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A REVIEW OF GORYTINI IN THE NEOTROPICAL REGION (HYMENOPTERA: SPHECIDAE: BEMBICINAE)

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A review of the Neotropical genera and species of Gorytine wasps (Hymenoptera: Sphecidae: Bembecinae) is provided including descriptions of genera and species and keys to identify them. The 24 genera and 157 species now known from the Neotropical Region, extending north to southern Mexico and the Caribbean Islands, are treated. Several new genera and species are described. Several new synonymies are proposed. References, figures, and an index to the generic and specific names treated in this paper are given.

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ABSTRACT. The 24 genera and 157 species now known from the Neotropical Region, extending north to southern Mexico and the Caribbean Islands, are treated and keys are given. New genera are: *Allogorytes*, *Aroliagorytes*, *Epigorytes*, *Leurogorytes*, *Leiogorytes*, *Stethogorytes*, *Trachogorytes*, and *Tretogorytes*. New status is given for *Stenogorytes*, valid genus; and *Harpactostigma* valid genus. New species are *Clitemnestra* **aeroides**, Ecuador, Costa Rica; *C. albitarsis*, Mexico; *C. antennalis*, Chile; *C. azurea*, Ecuador; *C. bijaguae*, Costa Rica; *C. boliviana*, Bolivia; C. *brasilica*, Brazil; *C. caerulae*, Ecuador, Costa Rica; *C. carinata*, Colombia, Venezuela; *C. chilicola*, Chile; *C. clypearis*, Argentina; *C. colombica*, Colombia; *C. cooperi*, Colombia; *C. costaricae*, Costa Rica, Colombia; *C. densa*, Mexico to Bolivia; *C. ecuadorica*, Ecuador; *C. egana*, Brazil; *C. fritzi*, Argentina; *C. fulva*, Colombia; *C. irwini*, Central America; *C. lissa*, Peru; *C. nigrifrons*, Chile; *C. nigritula*, Costa Rica; *C. ocellaris*, Brazil; *C. paraguayana*, Paraguay; *C. pecki*, Ecuador; *C. pedunculata*, Costa Rica; *C. puyo*, Costa Rica to Peru; *C. ruficrus*, Argentina; *C. schlingeri*, Peru; *C. sensilis*, Bolivia; *C. strigulae*, Colombia; *C. toroi*, Chile; *C. vallensis*, Trinidad, Colombia; *C. vardyorum*, Peru; *C. wasbaueri*, Paraguay; *C. willinki*, Argentina; *C. zeta*, Colombia; *Argogorytes clypealis*, Brazil, Argentina; *A. mexicalis*, Mexico, Arizona; *A. porteri*, Brazil, Argentina; *A. quadrangulus*, Honduras to Costa Rica; *A. umbratilis*, Costa Rica to Argentina; *Neogorytes cooperi*, Ecuador; *N. dicestus*, Argentina; *N. hansoni*, Costa Rica; *N. incaorum*, Peru; *Trachogorytes costaricae*, Costa Rica; *Pterygorytes plaumanni*, Brazil; *Pt. hooki*, Trinidad; *Megistommum evansi*, Costa Rica; *Tretogorytes sinuosus*, Brazil; *Leurogorytes stangei*, Argentina; *Leiogorytes guerrero*, Mexico; *Epigorytes flavidalis*, Costa Rica, Panama; *E. mocoae*, Colombia; *Psammaletes brasilae*, Brazil; *P. costaricae*, Costa Rica to Panama; *P. hooki* (Trinidad); *Stenogorytes argentinus*, Argentina; *S. porteri*, Argentina; *S. sternalis*, Colombia; *S. venezuelae*, Venezuela; *S. willinki*, Argentina; *Liogorytes badiala*, Argentina; *L. brasilicus*, Brazil; *L. luteus*, Argentina; *L. punctosus*, Chile; *L. rufulus*, Argentina; *Sagenista cingulata*, Argentina; *S. kimseyorum*, Panama, Colombia; *S. pilosa*, Mexico to El Salvador; *S. tucumanae*, Argentina; *S. vardyi*, Argentina; *Hoplisoides arispilos*, Dominican Republic; *H. azuae*, Dominican Republic; *H. dominicanus*, Dominican Republic, *H. helvolus*, Colombia, Peru; *H. metapleura*, Costa Rica, Mexico; *H. nigripes*, Ecuador; *H. notialis*, Argentina; *H. ovatus*, Costa Rica, Mexico; *H. peruvicus*, Peru; *H. rasilis*, Peru; *H. ruficeps*, Argentina; *Stethogorytes volcano*, Costa Rica. New synonyms: *Ochleroptera jamaica* Pate 1947 = *Clitemnestra bipunctata* (Say) 1824; *Gorytes tenera* Handlirsch 1895 = *Clitemnestra sphaerosoma* (Handlirsch) 1895; *Sphecius*

spectabilis nobilis Brèthes 1910 = *Sphecius spectabilis* (Taschenberg) 1875; *Neoplisus* R. Bohart 1967 = *Stenogorytes* Schrottky 1911; *Gorytes melanoxanthum* Schrottky 1911 = *Epigorytes procerulides* (Strand) 1910; *Gorytes sepulchralis* Handlirsch 1888 = *Sagenista brasiliensis* (Shuckard) 1838; *Hoplisoides subcostalis* R. Bohart 1997 = *H. iheringii* (Handlirsch) 1893; *Gorytes asuncionis* (Strand) 1910 = *Hoplisoides jordani* (Handlirsch) 1895; *Gorytes morrensis* Strand 1910 = *Hoplisoides vespoides* (F. Smith) 1873; *Hoplisoides umbonicida* Pate 1941 = *H. vespoides* (F. Smith) 1873.

Introduction

The Gorytini is one of the largest and most diverse tribes of the subfamily Bembicinae in the family Sphecidae. Worldwide, and allowing for individual taxonomic interpretations, there are 39 genera in the tribe. Twenty-four of these occur in the Neotropical Region, and 14 are presumably endemic. The subfamily name Bembicinae replaces Nyssoninae according to Menke (1997).

Many of the characteristics which describe the Gorytini are negative ones, that is, they represent the absence of characters which determine related tribes. Even so, there may be exceptions. For instance, there are always 3 submarginal cells in the forewing, none petiolate (except the Australian *Exeirus* and the Costa Rican *Paraphilanthus*); the female pygidial plate is always wedge-shaped (except 1 species of *Clitemnestra*); an omaulus is always present (except in the genera *Pterygorytes* and *Trachogorytes*); male mandibles are always bidentate (except single in *Tanyoprymnus* and some European genera); the ocelli are always normal (except the distorted hindocelli in European *Kohlia*); and so on.

Positive characteristics of neotropical Gorytini are: S-I with a non-bifurcating ridge between the hindcoxae, labrum (usually exserted) but not as long as broad, mid-tibia with 2 apical spurs, scutellum without a strongly overlapping posterior edge (as occurs in Stizini). S-VIII in the male is often protruding. Sometimes it appears to be a "pseudosting".

Some structural features with generic significance occur in particular gorytin genera. It is interesting to speculate on their functional value. All females are predacious and several have tridentate rather than bidentate mandibles. This condition occurs in *Megistommum*, *Leiogorytes*, *Pseudoplisus*, *Trachogorytes*, and *Sagenista*. Could this be an advantage in gripping elusive prey? In some genera, such as *Argogorytes*, *Paraphilanthus*, *Neogorytes*, *Sagenista*, *Allogorytes*, *Stethogorytes* and *Hoplisoides*, there is an acetabular carina extending under the thoracic venter. Could this be a useful strengthening device? Species of *Psammaletes*, *Leiogorytes*, *Megistommum* and some of *Clitemnestra* and *Liogorytes* have the petiole pedunculate. Could this alter the profile enough to give them an advantage with respect to predators such as birds? Male S-VIII protrudes stinglike in *Argogorytes*, *Neogorytes*, *Leiogorytes*, *Megistommum*, *Sphecius*, *Sagenista*, *Hoplisoides*, *Pterygorytes*, *Epigorytes*, and *Allogorytes*. Collectors can attest the stinging motion in such males, even though no poison glands exist. Is there evolutionary significance? The sternaulus appears to be a strengthening feature longitudinally on the thorax. If so, why is it absent in *Clitemnestra*, *Argogorytes*, *Neogorytes*, *Pterygorytes*, *Trachogorytes*, and *Sphecius*? The first 3 can be con-

sidered unspecialized genera, and all 6 might be thought to be low on the evolutionary scale. If so, perhaps they haven't yet developed the possibly useful sternaulus? Somewhat along the same line of reasoning, male gorytins have the arolia subequal, whereas some females have the forelegs with large arolia. Since only the females are predaceous it may be an advantage in *Harpactostigma*, *Lestiphorus*, *Leiogorytes*, *Stethogorytes*, *Aroliagorytes*, and *Sagenista* for capturing and maintaining a hold on prey. *Paraphilanthus* is reported to be stridulating. Could this be a warning mechanism in males?

Along a different line of conjecture, some gorytins resemble other notorious stinging wasps and may enjoy a measure of protection. Examples are *Liogorytes cordobensis*, which could be considered a mimic of a black pompilid, and *Hoplisoides vespoides*, which may mimic *Pachodynerus nasidens* Latreille.

From 1989 to 1996 P. G. Nemkov has published a series of papers on Palearctic Gorytini, which have added much information on their phylogeny and distribution. In a recent paper Nemkov and Lelej (1996) presented a cladistic analysis of the tribe, which included one oligocene fossil genus, *Biamogorytes* Nemkov (1990). In addition 6 new subtribes were named: Exeirina, Olgiina, Handlirshiina, Clitemnestrina, Argogorytina, and Gorytina. The first 3 of these include only Old World genera, the last 3 both Old World and New World forms. In my opinion the subtribe category is not helpful when applied to the neotropical fauna, and I have not used it.

A remarkable number of Costa Rican species have the same extensively yellow markings on a black background. Thus, for the taxonomist, identification to genus is best done under the microscope. Species fitting this category are: *Megistommum splendidum* (Handlirsch), *Megistommum evansi* R. Bohart, *Epigorytes flavidalis* R. Bohart, *Pseudoplisus tritospilus* R. Bohart, *Stenogorytes notabilis* (Handlirsch), and *Psammaletes costaricae* R. Bohart. A case can be made that this group is an example of Mullerian mimicry.

Judging by early literature, species were commonly known by single females. In net collecting the more sedentary females were more easily taken than the erratically and rapidly flying males. With the advent of Malaise traps many more males were collected. Modern use of pan traps containing water and detergent are increasing collections of wasps of both sexes which fly near the ground.

The large number of genera in the Neotropical Region with a complexity of characters defining them has presented difficult questions of appropriate generic rank. Anton Handlirsch, a great worker on Bembicinae in the late 1890s and early 1900s, solved the problem for himself by placing many of the Gorytini in the single genus *Gorytes* Latreille. For instance in one of his comprehensive papers, Handlirsch (1888) recognized 120 species of "*Gorytes*", of which 37 were new species or new names for those previously described. These are now assigned to a variety of genera as currently understood.

In my revised key to genera of neotropical Gorytini certain characters are emphasized: (1) petiolation or pedunculation of T-I, (2) place and nature of divergence of the hindwing media in relation to cu-a, (3) development of the arolia in females, (4) nature of S-II basally, (5) whether the episternal-scrobal sulcus continues to the omaulus, (6)

presence of an oblique scutal carina, (7) presence of an acetabular carina, (8) development of a spiracular sulcus on the propodeum laterally, (9) number of apical teeth on the female mandible, (10) shape of male S-VIII, (11) presence of a sternaulus, (12) modifications of male flagellomeres VIII to XI, (13) sculpture of the propodeum, (14) foveolation of the prescutellar sulcus, (15) nature of the propodeal enclosure.

Characters of specific value include pubescence, punctation, markings, shape of facial components, carinulation on the propodeum, proportions of antennal segments, and condition of the interantennal area. These characteristics are used in the descriptions and in species keys following the treatment of each genus.

Nesting habits: Most female gorytins have a more or less developed rake on the foretarsus. Also, they have a definitive pygidial plate. Both of these structures imply that they construct ground nests. As far as known, they prey on Homoptera, usually leafhoppers, fulgorids, or treehoppers. Among the neotropical species, *Sphecius spectabilis* and *Liogorytes joergenseni* are known to provision cicadas. Incidentally, the Australian gorytins, *Exeirus lateritius* and *Austrogorytes bellicosus*, may use cicadas, also. *Clitemnestra* females have weak foretarsal rakes but make nests in soft soil and provision with "hopper type" Homoptera. Some female gorytins put a single large prey (cicada or treehopper) per cell. Others may provision nearly 100 prey (adult and nymphal leafhoppers) per cell (Bohart 1976:520).

Terms or abbreviations which are possibly unfamiliar or difficult to visualize: Arolium: spongy organ between tarsal claws. Acetabular carina: ridge extending ventrally from omaulus. Flagellomere (F): antennal segment beyond scape and pedicel. Hindwing cu-a: crossvein at end of submedian cell. LID: least interocular distance. MOD: diameter of median ocellus. Oblique scutal carina: short carina at posterolateral corner of scutum. PD: puncture diameter. Pedunculate petiole: with a posterodorsal hump. Punctation: (1) fine, (2) moderate, (3) coarse: (1) tiny punctures, (2) those equal to 1/4 MOD, (3) those equal to 1/2 MOD or more. Sterna (S): ventral segments beginning with first apparent one (S-I). Sternaulus: horizontal carina on mesopleuron usually attached to omaulus. Tarsomeres: tarsal segments I to V. Terga (T): dorsal abdominal segments beginning with first apparent one (T-I).

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A special mention should be made of the more than 2,000 specimens available from the Costa Rican faunal survey made by SAN JOSÉ I-II, and LOGAN.

Academy of Natural Sciences	PHILADELPHIA
American Museum of Natural History	NEW YORK
California Academy of Sciences	SAN FRANCISCO
Canadian National Collection	OTTAWA
Carnegie Museum	PITTSBURG
Cornell University	ITHACA
Colorado State University	FORT COLLINS
Costa Rica InBio	SAN JOSÉ II
Cuban Museums	HAVANA I AND II
Florida State Collection of Arthropods	GAINESVILLE
Laboratorio de Zoologia, Catolico Universidad	VALPARAISO
Laval University Provancher Collection	QUEBEC
Humboldt Museum, Germany	BERLIN
Instituto Miguel Lillo, Argentina	TUCUMÁN
Museum of Comparative Zoology, Harvard	CAMBRIDGE
Muséum d'Histoire Naturelle, Switzerland	GENEVA
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National Museum of Natural History, Netherlands	LEIDEN
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National Museum of Natural History, U. S.	WASHINGTON
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University of Halle, Germany	HALLE
University of Kansas Snow Museum	LAWRENCE
University of Lund, Sweden	LUND
University of Nebraska	LINCOLN
University of São Paulo, Brazil	SÃO PAULO
Utah State University	LOGAN

Key to genera of Gorytini in the Neotropical Region

1. Hindwing media diverging more than 1.0 MOD beyond cu-a, sternaulus absent .. 2
-- Hindwing media diverging before cu-a or not more than 1.0 MOD beyond it, sternaulus present or absent 5
2. Hindwing cu-a at nearly a right angle with veins on either side of it, no acetabular carina .....*Clitemnestra* Spinola
-- Hindwing cu-a not at a right angle with veins on either side of it, acetabular carina present 3
3. Gaster petiolate, hindwing media diverging beyond cu-a at nearly a right angle ....*Neogorytes* R. Bohart
-- Gaster not petiolate, hindwing media diverging beyond cu-a at much less than a right angle (at least in American species)..... 4

4. Forewing with submarginal cell II with a short anterior appendage, male S-III-V fimbriate ..... *Paraphilanthus* Vardy
-- Forewing with submarginal cell II not appendiculate, male S-III to V not fimbriate ..... *Argogorytes* Ashmead
5. Acetabular carina present 6
-- Acetabular carina absent 9
6. Propodeum areolate posteriorly and laterally beyond prespiracular area, female mandible 3-toothed, foreleg arolium enlarged ..... *Sagenista* R. Bohart
-- Propodeum not areolate, polished to punctate, female with mandible 2-toothed, female arolia various 7
7. Inner eye margins strongly converging below, not nearly parallel ..... *Allogorytes* R. Bohart, new genus
-- Inner eye margins widely separated, converging slightly below 8
8. Prescutellar sulcus foveolate; T-I stout, not petiolate; scrobal sulcus, if developed, angled downward in front of episternal sulcus, female arolia usually subequal ..... *Hoplisoides* Gribodo
-- Prescutellar sulcus not foveolate; T-I petiolate; scrobal sulcus nearly straight; no episternal sulcus, female foretarsal arolium enlarged ..... *Stethogorytes* R. Bohart, new genus
9. T-I strongly pedunculate 10
-- T-I at most weakly pedunculate 13
10. Hindwing media arising about at cu-a, female mandible 2-toothed 11
-- Hindwing media arising well before cu-a, female mandible 3-toothed 12
11. Mesopleuron and scutum coarsely punctate, T-II simple basally ..... *Psammaletes* Pate
-- Mesopleuron and scutum not coarsely punctate, T-II with short row of longitudinal ridges basally ..... *Lestiphorus* Latreille
12. Sternaulus smoothly complete, LID about as long as or less than length of foretarsomere I, female arolia subequal ..... *Megistommum* Schulz
-- Sternaulus present in posterior one-half only, LID equal to or greater than length of foretarsomere I, female foretarsal arolium enlarged ..... *Leiogorytes* R. Bohart, new genus
13. Sternaulus completely absent 14
-- Sternaulus at least partly present 17
14. Omaulus present, prescutellar sulcus various 15
-- Omaulus absent, prescutellar sulcus simple 16
15. Prescutellar sulcus foveolate, female midtarsal I stoutly "spurred" apically ..... *Sphecius* Dahlbom
-- Prescutellar sulcus simple, female midtarsal I with slender apical "spur" ..... *Tanyoprymnus* Cameron
16. Episternal sulcus a row of pits extending downward onto mesopleural venter, T-I slenderly petiolate, female mandible 3-toothed ..... *Trachogorytes* R. Bohart, new genus
-- Episternal sulcus linear, not extending below juncture with scrobal sulcus, T-I about as broad as long, female mandible 2-toothed ..... *Pterygorytes* R. Bohart

17. Interocellar area longitudinally grooved, often bituberculate; clypeus convex, coarsely punctate, propodeum proper polished, male S-VIII stinglike ..... *Epigorytes* R. Bohart, new genus
-- Interocellar area not longitudinally grooved, not tuberculate, other characters various 18
18. Propodeum proper, entirely areolate, including prespiracular area, T-I only a little broader apically than basally, male S-IV-V with long basal fimbriae ..... *Harpactostigma* Brèthes
-- Propodeum proper polished or finely or coarsely punctate, but not areolate, T-I broadened apically, male S-IV-V without fimbriae 19
19. Propodeum proper, posterior to spiracle, densely punctate, male S-VIII bispinose apically ..... *Liogorytes* R. Bohart
-- Propodeum proper, posterior to spiracle, not densely punctate, male S-VIII various 20
20. Propodeum without a well-defined spiracular sulcus, sometimes only a slight groove, male S-VIII apically bifurcate ..... *Stenogorytes* Schrottky
-- Propodeum with a spiracular sulcus, at least above, male S-VIII various 21
21. Episternal sulcus not reaching below to scrobal sulcus which is nearly straight, male S-VIII essentially stinglike, female arolia subequal, female mandible 3-toothed ..... *Pseudoplisus* Ashmead
-- Episternal sulcus complete to scrobal sulcus which is bent downward in front of juncture, male S-VIII and female arolia various, female mandible 2-toothed 22
22. Clypeus mostly smooth, male S-VIII bifurcate apically, male antenna greatly modified on F-VIII to XI, female arolia subequal ..... *Leurogorytes* R. Bohart, new genus
-- Clypeus extensively punctate, male unknown, female arolia unequal, foretarsal arolium enlarged 23
23. Posterior suture of metapleuron coarsely pitted, arolium of midleg in female smaller than that of foreleg, LID broader than scape length ..... *Tretogorytes* R. Bohart, new genus
-- Posterior suture of metapleuron simple, arolium of midleg in female as large as that of foreleg, both larger than that of hindleg, LID about equal to scape length.... *Aroliagorytes* R. Bohart, new genus

Genus *Clitemnestra* Spinola

Clitemnestra Spinola 1851:351. Type species: *Arpactus gayi* Spinola 1851, original designation.
Clytemnestra Saussure 1867:75, emendation.
Miscothyrus F. Smith 1869:307. Type species: *Miscothyrus thoracicus* F. Smith 1869, monotypic.
Clytaemnestra Handlirsch 1895:858, emendation.
Ochleroptera Holmberg 1903:487. Type species: *Ochleroptera oblita* Holmberg 1903, monotypic.
Paramellinus Rohwer 1912:469. Type species: *Gorytes bipunctatus* Say 1824, original designation.
Astaurus Rayment 1955. Type species: *Astaurus hylaeioides* Rayment 1955:55. Original designation.

A list of important gorytin characters of *Clitemnestra* are given below:

1. Female mandible 2-toothed.
2. Antennal sockets often placed moderately close to upper margin of clypeus.
3. Inner eye margins convex, far apart or rather close together.
4. Acetabular carina and sternaulus absent.
5. Prescutellar sulcus simple or foveolate.
6. Female arolia subequal.
7. Female midtarsal I not unusually "spurred."
8. Scrobal sulcus ending at episternal sulcus that continues downward to omaulus.
9. Propodeal enclosure polished or roughened or carinulate but no deep median sulcus.
10. Metapleural posterior suture simple, sometimes foveolate above.
11. Propodeum proper punctate, sometimes with longitudinal carinulae.
12. Hindwing media arising far beyond cu-a, which is nearly at a right angle to associated veins.
13. Oblique scutal carina absent.
14. Spiracular sulcus absent.
15. T-I fairly stout or petiolate.
16. Male S-VIII simple, not narrowed distally, T-VII sometimes visible, last 4 male flagellomeres not specialized.
17. Female pygidial plate usually densely bristled.

Clitemnestra was presumably introduced into the New World from Australia when continental drift brought that continent close to Chile. Bohart and Menke (1976:489), listed 12 species of the genus, 3 from Chile and 9 from Australia. It appears that subsequent to their invasion of Chile more species of *Clitemnestra* now occur in South America than in Australia. The generotype, *gayi* Spinola (1851), was designated by that author in his landmark work on Chilean insects. Since that time the fauna of that country was augmented with *chilensis* (Saussure) (1867), *multistrigosa* Reed (1894), and *sanambrosiana* (Perez) (1980). In the present paper I am adding 4 species to those from Chile. Many others occur in other countries of South and North America.

As a genus, *Clitemnestra* ranks as unspecialized among the Gorytini: no posterolateral oblique scutal carina, no sternaulus, no acetabular carina, no petiolate second submarginal cell, no well-developed female foretarsal rake, hindwing media diverging well beyond cu-a, no modification of the last 4 male flagellomeres, no spiracular groove laterally on the propodeum, one subsidiary mandibular tooth, no special modifications of female arolia, frons usually sulcate medially, no elongation of male S-VIII, no fimbriation of male sterna.

The history of *Clitemnestra* Spinola 1851, including the assignment of various species to other genera, was discussed by Pate (1947a). He also compared the genus with *Ochleroptera* Holmberg 1903. Pate differentiated them by the petiolate abdomen in *Ochleroptera*, and the possession of "a continuous reflexed flange along the dorsal margins of the mesopleura and metapleura". These distinctions are not easy to apply. A third difference given by Pate was the presence of a visible T-VII in *Clitemnestra*

males, but only six visible in males of *Ochleroptera*. This last character occurs also in some species of *Hoplisoides*. Unfortunately for this distinction, several species of both "genera" are known only from females! In this paper I am considering *Ochleroptera* to be a synonym of *Clitemnestra*.

Presumably related and agreeing with some of the characters above are *Olgia* Radoszkowski, *Argogorytes* Ashmead, *Exeirus* Shuckard, and *Neogorytes* R. Bohart. Of these, all except *Exeirus* lack the medially sulcate frons. However, *Exeirus* and *Paraphilanthus* have the second submarginal cell petiolate, and the hindwing media diverges close to cu-a. In *Argogorytes* and *Olgia*, male S-VIII is elongate posteriorly, *Argogorytes* has an acetabular carina; *Olgia* has a simple mandible, and the female foreleg has a well developed rake. Finally, *Neogorytes* has a distinct spiracular sulcus on the propodeum.

Presently, in the New World some 51 species of *Clitemnestra* are known.

Characters of special importance in *Clitemnestra* can be separated into (1) structural, (2) surface peculiarities, and (3) color. In the first category, many species are petiolate, but in 4 of them T-I also assumes a distinctly pedunculate appearance (Fig. 52). Two other species are known to have the flagellum unusually long and slender. In males this may be equal to one-half the total body length. A narrow LID is present most often (Fig. 38), but several species have the eyes separated by more than the 2x scape length (Figs. 42, 49).

The second category includes punctation and striation or carinulation. In this connection the nature of the interocellar surface is often critical. It may be smooth and polished; evenly covered with fine punctures; or with unevenly dispersed, relatively coarse punctation (Fig. 37). Some species are characterized by a densely punctate and dull scutum, the punctures of medium size and contiguous. About one-half of the species have the propodeal enclosure partly or entirely covered with longitudinal carinules. The other one-half have this area smooth and polished.

With respect to color there is considerable variation. However, patterns are frequently specific. Some species have the legs all black or red to brown, others have varying amounts of white or yellow on the femora (apical), tibiae (mainly basal), or tarsi (various segments, Figs. 55, 57). Generally the area above the clypeus is dark, but in 4 species it is white or yellow. The flagellum may be black (Fig. 46) or fulvous toward the base (Fig. 42). In some cases this may be of specific value. Most species have a lateral pale spot on T-II or III. However, some have partial or complete pale bands on several terga (Figs, 50, 51). An oddity is found in 2 species with 6 small spots along the scutal-scutellar suture (*irwini*, *macarena*). Several species have the thorax bluish, greenish, or bronzy. Occasionally, these colors may be intense.

All of these characters are used in the key and descriptions. However, certain repetitive features may be omitted: In descriptions it is assumed (unless otherwise stated) pubescence is silvery on lower face, moderate and pale on mesopleuron and propodeum proper, becoming fulvous toward more posterior terga. Also assumed is the non-pedunculate petiole, and clear wings.

Key to New World *Clitemnestra*

1. Propodeal enclosure practically all smooth, polished, sometimes with basal row of small pits or with short basal section set off with carinae (see *hansoni*) 2
-- Propodeal enclosure not all smooth and polished, mostly or partly covered with longitudinal to slanting carinulae, *or* roughened, *or* "crazed" 26
2. T-I pedunculate, strongly narrowed toward base; interocellar area polished, epunctate 3
-- T-I not pedunculate and strongly narrowed toward base; interocellar area usually with fine or coarse punctures 6
3. Scutellum mostly yellow (Argentina) ..... *willinki* R. Bohart, new species
-- Scutellum black 4
4. Propodeal enclosure entirely polished, female (Bolivia) ..... *boliviana* R. Bohart, new species
-- Propodeal enclosure with anterior row of small pits 5
5. T-I black, swelling gradually toward posterior, which is about one-third as broad as T-II (Costa Rica) ..... *nigritula* R. Bohart, new species
-- T-I partly brown toward more abruptly swollen posterior, which is about one-fourth as broad as T-II (Costa Rica) ..... *pedunculata* R. Bohart, new species
6. Supraclypeal area white or yellow, T-II to IV, at least, banded 7
-- Supraclypeal area black, T-II to IV various 10
7. Tergal bands narrow, forewing marginal cell brown, 6 yellow spots often distributed along scutal-scutellar intersection, scutal punctation coarse (Colombia, Costa Rica) ..... *costaricae* R. Bohart, new species
-- Tergal bands or broken bands enlarged laterally, forewing marginal cell clear, yellow spots on scutellum various, scutal punctures various 8
8. Hindtarsomeres I to IV all pale yellow, 6 spots usually present along scutal-scutellar intersection (Central America) ..... *irwini* R. Bohart, new species
-- Hindtarsomeres I-IV apically brown, scutum and scutellum black 9
9. Tergal bands on T-II to IV broken (partial), LID about one-half breadth of ocellar triangle; scutum with coarse, slightly spaced punctation (Colombia, Costa Rica) ..... *colombica* R. Bohart, new species
-- Tergal bands on T-II to IV complete, LID about equal to breadth of ocellar triangle; scutum with medium coarse, dense punctation (Brazil) ..... *brasilica* R. Bohart, new species
10. Punctation of scutum and T-II extremely fine and close 11
-- Punctation of scutum and T-II, if fine, not close 13
11. Propodeum mostly punctate, narrowly shiny next to lateral groove of enclosure, female clypeus and midfemur usually all black, female body length usually about 10 mm (Fig. 2), (Chile) ..... *chilensis* (Saussure)
-- Propodeum broadly polished next to lateral groove of enclosure; female midfemur maculate apicoventrally; female clypeus extensively white or yellow; body length less than 10 mm 12
12. LID about equal to scape length, hindtarsus dark in both sexes, mesopleuron all black, female clypeus mostly white (Fig. 8) (Chile) ..... *chilicola* R. Bohart, new species

-- LID about 2x scape length, hindtarsomeres II-III mostly white, mesopleuron with white spot dorsally, clypeus black above (Fig. 14), female (Peru) ..... *lissa* R. Bohart, new species

13. Abdomen extensively tan, propodeum proper light tan, forewing stigma light brown (Colombia) ..... *fulva* R. Bohart, new species

-- Abdomen mostly black, propodeum proper black, forewing stigma dark brown to black 14

14. Scutellum with anterior light yellow band 15

-- Scutellum black, or with posterior yellow band, or all yellow 16

15. Abdomen mostly dark orange-red, T-II to V closely and coarsely punctate, female (Brazil) ..... *colorata* (W. Fox)

-- Abdomen black and yellow, T-II, at least, finely punctate, female (Brazil, Peru) ..... *schlingeri* R. Bohart, new species

16. Abdomen all black, scutum with coarse punctures about 1 PD apart or less, scutellum and metanotum yellow, flagellum black, propodeal enclosure with short basal section set off by carinae ..... *hansoni* R. Bohart, new species

-- Abdomen not all black, other characters various 17

17. Scutal punctures medium coarse but dispersed among considerable polished areas, scutellum with 2 yellow spots, hindtarsals II to IV white 18

-- Scutal punctures fine, integument polished and reflective of blue, green, gold, copper, etc., scutellum various, hindtarsi various 20

18. T-II to IV with posterior yellow bands, scutum dark blue, female (Ecuador) ..... *pecki* R. Bohart, new species

-- T-II or II-III with lateral yellow spot, scutal color various 19

19. Scutum blue, T-II-III each with lateral yellow spot, female (Paraguay) ..... *wasbaueri* R. Bohart, new species

-- Scutum black, T-II only with lateral yellow spot, female (Brazil) ..... *egana* R. Bohart, new species

20. Scutum bright blue, purple, or blue green 21

-- Scutum not a shade of blue or purple 23

21. Thorax beyond pronotum all purplish blue, abdomen black with purplish reflections, no pale spots on T-II, midtibia black, female (Ecuador) ..... *azurea* R. Bohart, new species

-- Thorax not all purplish blue beyond pronotum, scutum more greenish blue, metanotum white, abdomen with pale lateral spot on T-II, midtibia not all black 22

22. Midtibia outwardly all white, midfemur mostly light brown (Ecuador) ..... *caerulea* R. Bohart, new species

-- Midtibia outwardly black with basal whitish, midfemur mostly black, female (Ecuador) ..... *aeroides* R. Bohart, new species

23. Interocellar area with medium coarse punctures, those of scutum fine but distinct, 3-5 PD apart, hindtibia dark brown (Brazil, Peru, Ecuador, Costa Rica) ..... *puyo* R. Bohart, new species

-- Interocellar area polished; scutal punctures quite small, faint; hindtibia various 24

24. Hindtibia black, basally white; flagellum black; foretibia outwardly white, foretarsus all white, female (Morelos, Mexico)*albitarsis* R. Bohart, new species
-- Hindtibia mostly brown, foreleg various 25
25. Foretibia whitish yellow outwardly, foretarsus all white, flagellum light brown on F-I to III, female (Costa Rica, Venezuela) .....*chrysos* R. Bohart, new species
-- Foretibia brown, foretarsus partly brown, flagellum mostly dark brown, slightly lighter toward base (Central America, Venezuela, Peru) .... *championi* (Cameron)
26. Punctation of scutum extremely fine and close, same on T-II except more reflective, metanotum (but not scutellum) white or light yellow; T-I as broad as long in dorsal view 27
-- Punctation of scutum not extremely fine and close, *and* equally so on T-II; scutellum, metanotum, shape of T-I, various 33
27. Propodeal enclosure with some anterior carinules, longitudinal and slanting, followed by smooth area (rarely a little roughened), T-II with whitish lateral spot, T-III dark; clypeus usually whitish yellow, female F-I about 3x as long as broad, female LID about 2x scape length (Chile, w. Argentina)....*gayi* (Spinola)
-- Propodeal enclosure entirely carinulate or roughened, other characters various28
28. Legs red, clypeus mostly white, T-I-II with lateral white spot (Argentina)..... ..... *ruficrus* R. Bohart, new species
-- Legs black and whitish or pale yellow, T-II-III spots various..... 29
29. Mandible black basally (Figs. 3, 24), hindtarsus black 30
-- Mandible yellow toward base, hindtarsus usually fulvous or partly white 31
30. Propodeum proper rather broadly shiny above, clypeus whitish, female pygidial plate edges nearly parallel (Chile) ..... *multistrigosa* Reed
-- Propodeum proper rough and dull above, clypeus black (Fig. 3), female pygidial plate angled at about 45° (Chile).....*nigrifrons* R. Bohart, new species
31. T-V and sometimes T-VI with apicomedian pale spot or spots, T-II to IV often with broken pale apical bands (Fig. 31), flagellum anteriorly fulvous beneath, male F-IV depressed basally, expanded apically (Chile, Peru) ..... *sanambrosiana* (Perez)
-- T-V or VI without apicomedian pale spots, flagellum often black, other characters various 32
32. T-II with lateral yellow spot, T-III black, lower orbits yellow, female LID about 2x scape length (Chile) ..... *toroi* R. Bohart, new species
-- T-II to III or IV with lateral yellow spot, lower orbits black, female LID less than 2x scapal length (Peru, Bolivia)..... *vardyorum* R. Bohart, new species
33. Interocellar area with median longitudinal groove (Fig. 18), clypeus quite short and broad (Fig. 19), hindtarsus all white (Fig. 20), T-I to V all black, female (Argentina)..... *clypearis* R. Bohart, new species
-- Interocellar area not grooved, other characters various..... 34
34. T-I, as viewed from above, as broad as long, breadth about 0.5x that of T-II; orbital areas of frons black 35
-- T-I, as viewed from above, longer than broad, breadth less than 0.5x that of T-II, orbital areas of frons various..... 36

35. T-I with broad oval (slightly double) light yellow spot, propodeum proper closely punctate next to enclosure, forefemur, at least, yellow spotted (Chile) ... . *antennalis* R. Bohart, new species

-- T-I black, propodeum proper not closely punctate next to enclosure, all femora black (Argentina, Bolivia) ..... *fritzi* R. Bohart, new species

36. Flagellum unusually long and slender, F-II and following more than 2x as long as broad, LID at least 2x scape length 37

-- Flagellum not unusually long and slender, F-II and following, or some of them, less than 2x as long as broad; LID less than 2x scape length 38

37. Antenna fulvous in front beyond scape, metanotum yellow, other markings yel low including lateral spots on T-II-III, male (Bolivia) .... *sensilla* R. Bohart, new species

-- Antenna black beyond scape, metanotum black, markings whitish including lateral spot on T-II (Ecuador) ..... *ecuadorica* R. Bohart, new species

38. Scutal punctation dense and close, punctures medium-sized and contiguous.. 39

-- Scutal punctation fine or moderately coarse to coarse but not contiguous (some 1 PD apart or more) 42

39. Scutellum with 2 yellow spots, T-II to IV with bandlike yellow markings, appr- essed facial pubescence golden, female (Colombia) .... *cooperi* R. Bohart, new species

-- Scutellum black, T-II with lateral yellow spot, appressed facial pubescence silvery 40

40. Forewing stigma orange, female clypeus at least 4x as broad as long (Fig. 42), flagellum reddish brown toward base in front ..... *zeta* R. Bohart, new species

-- Forewing stigma black, female clypeus not more than 3x as broad as long, flagellum black 41

41. Mandible black toward base, tibiae black, forewing nearly clear (Colombia) .... *carinata* R. Bohart, new species

-- Mandible white or light yellow toward base, tibiae whitish basally, forewing partly stained (Costa Rica to Bolivia) ..... *densa* R. Bohart, new species

42. Scutal punctures fine and close *or* fine and well spaced, not much, if any, more coarse than those of T-II 43

-- Scutal punctures moderate to coarse, more coarse than those of T-II 46

43. Scutal punctures quite fine and close; T-II with large lateral yellow spots which form part of broken yellow band, T-III also with broken band, hindtarsomere I black (Argentina) ..... *oblita* (Holmberg)

-- Scutal punctures fine but well spaced, T-II with lateral yellow spot not part of broken band, hindtarsomere I various 44

44. Ocelli conspicuously sunken, interocellar area humped, upper mesopleuron above scrobal sulcus with yellow spot, scutellum with pair of yellow spots (Brazil) ..... *ocellaris* R. Bohart, new species

-- Ocelli not noticeably sunken, interocellar area more evenly convex, upper mesopleuron black, scutellum black 45

45. Scutum black, punctures of interocellar area rather evenly dispersed, hindtibia with basal fourth or third yellow, hindtarsomeres I to III white (U. S., Cuba, Jamaica, Costa Rica, Venezuela) ..... *bipunctata* (Say)

-- Scutum with metallic or bluish tinge, punctures of interocellar area unevenly dispersed, hindtibia usually black, hindtarsomeres I to III not usually all white (Brazil, Argentina)..... *aenea* (Handlirsch)

46. T-II-III with apical yellow bands, sometimes broken 47

-- T-II or II-III with lateral yellow spot..... 48

47. Propodeal enclosure with 8-10 complete longitudinal carinulae, T-II-III or II-IV each with well defined yellow band (Brazil, Argentina)..... ..... *sphaerosoma* (Handlirsch)

-- Propodeal enclosure partly polished, divided by median carinule and short lateral one; T-II with irregular apical band, T-III with partial one, female (Paraguay)..... *paraguayana* R. Bohart, new species

48. Propodeal enclosure polished except for series of short basal carinules; upper mesopleuron above scrobal sulcus with yellow spot, T-II-III with lateral yellow spot (Brazil)..... *hirta* (Handlirsch)

-- Propodeal enclosure with complete carinulation; upper mesopleuron black, T-II (only) with lateral yellow spot. 49

49. Interocellar area flattened, with evenly distributed fine punctures (Colombia)... ..... *strigula* R. Bohart, new species

-- Interocellar area not especially flattened, with irregular coarse punctures..... 50

50. Legs mostly light brown, female (Costa Rica)..*bijaguae* R. Bohart, new species

Legs mostly dark brown to black (Trinidad, Colombia)..... .....*vallensis* R. Bohart, new species

***Clitemnestra aenea* (Handlirsch)** ×

Gorytes aeneus Handlirsch 1888:348. Holotype female (seen), "Blumenau," Brazil (VIENNA).

Gorytes parvulus Handlirsch 1888:351. Syntype females (seen), "Brazil". (VIENNA). Synonymy by Bohart 1976:490.

Gorytes subtilis (Handlirsch) 1895:858. Holotype male (seen), "Caracas," Venezuela (BERLIN). Synonymy by Bohart 1976:490.

Ochleroptera aenea (Handlirsch) of Bohart 1976:490.

Female (São Paulo, Brazil): Length 6 mm. Black, marked with whitish yellow: mandible basally, clypeus, scape and pedicel in front; pronotal collar, lobe; metanotum; apical spots on fore- and midfemora, basal one-fourth of tibiae, tarsomeres I to III; apicolateral oval spot on T-II; scutum blue-tinged; F-I to VII fulvous beneath, forewing clear. Punctation fine, 1-2 PD apart on interocellar area, scutum, propodeum proper, mesopleuron. LID equal to scape length; F-I 2.5x as long as broad, II 2x; propodeal enclosure with anterior carinulae, propodeum proper shiny next to enclosure, no longitudinal carinulae; petiole 1.5x as long as broad; pygidial plate angled at 45°, striatopunctate.

Male (Nova Teutonia, Brazil): Length 5 mm. About as in female. LID 1.2x scape length, F-I 1.2x as long as broad, II 1.1x.

Variation: Some specimens may have the hindtibia all dark or with a tiny basal yellow spot; a male and 2 females from Argentina (Salta and Tucumán) have the hindtibia with basal one-third yellow and a lateral yellow spot also on T-III.

Material studied: Type specimens (above) from Brazil and Venezuela; 38 males, 50 females (DAVIS), Nova Teutonia, Santa Catarina, Brazil; male, female (DAVIS), São Paulo, Brazil; female (DAVIS), Corupa, Santa Catarina, Brazil; 2 females (TUCUMÁN), Salta and Tucumán, Argentina.

Discussion: *O. aenea* is similar to *bipunctata* but differs in the bluish, blue-green, or bronzy tint of the scutum, as well as in most cases fewer white markings.

***Clitemnestra aeroides* R. Bohart, new species (Fig. 39)**

Female holotype: Length 6 mm. Bright blue, darker blue, black, whitish. Bright blue are: frons, vertex, dorsum of thorax; greenish blue: mesopleuron; dark blue: abdomen mostly; black: median clypeal spot, wing veins, legs largely, flagellum; whitish: mandible basally, clypeus laterally, scape and pedicel in front, pronotal collar and lobe, metanotum mostly, apicoventral spots on fore- and midfemora, foretibia outwardly, midtibia on basal one-fourth, hindtibia narrowly at base, fore- and midtarsomeres I to IV, hindtarsomeres I to III (others broken off); yellowish white: scape, lateral spot on T-II. Punctation mostly fine, integument shiny. Facial features as in Fig. 39. LID 0.63x scape length; F-I 3x as long as broad, II-III 2x; propodeal enclosure polished, broader than long, basally with row of pits; rest of propodeum polished, sparsely punctate; petiole a little longer than apical breadth; pygidial plate angled at about 45°, coarsely punctate, punctures toward base about 1 PD apart.

Male: Unknown.

Holotype female (WASHINGTON): 47 km s. Santo Domingo, Pinchin, Ecuador VIII-28-76 (J. Cohen).

Discussion: Among the species with a polished propodeal enclosure, blue scutum, and unspotted mesopleuron, *aeroides* is distinguished by having the flagellum dark, and hindtarsals II-III white. The species name means "false sky blue", referring to the colors of the scutum and mesopleuron.

***Clitemnestra albitarsis* R. Bohart, new species**

Female holotype: Length 7 mm. Black and whitish: clypeus mostly except upper rim, mandible toward base, scape in front, pronotal collar and lobe, triangular mesopleural spot behind lobe, tegula in front, metanotum, foretibia outwardly, foretarsus, midtibia outwardly, hindtibia on basal one-third, mid- and hindtarsi entirely except apical one-half of tarsomere V, lateral spot on T-II; apical rim of clypeus fulvous. Punctation fine on mostly polished surfaces, moderate scattered punctures on clypeus, moderate and fairly close on propodeum outside enclosure. LID 0.8x scape length; F-I about 3x as long as broad, II-III about 1.6x; propodeal enclosure polished, broader than long, lateral groove seamlike; petiole a little longer than dorsal breadth; pygidial plate angled at about 40°, densely setose.

Male: Unknown.

Holotype female (WASHINGTON): Cuernavaca, Morelos, Mexico IV-?-65 (N. L. H. Krauss).

Discussion: Among the species with polished propodeal enclosure, mostly polished interocellar area, black notum and flagellum, *albitarsis* is distinguished by having a white lateral spot on T-II (only), foretarsus all white, and mid- and hindtarsals I to IV white. The species name is an adjective referring to the white tarsi.

***Clitemnestra antennalis* R. Bohart, new species (Figs. 1, 13, 25, 26)**

Female holotype: Length 8 mm. Black, marked with whitish: mandible toward base, scape partly, pronotal collar and lobe, tegula in front, metanotum, fore- and midfemora with apical spot, foretibia outwardly, streak on midtibia in front, basal one-third of hindtibia; all tarsi fulvous, hindtarsus darkest; T-I with whitish transverse median spot, T-II with large lateral spot, T-III-IV with progressively smaller lateral spots, flagellum fulvous beneath; wings clear. Punctation moderate and close on frons; punctures moderately coarse, 1.0 PD apart on scutum, 2-3 PD apart on mesopleuron, contiguous and dull on propodeum posteriorly; punctures fine but distinct on terga, a little more coarse toward apex of T-V. F-I 3x as long as broad, II to IV at least 2x; LID 1.2x scape length; propodeal enclosure completely covered with slanting carinulae and roughening; petiole about as broad as long, pygidial plate angled at about 45°, coarsely punctate and with sparse silvery setae.

Male: Length 6.5 mm. About as in female, but T-III-IV have medial fragmented spots indicating partial bands.

Holotype female (DAVIS): El Pangue, 1500 m , Coquimbo, Chile, XI-5-61 (L. Peña). **Paratype male** (SAN FRANCISCO): Cuesta La Dormida, Valparaiso, Chile (A. R. Moldenke).

Discussion: The fully sculptured propodeal enclosure, LID a little more than scape length (Fig. 1), black clypeus, flagellum fulvous beneath, ocelli surrounded by punctate or micropunctate areas (Fig. 13), and whitish banded T-I, taken together, define the species. Tergal spots of the female (T-II-III) are transverse but not part of a band. In the presumed male, however, there are indications of bands on T-III and IV. The specific name refers to the unusually slender flagellum.

***Clitemnestra azurea* R. Bohart, new species (Fig. 38)**

Female holotype: Length 7 mm. Black, blue, whitish. Blue are: scutum, scutellum, metanotum, propodeum; whitish are: mandible basally, clypeus laterally (Fig. 38), scape in front, pronotal collar narrowly, midfemur apicoventrally, fore- and midtarsal III. Punctation generally inconspicuous, body mostly polished, a few punctures toward apex of clypeus, across base of propodeal enclosure, on T-V. Facial features as in Fig. 38; LID 0.65x scape length; F-I 3.5x as long as broad, F-II-III about 0.8x; propodeal enclosure polished, broader than long; rest of propodeum polished, sparsely punctate; petiole 1.5x as long as apical breadth; pygidial plate angled at about 45°, coarsely setose, punctures basally about 1 PD apart.

Male: Unknown.

Holotype female (OTTAWA): 16 km s. Santo Domingo (Tinalandia), Pinchin, Ecuador, 680 m, VI-30-75 (S. and J. Peck).

Discussion: Among the species with polished propodeal enclosure and bluish thorax, *azurea* is the only one with fore- and midtarsal III white. The apparently similar *violacea* (Handlirsch) was stated to have the tarsi all black. The species name is a reference to the extensive blue coloration.

Clitemnestra bipunctata (Say) (Figs. 54, 55)

Gorytes bipunctata Say 1824:338. Holotype (sex ?), Pennsylvania (destroyed). Neotype female (here designated), Jeannette, Westmoreland Co., Pennsylvania (DAVIS).

Ochleroptera jamaica Pate 1947b:94. Holotype male (seen), Blue Mts., Jamaica (PHILADELPHIA). New synonym.

Ochleroptera bipunctata (Say) of Bohart 1976:490.

Female neotype: Length 6 mm. Black, marked with whitish yellow: mandible basally; clypeus; scape, pedicel, F-I in front; pronotal collar, lobe; metanotum; apical spot on fore-, midfemur; foretibia, mid- and hindtibia basally; lateral spot on T-II; F-II to XI fulvous in front; forewing clear. LID equal to scape length; F-I 2.5x as long as broad, II 1.5x; enclosure anteriorly carinulate, punctate; petiole 1.3x as long as broad; pygidial plate angled at 50°, striatopunctate.

Male (n. Arizona): Length 4.5 mm. About as in female, F-I 1.5x as long as broad, II 1.0x; petiole 1.5x as long as broad.

Material studied: Neotype female (above). Many specimens from United States where *bipunctata* is widespread and relatively abundant, Mexico (Sonora, Chihuahua, Sinaloa, Morelos, Puebla, Mexico D. F., Coahuila, Durango, Baja California Sur, Zacatecas), Guatemala, El Salvador, Costa Rica, Cuba, Jamaica, Venezuela. The only South American material I have seen are a series of 13 males and 16 females I collected near Merida, Venezuela at an altitude of 1950 m, IX-13-73; and a series of 9 males and 9 females, collected by Martin Cooper in Meta, Colombia in 1976.

Variation: Among several hundred specimens of *bipunctata* about one-half have a whitish spot apicoventrally on the fore- and midfemur. Most of these have the flagellum fulvous toward the base, and a few have the flagellum all fulvous in front. The clypeus is nearly always light yellow (except apical rim). However, specimens from the off-shore Pacific island of Santa Cruz may have a median black clypeal spot. This situation occurs also on Cuba and Jamaica. In my opinion these represent slight varieties of *bipunctata*. The characters offered by Pate (1947b) for *jamaica*, based on a single male, appear to be variable.

Discussion: The combination of rough propodeal enclosure, spaced scutal punctures, moderately narrow LID, tergal spot or spots, tibiae and tarsi marked with whitish, characterize the species.

Clitemnestra bijaguae R. Bohart, new species

Female holotype: Length 7.5 mm. Black, marked with yellow and yellowish brown. Yellow are: clypeus except for black apical rim and small median black spot, mandible toward base, scape in front, pronotal collar, lobe, metanotum, apicolateral spot on T-II; yellowish brown are: pedicel, F-I to IV mostly, legs beyond trochanters mostly; wings clear, stigma black. Facial appressed pubescence silvery; erect pubescence of scutum fulvous, of mesopleuron and propodeum off-silvery. Punctation of

frons fine, close; of interocellar area moderate; separated; of scutum dense, close; of terga indistinct, polished. LID slightly less than scape length, clypeus quite broad (more than 2x scape length), height mostly about half scape length, a sharp transverse subapical transverse ridge; F-I 3x as long as broad, II 2x, III 1.8x; propodeal enclosure as broad as long, about 10 longitudinal carinulae, shiny; propodeum proper weakly punctate next to enclosure, polished; petiole 1.6x as long as apical breadth; propodeum proper with 1 long longitudinal carina on each side; pygidial plate angled at 45°, with dense fulvous setae.

Male: Unknown.

Holotype female (LOGAN): Bijaguae, Alajuela, Costa Rica, 20 km s. Upala, X-31-90 (F. D. Parker). **Paratype female** (DAVIS): same data as holotype but collected I-22-91.

Discussion: Characteristic are the short but broad clypeus, light brownish flagellum toward base, completely carinulate propodeal enclosure next to a polished propodeum proper, and black forewing stigma.

The species name is dedicated to the collecting locality.

***Clitemnestra boliviana* R. Bohart, new species**

Female holotype: Length 8 mm. Black, marked with light yellow: lateral spot on clypeus, scape in front, pronotal collar, lobe partly, metanotum, apicolateral spot on T-I, apical band on T-II, broken medially; scattered apical spots on T-III, tarsomere III mostly on mid- and hindtarsus. Punctation fine on clypeus, scutellum, terga; most other areas smooth to polished. LID 0.6x scape length, F-I 4x as long as broad, II-III 2x; propodeal enclosure broader than long, polished; petiole 2x as long as apical breadth, strongly pedunculate; pygidial plate angled at 45°, densely dark golden setose.

Male: Unknown.

Holotype female (LONDON): Chulumani, La Paz, Bolivia, 1700 m, IV-3-79 (M. Cooper). **Paratypes**, 2 females (LONDON, DAVIS), same data as holotype but collected III-31-79.

Discussion: The 4 species of pedunculate *Clitemnestra* are: *boliviana*, *nigritula*, *pedunculata*, and *willinki*. They are similar in structure (shape and punctation) but differ in markings. In *boliviana* the scutellum is black, metanotum is yellow, femora are mostly brown, clypeus with 2 yellow spots, mandible is black, and tarsomere V is not bluish. In *pedunculata* the scutellum and metanotum are both black, femora are mainly brown, clypeus and mandible are usually black and tarsomere V has a bluish tint. In *nigritula* T-I is all black and gradually swollen. In *willinki* both scutellum and metanotum are mostly or all yellow, femora are black or nearly so, clypeus is all or mostly yellow, mandible is yellow (male) or yellow near base (female), and tarsomere V is black. Additionally, *pedunculata* and *nigritula* have a basal row of fine reticulae across the polished propodeal enclosure. The other 2 species have the enclosure completely polished.

The species name refers to the country.

***Clitemnestra brasilica* R. Bohart, new species (Figs. 7, 12, 32, 33)**

Female holotype: Length 7 mm. Black, marked with whitish yellow and yellow. Whitish yellow are: mandible basally, clypeus, supraclypeal area, scape in front, pedicel, pronotal collar and lobe, tegula in front, metanotum, forefemur, tibia and tarsus in front, midtibia and midtarsus in front, hindtarsomeres I to III mostly; yellow are: apical bands on T-I to V, that on II expanded laterally; wings faintly stained; flagellum fulvous in basal one-half. T-I with dense apical fringe of setae. Punctation moderate and mostly close on frons, scutum, mesopleuron, and propodeum posteriorly; similar on T-II but punctures about 1 PD apart; coarse in interocellar area; propodeal enclosure polished and epunctate. F-I about 2x as long as broad, II to IV about 1.6x; LID about equal to scape length; propodeal enclosure broader than long, lateral edges seamlike; propodeum a little polished submedially; petiole about as broad as long, pygidial plate angled at 45°, densely brown bristled.

Male: Length 6.5-7.5 mm. About as in female. A small yellow spot apically on midfemur.

Holotype female (DAVIS): Rosario, Maranhão, Brazil. **Paratypes**, 4 males (DAVIS): Granja, Ceará, Brazil; 2 males, female (TUCUMÁN, DAVIS): Lago Los Molinos, Cordoba, Argentina, I-28-84 (A. Willink); 2 males, female (TUCUMÁN): Ciudad de América, Cordoba, Argentina, I-1981 (A. Willink); 3 females (TUCUMÁN, DAVIS): near Alta Garcia, Cordoba, Argentina, I-18-84 (R. B. Roberts); male, female (TURIN): El Alisal, Salta, Argentina, 1991 (P. Scaramozzino Coll.).

Discussion: Although T-I is rather short, it is quite narrow basally. Also, the male has only 6 visible terga. This species has a polished propodeal enclosure, a whitish-yellow supraclypeal area, and dense scutal punctation. In addition T-I has an apical fringe of setae. These characteristics make it unique.

