

II. CLASSIFICATION OF THE MYDINAE, WITH DESCRIPTION OF A NEW GENUS AND A REVISION OF *CERIOMYDAS* WILLISTON

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ABSTRACT

The subfamily Mydinae is exclusively American and is here divided in 4 tribes: Dolichogasterini, new (only genus, *Dolichogaster* Macquart); Messiasini, new (only genus, *Messiasia* d'Andretta); Phyllomydini, new (only genus, *Phyllomydas* Bigot); and Mydini Latreille (with 3 genera: *Mydas* Fabricius; *Ceratomydas* Williston; and *Mapinguari*, gen. n., for *Mydas politus* Wiedemann, from Amazonia).

Ceratomydas Williston is redefined, and several species transferred to it; its present composition is the following:

1. *brederi* (Curran, 1951; Bahamas); 2. *crassipes* (Westwood, 1841; Brazil: Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo); 3. *cubanus* (Curran, 1951; Cuba); 4. *darlingtoni*, sp. n. (Dominican Republic); 5. *fraudulentus* Williston, 1898 (Brazil: Mato Grosso); 6. *gracilis* (Macquart, 1834; Cuba); 7. *tricolor* (Wiedemann, 1830; Cuba); 8. *vespoides*, sp. n. (Brazil: São Paulo).

1. INTRODUCTION

In 1971 Wilcox & Papavero published keys and descriptions for the American genera of Mydidae. Since that publication new materials were made available, and the examination of several types was undertaken. In this paper we give a classification of the genera of Mydinae; discussion of the phylogeny and evolution of this subfamily in the Americas will be published after completion of the revisions of *Messiasia* (Part III) and *Mydas* (Part IV).

We are deeply obliged to Drs. H. E. Evans (MCZ), P. Wygodzinsky (AMNH), E. Taylor (HM), L. Tsacas and L. Matile (MNHN),

P. van Helsdingen (RNH), and H. Oldroyd (BMNH), for their kind assistance during the senior author's visit to their institutions, and for loaning types and specimens. Dr. R. L. Araujo (MZUSP) has most kindly suggested to us the possible wasp models of *Ceratomydas*.

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In addition to the collections of the Museu de Zoologia da Universidade de São Paulo (MZUSP) and that of the junior author (JW) several other collections were studied; their respective abbreviations are listed below :

AMNH	American Museum of Natural History, New York (P. Wygodzinsky)
BMNH	British Museum (Natural History), London (H. Oldroyd)
HM	Hope Department of Entomology, Oxford University, Oxford (E. Taylor)
MCZ	Museum of Comparative Zoology, Harvard University, Cambridge (H. E. Evans)
MNHN	Muséum National d'Histoire Naturelle, Paris (L. Tsacas and L. Matile)
RNH	Rijksmuseum van Natuurlijke Historie, Leiden (P. van Helsdingen)
UK	University of Kansas, Lawrence
ZMB	Zoologisches Museum (Museum für Naturkunde), Humboldt-Universität, Berlin

Drawings were made with the help of a camera lucida. In the genitalia drawings hairs and bristles were not represented; the fused gonopods and hypandrium were shadowed.

2. KEY TO TRIBES

1. Stem of proboscis attached at middle of labella, which is horizontal and subequal to or shorter than length of oral cavity; oral margin situated at about $\frac{2}{5}$ distance from lower eye margin to antennae 2
 - Stem of proboscis attached to apical one-half or more of labella, which extends downwards at about a 90° angle; oral margin opposite the lower eye margin 3
2. Antennae short, segment 3 widened apically and subequal in length to segments 1-2; club as long as segments 1-3; posterior

- crossvein absent; length 20-27 mm (Guiano-Brazilian subregion) DOLICHOGASTERINI, trib. n.
- Antennal segment 3 slender and at least two times as long as segments 1-2; club shorter than segment 3; posterior crossvein present; length 15-29 mm (Arizona to Buenos Aires) MESSIASIINI, trib. n.
3. Facial gibbosity about as broad as high; ♀ tergite 9 narrower apically than basally; apical processes of male gonopods simple or bifid and falciform; length, 15-60 mm (N. and S. America) MYDINI Latreille
- Facial gibbosity about one and one-half times as broad as high; ♀ tergite 9 wider apically than basally, fluted; apical processes of male gonopods double; length 21 mm (USA, Mexico) PHYLLOMYDINI, trib. n.

3. Tribe DOLICHOGASTERINI, new

The Dolichogasterini are closely related to the Messiasiini, and may be easily separated from all other Mydinae by the following combination of characters : proboscis horizontal, oral margin situated at about 2/5 distance from the lower eye margin to antennae, antennae short, club as long as segments 1-3.

Distribution : Several states of Brazil, from Amazonia to the South, and Paraguay.

Type-genus, *Dolichogaster* Macquart, 1848.

Genus *Dolichogaster* Macquart

Dolichogaster Macquart, 1848: 178 (sep., p. 18). Type-species, *Midas brevicornis* Wiedemann (mon.). Refs. — Paramonov, 1948 (syst. pos.); d'Andretta & Carrera, 1951: 9 (descr.), figs. 9 (antenna), 10 (♂ hind leg), 11 (hind tibial apex), 12 (wing), 13-16 (variation in wing venation), 17 (fringe of alula), 18 (♂ genitalia), 19-20 (aedeagus), 21 (apex of gonopods), 22 (proctiger and epandrium), 23 (♀ hind leg), 24-25 (♀ terminalia); Wilcox & Papavero, 1971: 81 (descr. of genus), figs. 14 (antenna), 45 (bullae), 76-78 (♂ genitalia), map 7 (distr.).

Note: Kertész (1909: 47) listed *Megascelus* Philippi (1865: 682) as a synonym of *Dolichogaster*. *Megascelus* belongs in the family Apioceridae and so far has only been collected in Chile, while *Dolichogaster* has only been found east of the Andes. See Paramonov (1948), d'Andretta & Carrera (1951) and Artigas (1970), for further comments.

brevicornis (Wiedemann), 1821: 117 (*Midas*). Type-locality: "Brazil". A ♀ specimen from Brazil, Bahia, Coll. Winthem, in the Naturhistorisches Museum, Vienna (n.º 4120, cabinet n.º 7, drawer n.º 255), has been selected as the Lectotype of this species. Refs. — Wiedemann, 1831: 45, pl. 53, fig. 9 (whole insect, color) (lists *iopterus* as synonym); d'Andretta & Carrera, 1951:9 (descr., illus.).

iopterus Wiedemann, 1828: 241 (*Midas*). Type-locality : "Brazil". Ref: — Wiedemann, 1831: 45 (under *brevicornis*).

