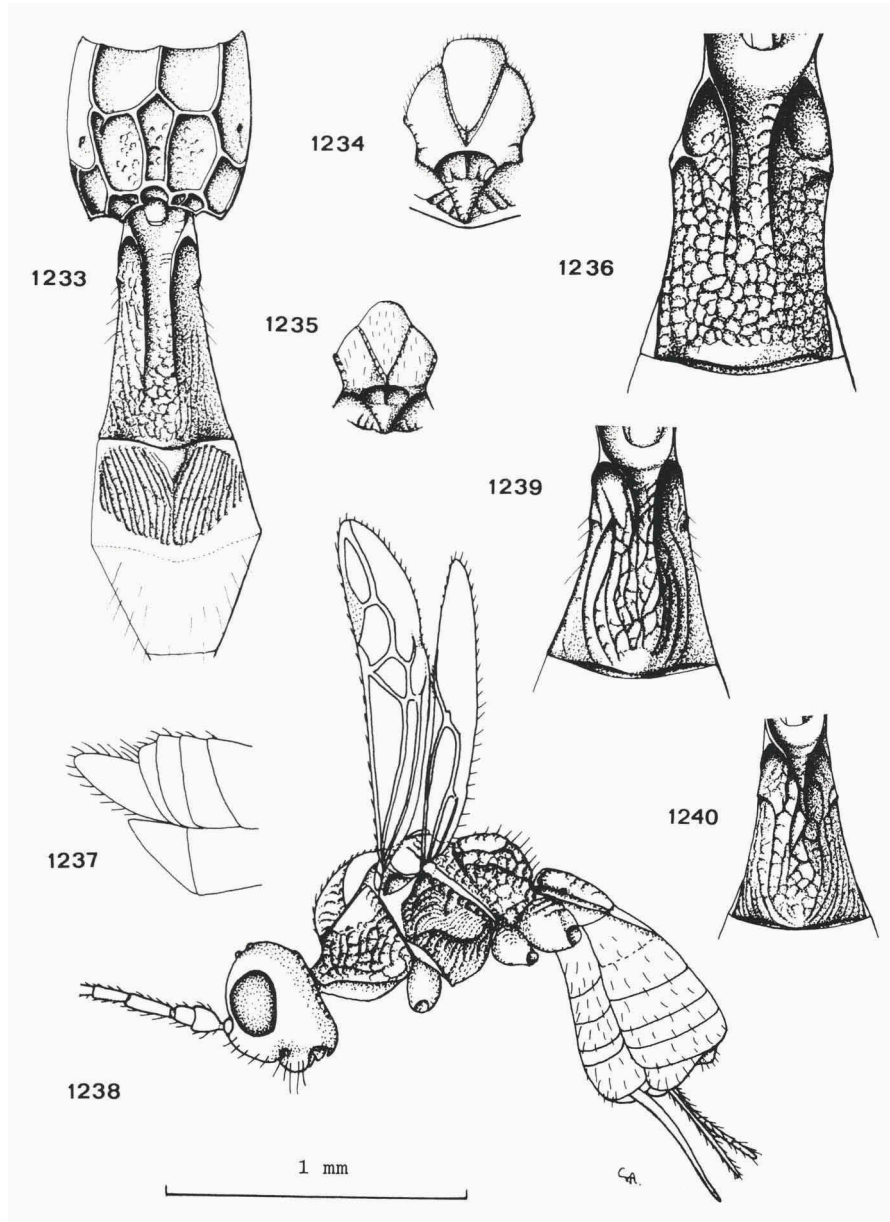
Figs. 1209-1214, *Blacus (Tarpheion) convexus* Van Achterberg, ♀, holotype. 1209, habitus, lateral aspect; 1210, hind leg; 1211, frontal aspect; 1212, head, dorsal aspect; 1213, propodeum, first and second metasomal tergites, dorsal aspect; 1214, mesonotum, dorsal aspect. 1209, 1210: scale-line (= 1 x); 1211, 1212, 1214: 1.2 x; 1213: 2.5 x.



Figs. 1215-1221, *Blacus (Neoblacus) koenigi* Fischer, ♀, neotype of *rufipes* Ashmead. 1215, wings; 1216, head, frontal aspect; 1217, habitus, lateral aspect; 1218, head, dorsal aspect; 1219, mesonotum, dorsal aspect; 1220, hind leg; 1221, propodeum and first metasomal tergite, dorsal aspect. 1215, 1217, 1219: scale-line (= 1 x); 1216, 1218, 1220: 1.2 x; 1221: 2.5 x.