***Clitemnestra caerulea* R. Bohart, new species**

Male holotype: Length 5 mm. Black, blue, and whitish; blue are: frons, vertex, scutum, scutellum, propodeum posteriorly; whitish are: mandible toward base, clypeus, scape, pronotal collar and lobe, metanotum, fore- and midtarsi mostly, midfemur apicoventrally, T-II lateral spot; fulvous are: clypeus at apex, pedicel, F-I to IV; femora partly, tibiae mostly. Punctation hardly evident on mostly polished surfaces, fine on clypeus, T-V. LID 0.8x scape length; F-I 2x as long as broad, II-III 1.6x; propodeal enclosure polished, row of tiny basal punctures indicated, broader than long; rest of propodeum polished, sparsely punctate; petiole 1.8x apical breadth.

Holotype male (DAVIS): Huahua Sumaco, km 45 on Hollin-Loreta Rd, Napo, Ecuador, XII-22-89 (M and J. Wasbauer, H. Real). **Paratype** male (DAVIS): 6 km s. San Vito, Puntarenas, Costa Rica, III-22-67 (R. W. Matthews).

Discussion: Among the species with polished propodeal enclosure, *caerulea* is distinguished by having the supraclypeal area black, flagellum fulvous in front on F-I to IV, scutum blue with weak and fine punctation, and hindtarsomeres mostly dark. The species name refers to the extensive blue coloration.

***Clitemnestra carinata* R. Bohart, new species (Figs. 48, 59)**

Female holotype: Length 7 mm. Black, marked with yellow: clypeus except apicomedially and lower rim (Fig. 48), scape in front, pronotal lobe, small spot on metanotum, lateral spot on T-II; foretarsus mostly fulvous, midtarsus partly so. Punctation mostly fine, scattered on clypeus, moderately fine, about 1 PD apart on flattened interocellar area, moderate and dense on mesonotum; moderate and 1 PD apart on mesopleuron, similar but closer on propodeum, T-V. Facial features as in Fig 48; LID nearly equal to scape length; F-I 2.8x as long as broad, II-III 1.5x; propodeal enclosure broader than long with about 12 longitudinal carinules, propodeum proper with 4 short carinules on each side, (Fig. 59); petiole 2x apical breadth; pygidial plate densely setose, angled at about 40°.

Male: Length 6 mm. About as in female. Black are: clypeus, scape, pronotal lobe, metanotum; punctures of T-VI moderately coarse, about 1 PD apart; S-VI with a row of 6 erect setae apicomedially. F-I about 2x as long as broad, F-II-III 1.2x.

Holotype female (DAVIS): Peñas Blancas, Valle, Colombia, V-14-75 (R. W. Wilkerson). **Paratype** male (LAWRENCE): near Pichinde, Colombia, II-3-77 (M. D. Breed, C. D. Michener). **Paratype** female (LAWRENCE): 3 km w. Colonia Tovar, 2300 m, Venezuela, III-10-95 (R. W. Brooks).

Discussion: Among the species with microsculptured propodeal enclosure, 4 have the scutum coarsely and densely punctate: *cooperi*, *zeta*, *carinata*, and *densa*. The combination of all black mandible and flagellum separates *carinata*. The species name refers to the many carinules on the propodeum proper.

***Clitemnestra championi* (Cameron)**

Gorytes championi Cameron 1890:72. Holotype male (seen), San Geronimo, Guatemala (LONDON).

Ochleroptera championi (Cameron) of Bohart 1976:490

Female: Length 7 mm. Black, fulvous, yellow; fulvous are: pedicel and flagellum basally, tegula, legs in part, petiole apically; yellow are: mandible toward base, clypeus, scape in front, pronotal collar and lobe, mesopleural dot (usually) behind lobe, apical spot on fore- and midfemur, tarsomeres III to V basally, lateral oval spot on T-II and sometimes a small one on T-III. Punctation fine overall on polished integument, T-V with moderate punctation. LID about 0.6x scape length; F-I 3x as long as broad, II-III 1.8x; propodeal enclosure broader than long, polished; petiole nearly twice as long as apical breadth; pygidial plate angled at 45°, with dense fulvous setae.

Material studied: Holotype male (Guatemala). Two males, 9 females, Costa Rica (DAVIS, SAN JOSÉ I, WASHINGTON), El Salvador (DAVIS), Venezuela (DAVIS), Peru (SAN FRANCISCO).

Discussion: The combination of polished propodeal enclosure, large oval yellow spots on T-II, polished interocellar area, and partly whitish hindtarsus and foretarsus distinguish the species.

Clitemnestra chilensis (Saussure) (Figs. 2, 23)

Harpactus chilensis Saussure 1867:76. Holotype female, Chile. (GENEVA?)
Clitemnestra chilensis (Saussure) of Bohart 1976:489.

Female: Length 10-11 mm. Black, marked with light yellow: mandible black toward base or sometimes with a small subbasal whitish-yellow spot, scape in front, pronotal collar and lobe, tegula on anterior half, metanotum, fore- and midtibiae outwardly, hindtibia on basal one-third, lateral spot on T-II and III; wings slightly dusky. Punctation fine and close. F-I 4x as long as broad, II-III 2.6x; LID 2x scapal length; propodeal enclosure polished, margined laterally with foveolae; petiole about as broad as long, pygidial plate angled at about 35°, densely covered with golden setae.

Male: Length 9-10 mm. About as in female except more extensively yellow as follows: mandible toward base, clypeus, streak along lower orbit, tarsomeres I to III. F-I 2x as long as broad, F-II-III 1.5x. LID 1.5x scapal length.

Material studied: 83 males, 41 females from the following Provinces: Nuble, Santiago, Valparaiso, Coquimbo, Curico, Malleco, O'Higgins, Bio-Bio, Concepcion, Chiloe, Arauco, also, small towns in Regiónes V-VI-VII, X.

Discussion: This is the largest species of New World *Clitemnestra* known to me, with an average length of about 10 mm. It seems to be related to *chilicola* and *lissa*, both of which have lateral yellow spots on T-II-III, and a polished propodeal enclosure. These last two species are more extensively polished, particularly on the propodeum dorsally. Also, *chilensis* has the femora all black instead of apically spotted as in the others.

Clitemnestra chilicola **R. Bohart, new species (Figs. 8, 11, 27, 28)**

Female holotype: Length 7 mm. Black, marked with light yellow: mandible basally, clypeus except apical rim, supraclypeal area laterally and with a medial dot, scape in front, pronotal collar and lobe, metanotum, fore- and midtibia outwardly, midfemur spot apically, hindtibia on basal one-half, T-II-III each with a large lateral spot; wings clear. Punctation mostly fine and close; propodeal enclosure polished, epunctate between foveolate lateral grooves; propodeum extensively polished laterally and posteriorly; T-I mostly polished; F-I 2.6x as long as broad, II to IV 2x, LID 0.9x scapal length; propodeal enclosure broader than long; petiole slightly broader than long, pygidial plate angled at about 35°, completely bristled.

Male: Length 6 mm. About as in female. F-I about 1.6x as long as broad. No yellow spots on midfemur.

Female holotype (DAVIS): Las Trancas near Recinto in Chillán area, 1100 m, Nubles, I-17-83 (L. E. Peña). **Paratypes**, all from Chile: 1 pair (DAVIS), Los Queñes, Curico, I-4-67 (M. E. Irwin); female (TUCUMÁN): Los Queñes, Curico, I-18-64; male (DAVIS), La Fusta Mts, Malleco, II-21-62 (L. E. Peña); male (DAVIS), Ersillo, Malleco, I-II-79 (L. Kimsey); female (VALPARAISO): Icalma, Malleco, I-11-79 (P. Toro); male, 2 females (DAVIS, TUCUMÁN): same data as holotype but I-15-83, and VI-1979; female (TUCUMÁN): Cautin, Las Tarria, I-1976 (Glew).

Discussion: This species is similar to *lissa*, both having the propodeal enclosure polished (Fig. 11) and the adjoining propodeum proper extensively polished. In *chilicola* the LID is much less, about equal to scape length (compare Figs 8, 14). Also, F-I in the female is only 2.6x breadth instead of 4x. In addition *chilicola* has no yellow spot on the mesopleuron behind the pronotal lobe. The specific name indicates: inhabiting Chile.

***Clitemnestra chrysos* R. Bohart, new species**

Female holotype: Length 5 mm. Black, marked with yellow, brown, and white. Yellow are: labrum, clypeus, mandible mostly, scape, pronotal collar, lobe, 2 scutellar spots, metanotum, broadly oval apicolateral spot on T-II; light brown are: pedicel, F-I to IV, tegula, legs mostly; white are: foretarsus, midtarsals I to IV, hindtarsals III-IV; forewing nearly clear, stigma black; scutum with polished golden reflections. Pubescence silvery on face, fulvous elsewhere especially noticeable at apices of T-II to V. Punctation fine, close on frons, absent in polished interocellar area, thorax extensively polished, practically epunctate; T-I to III nearly epunctate, polished. LID 0.8x scape length; F-I 3x as long as broad, II-III 1.5x; median sulcus of frons unusually deep, ocelli slightly depressed, propodeal enclosure broader than long, completely polished; petiole 2x as long as broad, pygidial plate angled at 45°, with dense fulvous setae.

Male: Unknown.

Holotype female (LOGAN): Finca Montezuma, 3 km se. Rio Naranjo, Costa Rica, X-9-92 (F. D. Parker). **Paratype female** (DAVIS): same data as holotype but collected II-19-93; **paratype female** (GAINESVILLE): Merida, Venezuela, VII-4-91 (C. Porter, L. Stange).

Discussion: The combination of extensively polished body, fulvous pubescence, epunctate interantennal area, and black hindtarsomere I, characterize the species. The golden reflections from the polished scutum led to the name *chrysos*, a masculine noun.

***Clitemnestra clypearis* R. Bohart, new species (Figs. 18, 19, 20)**

Female holotype: Length 4 mm. Black, marked with whitish: mandible and clypeus mostly, scape and pedicel in front, pronotal collar laterally, pronotal lobe, tegula in front, metanotum, fore- and midfemora apically, fore- and midtibiae outwardly, hindtibia on basal one-half, all tarsi; wings clear. Punctation coarse and separated by 1-2 PD on frons, vertex, and scutum, moderately coarse and close on mesopleuron and propodeum, fine and close on terga. F-I 1.6x as long as broad, II to IV 1.3x; LID about equal to scape length; frons with ocellus-sized pit at middle; ocelli set in depressions, especially midocellus, interocellar area mostly polished, with short anterior medial longitudinal groove; propodeal enclosure broader than long, rugose, lateral edges foveolate; petiole about as broad as long, pygidial plate angled at about 45°, covered with fine golden setae.

Male: Unknown.

Holotype female (DAVIS): 2 km s. Tapia, Tucumán, Argentina, II-21-67 (L. A. Stange).

Discussion: This species, known only by the holotype, has several remarkable features. It is one of the smallest New World *Clitemnestra*, there is no median groove or sulcus on the frons extending from the midocellus (Fig. 19), the interocellar area has a longitudinal sulcus (Fig. 18), and terga I-V are all black. It is related distantly to those species which have the completely roughened propodeal enclosure. It differs from most of these by its entirely white female hindtarsus (Fig. 20), by the central round hole in the frons, and by the exceptionally short clypeus (Fig. 19), from which the specific name is derived.

Clitemnestra colombica R. Bohart, new species (Figs. 37, 50, 53)

Female holotype: Length 6.5 mm. Black, marked with yellow: mandible basally, clypeus, supraclypeal area, scape, pronotal collar, lobe partly, spot behind lobe, large transverse scutellar spot, small spots at apices of fore- and midfemora, foretibia outwardly, foretarsus, basal spots on mid- and hindtibiae, mid- and hindtarsi mostly, T-II to IV with broken apical bands, T-V with apicomedial spot (Fig. 50); fulvous are: pedicel, basal one-half of flagellum; wings clear. Punctation of polished interocellar area moderately coarse and scattered (Fig. 37); punctures of scutum coarse, 1 PD apart; of mesopleuron fine, 3-4 PD apart on polished surface; propodeum mostly polished laterally, with moderate spaced punctures posteriorly, terga finely punctate. F-I 1.6x as long as broad, II to IV about 1.3x; LID 0.5x scape length, median sulcus of frons unusually deep; ocelli slightly depressed, encircled with mostly polished areas; propodeal enclosure polished, epunctate, lateral margins seamlike; pygidial plate nearly parallel-sided, polished, a row of punctures laterally (Fig. 53). T-I about as long as apical breadth.

Male: Unknown.

Holotype female (LAWRENCE): Rio Zabaletas, Valle, Colombia, VIII-18-75, tropical rain forest (R. C. Wilkerson). **Paratypes**: female (LONDON): Leticia, Amazonas, Colombia, VIII-17-74 (M. Cooper); female (DAVIS): Golfo Dulce, Puntarenas, Costa Rica, XII, 1990 (P. Hanson).

Variation: The paratype from Leticia has a yellow metanotum. The Costa Rican female has the tergal markings more whitish, and the clypeus has a median black spot.

Discussion: The species is unusual in having the pygidial plate parallel-sided, polished but punctate laterally. Also, T-I is unusually short, hardly longer than its apical breadth. Other features which distinguish it are: LID only about one-half scape length, supraclypeal area pale yellow, flagellum fulvous in front, punctate interocellar area, and partly broken yellow bands on T-II to IV. The species name means "from Colombia".

Clitemnestra colorata (W. Fox)

Gorytes coloratus W. Fox 1897:382. Syntype females (2), Marurú and Santarém (seen), Pará, Brazil (PITTSBURG).
Ochleroptera colorata W. Fox of Bohart 1976:490.

Female Syntype: Length 8 mm. Black, orange-red, reddish brown, and light yellow. Orange-red are: abdomen mostly; light yellow are: mandible basally, thin api-

cal rim of clypeus, pronotal collar, lobe, rectangular mesopleural spot beneath, tegula mostly, scutellar arc in front, metanotum, foretibia, foretarsomeres I-IV and base of V mostly, midtibia mostly, midtarsomeres II-IV and base of V, hindtarsomeres II-IV and base of V, T-II-III lateral spots; reddish brown are: femora mostly; wings nearly clear. Punctation mostly fine except on terga where it is coarse and mostly close; interocellar area coarsely punctate, propodeal enclosure polished. LID one-fifth of head breadth, antennae missing, petiole about 1.3x apical breadth; pygidial plate angled at 40°, coarsely striatopunctate.

Male: Unknown.

Syntype female (PITTSBURG): (seen), "Santarém", Brazil.

Discussion: The mostly reddish abdomen, coarsely punctate terga, coarsely punctate interocellar area, polished propodeal enclosure, mesopleural yellow spot, and light yellowish tarsal markings, combine to differentiate the species. The anterior scutellar band and coarse interocellar punctures are also found in *schlingeri*, which is otherwise quite different.

***Clitemnestra cooperi* R. Bohart, new species (Fig. 49)**

Female holotype: Length 7 mm. Black, marked with yellow: mandible toward base, clypeus except mediobasal black spot, scape and pedicel in front, pronotal collar and lobe, almost divided spot on scutellum, metanotum, tiny apicoventral dots on fore- and midfemora, foretibia outwardly, basal and apical spots on midtibia, basal 0.25 of hindtibia, apical bands (broken medially) on T-II to IV; flagellum fulvous in front on I to VII. Pubescence fulvous, most noticeable on lower face, propodeum, and terga laterally. Punctation moderate on clypeus, moderately fine and 1 PD apart on interocellar area, dense on scutum, moderate and about 1 PD apart on mesopleuron and propodeum proper, fine on mostly polished terga. Facial pattern as in Fig. 49, LID 1.6x scape length; F-I 2.5x as long as broad, II-III about 2x; propodeal enclosure with about 12 longitudinal carinules which extend onto propodeum proper and obliterate enclosure margins; petiole about 1.8x apical breadth; pygidial plate coarsely bristled, angled at 45°.

Male: Unknown.

Holotype female (LONDON): Huila las Cuevas de los Guacheros, 1900 m, Colombia, V-24-76 (M. Cooper).

Discussion: Among the species with striate propodeal enclosure and densely punctate scutum, *cooperi* can be separated by the yellow-spotted scutellum, yellow-banded T-II to IV, and golden appressed pubescence on the lower face. The species is dedicated to Martin Cooper who has collected extensively in South America.

***Clitemnestra costaricae* R. Bohart, new species**

Female holotype: Length 8 mm. Black, marked with whitish and fulvous. Whitish are: mandible at base, clypeus and supraclypeal area of frons, scape, pronotal collar, lobe mostly, 6 spots along scutal-scutellar border (includes 2 dots on scutellum), metanotum, foretibia partly, foretarsus mostly, midtibia and hindtibia mostly

except apically, narrow posterior bands on T-I-IV; fulvous are: mandible medially, pedicel, F-I-III in front, tegula mostly, tarsomeres of mid- and hindlegs apically, T-V and S-I-III posteriorly; femora and tibiae mostly brown; wing veins dark brown, marginal cell brown. Punctures coarse on interocellar area; coarse and close on scutum; moderate and about 1 PD apart on mesopleuron, propodeum posteriorly, and S-II; fine and slightly spaced on T-I-II; fine and close on T-III-V. LID about 4 MOD, F-I 3x as long as broad, II 2x; propodeal enclosure polished, 1.7x as broad as long; petiole about 1.2x as long as broad posteriorly; pygidial plate densely setose with golden glints, angled at 45°.

Male: Headless, about as in female but T-II-III without distinct apical bands.

Female holotype (DAVIS): 24 km w. Golfo Dulce, Piedras Blancas, 200 m, Puntarenas, Costa Rica III-6-90 (P. Hanson). **Paratypes** (all from Costa Rica): male, 4 females (SAN JOSÉ II): Finca de E. Rojas, Limón, I-VI, 1992 (E. Rojas); female (SAN JOSÉ II) Est. Palo Verde, Prov. Guanacaste; VI-1991 (D. Acevedo); 2 females (DAVIS), Heredia, La Selva, IX-1991 to V-1993 (P. Hanson, C. Godoy).

Discussion: This species is similar to *irwini*, which also has the scutal-scutellar spots and whitish supraclypeal area. However, *costaricae* differs by being larger, marginal cell brown, and T-I-IV narrowly white-banded

Clitemnestra densa **R. Bohart, new species (Fig. 44)**

Female holotype: Length 6 mm. Black, marked with light yellow: mandible toward base, clypeus except apical rim, scape in front, pronotal collar laterally, lobe, basal one-half of foretibia outwardly, basal one-third of midtibia, basal one-fifth of hindtibia, T-II lateral spot; foretarsus mostly fulvous. Punctation moderate on clypeus, fine and close on interocellar area, dense on mesonotum, metanotum; moderately fine but separated on T-I-II, fine to moderately coarse on T-III to T-V. Facial features as in Fig. 44. LID 0.9x scape length; F-I 1.5x as long as broad, II-III 1.3x; propodeal enclosure broader than long, with about 10 longitudinal carinules, micropunctate between; propodeum proper with 1 carinule extending along lateral groove of enclosure, another shorter carinule laterally; petiole about 1.4x apical breadth; pygidial plate densely setose, angled at about 48°.

Male: Length 4.5-5.0 mm. About as in female. Clypeus with a black median spot, tarsi not whitish but partly fulvous, F-I about 1.3x as long as broad, II-III about equal in length and breadth.

Holotype female (DAVIS): 15 mi w. Turrialba, 4900 feet, Costa Rica, VII-15-63 Bolinger). **Paratypes** 2 females (DAVIS), (both from Costa Rica) and 2 females SAN JOSÉ I): 6 mi w. San Ramón, Alajuela, XI-1996 (O. Castro and P. Hanson); San Vito, Puntarenas, VI-1991 (P. Hanson); **paratypes** (all from Colombia), 2 males LONDON): San Augustin, XI-8-71 (M. Cooper); male (DAVIS): nr. Sasaima, Cundinamarca, V-2-65 (P. R. Craig); male (LAWRENCE): Peñas Blancas, 10 km w. Cali, Valle, I-24-75 (R. C. Wilkerson); female (DAVIS), Pance CVC, 15 km w. Cali, Valle, X-10-74 (R. C. Wilkerson); female (LEIDEN): 20 mi w. Cali, Valle, IX-24-76 J. vander Vecht). **Paratype** female (GAINESVILLE): Fortin de las Flores, Veracruz, Mexico, V-23-65 (H. V. Weems, Jr.). **Paratypes**, 2 males (LAWRENCE, DAVIS):

Roboré, Bolivia, X-1959. **Paratype** female (LAWRENCE): Baia de Guanabara, Rio de Janeiro, Brazil, II-16-61 (M. Alvarenga).

Discussion: This species is a little smaller than the others with striate propodeal enclosure and densely punctured scutum. The length is mostly 6 mm or less, instead of 7 to 10 mm. More importantly, it differs by the combination of black flagellum and basally white mandible. Also, the forewing is somewhat stained. The species name is an adjective referring to the dense scutal punctation.

***Clitemnestra ecuadorica* R. Bohart, new species (Figs. 46, 57)**

Female holotype: Length 8 mm. Black, marked with whitish: mandible partly (black at base), anterior one-half of clypeus, scape in front, pronotal collar and lobe, fore- and midcoxae, fore- and midfemora ventrally, fore- and midtibia outwardly, hindtibia on basal one-third, fore- and midtarsi toward base of tarsomeres, hindtarsomeres II-III mostly (Fig. 57), lateral spot on T-II. Punctation mostly quite fine, punctures scattered on clypeus. Facial features as in Fig. 46; LID 2x scape length; F-I 4x as long as broad, II-III about 3x (Fig. 46), propodeal enclosure with slanting carinules on anterior one-half, mostly smooth on posterior one-half, broader than long, lateral groove almost seamlike, flanked by sparsely punctate but shiny posterior propodeum; petiole about 2x as long as breadth of apex; pygidial plate densely setose, angled at about 40°.

Male: Length 6-7 mm. Similar to female but on average more melanic. Mandible, clypeus, scape, pronotal lobe, femora, hindtibia, all tarsi may be black; on some specimens clypeus may be whitish on apical rim, or scape, pronotal lobe, some tarsomeres, and base of hindtibia may be white. LID very slightly narrower, F-I 2.1x as long as broad, II and following at least 2x as long as broad.

Holotype female (LONDON): Banos, Tungurahua, 2000 m, Ecuador, X-7-78 (M. Cooper). **Paratypes** (all from Ecuador), male (LONDON): same data as holotype, male (LONDON): s. of Otavalo, Imbabura, 3300 m, I-9-71 (L. Peña), 7 males (LONDON, NEW YORK, DAVIS): Los Duedas, s. of Bolivar, VI-10-65 (L. Peña).

Discussion: As in *sensilis*, the antenna is unusually long, all flagellomeres 2x as long as broad or more (Fig. 46). The black flagellum and whitish markings distinguish *ecuadorica*. Other features are the microstriate propodeal enclosure, completely microsculptured scutum, black male clypeus and metanotum, and broad LID. The species name means "from Ecuador".

***Clitemnestra egana* R. Bohart, new species**

Female holotype: Length 7.5 mm. Black, marked with yellow, fulvous, and whitish. Fulvous are: flagellum toward base, tegula, femora at apex, midtibia on apical two-thirds; yellow are: mandible toward base, clypeus except apicomedian black spot, scape in front, pronotal collar and lobe, mesopleural spot behind lobe, two spots on scutellum, metanotum, foretibia outwardly, mid- and hindtibia basally, transverse lateral spot on T-II; whitish are: foretarsus, mid- and hindtarsi except for partly dark tarsomere V. Punctation moderate and scattered on clypeus, coarse on interocellar area, coarse and 1-2 PD apart on scutum and T-II, fine and scattered on mostly pol-

ished mesopleuron and propodeum, coarse on T-IV-V. LID about 0.6x scape length; F-I 3x as long as broad, II-III 1.6x; propodeal enclosure a little broader than long, polished; petiole 1.5x as long as apical breadth; pygidial plate angled at about 45°, densely setose.

Male: Unknown.

Holotype female (DAVIS): Brazil. **Paratype female** (DAVIS): Ega, Brazil.

Discussion: Among the species with polished propodeal enclosure, *egana* is distinguished by its coarse punctation in the interocellar area, scutum and toward the base of T-II. Also, it has a partly fulvous antenna, black supraclypeal area, bluish scutum, and white hindtarsomeres II to IV. The species name is derived from the paratype locality.

***Clitemnestra fritzi* R. Bohart, new species (Figs. 16, 17, 21)**

Female holotype: Length 6 mm. Black, marked with whitish as follows: mandible toward base, clypeus except apical rim, scape mostly, pronotal collar and lobe, tegula in front, metanotum, fore- and midtibia outwardly, hindtibia on basal one-third, T-II to IV each with lateral spot in descending size; fore- and midtarsi fulvous; wings nearly clear. Punctation fine but distinct and separated by about 1 PD on frons, mesopleuron, scutum; finer on somewhat shiny terga, medium coarse on interocellar area; propodeum posteriorly polished with some punctures along sides of enclosure. F-I 2.5x as long as broad, II to IV 1.5x; LID 1.5x scape length; ocelli somewhat depressed, a polished area in front of each; propodeal enclosure completely covered by slanting carinules; a little broader than long; petiole about as broad as long, pygidial plate angled at about 40°, coarsely punctate, with off-white setae.

Male: About as in female, but tarsi with whitish yellow basal bands.

Holotype female (DAVIS): Tilcara, Jujuy, Argentina, XII-9-75, (R. M. Bohart). **Paratypes**, Argentina: 1 pair, same data as holotype; 14 males (DAVIS, WASHINGTON, SAN FRANCISCO): Humahuaca to Tilcara, Jujuy, XII-10-75 (R. M. Bohart); male (DAVIS), Payogasta, Salta, I-?-92 (M. A. Fritz); male (GAINESVILLE): Cachi, Salta, I-22-66 (C. Porter); male (GAINESVILLE): Tacuil, Salta, IV-3-69 (C. Porter); male (GAINESVILLE), San José, Catamarca, IV-7-68 (C. Porter); male (DAVIS): Alamitos, Catamarca, XI-5-72 (G. E. Bohart); male (TUCUMÁN): Leoncito, San Juan, II-14-66 (L. A. Stange); 4 males, female (TURIN, DAVIS): Santa Rosa Tastil, Salta, 1991 (P. Scaramozzino Coll.); 12 males .(TUCUMÁN, DAVIS): Tilcara, Jujuy, I-II-91-92 (M. Fritz); 21 males, 2 females (NEW YORK, DAVIS): Tastil, Salta (M. Fritz).

Discussion: This appears to be the most abundant species of the genus in Argentina. It is characterized by the completely roughened propodeal enclosure, black flagellum and femora, lateral yellow spots on T-II-III and sometimes IV, and interocellar area rather coarsely punctate as well as polished in front of lateral ocelli (Fig. 16). See discussion under *vardyorum*. The specific name is a dedication to my friend, Manfredo Fritz, who has collected extensively in Argentina.

***Clitemnestra fulva* R. Bohart, new species**

Female holotype: Length 6.5 mm. Yellowish fulvous, greenish, bronzy, and black. Bronzy are: frons, vertex, back of head; faintly greenish are: scutum, scutellum medially; black are: hindtarsomere V apically, petiole on basal one-half dorsally; wings clear, veins toward base, and stigma fulvous. Pubescence silvery on lower face to fulvous elsewhere. Punctation fine, body mostly polished. LID 0.6x scape length, F-I 2.5x as long as broad, II-III 1.5x; propodeal enclosure broader than long, polished; petiole 1.6x as long as apical breadth; pygidial plate angled at about 40°, with dense fulvous setae toward apex, punctures about 1 PD apart basally.

Male: Length 6 mm. About as in female. Clypeus, scape, pronotal collar, scutellum, metanotum, propodeum proper, mesopleuron, coxae, fore- and midtibia more yellow than fulvous; tarsomeres I-IV on fore- and midlegs pale yellow, hindtarsomere I dark, II-IV pale yellow.

Holotype female (WASHINGTON): Hamacayalu, Amazonas, Colombia, V-10-? (M. K. Valzea). **Paratype male** (LONDON), Mocoa, Nariño, Colombia, VIII-4-78 (M. Cooper).

Discussion: Among the species with polished propodeal enclosure and smooth interocellar area, *fulva* is distinguished by the nearly all yellow or light tan mesopleuron and the faintly bluish or greenish scutum. In the female the abdomen is mostly yellowish-tan, but in the male the segments are darker with yellowish-tan markings, including apical bands on T-II to V. The species name reflects the extensive fulvous coloration.

***Clitemnestra gayi* (Spinola) (Figs. 4, 30)**

Arpactus gayi Spinola 1851:340. Syntype males, Chile (TURIN).
Clitemnestra gayi (Spinola) of Bohart 1976:489.

Female: Length 7-8 mm. Black, marked with light yellow: mandible toward base (usually), clypeus (usually), streak along lower orbit, scape in front, pronotal collar and lobe, metanotum, fore- and midtibiae outwardly, extreme base of hindtibia (sometimes), lateral spot on T-II, wings slightly dusky. Punctation fine and close. F-I 3x as long as broad, II-III about 2x; LID 2x scapal length; propodeal enclosure anteriorly carinulate, margined laterally with foveolae; petiole about as broad as long, pygidial plate angled at about 30°, densely covered with golden setae.

Male: Length 6-7 mm. About as in yellower forms of female. F-I 1.5x as long as broad, II-III about 1.3x, F-III to F-IX convex beneath; LID 1.2x scapal length.

Material studied: 113 males, 72 females. Chilean Provinces: Malleco, Nuble, Curico, Santiago, Valdivia, Cautin, Coquimbo, Chiloe, and Osermo; also, Chilean Regiónes V, IX; also, Argentina: Neuquen, Salta, Chubut, Rio Negro.

Discussion: The 2 most abundant *Clitemnestra* in Chile are *gayi* and the considerably larger *chilensis*. An obvious difference between them is that *gayi* has basal carinulae on the propodeal enclosure instead of complete polishing. Among all of the non-polished enclosure species, *gayi* has larger foveolae along the lateral enclosure grooves. Also, females differ from all except *nigrifrons* by having lateral yellow ter-

gal spots restricted to T-II. In addition to the difference in carinulation of the enclosure, *gayi* female has a greater LID than *nigrifrons* (compare Figs. 3, 4). The mandible is rarely mostly yellow, the hindtibia rarely one-third yellow at base.

Clitemnestra hansoni R. Bohart, new species

Female holotype: Length 7.5 mm. Black, marked with yellow: clypeus except apicomedial black spot, scape in front, pronotal collar, scutellum, metanotum; forewing clear, stigma black. Pubescence on lower face and metapleuron silvery, that of scutum and propodeum off-silvery, that of terga off-silvery to fulvous. Punctation coarse at clypeal middle; medium coarse and close on frons; coarse and slightly separated on interocellar area; coarse but well separated on mesopleuron; coarse and about 1 PD apart on scutum; moderate and close on terga. LID 0.9x scape length; F-I 2.8x as long as broad, II-III 2x; propodeal enclosure a little broader than long, polished but with transverse basal depressions set off with carinules; petiole a little longer than apical breadth which is o.4x as broad as T-II breadth; pygidial plate angled at 45°, densely covered with bronzy setae.

Male: Unknown.

Holotype female (DAVIS): 62 km se. Ariquemes, Rondonia, Brazil, XI-20-94 (W. J. Hanson).

Discussion: The all-black abdomen, coarse punctation, and peculiar propodeal enclosure, characterize the species. It is named for the collector W. J. Hanson.

Clitemnestra hirta (Handlirsch)

Gorytes hirta Handlirsch 1888:353. Holotype female (seen), Brazil (VIENNA).
Ochleroptera hirta (Handlirsch) of Bohart 1976:490.

Female holotype: Length 7 mm. Black (or dark brown) marked with yellow: mandible toward base, clypeus except apical rim, scape in front, pronotal collar and lobe, mesopleural spot behind lobe, metanotum, foretibia in front, mid- and hindtibia basally, foretarsus mostly, midtarsals I-III, hindtarsals II-III, lateral spot on T-II, smaller one on T-III. Terga III-V unusually fulvous setose. Interocellar area polished but with well separated moderate punctures; scutum, mesopleuron, propodeum proper, and T-II with well-spaced moderate punctation; T-V with slightly separated coarse punctation. LID 0.6x scape length, F-I 3x as long as broad, II-III about 1.8x; propodeal enclosure two-thirds as long as broad, polished except for series of short basal carinules; petiole 1.5x as long as apical breadth; pygidial plate angled at 45°, with dense, slightly fulvous setae.

Male: Unknown.

Material studied: Holotype female, "Brazil" (VIENNA).

Discussion: As indicated in the key, *hirta* has the propodeal enclosure mostly polished, interocellar area moderately punctate, mesopleuron with an oblong yellow spot behind the pronotal lobe, unusually setose T-III to V (hence the specific name), and hindtarsals II-III light yellowish.

***Clitemnestra irwini* R. Bohart, new species (Figs. 40, 56)**

Female holotype: Length 7 mm. Black, light yellow and whitish; light yellow are: 4 small spots across scutum posteriorly, anterolateral dot on scutellum, metanotum, apical bands on T-I to V, those on I and V abbreviated, that on II enlarged laterally; whitish are: mandible toward base, clypeus, lower frons, scape, pedicel and F-I in front, pronotal collar and lobe, mesopleural dot behind lobe, fore- and midfemora apicoventrally, fore- and midtibia outwardly, hindtibia subbasally and apically, tarsi on I-IV and base of V (Fig. 56). Punctation mostly fine, punctures on scutum, mesopleuron and propodeum moderate and about 1 PD apart. Facial features as in Fig. 40; LID 0.7x scape length; F-I 3x as long as broad, II-III 1.6x; propodeal enclosure nearly 2x as broad as long, polished; petiole slightly longer than apical breadth; pygidial plate angled about 42°, with dense golden setae.

Male: Length 5 mm. About as female. Additional whitish are: anteromedian spot on mesopleuron, fore- and midcoxae.

Holotype female (DAVIS): Tuxtla Gutierrez, Chiapas, Mexico, VIII-12-63 (F. Parker, L. Stange). **Paratypes,** female (DAVIS): Acapulco, Mexico, Guerrero, VII-19-63 (F. Parker, L. Stange); female (WASHINGTON): Campeche, Tamaulipas, VI-10-68 (N. W. McFadden); male (OTTAWA): 12 mi e. Cuernavaca, Morelos, 4300 ft., VIII-14-54 (J. G. Chillcott). Other paratypes, female (WASHINGTON): Tegucigalpa, Honduras, X-30-65 (N. L. H. Krauss); female (DAVIS): Puerto Somoza, Nicaragua, VII-10-75 (E. M. Fisher); female (DAVIS): Santa Rosa National Park, Guana, Costa Rica, VI-8-78 (D. Janzen); 2 males (DAVIS): Quezaltepeque, El Salvador, VIII-10-61 (M. E. Irwin). Male (SAN JOSÉ II): 8 km se. Cuajiniquil, Guana, Costa Rica, VII-4-93 (F. Quesada).

Discussion: Among the species with polished propodeal enclosure and white supraclypeal area, *irwini* and *costaricae* are distinguished by the unusual array of spots along the scutal-scutellar border. The moderate (rather than coarse) scutal punctation, and clear wings separates *irwini*. The species is named for Mike Irwin, a friend who has contributed much neotropical gorytin material.

***Clitemnestra lissa* R. Bohart, new species (Figs. 14, 15)**

Female holotype: Length 6.5 mm. Black, marked with whitish: mandible mostly, anterior one-half of clypeus, scape in front, lateral strip on frons along lower eye margin, pronotal collar, lobe, mesopleural spot behind lobe, metanotum, spots on fore- and midcoxae, fore- and midfemora ventrally, fore- and midtibiae outwardly, hindtibia on basal one-third, fore- and midtarsomeres I to III mostly, hindtarsomeres II-III except apically, lateral spots on T-II-III, lateral dot on T-IV; wings slightly stained. Punctation quite fine, close on frons, about 1 PD apart on interocellar area (shiny), scutum, mesopleuron, propodeum posteriorly (shiny), terga. F-I 4.0x as long as broad, II 2.8x; LID 1.5x scape length; propodeal enclosure polished, lateral groove weakly foveolate; petiole about as long as apical breadth, pygidial plate angled at about 30°, densely black setose.

Male: Unknown.

Holotype female (GAINESVILLE): 10 km n. Chosica, Lima, Peru, VII-2-74 (C. Porter, L. Stange).

Discussion: As stated under *chilicola* and *chilensis*, these 3 species have the propodeal enclosure polished, and have lateral tergal spots. The LID differentiates *lissa* from the others (compare Figs. 2, 8, 14). Also, hindtarsals II-III are mostly yellow in *lissa* (Fig. 15), but not in the others. Finally, the femora are extensively whitish beneath in *lissa* but not in the other two. The specific name refers to the extensively smooth body.

Clitemnestra multistrigosa Reed (Fig. 24)

Clitemnestra multistrigosa Reed 1894:637. Syntypes, Rancaqua, Chile (University of Chile, Santiago ?).

Female: Length 7-8 mm. Black, marked with whitish: clypeus except apical rim, scape in front, pronotal collar and lobe, tegula mostly, posttegula partly, fore- and midtibia outwardly, hindtibia on basal two-fifths, lateral spot on T-II and III, wings faintly dusky. Punctation fine and close. F-I about 3.5x as long as broad, F-II-III 2.5x; LID 1.8x scapal length; propodeal enclosure completely covered with oblique carinules, margined laterally with small foveolae; propodeum proper rather broadly shiny along enclosure; petiole about as long as apical breadth, pygidial plate smaller than usual, sides nearly parallel, densely covered with golden setae.

Male: Length 6-7 mm. About as in female. F-I about 2x as long as broad, II-III somewhat shorter, III to IX convex beneath; LID 1.2x scapal length.

Material studied: All from Chile (DAVIS, VALPARAISO, TUCUMÁN): 7 males, 1 female, La Campana, Valparaiso; male, Valparaiso, Valparaiso; male, Peñuelas, Valparaiso; male, El Salto, V. Regióne; male, El Salto, V. Regióne; male, Paulina, Santiago; female, El Peumo, Santiago; 4 males, 4 females, Santiago; 7 males, female, Monte Zorra IV. Regióne; 4 males, female, Regióne Metro, 6 km w. Corral Quemada, ex *Baccharis* (S. Heydon, E. Arias).

Discussion: From most other *Clitemnestra* this species differs by having a completely roughened propodeal enclosure, but no stouter carinulae. Also, the mandibles are basally black (Fig. 24) as well as the tarsi entirely. The female pygidial plate is uniquely shaped. See the discussion under *nigrifrons*.

Clitemnestra nigrifrons R. Bohart, new species (Fig. 3)

Female holotype: Length 6 mm. Black with white markings. White are: scape at apex, thin line across pronotal collar and lobe, tegula anteriorly, long oval spot on metanotum, oval spot laterally on T-II; wings clear. Punctation coarse on clypeus anteriorly; rather fine, a little separated and dull in interocellar area, about 1 PD apart and dull on mesopleuron. F-I about 3x as long as broad, II to IV about 2.5x; LID about 1.8x scape length; propodeal enclosure completely covered by slanting carinulae, dull; propodeum impunctate, dull next to enclosure, polished basolaterally, irregularly reticulate posteriorly; petiole a little shorter than apical breadth, pygidial plate angled at about 45°, punctate, dull.

Male: Length 5 mm. About as in female but tibiae narrowly white basally. F-I about 1.6x as long as broad, II to IV about 1.5x.

Holotype female (DAVIS): Quebrada de la Plata, 510 m, Rinconada, Maipú, III-24-66 (M. E. Irwin). **Paratypes,** all from Chile, 2 males, female (SAN FRANCISCO, DAVIS), near Laguna Dam, Coquimbo; 2 males (DAVIS), Termas de Rio Blanco, I-22-67 (M. E. Irwin); female (DAVIS), Rio Illapel, X-19-66 (E. I. Schlinger, M. E. Irwin); female (DAVIS), Las Cabras Mts., Chillán Volcano, Nuble, I-31-63 (L. E. Peña); male (TUCUMÁN), El Bolsón, Rio Negro, I-25-68 (J. and L. Stange); male, 2 females; (DAVIS, GAINESVILLE) Rio Carillos, Santiago, II-1989 (R. Miller, L. Stange).

Discussion: The black mandibles and tarsi of *nigrifrons* are similar to the situation in *multistrigosa*. However, in the former the clypeus is all black (Fig. 3), sculpture of the propodeal enclosure is more coarse, the propodeum proper is much more rough (rather than simply punctate) both dorsally and posteriorly. Also, the female pygidial plate of *nigrifrons* is angled at a more usual 45°. The specific name refers to the extensively black frons.

***Clitemnestra nigritula* R. Bohart, new species**

Female holotype: Length 7.5 mm. Black, marked with yellow and some brown. Yellow are: labrum, obscure lateral clypeal spot, scape in front, pronotal collar, lobe, foretibia in front, apicolateral spot on T-II; brown are: metanotum, fore- and midtibiae partly, S-VI; tarsomere V of each leg with bluish tinge; forewing lightly stained, stigma black. Pubescence silvery on face and mesopleuron, off-silvery on propodeum, fulvous on terga. Punctation fine, close on frons; fine, spaced on interocellar area; fine, well spaced on mesopleuron, propodeum proper; propodeal enclosure polished but with anterior row of micropits; tergal punctation fine, close. LID 0.6x scape length; F-I 3x as long as broad, II-III 2x; petiole 2x as long as apical breadth, slender on basal half, smoothly swollen toward posterior subpedunculate form, apical breadth about one-third that of T-II; pygidial plate angled at 50°, densely black setose.

Male: Length 5 mm. About as in female but fore- and midtarsi mostly white, mandible with a white spot near base.

Holotype female (DAVIS): San Vito, Puntarenas, Costa Rica, 1500 m, V-1992 (Hanson and Godoy). **Paratypes**, 2 females (DAVIS, SAN JOSÉ I): same data as holotype, but collected in IV, VIII. Presumed male paratype (DAVIS): Cartage, La Cangreja, Costa Rica, 1950 m. VIII-1992 (P. Hanson); paratype female (DAVIS): San Jose, Antonio Escazú, Costa Rica, 1700 m. IV-1996 (W. Eberhard, P. Hanson).

Discussion: Although the type series all have the hindtarsomeres black, several other specimens with much the same T-I (black and subpedunculate) have various tarsomeres white. Perhaps this character is variable!

The species name is an adjective based on the extensively black appearance.

Clitemnestra oblita **(Holmberg) (Figs. 47, 51)**

Ochleroptera oblita Holmberg 1903:487. Holotype female (not seen), Buenos Aires Province, Argentina BUENOS AIRES).

Female (El Solidad, Tucumán, Argentina): Length 7 mm. Black, fulvous, and yellow. Fulvous are: clypeus apical rim, flagellum toward base, tegula mostly, legs partly; yellow are: mandible, clypeus, scape, pedicel mostly; pronotal collar and lobe, tiny spot behind lobe; metanotum; fore- and midfemora apically, foretibia outwardly; mid- and hindtibia narrowly toward base; tarsi partly; T-II-IV with apical bands, those on T-II-III broadened laterally, that on T-IV partial (Fig. 51). Punctation fine overall, nearly contiguous on interocellar area, mesopleuron, contiguous on scutum, close on propodeum proper and terga. LID 0.7x scape length (Fig. 47), F-I 2.5x as long as broad; propodeal enclosure nearly as long as broad, covered by about 20 carinules; petiole slightly longer than apical breadth; pygidial plate angled at 45°, with dense fulvous setae.

Male: Length 5-6 mm. About as in female but tergal bands less complete. F-I to III each about 1.4x as long as broad.

Material studied: Male, 2 females (DAVIS), El Solidad, 11 km w. Las Cejas, Tucumán, Argentina.

Discussion: The rather short and weakly pedunculate T-I, together with the closely but not coarsely punctate scutum, carinulate propodeal enclosure, and 2 large yellow spots on T-II, usually connected posteriorly into a band (Fig. 51), characterize the species. T-III-IV may have traces of an apical band. The mandible is basally yellow, and the flagellum is fulvous toward the base.

Clitemnestra ocellaris **R. Bohart, new species (Figs. 34-58)**

Female holotype: Length 8 mm. Black, marked with light yellow and fulvous. Light yellow are: mandible toward base, clypeus except apical rim, scape in front, pronotal collar and lobe, mesopleural spot behind pronotal lobe, 2 spots on scutellum, metanotum, fore- and midtibia outwardly, T-I apical margin, T-II transverse apical spots; fulvous are: pedicel, femora, hindtibia; foretarsal II-III whitish; other tarsi dark brown. Punctation fine, 1-2 PD apart on clypeus, interocellar area, mesopleuron, scutum. LID about 0.6x scape length; F-I 2.6x as long as broad, II-III 1.6x; ocelli in depressions (Fig. 34), propodeal enclosure broader than long, with a zone of large pits and short carinules anteriorly, remaining three-fourths polished; petiole nearly 2x as long as apical breadth; pygidial plate angled at about 40°, densely setose.

Male: Length 6-7 mm. About as in female but T-III sometimes with a lateral yellow spot; markings of fore- and midtibiae more brightly yellow; fore- and midtarsi all white or white on I-IV, respectively; flagellum fulvous toward base.

Holotype female (DAVIS): Nova Teutonia, Santa Catarina, Brazil III-22-61 (F. Plaumann). **Paratypes**, same locality and collector as holotype but different dates (various collections), 12 males, 66 females.

Discussion: Several features, taken together, characterize the species. The propodeal enclosure is polished except anteriorly, ocelli are in depressions, interocellar

area is punctate (Fig. 34), mesopleuron with a yellow spot behind lobe, scutum slightly bluish, transverse yellow spots on T-II, and a pair of yellow scutellar spots. Fig. 58 shows the 3 submarginal cells of the forewing, customary in the genus. The species name refers to the depressed ocelli.

***Clitemnestra paraguayana* R. Bohart, new species**

Female holotype: Length 7 mm. Black, marked with yellow and reddish brown. Yellow are: labrum, clypeus, mandible mostly, scape in front, pronotal collar, lobe, scutellum, metanotum, apical bands on T-II-III, slightly enlarged laterally, that on III narrow and incomplete; reddish brown are: tegula, femora, tibiae mostly; F-I to IV and pedicel brownish yellow in front; scutum dark blue; forewing nearly clear, stigma black. Pubescence mostly pale. Punctation fine, close on frons; moderately coarse, separated on interocellar area; coarse, 1-3 PD apart on mesopleuron; coarse, 1-2 PD apart on scutum; coarse on propodeum proper but becoming polished near enclosure; fine, 1-3 PD apart on terga. LID 0.8x scape length; F-I 2.5x as long as broad, II-III 2x; ocelli weakly depressed; propodeal enclosure polished but with short lateral carinula and long medial one; petiole 1.5x as long as apical breadth which has an apical fringe of pale hair; T-II 2.3x as broad as apex of I; pygidial plate angled at 45°, densely fulvous setose.

Male: Unknown.

Holotype female (DAVIS): Rio Ypane, San Pedro Cororo, Paraguay, XI-30-83 (M. Wasbauer).

Discussion: The combination of generally coarse thoracic punctation, blue scutum, yellow-banded T-I-II, black hindtarsus, and peculiar propodeal enclosure, characterize the species. The polished enclosure with 2 short carinules and a long medial one is unique in the genus.

The species name indicates from "Paraguay".

***Clitemnestra pecki* R. Bohart, new species**

Female holotype: Length 7 mm. Black, marked with fulvous, light yellow, and whitish. Fulvous are: pedicel, flagellum on basal one-half, tegula, femora, tibiae in part; light yellow are: mandible toward base, clypeus except apical brown rim, scape, pronotal collar and lobe, mesopleural spot behind lobe, 2 spots on scutellum, metanotum, midtibia toward base, apical bands on T-I to IV, that on IV broken, that on II enlarged laterally; whitish are: foretibia outwardly, foretarsus, midtarsus I to IV, hindtarsus II to IV. Punctation fine to moderate, punctures scattered on clypeus, coarse on interocellar area, coarse on scutum but 2-3 PD apart, fine on polished mesopleuron and propodeum; fine to moderate on T-II but indistinct, moderate and close on T-V. LID 0.6x scape length, F-I 3x as long as broad, II-III 1.6x; propodeal enclosure nearly as long as broad, polished; lateral grooves seamlike; petiole about 1.6x apical breadth; pygidial plate angled at 45°, densely setose.

Male: Unknown.

Holotype female (OTTAWA): Limoncocha, Napo, Ecuador, 250 m, VI-28-76 (S. and J. Peck).

Discussion: Among the species with polished propodeal enclosure, a yellow spot behind pronotal lobe, coarsely punctate interocellar area, and black supraclypeal area, 2 species are in agreement, *pecki* and *egana*. The yellow banded T-I to IV separates *pecki*. The species name is taken from one of the collectors of the holotype.

Clitemnestra pedunculata R. Bohart, new species

Female holotype: Length 8 mm. Black, marked with brown and white. Brown are: mandible medially, tegula, legs mostly, T-I apically, T-V apically, T-VI, S-I to V apically, S-VI (reddish brown); white are: clypeus laterally, scape in front, pronotal collar narrowly, lobe partly, tarsomeres each with II-III except apically, T-I narrowly apicolaterally T-II with weak lateral spot; forewing lightly stained overall, stigma dark brown. Body polished, punctation hardly obvious, LID 0.6 scape length, F-I 3.5x as long as broad, II-III 2x; propodeal enclosure polished, with anterior row of small punctures or tiny reticulae, 2x as broad as long, lateral grooves seamlike; petiole 2.5x apical breadth, strongly pedunculate, pygidial plate angled at 45°, densely setose.

Male: Length 7-8 mm. Marked about as in female but mandible and clypeus all black, legs somewhat more extensively black, fore- and midtarsomeres I to III mostly white.

Holotype female (DAVIS): Zurqui de Moravia, San José, Costa Rica, 1600 m, III-19-93 (P. Hanson). **Paratypes** (SAN JOSÉ I, DAVIS): 2 males, 13 females, same data as holotype; 3 females (SAN JOSÉ I, DAVIS): Las Alturas, San Vito, Puntarenas, Costa Rica, 1500 m, V-1992 (P. Hanson); female (SAN JOSÉ I): San Antonio Escazú, Costa Rica, 1700 m (W. Eberhard and P. Hanson); female (SAN JOSÉ I): La Cangreja, Costa Rica, 1950 m, VII-1991 (Hanson and Godoy); male, 3 females (SAN JOSÉ II): Quebrada Sunda, Tapanti National Park, Carta, Costa Rica, 1300 m, X-XI, 1993 (G. Mora).

Variation: Some females have the legs and abdomen much darker, clypeus all black, and metanotum brown to dull whitish.

Discussion: Structurally, the 3 pedunculate *Clitemnestra* (*willinki*, *boliviana*, *pedunculata*) are quite similar. See the discussion under *boliviana* for differences.

Clitemnestra puyo, R. Bohart, new species

Holotype female: Length 6.5 mm. Black, marked with fulvous, yellow, and whitish. Fulvous are: pedicel, basal three flagellomeres, tegula, legs partly; yellow are: mandible toward base, clypeus laterally, pronotal collar and lobe, mesopleural spot behind lobe, 2 spots on scutellum, metanotum, foretibia outwardly, midtibia toward base, hindtibial base weakly; transverse lateral spot on T-II. Punctation generally quite fine on polished surfaces, punctures scattered on clypeus, moderate and 1 PD apart on interocellar area, fine to moderate and 2-3 PD apart on polished scutum, hardly perceptible on mesopleuron, propodeum, T-I-II, coarse but separated on T-V. LID 0.6x scape length; F-I 3x as long as broad, II-III abut 1.5x, ocelli somewhat de-

pressed; propodeal enclosure nearly as long as broad, polished; petiole about 1.6x apical breadth; pygidial plate angled at about 40°, densely setose.

Male: Unknown.

Holotype female (DAVIS): Jatai, Goias, Brazil, XI-12-?, (L. Alvarenga). **Paratypes**, female (LONDON): Tingo Maria, Peru, 1971 (P. and N. Broomfield); female (WASHINGTON): 44 km s. Puyo, Pasto, Nariño, Ecuador, V-21-77 (D. and S. Vincent); 4 females (SAN JOSÉ I, DAVIS): Golfo Ducla, Costa Rica (P. Hanson); 8 females (SAN JOSÉ I, DAVIS): Heredia, Costa Rica (P. Hanson, et al.).

Discussion: Among the species with polished propodeal enclosure, coarsely punctate interocellar area, black supraclypeal area, depressed ocelli and finely punctate T-II, there are only 2 species, *puyo* and *schlingeri*. The latter is somewhat larger in the female, 9 mm long instead of 6 mm. Also, *schlingeri* has the scutellum yellow banded anteriorly instead of 2 spotted. In addition, *schlingeri* has T-III moderately and closely punctate, instead of finely and sparsely so. The species name is a noun derived from a paratype locality.

***Clitemnestra ruficrus* R. Bohart, new species**

Female holotype: Length 8.5 mm. Black, marked with whitish and red. Whitish are: clypeus mostly, scape in front, mandible narrowly toward base, pronotal collar and lobe, metanotum, T-I-II with large oval lateral spot; red are: legs from femora to tarsi; flagellum brownish toward base in front; forewing clear. Punctation fine and close, but coarse across clypeus subapically; propodeal enclosure with weak anterior carinulae, overall punctate and dull. LID 2.5x scape length, F-I 4x as long as broad, II 2.5x; T-I about 1.2x as long as broad; pygidial plate angled at about 42°, striatopunctate.

Male: Length 6.5 mm. Marked as in female. LID 2x scape length, F-I-II and following about 2x as long as broad, light brown in front for entire length.

Holotype female (LEIDEN): Tafi del Valle, 2100 mm, Tucumán, Arizona, II-19-78 (J. vander Vecht). **Paratypes**, all from Argentina, 8 males, 2 females (LEIDEN, DAVIS): same data as holotype; 3 males (GAINESVILLE, DAVIS): topotypes, XII-6-71 (C. Porter).

Discussion: The combination of white spots on T-I-II, non-polished propodeal enclosure, and red legs characterize this unique species. The specific name is a Latin neuter noun meaning red leg.

***Clitemnestra sanambrosiana* (Perez d'Angelo) (Figs. 5, 29, 31)**

Ochleroptera sanambrosiana Perez d'Angelo 1980:35. Holotype male, San Ambrosio I., Desventuradas Is., Chile (Perez Collection).

Female: Length 5-6 mm. Black, marked with light yellow: mandible toward base, clypeus except apical rim and median spot, scape in front, pronotal collar and lobe, tegula anteriorly, metanotum, tibiae basally, tarsi sometimes partly, apical tergal bands (often partial) on II to IV and sometimes I and V. Punctation fine and close. F-I 2.5x as long as broad, II-III 2x; LID 1.8x scapal length; propodeal enclosure com-

pletely covered with irregular longitudinal carinulae and micropunctation, margined laterally with seamlike sulcus; petiole about as long as broad, pygidial plate angled at about 45°, silvery setae well separated.

Male: Length 5-6 mm. About as in female.