4. Tribe MESSIASIINI, new

Medium-sized, black, brown, or orange-red species, characterized by the horizontal labella of the proboscis, subequal to or shorter than the length of the oral cavity, the oral margin situated at about 2/5 distance from the lower eye margin to the antennae, and the very long, slender antennae, with the club equal to or shorter than segment 3.

Distribution : A predominantly Guiano-Brazilian group, with a few species invading North America.

Type-genus, *Messiasia* d'Andretta, 1951. A revision of this genus will be published in Part III of this series.

5. Tribe MYDINI Latreille

Mydasii Latreille, 1810.

Species in this tribe vary from small (15 mm) up to the largest specimens in the Order Diptera (60-70 mm). They are characterized by the downward directed labella, which forms with the stem an angle of 90°, by the oral margin situated opposite the lower eye margin, the gibbosity almost as high as broad, by the female terminalia, and by the simple or falciform apical processes of the male gonopods.

Type-genus, *Mydas* Fabricius, 1794.

Key to genera

1. Hind tarsus with first (basal) segment very short, always shorter than segment 5 2
Hind metatarsus longer, at least subequal to segments 2-3, and always longer than segment 5; length, 15-70 mm (N. and S. America) *Mydas* Fabricius-group
2. Alula broad, with a long, dense fringe of squamose hairs; abdomen as broad as thorax, not narrowed in the middle; fore tibiae with a dense patch of black and orange-red hairs; no strong, differentiated bristles on legs; length, 29-32 mm (Amazonia) *Mapinguari*, gen. n.

Alula narrow, either with a short, sparse fringe of hairs, or with a long fringe of squamose hairs; abdomen slender, narrower than thorax, sometimes constricted in the middle; tibiae with well-developed bristles; length, 20-28 mm (West Indies, Guiano-Brazilian subregion) *Ceriomydas* Williston

Genus *Ceriomydas* Williston

Ceriomydas Williston, 1898: 58. Type-species, *fraudulentus* Williston (mon.).

Head in anterior view about one and one-half times as broad as high; face at the antennae about two-fifths width of head; oral margin located opposite lower eye margin; gibbosity about as broad as long. Stem of proboscis subequal to length of oral cavity, labella attached to apical one-half or more and extending out at about a 90° angle; palpi about half as long as stem of proboscis. Antennal segment 1 cylindroid and about two times as long as broad; 2 about as long as broad, 3 slender and four to four and one-half times as long as 1-3; club from seven and one-half to nine-tenths length of 3.

Mesonotum with long or short hairs on anterior and lateral margins, on humeri, and dorsocentral rows, sometimes becoming shorter posteriorly; mesonotum either bare of pollen (except under hairs), or with characteristic pollinose stripes and spots. Scutellum either bare, or with short hairs, arms with short hairs. Postscutellum shallow rugose, sparsely pollinose, or with two large rounded pollinose spots below scutellum, bare of hairs. Pleura pilose on episternum-1, pteropleura and metasternum.

Abdominal tergite 1a tuberculate, 1p with long hairs; remaining tergites with short, sparse, recumbent hairs. Sometimes tergite 2 narrower than 1, and wider anteriorly than posteriorly; 3 wider posteriorly than anteriorly, the abdomen being therefore slightly coarctate. Sternites with short, sparse, recumbent hairs, becoming longer and more numerous apically. Male genitalia as in Figs. 1-9. Female terminalia as in *Mydas*.

Fore and middle legs slender; vestiture normal, strong and differentiated bristles present, especially on the tibiae. Hind femora swollen, from three and one-half to five and one-half times as long as broad, with tuberculate spines on venter. Hind tibiae with ventral keel and apical spur. Hind metatarsus short, shorter than segment 5.

Alulae narrow, either with a short, sparse fringe of hairs, or with a long fringe of squamose hairs. Wings about three times as long as broad; second submarginal cell closed and petiolate; first posterior cell broadly open; posterior crossvein present; axillary lobe about two times as long as broad; ambient vein complete.

Discussion: The type-species of *Ceriomydas*, *fraudulentus* Williston, has not been located. Papavero & Wilcox (1968 : 3) reported it

from UK, but Dr. Charles H. Martin was not able to locate it there. Grossberck (1912) reported that Williston sold his collection of South American flies to the AMNH, but the senior author was not able to locate it there, nor was it found in the BMNH. Shor (1971) reported that Williston sold part of his collection to the University of Illinois. We are indebted to Dr. Donald W. Webb, Illinois Natural History Survey, for searching their collection and the collection of the Field Museum, Chicago, for *Ceratomydas* and *Leptopteromyia*, without success.

The character employed by Williston in erecting *Ceratomydas* was that tergite 3 is longer than broad (2 times according to Williston, one and one-half times according to our measurement of his figure [1908: 18, fig. 3]). There are several species of *Mydas* that have the abdomen pedunculate, especially in the females, but these species have tergites 2 and 3 broader than long (in dorsal view).

We do not have specimens of *C. fraudulentus*. However, we are referring to this genus several species, for the following reasons:

(i) From the photographs given by Williston (1908 : 18, fig. 3) and Curran (1934 : 480), it seems that the hind tarsal segment 1 is very short, exactly as in the other species we are considering here, which have the hind tarsal segment 5 longer than the first; we have checked all of the *Mydas* descriptions that have measurements and the rest of the species have the metatarsus longer than tarsi 5;

(ii) From Williston's description, *fraudulentus* is certainly very closely related to our new species, *vespoides*, which has a very short metatarsus.

Based on these reasons, we are considering *Ceratomydas* as a genus characterized by having a hind metatarsus shorter than hind tarsi 5, differing from *Mapinguari*, which also presents this characters, as shown in the above key.

Within this definition of the genus, three different species-groups fall, as can be seen in the key below. The definite classification of these groups will depend on the rediscovery of *fraudulentus*, and on better series of all the species considered here.