Figs. 1222-1223, *Blacus (Ganychorus) tripudians* Haliday, ♀, Netherlands, 1222: Putten, 1223: Mantingerbos; fig. 1224, *Blacus (Ganychorus) macropterus* Haeselbarth, ♀, paratype; fig. 1225, *Blacus (Hysterobolus) trapezoides* Van Achterberg, ♀, paratype; fig. 1226, *Blacus (Hysterobolus) robustus* Haeselbarth, ♀, Ontario, Rondeau Park; fig. 1227, *Blacus (Blacus) radialis* Haeselbarth, ♀, Nepal, below Sangu; fig. 1228, *Blacus (Blacus) paganus* Haliday, ♀, Netherlands, Wijster; fig. 1229, *Blacus (Tarpheion) schimischeki* Haeselbarth, ♀, paratype; fig. 1230, *Blacus (Tarpheion) schwenkei* Haeselbarth, ♀, paratype; fig. 1231, *Blacus (Tarpheion) townesi* Haeselbarth, ♀, South Africa, Port St. John; fig. 1232, *Dyscoletes lancifer* (Haliday), ♀, Netherlands, Wijster. 1222, 1224, wings; 1223, first metasomal tergite, dorsal aspect; 1225, 1226, fore claw; 1227-1231, hind femur, lateral aspect; 1232, clypeus, lateral aspect. 1222: 0.7 x; 1223, 1225, 1226, 1232: 2.5 x; 1224, 1227-1231: scale-line (= 1x).



Figs. 1233, 1235, *Blacus (Tarpheion) schwenkei* Haeselbarth, ♀, paratype; fig. 1234, *Blacus (Tarpheion) schimitscheki*, ♀, paratype; fig. 1236, *Blacus (Blacus) humilis* (Nees), ♀, Netherlands, Otterlose Bos; fig. 1237, *Blacus (Blacus) pappianus* Haeselbarth, ♂, Spain, Torremolinos; fig. 1238, *Blacus (Ganychorus) striatus*, micropterous ♀, paratype; fig. 1239, *Blacus (Hysterobolus) robustus* Haeselbarth, ♀, paratype; fig. 1240, *Blacus (Hysterobolus) mamillanus* Ruthe, ♀, East Germany, Fürstenberg. 1233, propodeum, first-third metasomal tergites, dorsal aspect; 1234, 1235, mesonotum, dorsal aspect; 1236, 1240, first metasomal tergite, dorsal aspect; 1237, apex of metasoma, lateral aspect; 1238, habitus, lateral aspect. 1233, 1239, 1240: 1.7 x; 1234, 1235: 0.9 x; 1236: 3 x; 1237: 1.2 x; 1238: scale-line (= 1 x).