Material studied: Chile: 4 males, 5 females (NEW YORK, DAVIS): Lluta, Tarapaca (Toro, Sielfeld), 1 pair (DAVIS), Juan Fernandez Island (M. A. Fritz); 1 male, 2 females (DAVIS): Lluta, Tarapaca (M. E. Irwin, Sielfeld); male (VALPARAISO): San Pedro, Tarapaca (H. Toro); male (VALPARAISO): Putre, Tarapaca (H. Toro); male (DAVIS), Coopquilla, Tarapaca; female (DAVIS): Chiu-Chiu, Antofagasta (Sielfeld); 3 males, female (DAVIS, GAINESVILLE): Valle de Azapa, Tarapaca (C. Porter, etc.). Also, Peru: male (SAN FRANCISCO): Huánuco, Huánuco (E. Schlinger, E. Ross). Also, I have seen 15 males 1 female, from Lima, Peru, and 2 pair from Trujillo, Peru, which may be this species.

Discussion: The combination of fulvous underside of the flagellum (Figs. 5, 29), apically spotted fore- and midfemora, fine close punctation of the somewhat shiny interocellar area, and especially the apicomedian yellow spot or spots on T-V (Fig. 31) characterize *sanambrosiana*.

Clitemnestra schlingeri R. Bohart, new species (Figs. 36, 42)

Female holotype: Length 9 mm. Black, marked with fulvous, whitish, and yellow. Fulvous are: mandible toward base, clypeus in part, pedicel, pronotal lobe, spot behind, tegula mostly, femora, fore- and midtibiae partly, hindtarsus; yellow are: clypeus laterally, scape in front, pronotal collar, anterior arc-like spot on scutellum, metanotum, fore- and midtibiae in part outwardly, transverse apical spot on T-II, small lateral spot on T-III; whitish are: foretarsomeres I to V basally. Punctation coarse and scattered on clypeus and interocellar area (Fig. 36); fine and hardly evident on polished surfaces of scutum, mesopleuron, propodeum, and T-I-II; moderate and close on T-III, coarse and close on T-IV-V. Facial features as in Fig. 42; LID about 0.6x scapal length; F-I 3x as long as broad; frontal sulcus deeply impressed; propodeal enclosure slightly broader than long, polished, lateral grooves seamlike; petiole 1.5x apical breadth; pygidial plate angled at about 43°, with dense golden setae.

Male: Unknown.

Holotype female (SAN FRANCISCO): Tingo Maria, Monzon Valley, Peru, XI-2-54 (E. I. Schlinger, E. S. Ross).

Discussion: *O. schlingeri* seems related to *puyo* and they are distinguished in the species key. The narrow arc of yellow on the scutellum anteriorly is unique in *schlingeri*. The species name is in honor of my friend, Evert Schlinger, who has collected a great number of wasps.

Clitemnestra sensilis R. Bohart, new species

Male holotype: Length 7 mm. Black, marked with light yellow: mandible toward base, clypeus except basal and apical rim, scape and pedicel in front, lower two-thirds of inner eye margin, pronotal collar and lobe, anterior spot on tegula, metano-

tum, fore- and midcoxae, fore- and midtibiae outwardly, fore- and midtarsals I-III except apically; hindtibia on basal one-fourth; T-II lateral spot, T-III small lateral spot. Punctation moderate and close on clypeus, fine and close on scutum, fine and about 1 PD apart on mesopleuron and propodeum, fine and close on most terga but not deeply impressed; coarse and separated on T-VI. LID 2.1x scape length; F-I to XI each at least 2x as long as broad; propodeal enclosure broader than long, appearing finely etched, lateral margin finely reticulate; petiole about 1.3x apical breadth.

Female: A specimen from San Pedro Cololao, Tucumán, Argentina may be the female of this species. The antennae are unusually long and slender, but are black instead of fulvous. Also, the markings are white instead of yellow. Distribution of pale markings is much as in the male except that the midfemur has a large whitish spot. Additional Argentine material of both sexes will be needed to answer the question.

Holotype male (GAINESVILLE): Cochabamba, Bolivia, III-12-68 (C. Porter, A. Garcia).

Discussion: Along with *ecuadorica*, this species is remarkable by having the antenna unusually long, flagellomeres 2x as long as broad or more. Also, both species have a broad LID. Differences in *sensilis* are the extensively fulvous (instead of black) flagellum, and yellow (instead of white) markings, including the metanotum. As in *ecuadorica*, the scutum and frons are closely microsculptured. The species name refers to the unusual antenna or "feeler".

Clitemnestra sphaerosoma (Handlirsch)

Gorytes sphaerosoma (Handlirsch) 1895:860. Holotype male (seen), "Sudamerika" (BERLIN).
Gorytes tener Handlirsch 1895:859. Holotype female (seen), Caracas, Venezuela (LEIDEN). New synonym.
Ochleroptera sphaerosoma (Handlirsch) of Bohart 1976:490.

Female (Nova Teutonia, Brazil): Length 7.5 mm. Black, marked with yellow: mandible basally, clypeus except apical rim, scape, pedicel, F-I-II in front, pronotal collar and lobe, mesopleural spot behind lobe, tegula anteriorly, scutellum medially, metanotum, fore- and midfemur apicoventrally, foretibia outwardly, narrow apical bands on T-II to IV; F-I to III fulvous beneath; scutum blue tinged, wings clear. Punctation moderate and 1-2 PD apart on interocellar area, mesopleuron, and propodeum proper; coarse and 1 PD apart on scutum; fine and 1-3 PD apart on T-II. LID equal to scape length; F-I 2.5x as long as broad, II 2x; propodeal enclosure with 10 longitudinal carinulae; petiole 1.3x as long as broad; pygidial plate angled at 45°, striatopunctate.

Male (Nova Teutonia, Brazil): Length 6 mm. About as in female. F-I 1.9x as long as broad, II 1.7x; propodeum proper with polished strip along enclosure.

Material studied: Holotype male of *sphaerosoma* (above), Holotype female, Caracas, Venezuela of *tener* (above); 15 males, 11 females (DAVIS): Brazil (Santa Caterina), Argentina (Jujuy, Tucumán, Missiones, Salta).

Variation: The upper mesopleural spot may be absent, the yellow band at apex of T-IV may be weak; rarely T-V may be banded also in males.

Discussion: The yellow banded terga, distinctly punctate interocellar area, carinulate propodeal enclosure, and partly fulvous antenna may relate this species to *oblita*. However, scutal punctation is more coarse in *sphaerosoma*, the yellow band on T-II is not or hardly expanded laterally, and T-I is not at all pedunculate.

***Clitemnestra strigula* R. Bohart, new species**

Female holotype: Length 6.5 mm. Black, marked with yellow: mandible toward base, clypeus except small median black spot, scape in front, pronotal collar and lobe, metanotum, lateral spot on T-II. Punctation fine on clypeus and flattened interocellar area, moderate and about 1 PD apart on scutum, smaller and 2 PD apart on mesopleuron, quite fine on polished terga. LID slightly less than scape length. F-I 2.5x as long as broad, II-III 1.6x; propodeal enclosure broader than long, shiny with about 10 longitudinal carinules, lateral margin seamlike; propodeum proper with 4 longitudinal carinules on each side; petiole 1.6x as long as apical breadth; pygidial plate angled at about 40°, densely setose.

Male: Length 5 mm. About as in female but mandible and clypeus all black, scape black toward base.

Holotype female (LAWRENCE): Summit w. of Cali, 2000 m, IX-17-76, Valle, Colombia (Bell, Breed, Michener). **Paratypes** (Colombia), 7 females (DAVIS, LAWRENCE): same locality as holotype (M. Breed, C. Michener); female (LAWRENCE): same data as holotype; male (SAN FRANCISCO): 6 mi w. Cali, Valle, III-20-55 (E. I. Schlinger, E. S. Ross); female (LONDON): Popayan, Cauca, 1800 m (M. Cooper); female (LEIDEN): Anchicaya, Cali, IX-29-76 (J. vander Vecht).

Discussion: The completely carinulate propodeal enclosure along with about 8 other longitudinal carinulae are a defining characteristic of this species. In addition the interocellar area is flat and distinctly punctate, T-I-II are polished, hindleg is all black, and female clypeus is divided by a median black mark.

The specific name is a feminine noun referring to the strigulations of the propodeum.

***Clitemnestra toroi* R. Bohart, new species (Figs. 9, 10, 22)**

Female holotype: Length 7 mm. Black, marked with light yellow: mandible mostly, clypeus, supraclypeal transverse dot, scape in front, large lateral triangular spot on lower frons, pronotal collar and lobe, tegula in front, metanotum, fore- and midtibia outwardly, basal two-fifths of hindtibia, T-II lateral quadrangular spot; wings faintly dusky. Punctation fine and close except coarse, contiguous on propodeum posteriorly. F-I 2.8x as long as broad, II-III 1.8x, IV 1.6x; LID 2.0x scape length; propodeal enclosure completely covered with slanting carinulae and roughening, broader than long; petiole about 1.3x as broad as long, pygidial plate angled at about 35°, longitudinally rugosely punctate, with golden bristles.

Male: Length 5 mm. About as in female, LID 1.6x scapal length, metanotum black, F-I 1.6x as long as broad, F-II 1.3x, F-III to IX about 1.1x and convex beneath.

Holotype female (VALPARAISO): Nahuelbuta, Malleco, Chile, I-9-79 (P. Toro). **Paratypes**, 4 females (VALPARAISO, DAVIS): same data as holotype; 3 males (DAVIS, VALPARAISO): Isla Quinchao, X Regióne, Chile, XI-?-80 (H. Herrera); female (VALPARAISO): El Piulo, VIII Regióne, I-18-82 (E. Chiapa).

Discussion: The yellow clypeus, yellow supraclypeal spot, yellow orbital spots on the lower frons (Figs. 9, 22), dark tarsi and femora, relatively broad female frons (Fig. 9), T-II (only) with a lateral yellow spot, taken together are differentiating. I take pleasure in naming this species for my friend, Haroldo Toro.

***Clitemnestra vallensis* R. Bohart, new species (Figs. 35, 43)**

Female holotype: Length 7 mm. Black with bluish and bronzy green, marked with yellow and dull whitish. Bluish are: metanotum, mesopleuron (partly purple); bronzy green are: propodeum proper; yellow are: mandible toward base, scape in front, pronotal collar and lobe partly, median transverse spot on metanotum, lateral transverse spot on T-II; dull whitish are: fore- midfemora spot apicoventrally, clypeus laterally, foretarsus partly; pedicel, F-I to III fulvous. Punctation fine and close on clypeus and frons, moderately coarse on interocellar area (Fig. 35), coarse but slightly separated on scutum, fine on mostly polished mesopleuron, fine and 1 PD apart on propodeum posteriorly, quite fine on polished terga. Facial features as in Fig. 43; LID 0.7x scape length; F-I 3x as long as broad, II-III 1.8x; propodeal enclosure smaller than usual, nearly as long as broad, shiny, with 8 longitudinal carinules; propodeum proper with 2 longitudinal carinules on each side; petiole 1.8x as long as apical breadth; pygidial plate angled at 45°, bristly with fulvous setae.

Male: Length 6 mm. About as in female. F-I 2.2x as long as broad, II-III 1.3x.

Holotype female (LONDON): El Tucouche s. slope, St. George, Trinidad, VII-25-76 (J. S. Noyes). **Paratype,** male (LAWRENCE): 30 km e. Buenaventura, Centrale de Anchicaya, 540 m, in wet tropical forest, Valle, Colombia, VI-12-75 (R. C. Wilkerson).

Discussion: This species resembles *strigula* but there are only 4, rather than 8 longitudinal carinules on the propodeum proper. Also, the interocellar area is more coarsely punctate (Fig. 35).

The specific name indicates "of or from Valle", pertaining to the male.

***Clitemnestra vardyorum* R. Bohart, new species (Fig. 6)**

Female holotype: Length 5 mm. Black, marked with whitish: mandible toward base, clypeus except median black spot, scape in front, pronotal collar and lobe, metanotum, apical spot on fore- and midfemur, foretibia outwardly, midtibia basally, hindtibia on basal one-half, lateral spots on T-II-III, small lateral spot on T-IV; all tarsi fulvous; wings faintly dusky. Punctation fine and close; interocellar area very finely punctured. F-I 2.5x as long as broad, II-III 1.5x; LID 1.4x scapal length; propodeal enclosure completely covered by oblique carinules, lateral sulcus seamlike; pygidial plate angled at about 40°, with some coarse punctures, partly smooth.

Male: Length 4 mm. About as in female but some variation (see below). F-I 1.5x as long as broad; II-III 1.3x; III apically depressed and with a small projection beneath basally.

Holotype female (DAVIS): Lima, Peru, X-27-79, Ocean Cliff (M. E. Irwin). **Paratypes**, Peru: 7 females (DAVIS): same data as holotype; 3 males, 1 female (LONDON, DAVIS): Cuzco, IV-24-83 (C. and M. Vardy); male (GAINESVILLE): Cuzco, II-20-68 (A. Garcia, C. Porter); Bolivia: 10 males (DAVIS): Cochabamba, IX-26-72 (G. E. Bohart). Argentina: 5 males (DAVIS): Tilcara, Jujuy, II-1991 (M. Fritz); 3 males (DAVIS), Tastil, Salta, I-1991 (M. Fritz).

Variation: Most specimens have light yellow sublateral spots on T-I-III, those on III the smallest. Both sexes usually have a large median black spot on the clypeus. Males have hindtarsomeres white marked, but females have the hindtarsus reddish brown.

Discussion: Three species with similar size and markings are *toroi*, *fritzi*, and *vardyorum*. In the case of *toroi* the maculate frons, all tarsi dark, and T-I only with a sublateral spot are distinguishing. In *fritzi* and *vardyorum* the hindtarsus of the female is black but the other tarsi are white marked. The more finely punctate interocellar area of *vardyorum* together with the usually black spotted clypeus are separational.

The species is named for the collectors, my friends, Colin and Marta Vardy.

Clitemnestra violacea (Handlirsch)

Gorytes violaceus Handlirsch 1888:359. Holotype female (?), "Brazilien", königlichen Museums (DRESDEN) (destroyed).
Ochleroptera violacea (Handlirsch) of Bohart 1976:490.

I have not been able to identify this species. The dark blue integument of the thorax, and the lateral yellow spots of the clypeus are reminiscent of my *azurea* from Ecuador. However, Handlirsch stated that the tarsi were all black, whereas *azurea* has tarsal III of the front and middle legs white. Fox (1897) stated that *violaceus* was based on "a single defective specimen from Brazil, which, with other parts, lacked the abdomen".

Clitemnestra wasbaueri R. Bohart, new species

Female holotype: Length 7 mm. Black, marked with pale yellow, brown, and white. Yellow are: mandible toward base, clypeus, scape, pronotal collar, lobe, adjacent quadrangular mesopleural spot, 2 spots on scutellum, metanotum, foretibia in front, oval apicolateral spot on T-II, apicolateral dot on T-III; brown are: pedicel, F-I to V in front, tegula, femora and tibiae mostly; white are: foretarsomeres I to V, mid- and hindtarsomeres I to IV, tarsomeres V blue-tinged; scutum dark blue; forewing clear, stigma black. Pubescence on head, thorax pale; on abdomen fulvous. Punctation scattered on clypeus; fine, dense on frons; coarse, spaced on interocellar area; moderately coarse, 2-3 PD apart on scutum; moderate, 2-3 PD apart on mesopleuron; fine, sparse on propodeum posteriorly; T-I epunctate, T-II punctures fine, widely spaced on polished surface; other tergal punctation fine but closer. LID 0.6x scape length; F-I 2.5x as long as broad, II-III 2x; propodeal enclosure as broad as long, all

polished; petiole 1.5x as long as apical breadth which is 0.4x breadth of T-II; pygidial plate angled at 45°, coarse, fulvous setae.

Male: Length 5 mm. About as in female. LID 1.2x scape length; F-I 1.5x as long as broad, II-III 1.2x, flagellum dull brown in front.

Holotype female (LOGAN): Rio Ypane, San Pedro Cororo, Paraguay, XII-9-83 (M. Wasbauer). **Paratypes**, 2 males (LOGAN, DAVIS): same data as holotype.

Discussion: The dark blue and rather coarsely punctate scutum, upper mesopleural yellow spot, 2-spotted scutellum, coarsely punctate interantennal area, and all-polished propodeal enclosure, are significant features.

The specific name is given in honor of the collector, my friend Marius Wasbauer.

***Clitemnestra willinki* R. Bohart, new species (Fig. 52)**

Female holotype: Length 7.5 mm. Black, marked with light yellow: mandible toward base, clypeus except apicomedial black dot and rim, scape in front, pronotal collar and lobe, tegula in front, large double spot on scutellum, metanotum, apicoventral spot on fore- and midfemur, foretibia outwardly in part; tarsomere III of each leg; subapical band on T-I, transverse spots on II-III (Fig. 52). Punctation fine on clypeus, fine on polished interocellar area, scutum, mesopleuron, propodeum, and most terga. LID 0.6x scape length, F-I 3x as long as broad, II-III 1.8x; propodeal enclosure broader than long, polished; petiole 2x as long as apical breadth, strongly pedunculate (Fig. 52); pygidial plate angled at 45°, densely dark setose.

Male: Length 5-7 mm. About as in female, but more extensively yellow: a spot usually behind pronotal lobe, no apical clypeal spot, pedicel, lateral spot on T-IV often present; fore- and midtibiae outwardly, large spot on fore- and midfemora, fore- and midtarsomeres basally, hindtarsomeres II-III basally. F-I 2x as long as broad, II-III 1.2x.

Holotype female (DAVIS): Horco Molle, Tucumán, Argentina, IV-9-66 (L. A. Stange). **Paratypes**, 15 males, 10 females (WASHINGTON, GAINESVILLE, NEW YORK, LAWRENCE, DAVIS, TUCUMÁN): topotypes collected by L. A. Stange, C. C. Porter; female (TURIN): Cerro S. Bernardo, Salta, Argentina, II-24-92 (P. Scaramozzino Coll.).

Discussion: The slender and pedunculate T-I (Fig. 52) occurs also in *boliviana*, which has a black scutellum mostly brown femora, and bispotted clypeus. Also, see *pedunculata*. Other features of *willinki* are the mostly polished thorax, including the propodeal enclosure, the apical yellow band on T-I, lateral spots on II-III or IV, polished interocellar area, and black forewing stigma. The species name is dedicated to my friend, the late Abraham Willink.

***Clitemnestra zeta* R. Bohart, new species (Fig. 42)**

Female holotype: Length 10 mm. Black, propodeum bronzy, pedicel and F-I to V fulvous, and yellow: mandible base obliquely, scape in front, pronotal collar and lobe partly, transverse metanotal spot, lateral spot on T-II; tegula shining dark brown; forewing stigma orange. Punctation fine and close on frons, coarse and 1 PD apart on

interocellar area; coarse and dense on mesonotum; medium but 2-3 PD apart on polished mesopleuron; medium but mostly close and striatiform on propodeum proper; fine and inconspicuous on T-I-IV, moderate and close on V. Facial features as in Fig. 42; head unusually large, broader than thorax, clypeus quite broad, with a sharp transverse ridge; LID about equal to scape length; F-I 4x as long as broad, II 2.5x, III 2.0x; propodeal enclosure a little broader than long, shiny, with about 12 longitudinal carinules; propodeum proper with about 4 short longitudinal carinules on each side; petiole 1.6x as long as apical breadth; pygidial plate angled at about 50°, with close fulvous setae.

Male: Unknown.

Holotype female (LONDON): Yuruyaco, 73 km sw. Florencia, Caquetá, Colombia, II-8-79 (M. Cooper). **Paratype** female (DAVIS): same data as holotype.

Discussion: The unusually large head, broad clypeus, coarse and dense scutal punctation, coarse interocellar punctures, black scutellum, and basally fulvous flagellum mark this relatively large species as unique. The specific name is an adjective meaning "the end."

Argogorytes Ashmead (Figs. 60 to 67)

Argogorytes Ashmead 1899:324. Type species: *Gorytes carbonarius* F. Smith 1856, original designation.

Principal generic characters are as follows:

1. Female mandible 2-toothed, last 4 male flagellomeres simple (Fig. 67).
2. Antennal sockets placed slightly above upper margin of clypeus (Fig. 61).
3. Inner eye margins widely separated, somewhat incurved above, frontal sulcus not well defined (Fig. 60).
4. Acetabular carina present, sternaulus absent.
5. Prescutellar sulcus foveolate.
6. Female arolia subequal, small; female scutellum usually with a median posterior pubescent depression (Fig. 63).
7. Female midtarsal I not unusually "spurred", foretarsal rake undeveloped.
8. Scrobal sulcus ending at pitted episternal sulcus which continues downward to omaulus.
9. Propodeal enclosure punctate or partly polished, median sulcus deep, lateral sulci coarsely pitted.
10. Metapleural posterior suture simple, "stitched" above.
11. Propodeum proper punctate posteriorly.
12. Hindwing media arising abruptly well beyond cu-a and sharply curved toward base (Fig. 64).
13. Oblique scutal carina absent.
14. Spiracular groove of propodeum indicated but not truly a sulcus; punctation of scutum and T-II dense.
15. T-I stout, S-II sharply bent outward at base and coarsely punctate (Fig. 62), (S-IV-V basally micropunctate), metanotum usually somewhat pointed medially.
16. Male S-VIII stinglike.

17. Female pygidial plate densely striatopunctate (at least in South American species).

In Bohart and Menke (1976) *Argogorytes* was considered unspecialized in the Gorytini because it had no oblique scutal carina at the posterolateral corner of the scutum and male flagellomeres were simple. These "negative" characters are shared in the South American fauna by *Clitemnestra*, *Paraphilanthus*, *Trachogorytes*, and *Neogorytes*. Also, the hindwing media in all 4 genera diverges by more than 1.0 MOD beyond cu-a (Fig. 64), another presumably unspecialized trait. *Argogorytes* shares with *Neogorytes* the presence of an acetabular carina. The distribution of *Argogorytes* is worldwide except for the Ethiopian Region. Ten species are now known from the New World. *Argogorytes nigrifrons* and *sapellonis* are nearctic but are included here for the sake of comparison.

Key to New World species of *Argogorytes* Ashmead

1 Males, 11 flagellomeres, no pygidial plate 2
-- Females, 10 flagellomeres, pygidial plate present 10
2 F-II to V expanded angularly or lobelike beneath (Figs. 65, 66) 3
-- F-II to V not unusually expanded beneath (Fig. 67) 5
3. Hindtarsal I and hindtibia dark brown (Honduras, Costa Rica) ..... *quadrangulus* R. Bohart, new species
-- Hindtarsal I and hindtibia marked with whitish-yellow 4
4. Hindtarsals I to IV and base of V orange-yellow (se. U. S.) ..... *nigrifrons* (F. Smith)
-- Hindtarsal I weakly whitish-yellow dorsally, II to V dark brown (s. New Mexico, s. Arizona) ..... *sapellonis* (C. Baker)
5. Hindtarsal I mostly whitish or yellowish, F-X length nearly 2x breadth, no mesopleural yellow spot 6
-- Hindtarsal I dark brown, mesopleuron usually with yellow spot 7
6. Forewing cells nearly clear except brown marginal cell, propodeum just above abdominal insertion with 4 longitudinal carinulae, F-I to III with longitudinal ridges beneath (Argentina, Brazil) ..... *porteri* R. Bohart, new species
-- Forewing cells along anterior third black basal to stigma (Fig. 64), marginal cell nearly clear, propodeum just above abdominal insertion with 4 transverse carinae, flagellomeres without ventral ridges (Brazil, Bolivia, Peru, Argentina) ..... *umbratilis* R. Bohart, new species
7. Clypeus marked with yellow and orange (Fig. 60), F-IV to X with linear ridges ventrally (Brazil, Argentina, Bolivia) ..... *clypealis* R. Bohart, new species
-- Clypeus black, usually marked with yellow, F-IV to X without ventral ridges 8
8. Clypeus with apical rim yellow or marked with yellow, hypoepimeron well punctate, upper mesopleuron usually with yellow spot (sometimes small), most flagellomeres not more than 2x as long as broad (Colombia to Argentina) ..... *areatus* (Taschenberg)
-- Clypeus black at apex, other characters various 9
9. Hypoepimeron polished, most flagellomeres more than 2x as long as broad (Fig. 67), scape and pedicel dark brown (Mexico: Nayarit, Morelos, Guerrero) ..... *mexicalis* R. Bohart, new species

-- Hypoepimeron punctate, flagellomeres less than 2x as long as broad, scape and pedicel red (Costa Rica) ..... *parkeri* R. Bohart, new species
10. Wings reddish yellow, metanotum weakly yellow, T-I to V with yellow bands, body length 12 mm..... *similicolor* (Dow)
-- Without above combination of characters..... 11
11. Propodeum with broad transverse ridges above abdominal insertion, large species (about 14 mm long), forewing dark brown along anterior one-fourth ending at stigma (Fig. 64), marginal cell at least partly clear, T-II to V all black or with quite narrow apical yellow bands (Costa Rica to Argentina)..... ..... *umbratilis* R. Bohart, new species
-- Propodeum without such broad transverse ridges, smaller species (6-12 mm long), forewing not black in anterior one-fourth, marginal cell brown, T-II to V usually with distinct pale bands at least on II-III (but see *parkeri)* 12
12. Clypeus orange and yellow or nearly all orange (Fig. 60) Brazil, Argentina, Bolivia) ..... *clypealis* R. Bohart, new species
-- Clypeus without orange markings..... 13
13. Hindtarsal I to IV and base of V yellow to orange, upper mesepimeron with large yellow spot (se. U.S.) ..... *nigrifrons* (F. Smith)
-- Hindtarsals not yellow to orange, upper mesepimeron various 14
14. Hypoepimeron polished, mesopleuron all dark, propodeal enclosure with submedian polished swellings (Mexico)..... *mexicalis* R. Bohart, new species
-- Hypoepimeron punctate and dull, mesopleuron various, propodeal enclosure without polished swellings..... 15
15. Flagellum practically all dark, mesopleuron black (Brazil, Argentina) .... *porteri* R. Bohart, new species
-- Flagellum fulvous in front toward base, mesopleuron various 16
16. Tibiae each streaked outwardly with whitish-yellow, propodeal enclosure completely punctate, not polished (s. New Mexico, s. Arizona)..... *sapellonis* (Baker)
-- Tibiae dark brown, not marked with yellow, enclosure various 17
17. T-II to VI black or with only traces of yellow apical bands on T-II to IV (Costa Rica) ..... *parkeri* R. Bohart, new species
-- T-II to III with narrow but distinct yellow bands..... 18
18. Propodeal enclosure mostly polished, whitish-yellow band on T-I not indented medially (Honduras, Costa Rica) ..... *quadrangulus* R. Bohart, new species
-- Propodeal enclosure mostly punctate (Colombia, Venezuela, Brazil, Argentina).... ..... *areatus* (Taschenberg)

Argogorytes areatus (Taschenberg)

Gorytes areatus Taschenberg 1875:365. Holotype female "Brazilia" (HALLE).
Argogorytes areatus (Taschenberg) of Bohart 1976:492.

Female (Brazil): Length 8 mm. Black, marked with yellow: lateral clypeal spot, pronotal collar, lobe, spot beneath; lateral scutal spot, metanotum, narrow apical bands on T-I to V, lateral spot on S-II; fulvous are: mandible medially, F-I to III in front, legs partly; marginal cell brown. F-I, II each 2.1x as long as broad, III 1.8x. Propodeal enclosure mostly finely punctate.

Male (Brazil): Length 7 mm. In addition to female, yellow are: mandible basally, clypeus across apex, scape in front.

Material studied: 6 males, 28 females, Colombia (Cauca, Valle), Venezuela (Jaji, Merida), Brazil (Nova Teutonia, São Paulo, Altamira), Argentina (Tucumán, Salta, Missiones, Catamarca), Peru (Tingo Maria).

Discussion: This is a medium-sized species, 7-8 mm long. The marginal cell is brown but the rest of the forewing is nearly all clear. The metanotum is more or less pointed medially. The male clypeus is margined apically with yellow, an unusual feature in the genus.

***Argogorytes clypealis* R. Bohart, new species (Fig. 60)**

Female holotype: Length 7.5 mm. Black, marked with orange-red and pale yellow. Orange-red are: mandible mostly, clypeus except 2 basal spots (Fig. 60), antenna including F-I to VIII, tegula, foreleg mostly except tarsal V; yellow are: 2 oval spots on clypeus basally, pronotal collar, lobe, adjacent mesopleural spot, scutum laterally, metanotum; apical bands on T-I to IV; forewing cells clear except brown marginal cell. Clypeus with median coarse punctures, other punctation mostly fine and close. LID 2.7x scapal length; F-I 2x as long as broad, II 2.1x, III 2x; propodeal enclosure weakly punctate, polished anteriorly; subbasal bulge of S-II not crested; pygidial plate angled at 37°, closely punctate, off-golden setose.

Male: Length 7 mm. About as in female. Clypeal yellow spots edged in orange red. F-I 1.6x breadth, II-III 1.8x.

Holotype female (DAVIS): Alta Garcia, Cordoba, Argentina, XI-19-75 (R. M. Bohart). **Paratypes**, Argentina: male, 2 females (DAVIS): same data as holotype; female topotype (TUCUMÁN): XI-19-75 (L. Stange); female (CAMBRIDGE): Cordoba (W. M. Davis); 10 females (TUCUMÁN, DAVIS): 11 km w. Las Cejas, Tucumán, XII-10-66 to II-13-67 (L. Stange); female (DAVIS): Andalgala, Catamarca, XI-4-72 (G. E. Bohart). Also paratypes, Brazil: male (DAVIS): Nova Teutonia, Santa Catarina, XI-1966 (F. Plaumann); female (DAVIS): Ribeirão Preto, São Paulo, VI-1974 (N. Gobbi); female (LONDON): "F. NORTE", X-11-77 (A. Raw); female (WASHINGTON): Batatata, São Paulo, II-10-44 (Staffuzza). Also, paratype female (GAINESVILLE): Gral. Bolivia, Saavedra, Est. Experimental, VIII-1973 (C. Porter, L. Stange).

Discussion: This is the only species in the South American fauna with mainly orange and yellow clypeus. This feature, together with the mostly clear wings, partly orange antenna, mesopleural yellow spot, and dark hindtarsomeres, characterize the species. The size is slightly variable with length 7.5 to 8.5 mm. The specific name is a Latin adverb calling attention to the unusually marked clypeus.

***Argogorytes mexicalis* R. Bohart, new species (Fig. 67)**

Female holotype: Length 10 mm. Black, marked with deep yellow: basal clypeal spots, pronotal collar, lobe, transverse metanotal spot, apical bands enlarged laterally on T-I to IV, lateral dot on S-II; fulvous are: F-I to V in front, foretibia partly; forewing cells nearly clear except brown marginal cell. Ocellar triangle with posterior

polished and irregularly punctate border, propodeal enclosure with 2 knoblike posterior polished swellings; scutal punctures moderate and slightly separated, propodeum with fine punctures and somewhat polished, mesopleuron with separated punctures, hypoepimeron polished. F-I to III about 2.1x as long as broad, IX 1.5x; scutellar depression quite small, transverse, median; pygidial plate angled at 45°, densely off-golden setose.

Male: Length 9 mm. About as in female, antenna slender (Fig. 67), F-I 1.5x as long as broad, II-III 2.1x, X 2.2x, clypeus black, tibiae outer face with yellow strips.

Holotype female (DAVIS): Pichon, Nayarit, Mexico, VI-5-56 (R. and K. Dreisbach). **Paratypes**, male (DAVIS): same data as holotype; female (LONDON): Acaguizotla, Guerrero, Mexico, 3500 ft., October (H. H. Smith); male (DAVIS): Huachuca Mts., Arizona, VIII-19-50 (D. and J. Knull); male (LAWRENCE): 5 mi n. Cuernavaca, Morelos, Mexico, VIII-15-54 (U. KANS. Exped.).

Discussion: The polished hypoepimeron, polished area behind ocelli, all-black mesopleuron, polished propodeal enclosure knobs, long male antenna (Fig. 67), and deep yellow tergal bands, characterize the species. The specific name is a Latin adverb for "pertaining to Mexico".

Argogorytes nigrifrons (F. Smith) (Fig. 65)

Gorytes nigrifrons F. Smith 1856:368. Holotype female (seen), "Nova Scotia", Canada (LONDON).

Gorytes bollii Cresson 1872:225. Holotype female (seen), "Texas", (CAMBRIDGE). Synonymy by Bohart 1976:492.

Gorytes neglectus Rohwer 1911:567. Holotype female (seen), "Texas" (WASHINGTON). Synonymy by Bohart 1976:492.

Female (Wisconsin): Length 10 mm. Black, marked with yellow: clypeus with 2 basal spots, pronotal collar, lobe, upper mesopleural spot, lateral scutal spot, metanotum, apical bands on T-I to III, lateral spots on S-II-III; dull rufous are: F-I to V in front, tegula, legs partly; orange are: tibiae, tarsomeres I to IV and base of V; forewing nearly clear except brown marginal cell. F-I to III 2.1x as long as broad, IX 1.5x, propodeal enclosure punctate; pygidial plate angled at 45°, densely off-golden setose.

Male (North Carolina): Length 8 mm. About as in female, leg markings yellow rather than orange. T-I to IV and V (weakly) with apical yellow bands. F-I 2x as long as broad, II to VI produced into rounded lobes beneath (Fig. 65), II to V orange, VI black.

Material studied: 3 males, 25 females: Wisconsin (Polk Co., Worden Township), Michigan (Owasso), Maryland (Colesville), Washington (D. C.), Texas (Gillespie Co.), Florida (Tallahassee, Gainesville, Austin Carey, Torreya State Park).

Discussion: The yellow to yellowish orange tarsomeres I to IV with the large yellow upper mesopleural spot are distinguishing. The expanded F-I to VI in males (Fig. 65) occur also in *sapellonis* and *quadrangulus*. The expansions in *quadrangulus* are much the strongest, almost right-angled (Fig. 66). Also, the hindtarsals are dark brown on II to IV at least, in males of *sapellonis* and *quadrangulus*.

Gorytes
***Argoehrysis parkeri* R. Bohart, new species**

Female: Length 8 mm. Black, yellow, and red. Yellow are: 2 small clypeal spots, pronotal collar, lobe, mesopleural dot beneath, scutal streak laterally, concave posterior band on scutellum, metanotum, T-I posterior band, traces of posterior bands on T-II to IV (not present on all paratypes); red are: scape, pedicel, F-I, F-II to IV in front, femora extensively, foretibia and tarsus mostly, tegula, T-I lateral to carina; forewing nearly clear, stigma reddish brown, marginal cell brown, costa and radius black. Punctures of mesopleuron small, widespread. F-I to III 2x as long as broad; propodeal enclosure mostly polished, deeply intruded by foveolae.

Male: Length 7 mm. About as in female but flagellum dark brown. F-I to III 1.6x as long as broad.

Female holotype (LOGAN): Bijagua, 20 km s. Upala, Alajuela, Costa Rica, IV-30-91 (F. D. Parker). **Paratypes**, 2 males, female (LOGAN, DAVIS): **topotypes**, III-IV, X (F. D. Parker); female (DAVIS): 5 km w. Piedras Blancas, Puntarenas, Costa Rica, IV-1993 (P. Hanson).

Discussion: The rather simple dark brown flagellum of the male distinguishes it from the similar Costa Rican *quadrangulus*. The red scape and pedicel (both sexes) and nearly all black T-II to VI are additional features.

The species is named for the collector, my friend, Frank Parker.

***Argogoryes porteri* R. Bohart, new species**

Female holotype: Length 11 mm. Black, marked with yellow: lateral clypeal spot, pronotal collar, lobe, metanotum, narrow apical bands on T-I to VI, lateral spots on S-II-III; antenna black but a little brownish at apex of F-X; forewing lightly stained basal to orange stigma, marginal cell brown. Punctation moderate and close on scutum, mesopleuron, propodeum proper; close but slightly striate on propodeal enclosure. F-I to V 2.4x as long as broad, IX 1.8x; pygidial plate long oval, brownish-golden setose.

Male: Length 8 mm. About as in female. Clypeus black, basal two-thirds of hindtarsal I pale yellow, apical yellow bands on T-I to V. F-I 1.7x as long as broad, II to XI about 2.0x; I to III carinate ventrally.

Holotype female (DAVIS): Nova Teutonia, Santa Catarina, Brazil, X-1965 (F. Plaumann). **Paratypes**, female (CAMBRIDGE) Serrada Bocãina, São Paulo, Brazil, I-17-69 (Porter and Garcia); male (DAVIS), Las Marias, Corrientes, Argentina, VIII-1971 (C. Porter).

Discussion: The black antenna, closely punctate hypoepimeron and propodeal enclosure, as well as partly whitish-yellow male hindtarsal I, characterize the species. The specific name is given in honour of Charles Porter who has collected extensively in South America.

***Argogorytes quadrangulus* R. Bohart, new species (Fig. 66)**

Male: Length 8 mm. Black, marked with yellow: 2 basal clypeal spots, scape at apex, pronotal collar, lobe, mesopleural spot beneath, lateral scutal streak, scutellar band with medial point anteriorly, metanotum, propodeum with 2 lateroposterior spots, T-I broadly, T-II to IV narrowly across apex, foretibia posteriorly; reddish are: F-I to VI in front, foreleg mostly, T-I laterally after carina; forewing nearly clear, stigma orange brown, marginal cell brown; costa and radius black. Punctures of mesopleuron small, sparse. F-I to VI (Fig. 66); propodeal enclosure mostly polished, deeply intruded by foveolae.

Female: Length 9 mm. About as in male. Scutellar band concave anteriorly; F-I-II 2x as long as broad, III to VI likewise; pygidial plate angled at 45°, closely punctate.

Variation: Some males and females with propodeum all black posteriorly.

Holotype male (LOGAN): 14 km s. Cañas, EJN, Guanacaste, Costa Rica, X-15-89 (F. D. Parker). **Paratypes** (LOGAN, DAVIS): 3 males, Escazu, San Jose, VIII-5-89 (F. D. Parker); 16 females (LOGAN, DAVIS): topotypes but varying dates; 6 females (LOGAN, DAVIS): Finca Montezuma, Rio Naranjo, Guanacaste, Costa Rica, 1991, 1992 (F. D. Parker); 2 males (WASHINGTON, DAVIS): Tegucigalpa, Honduras, VII-25-18 and X-1-17 (F. J. Dyer)

Discussion: The angular F-II to V in the male (Fig. 66) is a diagnostic feature. In the female the combination of dark brown hindtibia and tarsus, yellow-banded T-I to IV, black costa and radius, clypeus with 2 small spots, mostly polished propodeal enclosure, partly fulvous flagellum, and mostly black scape, are identifying features. Many specimens have 2 yellow spots on each side of the propodeum posteriorly.

The specific name is a masculine noun referring to the 4 angles on the male flagellum.

***Argogorytes sapellonis* (C. Baker)**

Gorytes sapellonis Baker 1907:161. Holotype female, Sapello Canyon, New Mexico (type depository ?).

Female (Portal, Arizona): Length 9 mm. Black, marked with whitish-yellow: large posterior clypeal spots, scape near apex, pronotal collar, lobe, large adjacent mesopleural spot, lateral scutal spot, metanotum, exterior tibial stripes, apical margins of T-I to IV, S-II to IV lateral dots; forewing nearly clear except brown marginal cell; F-I to V fulvous in front. Punctation mostly fine and close including propodeal enclosure, postocellar area partly polished. F-I-II 2x as long as broad, III 2.2x, IX 1.5x; no visible depression on scutellum; pygidial plate angled at 45°, off-golden setose.

Male (Madera Cyn., Arizona): Length 8 mm. About as in female. T-I to V with apical whitish-yellow bands. F-I 1.6x as long as broad, II 1.9x; F-II to V produced and rounded beneath.

Material studied: Male (DAVIS): Madera Canyon, Pima Co., Arizona, VI-26-70 (R. E. Woodruff); female (DAVIS): SWRS, 5 mi w. Portal, Cochise Co., Arizona, IX-2-64 (V. Roth).

Discussion: Although I have not seen the holotype, Baker's original description fits the 2 Arizona specimens I have studied. Pertinent characters are the "quadrangular" yellow spot on the upper mesopleuron, and the yellow-marked tibiae. Males have F-II to V expanded ventrally, much as in *nigrifrons*.

Argogorytes similicolor (Dow)

Gorytes similicolor Dow 1933:218. Holotype female (seen), Villarica, Paraguay (CAMBRIDGE). *Argogorytes similicolor* (Dow) of Bohart 1976:492.

Female holotype: (Following paraphrased from original description). Length 12 mm. Black, marked with yellow: 2 clypeal spots, pronotal collar, obscure anterior band on metanotum, apical bands on T-I to V, S-II to V, S-VI; wings reddish yellow. Punctation close. Clypeus medially truncate; scutellum with a small, posterior, elliptical, pubescent depression; propodeal enclosure medially impunctate, divided and bounded by foveolate sulci, propodeum proper roughly sculptured medioposteriorly; pygidium converging toward rounded apex, closely striatopunctate.

Holotype female (CAMBRIDGE no. 17051): Villarica, Paraguay, II-1923.

Discussion: According to Dow, *similicolor* is related to *areatus* Taschenberg, but it "may be easily distinguished by its larger size, the color of the wings, and the distribution of maculations."

Argogorytes umbratilis R. Bohart, new species (Figs. 61 to 64)

Female holotype: Length 15 mm. Black with reddish tints, sparingly marked with yellow: pronotal collar narrowly, transverse spot on metanotum, weak subapical band on T-I; forewing dark brown on forward basal half (Fig. 64). Propodeal enclosure finely punctate, sulci lateral to enclosure finely foveolate except posteriorly. Face (Fig. 61), LID 2.5x scapal length, F-I to III 2.5x as long as broad (Fig. 61), propodeal enclosure bisected by a narrow channel which is transversely ridged below, propodeum proper posteriorly below with gradually increasing transverse carinulae; pygidial plate rounded apically, densely setose with golden glints.

Male: Length 11 mm. About as in female. Legs more brownish, hindtarsomere I with basal four-fifths white. F-I 1.6x as long as broad, II-III 1.8x.

Variation: The 19 female paratypes show some variation in markings of hindtarsomeres, although these are usually all black. The holotype has all dark hindtarsomeres. The female from Guiana has hindtarsals I-II mostly whitish-yellow and females from Bolivia and Horco Molle, Argentina have hindtarsal I mostly whitish-yellow as occurs always in males. There is the possibility that 2 or 3 species are involved, but this seems unlikely.

Holotype female (DAVIS): Nova Teutonia, Santa Catarina, Brazil, X-1968 (F. Plaumann). **Paratypes** (various museums), 20 males, 19 females, topotypes but collected from XII to II; other specimens (not paratypes) are from Costa Rica (La Selva,

Rancho Quimado), Guiana (Morabilli), Bolivia (Santiago, Roboré), Paraguay (Villarrica), Peru (Cuzco), and Argentina (Horco Molle, Eldorado, near Virasoro).

Discussion: Assuming that the specimens described in the variation above are all the same species, they have the following characters in common: body length 11 to 15 mm, forewing with anterior dark cloud ending before submarginal cell II, propodeal enclosure mostly punctate and with bisecting channel transversely ridged posteriorly, propodeum proper with transverse carinulae which lengthen toward abdominal insertion; pronotal collar very narrowly yellow, a transverse oval yellow spot on metanotum, terga all black except for a weak yellow band subapically on I; no mesopleural spot behind pronotal lobe. The relatively large size is unequaled in neotropical species.

The specific name is a Latin adjective indicating the overall dark body.

Paraphilanthus Vardy

Paraphilanthus Vardy 1995:394. Type species: *Paraphilanthus costaricae* Vardy 1995, monotypic.

A list of important gorytin characters are given below:

1. Female unknown. Last 4 male flagellomeres not specially modified.
2. Antennal socket placement?
3. Inner eye margins widely separated, subparallel.
4. Acetabular carina present, sternaulus absent.
5. Prescutellar sulcus "imperfectly" foveate.
6. Female unknown.
7. Female unknown.
8. Scrobal sulcus strong, "meeting episternal sulcus at a right angle."
9. Propodeal enclosure "finely, sparsely punctate, polished," without strong median sulcus.
10. Metapleural posterior suture simple?
11. Propodeum proper with "few, coarse punctures."
12. Hindwing media arising well beyond cu-a.
13. Oblique scutal carina absent (presumably).
14. Spiracular groove of propodeum "deep, foveolate."
15. T-I stout, S-III to V with "rather short, dense, apical, pale golden fimbriae."
16. Male S-VIII apically slender but not stinglike.

I have not seen material of this genus. Characters above in quotes are from Vardy (1995). His figure of the forewing shows only one recurrent vein, presumably an error. The appendiculate submarginal cell II, fimbriate male S-III to V, and presence of an acetabular carina, all help to define the genus. S-III has a finely sculptured stridulatory organ.

Paraphilanthus costaricae Vardy

Paraphilanthus costaricae Vardy 1995:394. Holotype male, Santa Rosa N. P., Guanacaste, Costa Rica (Instituto Nacional, Costa Rica).

Description paraphrased from original by Vardy (1995).

Male: Length 11-12 mm. Black, marked with yellow: mandible mostly, lower face, scape in front, pedicel, pronotal collar, lobe, 2 spots below on mesopleuron, metanotum, legs mostly, T-I to VI apical hands (broader laterally). Inner orbits slightly converging toward clypeus, F-I slightly longer than II, F-I to VIII with narrow polished lines beneath, mandible with a weak inner basal angle, scutum with pair of preapical, transversely sharp-edged tubercles, propodeal enclosure bisected and bounded by reticulate sulci, propodeum proper mostly polished (a few coarse punctures), S-I strongly carinate medially, S-III with a finely sculptured stridulatory organ, S-VIII broadly triangular and tapering to a rounded point.

Holotype male (Instituto Nacional, Costa Rica): Santa Rosa N. P., Guanacaste, Costa Rica, VI-1984 (Janzen and Hollwacs). **Paratypes**, 2 males (LONDON, WASHINGTON): Barra Honda N. P., Costa Rica, V-1988 (Gauld and Mitchell).

Discussion: The robust body, petiolate submarginal cell II, extensive yellow markings including bands on all terga, black sterna with fimbriate S-III to V, characterize the species.

Neogorytes R. Bohart (Figs. 68 to 71)

Neogorytes R. Bohart 1976:492. Type species: *Neogorytes ecuadorae* R. Bohart 1976:494, original designation.

Important characters are listed below:

1. Female mandible 2-toothed, frontal sulcus hardly indicated.
2. Female antennal sockets well above upper clypeal margin (Fig. 71).
3. Inner eye margins widely separated, essentially parallel (Fig. 68).
4. Acetabular carina present, sternaulus absent.
5. Prescutellar sulcus narrowly foveolate.
6. Female arolia subequal.
7. Female midtarsal I with no unusual apical spur.
8. Scrobal sulcus joining episternal sulcus which descends to omaulus.
9. Propodeal enclosure smooth but surrounded and bisected by foveolate sulci.
10. Metapleural posterior suture simple.
11. Propodeum proper sparsely punctate.
12. Hindwing media arising abruptly and well beyond cu-a (Fig. 69)
13. Oblique scutal carina absent.
14. Spiracular groove of propodeum well defined but not strictly a sulcus.
15. T-I petiolate, at least 2x as long as broad (Fig. 70).
16. Male S-VIII stinglike, male flagellomeres simple.
17. Female pygidial plate densely bristled.

The 6 species of *Neogorytes* are known from only a few specimens, attesting their rarity. Along with *Clitemnestra*, *Paraphilanthus*, and *Argogorytes* , *Neogorytes* has no oblique carina at the posterolateral corner of the scutum, and male flagellomeres VIII to XI are simple. Also, the hindwing media arises sharply, well beyond cu-a (Fig. 69). These characters are assumed to be unspecialized. On the other hand, the broad face, (Figs. 68, 71) as found also in *Hoplisoides* and *Sagenista*, might be considered specialized, or not so.

Key to the species of *Neogorytes* R. Bohart

1. Metanotum mostly yellow 2
-- Metanotum black 4
2. Flagellum black, female propodeal enclosure with 2 yellow spots, female (Ecuador) ..... *ecuadorae* R. Bohart
-- Flagellum red on F-I to IV or V in front, propodeal enclosure various 3
3. T-I-II with apical yellow bands, scutellum black, male (Argentina) ..... *dicestus* R. Bohart, new species
-- T-I to V with apical yellow bands, scutellum yellow banded (Peru) ..... *incaorum* R. Bohart, new species
4. Tibiae black, female hindtarsals II to IV mostly yellow, T-II with a narrow apical yellow band (Colombia) ..... *cooperi* R. Bohart, new species
-- Tibiae brown to yellow, female hindtarsals I to V yellow or whitish, T-II not yellow banded 5
5. Pleuron black, T-II and following terga black or nearly so, clypeus black or nearly so, sterna mostly black (Costa Rica) ..... *hansoni* R. Bohart, new species
-- Pleuron with yellow spots on mesopleuron, a spot on metapleuron, T-I to IV with narrow whitish apical bands, sterna mostly whitish, female (Costa Rica) ..... *albiventris* R. Bohart, new species

Neogorytes albiventris R. Bohart, new species

Female holotype: Length 10 mm. Black, marked with whitish yellow: mandible mostly, clypeus except median black spot, scape in front, pronotal collar, lobe, lateral spot on scutum, 3 spots on mesopleuron, lowest one largest, metapleuron partly, legs mostly including all tarsi, T-I laterally and apically, narrow apical bands on T-II to IV, S-I to IV mostly; flagellum dull red in front of F-I to IV, also F-X; wings lightly stained, stigma reddish brown, marginal cell brown. Pubescence fulvous, 1-2 MOD long on vertex, 1 MOD on scutum, 3 MOD on propodeum. Punctation moderate on clypeus, fine and close elsewhere, but scutellum, metanotum, propodeum, and pleuron mostly polished. LID (at vertex) 2.5x scapal length, F-I-II each 2x as long as broad, III 1.8x, petiole 1.8x as long as broad; pygidial plate angled at 45°, densely dark-red bristled.

Male: Unknown.

Holotype female (DAVIS): Zurqui de Moravia, San José, Costa Rica, 1600 m. III-1994 (P. Hanson).

Discussion: The distribution of whitish markings, particularly on the sterna, differentiates from all other *Neogorytes* species (see key to species).

Neogorytes cooperi R. Bohart, new species

Female holotype: Length 11 mm. Black, marked with yellow: pronotal collar thinly, hindtarsomeres II to IV, T-I lateral and apical margins, T-II thin apical margin, S-I; F-I to V fulvous in front; forewing brown on one-fourth anteriorly from base to apex. Punctation mostly fine and close. LID 2.5x scape length, F-I 2.5x as long as

broad, II 2.3x; T-I 1.5x as long as broad; pygidial plate angled at 45°, closely punctate and setose, rounded at apex.

Male: Unknown:

Holotype female (LONDON): Morona-Santiago, Cordillera Cutucu, 6 km. e. Macas, Ecuador, 100 m, X-21-78 (M. Cooper).

Discussion: This is the only species I have seen with a dark brown leading one-fourth of the forewing. The nearly all black thorax is found in *hansoni*, but that species has hindtarsals I to IV fulvous instead of II to IV yellow as in *cooperi*.

The species is named for Martin Cooper, who has collected extensively in northern South America.

***Neogorytes dicestus* R. Bohart, new species (Figs. 69-71)**

Male holotype: Length 8.5 mm. Black, marked with yellow: pronotal collar and lobe, mesopleural spot beneath lobe, small posterolateral scutal spot, metanotum, two spots on propodeum posteromedially, narrow U-shaped spot on T-I apically (Fig. 70); T-II and S-II narrow apical bands; wings lightly stained except brown marginal cell; flagellum dull orange beneath from F-I to VI; legs reddish brown, spot on lower metapleuron. Punctation fine and close; pleuron, propodeum, and T-I somewhat shiny. Facial features as in Fig. 71; F-I to IV subequal in length, about 1.6x breadth; propodeal enclosure smooth, bisected by a median sulcus, laterally bounded by foveolate sulci; T-I about 1.8x as long as apical breadth, II broader than long.

Female: Unknown.

Holotype male (GAINESVILLE): Postade Lozano, Jujuy, Argentina, X-26-69 (C. Porter).

Discussion: *N. dicestus* has much less yellow than *ecuadorae*. The face is all black, T-II is narrowly banded, and III is black. Also, the antenna of *dicestus* is extensively red beneath instead of all black; and the forewing marginal cell is brown instead of clear.

The specific name is a Greek noun meaning 2-banded, referring to the marking of the abdomen.

***Neogorytes ecuadorae* R. Bohart**

Neogorytes ecuadorae R. Bohart 1976:494. **Holotype female**, Banos, Tinguraha, Ecuador (CAMBRIDGE).

Female (paraphrased from original description): Length 11 mm, black with extensive yellow to orange markings; clypeus with 2 basal yellow spots, pronotal collar yellow, legs mostly orange; pygidial plate angled at 45°, with dense brown setae glinting coppery; wings nearly clear.

Material examined: Holotype only (in 1976).

Discussion: The single female of this species was illustrated by Bohart (1976:493). It is much more extensively orange and yellow than other known species.

***Neogorytes hansoni* R. Bohart, new species (Fig. 68)**

Female holotype: Length 10 mm. Black, marked with yellow, and fulvous. Fulvous are: mandible partly, F-I to IV in front, F-X in front, legs partly; yellow are: dot on scutellum, tibiae partly, tarsi mostly, T-I laterally and subapically, lateral dot on T-II; wings lightly stained, stigma orange, marginal cell brown. Pubescence fulvous, 1-2 MOD long on vertex and mesopleuron, 1-3 MOD on propodeum. Punctation moderate on clypeus, fine and close on frons, scutum, scutellum, terga; most other areas partly polished. LID (at vertex) 2.5x scape length, F-I to IV each 2x as long as broad; petiole 1.8x as long as broad; pygidial plate angled at 45°, densely black bristled.

Male: Length 9 mm. About as in female but tarsi fulvous, scutellum black; facial features as in Fig. 68, F-I to IV 1.6x as long as broad.

Holotype female (DAVIS): Zurqui de Moravia, San José, Costa Rica, 1600 m, VI-1993 (P. Hanson, Godoy). **Paratypes**, 9 males, 4 females (DAVIS, SAN JOSÉ I, WASHINGTON): topotypical but dated III to X.

Discussion: The practically all-black thorax (rarely a trace of yellow on pronotal collar), mostly or all-black T-I to VI, and nearly all black clypeus in both sexes, characterize the species. The specific name recognizes the collector, Paul Hanson.

***Neogorytes incaorum* R. Bohart, new species**

Female holotype: Length 10 mm. Black, marked with yellow: spot on lateral one-third of clypeus, scape in front, pronotal collar, lobe, upper mesopleural spot, scutum laterally, posterior half of scutellum, metanotum, 2 spots on propodeal enclosure, posterior spots on propodeum proper, spot on metapleuron, midtarsomeres III-IV, hindtarsomeres II to IV and base of V, T-I laterally and apically, T-II to V apical bands, S-I to V apical bands; fulvous are: F-I to V in front, femorotibial joint on fore- and midleg, foretarsus mostly; forewing brown in submarginal cell I, marginal cell, wing tip. Erect pubescence abundant, pale, fulvous on scutum. Punctation mostly fine, close. LID 2x scape length, F-I 2x as long as broad, II 1.5x; T-I 1.7x as long as broad; pygidial plate closely punctate and setose, angled at 45°, narrow at apex.