Tentative key to the species of *Ceratomydas*

1. Alulae with a short, sparse fringe of hairs; mesonotum black, without pollinose stripes or spots 2
 Alulae with a long fringe of squamose hairs, mesonotum reddish or black, with characteristic pollinose stripes or spots (West Indies), *gracilis*-group 5
2. Wings with the anterior and basal halves deep brown, elsewhere hyaline; abdomen bicolored; mimics of *Polistes* and

- Polybia* wasps; 20-27 mm (Brazil : Mato Grosso and São Paulo),
fraudulentus-group ♂ 3
- Wings more or less uniformly tinged with yellow; abdomen entirely
black; mimics of Eumenidae wasps; 21-26 mm (Dominican
Republic; southeastern Brazil), *crassipes*-group 4
3. First three segments of abdomen red, with a slender black margin;
remainder tergites black; legs red, the upper part of the front
and hind femora, and a stripe along the front part of the latter,
black, or deep brown; length, 27 mm (Brazil : Mato Grosso)
..... ♀ *fraudulentus* Williston
- Tergite 1 velvety black, hind margin yellow; 2 black, with two
large yellow spots on sides, leaving a more or less triangular
black area on the middle; remainder tergites subshining black;
legs reddish-brown; hind femora 3.5 times as long as broad;
length 25 mm Dominican Republic) ♀ *darlingtoni*, sp. n.
4. Tergite 1p with dense, long, white hairs laterally, brown anteriorly,
and black on dorsum; sparse long hairs anteriorly on 2 black,
with white laterally; hind femora 5.2 times as long as broad;
length 25 mm (Dominican Republic) ♀ *darlingtoni*, sp. n.
- Tergite 1p with only brownish hairs; no long hairs on 2; hind femo-
ra 3.5 to 4.5 times as long as broad; length, 21-26 mm (Bra-
zil : Espírito Santo, Minas Gerais, Rio de Janeiro, São
Paulo) ♂ ♀ *crassipes* (Westwood)
5. Thorax black, two short pollinose stripes on anterior slopes of meso-
notum, two short stripes on lateral margins, presuturally, two
small dots on tip of transverse suture, and two small dots above
wings; anterior half of wings darker than posterior half; hind
femora ♂ 3.6, ♀ 4.3 times as long as broad; length 25 mm
(Cuba) ♂ ♀ *gracilis* (Macquart)
- Thorax reddish; central and intermediate stripes black; two dorso-
central and two lateral white pollinose stripes running along
the almost entire mesonotum; wings pale yellowish brown .. 6
6. Hairs of thorax entirely black; hind femora 5.5 times as long as
broad, venter with about 8 tuberculate spines; length, 24 mm
(Cuba) ♀ *cubanus* (Curran)
- Hairs of thorax yellow or golden; hind femora ♂ 5.1, ♀ 5.7 times
as long as broad, venter with 14-15 (♀) or 20 (♂) tuberculate
spines; length 21-22 mm (Bahamas) .. ♂ ♀ *brederi* (Curran)

Midas tricolor Wiedemann, from Cuba, very probably belongs in
Group *gracilis*; as we have not seen specimens of it, *tricolor* was not
included in the key.

Ceratomydas brederi (Curran), comb. n.

Mydas brederi Curran, 1951: 2. Type-locality: Bahamas, South Bimini Is., June 16, 1950 (Cazier & Rindge). Types ♂ ♀ (in copula), AMNH (seen in 1971).

Mydas gracilis Macquart of d'Andretta, 1951: 46, figs. 22 (head, lateral view), 50 (antenna), 78 (leg), 80 (hind tibial spur), 93 (♂ genitalia), 119 (epandrial half), 155 (aedeagus). Males from Bahamas, Nassau, 1929, in the MZUSP; misident.

Mydas brederi: Curran, 1953: 6. Reports specimens from Bahamas, South Bimini Is., June and July 1951 (M. Cazier, C. & P. Vaurie), and E. Bimini Is., June 1951 (C. & P. Vaurie); Papa-vero & Wilcox, 1968: 7 (cat.): Curran & d'Andretta references.

Male. Length, 22 mm. Head black, sides of gibbosity brown; densely yellowish pollinose, sides and central 1/4 of gibbosity, center of frons and ocellar area bare of pollen. Hairs yellowish; dense, recumbent in mystax (center bare) and to sides of antennae; shorter, erect on frons, vertex and occiput. Proboscis reddish, stem brown. Face at lower eye margin 1.05, at antennae 1.99, vertex 1.26, one eye 1.43, in width. Antennae 1-2 and apical half of 4 reddish, remainder black; hairs mostly yellow on 1, mostly black on 2; segments 0.47-0.15-2.31-1.94 (0.57), sensory area 0.36, in length (width).

Mesonotum dark red, central and dorsocentral stripes black; humeri (except middle), lateral margins, postalar calli, dorsocentral stripes curving inward but not touching before scutellum, densely white pollinose. Hairs semierect and as long as antennae 2, black on humeri, yellow on lateral margins, postalar calli and dorsocentral stripes, not much shorter apically. Scutellum black, sides and posterior margin red, hairs yellow. Postscutellum red, white pollinose, shallow rugose. Pleura and coxae red, white pollinose; hairs sparse, long, yellowish, a few black on middle coxae.

Abdomen black; tergite 1a, narrow sides of 1p and anterior corners of 2 red; posterior margin of 1p light brown, of 2-6 yellow, and 7 narrowly yellowish; bullae brown, 9.94 (0.36) in length (width). Hairs long, sparse, white, on 1p; dense, recumbent, black, on 2-7, white on narrow anterior margins of 2-3 and on sides of 2-7 becoming less numerous apically. Sternites brown, posterior margins of 2-6 yellowish white; hairs short, sparse, recumbent, black, more numerous apically and part white on 6-8, sparse on 8 and slightly shorter than antennae 1. Genitalia yellowish red, epandria narrowly margined with black, spur and basistyli black; hairs on epandria sparse black, as long as antennae 1, and laterally about twice as long plus a few yellowish; sparse yellowish otherwise except black at middle of "hypandrium"; spur is sharply bent down at apex (d'Andretta, 1951: p. 35, fig. 98; p. 39, fig. 119).