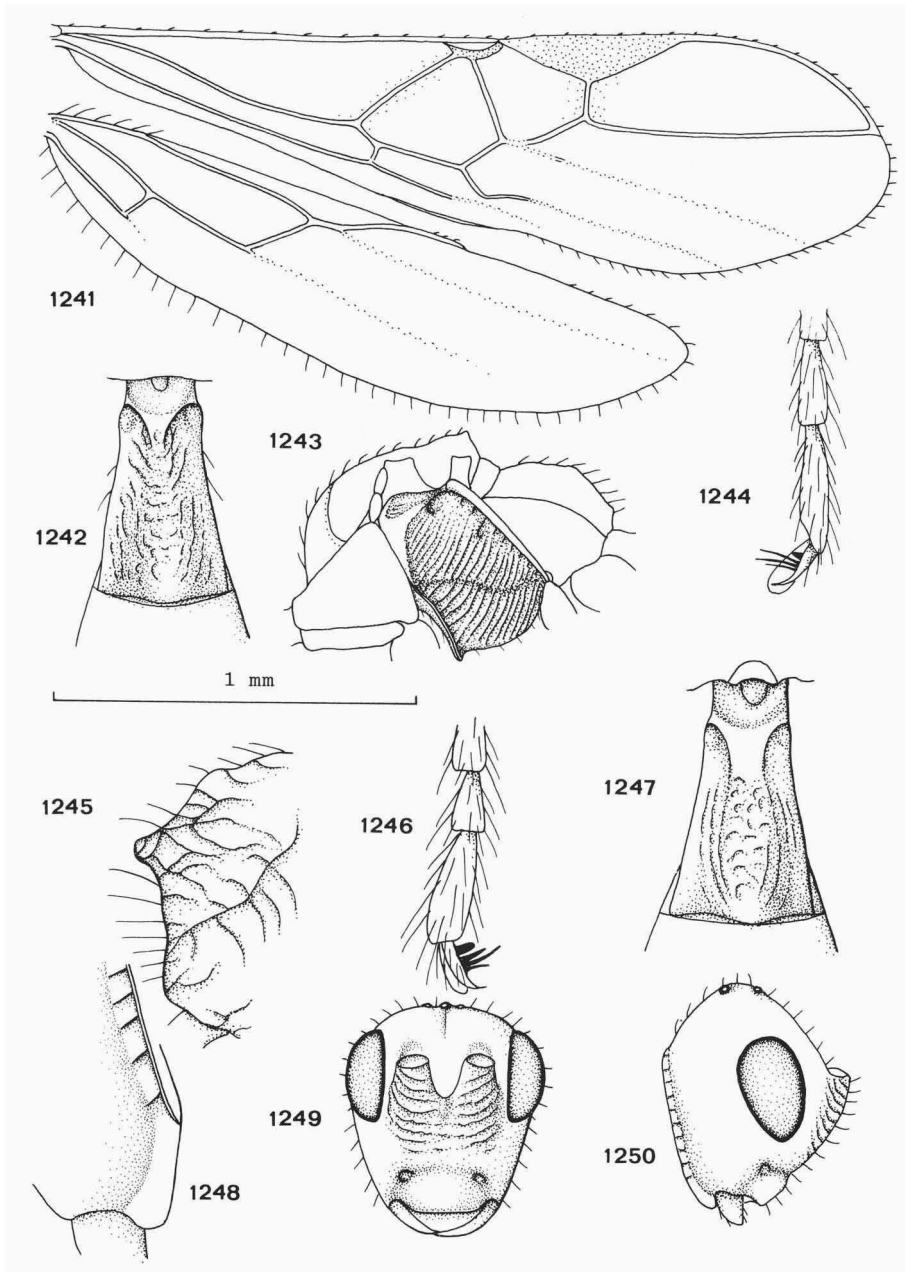


Fig. 1241, *Blacus (Ganychorus) macropterus* Haeselbarth, ♂, Sweden, Kulavik; fig. 1242, *Blacus (Ganychorus) capeki* Haeselbarth, ♀, Czechoslovakia, Trenčín; figs. 1243, 1247, *Blacus (Ganychorus) diversicornis* (Nees), ♀, Sweden, Umea; fig. 1244, *Blacus (Ganychorus) maculipes* Wesmael, ♀, Italy, St. Peter/Ahrntal; fig. 1245, *Blacus (Hysterobolus) nixonii* Haeselbarth, ♀, Netherlands, Meijendel; figs. 1246, 1248-1250, *Blacus (Hysterobolus) mamillanus* Ruthe, ♀, Netherlands, Hoenderlo. 1241, wings; 1242, 1247, first metasomal tergite, dorsal aspect; 1243, detail of mesopleuron; 1244, hind claw; 1245, propodeal tubercle, lateral aspect; 1246, fore claw; 1248, occipital flange; 1249, head, frontal aspect; 1250, head, lateral aspect. 1241, 1243, 1249, 1250: scale-line (= 1 x); 1242, 1245, 1247: 1.7x; 1244, 1246, 1248: 2.5 x.

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<i>alternipes</i> spec. nov.	Laos	BPBM	151
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<i>artomandibularis</i> Van Achterberg, 1976	Nepal	BMNH	154
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<i>brevichorus</i> spec. nov.	Laos	BPBM	157
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<i>brevicrenulatus</i> spec. nov.	Philippines	BPBM	96
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<i>monostigmaticum</i> Van Achterberg, 1976	Chili	CNC	43
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<i>multiarticulatus</i> Ratzeburg, 1852	belongs to <i>Pygostolus</i> (Euphorinae)		-
<i>multiarticulatus</i> Brues, 1923	Baltic Amber	lost	21
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<i>pallipes</i> Foerster, 1862	Germany	ZMB	64
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