Male: Length 8.5 mm. Marked about as in female but tibiae and tarsi more extensively yellow, clypeus and propodeal enclosure black, spots on propodeum proper smaller.

Holotype female (LONDON): Chachapoyas, Amazonas, Peru, 2300 m, III-24-84 (M. Cooper). **Paratype,** male (WASHINGTON): Machu Picchu, Cuzco, Peru, XI-28-65 (H. and M. Townes).

Discussion: The extensive yellow markings, especially the prominent yellow bands on the abdomen, characterize the species. The specific name refers to the Incas of South America.

***Trachogorytes* R. Bohart, new genus (Figs. 179 to 181)**

Type species: *Trachogorytes costaricae* R. Bohart. Present designation.

Principal generic characters are listed below:

1. Female mandible massive, 3-toothed, frontal sulcus distinct (Fig. 179), clypeus weakly punctate.
2. Antennal sockets less than a diameter from clypeus.
3. Inner eye margins widely separated, essentially parallel (Fig. 179).
4. Acetabular carina absent, sternaulus absent, episternal sulcus foveolate and extending ventrally.
5. Prescutellar sulcus deep but not foveolate.
6. Female arolia small, subequal.
7. Female midtarsal I without unusual spur.
8. Scrobal sulcus complete from metapleuron to episternal sulcus.
9. Propodeal enclosure closely, finely areolate, no median groove (Fig. 180).
10. Mepleural posterior suture finely foveolate below, simple above.
11. Propodeum proper with lateral carina, closely punctate posteriorly, ridged laterally.
12. Hindwing media arising strongly curved well before cu-a, forewing submarginal cell II receiving neither recurrent vein.
13. Oblique scutal carina absent.
14. Spiracular sulcus absent.
15. T-I petiolate, 1.8x as long as broad (Fig. 181).
16. Male unknown.
17. Female pygidial plate shagreened, punctures coarse, slightly separated.

In several respects this genus is like *Neogorytes*: no sternaulus, scrobal sulcus abbreviated, episternal sulcus long and extending to mesopleural venter, no oblique scutal carina, no spiracular sulcus, subequal female arolia, petiolate T-I. However, there are several important differences in *Trachogorytes*: hindwing media arising well before cu-a, female mandible massive and 3-toothed, propodeal enclosure subareolate and without a median sulcus, forewing submarginal cell II receiving neither recurrent vein (both received by II in *Neogorytes*).

***Trachogorytes costaricae* R. Bohart, new species (Figs. 179 to 181)**

Female holotype: Length 10 mm. Black, marked with whitish, yellow, and light red. Whitish are: mandible except extreme base, clypeus except basal and apical margins, scape in front, lateral lines on lower frons, pronotal collar submedially, lobe slightly, tegula and posttegula partly, T-I apicolaterally and apically, sublateral spot on T-II; yellow are: legs mostly; light red are: femora in part, dorsally; wings generally lightly stained overall. Pubescence mostly fulvous, thick on mesopleuron below, longest on propodeum, laterally on T-I, T-II; many long black bristles on mandible. Punctation inconspicuous, but almost entire body shagreened; mesopleuron and propodeum proper finely striate, propodeal enclosure finely areolate. Mandible massive, clypeus 3x scapal length, LID 2.8x; F-I 2.6x as long as broad, II 1.7x; petiole slender toward base, 1.8x apical breadth, foreleg without comb bristles, foretarsal I 4x as long as broad, 4 short preapical bristles; hindtibia dorsal (outermost) edge with row of 16

closeset short spines; pygidial plate angled at 45°, shagreened with coarse punctures about 1 PD apart.

Male: Unknown.

Holotype female (DAVIS): San Vito, Puntarenas, Costa Rica, III-1992 (Hanson and Godoy).

Discussion: The massive black-bristled mandible (Fig. 170), broad face, mostly black thorax, amber-colored wings, extensively striatiform pleuron, subreticulate propodeal enclosure, and slender petiole, mark this as a unique species. The absence of an oblique scutal carina and general body form is like a *Neogorytes*, but this species has the hindwing media arising well before cu-a. Also, the petiole is much more slender toward base than in any of *Neogorytes* species (Fig. 181).

Pterygorytes R. Bohart (Figs. 72 to 75)

Pterygorytes R. Bohart 1967:157. Type species: *Gorytes valens* W. Fox 1897:380. Original designation.

Important generic characters are listed below:

1. Female mandible 2-toothed, frontal sulcus well defined (Fig. 73).
2. Antennal sockets placed well above upper margin of clypeus (Fig. 73).
3. Inner eye margins converging toward clypeus, then diverging (Fig. 73).
4. Acetabular carina, omaulus, and sternaulus absent.
5. Prescutellar sulcus simple.
6. Female arolium enlarged on foreleg.
7. Female midtarsal I not unusually "spurred".
8. Scrobal sulcus joining episternal sulcus but without an anterior segment (Fig. 72).
9. Propodeal enclosure punctate, no medial sulcus.
10. Metapleural posterior suture simple, metapleuron sharply constricted below (Fig. 72).
11. Propodeum proper punctate.
12. Hindwing media arising slightly before cu-a.
13. Oblique scutal carina present.
14. Spiracular sulcus absent on propodeum (Fig. 72).
15. T-I stout, S-I sharply swollen near base.
16. Male S-VIII stinglike, last 4 male flagellomeres specialized.
17. Female pygidial plate closely and coarsely setose.

This genus is known from a few specimens in 3 species, one of which is newly described below. These stout wasps have several features such as the absence of an omaulus or sternaulus, an abbreviated scrobal sulcus, a simple prescutellar sulcus, and an oddly shaped metapleuron (Fig. 72). The hardly bisected propodeal enclosure, and polished mediobasal triangle on T-III (sometimes hidden beneath II) are unusual, also.

Key to species of *Pterygorytes* R. Bohart

1. Terga black, lower face and foreleg mostly orange, female (Brazil, Trinidad)..... ..... *triangularis* (F. Smith)
-- Terga II-V with apical yellow bands, face and foreleg not orange 2
2. T-I black, mid- and hindtarsals II to V with basal whitish yellow bands (Fig. 75 (Brazil)..... *valens* W. Fox
-- T-I with apical yellow band, hindtarsals all ferruginous, female (Santa Catarina), Brazil (Fig. 74) ..... *plaumanni* R. Bohart, new species

Pterygorytes plaumanni R. Bohart, new species (Figs. 72, 73, 74)

Female holotype: Length 17.5 mm. Black, marked with yellow: face below antennae, scape in front, pronotal collar and lobe, tiny mesopleural spot below tegula, scutellum except two submedian black spots, metanotum across posterior two-thirds, elongate lateral spot on propodeal enclosure, foretibia and foretarsus in front, midcoxal and hindcoxal spot, narrow apical bands on T-I to V, and S-II to IV; reddish are: mandible mostly, scape and pedicel above, tegula, legs extensively, wing veins; forewing with light brownish-red stain in front one-third including medial, submarginal and marginal cells. Pubescence prominent and pale on clypeus, vertex, notum, pleuron, T-I, and sternal apices. Punctation fine and close on clypeus, notum, pleuron, abdomen; some coarse, scattered punctures on S-II. Facial features as in Fig. 73, LID equal to scape length, F-I 3.5x as long as broad, II 2x, pleural sulci as in Fig. 72; pygidial plate angled at about 45°, broadly rounded apically, with close dark bristles.

Male: Unknown.

Holotype female (DAVIS): Nova Teutonia, Santa Catarina, Brazil, II-1967 (F. Plaumann).

Discussion: The combination of yellow-banded terga and reddish rather than white-banded hindtarsomeres (Fig. 74) distinguish the species. It is named for Fritz Plaumann, who collected and sold a great number of Brazilian insects.

Pterygorytes triangularis (F. Smith)

Gorytes triangularis F. Smith 1873:408. Holotype female (seen), Pará, Brazil (LONDON).
Pterygorytes triangularis (F. Smith) of Bohart 1967:150.

Female (Trinidad): Length 17 mm. Black, marked with orange: mandible except apex, labrum, clypeus, scape, flagellum toward base, lower frons, long genal spot, prothorax below lobe, foreleg mostly (some brown); forewing anteriorly one-half black. Punctation generally fine, close, clypeus with dense moderate punctures. LID 1.5x scapal length, F-I 3x as long as broad, II 2x; V-shaped mark at base of T-III with many transverse ridges; pygidial plate angled at 50°, densely black bristled.

Male: Unknown.

Material examined: Holotype; female above (DAVIS): Maracas Valley (above Loango), Trinidad, V-15-97 (A. W. Hook).

Discussion: Characteristics are the large size, orange lower face and foreleg, half-black forewing, and black abdomen. Smith's holotype has the metanotum and propodeal enclosure yellow, but this may be a local variation.

Pterygorytes valens (W. Fox) (Fig. 75)

Gorytes valens W. Fox 1897:380. Lectotype female (seen), designated by Bohart 1967:159, "Chapada da Santa Anna, Mato Grosso", Brazil (PITTSBURG).
Pterygorytes valens (W. Fox) of Bohart 1967:150.

Female (Brazil): Length 16 mm. Black, marked with yellow: face below antennae, scape in front, femora and tibiae partly, foretarsus mostly, mid- and hindtarsals II to V basally (Fig. 75), T-II to V with apical bands; forewing cells lightly stained. Punctation mostly moderate and close, punctures of propodeal enclosure 1 PD apart or less. Clypeus with close small punctures and long, erect, pale hair, also present on propodeum. LID about equal to scape length, F-I 3x as long as broad, II 2x; flagellum somewhat clubbed; S-II protuberant subbasomedially; pygidial plate angled at 50°, densely coppery setose.

Male (Brazil): Length 13 mm. Marked as in female. Clypeus somewhat depressed medially. F-I 2x as long as broad, II-III 1.2x; IX-XI reddish beneath, XI 2x as long as broad and curved.

Material studied (all from Brazil): Male (DAVIS): Nova Teutonia, Santa Catarina (F. Plaumann); female (DAVIS): Santa Teresa, Espirito Santo; female (DAVIS), Araxa, Minas Gerais.

Discussion: This medium large gorytin has yellow apical bands on T-II-V, all-black thorax, and basal pale bands on mid- and hindtarsals II to V (Fig. 75). The male is the only one of that sex that I know in the genus.

Sphecius Dahlbom (Figs. 76 to 79)

Sphecius Dahlbom 1843:154. Type species: *Sphex speciosus* Drury 1773. Monotypic.

The subgenus *Sphecius* occurs in the New World. Its principal features are as follows:

1. Female mandible 2-toothed.
2. Antennal sockets placed moderately above upper margin of clypeus (Fig. 77).
3. Inner eye margins slightly narrowed toward clypeus (Fig. 77).
4. Acetabular carina and sternaulus absent.
5. Prescutellar sulcus foveolate.
6. Female arolia subequal.
7. Female midtarsal I-II with unusual apical spurs (Fig. 78).
8. Scrobal sulcus joining episternal sulcus but without an anterior segment.
9. Propodeal enclosure punctate, medial sulcus weak.
10. Metapleural suture foveolate, metapleuron narrowed below.
11. Propodeum proper punctate.
12. Hindwing media arising far in front of cu-a (Fig. 76).
13. Oblique scutal carina present.
14. Spiracular sulcus absent on propodeum.
15. T-I quite stout; both sexes unusually large for gorytins.

16. Male S-VIII stinglike.
18. Female pygidial plate closely punctate.

The presence of an oblique scutal carina and an omaulus but no sternaulus or propodeal spiracle sulcus, scrobal sulcus extending only to vertical episternal sulcus, are important features. Taken together, they characterize the genus in the Americas. Only a single species is known from South America; also one from the Caribbean Islands. As far as known, prey of *Sphecius* are cicadas.

Key to New World *Sphecius* Dahlbom

1. Metanotum black 2
-- Metanotum red 3
2. Scutellum and scape red (U.S., Mexico) ..... *speciosus* (Drury)
-- Scutellum and scape black (Venezuela to Argentina) ..... *spectabilis* Taschenberg
3. T-IV-V (or VI in male) with yellow markings, F-II to VI in male distinctly convex beneath (U. S., Mexico) ..... *convallis* Patton
-- T-IV-V without yellow markings, F-II to VI in male not distinctly convex beneath4
4. T-I to III or rarely IV red with yellow markings (U. S., Mexico) ..... *grandis* (Say)
-- T-I to II or I to III all red (Cuba, West Indies, Florida) ..... *hogardii* (Latreille)

Sphecius hogardii (Latreille)

Stizus hogardii Latreille 1809:100. Holotype female, Greater Antilles (PARIS).
Hogardia rufescens Lepeletier 1845:289. Holotype female, Cuba (PARIS ?).
Sphecius hogardii bihamas Krombein 1953:17. Holotype male, South Bimini Island, Bahamas (NEW YORK).

Female (Cuba): Length 22 mm. Red, marked with yellow and black. Black are: mandible toward apex, F-II to IX, base of X, T-III to VI; yellow are: clypeus laterally, supraclypeal area; wings lightly stained, forewing costal area reddish. Pubescence fulvous, dense on notum. Punctures of head and thorax mostly fine and close, some scattered moderate punctures on frons, terga mostly polished but with moderate punctures on T-I and transverse lines of punctures on T-II to V; propodeal enclosure with close, fine punctures, medial sulcus weak; pygidial plate angled at 45°, with close moderate to fine punctation, broadly rounded at apex.

Male (Cuba): Length 17-19 mm. Similar to female.

Variation: 2 males from Bimini differ from the Cuban specimens mainly by having T-III to VI red to dark red. These are apparently subspecies *bihamas* Krombein.

Material studied: 5 males, 1 female (DAVIS), Guamá Cobre, Ote, Cuba, June (Alayo and Zayus); 2 males (DAVIS), North Bimini, Bahamas, VI-21-73 (J. G. Rozen).

Discussion: The overall red coloration easily differentiates the species. The distribution is apparently widespread in the Caribbean area. The species is known from the Greater Antilles, Santo Domingo, Florida, Cuba, and the Bahamas.

Sphecius spectabilis (Taschenberg) (Figs. 76 to 79)

Stizus spectabilis Taschenberg 1875: 360. Syntypes, male, female, "Brazil" (HALLE).
Sphecius spectabilis var. *nobilis* Brèthes 1910:281. Holotype male (seen), "Chacras de Coria", Argentina (BUENOS AIRES). New synonym.

Female (Catamarca, Argentina): Length 26 mm. Black, marked with yellow: clypeus except toward apex, supraclypeal sclerite, lower lateral frons (Fig. 77), pronotal lobe partly, large spots laterally on T-II-III; forewing extensively but lightly stained. Pleuron and propodeum with abundant long erect black hair. Punctation generally fine and close. F-I 5x as long as broad, II 2.5x, flagellum weakly clubbed; LID narrow, 1.2x scapal length; propodeal enclosure broad, median sulcus weak, punctate; pygidial plate angled at 40°, closely, finely punctate.

Male (Cayenne): Length 20 mm. Markings about as in female but spots of T-II-III smaller, pubescence of mesopleuron and propodeum pale rather than black.

Material studied: Male, near Kourou, Cayenne, X-7-76 (C. D. Michener); male, Caripito, Venezuela, VIII-22-42; 5 males, 4 females, Argentina: Punta de Vacus, Mendoza, II-14-66 (L. Stange); El Suncho, Catamarca, III-13-56 (N. Kuznozov); Santa Maria, Catamarca, XII-16-75 (R. M. Bohart); Andalgala, Catamarca, XII-24-71 (D. Brothers); Belén, Catamarca, II-1937; Campo del Pucará, Catamarca, II-7-78 (J. vander Vecht), Tafi del Valle, Tucumán (J. vander Vecht); Cuesta de la Aguadita, II-25-78 (J. vander Vecht).

Discussion: The differences in markings between *spectabilis* and variety *nobilis* seem to me too slight to warrant subspecies distinction.

Tanyoprymnus Cameron (Figs. 182 to 184)

Tanyoprymnus Cameron 1905b:373. Type species: *Tanyoprymnus longitarsis* Cameron = *Tanyoprymnus moneduloides* (Packard). Monobasic.

The principal generic characters are listed below:

1. Female mandible (and male) simple, antennae of both sexes clavate (Fig. 182).
2. Antennal sockets placed 1.5x socket diameter above clypeus.
3. Inner eye margins converging strongly below (Fig. 182).
4. Acetabular carina absent, sternaulus absent.
5. Prescutellar sulcus simple.
6. Female foretarsal arolium enlarged.
7. Female midtarsal I with slender apical spur.
8. Scrobal sulcus not extending anterior to juncture with episternal sulcus.
9. Propodeal enclosure smooth, not bisected medially (Fig. 183).
10. Metapleural posterior suture finely foveolate below.
11. Propodeum proper smooth, not polished.
12. Hindwing media arising well before cu-a.
13. Oblique scutal carina present.
14. Spiracular sulcus absent.
15. T-I not petiolate.
16. Male S-VIII broadly emarginate to apex.
18. Female pygidial plate broad, closely punctate.

The simple mandible, clavate antenna, converging inner eye margins, simple prescutellar sulcus, and absence of a sternaulus, make this monospecific genus unique.

Tanyoprymnus moneduloides (Packard) (Figs. 182 to 184)

Gorytes moneduloides Packard 1867:431. Holotype male, "Louisiana" (PHILADELPHIA).
Gorytes belfragei Cresson 1872:224. Holotype female, "Texas" (PHILADELPHIA).
Tanyoprymnus longitarsis Cameron 1905b:376. Holotype male, "Mexico" (PHILADELPHIA).

Female (Oaxaca, Mexico): Length 13 mm. Black, marked with pale yellow: clypeus, lower frons, scape and pedicel in front, pronotal collar, lobe, apicolateral scutal spot, metanotum, legs partly, T-I apicolaterally, apical bands on T-II to V, lateral spots on S-II to IV; wings very lightly stained, stigma brown. Punctures generally quite fine and close, a few macropunctures scattered on clypeus, frons, scutum, mesopleuron, terga, sterna. LID 0.7x scapal length; F-I 4.5x as long as broad, II 2.3x, IX 0.4x, flagellum clavate (Fig. 184), propodeal enclosure bounded laterally by simple sulci (Fig. 183); pygidial plate angled at 50°, closely punctate.

Male (El Salvador): Length 10 mm. Marked about as in female, clypeus partly black apically, T-VI-VII yellow, F-IX-X yellow-spotted ventrally, XI red.

Material examined: Many specimens from southern U. S., Mexico; male (DAVIS): 20 mi n. San Salvador, El Salvador; male (DAVIS): Quezaltepeque, El Salvador; female (SAN JOSÉ II): Palo Verde, Guanacaste, Costa Rica, VI-1991 (U. Chavarria); female (DAVIS): 23 mi s. Matias Romero, Oaxaca, Mexico.

Discussion: The clavate antennae, narrow LID, strongly constricted metapleuron below, and smooth but not bisected propodeal enclosure will distinguish the species from other gorytins with which it might be compared. It is the only known species of the genus.

Megistommum Schulz (Figs. 80 to 83)

Megalomma F. Smith 1873:405. Type species: *Gorytes elegans* F. Smith 1873:406. Nec *Gorytes elegans* Lepeletier 1832 = *Gorytes procerus* Handlirsch 1888, designated by Pate 1937:37. Nec *Megalomma* Westwood 1841.
Megistommum Schulz 1906:200. New name for *Megalomma* F. Smith 1873:405. Nec *Megalomma* Westwood 1841.

Principle generic characters are as follows:

1. Female mandible 3-toothed (Fig. 83).
2. Antennal sockets placed well above upper margin of clypeus (Fig. 81).
3. Inner eye margins converging strongly below (Fig. 81).
4. Acetabular carina absent, sternaulus complete.
5. Scutal-scutellar sulcus simple.
6. Female arolia subequal.
7. Female midtarsal I with strong, curved, apical "spur".
8. Scrobal-episternal sulcus nearly straight, sometimes obsolete anteriorly.
9. Propodeal enclosure smooth, median longitudinal sulcus foveolate.
10. Metapleural-propodeal suture simple.
11. Propodeum proper smooth.
12. Hindwing media arising well before cu-a.

13. Oblique scutal carina present.
14. Spiracular sulcus well defined on propodeum.
15. T-I 2-3x as long as apical breadth, pedunculate (Fig. 82).
16. Male S-VIII stinglike, S-III-IV-V apically fimbriate.
17. Female pygidial plate mostly smooth, sparsely punctate laterally (Fig. 80).

The status of the genus, its taxonomy and biology were discussed by Bohart and Menke (1976:503-504). Relationships with other genera in South America are given in the Generic Key. At this time 3 species are recognized in the South American tropical fauna, *nigriceps*, *politum*, and *procerus*; and 2 in the North American tropical fauna, *splendidum* and *evansi*.

The 5 species of *Megistommum* are endemic in the New World. Characteristics of the genus are especially the slender and pedunculate T-I; but also the usual presence of a scrobal-episternal sulcus leading to the omaulus, female mandible 3-toothed, hindwing media arising well before cu-a, and a posterolateral oblique scutal carina.

Key to *Megistommum* Schulz of America

1. Supraclypeal sclerite about as broad as high, T-I with abundant scraggly hair, scutum with 4 longitudinal yellow lines 2
-- Supraclypeal sclerite higher than broad (Fig. 81), other characters various 3
2. Metanotum yellow, T-II to IV medially brown, propodeal enclosure with anterior three-fifths yellow, posterior two-fifths black (Brazil) ..... *nigriceps* (F. Smith)
-- Metanotum and terga I to IV medially black, propodeal enclosure black with 2 oval yellow spots (Mexico to El Salvador) ..... *splendidum* (Handlirsch)
3. T-I with abundant scraggly hair (Fig. 81) terga black with strong yellow bands, scutum with 4 longitudinal yellow lines (Costa Rica) .... *evansi* R. Bohart, new species
-- T-I practically bare, other characters various 4
4. Body mostly black to dark brown, area just in front of spiracular sulcus yellow or yellowish brown (Brazil) ..... *politum* (F. Smith)
-- Body extensively reddish brown, pleuron mostly yellow (Ecuador to Argentina) ... . *procerus* (Handlirsch)

***Megistommum evansi* R. Bohart, new species (Figs. 80 to 83)**

Female holotype: Length 12 mm. Black, marked with yellow: mandible toward base, clypeus, lower frons and inner orbits, scape, outer orbits, pronotal collar and lobe, 4 longitudinal scutal stripes, scutellar band with anterior V-shaped indentation, lateral spots on metanotum and propodeal enclosure, propodeum proper except black sulci and mediolateral spot, pleuron and legs mostly, T-I at base and subapically, T-II with large basal spots and apical band (Fig. 82), T-III to V with apical bands, T-VI mostly, sterna mostly; F-III to X red; wings lightly yellowed, stigma light orange. Pubescence pale, inconspicuous except on propodeum and T-I where it is erect and as long as 3 MOD (Fig. 82). Punctation inconspicuous, body extensively polished. Facial features as in Fig. 81; foretarsal I with 2 preapical rake setae, scrobal sulcus not

continued in front of episternal sulcus; T-I 2x as long as broad; pygidial plate angled at 37°, polished, a few setal punctures (Fig. 80).

Male: Length 8-12 mm. About as in female.

Holotype female (FORT COLLINS): La Fortuna, Alajuela, Costa Rica, II-18-64 (H. E. Evans). **Paratypes**, all from Costa Rica: 2 females (FORT COLLINS, DAVIS): same data as holotype; female (NEW YORK): Los Diamantes, IV-23-44 (F. Schrader); female (WASHINGTON): Golfito, VIII-3-57 (A. S. Menke); female (DAVIS): Esquinas, Golfito, Puntarenas (P. and D. Allen); female (SAN JOSÉ I): near Pueblo Viejo, VIII-1992 (P. Hanson); female (SAN JOSÉ II): Albergue Cerro de Oro, Puntarenas, II-18-96 (L. Angulo); 8 males, 21 females (LOGAN, DAVIS): Finca Montezuma, near Rio Naranjo, Guanacaste, Costa Rica, X-20-91 (F. D. Parker); Bijagua, Alajuela, II-1991 (F. D. Parker).

Discussion: The extensively yellow *evansi* resembles *splendidum* (Handlirsch), also from Central America. However, the former has a narrower LID (Fig. 81), and a longer supraclypeal triangle (Fig. 81), as well as an angled scutellar mark. *M. splendidum* has an all-black metanotum, a shallower median groove on the propodeal enclosure, and the scrobal sulcus continued with the episternal sulcus to the omaulus.

The species is named for my friend Howard Evans, who collected the holotype and 2 of the paratypes.

Megistommum nigriceps (F. Smith)

Megalomma nigriceps F. Smith 1873:407. Holotype female (seen), "Brazil" (LONDON).
Megistommum nigriceps (F. Smith) of Bohart 1976:503.

Female: Length 11 mm. Black, marked with yellow and reddish brown. Yellow are: mandible toward base, clypeus, lower frons, scape in front, pronotum, 3 longitudinal scutal stripes and a narrow anteromedial spot, scutellum, metanotum, anterior half of propodeal enclosure, mesopleuron, propodeum proper except a black spot below enclosure, foreleg and midleg mostly, hindleg partly, T-I to IV with basal and apical bands, T-V-VI and all sterna mostly; reddish brown are: pedicel and F-I to V mostly, large medial area of T-I to IV, legs partly; wings reddish-yellow stained, marginal cell light brown. T-I with scraggly, long, erect hairs; frons, notum, and pygidial plate sparsely punctate, most other areas polished. LID equal to scape length, supraclypeal sclerite as broad as long, F-I 6x as long as broad, II 4x, foretarsal I with 2 preapical rake setae, scrobal-episternal sulcus continued forward to omaulus; pygidial plate angled at about 45°.

Material studied: Holotype only.

Discussion: This species (female) has the posterior part of the head (frons, vertex, occiput) black and the rest of the body yellow and partly reddish brown. The stout supraclypeal area and scraggly hair of T-I relate it to *splendidum* which is structurally quite similar. However, Central American *splendidum* is black in all the areas which are reddish brown in *nigriceps*. Also, the metanotum of *splendidum* is black instead of yellow.

Megistommum politum (F. Smith)

Megalomma politum F. Smith 1873:406. Holotype female (seen) "Brazil" (LONDON).
Hoplisus petiolatus Taschenberg 1875:369. Syntype females (2), "Rio de Janeiro", Brazil (HALLE). Synonymy by Bohart 1976:503.
Megistommum politum (F. Smith) of Bohart 1976:503.

Female (Brazil): Length 12 mm. Black to dark brown, marked with light brown and yellow. Light brown are: mandible mostly, pronotal lobe, legs extensively, metapleuron; yellow are: frons laterally, foretarsus mostly, mid- and hindtarsal I; forewing median cell and stigma yellow stained. Body mostly polished, T-I practically bare. LID quite narrow, about equal to length of scape; supraclypeal sclerite higher than broad; F-I 2.5x as long as broad, II 1.5x; pygidial plate angled at about 37°, without obvious punctation.

Male (Brazil): Length 12 mm. About as in female but LID a little less than scape length, legs more brownish yellow than light brown, T-I yellow basolaterally, T-II-III with narrow apical yellow bands, S-II to VI apically yellow. F-I 1.3x as long as broad, II 0.8x; flagellum nearly simple, cylindrical, fulvous in front from F-I to VIII.

Material studied: 34 males, 33 females (DAVIS), Nova Teutonia, Santa Catarina, Brazil, X, XII, I (Fritz Plaumann); female (LONDON), Pelotas, Rio Grande do Sul, Brazil, II-7-63 (C. Blezanko).

Discussion: T-I is practically bare in *politum* and *procerus*. The much darker *politum* has the pleuron black with a few reddish brown areas shining through. The nearly all-yellow pleuron of *procerus* allows easy separation. Some specimens of *politum* have a pair of narrow yellow streaks submedially on the scutum.

Megistommum procerus (Handlirsch)

Megalomma elegans F. Smith 1873:406. Holotype female (seen), "Brazil" (LONDON).
Gorytes procerus Handlirsch 1888:518. New name for *elegans* F. Smith 1873, preoccupied by *Gorytes elegans* Lepeletier 1832, described in *Arpactes*.
Megistommum procerus (Handlirsch) of Bohart 1976:504.

Female (Brazil): Length 13 mm. Yellow with brown markings: flagellum, upper frons, median and submedian longitudinal areas on scutum, T-I subapically, T-II medially, T-III broadly from base; forewing generally lightly stained. Body mostly polished. F-I 3x as long as broad, II 2x; LID a little less than scape length; supraclypeal sclerite higher than wide; pygidial plate angled at 40°, practically smooth.

Male (Argentina): Length 12 mm. About as in female. Scutellum with anteromedian black mark, hindtarsus darkened toward apex.

Material studied: 3 males, 15 females, Ecuador (Coca, Guayachil), Venezuela (Ocumare de la Costa), Brazil (Chapada), Bolivia (Mapiri), Peru (Tingo Maria, Ocayali), Argentina (Orán, Rio Pascado, Rosario de la Frontera).

Discussion: Some specimens are darker than others but they have the pleuron all yellow and T-I practically bare.

Megistommum splendidum (Handlirsch)

Gorytes splendidus Handlirsch 1888:513. Holotype female, "Huasteo", Mexico (GENEVA).
Gorytes centralis Cameron 1890:84. Syntype females (seen), Mexico, Guatemala. Synonymy by Bohart 1976:504.
Megistommum splendidum (Handlirsch) of Bohart 1976:504.

Female (Guatemala): Length 12 mm. Black with extensive yellow markings: mandible mostly, labrum, clypeus, scape, frons below antennae, pronotal collar, lobe, 4 longitudinal scutal stripes, scutellum in posterior two-thirds, 2 spots on propodeal enclosure, propodeum proper except black behind spiracular sulcus and medially, mesopleuron mostly, T-I-II basally and apically, T-III to V apically, sterna mostly; flagellum mostly light orange; forewing lightly stained, a little darker in marginal cell; LID a little more than scape length, F-I 4x as long as broad, II 2.5x; supraclypeal sclerite about a high as broad; propodeum with rather long hair, that on T-I long and scraggly; pygidial plate angled at 37°, a few punctures laterally.

Male (Mexico): Length 11 mm. About as in female. Flagellum nearly cylindrical, dark above on I to X, F-I 3x as long as broad, II 2.5x; T-II and following with rather long scraggly hair, S-II to IV with apical hair fringe.

Material studied: 47 males, 85 females; Mexico (Jalisco, Veracruz, San Luis Potosi, Puebla, Nueva Leon), Guatemala (Lake Amatitlan), Honduras (Dto. Atlantida), El Salvador (Quezaltepeque, Mt. San Salvador, Los Chorros National Park), Costa Rica (San José, Bijagua, Finca Montezuma, Colonias, Rio Naranjo).

Discussion: The extensive yellow markings of *splendidum* are found also in *evansi*. However, the latter has the supraclypeal sclerite higher than broad, and the propodeum has eyelike black marks as well as a narrower LID.

Leiogorytes R. Bohart, new genus (Figs. 87 to 90)

Leiogorytes R. Bohart, new genus. Type species: *Leiogorytes guerrero* R. Bohart, new species. Present designation.

Important characters are listed below:

1. Female mandible 3-toothed, frontal sulcus distinct, clypeus moderately but not coarsely punctate.
2. Antennal sockets about their diameter from clypeus; F-I-II each 2.1x as long as broad (Fig. 88) in male; F-I in female 2.5x.
3. Inner eye margins converging slightly toward clypeus, LID about equal to or greater than length of foretarsal I (Fig. 88).
4. Acetabular carina absent, sternaulus present in posterior one-third only, omaulus present.
5. Prescutellar sulcus foveolate.
6. Arolium of foreleg in female much larger than those of other legs.
7. Midtarsals I-II with weak "spurs" in female.
8. Scrobal and episternal sulci obsolescent (Fig. 87).
9. Propodeal enclosure smooth but with basolateral and medial foveolate sulci.
10. Metapleural posterior suture simple, weakly "stitched" above.
11. Propodeum proper mostly smooth.

12. Hindwing media arising well before cu-a.
13. Oblique scutal carina present.
14. Spiracular sulcus of propodeum present (Fig. 87).
15. T-I pedunculate, 2x as long as broad (Fig. 90).
16. Male F-VIII to XI nearly simple, VIII to X with small sensory spots (Fig. 89).
19. Male S-VIII narrow, almost stinglike, apically pubescent.

Discussion: The presence of an omaulus but absence of scrobal and episternal sulci, together with a weak spiracular sulcus on the propodeum and 3-toothed female mandible, mark *Leiogorytes* as an unusual gorytin. The pedunculate T-I is found also in *Lestiphorus*, the American species of which have a much stouter petiole, as well as a zone of short ridges on T-II basally. Also similar is *Megistommum*, the eyes of which converge more strongly toward the clypeus and the female foreleg arolium is not enlarged. The generic name is derived from the Greek "Leio" = smooth.

***Leiogorytes guerrero* R. Bohart, new species (Figs. 87 to 90)**

Male holotype: Length 11 mm. Black, marked with yellow: mandible toward base, labrum, clypeus, supraclypeal dot, inner orbit, scape in front, genal spot, pronotum mostly including collar, lobe, 4 longitudinal scutal stripes, tegula partly, scutellum (angularly narrowed below), metanotum, pleuron mostly, metapleural upper spot, propodeum laterally, apical bands on T-I to VI, T-II basally, S-I to III mostly, legs extensively; reddish are: F-I to VII in front; forewing lightly brown stained in cells: median, submarginal I-II, marginal. T-I with erect pale hair up to 2 MOD long (Fig. 90), S-I with short erect pale hair (Fig. 90). Punctation on clypeus close and fine, medium and scattered on frons, mostly epunctate elsewhere. Facial features (Fig. 88), LID 2x scape length, F-I-II each 2.1x as long as broad, VIII to X each with a median sensory spot (Fig. 89); supraclypeal sclerite broader than long.

Female paratype: Length 10 mm. Much as in male; flagellomeres broken off after I, which is 2.5x breadth; pygidial plate angled at 45°, punctures scattered.

Holotype male (LONDON): Omilteme, Guerrero, Mexico, 8000 ft., "Aug. H. H. Smith". **Paratype** female (LONDON): same data as holotype but also with label: "Godman-Salvin, 1905-1".

Discussion: The types resemble some more yellow species of *Pseudoplisus*, but the pedunculate T-I, broadly incomplete sternaulus, obsolete episternal and scrobal sulci, and nearly stinglike male S-VIII, are all quite different. The spiracular sulcus of the propodeum can be made out with some difficulty. The specific name is a noun derived from the type locality.

***Harpactostigma* Ashmead, new status (Figs. 84 to 86)**

Harpactostigma Ashmead 1899:299. Type species *Hoplisus velutinus* Spinola 1851:337, monobasic.

Important generic characters are listed below:

1. Female mandible 2-toothed.
2. Antennal sockets moderately above upper margin of clypeus (Fig. 85).

3. Inner eye margins moderately far apart and nearly parallel (Fig. 85).
4. Acetabular carina absent, sternaulus weakly indicated.
5. Scutal-scutellar sulcus foveolate.
6. Female arolium much enlarged on foreleg.
7. Female midtarsal I without "spur".
8. Scrobal sulcus absent in front of episternal sulcus.
9. Propodeal enclosure with irregular longitudinal carinulae, partly areolate.
10. Metapleural-propodeal suture areolate (Fig. 84).
11. Propodeum proper areolate, areolae extending to base laterally.
12. Hindwing media arising at cu-a.
13. Oblique scutal carina present.
14. Spiracular sulcus defined on propodeum (Fig. 84).
15. T-I slender, almost tubular (Fig. 86).
16. Male S-VIII narrowly bifurcate, S-III-IV-V with posterior fimbriae.
17. Female pygidial plate punctate.

The genus was treated as a synonym of *Oryttus* Spinola by Bohart and Menke 1976:52. However, there are several points of difference. In *Harpactostigma* the male hindleg arolium is not enlarged, male sterna III to V have apical fimbriae, the pronotal ridge is rounded and not appressed to the scutum, and T-I is subpedunculate as well as nearly tubular (Fig. 86). The New World *Oryttus* has a nearctic distribution; *Harpactostigma* is known only from Chile.

***Harpactostigma velutinum* (Spinola) (Figs. 84 to 86)**

Hoplisus velutinus Spinola 1851:337. (TURIN).
Oryttus velutinus (Spinola) of Bohart 1976:508.

Female: Length 10 mm. Black, marked with red and white. Red are: clypeus lightly, pedicel and flagellum mostly, legs mostly, T-I except narrowly at base; white are: scape in front, pronotal collar and lobe, T-I-II broad apical bands; yellow are: mandible medially, labrum, clypeal apex; forewing with median cell and submarginal I mostly clear; discoidal cell, submarginal II, marginal to wing apex dark brown. Punctation coarse and close on frons, scutum, coarse to areolate on mesopleuron, propodeum (Fig. 84). LID nearly 2x scape length (Fig. 85) F-I 4x as long as broad, II 2.5x; propodeal enclosure with oblique carinulae within areolation; similarly, spiracular sulcus evident among areolae.

Male: Length 9 mm. Markings and areolation about as in female but clypeus black, F-VIII to XI black, F-I 2.1x as long as broad, II 1.6x; S-III to V with long apical fimbriae.

Material studied (Chile): Male (DAVIS): 15 km sw. Pachingo, Coquimbo; female (DAVIS) Rinconada, Maipu, Santiago; female (DAVIS): Apoquindo, Santiago; 2 males, female (GAINESVILLE, DAVIS): Santiago.

Discussion: The heavily sculptured thorax (Fig. 84), together with the distinct spiracular sulcus and black, red and white markings make this a distinctive gorytin.

Tretogorytes R. Bohart, new genus (Figs. 91 to 94)

Tretogorytes R. Bohart. Type species: *Tretogorytes sinuosus* R. Bohart, present designation.

Principal generic characters are listed below:

1. Female mandible 2-toothed; clypeus nearly flat, with extensive fine punctation.
2. Antennal sockets about their diameter above clypeus (Fig. 92).
3. Inner eye margins converging slightly toward clypeus (Fig. 92).
4. Acetabular carina absent, sternaulus well developed.
5. Prescutellar suture foveolate.
6. Female arolium of foreleg larger than other arolia (Figs. 93-94).
7. Female midtarsal I with small spur as in II.
8. Scrobal sulcus bent downward toward omaulus where it joins episternal sulcus.
9. Propodeal enclosure smooth, bisected by and surrounded by foveolate sulci.
10. Metapleural posterior suture foveolate its whole length (Fig. 91).
11. Propodeum proper smooth except for transverse posterior foveolae posteromedially in form of a triangle.
12. Hindwing media arising well before cu-a.
13. Oblique scutal carina present.
14. Spiracular sulcus present, well defined on propodeum (Fig. 91).
15. T-I petiolate, 1.6x as long as apical breadth.
16. Male unknown.
19. Female pygidial plate densely setose.

In the above list numbers 3, 10, and 11 are unusual in Gorytini. Taken together they will separate the genus. Other differences are emphasized in the Key to Genera.

The first part of the generic name refers to the foveolate metapleuron: tretos, Greek for "perforated".

Tretogorytes sinuosus R. Bohart, new species (Figs. 91 to 94)

Female holotype: Length 11 mm. Black, light brown, and yellow. Light brown are: scape mostly, flagellum in front; tegula; wings extensively with reddish tint; trochanters, femora and tibiae mostly, S-II to IV toward base, S-V-VI; yellow are: labrum, clypeus with reddish tint, mandible medially, lower frons laterally, lower genal spot, tarsi mostly but somewhat reddish, lower lateral spot on propodeum plus a small posterior lateral spot, T-I laterally and leading to subapical band, narrow apical band on T-II, lateral spot on T-III, S-I extensively, S-II to IV across apex. Punctures of clypeus extensive but only few coarse ones; frons, scutum, and rest of thorax smooth but dull with micropunctation; terga also dull but T-V with few coarse punctures. Facial features as in Fig 92. F-I 2.8x as long as broad, II 2x; notal and propodeal dorsal sutures broadly foveolate, posterior metapleural suture broadly foveolate (Fig. 91). Propodeum posteromedially with triangle of ridges; T-I petiolate, about 1.5x as long as broad; pygidial plate striatopunctate except for smooth tip, angled at 40°.

Male: Unknown.

Holotype female (GAINESVILLE): Serra da Bocâina, S. J. Barreiros, São Paulo, Brazil, I-17-69 (C. Porter, A. Garcia). **Paratypes**, 2 females (CAMBRIDGE,

DAVIS): Serra dos Argáos, Teresopolis, Rio de Janeiro, Brazil, I-26-69 (C. Porter, A. Garcia).

Discussion: The well-defined pitting on the metapleuron along with the nearly flat clypeus, mostly black thorax, and weakly banded abdomen characterize the species. The specific name is a Latin adjective referring to the many bends in the posterior suture of the metapleuron.

Aroliagorytes R. Bohart, new genus (Figs. 95 to 99)

Aroliagorytes R. Bohart, new genus. Type species: *Gorytes imitator* Handlirsch. Present designation.

Principal generic characters are listed below:

1. Female mandible 2-toothed; clypeus moderately convex, with coarse medial punctures.
2. Antennal sockets about their diameter from clypeus, F-I-II unusually short (Fig. 96).
3. Inner eye margins converging toward clypeus (Fig. 96).
4. Acetabular carina absent, sternaulus well developed.
5. Prescutellar sulcus foveolate.
6. Female arolia of fore- and midlegs enlarged (Figs. 97 to 99).
7. Female midtarsal I with apical "spur" slightly larger than that of II.
8. Scrobal sulcus joining episternal sulcus anteriorly to form a slight downcurve.
9. Propodeal enclosure with medial and lateral foveolate sulci.
10. Metapleural posterior suture simple.
11. Propodeum proper mostly smooth.
12. Hindwing media arising well before cu-a.
13. Oblique scutal carina present.
14. Spiracular sulcus of propodeum present, well defined.
15. T-I petiolate, about 2x as long as apical breadth.
16. Male unknown.
17. Female pygidial plate densely setose (Fig. 95).

The combination of weakly downcurved scrobal-episternal sulcus, enlarged midleg and foreleg arolia in the female (Figs. 97 to 99), simple metapleural sutures, mostly smooth propodeum proper, well-defined spiracular sulcus, separate the genus from its relatives. The basal flagellomeres are unusually short (1.5x breadth).

The first part of the generic name calls attention to the unusual female arolia.

Aroliagorytes imitator (Handlirsch), new generic assignment (Figs. 95 to 99)

Gorytes imitator Handlirsch 1901:351. Female holotype (seen), Rio Grande do Sul, Brazil (VIENNA).

Neoplisus imitator (Handlirsch) of Bohart 1976:505.

Female holotype: Length 13 mm. Black, marked with yellow, brownish yellow, and reddish brown. Reddish brown are: large median clypeal spot, broadening apically (Fig. 94), flagellum in front, scape mostly, femora and tibiae inside, veins of forewing and membrane lightly, forewing stigma orange; yellow are: mandible ba-

sally, labrum, clypeus partly, scape partly, lower frons laterally, spot on lower half of metapleuron, legs mostly but dully, weak posterior bands on T-I to IV, sterna I-IV partly. Pubescence short, fulvous, dark on T-V. Punctation coarse toward middle of clypeus, quite fine on interocellar area, fine on terga but coarsening toward T-V. F-I-II-III each about 1.5x as long as broad; LID a little less than scape length (Fig. 92), supraclypeal sclerite broader than long, pygidial plate rather broadly rounded at apex, angled at about 45°, densely dark setose (Fig. 95).

Male: Unknown.

Material studied: Female holotype only (VIENNA), Rio Grande do Sul, Brazil (J. Stieglmayer).

Epigorytes R. Bohart, new genus (Figs. 100 to 108)

Epigorytes R. Bohart. Type species: *Gorytes procerulides* Strand 1910:153. Present designation.

Principle generic characters are listed below:

1. Female mandible 2-toothed, clypeus convex and coarsely punctate (Fig. 103).
2. Antennal sockets placed a diameter above clypeus, interocellar area with a median groove, often tuberculate (Fig 100).
3. Inner eye margins moderately converging toward clypeus (Figs. 102, 103).
4. Acetabular carina absent, sternaulus well developed.
5. Prescutellar suture foveolate.
6. Female arolia subequal.
7. Female midtarsal I with only slightly larger "spur" compared with II.
8. Scrobal sulcus bent downward in front after it joins episternal sulcus.
9. Propodeal enclosure smooth, bisected by and surrounded by foveolate sulci.
10. Metapleural posterior suture simple, weakly foveolate above.
11. Propodeum proper mostly smooth.
12. Hindwing media arising well before cu-a which is sharply curved distally.
13. Oblique scutal carina present.
14. Spiracular sulcus present, well defined on propodeum laterally.
15. T-I weakly petiolate, at least 1.5x as long as apical breadth.
16. Male S-VIII stinglike, 7 visible terga; F-VIII to X with ventral platelets (Fig. 101).
18. Female pygidial plate densely setose, angled at 50-60°.

Included species: *procerulides* (Strand 1910:153), *mimetes* (Handlirsch 1901:352), and 2 new species described below. *Epigorytes* differs from related genera as indicated in the Generic Key. The combination of extensively coarse clypeal punctation (Figs. 102, 103), a median groove on the interocellar area (Fig. 100), propodeum with a distinct spiracular sulcus, and a scrobal sulcus bent downward as it joins episternal sulcus on its way forward toward the omaulus, characterize the genus. The eye margins moderately converging below (Figs. 102, 103), petiolate abdomen, and stinglike male S-VIII are additional points of note. In addition to its unusual punctation, the clypeus is noticeably convex in both sexes. Also, the coarse interocel-

lar punctation may be raised into large tubercles. The generic name is Greek, meaning "on *Gorytes*".

Key to *Epigorytes* R. Bohart

1. Interocellar area brown, weakly tuberculate, female (Brazil, Argentina) ..... *mimetes* (Handlirsch)
-- Interocellar area with prominent yellow tubercles (Fig. 100) 2
2. T-II reddish brown with basal and apical yellow bands (Trinidad, Venezuela, Colombia, Paraguay, Argentina) ..... *procerulides* (Strand)
-- T-II base color (medial) black 3
3. Terga II to VI black without basal or apical yellow bands (Colombia) ..... *mocoae* R. Bohart, new species
-- Terga II to VI black with broad apical yellow bands, T-II also yellow basally, female (Costa Rica, Panama) ..... *flavidalis* R. Bohart, new species

Epigorytes flavidalis R. Bohart, new species

Female holotype: Length 12 mm. Black and yellow with some brown. Yellow are: mandible toward base, labrum, clypeus, scape, lower frons, interocellar area, vertex lateral spot, pronotal collar and lobe, 4 longitudinal scutal stripes, lateral spot on scutellum, metanotum, 2 spots on propodeal enclosure, pleuron mostly, propodeum anterior to spiracular sulcus, basal and apical bands on T-I-II, apical bands on T-III to V, sterna mostly, legs mostly; brown are: propodeum proper posteriorly; orange are: flagellum in front, forewing stigma, pygidial plate; forewing membrane light brown, paler toward apex. Punctation coarse on clypeus and on interocellar tubercles, integument mostly polished, T-V well punctured. F-I 2.4x as long as broad, II 1.9x; LID about equal to scape length; supraclypeal sclerite broader than long; foretarsal I 2x as long as broad, 3 short preapical rake setae; T-I 1.8x as long as apical breadth; pygidial plate angled at about 60°, densely setose.

Male: Unknown.

Holotype female (DAVIS): Golfo Dulce, 5 km w. Piedras Blancas, Puntarenas Costa Rica (P. Hanson). Paratypes, 8 females (SAN JOSÉ I, DAVIS): topotypes; 4 females (SAN JOSÉ I, DAVIS): LaSelva, Heredia, Costa Rica); female (WASHINGTON): Barro Colorado Island, Panama, IV-15-67 (R. D. Akre); 3 females (LOGAN, DAVIS): Bijagua, Alajuela, IV, V, X-1991 (F. D. Parker).

Discussion: The extensive yellow markings and relatively broad pygidial plate are distinctive.

The specific name refers to the extensive flavid markings.

Epigorytes mimetes (Handlirsch), new generic assignment

Gorytes mimetes Handlirsch 1901:352. Holotype female (seen), Rio Grande do Sul, Brazil (VIENNA).

Megistommum mimetes (Handlirsch) of Bohart 1976:503.

Female: Length 12 mm. Black, extensively marked with yellow: mandible basally, labrum, clypeus, broad lateral stripes on frons, spot on vertex laterally, scape in front, pronotal collar and lobe, 4 longitudinal scutal stripes, lateral scutellar spots, metanotum mostly, large oval with black center on each side of propodeum, 3 large spots on mesopleuron, 2 on metapleuron, 1 at base of propodeum, legs mostly (femora and tibiae partly dark brown), moderate apical bands on T-I to V, pygidium mostly, venter with apical bands on S-I to V; flagellum light orange in front; forewing lightly stained, stigma yellow. Clypeus coarsely punctate and convex, rest of body mostly polished. LID 1.4x scape length, F-I 2.5x as long as broad, II 1.9x; interocellar area with median groove between low tubercles, propodeal enclosure smooth on either side of median groove, lateral sulci foveolate; pygidial plate angled at about 55°, striatopunctate, narrowly upturned posteriorly.

Male: Unknown.

Material studied: Holotype and 3 females (DAVIS): Nova Teutonia, Santa Catarina, Brazil, I-19-68 (F. Plaumann); 3 females (DAVIS, TUCUMÁN, GAINESVILLE): Argentina: Instituto Alberti Leandro, Missiones, XI-19-69 (C. Porter); San Javier, Missiones, XI-12-71 (C. Porter); Las Marias, Corrientes, XI-7-71 (C. Porter).

Discussion: The 6 females listed above are considerably darker (browner) than the holotype. Three of them have the scutum all brown, one with faint yellow stripes, and 2 with slender scutal stripes. Apparently the species varies considerably in markings. All specimens have weak interocellar swellings on either side of a median groove, and have a broader than usual pygidial plate which is narrowed and upturned posteriorly. The interocellar area is dark.

***Epigorytes mocoae* R. Bohart, new species**

Female holotype: Length 11 mm. Black, marked with yellow: mandible basally, labrum, clypeus, scape, lower frons, interocellar tubercles, lateral spot on vertex, pronotal collar, lobe, 4 longitudinal scutal stripes, lateral spots on scutellum and metanotum, propodeal enclosure laterally, large areas basally and posteriorly on propodeum proper; legs mostly, T-I laterally, S-I partly; forewing lightly stained, darker in leading one-fourth. LID equal to scape length, F-I 2.5x as long as broad, II 1.8x, pygidial plate angled at 50°, coarsely striatopunctate. Genal area with prominent golden hair, some as long as 2 MOD.

Male: Length 9 mm. About as in female. T-I 1.7x as long as broad, II 1.5x.

Holotype female (LONDON): Villa Garzon (8 mi s. Mocoa), Putumayo, Colombia, VIII-25-78 (M. Cooper). **Paratype** male (LONDON): Mocoa, Putumayo, Colombia, IV-11-74 (M. Cooper).

Discussion: This species is the only one I have seen with all black T-II to VI. Otherwise, the yellow interocellar tubercles, wing staining, mostly yellow pleuron and legs, all resemble *procerulides* and *flavidalis*. The specific name refers to the Colombian locality Mocoa.

Epigorytes procerulides (Strand), new generic assignment (Figs. 100 to 103)

Gorytes procerulides Strand 1919:153. Holotype male (seen), Asuncion, Paraguay (BERLIN).
Megalomma melanoxanthum Schrottky 1911:127. Holotype male, Puerto Bertoni, Paraguay (destroyed). New synonym.
Megistommum procerulides (Strand) of Bohart 1976:503.

Female (Paraguay): Length 9 mm. Black, marked with dark brown, reddish brown, and yellow. Yellow are: mandible basally, labrum, clypeus, scape, frons laterally and below antennae, interocellar area, pronotal collar and lobe, 4 longitudinal scutal stripes, lateral spots on scutellum, metanotum, propodeum, pleuron mostly, legs mostly, T-I-II basally and apically, T-III apex weakly, S-I-II mostly, III to V apically; flagellum fulvous toward base; reddish brown are: T-I medially, II mostly; forewing including marginal cell lightly stained. Face (Fig. 103), LID 1.2x scape length; F-I 2.5x as long as broad, II 1.5x; interocellar area with 2 prominent yellow punctate swellings (Fig. 100); propodeal enclosure smooth on either side of black median sulcus, lateral sulci foveolate; pygidial plate angled at 50°, coarsely striatopunctate, posterior tip upturned.

Male (holotype): Length 9 mm. Much as in female. Face (Fig. 102), F-I-II each 1.3x as long as broad. Yellow stripes on scutum joined in front to form reverse "Us".

Material studied: Holotype male (BERLIN): Asuncion, Paraguay, XI-1904 (J. D. Anisits); female (CAMBRIDGE): Villarica, Paraguay (F. Schade), 2 females (TUCUMÁN, DAVIS), Cataractas de Iguazu, Missiones, Argentina, XI-9-70 (C. Porter, L. Stange); female (SÃO PAULO), no data; 2 females (DAVIS, LONDON): St. Augustine, St. George, Trinidad, VIII-13-76 (J. S. Noyes), VIII-1976 (F. D. Bennett); female (LONDON): Florencia, Caqueta, Colombia, XI-5-71 (M. Cooper).

Discussion: This species has some similarity to *flavidalis*. Both have scutal markings of 4 yellow stripes, yellow interocellar tubercles and yellow banding on one or more terga. However, in *procerulides* T-II is mostly reddish brown but T-III to VI are mostly dark brown. In *flavidalis* all the terga are black and yellow. Schrottky's *melanoxanthum* is the same as *procerulides* according to the description.

Leurogorytes R. Bohart, new genus (Figs. 104 to 112)

Leurogorytes R. Bohart. Type species: *Leurogorytes stangei* R. Bohart. Present designation.

Principal generic characteristics are as follows:

1. Female mandible 2-toothed (Fig. 108).
2. Antennal sockets placed well above upper margin of clypeus (Figs. 106, 107).
3. Inner eye margins moderately converging below (Figs. 106, 107).
4. Acetabular carina absent, sternaulus complete.
5. Prescutellar sulcus foveolate.
6. Female arolia subequal.
7. Female midtarsal I without unusual "spur" compared with II.
8. Scrobal sulcus bent downward where it joins episternal sulcus (Fig. 112).
9. Propodeal enclosure smooth, bisected by and surrounded by foveolate sulci.
10. Metapleural posterior suture weakly foveolate, "stitched" above.
11. Propodeum proper smooth.

12. Hindwing media arising well before cu-a.
13. Oblique scutal carina present.
14. Spiracular sulcus of propodeum distinct but fading below (Fig. 112).
15. T-I petiolate, 2x as long as apical breadth.
16. Male S-VIII concave at apex, with sharp corners (Fig. 111), male F-VIII to XI strongly modified.
17. Female pygidial plate with well-spaced punctures toward base (Fig. 110).