Legs reddish brown, tarsi black. Hairs on femora short, semierect; black; sparse, longer, yellowish on posterior side and a few short

on anterior side of hind femora; short, sparse, semierect, black, on tibiae; posterior side of fore tibiae nearly bare, pile on anterior side brown; dense, short, black, on tarsi; bristles black; claws red, tip black; pulvilli yellowish. Hind femora with 20 tuberculate black to reddish spines, 6.89 (1.31), tibial spur 0.52, tarsi 0.78 (0.26) — 0.47-0.36-0.31-0.78, in length (width).

Halteres light brown. Alulae brown, margin white, fringe yellowish. Wings pale yellowish brown, hyaline in the center of most cells; veins reddish to brown; posterior crossvein present.

Female. Length, 21 mm. Gibbosity reddish brown. Face at lower eye margin 1.10, at antennae 1.94, vertex 1.26, one eye 1.31, in width. Antennae 1-2, joint between 3 and 4, and apical 5/6 of 4 dark red, remainder black; hairs golden; segments 0.42-0.15-2.15-1.78 (0.52), sensory area 0.26, in length (width). Thorax yellowish red; a narrow central line and the dorsocentral stripes black; scutellar arms black; hairs yellowish, part to all black on humeri. Tergites as in ♂ with sides reddish on 2-7 and 8-10 all reddish; posterior margin of 1 dirty white, of 2-7 yellow; bullae red, margined with brown, 0.78 (0.36) in length (width); hairs as in ♂, sparse black on 8-10 but mostly longer, yellowish, on 10. Sternites yellowish red, posterior margins of 2-6 yellow; hairs short, sparse, recumbent, black, and part yellowish on 2-7, all yellowish on 8. Hind femora with 14-15 tuberculate spines, 6.00 (1.05) in length (width); tibial spur length 0.47; tarsi 0.84 (0.26)-0.47-0.36-0.31-0.63 in length (width).

Material examined. BAHAMAS. South Bimini Isl., June and July 1951 (M. Cazier, C. & P. Vaurie), AMNH. Holotype and "allotype" of *brederi*, AMNH; 1 ♂ from Bahamas, Nassau (misident. as *gracillius* by d'Andretta).

Ceriomydas crassipes (Westwood), comb. n.

(Figs. 1-3)

Mydas crassipes Westwood, 1841: 51, pl. 13, fig. 3. Type-locality: "?America septentrionalis". Type ♀, HM (N.^o 10; seen in 1972).

Mydas crassipes; Walker, 1854: 359 (brief diagnosis; Westwood reference; ?North America); Gerstaecker, 1868: 97 (Westwood reference); Osten Sacken, 1886: 71 (*decor* O.S. compared with); Williston, 1897: 55 (key); Williston, 1901: 268 (Westwood reference; specimen from Mexico, Tabasco, Teapa; identification doubtful); Aldrich, 1905: 251 (cat.); Kertész, 1909: 37 (cat.; references; N. and Central America); d'Andretta, 1951: 34 (descr. ♀), fig. 30 (head) (specimen from Brazil, Rio de Janeiro, Itatiaia); Papavero & Wilcox, 1968: 8 (cat.; Westwood, Williston and d'Andretta references; USA (Florida), Mexico (Tabasco), Brazil (Rio de Janeiro); USA and Mexico records questioned).

Male. Length, 21-26 mm. Head shining black; narrow sides of frons and face, broad margins of occiput along eye margins grey pollinose. Hairs black, recumbent on mystax; longer than antennae 1-2, dense, semierect, on sides of antennae, frons, and dorsally on occiput; yellowish-white on remainder of occiput. Proboscis black, shining; margins of labella light-brownish, labella 1.28(1.20) in length (width), oral cavity 1.68 mm in width. Face at lower eye margin 1.60, at antennae 2.20, vertex 1.52, one eye 1.76 in width. Antennae black, grey pollinose, hairs on 1-2 short, black; segments 0.48-0.24-3.60-3.20 (0.60) in length (width); sensory area occupying the apical 0.96 mm of club.

Mesonotum shining black; dense, small spots at suture, and narrow spot behind suture on posterolateral margins, indistinct on postalar calli, grey pollinose. Hairs numerous, erect, black, as long as antennae 1, shorter posteriorly. Scutellum black; hairs long, black. Postscutellum black, transverse rugose, grey pollinose. Pleura subshining black, sparsely grey pollinose; hairs on pteropleura dense, long, black. Coxae black, thinly grey pollinose; hairs long, black, mixed with brownish and yellowish ones; also brownish and yellowish hairs on metasternum.

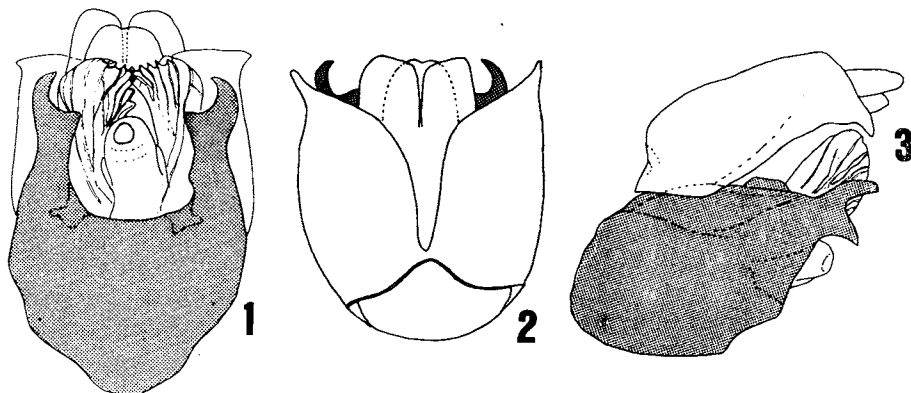
Tergite 1 velvety black, thinly grey pollinose; posterior margin dark reddish brown; remaining tergites subshining black, with narrow dark brown posterior margin. Hairs on 1 very long, dense, semierect, brownish; short, recumbent, black, on remainder. Sternites shining black; 1, broad posterior margins of 2-4, narrow posterior margins of remainder, reddish brown; hairs sparse, short, recumbent, black. Bullae black, 0.70(0.24) in length (width). Genitalia black.

Legs black. Hairs short, recumbent, black, dorsally, and longer, semierect, yellow, on anterodorsal and posterior sides of fore femora; dense, short, recumbent, black, or brownish, more dense on anterior side of front tibiae, which also has a strong row of black bristles on its posterior side; middle femora as the fore pair, but yellow hairs longer and denser; middle tibiae with 2 rows of strong bristles. Hind femora 8.00 (2.25) in length (width), coarsely rugose, with 20-22 black tuberculate spines in 3 more or less irregular rows on venter; hind tibiae with ventral keel, tibial spur black, tip reddish brown, 0.60 in length; tarsal segments 0.80(0.4.)-0.76-0.66-0.50-1.30 in length (width). Claws reddish brown, tip black; pulvilli brownish.

Halteres very light brown, club ferruginous. Alulae black, margin and fringe very light brown. Wings hyaline, yellowish along veins, more intensely yellow on anterior margin. Costa, Subcosta and R_1 black; R_2 , stump of R_3 , R_4 , R_5 , M_{1+2} , M_3 , M_4 , M_{3+4} , and 1A dark brown to black; remaining veins orange red.

Another male, from Guarapari, Espírito Santo, differs from the above specimen (Guanabara : Alto da Boa Vista) in being entirely dark reddish brown; the abdomen is shining black, the anterior and posterior margins of both the tergites and sternites broadly shining reddish brown; hairs on hind legs entirely yellowish; wing veins yellow, Costa almost black; all measurements, however, exactly like above.

Female. Length, 26 mm. Similar to the male of Alto da Boa Vista (described above). Hairs more brownish or yellowish. Face at lower eye margin 1.52, at antennae 2.08, vertex 1.60, one eye 1.40 in width. Antennae missing. Bullae black, 0.70 (0.20) in length (width). Hind femora 7.60 (1.68), tibial spur 0.40, tarsal segments 0.78 (0.40)-0.68-0.52-0.48-1.10 in length (width).



Ceriomydas crassipes (Westwood), male genitalia : 1, ventral view; 2, dorsal view; 3, lateral view.

Material examined. BRAZIL. *Espírito Santo*: Guarapari, x.1942 (Soares), ♂; *Minas Gerais*: Serra do Caraça, 1880 m, xi.1961 (Kloss, Lenko, Martins & Silva), ♂; *Guanabara*: Tijuca, Alto da Boa Vista, ii.1951 (Seabra), ♂; *Rio de Janeiro*: Itatiaia, 700 m, Estação Biológica, i.1933 (W. Zikán), ♀; *São Paulo*: Bertioga, Praia do Guaratuba, xii.1972 (N. Papavero), ♀. All in the MZUSP.

We are not sure of the identification of this species. Westwood described *crassipes* from North America, with a query. It may be the same as our species, and the type, which has been seen, agrees very well. It could be mislabelled. Specimens from North America have white hairs laterally on tergite 1p; both the type-specimen and our specimens have black hairs laterally on 1p. Only further specimens from both North and South America will clarify the systematic position of *crassipes* and *darlingtoni*.

Our specimen of *crassipes* from Praia do Guaratuba was captured during a very hot day, flying very slowly, at a height of about 1 meter, over low vegetation, in a tropical rainforest of the coastal plains (see Hueck, 1972: 152, fig. 87a-b). When flying it resembles very much the solitary wasps of the genus *Montezunia* Saussure (Hymenoptera, Eumenidae).

Ceriomydas cubanus (Curran), comb. n.

Mydas gracilis Macquart of Loew (*in* Osten Sacken), 1878: 84. Reports from Cuba.

Mydas cubana Curran, 1951: 3. Type-locality : Cuba, vic. of Havana, 1905 (Mel. T. Cook). Type ♀, AMNH (seen in 1971, 1972).

Mydas cubensis [sic] Curran, 1951: 2 (in key; *lapsus*).

Mydas cubana; Papavero & Wilcox, 1968: 8 (cat.; Cuba): Osten Sacken & Curran references.

Female. Length, 24 mm. Head black; upper part of face, below antennae, upper lateral margins of gibbosity, brown; sides of face and frons densely yellowish pollinose; central half of gibbosity bare of pollen. Hairs yellowish, dense, recumbent, in mystax (center bare) and to sides of antennae; shorter, erect, on frons and vertex; occiput black, eye margins silvery-grey pollinose; hairs moderately long, semi-erect, mixed black and yellow; beard black. Proboscis dark chocolate brown. Face at lower eye margin 1.40, at antennae 2.20, vertex 1.40, one eye 1.60, in width. Antennae black, club dark reddish brown, hairs black; segments 0.48-0.16-(3 missing)-1.40(0.60) in length (width).

Mesonotum dark red, broad central stripe black; anterior slopes of humeri, lateral margins, dorsocentral stripes (broad on anterior 1/3, tapering in remaining 2/3, and curving inward, but not touching before scutellum), densely yellowish white pollinose. Hairs semierect and as long as antennae 2, black on humeri, lateral margins, postalar calli, and dorsocentral stripes, not much shorter posteriorly. Scutellum black, posterior margin red; hairs yellow; arms black. Postscutellum red, blackish on middle, between the two whitish pollinose round spots; shallow rugose. Pleura dark red above (with darker areas), and chocolate brown below (with small diffuse dark reddish areas mixed), one round, white pollinose spot on superior margin of sternopleura, and another on metapleura. Coxae blackish, sparsely yellowish white pollinose; hairs sparse, long, black, but yellowish on hind coxae.

Abdomen (most of segment 2, right lateral margins of 3 and 4, and sternites 3-4, eaten away) black, with intense metallic blue shine; posterior margins of 2-6 yellow, 6 darker; anterolateral margins of 3-6 and lateral margins of 7 broadly, reddish; bullae brown, lighter in interior, 0.40(0.16) in length (width). Tergite 1a tuberculate, densely and completely white pollinose. Hairs long, sparse, white on 1p; dense, recumbent, black on 2-7. Sternites dark brownish, posterior margins of 2-6 ochre-yellow, 7 reddish; hairs sparse, recumbent, black. Terminalia blackish, hairs long, black.