Leurogorytes differs from related genera as indicated in the Generic Key. Main characters are the smooth clypeus, polished pleuron and propodeum, latter with partial spiracular sulcus (Fig. 112), petiolate abdomen, scrobal sulcus joining episternal sulcus and bent before reaching omaulus (Fig. 112), flattened as well as distally concave male S-VIII (Fig. 111), and strongly modified male F-VIII to XI (Figs. 104, 105).

The name *Leurogorytes* is Greek, meaning "smooth *Gorytes*".

***Leurogorytes stangei* R. Bohart, new species (Figs. 104 to 112)**

Male holotype: Length 9 mm. Black, yellow, orange, and white. Yellow are: mandible except apex, clypeus, scape, pedicel, lower frons, including half of inner orbit, malar space and adjoining outer orbit below, pronotal collar and lobe, lateral and scutal stripe, scutellum, metanotum, mesopleuron mostly, propodeum proper beyond spiracular sulcus (except for posteromedial black stripe), propleuron, coxae, fore- and midtrochanters, fore- and midtibiae and tarsi except tarsomere V, ventral surface of hindfemur and hindtibia, broad apical bands on T-I to VII, basal band on T-II, apical bands on S-I to IV, lateral spot on S-V; white are: F-IX to XI ventrally (Fig. 105); orange are: flagellum mostly (darker beneath) on F-I to F-VII and F-VIII and IX above, hindfemur and hindtibia above, hindtarsus, T-I and T-II mostly, S-I and S-II extensively; wings reddish basally, mostly with light staining, marginal cell light brown. Clypeus strongly rounded over toward apex; midtarsal I incurved in front (Fig. 108).

Female: Length 10 mm. Pygidial plate yellow, angled at about 45° (Fig. 110), clypeus evenly convex, LID about equal to scape length.

Holotype male (DAVIS): Termas de Rio Hondo, Santiago del Estero, Argentina, IV-19-70 (L. Stange, C. Porter). **Paratypes**: 2 males, 5 females (TUCUMÁN, DAVIS): same data as holotype; female (DAVIS), topotypic, I-12-66 (L. A. Stange).

Discussion: The shape and markings of male F-VIII to XI are most unusual (Figs. 104, 105). A striking feature is the broad black area on the pleuron from the mesopleuron to the propodeal spiracular groove (Fig. 112). The specific name is in honor of the collector, my friend, Lionel Stange.

***Lestiphorus* Lepeletier**

Lestiphorus Lepeletier 1832:70. Type species: *Crabro bicinctus* Rossi 1794, monotypic.
Hypomellinus Ashmead 1899:299. Type species: *Gorytes rufocinctus* W. Fox 1893 = *Gorytes piceus* Handlirsch 1888; original designation.
Mellinogastra Ashmead 1899:300. Type species: *Gorytes mellinoides* W. Fox 1896, original designation.

Principal generic characteristics are as follows:

1. Female mandible 2-toothed.
2. Antennal sockets placed close to upper margin of clypeus.
3. Inner eye margins widely separated, nearly parallel.
4. Acetabular carina absent, sternaulus incomplete.
5. Prescutellar sulcus foveolate.
6. Female foreleg arolium enlarged.
7. Female midtarsal I not unusually "spurred" apically.
8. Scrobal sulcus weakly defined, absent anteriorly.
9. Propodeal enclosure large and longitudinally carinulate.
10. Metapleural-propodeal suture simple, sometimes "stitched" above.
11. Propodeum proper punctate or somewhat striate.
12. Hindwing media arising close to cu-a.
13. Oblique scutal carina present.
14. Spiracular sulcus absent on propodeum.
15. T-I pedunculate, not unusually slender, with a short zone of longitudinal carinae at base.
16. Male S-VIII bispinose at apex.
17. Female pygidial plate punctate or striatopunctate.

The status of the genus, its taxonomy and biology were discussed by Bohart and Menke (1976:505-506). Relationships with other genera in South America are given in the Generic Key. Although only a single species is known from the South American fauna, the distribution of the genus includes North America, Eurasia, the Oriental Region, and a single species from the Ethiopian Region. *Lestiphorus* species are noted for the long antennae, pedunculate T-I, position of the hindwing media, broad face, and nearly obsolete spiracular sulcus. In features such as numbers 1, 2, 3, 5, 7, 8, 10, 12, 13, 14 listed above. *Lestiphorus* is similar to *Hoplisoides*. On the other hand, numbers 4, 6, 9, 15, and 16 indicate a generic distinction.

Lestiphorus sericatus (F. Smith)

Gorytes sericatus F. Smith 1856:363. Holotype female (seen), Pará, "Villa Nova", Brazil (LONDON).

Lestiphorus sericatus F. Smith of Bohart 1976:506.

Discussion: My notes on the holotype, made in 1960 are: "a dark *Lestiphorus* with spotted forewing, areolate propodeum, polished pygidial plate, and striate propodeal enclosure".

Psammaletes Pate (Figs. 185 to 189)

Psammaletes Pate 1936:49. Type species: *Gorytes bigeloviae* Cockerell and Fox 1897, original designation.

Important generic characters are listed below:

1. Female mandible 2-toothed (Fig. 185).
2. Antennal sockets placed close to upper clypeal margin.
3. Inner eye margins broadly separated, nearly parallel (Fig. 185).
4. Acetabular carina absent.

5. Prescutellar sulcus foveolate.
6. Female foretarsal arolium enlarged, foretarsal I with 3 preapical rake setae.
7. Female midtarsal I not unusually "spurred."
8. Scrobal-episternal sulcus represented by a posterior scrobal pit.
9. Propodeal enclosure with complete longitudinal carinulae (Fig. 189).
10. Metapleural posterior sulcus weakly foveolate, "stitched" above.
11. Propodeum proper with medium to coarse punctures beyond spiracle.
12. Hindwing media arising at or slightly before cu-a (Fig. 188).
13. Oblique scutal carina present.
14. Spiracular sulcus foveolate, developed above only, shorter than scape length.
15. T-I strongly pedunculate, 1.5x as long as broad (Fig. 186).
16. Male S-VIII stinglike, last 4 flagellomeres specialized, male T-VII visible.
17. Female pygidial plate sparsely punctate or closely striatopunctate.

Psammaletes has T-I stoutly pedunculate and is similar to *Lestiphorus* in this respect. However, the latter has the pleuron mostly smooth, and T-II has a short zone of longitudinal carinae at the base. All species of *Psammaletes* have some wing staining. In *bigeloviae* this is confined to the marginal cell and most of submarginal cells I-II. In *schlingeri* only the marginal cell is brown. In *crucis* there is widespread staining but the median cell and submedian cell I are mostly clear. In *mexicanus*, *brasiliae* and *hooki* the leading part of the forewing is stained. In *floridicus* the forewing is extensively stained, not just the leading part. All females have the foretarsal arolium enlarged.

The only strictly neotropical *Psammaletes* are those from Costa Rica to Panama, Brazil, and Trinidad. However, in order to flesh out the genus, it seems expedient to describe the other species, which can be considered subtropical, and to include them in a key. At this time the genus embraces 8 species.

Key to species of *Psammaletes* Pate

1. Hindtarsus black 2
-- Hindtarsus mostly yellow to orange 5
2. Forewing with one-fourth to one-third of leading edge dark brown 3
-- Forewing with dark clouds mostly restricted to marginal cell and/or submarginal I-II 4
3. Mesopleuron and T-II to IV (at least) black; scutellum and metanotum black; female (Brazil) ..... *brasilae* R. Bohart, new species
-- Mesopleuron and T-II-IV (at least), marked with yellow, female (Trinidad) ..... *hooki* R. Bohart, new species
4. Foreleg not differently marked from midleg, male (New Mexico, Arizona, s. California, Baja California ..... *bigeloviae* (Cockerell and W. Fox)
-- Foreleg mostly red in contrast to black and pale yellow (or whitish) of midleg (sw. New Mexico, s. Arizona, s. California, Durango in Mexico) ..... *schlingeri* R. Bohart, new species
5. Forewing almost wholly brown clouded, metanotum reddish, scutum nearly all red ..... *floridicus* R. Bohart, new species

-- Forewing not wholly brown clouded, metanotum black or yellow, scutum various6
6. Mesopleuron and propodeum proper uniformly rust red, female pygidial plate smooth with separated oval punctures, medial cell and submarginal I partly clear (North Dakota, Nebraska, Kansas, New Mexico, e. Colorado, e. Arizona, Zacatecas in Mexico) ..... *crucis* (Cockerell and W. Fox)
-- Mesopleuron and propodeum proper not uniformly rust red, marked with yellow and/or black, female pygidial plate various..... 7
7. Mesopleuron mostly yellow and rust red, female pygidial plate smooth with well separated punctures (Arizona).....*arizonicus* R. Bohart, new species
-- Mesopleuron black and yellow, female pygidial plate closely striatopunctate except for smooth apex 8
8. Vertex with lateral yellow spot or band connected with orbital marks; scutum with parallel, submedial yellow stripes (Honduras, El Salvador, Costa Rica, Panama) ... .*costaricae* R. Bohart, new species
-- Vertex black or dull reddish, yellow orbital marks not extending up beyond ocellar triangle, scutum mostly black or black and red (e. U. S.; Louisiana; Texas in Bastrop Co., Travis Co., eastern Arizona; Mexico (San Luis Potosi, Sinaloa, Michoacan)) ..... *mexicanus* (Cameron)

***Psammaletes arizonicus* R. Bohart, new species**

Female holotype: Length 13 mm. Rust red, black, and yellow. Yellow are: mouthparts, labrum, apical one-half of clypeus, mandible on basal two-thirds, antenna mostly in front, spot below midocellus, inner and outer orbits, pronotal collar, lobe, large mesopleural spot beneath, scutum laterally, obscure submedian scutal stripe, scutellum mostly, metanotum, large lateral propodeal spot, legs extensively, T-I laterally and apically, apical bands on T-II to VI and S-I to VI, those on S-IV to VI broken medially; black are: mandible apically, scutellum anteriorly, propodeal enclosure redly, propodeum proper medioposteriorly; forewing brown on anterior one-half, costa and stigma orange, and subdiscoidal and discoidal II cells practically clear. Punctures coarse and about 1 PD apart on basal one-half of clypeus, scutum, mesopleuron; coarse and mostly close on frons, propodeum proper; fine and scattered over most of abdomen. LID (at midocellus) 2x scape length; F-I 5x as long as broad, II-III 3x; propodeal enclosure with about 20 longitudinal carinules, 1.5x as broad as long; pygidial plate angled at 50°, sparsely punctate.

Male: Length 10 mm. Marked about as in female but more extensively yellow, clypeus and lower frons all yellow; F-I 3x as long as broad, II 2.5x, VIII to XI not unusually swollen, VIII concave beneath, IX-X flattened beneath.

Holotype female (DAVIS): 3 mi e. Portal, Cochise Co., Arizona, VIII-13-65 (M. E. Irwin). **Paratypes**, 3 males, 2 females (NEW YORK, DAVIS): Portal, Cochise Co., Arizona, VI-30-63 (A. Raski), VII-8-63 (A. Raski), VII-16-63 (M. A. Cazier, et al.), VIII-16-74 (M. and T. Favreau), VIII-19-79 (R. M. Bohart).

Discussion: The yellow and red mesopleuron, and red or red and yellow area in front of the omaulus, together with the mostly smooth but punctate female pygidial plate characterize the species.

***Psammaletes bigeloviae* (Cockerell and W. Fox)**

Gorytes bigeloviae Cockerell and W. Fox 1897:139. Holotype male, Mesilla Valley, New Mexico (PHILADELPHIA).

Male (Granite Gap, New Mexico):f Length 8 mm. Black, marked with red and whitish. Whitish are: labrum, semilateral clypeal dot, scape in front, frons laterally, pronotal collar, lobe, small mesopleural spot beneath, scutellum, metanotum, small spot high up on propodeum proper, outer apical spots on fore- and midfemur, outer surface of fore- and midtibia, outer basal spot on hindtibia, apical bands on T-I to V, lateral spot on S-II; red are: mandible medially, flagellum in front dully; forewing cloud brown on marginal cell, most of submarginal cell II and submarginal cell III. Punctures moderate and separated on clypeus, frons; coarse, slightly separated on scutum, mesopleuron; moderately coarse and close on propodeum proper posteriorly; moderate, 1-2 PD apart on terga and sterna. F-I 3x as long as broad, II 2.5x; propodeal enclosure with about 12 longitudinal carinules.

Female: Unknown.

Material studied: Male (TUCSON): Marana, Arizona, VII-5-57 (G. D. Butler); male (DAVIS), Phoenix, Arizona, VII-15-36; male (DAVIS): Granite Gap, 18 mi n. Rodeo, New Mexico, IX-7-76 (R. M. Bohart); male (DAVIS): Del Mar, San Diego Co., California, VII-10-63 (E. I. Schlinger); male (SAN FRANCISCO): San Pedro, Baja California, Mexico, X-7-41 (E. Ross, G. Bohart).

Discussion: The black and whitish legs, with unmarked tarsi, basally black mandible, closely punctate propodeum posteriorly, mostly black pleuron, and restricted forewing cloud, characterize the species. Although the female is unknown, it is expected that it has the 3 pair of legs similarly marked.

***Psammaletes brasilae* R. Bohart, new species**

Female holotype: Length 13 mm. Black, marked with yellow and light brown. Yellow are: interantennal area, orbits narrowly below level of midocellus, femora and tibiae of fore- and midlegs partly, u-shaped margin of T-I, scape, pedicel and F-I in front; light reddish brown are: labrum, transverse clypeal mark, F-II and following in front, pronotal lobe, lateral edge of scutum, legs partly, tarsi mostly, hindtarsus darker, leading one-fourth of forewing, elliptical mark laterally on propodeum, wing veins. Pubescence obscure. Punctation fine and close on head and prothorax, a little more coarse but close on mesonotum and propodeum posteriorly, pleura semipolished and with longitudinal striae below wing base. LID 2.2x scape length, F-I 5x as long as apical breadth, II 3x; propodeal enclosure with fine and complete carinulation; pygidial plate angled at 45°, striatopunctate except for smooth apex.

Male: Unknown.

Holotype female (DAVIS): 52 km se. Ariquemes, Rondonia, Brazil, XI-20-94 (W. J. Hanson).

Discussion: This species is the darkest one that I have seen. The mandible, most of the thorax, and the abdomen beyond T-I are all black. The wing markings and dark hindtarsus ally it to *hooki*, but *brasilae* is a much darker species.

The specific name is dedicated to Brazil, the country of origin.

***Psammaletes costaricae* R. Bohart, new species**

Female holotype: Length 10 mm. Black, marked extensively with yellow: labrum mostly, mandible toward base, clypeus except basally, frons including supraclypeal area and lateral eye margins extending to vertex where they nearly touch medially, medial dot on frons, gena mostly, pronotal collar, lobe, scutum with longitudinal spots laterally and submedially, scutellum, metanotum, large lateral spot on propodeum proper, pleuron mostly except metapleuron and black streak below spiracle, legs mostly, stout apical bands on T-I to VI, S-I completely, apical bands on S-II to V; light red are: flagellum in front, most wing veins, legs partly, including areas beneath otherwise yellow tarsi, S-VI; forewing cloud light brown on marginal cell, submarginal II, submarginal III on leading two-thirds; medial cell, submarginal cell I, and discoidal cell I weakly reddish. Punctures across clypeal bulge, on scutum, mesopleuron coarse and about 1 PD apart; those on frons fine, obscured with micropunctation, those on propodeum proper mostly medium and well separated in yellow area: those on T-II fine to medium, well separated, those on T-III and following more dense. LID 2x scape length, F-I 5x as long as broad, II 3x; propodeal enclosure with compete longitudinal carinulae; pygidial plate angled at 45°, striatopunctate except for smooth apex.

Male: Length 9 mm. About as in female.

Holotype female (WASHINGTON): Puntarenas, Monteverde area, Costa Rica, VI-14-73 (Erwin and Hevel). **Paratypes**, 2 males (DAVIS): San José, Costa Rica, XI-24-74 (D. W. Strasburg); male (DAVIS): 7 mi se. Liberia, Costa Rica (Scullen and Bolinger); female (SAN JOSÉ II): Rincon de la Vieja, Guanacaste, Costa Rica, IX-14-92 (C. Cano); female (SAN JOSÉ II): Santa Rosa National Park, Guanacaste, Costa Rica, VI-28-92; female (SAN JOSÉ II): 31 km n. Liberia, Guanacaste, Costa Rica, VI-1988; female (SAN JOSÉ II): 3 km n. Nacaome, Costa Rica, V-30-93 (M. Reyes); male (DAVIS): Amatitlan, Guatemala; female (CAMBRIDGE): Tegucigalpa, Honduras, VIII-2-17 (F. J. Dyer); female (DAVIS): Quezaltepeque, El Salvador, VII-12-61 (M. E. Irwin); pair (DAVIS): Las Cumbres, Panama Prov., Panama, VIII-25-82 (H. Wolda).

Discussion: The submedial yellow scutal stripes, extension of the orbital yellow marks onto the vertex, and the densely striatopunctate female pygidial plate, characterize the species.

The species name is derived from Costa Rica, where it is relatively abundant.

***Psammaletes crucis* (Cockerall and W. Fox)**

Gorytes crucis Cockerell and W. Fox 1897:140. Holotype female, Las Crucis, New Mexico (PHILADELPHIA).

Hypomellinus venustus Mickel 1916:403. Holotype male, Harrison, Nebraska (LINCOLN). Synonymy by Pate (1936).

Hypomellinus tricinctus Mickel 1916:404. Holotype female, Omaha, Nebraska (LINCOLN). Synonymy by Pate (1936).

Female (Roggen, Colorado): Length 11 mm. Rust red, marked with yellow and dark brown. Yellow are: scutellum, metanotum partly, stout apical bands on T-I to III,

lateral spot on S-II; dark brown are: T-III basal to yellow band, T-IV-V; forewing extensively stained but medial and submarginal cell I mostly clear. Also, subdiscoidal and discoidal cell II is posteriorly clear. Punctures across clypeal bulge, on scutum, mesopleuron, propodeum, moderate to coarse; those on T-II and following moderate, 1-2 PD apart. F-I 5x as long as broad, II 3x; female pygidial plate smooth, with well separated oval punctures.

Male: Length 10 mm. About as in female but lower face mostly yellow, T-IV to VI mostly yellow, propodeal enclosure black.

Material studied: 8 males, 3 females, North Dakota, Nebraska, Kansas, Colorado, Arizona; also, in Mexico: Chihuahua, Zacatecas.

Discussion: The extensive rust-red coloration, particularly in the female, partial clouding of the forewing, and punctate rather than striatopunctate female pygidial plate, are characteristic.

***Psammaletes floridicus* R. Bohart, new species**

Female holotype: Length 13 mm. Black, rust red, and yellow. Black are: pleuron mostly, propodeal enclosure, propodeum proper medioposteriorly; yellow are: pronotal collar and lobe partly, scutellum on posterior one-half, T-I to IV apical bands, S-II partly; wings extensively brown stained, stigma orange. Punctures coarse and mostly about 1 PD apart on clypeus, frons, scutum, mesopleuron; coarse and close on propodeum proper posteriorly; medium and separated by 1 PD or less on abdomen. LID (at midocellus) 2x scape length; F-I 5x as long as broad, II-III 3x; propodeal enclosure with about 18 longitudinal carinules, 1.5x as broad as long; pygidial plate angled at 50°, rounded apically, closely striatopunctate except for smooth apex.

Male: Length 11 mm. Marked about as in female but face all yellow below antennae, scape yellow in front. F-I 3x as long as broad, II-III 2.5x; F-VIII to XI slightly enlarged, VIII concave beneath, IX-X flattened beneath.

Holotype female (GAINESVILLE): Archbold Biological Station, Highlands Co., Florida, V-27-79 (H. V. Weems). **Paratypes**, 5 males, 3 females (GAINESVILLE, DAVIS, NEW YORK): topotypes, IV-V (H. V. Weems, M. A. Dayrup, L. K. Klein, F. E. Lohrer, S. Halkin, J. G. and B. L. Rozen); 2 males, female (GAINESVILLE, DAVIS): Gainesville, Florida, V, VII (F. W. Mead, H. V. Weems, G. B. Fairchild); male (WASHINGTON): Enterprise, Florida, IV; female (DAVIS): Sunshine, Louisiana, VII-5-72 (V. A. Brou).

Discussion: The extensively stained wings; mostly red frons, gena, scutum, metanotum, propodeum proper, and legs; along with the striatopunctate female pygidial plate, characterize the species.

***Psammaletes hooki* R. Bohart, new species (Fig. 185 to 189)**

Female holotype: Length 12 mm. Black, marked with yellow: face (Fig. 185), labrum, apical one-half of clypeus, mandible medially, scape to F-I in front, supraclypeal sclerite, inner orbit, pronotal collar, lobe, spot beneath, small lateral scutal spot, scutellum; metanotum medially, large posterolateral propodeal spot, legs partly, hind-

tarsus black, apical bands on T-I to IV, medial area of S-I, lateral traces of bands on S-II-III; F-II to X light red in front; forewing dark brown in leading one-third, stigma deep orange, subdiscoidal and discoidal II cells clear. Punctures coarse across middle of clypeus, mostly fine on frons, coarse on scutum and about 1 PD apart, moderate and 2-3 PD apart on mesopleuron and propodeum proper, fine and 1-3 PD apart on T-II, closer on T-III to V which are partly shagreened. LID (at midocellus) 2.1x scapal length, F-I 5x as long as broad, II 3.5x, III 3x (Fig. 187); propodeal enclosure with about 20 longitudinal carinules, 1.6x as broad as long; pygidial plate angled at 45°, rounded apically, closely striatopunctate except for smooth apex.

Holotype female (DAVIS): near Mt. St. Benedict, Trinidad, X-29-96 (A. W. Hook).

Discussion: The black hindtarsus, basally black mandible, generally black and yellow markings, well-spaced propodeal punctures, and closely striatopunctate pygidial plate, characterize the species.

The species is named for Allen Hook, who has sent me much interesting gorytin material.

Psammaletes mexicanus (Cameron)

Gorytes mexicanus Cameron 1890:76. Holotype female (seen), Mexico (LONDON).
Psammaletes pechumani Pate 1936:53. Holotype female (seen), The Bronx, New York City, New York (PHILADELPHIA). Synonymy by R. M. Bohart 1976:508.

Female (San Luis Potosi, Mexico): Length 10 mm. Black, marked with yellow and orange to dark red. Yellow are: mandible medially, labrum, scape in front, pedicel, F-I partly, supraclypeal area, orbit to point opposite midocellus, pronotal collar, lobe, mesopleural spot beneath, scutum laterally, scutellum, large lateral propodeal spot, fore- and midfemur beneath, apical bands on T-I to IV, lateral spots on S-II-III; orange red are: clypeus, flagellum mostly, legs mostly; dark red are: edging of yellow bands on T-I to III, most of T-IV to VI, S-IV to VI; forewing generally clouded on one-half of leading edge but medial cell mostly clear, submarginal cell III posteriorly so; propodeal enclosure with about 20 longitudinal carinules; pygidial plate closely striatopunctate except for smooth apex.

Male: Length 7-10 mm. Mandible and lower face mostly yellow.

Variation: Some males and females with scutum and T-II mostly red, some males with apical yellow on T-I to VI.

Material studied: Holotypes of *mexicanus* and *pechumani*; 5 males, 7 females, New York (Long Island, Lynbrook), Maryland (Montgomery Co.), Washington (D. C.), Georgia (Cornelia), Illinois (Jackson Co.), Texas (Travis Co., Bastrop Co.). Also, studied: 1 male, 4 females from Mexico: Sinaloa (Choix), Tamaulipas (19 mi s. Ciudad Victoria), San Luis Potosi (El Salto Falls), Guadalajara, Michoacan (Carapa).

Discussion: This species has the pleuron black with yellow spots on the mesopleuron and propodeum laterally. The legs are a mixture of black, yellow, and red. Many specimens have red on the vertex, scutum, and various terga. Those from eastern U. S. are mostly black and yellow except for the extensively red legs.

***Psammaletes schlingeri* R. Bohart, new species**

Female holotype: Length 9 mm. Black, whitish yellow, and red. Whitish yellow are: mandible medially, scape in front, pronotal collar, scutellum, medial dot on metanotum, small spot high up on propodeum proper, foretrochanter and femur partly, midfemur apically beneath, stout apical bands on T-I to IV, median dot on T-V, lateral spot on S-II; bright red are: foreleg almost entirely; flagellum light red in front; wings mostly clear, forewing marginal cell brown. Punctures coarse and slightly separated on frons, scutum, mesopleuron, moderately coarse and dense on propodeum proper posteriorly, moderate and 1-3 PD apart on abdomen. F-I 5x as long as broad, II 3x; propodeal enclosure with about 20 longitudinal carinulae; pygidial plate smooth, with scattered oval punctures.

Male: Length 8.5 mm. Marked about as in female but clypeus and mandible red, pale markings more whitish: weak orbital lines, pronotal lobe, mesopleural dot beneath, lateral scutal dot, T-I to V with apical whitish bands, S-II-III with lateral spots. F-I 3x as long as broad, II 2x.

Holotype female (DAVIS): Upper Palm Canyon, 14 mi se. Keen Camp Summit, Riverside Co., California, VII-8-64 (E. Schlinger). **Paratypes**, 2 males (DAVIS): 5 mi w. Durango, Durango, V-14-62 (F. D. Parker, L. A. Stange); female (NEW YORK): Rodeo, Hidalgo Co., New Mexico, VIII-21-63 (M. Cazier); female (NEW YORK), Portal, Cochise Co., Arizona, VI-16-57 (M. Statham).

Discussion: The red foreleg, red male clypeus, mostly or all-dark pleuron, practically clear wings except for brown forewing marginal cell, closely punctate propodeum posteriorly, and punctate rather than striatopunctate female pygidial plate, characterize the species. There are some similarities to *bigeloviae*, but the red foreleg and all-black hindleg of *schlingeri*, are distinctive.

The species is named for collector of the holotype, my friend Evert Schlinger, an accomplished collector of insects

***Pseudoplisus* Ashmead (Figs. 175 to 178)**

Pseudoplisus Ashmead 1899:323. Type species: *Gorytes floridanus* W. Fox 1891, equals *Gorytes smithii* Cresson 1891, original designation.

Laevigorytes Zavadil, *in* Zavadil and Šnoflak 1948:66. Type species: *Gorytes kohlii* Handlirsch 1888, monotypic.

Important generic characters are given below:

1. Female mandible 3-toothed (Fig. 175).
2. Antennal sockets about 1 diameter from clypeus.
3. Inner eye margins strongly narrowed toward clypeus (Fig. 175).
4. Acetabular carina absent, omaulus and sternaulus present.
5. Prescutellar sulcus simple or foveolate.
6. Female arolia subequal.
7. Female midtarsal I strongly "spurred."
8. Scrobal sulcus continued forward in almost a straight line to omaulus.
9. Propodeal enclosure polished, bisected by a sulcus (Fig. 178).
10. Metapleural posterior suture simple below, simple or foveolate above.

11. Propodeum proper polished.
12. Hindwing media arising well in front of cu-a.
13. Oblique scutal carina present.
14. Spiracular sulcus present.
15. T-I weakly petiolate (Fig. 176).
16. Male S-VIII stinglike but apex sometimes slightly notched.
17. Female pygidial plate rather closely punctate or striatopunctate.

Pseudoplisus is essentially a holarctic genus, but only a few species are known from Europe and Africa. Also, there are many species in North America, including Mexico, which I consider to be nearctic in distribution. However, *Pseudoplisus tritospilus* R. Bohart from El Salvador and Costa Rica must be classed as neotropical. As indicated in the key to genera, *Pseudoplisus* can be distinguished by a combination of characters. The hindwing media arises well before cu-a, the pleuron is extensively polished but has a distinct spiracular sulcus, the episternal sulcus is weak and does not reach the nearly straight scrobal sulcus, S-VIII in males is essentially stinglike, female arolia are subequal, and the female mandible is 3-toothed. There are 2 groups of *Pseudoplisus*, of which the *phaleratus* group has the scutellar sulcus simple. These species, including *tritospilus* were treated by Bohart (1968).

***Pseudoplisus tritospilus* R. Bohart (Figs. 175 to 178)**

Pseudopilus tritospilus R. Bohart 1968:499. Holotype male (seen), Quezaltepeque, El Salvador (DAVIS).

Female paratype (Quezaltepeque): Length 12 mm. Black, marked extensively with yellow: lower face mostly, scutum with lateral and medial stripes (Fig. 177), scutellum mostly, metanotum, propodeal enclosure mostly, pronotum and pleuron mostly, propodeum proper mostly, legs mostly but with some reddish and black, T-I mostly except medial spot (Fig. 176), II basally and apically, III to V in apical bands, VI, venter mostly; flagellum orange-yellow in front; wings lightly tinted yellowish. Pubescence short, mostly fulvous. Clypeal punctation moderate, scattered, rest of body mostly polished, epunctate. LID equal to scapal length, F-I 2.2x as long as broad, II 2x; petiole 1.5x as long as apical breadth; scutum unusually flat; pygidial plate angled at 45°, closely striatopunctate.

Male: About as in female, supraclypeal sclerite longer than broad, F-I-II 1.8x as long as broad, flagellum nearly cylindrical.

Material examined: 42 males, 12 females, Mexico (Chiapas), Guatemala (Amatitlan), El Salvador (Quezaltepeque), Costa Rica (Liberia, Alejuela, Guanacaste).

Discussion: The often diamond-shaped yellow mark, forming the third longitudinal stripe on the scutum, is diagnostic (Fig. 177). Other distinctions are the moderately stout antennae, short pubescence, lightly browned wings, flattened scutum, narrow LID, and closely striatopunctate female pygidial plate.

Stenogorytes Schrottky, new status (Figs. 113 to 124)

Stenogorytes Schrottky 1911:28. Type species: *Megalomma melanogaster* Schrottky 1911:28, original designation. Synonymized in error under *Megistommum* Schulz 1906 by Bohart and Menke 1976:52.

Neoplisus R. Bohart 1967:159. Type species: *Gorytes notabilis* Handlirsch 1888:520, original designation. Present synonymy.

A list of important generic characters follows:

1. Female mandible 2-toothed (Fig. 115).
2. Antennal sockets placed moderately above upper margin of clypeus (Fig. 114).
3. Inner eye margins moderately to strongly converging below (Fig. 114).
4. Acetabular carina absent, sternaulus complete (one exception).
5. Prescutellar sulcus foveolate.
6. Female arolia subequal.
7. Female midtarsal I with a moderately developed "spur."
8. Scrobal-episternal sulcus slightly bent downward toward omaulus.
9. Propodeal enclosure smooth with a foveolate median sulcus (Fig. 124).
10. Metapleural posterior suture simple.
11. Propodeum proper smooth.
12. Hindwing media arising before cu-a.
13. Oblique scutal carina present.
14. Spiracular sulcus of propodeum absent, a weak groove present.
15. T-I petiolate, 1.3 to 2.2x as long as apical breadth (Figs. 118-124).
16. Male S-VIII apically bifurcate, last 4 male flagellomeres modified.
17. Female pygidial plate angled at 40°-45°, densely bristled.

Bohart and Menke (1976:52) assigned *Megalomma melanogaster* Schrottky 1911 to *Megistommum*. Since this was the type species of *Stenogorytes*, presumably considered by Schrottky to be a subgenus, and since a recent study of the original description shows it to be congeneric with *Neoplisus* Bohart, the above generic synonymy resulted.

Twelve South American and 1 Central American species are now recognized. A combination of characters separates *Stenogorytes*: hindwing media arising before cu-a; no definitive spiracular sulcus on the propodeum which is smooth, sternaulus present (rarely incomplete), scrobal-episternal sulcus angled obtusely down before reaching omaulus, male S-VIII apically bifurcate. Species differences in markings are often striking (Figs. 114 to 120).

Key to *Stenogorytes* Schrottky

1. Mesopleuron with polished convexity between pronotal lobe and tegula yellow or paleorange 2
-- Mesopleuron with polished convexity between pronotal lobe and tegula black, or mostly so 7
2. Pleuron with black area covering at least postmetapleural and spiracular area of propodeum 3
-- Pleuron mostly yellow or pale orange 5

3. Sternaulus broadly incomplete next to omaulus; T-I mostly black, T-II to VI black; female (large, 14 mm long) (Colombia).....*sternaulus* R. Bohart, new species
-- Sternaulus complete, yellow markings various but T-II to VI with broad bands.... 4
4. T-I all yellow or with pair of black dots (Venezuela, Trinidad, Colombia)..... .....*venezuelae* R. Bohart, new species
-- T-I with large black spot encircled with yellow (Central America)..... .....*notabilis* (Handlirsch)
5. T-III to VI and S-III to VI black, T-II mostly reddish brown; large species, female 14-15 mm long (Brazil).....*specialis* (F. Smith)
-- T-III to VI either black or broadly yellow banded, medium-sized species, female 10 mm long..... 6
6. Terga broadly yellow banded, sterna extensively yellow (Argentina, Brazil)..... .....*porteri* R. Bohart, new species
-- T-II to VI all black..... *melanogaster* (Schrottky)
7. Pleuron extensively red, propodeal enclosure red, scutum mostly red; large species, female 13-14 mm long (Ecuador, Brazil, Paraguay)*megalommiformis* (Strand)
-- Pleuron, enclosure, scutum not mostly red; size variable 8
8. Scutum all black, or nearly so, sometimes a small yellow dot laterally..... 9
-- Scutum marked with yellow laterally: an oblong spot or streak 11
9. T-II to VI black, scutellum black (Argentina)..... *bruchi* (Schrottky)
-- T-II to VI not all black, scutellum various 10
10. Scutellum, propodeum black, legs mostly red, forewing radius red, large species, female 12-13 mm long (Argentina)..... *willinki* R. Bohart, new species
-- Scutellum, propodeal spot yellow, legs mostly black and yellow, forewing radius black, female 8-10 mm long (Argentina) ..... *argentinus* R. Bohart, new species
11. T-II to VI extensively yellow banded, clypeus yellow, forewing stigma yellow to yellowish orange (Central America) .....*notabilis* (Handlirsch)
-- T-II to VI black or almost all so or with narrow yellow bands, clypeus usually black or with black spot, forewing stigma dark brown 12
12. T-I all yellow, pronotal collar yellow, mandible yellow toward base (Brazil) ....*facilis* (F. Smith)
-- T-I with a black spot..... 13
13. Pronotal collar black, forewing black on basal two-thirds, female (Brazil)..... .....*fumipennis* (F. Smith)
-- Pronotal collar yellow, forewing black on one-third of leading edge (Brazil, Bolivia, Paraguay, Argentina).....*foxii* (Handlirsch)

***Stenogorytes argentinus* R. Bohart, new species (Figs. 115, 123)**

Male holotype: Length 10 mm. Black with yellow markings: scape in front, lower inner orbit narrowly, pronotal collar and lobe, mesopleural spot beneath lobe, scutellum, large oval spots on propodeum proper posteriorly, foretibia and midtibia in front, foretarsus and midtarsus partly, T-I except median spot (as in Fig. 123), T-II to IV apical bands; reddish are: hindfemur mostly in front; wing cells brown: median cell at apex, submarginal cells I and II, marginal cell.

Female: Length 10 mm. Face (Fig. 115) extensively yellow: all tibiae outwardly, foretarsus in front, T-I-II with apical bands broken medially; pygidial plate angled at about 45°, closely striatopunctate.

Holotype male (DAVIS): Termas Rio Hondo, Santiago del Estero, Argentina, XII-30-75 (R. M. Bohart). **Paratypes**, male (DAVIS): same data as holotype; male, 2 females (GAINESVILLE): same locality as holotype, V-13-72 (C. Porter); 2 males, 1 female (GAINESVILLE, TUCUMÁN, DAVIS): Chilecito, La Rioja, Argentina, IV-18-72 (C. Porter); male (DAVIS), Orán, Salta, V-5-69 (C. Porter); male (GAINESVILLE): Benjamin Paz, Tucumán, Argentina, XI-29-64 (C. Porter); female (GAINESVILLE): La Cumbre, Cordoba, Argentina, IV-7-96 (C. Porter); male, female (LONDON): Colonia Dora, Argentina, XI-26-79 (C. and M. Vardy); 5 males (TURIN, DAVIS): Salta, Argentina (P. Scaramozzino).

Discussion: The black scutum, black mandible, nearly all black pleuron, black propodeal enclosure, and black hindtarsus, taken together, characterize the species. Some specimens have T-I a little darker, others have the propodeum proper with larger yellow spots, and the clypeus may have faint yellow spots.

The species name is derived from Argentina, the locality of the type series.

Stenogorytes bruchi (Schrottky), new generic assignment

Hoplisus bruchi Schrottky 1909:245. Holotype female, Catamarca, Argentina (destroyed).
Gorytes cearensis Ducke 1910:110. Syntype male, female, Serra a Buteruté, Ceara, Brazil (PARIS). Synonymy by Bohart 1976:505.
Neoplisus bruchi (Schrottky) of Bohart 1967:160.

Female: Length 10 mm. Black, marked with yellow: tibiae partly, fore- and midtarsi mostly (black spot on tarsal V), hindtarsals II-III mostly, T-I basally; dorsal pattern of thorax and T-I (Fig. 116), leading one-fifth of forewing black. Clypeus and frons with scattered punctures, rest of body mostly polished, epunctate. LID about equal to scape length; F-I 2.3x as long as broad, II 1.5x; propodeal enclosure surrounded by and bisected by foveolate sulci; pygidium angled at 45°, closely striatopunctate.

Male: Length 10 mm. Markings about as in female except: weak yellow spot laterally on lower frons, T-I yellow laterally as well as basally. F-I 1.6x as long as broad, II 1.3x.

Material studied: 2 males, female (DAVIS): San Pedro, Tucumán, Argentina (Foerster); female (DAVIS): Yacochuya, Salta, Argentina, III-16-69 (C. Porter). 9 males, 2 females (TURIN, DAVIS): El Alisal, Salta, Argentina, II-1991 (P. Scaramozzino).

Discussion: The black mandible, clypeus, thorax, and abdomen (except T-I), characterize the species. The forewing leading edge is brown, including the medial and marginal cells.

Stenogorytes facilis (F. Smith), new generic assignment

Gorytes facilis F. Smith 1873:408. Holotype male (seen), Pará, Brazil (LONDON).
Neoplisus facilis (F. Smith) of Bohart 1967:160.

Female (Pará, Brazil): Length 12 mm. Black, marked with yellow: labrum, mandible basally, clypeus (except small median dark spot), scape in front, lower frons, pronotal collar, lobe, mesopleural spot beneath, scutum laterally, scutellum, metanotum, propodeum proper beyond spiracle, legs extensively, T-I, apical and basal bands on T-II, pygidium partly; flagellum fulvous in front; forewing lightly stained but darker in front, marginal cell brown. Body mostly smooth including propodeal enclosure which is bounded and bisected by slightly foveolate sulci. F-I 2.5x as long as broad, II 1.5x; LID slightly less than scape length; pygidial plate angled at 45°, closely striatopunctate.

Male (Pará, Brazil): Length 9 mm. About as in female but basal band on T-II fulvous, apical bands on T-II to IV narrow and partly broken. F-I 2x as long as broad, II 1.5x.

Material studied: 27 males, 7 females (DAVIS), Pará, Brazil (C. F. Baker).

Discussion: The markings are quite consistent: clypeal spot, nearly all black pleuron, black propodeal enclosure, yellow T-I, weakly banded T-II to IV in males and some females.

Stenogorytes foxii (Handlirsch) new generic assignment

Gorytes foxii Handlirsch 1901:355. Holotype female (seen), "San Leopoldo", Brazil (VIENNA).
Neoplisus foxii (Handlirsch) of Bohart 1967:160.

Female (Brazil): Length 11 mm. Black, orange, and yellow. Orange are: propodeum proper mostly, legs mostly, T-I mostly; yellow are: scutal spot laterally, scutellum, metanotum, upper mesopleural dot, propodeum proper partly, legs partly (especially tarsi); forewing leading edge black including stigma, marginal cell. Scattered punctures on clypeus, frons, rest of body polished, epunctate. LID 0.9x scape length; F-I 2x as long as broad, II 1.5x; propodeal enclosure surrounded by and bisected by narrow foveolate sulci; pygidial plate angled at about 45°, closely striatopunctate.

Male (Brazil): Length 11 mm. About as in female but scape, labrum, and supraclypeal sclerite a little yellow. F-I 1.5x as long as broad, II 1.2x.

Variation: The clypeus may be all black or with variously sized black spots. The propodeum may be mostly red laterally.

Material studied: 80 males, 27 females (DAVIS, LOGAN, CAMBRIDGE, LEIDEN, GAINESVILLE, TUCUMÁN): Brazil (Santa Catarina, São Paulo, Paraná), Bolivia (Santa Cruz), Argentina (Corrientes, Salta); Paraguay (San Pedro).

Discussion: With its black or black-spotted clypeus and black mandible, *foxii* resembles *argentinus*, *bruchi*, and *megalommiformis*. The all-yellow scutellum is separational.

Stenogorytes fumipennis (F. Smith), new generic assignment

Gorytes fumipennis F. Smith 1856:366. Holotype female (seen), "Brazil" (LONDON).
Neoplisus fumipennis (F. Smith) of Bohart 1967:160.

Female holotype: Length 11 mm. Black, marked with yellow: labrum, clypeus except apicomedial black spot, scape, lateral scutal spot, scutellum posteriorly, large

oval spot on propodeum posteriorly, legs partly, T-I except large median black spot, narrow apical band on T-II; flagellum dull fulvous in front; forewing nearly black on basal two-thirds extended toward apex along leading edge, discoidal cell II clear, submarginal cells II-III nearly clear.

Discussion: At first I thought this might be a variant of *facilis*, but there are many differences: mandible black at base, clypeal spot larger, pronotum and pleuron all black, metanotum black, large black spot on T-I, wing cloud darker.

***Stenogorytes megalommiformis* (Strand), new generic assignment (Fig. 120)**

Gorytes megalommiformis Strand 1910:155. Syntype females (2 seen), Villa Morra, Paraguay (BERLIN).
Megistommum megalommiforme (Strand) of Bohart 1976:503.

Female (São Paulo, Brazil): Length 14 mm. Black, marked with orange red: scape in front, pronotal collar, lobe, scutum, scutellum, metanotum, propodeum entirely, pleuron mostly, legs mostly, basal two-thirds of T-I, S-I; forewing lightly stained overall, marginal cell brown; pattern of thorax and T-I (Fig. 120).

Male: About as in female.

Material studied: 2 female syntypes; female (DAVIS): Cidade Oceon, São Paulo, Brazil, XIII-17-60; male, 11 females (LONDON, DAVIS): Batucatu, São Paulo, Brazil, XII-31-77 (N. Brantjes); male, female, Ubataba, São Paulo, Brazil, XII-6-96 (P. L. Scaramozzino). Female (TURIN): Tena, Ecuador, II-1991 (G. Onore); 2 females (LOGAN, DAVIS): San Pedro, Paraguay, XII-4-83 (M. Wasbauer).

Discussion: This rather large species is distinctive with extensive red coloration on thorax, legs, and T-I. The mandible basally, clypeus, and T-II to VI are all black.

***Stenogorytes melanogaster* (Schrottky), new generic assignment (Figs. 116, 121)**

Megalomma melanogaster (Schrottky) 1911:28 subgenerotype). **Holotype female**, Peru (destroyed).
Megistommum melanogaster (Schrottky) of Bohart 1976:503.

Female neotype (Cuzco, Peru): Length 11.5 mm. Black, marked with yellow: labrum, clypeus, scape, lower frons, pronotal collar, lobe, scutum laterally, scutellum and metanotum posteriorly, pleuron mostly (venter black), propodeum except median triangle and enclosure; legs mostly, T-I on basal one-fourth, S-I partly; pattern of thorax and T-I (Fig. 121); flagellum dully fulvous in front; forewing nearly clear, marginal cell light brown. Face (Fig. 116), LID slightly less than scape length; F-I 2x as long as broad, II 1.5x; pygidial plate angled at about 48°, closely striatopunctate.

Male (Tingo Maria, Peru): Length 9.5 mm. About as in female.

Material studied: Neotype female (here designated, DAVIS), Cuzco, Peru; 99 males, 37 females: Peru (Cuzco, Tingo Maria), Colombia (Nariño, Mocoa, Leticia), Ecuador (Yacuambi, Tena, Zamora, Napo), Brazil (Amazonas, Goias), Bolivia (Santa Cruz, La Paz).

Discussion: This widespread species has the abdomen black beyond T-I base, black propodeal enclosure, broad stripe beneath it, mostly yellow pleuron, and yellow

clypeus. These markings, taken together, characterize the species. The propodeal enclosure is rarely partly yellow.

***Stenogorytes notabilis* (Handlirsch), new generic assignment**

Gorytes notabilis Handlirsch 1888:520. Syntype males (2), females (2), "Cordova, Mexico" (GENEVA).

Gorytes fuscipennis Cameron 1890:79. Holotype female (seen), Valladolid, Yucatan, Mexico (LONDON). Synonymy by Bohart 1976:505.

Neoplisus notabilis (Handlirsch) of Bohart 1967:160.

Female (El Salvador). Length 12 mm. Black, marked with yellow: mandible basally, labrum, clypeus, lower frons, scape, pedicel, pronotal collar, lobe, upper mesopleural spot, scutum laterally, scutellum, large spot on propodeum proper, legs mostly including tarsomeres II to V, T-I except large median black spot, T-II basally and apically, T-III to VI with broad apical bands, S-I to III partly; flagellum fulvous in front, legs partly fulvous; forewing generally stained lightly, stigma light brown; hindwing slightly stained. LID about equal to scape length, F-I 2.1x as long as broad, II 2x; pygidial plate angled at 45°, striatopunctate.

Male (Mexico). Length 9.5 mm. About as in female. F-I 1.8x as long as broad, II 1.6x

Material studied: 200 males, 425 females, Mexico (Vera Cruz, Sonora, Nayarit, San Luis Potosi, Morelos, Jalisco, Guerrero, Tabasco, Oaxaca, Chiapas, Yucatan); Guatemala; El Salvador; Costa Rica; and Panama.

Variation: Some specimens have T-II partly infused with light red; the area between the pronotal lobe and the tegula may be yellow or black.

Discussion: The extensive yellow tergal bands and large black spot on T-I are distinguishing.

***Stenogorytes porteri* R. Bohart, new species (Figs. 113, 118)**

Female holotype: Length 11 mm. Black, marked with yellow and some brownish red. Yellow are: clypeus, labrum, face below antennae, scape, pedicel, F-I partly, pronotal collar and lobe, scutum laterally, scutellum mostly, metanotum, propodeal enclosure on posterior 75 percent, pleuron almost entirely, propodeum proper, legs nearly entirely, (hindtarsal V mostly dark), T-I except for 2 spots at posterior one-third (Fig. 118), broad bands at base and apex of T-II, apical bands on T-III to VI; dull red are: flagellar segments in front; brownish red: T-II medially, hindfemur, hindtibia inwardly. Pubescence and punctation inconspicuous. Face as in Fig. 113, F-I 2x as long as broad, II 1.5x; pygidial plate angled at about 45°, closely striatopunctate.

Male: Length 9 mm. Marked as in female.

Holotype female (CAMBRIDGE): Aguas Blancas, Salta, Argentina, X-1968 (C. C. Porter). **Paratypes** (all collected in Salta, Argentina): 4 males, 4 females, same data as holotype; female, topotype, III-13-78 (J. vander Vecht). Also, collected by C. Porter are paratypes: 44 males, Oran, Abra Grande; 5 males, 2 females, Positas, IV-28-68; 1 female, Rio Pescado, IV-30-68. Paratypes will be distributed to a variety of museums. I have also seen specimens from Brazil (Manaus).

Discussion: Of the 54 males and 8 females in the type series, 43 males and 5 females have a pair of black spots on T-I as in Fig. 118. None of the hundreds of other *Stenogorytes* that I have seen have these spots. Also distinctive is the presence of a large reddish brown area on T-II, surrounded by yellow. The nearly all yellow pleuron and mostly yellow propodeal enclosure are identifying characters (Fig. 118).

This species is named for Charles C. Porter, the collector of most of the type series, as well as many other South American gorytins.

Stenogorytes specialis (F. Smith), new generic assignment

Gorytes specialis F. Smith 1873:407. Holotype female (seen), Ega (now Tefé), Amazonas, Brazil (LONDON).

Gorytes partitus W. Fox 1897:381. Holotype female (seen), Chapada, Brazil (PITTSBURG). Synonymy by Bohart 1976:505.

Gorytes bergii Handlirsch 1901:354. Holotype female (seen) "San Leopoldo", Brazil (VIENNA). Synonymy by Bohart 1976:505.

Neoplisus specialis (F. Smith) of Bohart 1967:160.

Female holotype: Length 14 mm. Black, marked with yellow: labrum, clypeus, scape, lower frons, pronotal collar, lobe, scutum laterally, scutellum, metanotum, propodeal enclosure except large central area, pleuron and propodeum proper mostly (mesopleural venter black), legs mostly, T-I basally and laterally; flagellum fulvous in front; forewing nearly clear, marginal cell light brown. LID 1.2x scapal length, F-I 1.8x as long as broad, II 1.6x; pygidial plate angled at 45°, closely striatopunctate.

Male (Nova Teutonia, Brazil): Length 13 mm. Much as in female. T-II yellowish basally and weakly banded apically, S-I-II partly yellow; F-I 2.4x as long as broad, II 1.8x.

Material studied: Types of *specialis*, *bergii*, *partitus*; 6 males, 7 females (DAVIS), Nova Teutonia, Santa Catarina, Brazil (F. Plaumann); female (WASHINGTON), Matto Grosso, Brazil (R. C. Shannon).

Discussion: Along with *megalommiformis* and *sternalis*, these are the largest *Stenogorytes*. In addition to the size the LID is slightly greater than that of *melanogaster* which has similar markings. From other species the large black spot on T-I, yellow clypeus, extensively yellow pleuron and propodeum, and dark brown T-III to V, are differentiating.

Stenogorytes sternalis R. Bohart, new species

Female holotype: Length 14 mm. Black, marked with yellow: mandible basally, labrum, clypeus, scape, lower frons, pronotal collar, lobe, scutellum, metanotum, mesopleuron and metapleuron mostly, followed by black area covering propodeal base and spiracular region, large spot on propodeum proper posteriorly, legs mostly, T-I near base laterally; flagellum slightly lighter brown beneath; forewing lightly stained, marginal cell light brown. LID equal to scape length; F-I 1.9x as long as broad, II 1.4x; scrobal-episternal sulcus ending shortly before reaching omaulus, sternaulus broadly incomplete; pygidial plate angled at 48°, closely striatopunctate.

Male: Unknown.

Holotype female (LONDON): Villa Garzon, 8 mi s. Mocoa, Putumayo, Colombia, VII-16-78 (M. Cooper). C. Vardy called my attention to the sternaulus of this specimen.

Discussion: This is one of the larger *Stenogorytes*, along with *specialis* and *megalommiformis*. It is the only one I have seen with an incomplete sternaulus. The nearly clear wings, mostly yellow pleuron, black T-II to VI, and yellow clypeus are found also in *melanogaster*, a smaller species with the postmetanotal area more yellow. The specific name is a Latin adverb pertaining to the sternaulus.

***Stenogorytes venezuelae* R. Bohart, new species (Figs. 114, 119)**

Female holotype: Length 10 mm. Black, marked with yellow and dull orange. Yellow are: mandible base, labrum, clypeus, scape, lower frons (Fig. 114), pronotal collar, lobe, 2 mesopleural spots close beneath, scutum laterally, scutellum, propodeum beyond spiracle and narrowly divided posteriorly, T-I (Fig. 119), broad apical bands on T-II to V, pygidium basally; S-I to II mostly, III to VI laterally; reddish are: legs partly, T-II basal one-half; flagellum dull fulvous in front; wings generally stained, marginal cell brown. LID a little less than scape length, F-I 1.8x as long as broad, II 1.6x; pygidial plate angled at 45°, closely striatopunctate.

Male: Length 8 mm. About as in female. T-II yellow basally. LID 0.8x scape length.

Holotype female (GAINESVILLE): Zulia, near Rio Pueblo Viejo, Venezuela, VII-15-88 (C. Porter, L. Stange). **Paratypes** (all from Venezuela), 14 males, 3 females (GAINESVILLE, DAVIS): same data as holotype; female (WASHINGTON): Sabana Grande, Trujillo, VI-3-76 (A. Menke, D. Vincent); 4 males (DAVIS): 16 km e. El Tacuco, Perija Mts., Zulia, VI-24-79 (R. Schuster et al.); 2 males (DAVIS): Cabo Colorado, Maracaibo, Zulia, VI-27-79 (R. Schuster et al.).

Discussion: This species is characterized by having abdominal segment I all yellow, S-II extensively yellow, pleuron black before propodeum except for 2 high-up spots on the mesopleuron, propodeal enclosure black, and T-III-IV at least two-fifths yellow. This combination varies only slightly. A comparison with dorsal color pattern in other species is outlined in Figs. 118 to 124). Facial characters of the female are given in Figs. 113 to 117). Specimens of *venezuelae* from Trinidad and Colombia are similar but have 4 mesepimeral spots, including yellow on the hypoepimeron and lower mesepimeron. The specific name is dedicated to Venezuela.

***Stenogorytes willinki* R. Bohart, new species (Fig. 124)**

Female holotype: Length 12 mm. Black, reddish brown, and yellow. Reddish brown are: mandible apically, flagellum in front, legs mostly, large median spot on T-I (Fig. 124), S-I, pygidial plate partly; yellow are: scape in front, fore- and midtarsals V, margins of T-I, apical bands on T-II to V; wings generally reddish brown stained, darker on marginal cell. Pubescence appressed or short, off-silvery on face, fulvous on thorax and abdomen. Punctation fine and scattered on face and sterna, body mostly polished otherwise. LID 1.0x scape length; F-I 2.4x as long as broad, II-III 1.4x; pygidial plate angled at 48°, striatopunctate.

Male: Length 9-10 mm. About as in female. Labrum basally yellow, fore- and midtarsi more yellow.

Variation: I have seen 2 females (LONDON, DAVIS) with T-II and following black. Otherwise, they agree perfectly. Their data is Estancia la Noria, Rio San Javier, Santa Fé, Argentina, 1912 (G. E. Bryant).

Holotype female (TUCUMÁN): Cordoba-Villa, Argentina, I-1981 (A. Willink). **Paratypes** (TUCUMÁN, DAVIS): 22 males, 28 females, data approximately as in holotype.

Discussion: This species is distinguished by the mostly black head, all black thorax (Fig. 124) mostly reddish-brown legs, yellow-banded T-I to VI, and extensively reddish brown wings. It is named for my friend, the late Abraham Willink, a well-known wasp collector, and specialist in eumenid taxonomy.

Liogorytes R. Bohart (Figs. 125 to 141)

Liogorytes R. Bohart 1967:160. Type species: *Liogorytes catarinae* R. Bohart 1967:161 = *Gorytes polybia* Handlirsch 1895:929. Original designation.