Legs reddish brown, tarsi almost black. Fore legs missing. Hairs black, bristles of middle tibiae brown. Claws reddish brown, tip black; pulvilli yellowish brown. Hind femora with 8 brown tuberculate spines on venter, mostly in a single row, 6.64(1.20) in length (width); tibial spur 1.20, tarsal segments 0.68(0.40)-0.52-0.44-0.36-0.84, in length (width).

Halteres brown. Alulae brown, margin yellowish white, fringe yellowish. Wings pale yellowish-brown, veins very light brown; posterior crossvein present.

Male: unknown.

Material examined. CUBA: vic. of Havana, 12.vi.1905 (Mel. T. Cook), ♀ (Holotype), AMNH.

Ceratomydas darlingtoni, sp. n.

Female. Length, 25 mm. Head shining black, small red spot on each side of vertex; sides of face and frons narrowly yellow and occiput white pollinose. Hairs black, mystax dense recumbent and numerous, semierect hairs to sides of antennae, less numerous, erect, on frons, vertex and occiput, internal hairs on occiput, brown. Proboscis black. Face at lower eye margin 1.58, at antennae 2.21, vertex 1.47, and one eye 1.47 in width. Antennae 1 dark red, remainder black; hairs black; segments 0.53-0.26-3.27-2.47(0.53), sensory area 0.26, in length (width).

Mesonotum dull black; dense spots at suture and narrow spot behind suture on posterolateral margins, indistinct on postalar calli and dorsocentral stripes, white pollinose, except for spot only visible at some angles. Hairs numerous, erect, black, as long as antennae 1, slightly shorter posteriorly. Scutellum black, narrow posterior margins brown, hairs sparse, quite long, black. Postscutellum black, greyish pollinose, coarsely rugose. Pleura brown; coxae black, with sides of fore and middle coxae dark red; thinly greyish pollinose; hairs long, sparse, black, a few white mixed in on meron-3 and many long, white, on sides of hind coxae.

Tergite 1 velvety black, greyish pollinose laterally and on 1a; 2-10 shining black, posterior margins of 2-8 indistinctly dark brown and sides of 2-4 indistinctly dark red; bullae dark red, 0.66(0.18) in length (width). Hairs dense, long, on 1p, white laterally, brown anteriorly, and black on dorsum; sparse, long hairs anteriorly on 2, black, with white laterally; short, sparse, recumbent, black, on 2-3, and more numerous on 4-7, long laterally on 8-9 and apex of 10. Sternites shining black, posterior margins of 3-7 brown; hairs short, sparse, recumbent, black, on 2-3, numerous and longer apically; 8-9 dull black, hairs numerous, semierect.

Legs black; hind femora and tibiae dark reddish brown. Hairs black, sparse, long, erect, on femora; dense, recumbent, on fore and middle tibiae and tarsi; posterior fringe on fore tibiae about one-half width of tibiae; pile on anterior side brown; bristles black; claws dark red, tip black; pulvilli yellowish brown. Hind femora with 11-12 black tuberculate spines, 6.66 (1.37) in length (width); tibial spur red, tip black, black bristles at base, length 0.68; tarsi 0.74(0.35)-0.56-0.47-0.40-0.94 in length (width).

Halteres brown, stem light brown. Alulae brown; margin and fringe light brown. Costal, subcostal, marginal, submarginal 1 and basals 1-2 yellow; subcostal, marginal and submarginal 1 brown beyond end of discal, with brown along veins in discal cell; remaining cells bordered with brown to light brown and with the centers hyaline; anterior basal veins orange, remaining brown; posterior crossvein present.

Holotype ♀, DOMINICAN REPUBLIC, Sánchez, vii.1938 (P. J. Darlington, Jr.), in the MCZ.

Ceratomydas fraudulentus Williston

Ceratomydas fraudulentus Williston, 1898: 58. Type-locality : Brazil, Mato Grosso, Chapada dos Guimarães. Type ♀, ?lost.

Ceratomydas fraudulentus; Hunter, 1901: 153 (cat.; *lapsus*).

Ceratomydas fraudulentus; Kertész, 1909: 42 (cat.; above references); Williston, 1908: 18, fig. 3 (photograph of type); Curran, 1934: 480, fig. (Williston's photograph of the type); Papavero & Wilcox, 1968: 3 (Williston reference; report type in UK, in error); Wilcox & Papavero, 1971: 80 (note).

As mentioned before, the type of this species seems to be lost, and the species is unrecognized. We give below the original description.

"Female. Head black, the sides of the face below reddish. Front with soft white pile; face with two rows of soft, thick, reddish brown hair in the shape of a V, meeting at the oral margin. First three joints and the narrow portion of the lamella (club) of the antennae deep brown, reddish along the under side, expanded portion of the lamella deep red; lamella altogether about three-fourths the length of the third joint. Mesonotum black, but little shining; humeral and post-alar callosities, the scutellum, and the pleura for the most part, deep red. First three segments of the abdomen red, with a slender blackish hind margin; remainder black, but little shining. Legs red; the upper part of the front and the hind femora, and a stripe along the front part of the latter, black or deep brown. Wings with the front part and the base deep brown, elsewhere hyaline; the limitation between the brown and the hyaline parts on the outer portion of the wings is not diffuse, the line running from a little before the middle of the wing antero-posteriorly straight to the tip of the wing; the first and second basal cells are brown throughout, extending diffusely into the discal and posterior cells; the anal angle is less deep brown, and has a large hyaline space along its middle; the alulae are largely hyaline. Length, 27 mm."

"One specimen, Chapada, Brazil (H. H. Smith). This species shows a remarkable mimicry of certain ones of *Conops* occurring in the same region."

Ceratomydas gracilis (Macquart), comb. n.