A list of important generic characteristics follows:

1. Female mandible 2-toothed, clypeus moderately punctate (Fig. 127).
2. Antennal sockets placed well above upper margin of clypeus (Fig. 122).
3. Inner eye margins slightly converging below (Fig. 125).
4. Acetabular carina absent, sternaulus present.
5. Prescutellar sulcus foveolate.
6. Female arolia subequal.
7. Female midtarsal I not unusually "spurred".
8. Scrobal-episternal sulcus bent downward toward omaulus.
9. Propodeal enclosure smooth except for foveolate median sulcus (Fig. 135).
10. Metapleural posterior suture finely to moderately reticulate.
11. Propodeum proper closely and coarsely punctate beyond spiracular sulcus (Fig. 135).
12. Hindwing media arising in front of cu-a (Fig. 134).
13. Oblique scutal carina present.
14. Spiracular sulcus well-defined on propodeum.
15. T-I petiolate to pedunculate but less than 2x as long as broad.
16. Male S-VIII narrowly bifurcate at apex.
17. Female pygidial plate striatopunctate.

The 11 species of this genus known to me are remarkably uniform in structure but differ in size, and especially in markings (Figs. 136 to 141). The original description of the genus by Bohart (1967) covered most of the generic characters, such as the moderately broad interocular distance, the moderately converging eyes, and the coarsely punctate propodeum (Fig. 135). However, Bohart placed *Xerogorytes anaetis* in the genus, and this was corrected by Bohart and Menke 1976. Also, Bohart did not sufficiently emphasize the most significant character of *Liogorytes*, the coarsely

punctate propodeum, topped by a mostly smooth but medially divided enclosure (Fig. 135).

Key to species of *Liogorytes* R. Bohart

1. T-III with distinct whitish or yellow band (Fig. 141) 2
-- T-III black (Fig. 140) 6
2. T-VI black 3
-- T-VI red or yellow 4
3. Large species, usually 15 mm long or more, T-I-II black with apical whitish bands (Argentina) ..... *joergenseni* (Brèthes)
-- Smaller species, about 10 mm long or less; T-I-II red, II-III with whitish apical bands (Argentina) ..... *patagonicus* (Fritz)
4. Scutellum, propodeum, T-I black, II to V apically yellow banded (Fig. 136), mesopleuron polished and epunctate (Brazil, Argentina) ..... *polybia* (Handlirsch)
-- Scutellum, propodeum, and T-I marked with red and/or yellow 5
5. Large species, 15 mm long or more, scutum nearly all red, T-III to V red as well as yellow (Argentina) ..... *rufulus* R. Bohart, new species
-- Smaller species, less than 15 mm long, scutum black, T-III and following practically all yellow (Fig. 137) (Argentina) ..... *luteus* R. Bohart, new species
6. Scutellum yellow to orange 7
-- Scutellum black, or nearly so 8
7. Large species, 15 mm long or more, T-II and following black (Fig. 140), scutum red and coarsely punctate, female (Brazil) ..... *brasilicus* R. Bohart, new species
-- Smaller species, 11 mm long or less, T-II with an apical whitish band (as in Fig. 139), scutum black and weakly punctate (Argentina) ..... *llanoi* (Fritz)
8. T-I red (Fig. 139) *or* all black 9
-- T-I black with some yellow markings (Fig. 134) 10
9. T-I red, T-II with an apical pale band; mesopleuron distinctly punctate (Argentina) ..... *unicinctus* (Brèthes)
-- T-I all black, mesopleuron polished and epunctate (Argentina, Bolivia) ..... *schrottkyi* (Fritz)
10. Clypeus yellow, wings extensively brown, male (Argentina) ..... *badiala* R. Bohart, new species
-- Clypeus black, wings darkened toward leading edge (Argentina) ..... *cordobensis* (Fritz)

***Liogorytes badiala* R. Bohart, new species (Figs. 129, 138)**

Male holotype: Length 10 mm. Black, marked with yellow: mandible basally, labrum, clypeus, lower frons, pronotal collar partly, scutellum, metanotum medially, forecoxa partly, fore- and midfemora in front, fore- and midtibiae in front, T-I apical half (Fig. 138), S-II lateral spot; fulvous to orange are: antenna, fore- and midfemora partly, hindfemur and hindtibia partly, tarsi mostly; forewing and hindwing extensively brown. Punctures fine and scattered on frons, terga; moderate and scattered on scutum, mesopleuron, coarse but sparse on metapleuron, coarse and close on propodeum proper but sparser laterally. LID 1.5x scape length (Fig. 129), F-I 1.5x as long as broad, II 1.0x, VIII to XI moderately enlarged, with reddish-brown spots beneath;

midtarsal I strongly curved, with 4 spinose setae ventrally; midtarsals II to IV short, flattened and silvery pilose beneath; T-I 1.8x as long as broad.

Female: Unknown.

Holotype male (TUCUMÁN): Termas de Rio Hondo, Santiago del Estero, Argentina, IV-19-70 (L. Stange, C. Porter).

Discussion: The extensively brown wings, yellow clypeus, half yellow T-I and all-black T-III to VI (Fig. 138), characterize the species. The specific name is a Latin noun meaning "brown wing".

Liogorytes brasilicus R. Bohart, new species (Figs. 125, 131, 135, 140)

Female holotype: Length 17 mm. Black, rust-red, and yellow. Rust-red are: mandible except apex, clypeus across apex, scape above, pedicel, flagellum in front, scutum mostly, propodeal enclosure medially, legs mostly, wing veins, wing membrane weakly, pleuron mostly including propodeum anterior to spiracular sulcus, T-I and S-I mostly; yellow are: labrum, clypeus mostly, long inner orbit (Fig. 125), scape in front, pronotal collar and lobe, mesopleural spot beneath lobe, longitudinal scutal spot laterally, scutellum, metanotum, large lateral spot on propodeal enclosure, most of propodeum proper beyond spiracular sulcus, tibiae and tarsi in front, U-shaped posterior mark on T-I. Punctures coarse but sparse on clypeus, vertex, mesopleuron, scutellum, metanotum, T-I; coarse and close on frons, coarse and 1-3 PD apart on scutum, coarse and close on propodeum proper beyond spiracular sulcus, moderate and 1-3 PD apart on terga and sterna. Facial features as in Fig. 125, F-I 2.5x as long as broad, II 2x; foretarsomere I about 2.5x as long as broad (Fig. 131), 5 rake setae before apex, transverse sulcus behind ocellar triangle sharply indented; T-I not at all pedunculate; pygidial plate angled at 45°, closely striatiform.

Male: Unknown.

Holotype female, Brazil number 3149 (SÃO PAULO).

Discussion: Judging from the single female, this species is about as large as *joergenseni* and *rufulus*. Therefore, its prey might conceivably be cicadas. The black abdomen beyond T-I separates it at once from the above species. The specific name is an adjective indicating that the species comes from Brazil.

Liogorytes cordobensis (Fritz)

Gorytes cordobensis Fritz 1946:110. Holotype female, Villa Dolores, Córdoba, Argentina (Fritz Coll.).
Liogorytes cordobensis (Fritz) of Bohart 1967:161.

Female (Salta, Argentina): Length 13 mm. Black, sparingly marked with yellow: T-I basally and laterally; forewing with leading edge and wing cells black. Punctures of clypeus about 1 PD apart, those of upper frons close, those of scutum and mesopleuron 2-3 PD apart, those of propodeum proper close. LID 1.2x scape length; F-I 2.5x as long as broad, II 1.6x; petiole slightly pedunculate; pygidial plate micropunctate and with scattered larger punctures.

Male: About as in female. F-VIII to IX flattened, reddish beneath; legs partly brownish red including inside of hindtibia; T-I with narrow apical yellow band.

Material studied: 2 males (DAVIS): Cadillal, Tucumán, Argentina, XII-4-75 (R. M. Bohart); female (DAVIS): Orán, Abra Grande, Salta, Argentina, X-25-68 (C. Porter); male, female (LOGAN): Rosario de Lerma, Argentina, XI-14-83 (M. Wasbauer).

Discussion: This species is nearly all black with the forewing black anteriorly. It is similar to *schrottkyi*, but in *cordobensis* the mesopleuron has distinct, although well separated punctures. T-I has a few yellow marks.

Liogorytes joergenseni (Brèthes) (Fig. 141)

Gorytes jörgenseni Brèthes 1910:281. Syntype males (2) (seen), La Paz, Mendoza, Argentina (BUENOS AIRES).
Liogorytes joergenseni (Brèthes) of Bohart 1967:161.

Female (Catamarca, Argentina): Length 17 mm. Black, marked with whitish and red. Whitish are: lower frons laterally, pronotal collar, lobe, mesopleural spot beneath, scutellum, metanotum, apical margins of T-I to IV (Fig. 141), apicomedial spot on T-V; red are: labrum, antenna mostly, legs mostly; forewing extensively but lightly stained, marginal cell brown. Clypeus punctured across subapical bulge, rest of body (except propodeum) practically epunctate, propodeum proper reticulopunctate. LID 1.3x scape length; F-I 3x as long as broad, II 2.5x; pygidial plate closely micropunctate, a few weak punctures otherwise.

Male (Catamarca, Argentina): Length 15 mm. About as in female but pleuron all black, tibiae partly whitish yellow.

Material studied: Syntypes; female (DAVIS): Potrerillos, La Paz, Mendoza, Argentina, I-1956 (M. A. Fritz); 12 males, 6 females (DAVIS): La Cienega, Catamarca, Argentina, XI-26-75 (R. M. Bohart).

Discussion: In November, 1975 Lionel Stange led me to a nesting colony of *joergenseni* near La Cienega, Catamarca, Argentina that he had previously discovered. Numerous female wasps were actively provisioning their ground nests with adult cicadas. Many males were flying about the area (Bohart, R. M. and L. A. Stange 1977). Since *joergenseni* females average 17 to 21 mm in length, and their size was surpassed by their cicada prey (35 mm), it raises the possibility that other large *Liogorytes*, such as *rufulus* and *brasilicus*, may provision also with cicadas.

The size of *joergenseni* in combination with the white-banded terga (Fig. 141), red legs, and usually black clypeus, characterize the species.

Liogorytes llanoi (Fritz)

Gorytes llanoi Fritz 1964a:54. Holotype male, Sierra de la Ventana, Buenos Aires, Argentina (Fritz Coll.).
Liogorytes llanoi (Fritz) of Bohart 1967:161.

Female (paratype): Length 11 mm. Black, marked with whitish yellow and red. Whitish yellow are: broad apical band on T-II; orange-red are: antenna, pronotal collar, lobe, lateral scutal dot, scutellum, metanotum, legs, T-I, S-I; forewing clear except

for apical cloud over marginal cell and part of submarginals II-III. Pleuron nearly epunctate, polished, mesopleural punctures quite sparse. LID 1.4x scape length, F-I 2.3x as long as broad, II 1.5x; pygidial plate closely micropunctate, angled at 48°.

Material studied: Female paratype (DAVIS), Sierra de la Ventana, Buenos Aires, Argentina (M. A. Fritz); 9 males, 1 female (LONDON, DAVIS), 15 km w. Mendoza, Argentina, XII-8-75 (C. and M. Vardy).

Discussion: The orange-red and white markings differentiate from all *Liogorytes* except *unicinctus*. The latter has the female mesopleuron, as well as the metanotum with moderate punctures 1-2 PD apart. Also, *unicinctus* has the meso- and metathorax all black.

***Liogorytes luteus* R. Bohart, new species (Figs. 127, 137**

Holotype female: Length 13 mm. Black, light brick red, and yellow. Red are: antenna, tegula, post-tegula, legs extensively (yellower on tibiae and foretarsus), large spots on propodeum proper, basal two-thirds of T-I and T-II, S-I, S-II on basal two-thirds, other sterna partly; yellow are: mandible toward base, clypeus, labrum, lower face, pronotal collar and lobe, scutum laterally, scutellum, metanotum, broad apical bands on T-I-II, T-III to VI entirely (Fig. 137), partial bands on sterna; wings brown stained, stigma reddish. Punctures moderate on clypeus, medium coarse and 1-3 PD apart on frons, fine and sparse on vertex, notum, moderately coarse and 3 PD apart on mesopleuron, coarse and close except near enclosure on propodeum proper, fine and 1-3 PD apart on T-I-II, closer on III to V. Facial features as in Fig. 127, LID 1.2x scapal length, F-I 2.0x as long as broad, II 1.5x, T-I 1.5x as long as broad, slightly pedunculate; pygidial plate angled at 45°, closely striatopunctate.

Male: Length 11 mm. As in female but LID equal to scape length, F-I 1.5x as long as broad, II 1.1x.

Female holotype (CAMBRIDGE): Station Maria, Catamarca, Argentina, XII-28-68 (C. Porter). **Paratypes** (Argentina): male (DAVIS): female (TUCUMÁN): Santa Maria, Catamarca, II-10-72 (A. Willink); male (TUCUMÁN): 25 km n. Valle Ferteii (Ruta 510), XI-25-77 (Willink, Fidalgo).

Discussion: The black scutum and extensively yellow terga, as well as the yellow scutellum and metanotum, are distinctive. The male from near Valle Ferteii has T-III to V basally red. The specific name is a Latin adjective and refers to the extensive yellow markings.

***Liogorytes patagonicus* (Fritz) (Figs. 130, 133)**

Harpactostigma patagonica Fritz 1959 (1958):136. Holotype male, Lamarque, Rio Negro, Argentina (Fritz Coll.)
Liogorytes patagonicus (Fritz) of Bohart 1967:161.

Female (paratype): Length 8.5 mm. Black, marked with whitish yellow and red. Whitish yellow are: labrum, clypeus on upper two-thirds, spot along lower orbit, pronotal collar, lobe, upper mesopleural spot, scutellum, metanotum medially, apical bands on T-II-III; red are: flagellum, legs mostly, T-I-II, S-I-II; forewing lightly stained except subapical cloud. Upper frons, scutum polished but with widely scat-

tered tiny punctures; mesopleuron, metapleuron with coarse punctures 1-2 PD apart; propodeum proper coarsely punctate beyond spiracle; terga with fine punctures, 1-2 PD apart. Facial features, Fig 130, LID 1.3x scape length, F-I 2x as long as broad (Fig. 133), II 1.9x; pygidial plate angled at 45°, with coarse punctures 1-2 PD apart.

Male (paratype): Length 8.5 mm. As in female except: clypeus all whitish, lateral whitish spots on S-II-III, and spot above clypeus. LID equal to scape length, F-VII-XI a little dark, and flattened beneath.

Material studied: Male, female, paratypes (DAVIS): Lamarque, Rio Negro, Argentina (M. A. Fritz); 6 males, 13 females (TUCUMÁN, DAVIS): Argentina: Mendoza (Ruta Sosniedo, Paraditas), Neuquen (Andocollo, Zapala, Collón Curá, Capital), Choele Choel (Rio Negro), Chubut (Puerto Pirámedes), Rio Negro (Coronado).

Discussion: Fritz (1959) recorded the species from additional localities in Argentina: Choele-Choel; Mahuida, Rio Colorado; Puán, Buenos Aires. The markings of this small species with red legs and flagellum together with the apical whitish bands on T-II-III are characteristic.

Liogorytes polybia (Handlirsch) (Figs. 128, 136)

Gorytes polybia Handlirsch 1895:929. Syntype females (2) (seen), "Sudamerika" (BERLIN).
Liogorytes catarinae R. Bohart 1967:161. Holotype male, Nova Teutonia, Santa Catarina, Brazil (DAVIS). Synonymy by R. Bohart 1976:516.
Liogorytes polybia (Handlirsch) of Bohart 1976:516.

Female (Nova Teutonia, Brazil): Length 11 mm. Black, marked with deep yellow: apical bands on T-II to VI (Fig. 136), S-I to VI; forewing darkened along leading one-third, including marginal cell. Punctures coarse across clypeal bulge and on propodeum, practically absent elsewhere. Facial features, Fig. 128, LID 1.5x scape length; F-I 2.5x as long as broad, II 1.6x; T-I 1.5x as long as broad, pedunculate; pygidial plate angled at 45°, striatopunctate.

Male (Nova Teutonia): Length 10 mm. As in female but flagellum lighter in front, F-I 1.3x as long as broad, II 1.1x; F-VIII to XI concave, smooth beneath.

Material studied: Types; 38 males, 27 females (DAVIS), Nova Teutonia, Santa Catarina, Brazil (F. Plaumann); female (DAVIS), San Pedro, Buenos Aires, Argentina, XII-22-52 (M. Senkute).

Discussion: The pedunculate T-I illustrates a tendency seen to a lesser degree in *luteus* and *schrottkyi*. The all-black head, thorax, legs, T-I, along with the deep yellow apical bands on T-II-VI (Fig. 136), characterize the species.

Liogorytes rufulus R. Bohart, new species (Figs. 126, 134)

Holotype female: Length 20 mm. Brick red, marked with black and yellow. Black are: mandible at apex, F-V to VIII above, propodeal enclosure across base and along median groove, S-I, S-II basomedian spot; yellow are: pronotal collar and part of lobe, scutellum mostly, apical bands on T-I to V; forewing cells toward leading edge. Punctures scattered on clypeus, coarse and close on frons, scattered and fine on vertex, coarse and about 1 PD apart on scutum, moderately coarse and about 2 PD apart on pleuron, close and coarse on propodeum proper beyond spiracular sulcus, medium fine

and 1-2 PD apart on terga, 2-4 PD apart on sterna. Facial features (Figs. 126, 132), LID slightly less than scape length, F-I 2.5x as long as broad, II 1.5x; scutellum, metanotum, propodeal enclosure including median groove, all bounded by coarse foveolation; T-I 1.6x as long as apical breadth and not at all pedunculate; pygidial plate angled at 45°, closely striatopunctate.

Male: Length 14 mm. Black areas more extensive, including face above antennae, vertex, pleuron broadly toward middle, propodeal enclosure mostly, basal areas on T-III to VI and S-II to VI. LID 1.2x scape length, F-I 2.1x as long as broad, II 1.5x.

Female holotype (DAVIS): Gran Guardia, Formosa, Argentina, I-1953 (Foerster). **Paratype** male (DAVIS), same data as holotype.

Discussion: This species has the scutum red, the abdomen extensively red and yellow, and the legs all red. It is one of the larger species of *Liogorytes* (14-20 mm long). The specific name is a Latin adjective meaning "full of red".

Liogorytes schrottkyi (Fritz), new generic assignment

Gorytes schrottkyi Fritz 1964b:109. **Holotype female**, San Pedro de Colalao, Tucumán, Argentina (M. Fritz Coll.).
Neoplisus schrottkyi (Fritz) of Bohart 1976:505.

Female (Catamarca, Argentina): Agreeing with description of *cordobensis* except mesopleuron smooth and practically epunctate; T-I dorsally all black, somewhat reddish laterally.

Male (paratype): Agreeing with female.

Material studied: Male (DAVIS): Villa Dolores, Cordoba, Argentina (from M. Fritz, misidentified as *cordobensis*); male (DAVIS): Aligilan, Catamarca, Argentina, XI-3-72 (G. E. Bohart); male (DAVIS): Cachi, Salta, Argentina, I-22-66 (L. A. Stange); male (TURIN), El Alisal, Salta, Argentina, II-1991 (P. Scaramozzino); 2 pair (GAINESVILLE, DAVIS): Cochabamba, Bolivia, III-12-68 (C. Porter, A. Garcia).

Discussion: The nearly all-black body, epunctate mesopleuron, and subpedunculate petiole characterize the species.

Liogorytes unicinctus (Brèthes) (Fig. 139)

Gorytes unicinctus Brèthes 1913:130. **Holotype female** (seen), Pampa Central, Mendoza, Argentina (BUENOS AIRES).
Liogorytes unicinctus (Brèthes) of Bohart 1967:161.

Female: Description nearly identical with that of *llanoi* except that scutellum and metanotum are usually black, and mesopleuron and metapleuron have coarse punctures 1-2 PD apart.

Male: As in female but metapleuron nearly smooth.

Material studied: Argentina: 13 males, 7 females (LEIDEN, DAVIS): Uspallata, Mendoza; Patagonia; Aguadita, La Rioja; near Londres, Catamarca; Campo del Pucaré, Catamarca; Tafi del Valle, Tucumán; Amaicha del Valle, Tucumán.

Discussion: This species is quite similar to *llanoi* (Fritz) in tergal pattern (Fig. 139), but differs in having the scutellum and metanotum usually black. Also, the mesopleuron is distinctly and extensively punctate.

Sagenista R. Bohart (Figs. 142 to 158)

Sagenista R. Bohart 1967:157. Type species: *Hoplisus scutellaris* Spinola 1841. Original designation.

Important generic characters are listed below:

1. Female mandible 3-toothed (Fig. 139).
2. Antennal sockets placed close to upper margin of clypeus (Fig. 139).
3. Inner eye margins widely separated, nearly parallel (Fig. 138).
4. Acetabular carina present, sternaulus often incomplete, especially in female.
5. Scutal-scutellar sulcus foveolate.
6. Female arolium unusually large on foreleg (Fig. 151).
7. Female midtarsal I with unusual "spur" compared with II.
8. Scrobal-episternal sulcus incomplete, absent in front of episternal sulcus, often indicated by only a posterior pit.
9. Propodeal enclosure multistriate to multifoveolate (Figs. 147 to 149).
10. Metapleural-propodeal suture simple, "stitched" above.
11. Propodeum proper areolate posteriorly (Fig. 158).
12. Hindwing media arising close to cu-a.
13. Oblique scutal carina present.
14. Spiracular sulcus of propodeum absent.
15. T-I stout, not petiolate, less than 2x as long as apical breadth.
16. Male S-VIII stinglike.
17. Female pygidial plate mostly smooth, sparsely punctate (Fig. 146).

The status of the genus, its taxonomy and biology were discussed by Bohart and Menke 1976:522. Relationships with other genera in South America were given in the foregoing generic key. The main feature is the striking areolation of the propodeum, Fig. 158. At this time 9 species are recognized in the neotropical fauna of South and Central America.

Key to species of *Sagenista* R. Bohart

1. Scutellum gray pilose posteriorly (Figs. 147, 148), pronotal collar silvery micropilose but not yellow marked (Fig. 150) 2
-- Scutellum not pilose posteriorly, pronotal collar various 4
2. T-II to V with deep yellow apical bands, and practically epunctate (Fig. 155); sternaulus complete; forewing subdiscoidal cell evenly brown (Mexico to El Salvador) ..... *pilosa* R. Bohart, new species
-- T-II (female) or T-II-III (male) with light yellow apical bands, and with distinct spaced punctures (Fig. 156); sternaulus anteriorly incomplete; forewing subdiscoidal cell practically clear 3
3. T-II apical band covering about one-third of tergum; T-I with pair of submedial apical yellow dots; T-III black in both sexes (Argentina) ..... *cingulata* R. Bohart, new species

-- T-II apical band covering about one-seventh of tergum; T-I black; T-III apically banded in male (Argentina) ..... *vardy* R. Bohart, new species
4. Costa and radius of forewing light red, ending at stigma; pronotal collar black but silvery micropilose (Brazil, Argentina) ..... *austera* (Handlirsch)
-- Costa and radius of forewing brown or black, pronotal collar sometimes black and silvery micropilose 5
5. Scutellum orange, T-II with lateral white spot which may be connected to apical white band (Colombia, Brazil, Bolivia, Peru) ..... *scutellaris* (Spinola)
-- Scutellum not orange 6
6. Scrobal sulcus fairly well impressed from juncture with episternal sulcus back to anterior metapleural suture, sternaulus complete in both sexes (Costa Rica to Peru) ..... *brasiliensis* (Shuckard)
-- Scrobal sulcus indicated only by a posterior pit, sternaulus of female incomplete anteriorly 7
7. Forewing with marginal cell brown, wing usually with a banded appearance, particularly in females (Fig. 154), forewing medial cell clear; T-II to V with apical yellow bands (Mexico to Brazil) ..... *cayennensis* (Spinola)
-- Forewing with marginal cell usually clear or brown, wing not banded but dark along leading edge including median cell, tergal banding various 8
8. Forewing marginal cell usually clear or mostly so (Fig. 153), female terga black or with traces of apical yellow bands (Fig. 157), male T-II to VI with narrow apical yellow bands, propodeal reticulation not obscured by silvery micropubescence (Fig. 158) (Nicaragua to Colombia) ..... *kimseyorum* R. Bohart, new species
-- Forewing marginal cell brown, T-II to IV with apical yellow bands, propodeal reticulation partly obscured by dense silvery micropubescence, female (Argentina) .. .. *tucumanae* R. Bohart, new species

***Sagenista austera* (Handlirsch) (Fig. 144)**

Gorytes austerus Handlirsch 1893:377. Holotype male (seen), Rio Grande do Sul, Brazil (VIENNA).
Sagenista austerus (Handlirsch) of Bohart 1967:157.

Female (Brazil): Length 10 mm. Black, marked with yellow: scape in front, apical bands on T-II to V and S-II to V; forewing costa, radius, M and Cu, and stigma red; associated wing cells light brownish, marginal cell brown. Pronotal collar and propodeum laterally with microscopic silvery pubescence. Punctures coarse across middle of clypeus, small and sparse on T-II, a little more coarse on S-II, face, mesonotum; pleuron mostly polished. F-I 4x as long as broad, II 2.8x; scrobal sulcus indicated only by posterior pit; sternaulus slightly broken anteriorly; pygidial plate angled at 45°, punctures sparse but distinct.

Male holotype: Length 10 mm. Head including scape black except for narrow lower orbital yellow mark; costa and radius red as in female; F-VI to XI as in Fig. 144, VII, IX, X produced beneath; S-VIII unusually stout and longitudinally ridged; sternaulus complete or nearly so.

Material studied: male holotype (VIENNA), female (DAVIS): Curitiba, Paraná, Brazil, II-1-61 (N. Marston); female (LONDON): El Jabali, Argentina, I-20-31 (I. B.

Anderson); male (DAVIS): El Jabali, Argentina, XII-27-30 (I. B. Anderson); male (LONDON): Concordia, Entre Rios, Argentina, I-12-80 (C. and M. Vardy); male (DAVIS): San Bernardo, Buenos Aires, Argentina, I-1978 (Glew); male (TUCUMÁN): Quebrada Honda, Córdoba, Argentina, I-7-77 (L. Stange).

Variation: The female from El Jabali has the clypeus mostly yellow.

Discussion: The red costa and radius of the forewing, dark marginal cell, all black thorax, and moderate-sized yellow apical bands on T-II to V are characteristic. The stout and ridged S-VIII of the male is quite striking.

Sagenista brasiliensis (Shuckard)

Gorytes brasiliensis Shuckard 1838:80. Holotype male, "Brazil" (LONDON).
Hoplisus seminiger Dahlbom 1843:164. Holotype female (seen), "Brazil" (LUND). Synonymy by F. Smith 1856:361.
Gorytes sepulchralis Handlirsch 1888:388. Holotype male (seen), Blumenau, Santa Catarina, Brazil. New synonym.
Sagenista brasiliensis (Shuckard) of Bohart 1967:157.

Female (Brazil): Length 10 mm. Black, marked with yellow: T-II to V with narrow apical bands; fulvous are: mandible and scape partly, pronotal lobe, legs extensively, and pygidium; forewing brown stained from base through base of submarginal cell I, but discoidal cell II, submarginal cells II-III, and marginal cell largely clear. Scutum, pleuron, and most of T-II epunctate, pronotal collar partly and propodeum posteriorly with silvery micropubescence. Scrobal sulcus present from juncture with episternal sulcus to metapleuron, sternaulus complete.

Male (Brazil): Similar to female. Flagellum with F-VI-VII slightly enlarged only.

Material studied: 56 males, 58 females, Costa Rica, Panama, Colombia, Venezuela, Cayenne, Guiana, Peru, Brazil, Bolivia.

Discussion: The practically all-black head and thorax together with the clear marginal cell and distinct scrobal sulcus are distinguishing. The scrobal sulcus is usually well impressed but sometimes, as in the type of *sepulchralis* a little weak.

Sagenista cayennensis (Spinola) (Fig. 154)

Hoplisus cayennensis Spinola 1841:116. Syntype females (2) (seen), "Cayenne" (TURIN).
Hoplisus anthracipenellus Taschenberg 1875:316. Lectotype female (here designated), Nova Friburgo, Rio De Janeiro, Brazil (HALLE). Synonymy by Bohart 1967:157.
Sagenista cayennensis (Spinola) of Bohart 1967:157.

Female (Cayenne): Length 10 mm. Black, marked with yellow: labrum, clypeus on lower two-thirds, scape in front, pronotal collar, posterior third of scutellum, apical bands on T-II to V, pygidium, apical bands on S-II to V; forewing with brown band across middle, anal and marginal cells also brownish (Fig. 154). Scutum, pleuron, T-I practically epunctate. Propodeum with extensive silvery micropubescence. F-I 3x as long as broad, II 2x; scrobal sulcus indicated only by posterior pit; sternaulus incomplete anteriorly; pygidial plate angled at 40°, sparsely punctate.

Male (Guiana): Length 9 mm. Clypeus black; F-I 2.5x as long as broad, II 1.5x; flagellum nearly simple, F-VI-VIII moderately enlarged; sternaulus complete.

Variation: Specimens from Central America usually have the scutellum nearly all yellow, and the tergal yellow bands broader than in South American specimens.

Material studied: 16 males, 140 females, Mexico, Guatemala, Belize, Honduras, Costa Rica, Colombia, Trinidad, Ecuador, Cayenne, Guiana, Brazil, Bolivia, Argentina (Missiones).

Discussion: The banded forewing with the partly brown subdiscoidal cell (Fig. 154), mostly yellow female clypeus, yellow-banded scutellum, and obsolete scrobal sulcus, characterize the species. Some specimens have the marginal cell nearly clear. T-II to V have moderately narrow apical yellow bands. An Argentine female has both clypeus and scutellum mostly yellow.

Sagenista cingulata R. Bohart, new species

Female holotype: Length 11 mm. Black, marked with yellow: clypeus entirely, scape in front, 2 submedian subapical dots on T-I, apical band, notched anteromedially and occupying about apical one-third of T-II, central spot on T-VI; forewing brown cloud or marginal cell, weakly on submarginal cells I-II. Appressed light gray pubescence on lower frons, pronotum posteriorly, band across posterior one-third of scutellum, weakly on propodeal enclosure, propodeum proper basolaterally. Punctures mediotransversally on clypeus, moderate and 1-2 PD apart on T-II and S-II, scattered on other terga and sterna. F-I 3.5x as long as broad, II 2.5x; sternaulus incomplete anteriorly, scrobal sulcus indicated only by posterior pit; lower metapleural pit round, smaller than midocellus, T-I short, about as long as apical breadth; pygidial plate angled at 45°, sparsely punctate.

Male: Length 8 mm. Clypeus black, scape mostly black; T-II yellow band as in female. F-I 1.6x as long as broad, II 1.4x; F-VII to XI about as in Fig. 145.

Holotype female (TUCUMÁN): San Luis Merlo, San Luis, Argentina, I-22-77 (A. Willink); **paratype** male (TUCUMÁN): same data as holotype.

Discussion: Wing markings, punctation, pubescence, and male antennae are much as in *vardyi*. Differences are the yellow dots of T-I, larger band on T-II, all black male T-III and following, all yellow female clypeus, and all black foreleg on both sexes.

Sagenista kimseyorum R. Bohart, new species (Figs. 143, 149, 151, 152, 157, 158)

Female holotype: Length 10 mm. Black, marked with yellow: clypeus mostly (Fig. 143), scape, pronotal collar, lobe partly, scutellar band on posterior one-fourth, quite narrow apical band on T-II; forewing black from base to and including basal one-half of submarginal cell I, most of discoidal I, and subdiscoidal cell (Fig. 153); hindwing brown-stained toward base. Propodeal areolae without silvery micropubescence (Fig. 158). Punctures scattered on clypeus, present but sparse laterally on T-I-II. Facial features (Fig. 143), LID 2x scape length, F-I 3.2x as long as broad, II 2x; scrobal sulcus indicated only by oblong pit near anterior metapleural suture; posterior

metapleural suture with lower pit about as large as midocellus, suture deep, coarsely "stitched" above; sternaulus incomplete anteriorly; propodeal enclosure with 8 longitudinal carinulae (Fig. 149), propodeum proper practically epunctate laterally, coarsely areolate posteriorly (Fig. 158); T-I 1.3x as long as apical breadth; pygidial plate angled at 37°, sparsely punctate; foretarsal female arolium enlarged (Fig. 151).

Male: Length 7.5-8.5 mm. Clypeus black, F-I 2.2x as long as broad, II 1.5x, IV to VI slightly enlarged; sternaulus complete; propodeal enclosure with 6 longitudinal carinulae; T-II to VI with narrow deep yellow apical bands.

Holotype female (DAVIS): Barro Colorado Island, Canal Zone, Panama, IX-19-78 (R. B. and L. S. Kimsey). **Paratypes**, 2 males, 8 females (DAVIS): same data as holotype but collected III to IX in 1976, '77, '78', '81. Also paratypes, 8 females (miscellaneous museums), Canal Zone, Panama, III-7 to XI-25 (E. Fischer, D. Cavagnero, M. Irwin, C. Michener, H. Swarz, N. Banks). Other paratypes, 2 males, 17 females (LONDON, DAVIS): Nariño and Magdalena, Colombia (M. Cooper); 3 females (SAN JOSÉ I), Golfo Dulce, Puntarenas, Costa Rica (P. Hanson); 25 females (SAN JOSÉ II), Estacion Pitilla, Costa Rica 700 m (C. Miraga, etc.); 15 males, 60 females (LOGAN), Guanacaste, Costa Rica (F. D. Parker, P. Hanson).

Discussion: The extensive black markings of the forewing (Fig. 153), mostly yellow female clypeus, narrow posterior scutellar yellow strip (Fig. 149), weakly punctate T-I-II, mostly black female abdomen, and narrowly banded male T-II-VI, are characteristic.

The species is named for my friends, Robert and Lynn Kimsey, who collected much of the type series in Panama.

***Sagenista pilosa* R. Bohart, new species (Figs. 142, 146, 147, 150, 155)**

Female holotype: Length 11 mm. Black, marked with deep yellow: apical bands on T-II to V; reddish-brown are: mandible subapically, mid- and hindtibiae, pygidium mostly; both pairs of wings extensively brown, medial and submedial forewing cells lighter. Pubescence off-white on scutellum, forming there a dense posterior band (Fig. 147); pubescence appressed and golden on T-II to V, especially near yellow bands; areolation of propodeum partly obscured by silvery micropubescence. Punctures coarse across middle of clypeus, integument of rest of body polished. Facial features (Fig. 142), LID nearly 2x scape length, F-I 3x as long as broad, II 2x; propodeal enclosure with slanting carinulae, forming irregular areolae (Fig. 147); scrobal sulcus indicated only by posterior pit; sternaulus complete, lower metapleural pit larger than midocellus; pygidial plate angled 37°, sparsely punctate (Fig. 146).

Male: Length 9 mm. Forewing with apical one-third mostly pale. F-IV to X slightly enlarged, F-I 2x as long as broad, II 1.5x. T-II to VI with deep yellow apical bands.

Holotype female (DAVIS): 5 mi ne. Tinajas, Vera Cruz, Mexico, VIII-18-63, (F. D. Parker and L. A. Stange). **Paratypes** from Mexico, female (DAVIS): Santiago Tuxtla, Vera Cruz, VII-11-56 (R. and K. Dreisbach); male (WASHINGTON): Guadalajara (J. C. Crawford); female (DAVIS), Tepic, Nayarit, X-1-66 (G. E. and A. S. Bo-

hart); female (DAVIS): Hujintlan, Morelos, VII-22-56 (R. and K. Dreisbach); female (PHILADELPHIA): 8 mi s. Yautapec, Morelos, VIII-16-62 (Roberts and Marston); female (DAVIS), 19 mi s. Iguala, Guerrero, VIII-18-63 (F. Parker and L. A. Stange); female (SAN FRANCISCO): 35 mi n. Juchitan, Oaxaca, VII-20-52 (E. E. Gilbert and C. D. MacNeill); male (DAVIS): 10 mi se. Tepanatapec, Oaxaca, VIII-8-63 (F. D. Parker and L. A. Stange); male, female (SAN FRANCISCO): Tuxtla Gutierrez, Chiapas, VII-14-56 (D. D. Linsdale); 2 males, female (LOGAN, DAVIS): Chamela, Jalisco (F. D. Parker, T. L. Griswold). Also paratypes are: female (DAVIS): El Progreso, Guatemala, XI-3-79 (C. Aguilar); 11 males, 2 females (GAINESVILLE, DAVIS): El Paraiso, Honduras, VIII-22-92, (C. Porter, L. Stange); 3 males (GAINESVILLE, DAVIS): Yuscaran, Honduras, V-12-93 (L. Stange, R. Miller); female (DAVIS): 2 mi e. Quezaltepeque, El Salvador, VII-24-61 (M. E. Irwin); 5 males (LOGAN, DAVIS): 3 mi n. Potrero, Sugar Beach, Guanacaste, Costa Rica, XI-II-91 (F. D. Parker).

Discussion: The type series is remarkably uniform. The species is easily identified by the off-white pubescent band across the posterior two-fifths of the scutellum (Fig. 147), together with the broad deep-yellow bands on T-II to V (Fig. 155). Also, the forewing marginal cell is almost clear. These last two characters differentiate from *vardyi*.

Sagenista scutellaris (Spinola)

Hoplisus scutellaris Spinola 1841:115. Holotype female (seen), "Cayenne" (TURIN).
Harpactes sanguinans Dominique 1901:513. Holotype female, "Cayenne" (depository ?). Synonymy by Bohart 1976:522.
Gorytes fiebrigi Brèthes 1909:238. Holotype female (seen), San Bernardino, Paraguay (BUENOS AIRES). Synonymy by Bohart 1976:522.
Sagenista scutellaris (Spinola) of Bohart 1967:157.

Female (Brazil): Length 11 mm. Black, marked with orange and yellow. Orange are: scutellum and attached spot on scutum; whitish yellow are: scape in front, large lateral spot on T-II, narrow apical bands on T-III to V; forewing with brown band from submarginal cells I, II, extended posteriorly to include apical two-thirds of subdiscoidal cell and all of discoidal cell II; apex of wing including apical fourth of marginal cell is clear. Scutum and pleuron are practically epunctate, T-II has fine punctures 2-3 PD apart. Propodeal areolation partly obscured by extensive silvery micropubescence. F-I 3.5x as long as broad, II 2.5x; scrobal sulcus weakly defined; sternaulus incomplete anteriorly; pygidial plate angled at 45°, punctures about 2 PD apart.

Male (Peru): Length 9 mm. Similar to female; F-I 2x as long as broad, II 1.5x; flagellum not unusually swollen, sternaulus complete.

Material studied: 5 males, 23 females, Cayenne, Guiana, Brazil, Peru, Bolivia, and Paraguay.

Discussion: The banded forewing, bright orange scutellum, and lateral whitish spots on T-II are characteristic. The scrobal sulcus is sometimes weak, but is distinguishable usually.

***Sagenista tucumanae* R. Bohart, new species**

Female holotype: Length 11 mm. Black, marked with yellow: band across apical one-half of clypeus, scape in front, spot near apex of foretibia, narrow apical bands on T-II to IV; forewing with leading one-fourth dark brown. Propodeal enclosure irregularly carinulate and laterally micropubescent, propodeum proper posteriorly with appressed whitish micropubescence, rather finely areolate; sternaulus incomplete anteriorly; pygidial plate angled about 38°, sparsely punctate.

Holotype female (DAVIS): San Pedro Colalao, Tucumán, Argentina, XI-9-67 (L. Stange).

Male: Unknown.

Discussion: The dark brown leading one-fourth of the forewing including the marginal cell, together with moderate-sized yellow bands on T-II to IV characterize the species. The scrobal sulcus is indicated only by a posterior pit. The specific name refers to the Tucumán Province of Argentina.

***Sagenista vardyi* R. Bohart, new species (Figs. 145, 148, 156)**

Female holotype: Length 10 mm. Black, marked with yellow and brownish red. Yellow are: lower one-half of clypeus, scape in front, undulating apical margin of T-II (Fig. 156), spot at basal middle of pygidial plate; brownish red are: foreleg except for tarsus, pronotal lobe; forewing marginal cell and stigma dark brown, submarginal cells I and II stained. Pubescence forming a dense whitish coat on posterior one-fourth of scutellum (Fig. 148), less dense but prominent on propodeal enclosure laterally. Propodeum proper areolation with light micropubescence which also covers T-I but most dense on apical one-third, T-III-IV micropubescent on apical two-thirds. Punctures mediotransversally on clypeus, moderate and 1-2 PD apart on T-II, scattered on other terga. F-I 3.8x as long as broad, II 2.5x; sternaulus incomplete anteriorly; scrobal sulcus indicated only by a posterior pit; lower metapleural pit oval, smaller than midocellus; T-I stout, a little longer than apical breadth; pygidial plate angled at 45°, sparsely punctured.

Male: Clypeus and scape black, T-II-III with apical yellow bands, and medial trace of a band on IV. Brownish red markings, pubescence and punctation as in female. F-I 1.5x as long as broad, II 1.4x; F-VII and F-IX projecting apically beneath (Fig. 145); sternaulus nearly complete.

Holotype female (LONDON): Colonia Dora, Santiago del Estero, Argentina, XI-26-79 (C. and M. Vardy). **Paratypes**, male (LONDON): same data as holotype; female (DAVIS), Termas de Rio Hondo, Santiago del Estero, Argentina, XI-28-79, (C. and M. Vardy).

Discussion: Based on the scutellar pubescence and wavy anterior margin of the narrow band on T-II, there is a resemblance to *pilosa*. The abdominal markings overall are quite different in distribution, and much deeper yellow in *pilosa*. The wing pattern differs and the stigma of *vardyi* is dark brown instead of orange. The male flagellum of *pilosa* is relatively simple, but that of *vardyi* is shown in Fig. 145. Also, the sternaulus of *vardyi*, as well as that of *tucumanae*, is incomplete. The unspotted but

apically pilose T-I of *vardyi* plus the much narrower yellow band on T-II (Fig. 156), as well as the male band on T-III and a trace on T-IV, differentiate from *pilosa*. The specific name, *varydi* is given for one of the type series collectors, my friend Colin Vardy.

Stethogorytes R. Bohart, new genus (Figs. 190-193)

Stethogorytes R. Bohart, new genus. Type species: *Stethogorytes volcano* R. Bohart. Present designation.

Principal generic characters are listed below:

1. Female mandible 2-toothed, frontal carina distinct, clypeus with scattered punctures.
2. Antennal sockets less than a diameter from clypeus.
3. Inner eye margins widely separated but converging slightly below (Fig. 190).
4. Acetabular carina present, sternaulus incomplete in front, omaulus present.
5. Prescutellar sulcus simple.
6. Female foretarsal arolium enlarged.
7. Female midtarsal I with spur a little stouter than that of II.
8. Scrobal sulcus complete, straight, no episternal sulcus.
9. Propodeal enclosure smooth, no medial sulcus, basally foveolate (Fig. 193).
10. Metapleural posterior suture entirely simple.
11. Propodeum proper smooth, polished.
12. Hindwing media arising well before cu-a.
13. Oblique scutal carina present.
14. Spiracular sulcus distinct.
15. T-I petiolate, 1.7x as long as broad, slightly pedunculate (Fig. 191).
16. Male S-VIII stinglike.
17. Female pygidial plate smooth, pointed, sparsely punctate.

The acetabular carina, absence of an episternal sulcus, enlarged female foretarsal arolium, all smooth propodeal enclosure, 2-toothed female mandible, rather broad frons, and polished female pygidial plate, characterize the genus.

Stethogorytes volcano R. Bohart, new species (Figs. 190-193)

Female holotype: Length 11 mm. Black, extensively marked with yellow: labrum, mandible toward base, clypeus except dark central spot, inner orbit to spot opposite midocellus, scape in front, large anterior genal area, pronotal collar, lobe, 4 longitudinal scutal stripes (Fig. 192), scutellum and metanotum mostly, 2 spots on propodeal enclosure, pleuron mostly, including propodeum proper (except posteromedian triangle); legs extensively including coxae, trochanters, most of femora, part of tibiae; T-I except median black spot (Fig. 191), T-II basally and apically, T-III-IV apical bands, S-I to IV mostly; antenna dull red in front on pedicel and F-I to IV; legs partly brownish red, tarsomere V of mid- and hindleg brown; forewing lightly stained, marginal cell, submarginal I-II brown, submarginal III brown in front one-half, costal vein black, stigma reddish brown. Clypeal punctation scattered, rest of body polished, epunctate. Facial features (Fig. 190); LID (at clypeus) 2x scape length, F-I 3x as long as broad, II 2.5x, V 2x; propodeal enclosure covered with fulvous pubescence, no median sulcus (Fig. 193); no episternal sulcus, scrobal sulcus complete and nearly

straight, sternaulus incomplete anteriorly; pygidial plate polished, narrowed almost to a point posteriorly, a few inconspicuous punctures.

Male: Length 9 mm. About as in female. LID 1.5x scapal length; F-I 2.5x as long as broad, II-III 2x; T-VII polished.

Holotype female (DAVIS): Estacion Maritza, Volcan Orosi, Guanacaste, Costa Rica, 600 m, 1989. **Paratype** male (DAVIS): Estacion Ptilla, Guanacaste National Park, Costa Rica, 680 m, XI-1988 (Gauld and Mitchell); 2 males, 3 females (LOGAN, DAVIS): Bijagua, Alejuela, Costa Rica, VI, XI, 1990 (F. D. Parker).

Discussion: The overall polished body, slender antennae, polished and posteriorly pointed pygidial plate, petiolate and slightly pedunculate T-I, and forewing pattern, distinguish the species along with the generic characters.

Allogorytes R. Bohart, new genus (Fig. 159)

Allogorytes R. Bohart. Type species: *Gorytes bifasciatus* Brèthes. Present designation.

Important generic characters are listed below:

1. Female mandible 2-toothed.
2. Antennal sockets placed well above clypeus (Fig. 159).
3. Inner eye margins converging strongly toward clypeus (Fig. 159); male vertex with raised and polished hump.
4. Acetabular carina present, sternaulus complete.
5. Prescutellar sulcus foveolate.
6. Female arolia subequal.
7. Female midtarsal I with "spur" slightly larger than that on II.
8. Scrobal-episternal sulcus not continued in front of vertical episternal sulcus.
9. Propodeal enclosure punctate, not carinulate.
10. Metapleural posterior suture weakly foveolate above.
11. Propodeum proper with coarse punctures, mostly close.
12. Hindwing media arising a little beyond cu-a.
13. Oblique scutal carina present.
14. Spiracular sulcus of propodeum absent without a trace.
15. T-I petiolate but a little less than 2x as long as apical breadth.
16. Male S-VIII stinglike, last 4 flagellomeres specialized, male T-VII visible.
17. Female pygidial plate closely striatopunctate.

Although similar in many of its features to *Hoplisoides*, this genus has several radical differences: the inner eye margins converge strongly toward the clypeus (Fig. 159), the propodeal enclosure is punctate rather than carinulate or smooth, the male vertex bears a polished hump, and T-I is petiolate, although somewhat stoutly so. Also, male T-VII is visible, unlike males of South American species of *Hoplisoides*.

Allogorytes bifasciatus (Brèthes), new generic assignment (Fig. 159)

Gorytes bifasciatus (Brèthes) 1909:237. Holotype male (seen), "San Bernardino", Paraguay (BUENOS AIRES).

Hoplisoides bifasciatus (Brèthes) of Bohart 1976:521.

Female (Santiago del Estero, Argentina): Length 10 mm. Black to brown, marked with yellow: scape in front at apex; pronotal collar, lobe, spot beneath; large scutellar spot; T-I to V with apical bands, those on III to V medially broken; S-II laterally; forewing leading half weakly stained, marginal cell brown. Punctures moderate and extensive on thorax, more coarse and close on terga, coarse and 1 PD apart on S-II. F-I 1.6x as long as broad, II 1.3x; inner eye margins strongly converging toward clypeus. LID about 0.6x scape length (Fig. 159); propodeal enclosure with moderate punctation, denser posteriorly, median sulcus present; pygidial plate angled at 45°, punctures about 1 PD apart, slightly elongate, on micropunctate surface.

Male: Length 10 mm. Clypeus all yellow or mostly brownish red; legs brownish red to black, tergal bands on T-I-II, and sometimes broken ones on III to VI. F-I 1.7x as long as broad, II 1.4x; flagellum relatively simple, slightly clavate.

Material studied: 3 males, 2 females (DAVIS, TUCUMÁN): Termas de Rio Hondo, Santiago del Estero, Argentina, XIII-30-75 (R. Bohart, L. Stange); female (DAVIS): same locality, XII-20-79 (L. Stange); male, 7 females (LOGAN, DAVIS): San Pedro, Paraguay, XI-XII-1983 (M. Wasbauer).

Discussion: The small LID, punctate propodeal enclosure, and visible male T-VII are quite different from *Hoplisoides* species with which it might be compared. Markings of *bifasciatus* appears to be variable. Many Argentine specimens have T-I-II apically yellow banded, thus agreeing with the species name. However, the series from San Pedro, Paraguay also has fragmentary bands on III to VI of most specimens.

Hoplisoides Gribodo (Figs. 160 to 174)

Hoplisoides Gribodo 1884:276. Type species: *Hoplisoides intricans* Gribodo 1884:276. Monotypic.

Icuma Cameron 1905:21. Type species: *Icuma sericea* Cameron 1905:21. Monotypic. Synonymy by Bohart and Menke 1976:53.

Important generic characters are listed below:

1. Female mandible 2-toothed (Fig. 161).
2. Antennal sockets placed close to upper margin of clypeus (Fig. 162).
3. Inner eye margins widely separated, nearly parallel (Fig. 161.)
4. Acetabular carina present, sternaulus sometimes incomplete.
5. Prescutellar sulcus foveolate.
6. Female arolia subequal (rare exceptions, see Dominican species.)
7. Female midtarsal I without unusual "spur" compared with II.
8. Scrobal sulcus weakly defined, absent in front of episternal sulcus (rare exception).
9. Propodeal enclosure longitudinally carinulate or nearly smooth (Figs. 163 to 165).
10. Metapleural posterior suture simple, sometimes "stitched" above.
11. Propodeum proper punctate, sparsely or closely.
12. Hindwing media arising at or a little before cu-a.
13. Oblique scutal carina present.
14. Spiracular sulcus of propodeum absent (Figs. 166 to 168).
15. T-I stout, less than 2x as long as apical breadth.

16. Male S-VIII stinglike, last 4 male flagellomeres specialized, concealed sternal hair brushes present.
17. Female pygidial plate punctate to weakly striatopunctate (Figs. 168 to 170).

The status of the genus, its taxonomy and biology were discussed by Bohart and Menke (1976:517-521). Relationships with other genera in South America are given in the generic key. A review of North American species was made by Bohart (1997). Twenty-six species are now recognized in the neotropical fauna. Prey is known to be in the families of Homoptera: Cicadellidae, Flatidae, and Membracidae.

Key to Neotropical *Hoplisoides*

1. Lower metapleural pit considerably smaller than midocellus or tiny, postmetapleural area of propodeum usually with oblique ridges or at least a few elongated punctures, but not in Dominican species 2
-- Lower metapleural pit nearly as large as midocellus or larger, postmetapleural area of propodeum with a few punctures but without ridging 14
2. Propodeal enclosure with at least posterior one-third smooth 3
-- Propodeal enclosure mostly or all carinulate 7
3. T-III-IV (at least) with complete yellow bands, lower metapleural pit followed by zone of nearly vertical ridging; forewing with some yellowing in addition to dark areas 4
-- T-III-IV (at least) without complete yellow (or whitish) bands, lower metapleural pit followed by only smooth area at base of propodeum; forewing with unspotted areas clear 5
4. T-I-II (at least) with yellow bands; smaller species, about 7-8 mm long, male (Peru) ..... *rasilis* R. Bohart, new species
-- T-I-II without yellow bands; larger species, about 10 mm long, female (Brazil to Argentina) ..... *jordani* (Handlirsch)
5. Fore- and midlegs extensively reddish brown and whitish yellow; scutum mostly reddish brown, clypeus all whitish, female (Dominican Republic) ..... *arispilos* R. Bohart, new species
-- Fore- and midlegs mostly black and whitish, scutum mostly black; clypeus partly black 6
6. T-I-IV each with pair of submedian whitish spots, forewing with 4 discrete black spots, propodeal enclosure with golden micropubescence, female (Dominican Republic) ..... *azuae* R. Bohart, new species
-- T-I-IV with whitish bands, broken medially, forewing with discrete black spots, propodeal enclosure with silvery micropubescence, male (Dominican Republic) ..... *dominicanus* R. Bohart, new species
7. Thorax entirely black, including pronotal collar, female (Ecuador) ..... *nigripes* R. Bohart, new species
-- Thorax not entirely black, pronotal collar with yellow 8
8. Forewing radial vein reddish, anterior one-third of forewing brownish red (Costa Rica to Argentina) ..... *fuscus* (Handlirsch)
-- Forewing radial vein brown or black, anterior one-third of forewing not brownish red 9

9. Forewing with anterior one-third black, female terga with quite narrow yellow bands or nearly all black, male tergal bands narrow (Mexico to Argentina) ..... *iheringii* (Handlirsch)
-- Forewing with anterior one-third not black, terga with distinct yellow bands, including T-I 10
10. Head mostly red (Fig. 160), (Argentina) ..... *ruficeps* R. Bohart, new species
-- Head mostly black and yellow 11
11. Metapleuron red, a streak of red obliquely across mesopleuron, both scutellum and metanotum yellow (Costa Rica, Mexico) ... *metapleura* R. Bohart, new species
-- Metapleuron black, scutellum and metanotum various 12
12. Propodeum with large posterolateral yellow spot, both scutellum and metanotum all yellow (Costa Rica, Colombia, Peru) ..... *helvolus* R. Bohart, new species
-- Propodeum posteriorly black, scutellum with posterior yellow line, metanotum black 13
13. F-I to VII in male denticulate beneath, male F-I 1.3x as long as broad, II 1.0x; T-I to III with apical yellow bands, male (Peru) ..... *notialis* R. Bohart, new species
-- F-I to VII in male smooth beneath, male F-I 2x as long as broad, II 1.5x; T-I to VI (male), I-V (female) with apical yellow bands (Peru) ..... *peruvicus* R. Bohart, new species
14. Mesopleuron polished, practically epunctate, sometimes a few micropunctures . 15
-- Mesopleuron with distinct, often sparse, punctation 20
15. T-III with yellow apical band or lateral spots 16
-- T-III black 17
16. Propodeal enclosure smooth, female (Argentina, Brazil, U.S.) ..... *semipunctatus* (Taschenberg)
-- Propodeal enclosure completely carinulate (Mexico to Argentina) ..... *iridipennis* (F. Smith)
17. T-IV with white or yellow apical band 18
-- T-IV black 19
18. Markings yellow, propodeal enclosure with carinulae incomplete posteriorly (Cuba, Virgin Is.) ..... *ater* (Gmelin)
-- Markings white, propodeal enclosure completely carinulate (Hispaniola) ..... *alaya* (Pate)
19. Scutum mostly smooth, punctures minute, widely scattered, thorax entirely black, female (Puerto Rico) ..... *niger* R. Bohart
-- Scutum with moderate punctures, 2-3 PD apart, thorax yellow marked on pronotal collar, scutellum (Brazil, Argentina) ..... *mendozanus* (Brèthes)
20. T-III black 21
-- T-III apically yellow banded or spotted 22
21. Propodeal enclosure smooth on posterior one-half; female clypeus, legs, sterna mostly red, female (Cuba) ..... *insularis* (Cresson)
-- Propodeal enclosure completely carinulate; male clypeus, legs mostly yellow, S-III and V-VI brown to black (Cuba) ..... *xerophilus* Alayo
22. Lower metapleural pit oval, larger than midocellus, T-II punctation fine 23
-- Lower metapleural pit rounded, a little smaller or larger than midocellus, T-II punctation various 24

23. Large species, female mostly 10-13 mm long, wings extensively reddish, scutum with short but dense off-silvery or golden pile, T-I and scutellum usually black (Mexico to Argentina) ..... *vespoides* (F. Smith)
-- Medium-sized species, 6-8 mm long, wings not reddish and veins black, scutum without unusual pubescence, female (Mexico to Costa Rica) ..... *ovatus* R. Bohart, new species
24. Midtibia (male) entirely yellow, propodeal enclosure smooth on posterior one-half, male (Cuba) ..... *jibacoa* (Alayo)
-- Midtibia not entirely yellow, propodeal enclosure entirely carinulate 25
25. S-III to VI in male with dense pale woolly hair, S-V often with lateral tooth; female propodeum with posterolateral yellow spot; punctation on scutum and T-II moderately coarse in both sexes (U.S. to Brazil) ..... *denticulatus* (Packard)
-- S-III to VI in male without unusual pubescence, S-V without lateral tooth; female propodeum black, punctation on scutum and T-II coarse and close in both sexes (Mexico to Costa Rica) ..... *parkeri* R. Bohart

Hoplisoides alaya (Pate)

Psammaecius alaya Pate 1947:96. Holotype male, San Domingo, Hispaniola (PHILADELPHIA). *Hoplisoides alaya* (Pate) of Bohart 1976:520.

Female (Haiti): Length 8.5 mm. Black, marked with whitish: mandible except apex, clypeus, lower inner orbit, scape in front, pronotal collar, lobe, mesopleural spot beneath, small lateral scutal spot, scutellum posteriorly, legs partly (but hindfemur and tarsus black), apical bands on T-I-II, and IV-V, apical band on S-II, lateral dots on S-III-IV; flagellum light red in front; forewing with stigma orange; submarginal cell I lightly stained, II brown, III brown in leading two-thirds, marginal cell brown. Clypeus, frons, scutum with scattered moderate punctures; pleuron polished, with a few widely separated punctures; T-II-III with punctures 1-2 PD apart, IV-V more coarse and closer; S-II punctures coarse, 1-3 PD apart. LID 1.6x scapal length, F-I 2.4x as long as broad, II 1.4x; propodeal enclosure with complete longitudinal carinulae next to polished area on propodeum proper; lower metapleuron pit oval, larger than midocellus, pygidial plate with slightly separated elongate punctures.

Male (Dominican Republic): Length 6.5 mm. About as in female but clypeus with apical one-half black, T-III, V-VI black; hindleg all black. LID 1.4x scapal length, F-I 1.9x as long as broad, II 1.4x.

Material studied: (All from Hispaniola), 3 males, 2 females (DAVIS): IV and VII-1978 (G. B. Fairchild); male (DAVIS), Fond, Parisien, Haiti, II-18-22; female (DAVIS): St. Marc, Haiti, IV-2-22; 6 males, 3 females (GAINESVILLE, DAVIS): Prov. Azua and Monte Cristi, Dominican Republic (L. Stange, etc.).

Discussion: Among the species with a relatively large lower metapleural pit, T-I-II-IV banded, *alaya* is similar to *ater*. However the markings of *alaya* are whitish instead of yellow, and the propodeal enclosure is completely carinulate.

Hoplisoides arispilos R. Bohart, new species

Female holotype: Length 9 mm. Black, whitish, and red. Red are: extensively on scutum scutellum, upper mesopleuron, fore- and midlegs, and propodeum proper;

whitish are: basal two-thirds of mandible, labrum, clypeus, lower two-thirds of frons, antenna in front including scape to F-I-V, 2 spots on pronotal collar, coxae to femora in front; sublateral spots on T-I, lateral spots on T-II, posteromedial double spot on T-III, nearly all of T-IV-V, and base of VI; forewing with 4 distinct black spots: a small one over RS and M juncture, large ones across wing at cu-a area, and subdiscoidal cell toward apex; and a very large one covering marginal cell, submarginals II-III, and outer one-fifth of discoidal cell II. Pubescence mostly microscopic on thorax and abdomen, pale except reddish on scutum to enclosure, forming silvery patches on pleuron and propodeum proper. Punctures coarse medially on clypeus, fine and well spaced on scutum and mesopleuron, most other areas polished and nearly epunctate, T-IV-V more closely punctate, S-II with moderate spaced punctation. LID 2x scape length, F-I 4x as long as broad, II-IV 2.5x; enclosure about two-thirds carinulate, posterior one-third smooth; foretarsal arolium enlarged; lower metapleural pit smaller than midocellus; pygidial plate with lateral edges convex, surface punctate and obscurely striate.

Holotype female (GAINESVILLE): Tortuguero, Azua Prov., Dominican Republic, V-23-86 (R. Miller, L. Stange).

Discussion: Three Dominican species are similar in the small metapleural cavity, mostly microscopic pubescence, white maculation, 4-spotted forewing, absence of ridges or elongate punctures behind the metapleuron, and the 2 females with enlarged foretarsal arolium. The last character seems to be unique in *Hoplisoides*. Of these 3 Dominican species, *arispilos*, has the frons mostly white, the most basal wing spot quite large, and the hindlegs all black. In *azuae* and *dominicanus* the frons is much darker, the wing spots are smaller, and the hindleg is spotted on both femur and tibia. The tergal bands of *dominicanus*, although interrupted medially, differ from the discrete tergal spots of *azuae* and *arispilos*. Because of the small lower metapleural pit, absence of postmetapeural ridges or elongate punctures, enlarged female foretarsal arolium, stout female pygidium, somewhat inflated appearance of male hindtarsus, and absence of any lateral clypeal "moustache" (not even a long bristle) in the only known male of the group, it might be reasonable to erect a new genus. However, all other features agree with those of more ordinary *Hoplisoides*, and I consider this group of three to be a slight evolutionary divergence.

The species name, *arispilos*, is Greek, attesting to the many spots.

Hoplisoides ater (Gmelin)

Crabro tricinctus (Fabricius 1775:375). Lectotype male (seen), "America," designated by vander Vecht 1961:49 (COPENHAGEN).

Vespa atra Gmelin 1790. New name for *Crabro tricinctus* Fabricius 1775:375, nec *Vespa tricincta* Fabricius 1775:363 (now in *Sphecius*).

Vespa tristrigata Fabricius 1794:459. Lectotype female, "American Islands," designated by vander Vecht 1961:49.

Lestiphorus behni Dahlbom 1842:11. Holotype female, LUND. Synonymy by Dahlbom 1845:483.

Harpactus scitulus Cresson 1865:147. Holotype female, Cuba (HAVANA-II). Synonymy by Dalla Torre 1897:555.

Hoplisoides ater (Gmelin) of Bohart 1976:520.

Female (Puerto Rico): Length 8 mm. Black, marked with yellow: clypeus, lower inner orbit, scape in front, pronotal collar, lobe, spot beneath, scutal spot posterolaterally, scutellum mostly, propodeum proper oval spot laterally, fore- and midfemora partly, tibiae partly, midtarsomere I basally, apical bands on T-I-II, IV, lateral spot on S-II; flagellum reddish in front; forewing lightly stained; marginal cell, submarginal cell II, two-thirds of III, brown; stigma orange. Clypeus punctate across bulge; frons, scutum, T-II-III laterally weakly punctate, pleuron polished and nearly epunctate. LID 1.6x scapal length, F-I 2.5x as long as broad, II 1.5x, propodeal enclosure with longitudinal carinulae fading out in posterior one-half, lower metapleural pit oval, larger than midocellus, pygidial plate angled at 45°, punctures scattered.

Male (Puerto Rico): Length 6.5 mm. About as in female but flagellum practically all black, LID 1.3x scapal length F-I 2x as long as broad, II 1.5x.

Variation: A male from Cuba has the mandible yellow basally, and the flagellum reddish in front on basal one-half. A female from Puerto Rico has the mandible basally yellow.

Material studied: Male, female (DAVIS): Bahia Las Cabezas, Puerto Rico, II-9-67 (H. E. Evans); male (DAVIS): Coamo Springs, Puerto Rico, VI-7-15; female (GAINESVILLE): Santa Rita, Puerto Rico, V-1914 (G. Morrill); male (DAVIS): Cienega de Zapaca, Cuba, V-19-63; male (DAVIS), Virgin Gorda, Virgin Is. V-6-79; male (DAVIS): Providence I., Bahamas, IV-14-53.

Discussion: *H. ater* belongs to a group of species with relatively large lower metapleural pit, and nearly impunctate pleuron. These are *semipunctatus*, *iridipennis*, *niger*, *ater*, *alaya*, and *mendozanus*. Four of these have the propodeal enclosure with essentially complete longitudinal carinulae. This leaves *semipunctatus* and *ater*. The former has the propodeal enclosure all smooth; the latter has only the posterior one-half smooth. Other differences are contained in the key to species of *Hoplisoides*.

***Hoplisoides azuae* R. Bohart, new species**

Female holotype: Length 9 mm. Black, orange yellow and whitish. Orange yellow are: flagellum in front, lateral dot on pronotal collar, anterolateral scutal dot, 2 scutellar spots joined posteriorly, metanotum mostly, foretarsus; whitish are: mandible on basal two-thirds, labrum, clypeus on anterior one-half, lower frons laterally, 3 spots on pronotal collar, lobe, adjacent mesopleural dot, posterolateral scutal dot, lateral dots on T-I, 4 posterior spots on T-II, 2 submedian dots on T-III-IV, T-V completely, T-VI basally, S-II posterior band; forewing with small but distinct dark brown spots at cu-a area, RS and M juncture, subdiscoidal cell apically, submarginal cell II and marginal cell, and upper two-thirds of third submarginal cell; apical white tibial spots, ventral femoral white spots, foretarsal I-IV whitish beneath. Pubescence pale on head, microscopic, similar on pleuron, similar on scutum and propodeal enclosure but golden brown, forming silvery spots on mesopleuron and propodeum proper. Punctation strong on clypeus, well spaced on mesopleuron, scutum, and S-II, fine and well spaced in T-I-II, fine but closer on T-III-V. LID 1.9x scape length; F-I 3x as long as broad, II 2.5x, III 2x, IV 1.5x; enclosure with weak median groove, overall with posterior one-

half smooth; foretarsal arolium enlarged; lower metapleural pit a little smaller than midocellus; pygidial plate with lateral edges convex, surface irregularly punctate.

Holotype female (GAINESVILLE): Tortuguero, Azua Prov., Dominican Republic, V-23-86 (R. Miller, L. Stange).

Male: Unknown.

Discussion: The male of *dominicanum* was collected at the same place and on the same date but it has color and pattern differences in the antenna, forewing, mid- and hindtarsi, and terga. The 3 Dominican species are easily separated by color pattern differences highlighted in the key to species.

The specific name honors Azua Province where it was collected.

Hoplisoides denticulatus (Packard) (Figs. 162, 165, 167, 174)

Gorytes denticulatus Packard 1867:430. Holotype male (seen), "Louisiana" (PHILADELPHIA).
Gorytes barbatulus Handlirsch 1888:408. Syntype males, females (seen), Illinois, Texas (GENEVA, ZURICH). Synonymy by Bohart 1976:521.
Gorytes hypenetes Handlirsch 1895:894. Syntype males (seen), Colombia, Venezuela (BERLIN). Synonymy by Bohart 1997:521.
Hoplisoides denticulatus hypenetes (Handlirsch) of Bohart 1976:521.

Female (Venezuela): Length 8 mm. Black, marked with yellow and brownish red. Yellow are: upper half of clypeus, scape in front, frons laterally, pronotal collar, lobe, mesopleural spot beneath, scutellum, metanotum, large propodeal spot laterally, T-I to V with apical bands; brownish-red are: legs mostly, edgings around tergal yellow spots. Punctation moderate. F-I 2.5x as long as broad (Fig. 162), II 1.5x, propodeal enclosure with about 12 longitudinal carinulae (Fig. 165); forewing partly clouded along veins of basal cells, submarginal cell II and marginal cell entirely, submarginal cell III in leading one-half; pygidial plate black, about 1.5x as long as broad, punctures about 2 PD apart or more (Fig. 174).

Male (Venezuela): Length 8 mm. Clypeus yellow, black apically; propodeum black; fore- and midlegs partly yellow, hindleg black and brownish-red; T-I to V with yellow bands, VI black with brownish red apex; short, woolly pubescence on sterna, mesopleuron; denticle laterally on S-V.

Material studied: North America (widespread); Central and South America (numerous specimens from Mexico, Honduras, Costa Rica, Colombia, Venezuela, Brazil).

Discussion: The lower metapleural pit is usually a little smaller than the midocellus (Fig. 167). The status of *denticulatus* as one of several North American species with woolly pubescence on sterna and mesopleural venter in the male was given by Bohart (1997). The female pygidial plate is fairly short and broad (Fig. 174) as compared with *fuscus*, *iheringii*, and *jordani*, which, is addition, are larger species. Some females from Venezuela and Colombia have the tergal yellow quite extensive, and the pygidial plate may be red. I believe these are variations. In general, female *denticulatus* are recognized by the moderately developed lower metapleural pit, large posterior propodeal yellow spots, and rather short pygidial plate with curved sides.

***Hoplisoides dominicanus*, R. Bohart, new species**

Male holotype: Length mm. Black, marked with white: mandible mostly, scape beneath, lateral stripe on lower frons continued as a lateral spot on clypeus, pronotal collar, lobe, adjacent mesopleural spot, scutal dot behind tegula, posterior band on scutellum, fore- and midfemur apicoventrally, fore- and midtibia apically, hindfemur dot apically on outer surface, fore- and midtarsi partly, apical bands on T-I-V broken medially, T-VI median spot, S-II apically but narrowed medially, submarginal cells and marginal cell dark brown. Pubescence pale, microscopic, extensive. Punctation moderate but well spaced on frons, scutum, mesopleuron; propodeum polished laterally, weakly punctate posteriorly, enclosure with about 10 carinulae which cover anterior one-third, T-I-II punctures widely spaced, those on III-VI fine but progressively more closely spaced. Lower metapleural pit small; clypeus 2x as broad as long, LID 1.5x scape length, F-I 2x as long as broad, F-II-V about 1.5x, flagellum nearly cylindrical, F-VIII-IX with raised ventral line.

Female: Unknown.

Holotype male (DAVIS): Playa Portuguero, V-23-86 (R. Miller, L. Stange).

Discussion: The white markings, mostly black clypeus, black propodeum, hindtarsus, and partly smooth propodeal enclosure characterize this species. The broken bands on T-I-IV are unique.

The species name is derived from the "Dominican Republic".

***Hoplisoides fuscus* (Taschenberg)**

Hoplisus fuscus Taschenberg 1875:368. Holotype female (seen), Rio de Janeiro, Brazil (HALLE).
Hoplisoides fuscus (Taschenberg) of Bohart 1976:521.

Female (Brazil): Length 9 mm. Black, marked with yellow: labrum, clypeus except transverse subbasal black mark, supraclypeal triangle, scape in front, F-I to VI in front, pronotal collar, lobe partly, lateral scutal dot, scutellum posteriorly, apical spot in front on femora, streaks in front on tibiae and fore- and midtarsals I, strong apical bands on T-II to V, pygidium medially; forewing with reddish costa, forward one-half of wing reddish stained; one-half of submarginal cells I, II, one-fourth of III, brownish; marginal cell all brown. F-I 3x as long as broad, II 2x; punctation moderate and sparse, pleuron considerably polished, propodeum proper medium coarse and 1-2 PD apart, propodeal enclosure with about 20 longitudinal carinulae; lower metapleural pit tiny, area just behind metapleuron with diagonal ridges; pygidial plate nearly 2x as long as broad, oval punctures scattered.

Male (Brazil): Length 7.5 mm. Mandible, labrum, clypeus black; F-I 1.8x as long as broad, II 1.2x, flagellum nearly simple.

Material studied: 12 males, 7 females, Colombia, Venezuela, Ecuador, Peru, Brazil, Argentina. Also, 8 males and 100 females from Costa Rica. Those from Venezuela are small and have both scutellum and metanotum yellow. I am treating these as simply a variety. The Costa Rican specimens nearly all have both scutellum and metanotum yellow.

Discussion: The black male clypeus, transverse black spot on the female clypeus, tiny metapleural pit, nearly simple male flagellum, and apical yellow bands on T-II to V are characteristic. Outstanding is the generally reddish anterior third of the forewing. The radius is red from its base to the orange yellow stigma.

Hoplisoides helvolus R. Bohart, new species

Female holotype: Length 7.5 mm. Black, marked with yellow: mandible medially, labrum, clypeus with medial dot and apical band, scape in front, lower orbits, pronotal collar, lobe, adjacent mesopleural spot, scutellum and metanotum entirely, large oval spot on propodeum posteriorly, midfemur apically, tibiae in front, foretarsal I in front; flagellum dull yellow in front; forewing weakly stained in front, marginal cell brown as well as anterior parts of submarginal cells II-III; costal vein dark brown. Punctation scattered on pleuron, moderate and about 1 PD apart on scutum and T-II, coarse and 1-2 PD apart on S-II. LID 2x scapal length; F-I 2.5x as long as broad, II-III 1.8x; lower metapleural pit tiny, propodeal area behind it with slanting carinules, enclosure completely carinulate, flagellum gradually swollen toward F-VII; pygidial plate angled at 45°, mostly striatopunctate, a small yellow smooth median spot.

Male: Much as in female, forewing more clear in front toward base; F-I 1.2x as long as broad, II-III 1.0x.

Holotype female (LAWRENCE): Antioquia, Rio Porce, Colombia, 1000 m, X-2-76 (C. D. Michener). **Paratypes**, 3 males (TUCUMÁN, DAVIS): Lambayeque, Lambayeque, Peru, VIII-23-75 and VIII-27-75 (C. Porter, L. Stange).

Discussion: The tiny lower metapleural pit, yellow-banded T-I to VI, yellow scutellum and metanotum, and large oval yellow spots on the propodeum posteriorly, characterize the species. The specific name means yellowish in Latin.

Hoplisoides iheringii (Handlirsch) (Figs. 166, 170)

Gorytes iheringii Handlirsch 1893:276. Holotype female (seen) Rio Grande do Sul, Brazil (VIENNA).

Hoplisoides iheringii (Handlirsch) of Bohart 1976:521.

Hoplisoides subcostalis R. Bohart 1997:658. Holotype female, Barro Colorado I, Canal Zone, Panama (WASHINGTON). New synonym.

Female (Panama): Length 10 mm. Black, marked with yellow: clypeus partly, frons laterally, scape in front, F-I to V in front, pronotal collar, lobe partly, narrow posterior band on scutellum; legs partly; flagellum reddish brown toward apex, legs partly so; forewing black across entire leading one-third. Punctation mostly fine and widely spaced on pleuron, moderately coarse and close on propodeum proper. Metapleural lower pit tiny (Fig. 166), posterior metapleural suture undefined but followed by diagonal ridges (Fig. 166); propodeal enclosure with about 20 longitudinal carinules; F-I 3x as long as broad, II 2x; pygidial plate 2x as long as broad, striatopunctate.

Male (Argentina): Length 9 mm. Clypeus black, flagellum black, T-VI yellow at apex, wing markings as in female.

Material studied: Males (DAVIS): La Quebradita, Tucumán, Argentina, XII-27-79 (L. Stange). Also, 28 males, 47 females (various museums), Panama, Ecuador, Trinidad, Colombia, Venezuela, Brazil, Bolivia, Argentina. In addition, I have seen about 25 pair (LOGAN) from Costa Rica.

Prey collected by L. Kimsey is in the family Flatidae. Some Argentine females are pinned with large Membracidae.

Discussion: Comparison of the holotypes of *iheringii* and *subcostalis* establishes the synonymy. Among the species with tiny lower metapleural pit and diagonal ridges posterior to the metapleuron (Fig. 166), *iheringii* is remarkable for the black streak along the forewing leading edge before the stigma. Also, the extremely narrow yellow bands, if any, on T-II and following terga are significant.

Hoplisoides insularis (Cresson)

Harpactus insularis Cresson 1865:146. Holotype female, Cuba (HAVANA II).
Hoplisoides insularis (Cresson) of Bohart 1976:521.

Female (Havana, Cuba): Length 10.5 mm. Black, yellow, and red; red are: mandible mostly, labrum, clypeus, scape, F-I to IV, legs mostly, T-V-VI, S-I apically, S-II to VI mostly; yellow are: lower inner orbit, pronotal collar, lobe, mesopleural spot beneath, scutellum, femora, and tibiae partly, T-I-II-IV in apical bands, S-II lateral spot. Pubescence short, appressed, fulvous on mesopleuron and propodeum proper. Punctures moderate, 1-2 PD apart on clypeus, frons, scutum, pleuron, terga, S-II; forewing lightly brown stained, marginal cell brown as well as submarginal II and front one-half of III; stigma and costal area dark red. LID 1.2x scape length, F-I 2.6x as long as broad, II 1.6x, sternaulus incomplete anteriorly, lower metapleural pit oval, about as large as midocellus, propodeal enclosure with carinulae fading out in posterior one-half, pygidial plate angled at 45°, polished, lateral carinae curved, punctures 1-2 PD apart.

Male: Not known to me.

Material studied: Single female (DAVIS): Santiago de las Vegas, Havana, Cuba, VI-30-21.

Discussion: The red coloration of the clypeus, antennae, T-V-VI, and most sterna is remarkable. Also, the yellow banded T-I-II-IV is characteristic of several other Caribbean *Hoplisoides*.

Hoplisoides iridipennis (F. Smith)

Gorytes iridipennis F. Smith 1856:363. Holotype female (seen), Santarém, Pará, Brazil (OXFORD).
Gorytes fasciatipennis Cameron 1890:75. Holotype female (seen), "N. Yucatan", Mexico (LONDON). Synonymy by Bohart 1976:521.
Gorytes maculipennis Cameron 1890:73. Holotype female (seen), Bugaba, Panama (LONDON). Synonymy by Bohart 1976:521.
Hoplisoides iridipennis (F. Smith) of Bohart 1976:521.

Female (Brazil): Length 7.5 mm. Black, marked with yellow: mandible toward base, labrum, clypeus across basal two-thirds, lateral streak on frons, pronotal collar

and lobe, scutellum, metanotum, legs partly, T-I-II with apical bands; scape, flagellum in front, dull yellow; apical one-half of forewing stained on leading edge, marginal cell brown. Punctation mostly medium and sparse, pleuron practically epunctate and polished; propodeum proper with moderate scattered punctures; T-II with fine punctures 2-3 PD apart. F-I 2.0x apical breadth, II 1.2x; propodeal enclosure with about 10 longitudinal carinules; lower metapleural pit oval, larger than midocellus; pygidial plate about 1.5x as long as broad, punctures slightly elongate, about 1 PD apart.

Male (Pará, Brazil): Length 6.5 mm. Clypeus all yellow, flagellum fulvous in front, yellow mesopleural spot behind pronotal lobe, large yellow spot on each side of propodeum posteriorly. T-III to V with weak apical yellow bands.

Variation: Abdominal bands seem to vary considerably. There are 2 main patterns with a number of intermediates. Pattern I consists of mostly narrow yellow bands on T-I to V. Pattern II has T-I black, but T-II to V with broad yellow bands. Both sexes occur in both patterns. Specimens of Pattern I are from Mexico (= *fasciatipennis*), Honduras, Nicaragua, Costa Rica, Panama (= *maculipennis*), Venezuela, Ecuador, and Brazil. Pattern II occurs in Mexico only (Oaxaca, Puebla, Morelos, Jalisco, Sinaloa, Vera Cruz); one male has a weak yellow band on T-I. One unusual female from Nova Teutonia, Brazil has T-I yellow banded but T-II is black except for a lateral dot.

Discussion: Considering all the variations and intermediates, it appears that only one entity is involved. It is a small species with the pleuron practically epunctate and polished, lower metapleural pit oval and larger than the midocellus, propodeal enclosure completely carinulate, yellow apical bands on some or all of T-I to V, and submarginal cell III of forewing mostly clear. *H. mendozanus* from Brazil and Argentina is treated as a distinct species (see key), but it may be just a color variant.

Hoplisoides jaumei (Alayo)

Psammaecius jaumei Alayo 1969:17. Holotype female; Rangel, Pinar del Rio, Cuba (HAVANA-I)
Hoplisoides jaumei (Alayo) of Bohart 1976:521.

Discussion: I do not know this species. According to the original description the metapleural lower pit is about as large as the midocellus, the subdiscoidal cell has a discrete black spot apically, T-II-III are all black, and the propodeum is mostly dark red.

Hoplisoides jibacoa (Alayo)

Psammaecius jibacoa Alayo 1969:12. Syntypes male (seen), female, Cuba (HAVANA-I).
Hoplisoides jibacoa (Alayo) of Bohart 1976:521.

Male (syntype): Length 9 mm. Black, marked with yellow: mandible, labrum, clypeus, scape, lower frons, pronotal collar, lobe, 2 mesopleural spots beneath, lateral scutal dot, scutellum, metanotum medially, large oval spot on propodeum proper, femora mostly, fore- and midtibia entirely, hindtibia partly, fore- and midtarsi except brown tarsal V (hindtarsus all black), apical bands on T-I to IV, spot fragments on T-V-VI; large lateral spot on S-II; flagellum black; forewing partly stained, marginal cell, submarginal II-VII brown, stigma yellowish. Clypeus finely punctate, frons with

moderate spaced punctures, scutum and mesopleuron rather coarsely punctate, punctures 1-2 PD apart, punctures on terga moderate and 1-2 PD apart, those of S-II more spaced and more coarse. LID 1.8x scape length, F-I 2x as long as broad (II + missing); propodeal enclosure carinulate anteriorly, smooth on posterior one-half; lower metapleural pit round, as large as midocellus.

Female: Unknown to me.

Material studied: Male syntype (DAVIS).

Discussion: The species is known only from Cuba, where it is moderately abundant (Alayo 1969). The fairly large lower metapleural pit, punctate mesopleuron, yellow-banded T-III, and partly smooth propodeal enclosure, taken together separate the species. The entirely yellow male midtibia is unusual in the genus.

Hoplisoides jordani (Handlirsch) (Fig. 164)

Gorytes jordani Handlirsch 1895:375. Syntypes (seen), "Paraguay" (VIENNA).
Gorytes asuncionis Strand 1910:152. Syntype female (seen), Asuncion, Paraguay (BERLIN). New synonym.
Hoplisoides jordani (Handlirsch) of Bohart 1976:521.

Female (Brazil): Length 12 mm. Black, marked with yellow and fulvous. Yellow are: lateral clypeal spot, scape and F-I to IV in front, frons laterally, foretibia in front, broad apical yellow bands on T-III to V, spot on VI, S-III to VI mostly; fulvous are: legs extensively, forewing with some stained forward cells, marginal cell brown. Punctation fine to moderate, rather coarse on propodeum proper, propodeal enclosure mostly smooth but 6-7 moderate punctures posterolaterally on each side (Fig. 164); T-II with moderately small punctures 2-3 PD apart on minutely reticulate surface. F-I 3x as long as broad, II 2x; lower metapleural pit nearly as large as midocellus, area just behind metapleuron with diagonal ridges; pygidial plate about 2x as long as broad, closely striatopunctate.

Male (syntype): Similar to female.

Material studied: Male syntype (VIENNA): Paraguay; 2 female syntypes, Paraguay; 47 females (DAVIS): Nova Teutonia, Santa Caterina, Brazil (F. Plaumann); female (TUCUMÁN): Manantiales, Corrientes, Argentina; female (TUCUMÁN): Matucana, Lima, Peru (C. Porter and L. Stange).

Discussion: Among the larger *Hoplisoides*, *jordani* has the propodeal enclosure nearly all smooth (Fig. 160), and T-I-II unbanded. The narrow pygidial plate and diagonal ridges at the propodeal base are also distinctive. The types of *asuncionis* are typical *jordani*. *H. rasilis* is a similar species with smooth enclosure, but it is much smaller.

Hoplisoides mendozanus (Brèthes)

Gorytes mendozanus Brèthes 1913:129. Holotype female (seen, not male), La Paz, Mendoza, Argentina (BUENOS AIRES).

Female (Mendoza, Argentina): Length 7 mm. Black, marked with yellow and brownish red. Yellow are: labrum, basal half of clypeus, mandible toward base, F-I to

VII in front dully, pronotal collar, lobe, adjacent mesopleural dot, scutellum, mid- and hindtibiae in front, apical bands on T-I-II; brownish red are: apical half of clypeus, scape and pedicel, tegula, legs extensively (hindtarsus black), basal third of petiole; wings clear with dark clouds at apex of median cell, subapical spot on submarginal cell I, most of II, leading one-third of III, and all of marginal cell. Punctation scattered on upper frons and interocellar area, fine and sparse on mesopleuron, medium and 1-3 PD apart on scutum, coarse and 1-3 PD apart on propodeum posteriorly, fine and 2-4 PD apart on T-II, coarse and 1-3 PD apart on S-II. LID 1.8x scape length, F-I 2.2x as long as broad, II-III 1.4x; lower metapleural pit as large as midocellus, no slanting ridges on metapleuron or propodeum; propodeal enclosure completely carinulate or nearly so; pygidial plate angled at 45°, striatopunctate.

Male (Catamarca, Argentina): Length 6 mm. Much as in female, LID 1.4x scape length, F-I 1.4x as long as broad, II-III 1.0x.

Material studied: Male (DAVIS): La Cienega, Catamarca, Argentina X-26-75 (R. M. Bohart); female (LONDON): 18 km s. Mendoza, Mendoza Argentina, XII-7-79 (C. and M. Vardy); male, female (DAVIS): Nova Teutonia, Santa Catarina, Brazil, IX-I (F. Plaumann).

Discussion: This species is quite similar to *iridipennis* but yellow tergal bands are limited to T-I-II, and the metanotum is black. See remarks under *iridipennis*.

***Hoplisoides metapleura* R. Bohart, new species**

Female holotype: Length 7.5 mm. Black, marked with yellow and red; yellow are: clypeus medially, scape in front, orbital marks broadened below, pronotal collar and lobe, mesopleural spot near lobe, scutellum, metanotum, large posterior propodeal spots, midfemur and tibia partly, T-I laterally and apically, apical bands on T-II to VI, S-I, apical bands on S-II-III; red are: labrum, clypeal apex, flagellomeres dully in front, diagonal strip on mesopleuron, metapleuron entirely; forewing weakly clouded anteriorly, darker on marginal cell and leading half of submarginals II-III. Pubescence mostly inconspicuous, pale, appressed, abundant, and fulvous on propodeum including enclosure. Punctation moderate, scattered on scutum, pleuron, T-II; coarse, 1-2 PD apart on S-II. LID 2x scape length, F-I 2x as long as broad, II-III 1.5x, lower metapleural pit tiny, propodeal area behind it with well separated punctures but no carinules, enclosure completely carinulate, pygidial plate angled at 45°, sides and apex rounded, surface striatopunctate.

Male: Much as in female, LID 1.5x scape length, F-I 1.5x as long as broad, F-II-III 1.0x, F-VI to VIII enlarged.

Holotype female (LOGAN): 14 km s. Cañas, Guanacaste, Costa Rica, III-5-89 (F. D. Parker). **Paratypes**, 63 males, 29 females (LOGAN, DAVIS): topotypical but collected on various dates in 1989 to 1991; 25 males, 25 females (LOGAN, DAVIS): near Cañas, Guanacaste, Costa Rica (F. D. Parker). Also (not paratypes), 2 males, female (LOGAN): Careyes, Jalisco, Mexico, III-19-97 (F. D. Parker).

Discussion: The combination of red metapleuron and tiny metapleural pit, characterize the species.

The specific name is a noun in apposition that refers to the unusually colored metapleuron.

Hoplisoides niger R. Bohart

Hoplisoides niger R. Bohart 1997:654. Holotype female (seen), Maracao, Puerto Rico (WASHINGTON).

Female holotype: Length 9 mm. Black, sparingly marked with yellow: scape in front, lower orbit, narrow broken band on T-II; flagellum reddish in front; forewing mostly clear except brown on marginal cell and most of submarginals II-III. Clypeus punctate across bulge; frons and scutum weakly punctate; scutellum and pleuron practically epunctate, polished; propodeum proper coarsely punctate posteriorly; T-II mostly polished and epunctate, T-III-IV with fine scattered punctures, T-V with punctures closer. LID 2x scape length, F-I 3x as long as broad, II 2x; propodeal enclosure completely carinulate; lower metapleural pit oval, larger than midocellus; pygidial plate angled at about 30°, punctures scattered unevenly.

Male: Unknown.

Material studied: Holotype female only.

Discussion: The nearly all-black body, including legs, is unusual in the genus. The large metapleural pit, complete carinulation of the propodeal enclosure, and polished pleuron, relates *niger* to *iridescens*, but the markings are entirely different.

Hoplisoides nigripes R. Bohart, new species (Figs. 161, 171, 172)

Female holotype: Length 8 mm. Black, marked with yellow: labrum, clypeal lower margin, medial spot above, scape in front, lower frons laterally, foretibia in front, T-II to V with narrow apical bands; anterior one-third of forewing brown except submarginal cells partly; flagellum fulvous in front, paler toward base. Punctation coarse and scattered on clypeus, moderate and 1-3 PD apart on scutum, close on scutellum (Fig, 171), moderate and sparse on mesopleuron, coarse and close on propodeum posteriorly, fine and sparse on T-II, closer on following terga, moderately coarse and sparse on S-II and other sterna. F-I 2.5x as long as broad, II 1.5x; LID 2x scape length; foretarsal I 1.6x as long as broad, 3 rake spines before apex, each spine 0.7x length of tarsomere; hypoepimeron with longitudinal ridging, propodeum with diagonal ridging just beyond metapleuron, propodeal enclosure with about 16 longitudinal carinules, lower metapleural pit tiny; pygidial plate 1.7x as long as broad, with well-spaced elongate punctures (Fig. 172).

Male: Unknown.

Holotype female (DAVIS): Limoncocha, Napo, Ecuador, VI-10-74 (B. A. Drummond).

Discussion: The ridging of the mesopleuron and at the lateral base of the propodeum is similar to that in *iheringii* (Fig. 166). Also, the wing markings and pygidial punctation are similar. However, *nigripes* is much darker, the thorax all black, and tergal bands much more narrow. Other species which have diagonal ridging of the propodeum just beyond the metapleuron are *jordani*, *fuscus*, *notialis*, *peruvicus*, and to

a slight extent, *ruficeps*. Since these also have a small lower metapleural pit, a relationship is indicated. The specific name is a Latin noun referring to the black legs.

***Hoplisoides notialis* R. Bohart, new species**

Male holotype: Length 8 mm. Black, marked with pale yellow: labrum, midbasal clypeal spot, scape at apex in front, lower inner orbital mark, pronotal collar, lobe, adjacent mesopleural spot, scutellum across posterior, fore- and midtibiae in front, fore- and midtarsal I in front, apical bands on T-I to III, apical bands on S-II; flagellum dull brownish-red in front toward base; forewing marginal cell and submarginals I-II in front, brown; costal vein dark brown. Punctation moderate and scattered on scutum, mesopleuron, propodeum laterally, basal terga; more coarse and close on propodeum posteriorly, S-II; enclosure completely carinulate. LID 1.8x scape length, F-I 1.3x as long as broad, II-III 1.0x, F-I with ventral carina, II to VII denticulate beneath, VIII to X with shiny black plates beneath; lower metapleural pit much smaller than midocellus; postmetapleural area of propodeum with series of slanting ridges.

Female: Unknown.

Holotype male (DAVIS): Amaicha, Tucumán, Argentina, XI-19-66 (L. Stange).

Discussion: Among the species with small lower metapleural pit, *notialis* is distinguished by having a pale yellow apical band on T-I, bands on II-III, no unusual sternal pubescence, an anteriorly spotted mesopleuron, slanting ridges on propodeal base, and ventral denticles on F-II to VII. The specific name is an adverb meaning "southern" in Latin.

***Hoplisoides ovatus* R. Bohart, new species**

Female holotype: Length 7 mm. Black, marked with deep yellow: labrum, clypeus transverse medially, scape in front, orbital line, pronotal collar, scutellum, metanotum, apical bands on T-I to V, apical bands on S-I to V, S-VI; dull reddish are: flagellum on basal half in front, legs partly; leading half of forewing lightly brown, darker on marginal cell. Pubescence pale, appressed, inconspicuous. Punctation coarse, 1 PD apart on scutum; fine, scattered on mostly polished mesopleuron; fine, 1-2 PD apart on T-II; scattered on S-II. LID 2x scapal length, F-I 2.1x as long as broad, II-III 1.5x; lower metapleural pit larger than midocellus, oval, propodeal area behind it mostly polished; enclosure completely carinulate; pygidial plate angled at 45°, smooth with scattered punctures.

Male: Unknown.

Holotype female (LOGAN): Finca Montezuma, 3 km se. Rio Naranja, Guanacaste, Costa Rica, IV-22-93 (F. D. Parker). **Paratypes**, 14 females (LOGAN, DAVIS): topotypes but various dates; 3 females (LOGAN, DAVIS): San Jose, Escazu, Costa Rica, IV-1988 (F. D. Parker); 2 females (LOGAN): Bijagua, Upala, Costa Rica, IV-1991 (F. D. Parker). Not a paratype, female (LOGAN): Chamela, Jalisco, Mexico, X-1985 (F. D. Parker, T. L. Griswold).

Discussion: The large oval metapleural pit, black propodeum, finely punctate T-II, and punctate rather than striatopunctate pygidial plate, characterize the species.

The species name is Latin and refers to the egg-shaped lower metapleural pit.

***Hoplisoides parkeri* R. Bohart**

Hoplisoides parkeri R. Bohart 1997:655. Holotype male, 4 mi nw. Choix, Sinaloa, Mexico (DAVIS).

Female (Costa Rica): Length 9 mm. Black, marked with deep yellow: labrum, clypeus, scape in front, orbital line enlarged below, pronotal collar, lobe, associated mesopleural spot, tegula partly, scutellum, femora and tibiae partly, apical bands on T-I to V, T-VI, lateral dots on S-II to V; legs partly reddish brown; forewing brownish on discoidal cell I, anterior parts of submarginals I-II, and marginal cell. Pubescence inconspicuous, appressed, pale to light golden. Punctation coarse, close on scutum, T-II, coarse but spaced 1 PD on mesopleuron. LID 2x scapal length, F-I 2.5x as long as broad, II-III 1.5x; lower metapleural pit slightly smaller than midocellus, round, scattered large punctures on propodeal area; pygidial plate angled at 45°, punctures coarse basally, becoming striatiform apically.

Male: Much as in female. Clypeus with 2 apical black spots or black apical rim; scutellum sometimes black, LID 1.3x scapal length, F-I 1.6x as long as broad, II-III 1.1x, VI to IX swollen.

Material studied: 75 males, 32 females from Mexico (widespread) Costa Rica, and El Salvador.

Discussion: The combination of fairly large and round metapleural pit, coarse and close punctation on the scutum and T-II, and black propodeum, characterize the species. Most females have the scutellum yellow and the metanotum black. Males may have both metanotum and scutellum marked with yellow, or these areas all black.

***Hoplisoides peruvicus* R. Bohart, new species**

Female holotype: Length 9 mm. Black, marked with yellow: labrum, clypeus except transverse basal area and basomedian spot, lower orbit, supraclypeal spot, scape in front, pronotal collar, lobe, lateral scutal dot, scutellum on posterior half, fore- and midtibiae in front, foretarsal I in front, apical bands on T-I to II, VI medially; F-I to V dull yellow in front; forewing faintly stained along more anterobasal veins, brown on marginal cell and anterior parts of submarginal cells II-III; costal veins black. Punctation fine and scattered on pleuron, more coarse and close on propodeum posteriorly, moderate and scattered on scutum and terga. LID 2x length of scape; F-I 2.7x as long as broad, II 2x, remainder gradually shorter; postmetapleural area of propodeum with series of slanting carinulae, lower metapleural pit smaller than midocellus, propodeal enclosure completely carinulate; pygidial plate 2x as long as broad, punctures scattered, slightly elongate.

Male: Length 8 mm. About as in female. Clypeus black except mediobasal spot, flagellum black, F-I 2x as long as broad, II 1.5x; foretarsus black; pygidium yellow apically; sterna without unusual pubescence.

Holotype female (TUCUMÁN): Samne, 40 km ne. Trujillo, La Libertad, Peru (C. Porter, L. Stange). Paratypes (TUCUMÁN, DAVIS): 5 males, same data as

holotype; 2 males (TUCUMÁN, DAVIS): Bartolomá, Lima, Peru, VII-26-75 (R. Garcia).

Discussion: Among the species with small lower metapleural pit, slanting ridges basally on the all-black propodeum, and yellow-banded T-I, *peruvicus* has no woolly pubescence on male sterna, rather simple male flagellum, and apical yellow bands on T-II to V. I have also seen 6 females from Costa Rica which seem to be *peruvicus*. They differ only in having the scutellum yellow and the pygidial plate with a few more punctures.

The specific name indicates "of or from" Peru.

***Hoplisoides rasilis* R. Bohart, new species**

Male holotype: Length 7 mm. Black, marked with yellow: labrum, clypeus (except 2 tiny black dots), scape in front, frons laterally, pronotal collar, lobe, lateral scutal spot, posterior half of scutellum, dot on propodeum posterolaterally, forefemur ventrally, anterior streaks on fore- and midtibiae, hindtibia partly, fore- and midtarsal I anteriorly, moderate, apical bands on T-I to V, VI entirely, broken apical bands on S-II to V, S-VI laterally; forewing brown stained on medial cell, submarginal cell I, II, top of III, stigma orange, marginal cell brown. Punctures of frons small, 1-2 PD apart; those on mesonotum a little larger, 2-3 PD apart; metanotum mostly polished but with a row of punctures across medially; propodeal enclosure mostly smooth, anteriorly foveolate, 2 distinct punctures on each side medially; propodeum proper with coarse punctures 1-2 PD apart; pleuron mostly polished but with scattered punctures, those just behind metapleuron weakly diagonal; punctures on T-I-II moderate but 3-4 PD apart; punctures on T-III and following finer and closer; punctures on S-II moderately coarse and 1-4 PD apart. F-I 1.4x as long as broad, II 1.1x; flagellum nearly simple, F-VIII to XI with weak raised lines ventrally; hypoepimeron polished on its lower one-half, lower metapleural pit smaller than midocellus.

Female: Unknown.

Holotype male (GAINESVILLE): Cupiche, Lima, Peru, VI-26-76 (C. Porter, C. Calmbacher). **Paratype** male (DAVIS): San Geronimo, Lima, Peru VI-28-76 (C. Porter, C. Calmbacher); paratype male (DAVIS): Cupiche, Lima, Peru, VII-28-82 (R. Miller, L. Stange).

Discussion: The mostly smooth propodeal enclosure is similar to that in *jordani*. However, the latter is a much larger species with females 11-12 mm long. Also, *jordani* has T-I-II black, clypeus mostly black, F-I to IV yellow in front, and the scutum more closely and coarsely punctured. The specific name of *rasilis* is Latin for smoothed, referring to the propodeal enclosure.

***Hoplisoides ruficeps* R. Bohart, new species (Figs. 160, 169, 173)**

Female holotype: Length 10 mm. Black, pale yellow, and red. Yellow are: clypeus mostly, lower frons laterally, scape in front, border along eye posteriorly, pronotal collar narrowly, lobe, small mesopleural spot behind lobe, posterior one-half of scutellum (Fig. 169), dot on metanotum, apicoventral spot on midfemur, anterior stripe on fore- and midtibia, moderately narrow apical band on T-I-II; red are: mandible,

clypeus partly, frons mostly, vertex, gena mostly, scape posteriorly; F-I to III fulvous in front, femora fulvous in part. Forewing clear except clouds along M and RS, marginal cell, submarginal II, and anterior one-half of submarginal III. Punctation moderate on clypeus, quite fine on frons, moderate on scutum and mesopleuron, sparse on propodeal side, moderately coarse and about 1 PD apart on propodeum posteriorly, moderate and about 1 PD apart on terga, more coarse and 1-3 PD apart on sterna. Facial features (Fig 160); F-I 2.5x as long as broad, II 1.5x; LID 2x scape length; foretarsal I with 3 rake spines before apex, each spine as long as tarsomere; propodeal enclosure with about 18 longitudinal carinulae; pleural area behind metapleuron with weak diagonal ridges; lower metapleural pit small, T-I length about equal to apical breadth; pygidial plate 2x as long as broad, densely punctate, punctures elongate (Fig. 173).

Male: As in female, but clypeus redder, metanotum mostly yellow, T-I to IV with apical yellow bands. F-I 1.3x as long as broad, II 1.2x; F-III to VI slightly broader than long; F-VIII with an obtuse ventral tooth.

Holotype female (DAVIS): Andalgala, Catamarca, Argentina, XI-4-72 (G. E. Bohart). **Paratypes**, male (GAINESVILLE): Rosario de la Frontera, Salta, Argentina, II-10-80 (C. Porter); female (GAINESVILLE): La Pompa, Sierra Lihuel Calel, Argentina, I-11-68 (J. and L. Stange); 2 males, 2 females (LONDON, DAVIS): near Mendoza, Mendoza, Argentina, XII-7-79 (C. and M. Vardy).

Discussion: The long pygidial plate (Fig. 172), small lower metapleural pit, and carinulate propodeal enclosure ally this species with *fuscus* and *iheringii*, neither of which has a mostly red head. Also, *iheringii* has a prominent black band along the forewing leading edge. The specific name is a noun reflecting the red head.

Hoplisoides semipunctatus (Taschenberg) (Fig. 163)

Hoplisus semipunctatus Taschenberg 1875:367. Holotype female, Mendoza, Argentina (HALLE).
Hoplisoides semipunctatus (Taschenberg) of Bohart 1976:521.

Female (Argentina): Length 7.5 mm. Black, marked with yellow: labrum, clypeus mediotransversally, scape in front, frons laterally, pronotal collar, dot on hypoepimeron, scutellum, metanotum, tibiae in front, apical bands on T-I to III; F-I to IV dull fulvous beneath, legs partly fulvous; forewing lightly stained in front, submarginal cell II with leading half brown, III with leading fourth, marginal cell brown. Punctation fine to moderate, well-spaced, pleuron practically epunctate. F-I 2.4x breadth, II 1.5x; lower metapleural pit about as large as midocellus; propodeal enclosure entirely smooth (Fig. 163); pygidial plate 1.5x as long as broad, striatopunctate.

Male: Unknown.

Material studied: 16 females, Argentina (Rio Negro, Santa Fé, Cordova, Catamarca, Entre Rios, Santiago del Estero); 5 females, Brazil: Salvador, Santa Catarina; 21 females, sw. United States.

Discussion: The completely smooth propodeal enclosure (Fig. 163), together with the polished pleuron, and relatively large lower metapleural pit, define the species. In southern United States *semipunctatus* occurs in Alabama, Louisiana, South

Carolina, Mississippi, and Florida. Bohart (1997) suggested that the species might have been introduced to the U. S. via airplane, since many of the captures were in or near airfields.

***Hoplisoides vespoides* (F. Smith) (Fig. 168)**

Gorytes vespoides F. Smith 1873:467. Holotype female (seen), "Ega" (Tefé), Amazonas, Brazil (LONDON).

Gorytes robustus Handlirsch 1888:380. Holotype female (seen), Blumenau, Santa Catarina, Brazil (VIENNA). Synonymy by Bohart 1976:521.

Icuma sericea Cameron 1905:21. Syntype female (seen), "Panama" (LONDON). Synonymy by Bohart 1976:521

Gorytes morrensis Strand 1910:153. Holotype female (seen), Villa Morra, Asuncion, Paraguay (BERLIN). New synonym.

Gorytes auropilosellus Cameron 1912:430. Holotype female (seen), "British Guiana" (LONDON). Synonymy by Bohart 1976:521.

Hoplisoides umbonicida Pate 1941:1. Holotype female (seen), Caura Valley, Trinidad (PHILADELPHIA). Synonymy by Bohart 1997:659.

Female (Suriname): Length 12 mm. Black, marked with deep yellow: labrum, clypeus partly, scape and F-I to III in front, frons laterally, pronotal collar, upper mesepimeral spot, scutellum mostly, legs partly, apical bands on T-II to V and S-II, most of S-III to VI; forewing leading cells mostly stained, marginal cell brown. Pubescence of frons, scutum, propodeum thick, short, off-silvery to light golden. Punctation fine on frons, moderately coarse and 1-2 PD apart on scutum, moderate and 2-5 PD apart on pleuron, coarse and close on propodeum, fine and 1-3 PD apart on T-II, hypoepimeron coarsely punctate. F-I 1.8x as long as broad, II 1.8x; propodeal enclosure with 20-22 longitudinal carinulae, lateral edges (of enclosure) obscure; lower metapleural pit larger than midocellus (Fig. 168), no diagonal ridges following metapleuron; T-I broader than long, T-II 1.5x as broad as long, pygidial plate 1.5x as long as broad, irregularly covered with long oval punctures.

Male (Brazil): Length 8 mm. Marked about as in female but labrum and thorax black.

Material studied: 7 males, 64 females, Mexico, Guatemala, Costa Rica, El Salvador, Panama. South American countries include Trinidad, Colombia, Ecuador, Guiana, Suriname, Brazil, Peru, Paraguay, and Argentina.

Variation and **Discussion:** Size is relatively large, but variable, some females may be 13 mm long. I have 2 females pinned with membracid prey, which are also 13 mm long. The markings are quite similar to those of the common eumenid, *Pachodynerus nasidens* (Latreille). Although yellow markings are variable, diagnostic characters are the large oval lower metapleural pit (Fig. 168), somewhat sparse punctation of the scutum and pleuron, thick but short off-silvery or pale golden pubescence on the scutum, and many longitudinal carinulae of the enclosure. However, the lateral margins of the propodeal enclosure may be obsolete. An examination of the holotype of *morrensis* proves it to be synonymous with *vespoides* and with propodeal enclosure margins obsolete as above. *H. ovatus* from Costa Rica has a similar ovate lower metapleural pit, but this species is smaller and darker (see key).

***Hoplisoides xerophilus* Alayo**

Psammaecius confusus Alayo 1969:14. Syntypes male (seen), female, Cuba (HAVANA-I)
Hoplisoides xerophilus Alayo 1976:29. New name for *confusus* Alayo, preoccupied by Dutt, 1922.

Male paratype: Length 7.0 mm. Black, marked with yellow and reddish; yellow are: mandible, labrum, clypeus, scape, pedicel, lower orbit, pronotal collar, lobe, 2 mesopleural spots beneath, lateral scutal dot, scutellum, legs extensively, broad apical bands on T-I-II-IV and S-II, lateral dot on S-IV; reddish are: trochanters, femora toward base, tarsomere V of fore- and midlegs, dark red of tarsomeres II to V of hindleg; flagellum black; forewing somewhat stained, marginal cell, submarginal II and most of III brown; costal area and stigma reddish. Punctures fine on clypeus, moderate but spaced on frons, coarse and 1-2 PD apart on scutum, moderate and 1-4 PD apart on pleuron and T-II, moderate and close on T-V, coarse and mostly 1-3 PD apart on S-II. LID 1.3x scape length, F-I 2x as long as broad, II 1.6x; propodeal enclosure completely carinulate, lower pit of metapleuron about as large as midocellus.

Female: About as in male according to original description by Alayo (1969).

Material studied: Male paratype (DAVIS): Batey de Moa, Ote, Cuba, VI-1954 (Zavas and Alayo). According to Alayo (1969), the species is fairly common in coastal localities of Cuba.

Discussion: The punctate mesopleuron, I-II-IV yellow tergal bands, relatively large lower metapleural pit, and completely carinulate propodeal enclosure, characterize the species.

References

Alayo, D. P. 1969. Studies sobre los Himenópteros de Cuba. III. Poeyana (Ser. A). No. 59:1-34.

_____. 1976. Introducción al estudio de los Himenópteros de Cuba. Academia de Sciencias de Cuba. Ser. Biologia No. 67:2-46.

Ashmead, W. H. 1899. Classification of the entomophilus wasps, or the superfamily Sphegoidea. Canadian Entomologist 31:145-357.

Baker, C. F. 1907. Some new *Gorytes*-like wasps. Invertebrata Pacifica 1:161-167.

Bohart, R. M. 1967. New genera of Gorytini. Pan-Pacific Entomologist 43:155-161.

_____. 1968. New species of *Pseudoplisus* from North and Central America. I. The *P. phaleratus* group. Journal of the Kansas Entomological Society 41:494-501.

_____. 1976, *in* Bohart and Menke 1976 (which see).

_____. 1997. A review of the genus *Hoplisoides* Gribodo in North America. Proceedings of the Entomological Society of Washington 94:645-660.

Bohart, R. M. and A. S. Menke. 1976. Sphecid wasps of the world. A generic revision. vii-ix + 695 pp. University of California Press, Berkeley.

Bohart, R. M. and L. A. Stange. 1977. *Liogorytes joergenseni* (Brèthes), a cicada killer in Argentina. Pan-Pacific Entomologist 52:313.

Brèthes, J. 1909. Hymenoptera Paraguayensis. Anales Museo Nacional Buenos Aires (3)12:225-756.

_____. 1910. Hymenópteros Argentinos. Anales Museo Nacional d'Histoire Naturale Buenos Aires 20:205-316.

_____. 1913. Hymenóptera de la América Meridional. Anales Museo Nacional d'Histoire Naturale Buenos Aires 24:35-165.

Cameron, P. 1890. Insecta, Hymenoptera, vol. 2 (fossores), pp. 65-128. *In* Godman, F. D. & D. Salvin, Biologia Centrali-Americana. Taylor and Francis, London.

_____. 1905a. A new genus and species of Larridae from Central America. Entomologist 38:21-22.

_____. 1905b. Description of new species of neotropical Hymenoptera. Transactions of the American Entomological Society 31:373-388.

_____. 1912. The Hymenoptera of the Georgetown Museum. Part IV. The fossorial Hymenoptera. Timehri (3)2(2):413-440.

Cockerall, T. D. A. and W. J. Fox. 1897. New fossorial Hymenoptera from New Mexico. Proceedings of the Natural Sciences of Philadelphia 49:135-141.

Cresson, E. T. 1865. On the Hymenoptera of Cuba. Proceedings of the Entomological Society of Philadelphia 4:1-425.