(Figs. 4-6)

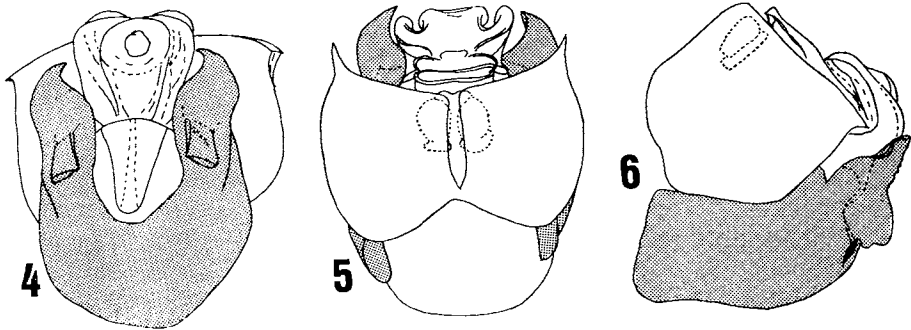
Mydas gracilis Macquart, 1834: 274, pl. 7, figs. 1a, 1b (whole insect, antennae). Type-locality : "South America". Types ♂ ♀, Lost. Neotype ♂, Cuba, Havana, in the MNHN.

Mydas gracilis; Westwood, 1841 : 52, Amer. Merid.: diagnosis; Walker, 1854 : 366. — South America; diagnosis; Macquart & Westwood references; Gerstaecker, 1868 : 97. — S. America; Macquart reference; Osten Sacken, 1878 : 84 — Macquart reference (South America); Cuba (Loew, *in litt.*; Loew was right in identifying this species from Cuba); Hunter, 1901 : 154 — South America; Macquart & Westwood references; Aldrich, 1905 : 251. — S. America; Macquart reference; "oc. in Cuba reported by Loew, in O. S. Cat., 84"; Kertész, 1909 : 38. — America Mer. Macquart,

Westwood, Walker, Gerstaecker, Hunter & Aldrich references; Curran, 1951 : 1, 3, Refers to Osten Sacken and reports of *gracilis* from Cuba by Loew; considers Cuban species distinct and described as *cubana* Curran; d'Andretta, 1951 : 46, is misident.; description and figs. 22, 50, 78, 80, 98, and 141, refer to *brederi* (Curran), q. v.; Papavero & Wilcox, 1968 : 8 (cat.). — Macquart and Westwood references; *gracilis* Macquart of d'Andretta misident., equals *brederi* Curran, q. v.

Male. Length, 25 mm. Head black; sides of face and frons densely white pollinose. Hairs white, dense, recumbent, in mystax (center bare) and to sides of antennae; shorter, erect, on frons and vertex. Occiput black, eye margins white pollinose; hairs long, white, a few black ones intermixed. Proboscis black. Face at lower eye margin 1.32, at antennae 1.80, vertex 1.40, one eye 1.36, in width. Antennae black, hairs black, segments 0.48-0.20-2.48-2.16(0.60) in length (width).

Mesonotum dull velvety black, with the following white pollinose markings : 2 dorsocentral stripes on anterior slope, extending shortly beyond hind level of humeri; 2 stripes on lateral margins, beginning beyond humeri and ending over transverse suture; 2 small dots over tip of transverse suture, near dorsocentral rows; 2 small spots on lateral margins, above wings. Hairs as long as antennae 1, dense, semierect, black, on humeri, anterior and lateral margins and on dorsocentral rows, becoming somewhat shorter behind; a few short, semierect, white hairs on posterior margin of mesonotum. Scutellum black, arms black, hairs



Ceriomydas gracilis (Macquart), male genitalia (Neotype) : 4, ventral view; 5, dorsal view; 6, lateral view.

long, semierect, white. Postscutellum black, shallow rugose, with two large rounded white pollinose spots below scutellum. Pleura and coxae black, a small white pollinose spot on inferior margin of mesopleura, and a larger one on superior margin of sternopleura. Hairs on pteropleura long, slender, dense, blackish, a few white ones intermixed. Anterior coxae with blackish hairs; hairs on middle and hind coxae long, dense, white.

Abdomen shining black, with a slight metallic bluegreen lustre; posterior margins of 2-4 and very narrow posterior margins of 5-6

dark yellow; bullae black, 0.68(2.20) in length (width). Hairs very long and dense, white, on tergite 1p; dense, recumbent, black, on remainder. Sternites shining black, with metallic violet shine; hind margins of 2-6 very dark shining brown. Hairs short, sparse, recumbent, black. Genitalia black, with very long, white and shorter, black, bristly hairs; epandrium with a lateral, short, spur.

Legs black; vestiture black; claws very dark reddish brown; tip black; pulvilli dark yellowish brown. Hind femora with about 22 black tuberculate spines on venter, 5.84(1.60) in length (width); tibial spur 0.60, hind tarsi 0.40(0.20)-0.40-0.36-0.32-0.68 in length (width).

Halteres brown; alulae brown, margin and fringe white. Wings pale yellowish brown, darker along veins in anterior half, from C to R₃₊₄; veins brown or light brown; posterior crossvein present.

Female. Length, 25 mm. Similar to the male. Face at lower eye margin 1.40, at antennae 2.32, vertex 1.40, one eye 1.44 in width. Antennae 0.60-0.24-3.00-2.60(0.60), sensory area 0.48, in length (width). Bullae black, 0.60(0.20), hind femora 7.36(1.60), tibial spur 0.72, tarsal segments 0.80(0.60)-0.60-0.56-0.40-1.00, in length (width).

Neotype designation. As Macquart's types are lost, we designate as the Neotype of the species *gracilis* a male specimen from Havana, Cuba (no other data), deposited in the MNHN.

Additional examined material. CUBA: Havana, no date (Coll. Le Moul't), ♀, MNHN; no other data, Coll. Bigot, ♂, BMNH.

Ceratomydas tricolor (Wiedemann), comb. n.

Midas tricolor Wiedemann, 1830: 627. Type-locality: "Cuba". Type ♀, ZMB (not seen).

Midas (or *Mydas*) *tricolor*; Wiedemann, 1831: 36, 42, pl. 53, fig. 5 (whole insect, color); Westwood, 1841: 50, 51. — Cuba; larvae "parasitic" on larvae of giant Prionidae; brief description; Wiedemann reference; Walker, 1854: 362. — Cuba; diagnosis; Wiedemann & Westwood references; Bigot, 1857: 799 (French edition); 1857: 335 (Spanish edition); Gerstaecker, 1868: 98. — Cuba (Müller), ♀ in ZMB; Wiedemann reference; Williston, 1898: 55. In key to the species; Aldrich, 1905: 262. — Cuba; Wiedemann & Bigot references; Kertész, 1909: 41. — Cuba. Wiedemann (1830, 1831), Westwood, Walker, Bigot, Gerstaecker, Williston & Aldrich references; Curran, 1951: 2, 4. — Cuba; in key to species and comparison of characters with *cubana* Curran; Papavero & Wilcox, 1968: 10. — Cuba; Wiedemann, Westwood & Curran references.