_____. 1872. Hymenoptera Texana. Transactions of the American Entomological Society 4:153-285.

Dahlbom, A. G. 1842. Dispositio methodica speciarum Scandinavicarum ad familias Hymenopterorum naturales pertinentium. 16 pp. C. Berling, Lund.

_____. 1843. Hymenoptera Europeae, etc. vol. 1, fascicle 1:1-172. Lundbergiana, Lund.

Dalla, Torre, C. G. de. 1897. Catalogus Hymenopterorum, etc. 8 (Fossores), viii + 749 pp. G. Engelmann, Lipsiae.

Dominique, J. 1901. D'un *Harpactes* nouveau. Socíeté des sciences naturelle de l'ouest de la France. Nantes Bulletin 2(1):513-514.

Dow, R. 1933. A new *Gorytes* from Paraguay. Bulletin of the Brooklyn Entomological Society 28:218-219.

Drury, D. 1773. Illustrations of natural history, wherein are exhibited upwards of two hundred and forty figures of exotic insects, etc. vol. 2, no. 2. Printed for the author by B. White, London.

Ducke, A. 1910. Contribution à la connaissance de la faune Hymenopterologique du nord-est du Brazil. Hyménoptères récoltés dans l'Etat de Ceara en 1909, etc. Revue d'entomologie (Caen) 28:78-122.

Fabricius, J. C. 1775. Systema entomolgiae, etc., Kortii, Flensburgi, et Lipsiae. xxviii + 832 pp.

_____. 1794. Entomologia systematica emendata et aucta. Tome IV, Hafniae. 472p.

Fox, W. J. 1893. New species of fossorial Hymenoptera. Canadian Entomologist 25:113-117.

_____. 1896. Synopsis of the North America species of *Gorytes* Latr., part 3. Proceedings of the Academy of Natural Sciences of Philadelphia 46:517-539.

_____. 1897. Contributions to a knowledge of the Hymenoptera of Brazil. No. 3. Sphegidae (sens. lat.). Proceedings of the Academy of Natural Sciences of Philadelphia 1897, pp. 373-388.

Fritz, M. 1959 (1958). Una especie nueva de Gorytini. Revista de la Societas Entomologica Argentina 21:136.

_____. 1964a. Una especie nueva de *Harpactostigma* (Gorytini). Neotropica 10(31):54-56.

_____. 1964b. Tres especias Argentinas de Gorytini. Neotropica 10(31):108-111.

Gmelin, J. F. 1790. Caroli a Linne, Systema Naturae per Regnum Animale, part 5, pp. 2250-3020. G. E. Bear, Lipsiae.

Gribodo, G. 1884. Diagnosi de nouve specie di Imenotteri scavatori ed osservazioni sopra alcune specie poco conosciute. Bolletin Societe Entomologie Italiana 16:257-284.

Handlirsch, A. 1887-1895. Monographie der mit *Nysson* und *Bembex* verwandten Grabwespen. Sitzungberichte der Kaiserlichen Academie der Mathematische-Naturwissenschaftliche Classe 97:316-365 (1888), 801-1079 (1895).

_____. 1893. Neue Arten der Gattung *Gorytes* Latr. Anales Naturhistorische Museum. Wien 8:276-282.

_____. 1901. Vier neue Arten der Hymenopteren Gattung *Gorytes*. Verhandlungen zoologische-botanische Geselschaft Wien 51(5):351-356.

Holmberg, E. L. 1903. Delectus Hymenopterologícus Argentinus. Anales Museo Nacional de Buenos Aires 3(2):377-517.

Krombein, K. V. 1953. The wasps and bees of the Bimini Island group, Bahamas, British West Indies. American Museum Novitates 1633:16-29.

Latreille, P. A. 1809. Genera crustaceorum et insectorum, vol. 4, 397 pp. A. Koenig, Parisiis et Argentorati.

Lepeletier, A. 1832. Memoire sur *G. Gorytes* Latr. *Arpactus* Jur. Annales de la Societé Entomologique de France 1:52-79.

_____. 1845. Histoire Naturelle des insectes. Hyménoptères vol. 3. 644 pp. Roret, Paris.

Maidl, F. A. and A. Klima. 1939. Sphecidae I (Astatinae-Nyssoninae). *In* H. Hedicke, Hymenopterorum Catalogus. Verlag für Naturwissenschaften. 150 pp. W. Junk, s' Gravenhage.

Menke, A. S. 1997. Family group names in Sphecidae. Journal of Hymenoptera Research 6:243-255.

Mickel, C. E. 1916. New species of Hymenoptera of the superfamily Sphecoidea. Transactions of the American Entomological Society 42:399-434.

Nemkov, P. G. 1990. New species of digger wasps of the tribe Gorytini from Oligocene of Primorskii krai. Paleontologicheskii Zhurnal 4:123-125 (in Russian).

Nemkov, P. G. and A. S. Lelej. 1996. Far Eastern Entomologist 37:1-16.

Pate, V. S. L. 1936. Studies in the nyssonine wasps. 1. The species of *Psammaletes*, a new subgenus of *Hoplisoides*. Transactions of the American Entomological Society 52:49-56.

_____. 1937. The generic names of the sphecid wasps and their type species. Memoirs of the American Entomological Society 9:1-103.

_____. 1938. Studies in the nyssonine wasps. III, a revision of the genus *Harpactostigma*. Transactions of the American Entomological Society 64:57-77.

_____. 1941. Two new species of sphecoid wasps from Trinidad. Notulae Naturae of the Academy of Sciences of Philadelphia 91:1-5.

_____. 1947a. On the genus *Ochleroptera* Holmberg. Bulletin of the Brooklyn Entomological Society 42:65-70.

_____. 1947b. On the gorytine wasps of the West Indies. Entomological News. April, 1947, pp. 93-98.

Perez, d'Angelo, V. 1980. El genero *Ochleroptera* Holmberg en Chile. Revista Chilena Entomologia 10:35-36.

Rayment, T. 1955. Taxonomy, morphology, and biology of the sericophorine wasps, etc. Memoirs of the National Museum of Victoria 19:11-105.

Reed, E. C. 1894. Entomolojia Chilena. Los fossores o avispas cavadoras. Anales de la Universidad, Republica de Chile 85:599-653.

Rohwer, S. A. 1911. Descriptions of new species of wasps with notes on described species. Proceedings of the United States National Museum 40:551-587.

Rohwer, S.A. 1912. Descriptions of new species of wasps in the collections of the United States National Museum. Proceedings of the United States National Museum 41: 447-478.

Saussure, H. de. 1867. Hymenoptera, pp. 1-138. *In*: Reise der öesterrreichischen Frigate Novara, etc. Zoologischer Theil, vol. 2, 156 pp. Wien.

Say, T. 1824. Narrative of an expedition to the source of St. Peter's River, etc. vol. 2, Appendix. Part 1 - Natural History. pp. 253-459. H. C. Carey and I. Lea. Philadelphia.

Schrottky, C. 1909. Himenópteros de Catamarca. Anales de la sociedad científica Argentina, Buenos Aires 68:233-273.

_____. 1911. Neue südamerikan Hymenoptera. Entomologica Rundschau 28:2-39.

Schulz, W. A. 1906. Spolia Hymenopterologica. 356 pp. Paderborn, 1906.

Shuckard, W. E. 1838. Descriptions of new exotic Hymenoptera. Transactions of the Entomological Society of London 2(1):68-82.

Smith, F. 1856. Catalogue of hymenopterous insects in the collection of British Museum, part IV, Sphegidae, Larridae, and Crabronidae, pp. 207-497. London.

_____. 1873. Descriptions of new species of fossorial Hymenoptera in the collection of the British Museum. Annals and Magazine of Natural History (4):12:402-415.

Spinola, M. 1841. Hyménoptères recuellis a Cayenne en 1839 par M. Leprieur, pharmacien de la Marine Royale; second partie. Annales de la Société Entomologique de France 10:85-155.

_____. 1851. Himenopteros, pp. 153-569. *In*: C. Gay, Historia fisica y politica de Chile. Zoologia, vol. 6, 572 pp. Maulde and Renon. Paris.

Strand, E. 1910. Beitrage zur Kenntnis de Hymenopteren fauna Paraguay. Zoologische Jahrbücher. Abteilungen für Systematik, etc. 2(1)29:125-178.

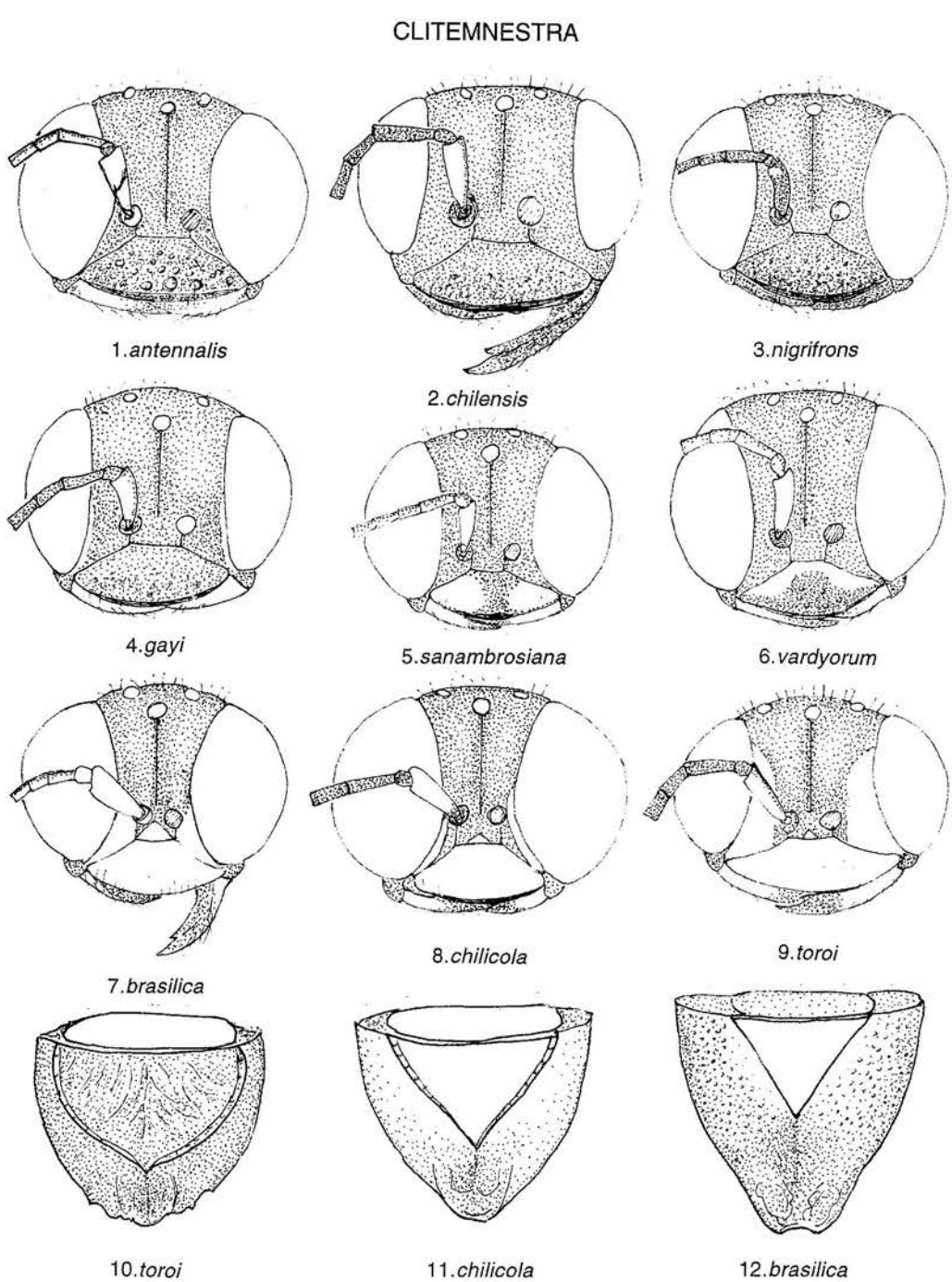
Taschenberg, E. 1875. Nyssonidae und Crabronidae des Zoologischen Museums der heigigen Universität. Zeitschrift und Geselschaft für Naturvissenschaften. Halle (2)45:359-409.

Vardy, C. R. 1995. A new genus and species of stridulating wasp from Costa Rica. Entomophana. Zeitschrift für Entomologie 16, (19):393-400.

Zavadil, V. and J. Šnoflák. 1948. Kutilky (Sphecidae) eskoslovenské Republiky. Ent. Prírucky Ent. List (13):1-179.

Explanation of Illustrations:

Figures not drawn to scale, all are of females unless otherwise indicated.



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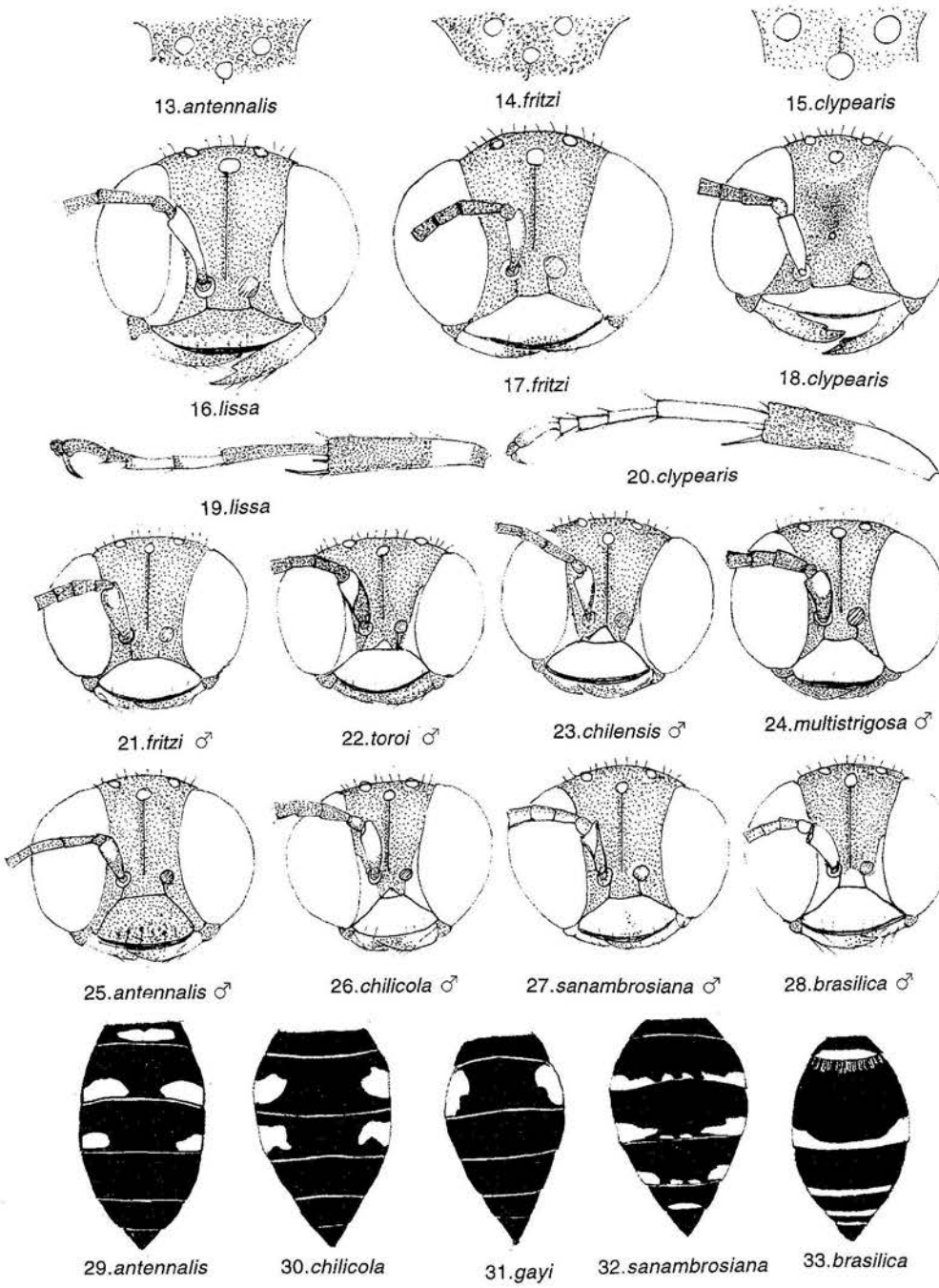

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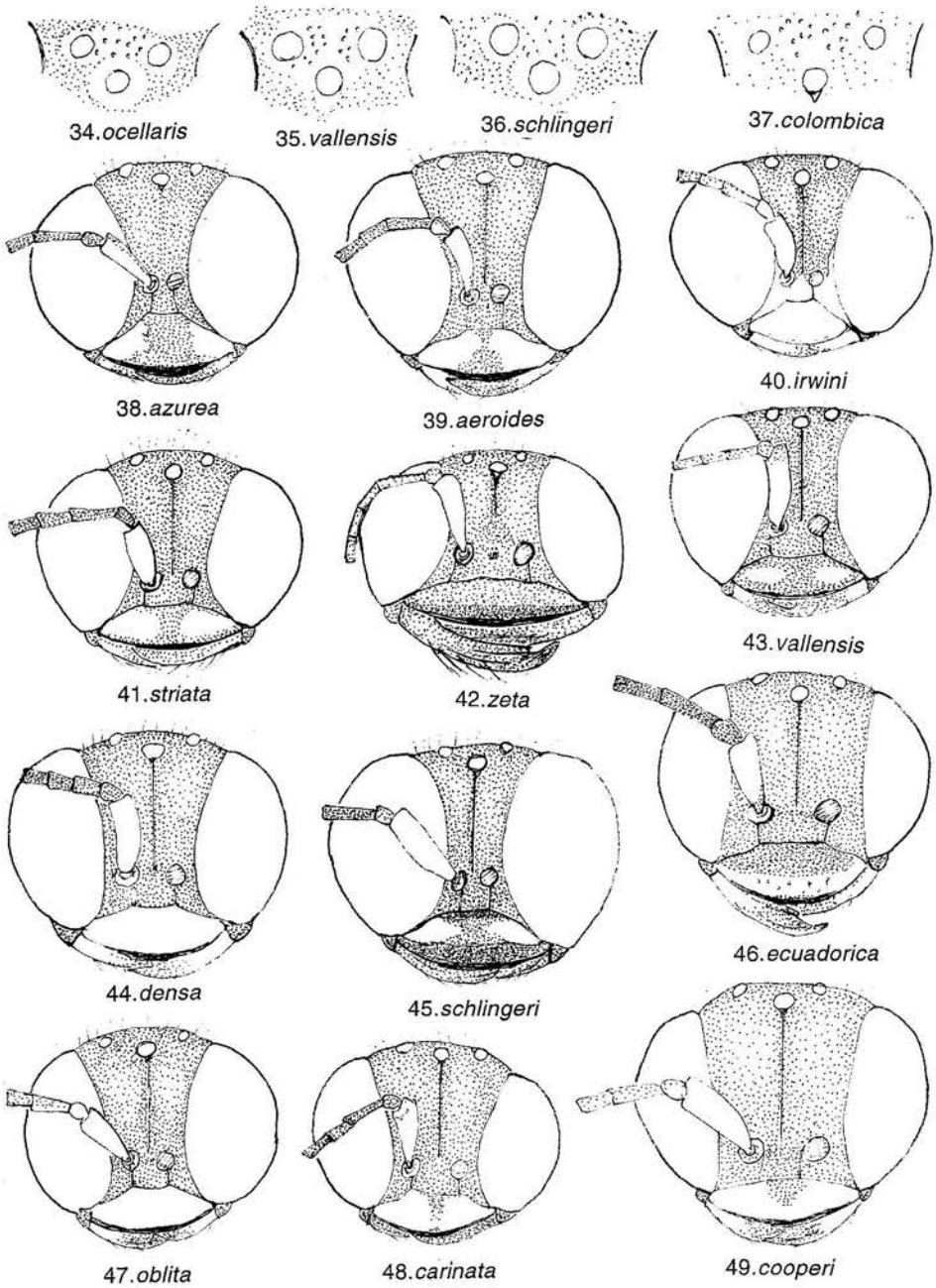

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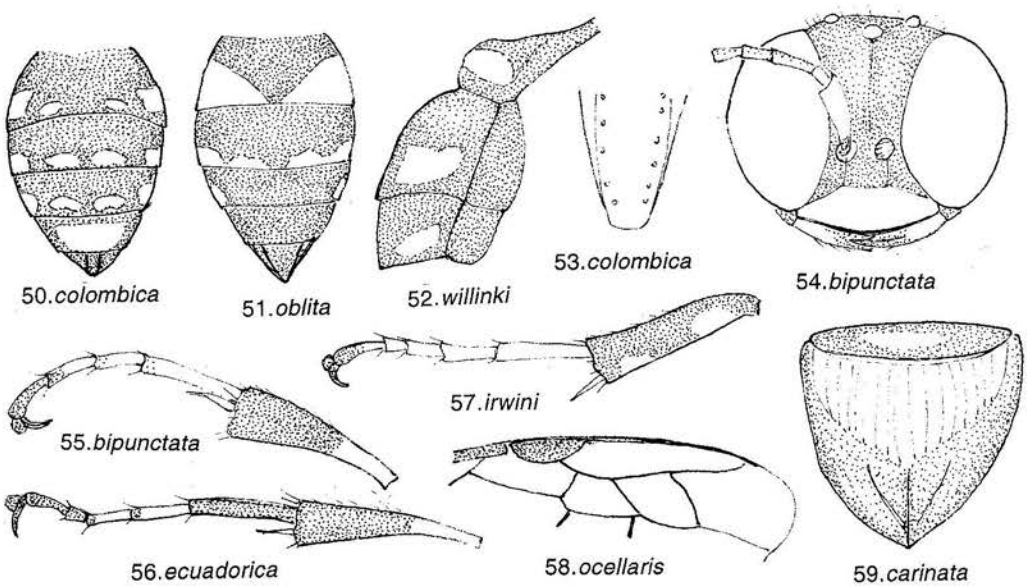

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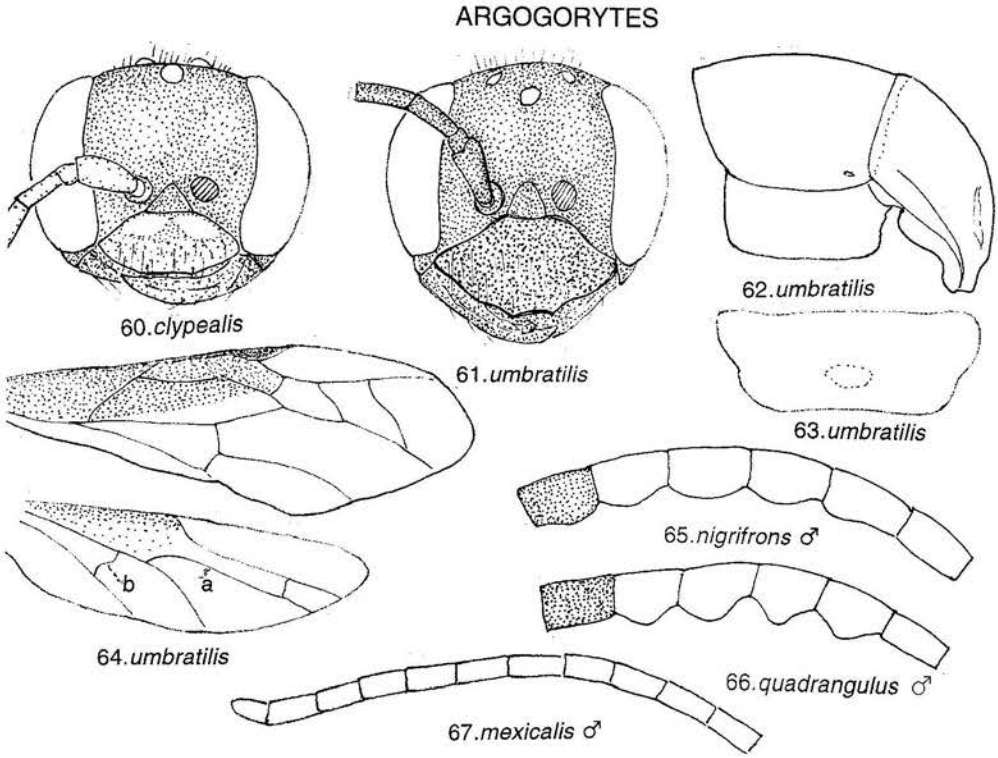

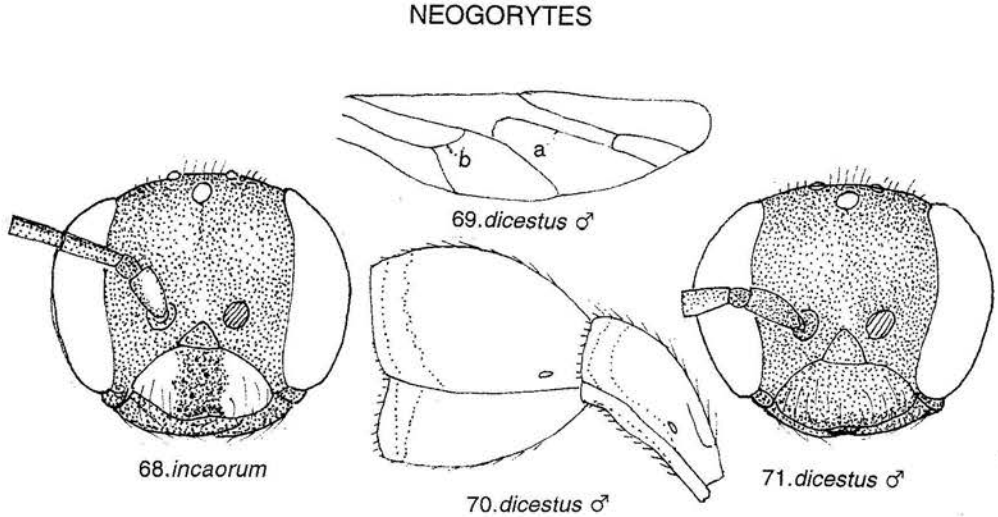

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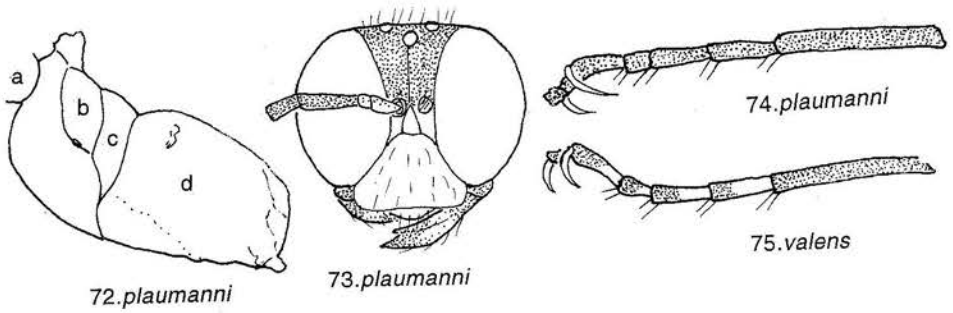
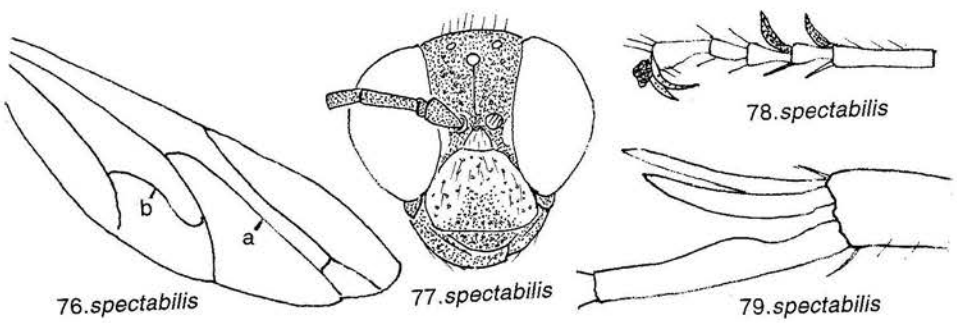
PTERYGORYTES



SPHECIUS



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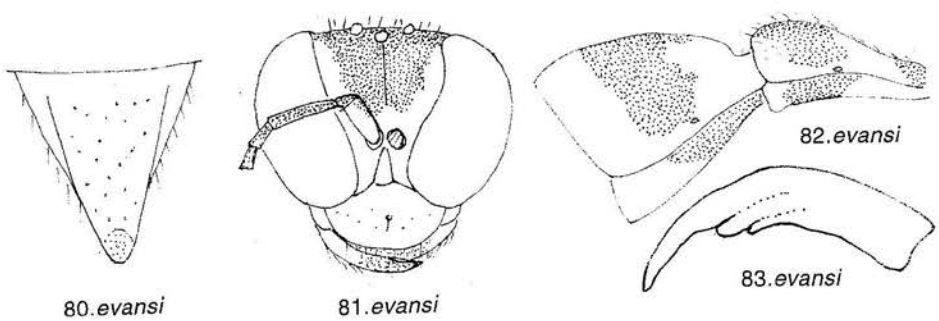

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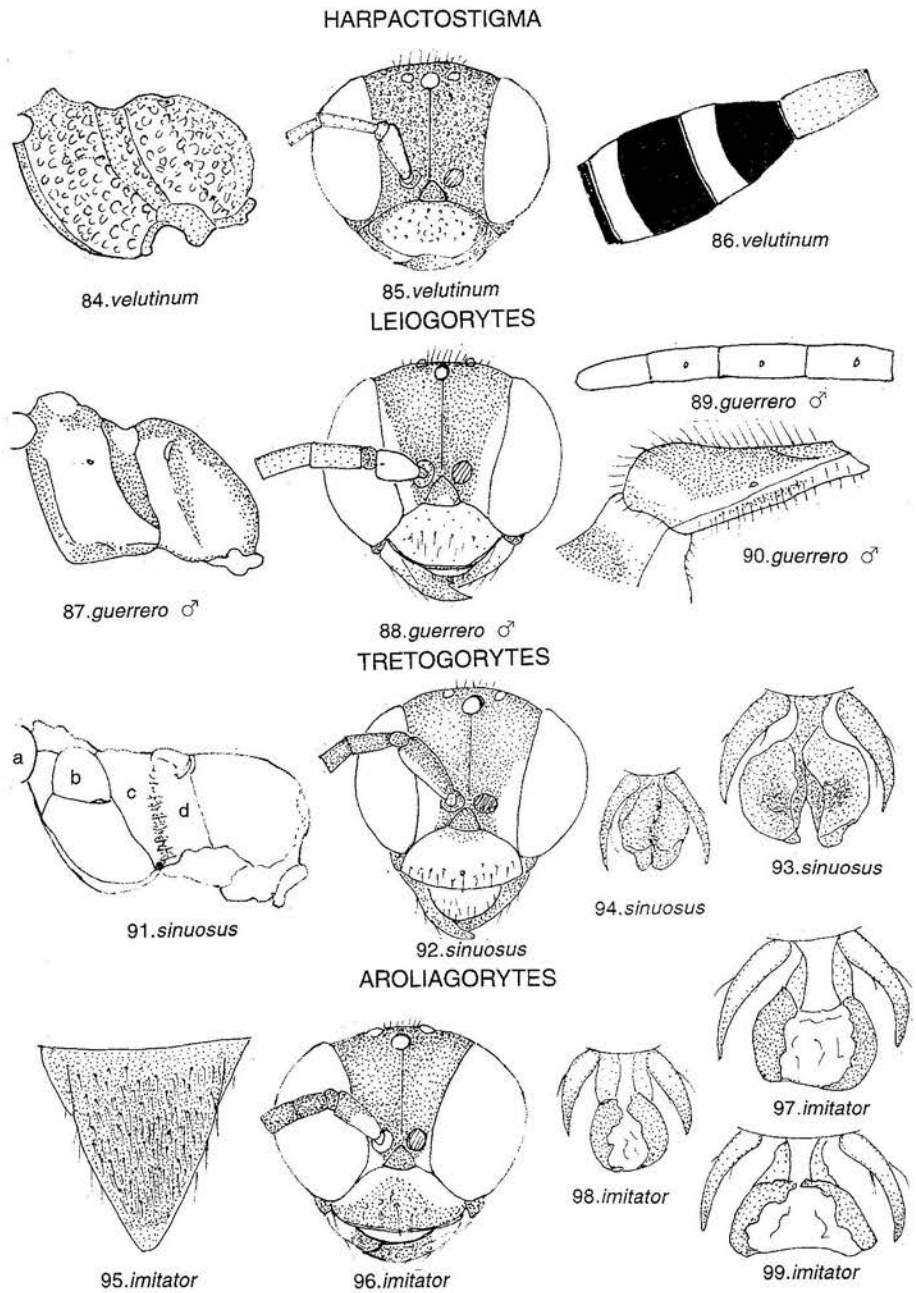

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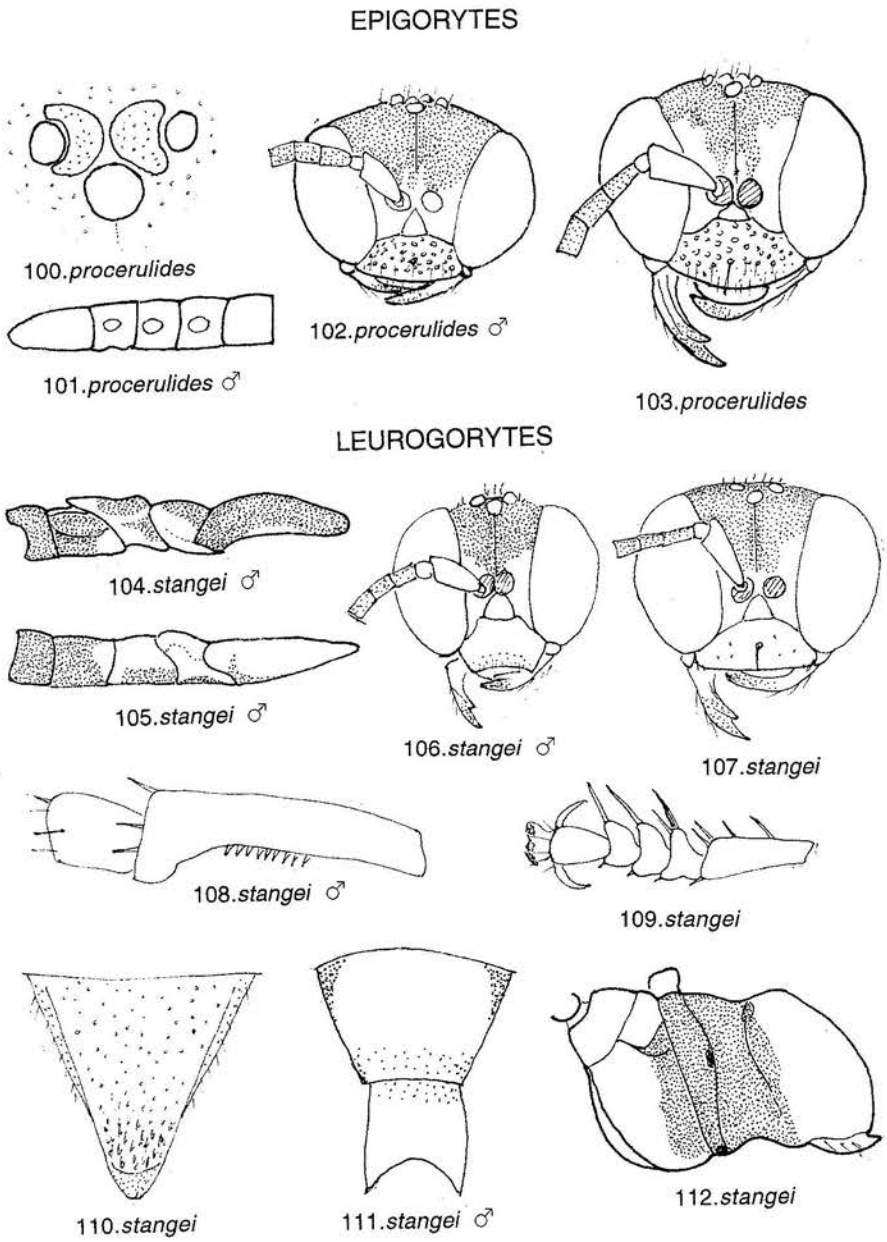

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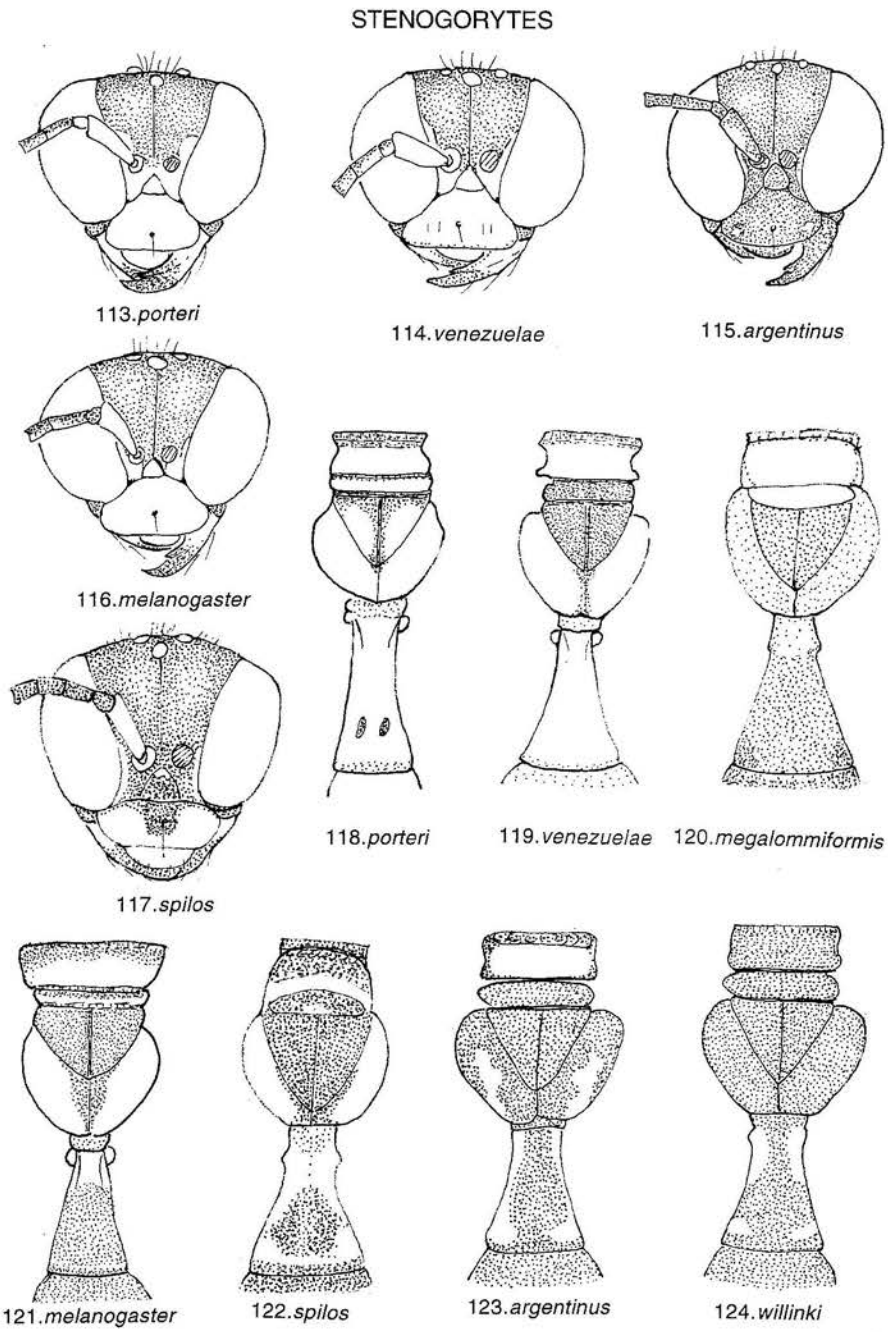

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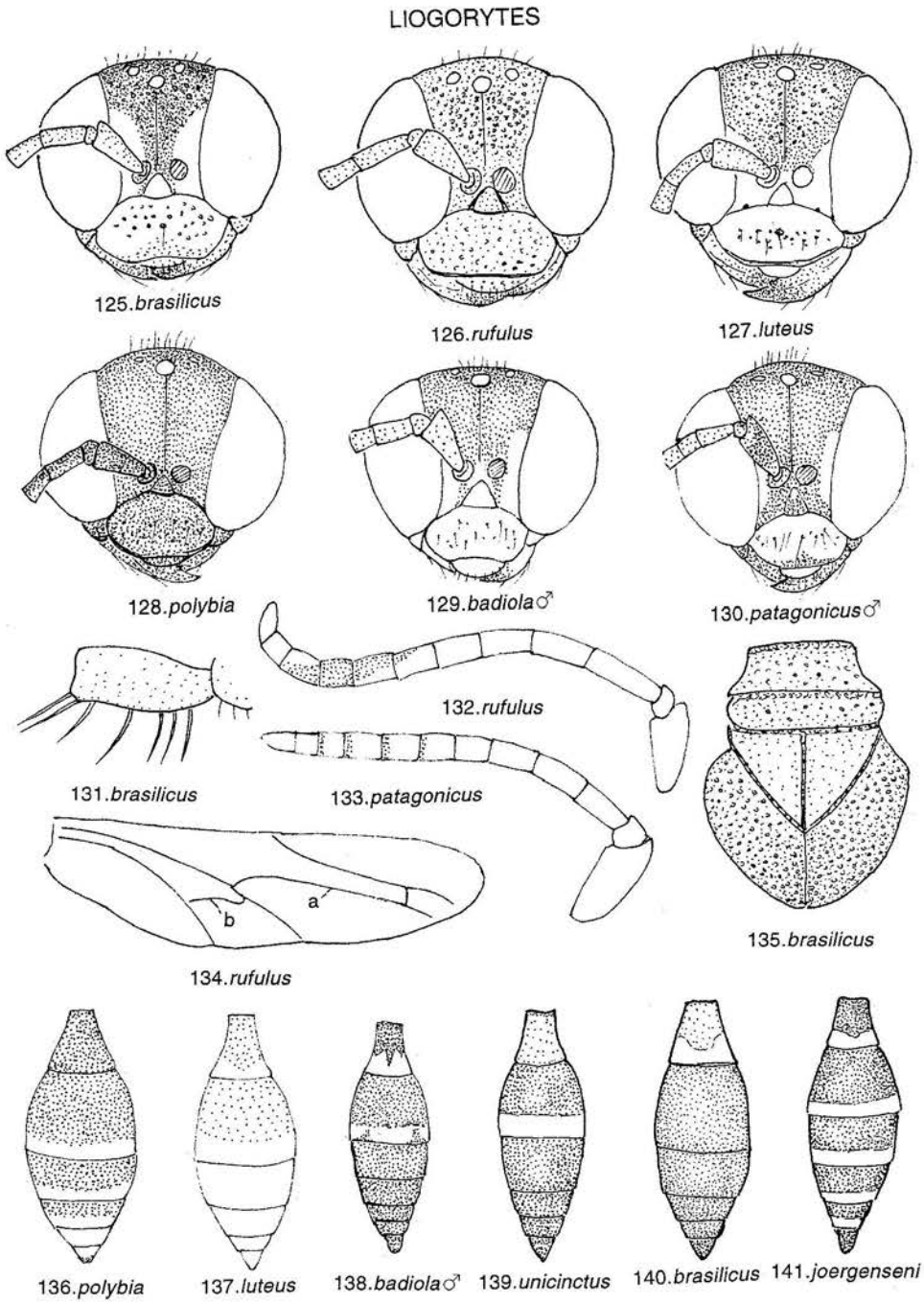

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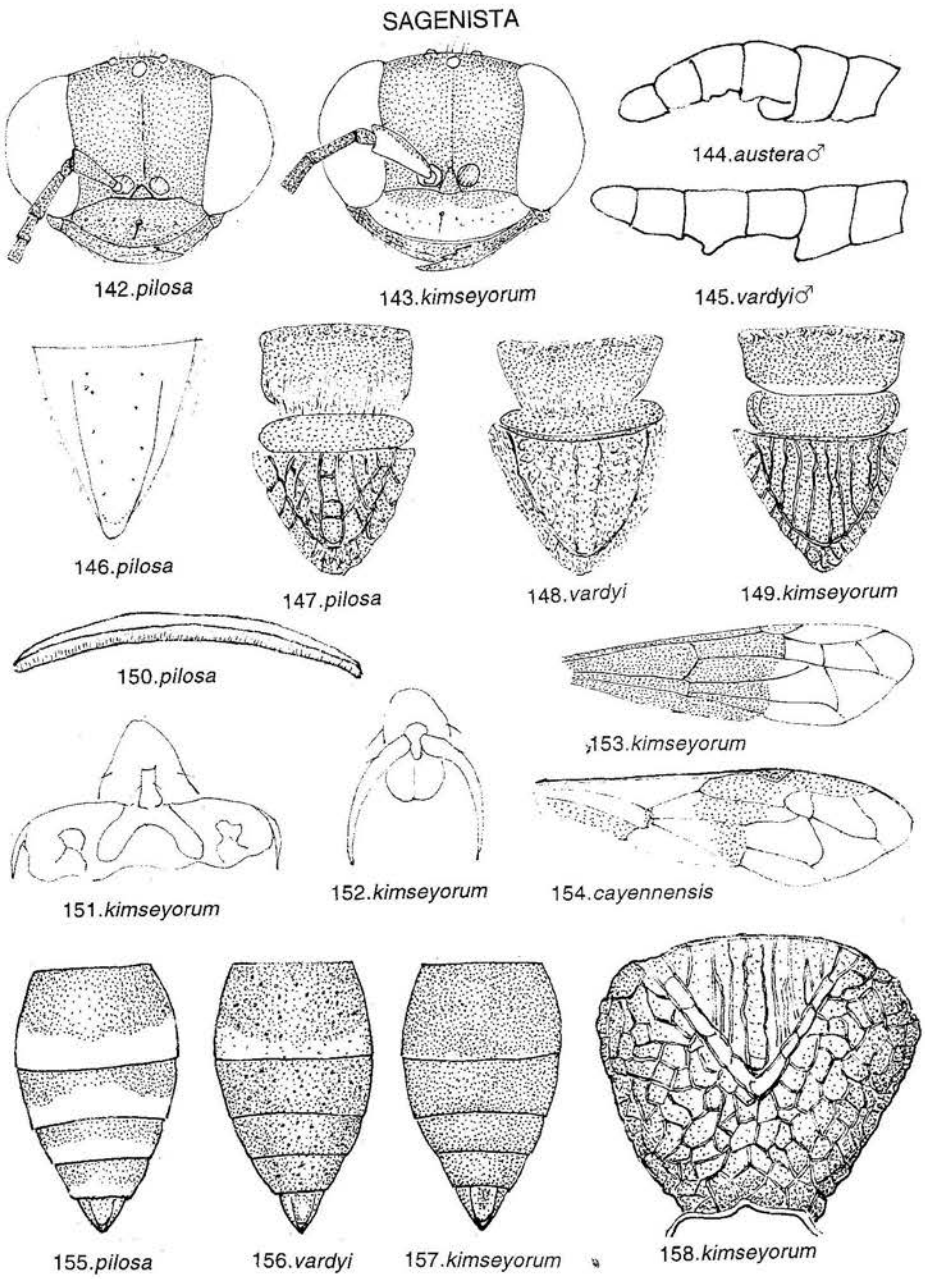

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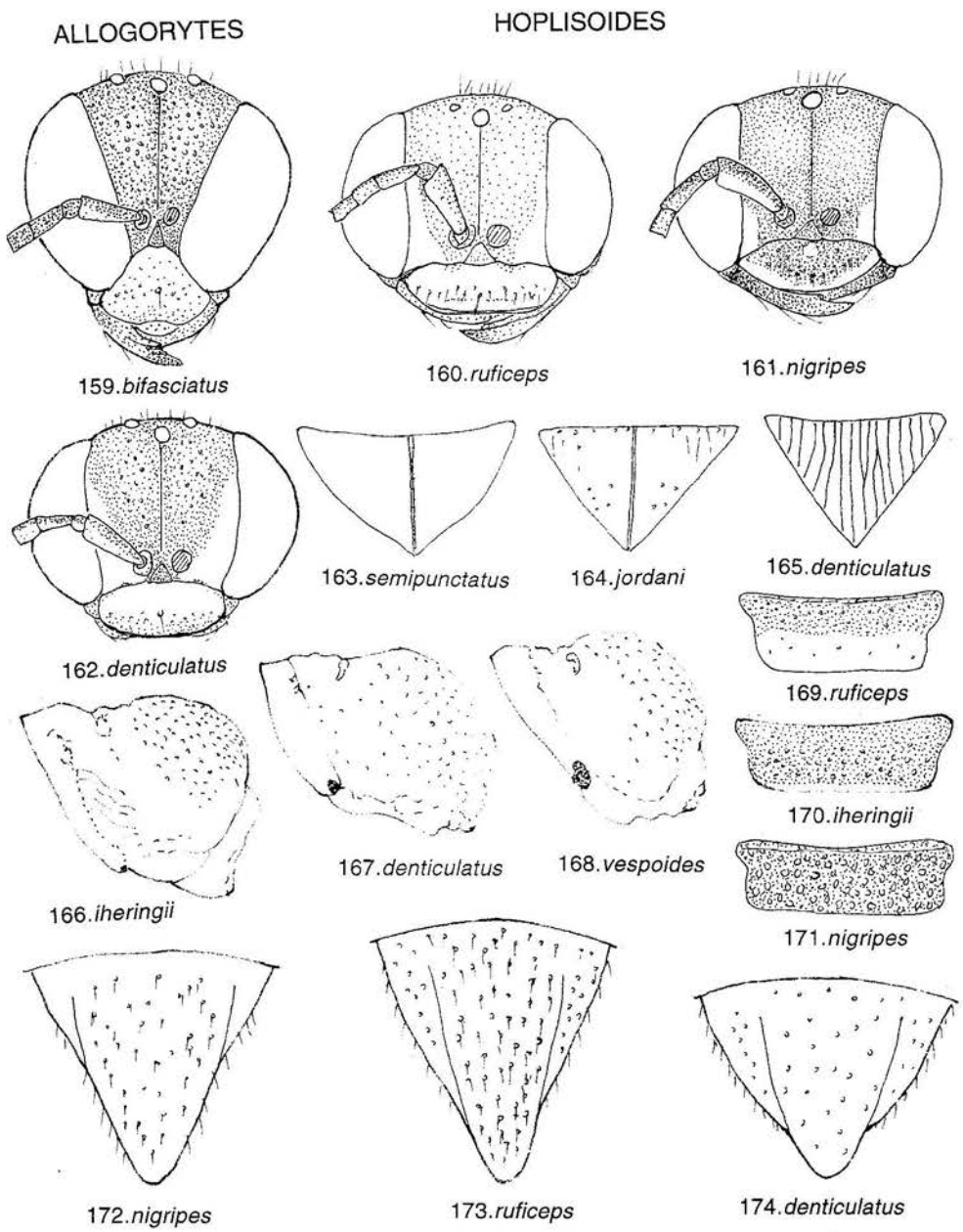

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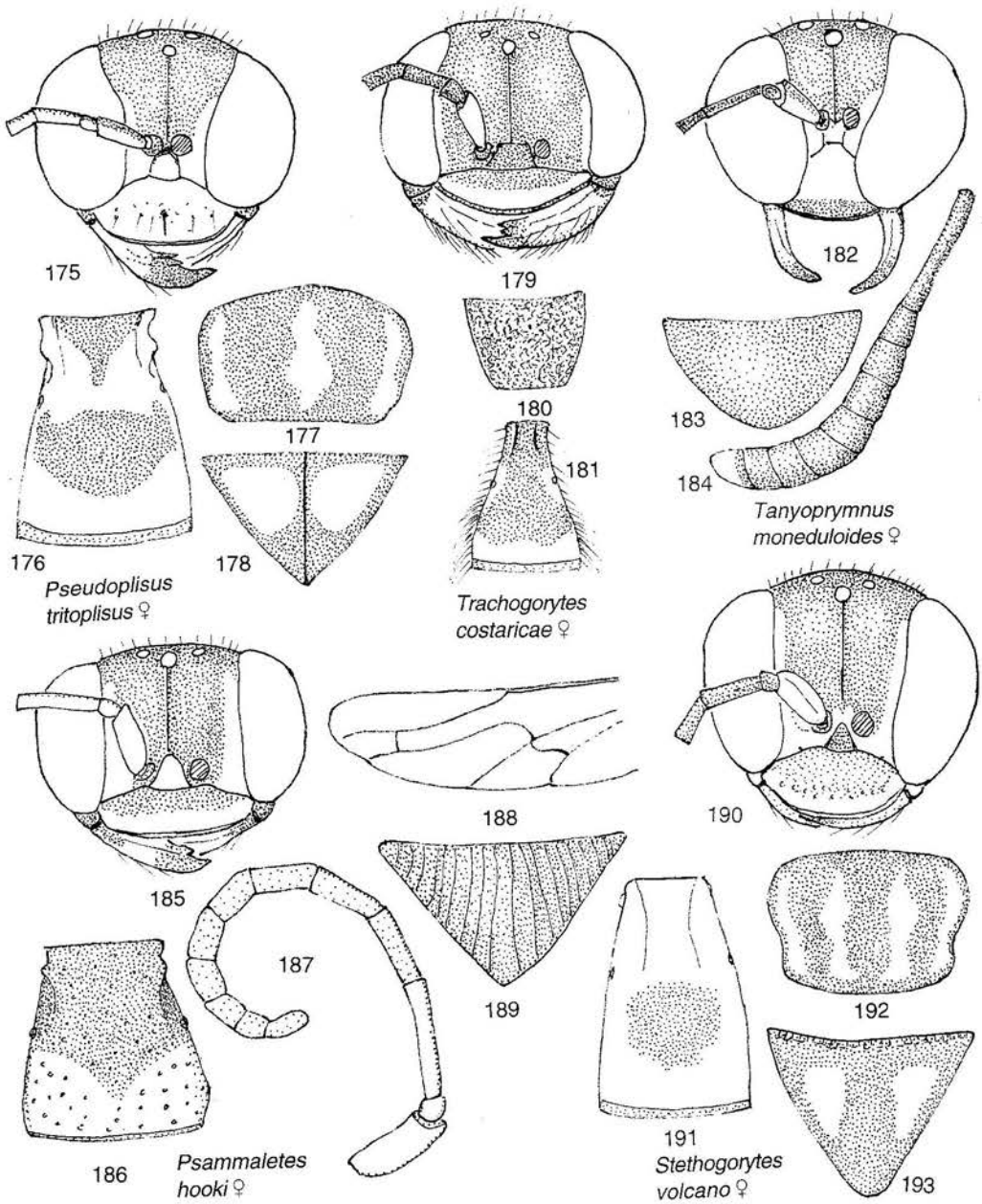

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