As mentioned before, we do not have this species. From Wiedemann's original description, quoted below, it seems to be very closely related to the *gracilis*-species group.

"Thorace rubido; epistomate aurato; abdomine chalybeo; femoribus posticis rufis. Mit röthlichem Rückenschilde, vergoldetem Untergesichte, stahlblauem Hinterleibe und röthlichen hintersten Schenkeln. — 13 Linien. — Von Cuba.

Fühler schwarz. Untergesicht ziemlich lang und dicht goldgelb behaart; Backen und Mitte aber glänzend schwarz. Rückenschild rostroth, ganz vorn schwarz, welches als eine Strieme, hinten stark abgekürzt und spits auslaufend in das Rothe fortsetzt; ausserdem noch zwei gelblichweisse Striemen, die auch bald abgekürzt und kaum sichtbar bräunlich nach hinten sich fortsetzen. Brustseiten schwarz; Hinterleib schwärzlich stahlblau. Flügel satt gelb, Spitze tiefer gelb, Adern rothgelb. Beine schwarz; hinterste Schenkel gelblichroth. — Im Berliner Museum."

Ceratomydas vespoides, sp. n.

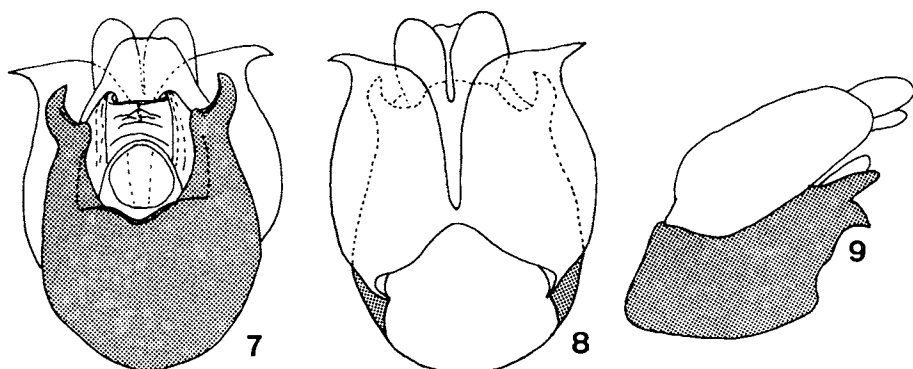
(Figs. 7-8)

Male. Length, 20 mm. Head dull black; sides of face, very narrow sides of frons, and broad margins of occiput grey pollinose. Mystax hairs longer than antennae 1-2, dense, recumbent, golden-yellow, whitish on sides of gibbosity; hairs to sides of antennae, frons, longer than antennae 1-2, semierect, white; shorter on occiput, black, except near vertex, where they are white. Stem of proboscis dark brown; labella reddish brown on center, brown at margins, 1.20 (0.88) in length (width); oral cavity (including posterior lip) 2.00 in length. Face at lower eye margin 1.20, at antennae 1.60, vertex 1.20, one eye 1.28 in width. Antennae black, thinly grey pollinose, hairs on 1-2 short, mixed black and white, 3 dark ferrugineous red to black, segments 0.40-0.20-2.48-2.20 (0.52), sensory area 0.40, in length (width).

Mesonotum black, uniformly and thinly covered with grey pollinosity; small spot at sutures, narrow posterolateral and posterior margins densely covered with grey pollinosity. Hairs subequal to antennae 1, dense, recumbent, yellowish-white, leaving a central and two lateral confluent areas, bare. Scutellum black, rugose, thinly grey pollinose; hairs yellowish; postscutellum black, pollinose, transverse rugose. Pleura and coxae black, thinly grey pollinose; hairs long, yellow.

Tergite 1 velvety black, hind margin yellow; hairs long, whitish. Tergite 2 black, with 2 large yellow spots on sides, leaving a more or less triangular black area on the middle. Bullae black, 0.50 (0.26) in length (width). Remainder tergites subshining black, lateral and posterior margins of 3, and posterior margins of 4-7 narrowly reddish brown. Hairs short, dense, recumbent, white. Sternites shining black, anterior margin of 1, posterior half of 2, yellow; hind margins of remainder reddish brown. Hairs short, sparse, recumbent, yellowish-white. Genitalia reddish brown, with diffuse black areas; hairs and bristles mixed in black and yellowish.

Legs reddish brown; hairs short, recumbent, sparse, yellowish white; bristles short, reddish brown. Hind femora yellowish on basal one-fifth, densely and shortly white haired, 5.60 (1.52) in length (width), with 20-22 dark reddish brown, tuberculate spines on venter; tibial spur reddish brown, 0.32, tarsal segments 0.50 (0.26)-0.46-0.40-0.36-0.96, in length (width); tarsal bristles black, hairs yellowish. Claws reddish, tip black; pulvilli brownish.



Certomydas vespoides, sp. n., male genitalia : 7, ventral view; 8, dorsal view; 9, lateral view.

Halteres yellowish, dark brown on club. Alulae black, margin dirty white, fringe light brown. Wings dark brown along anterior margin (costal, subcostal, marginal, submarginal 1 except for a small stripe near base of R_3 , basal half of basal 1, basal 2, and along upper margin of anal and submarginal 2), faintly brownish on anal and axillary lobes; remainder cells hyaline to vitreous. Second submarginal cell closed and petiolate; posterior crossvein present.

Holotype ♂, BRAZIL. *São Paulo* : Cajuru, Coqueiros, ii.1947 (M. P. Barretto), in the MZUSP.

This species has a remarkable mimicry of certain species of *Polybia* and *Polistes* wasps, such as *Polybia ignobilis* (Haliday) and *Polistes acteon* Haliday (Vespidae).

Mapinguari, gen. n.

Head in anterior view one and three-fifths as wide as high; face at the antennae two-fifths width of head; oral margin located opposite lower eye margin; gibbosity about as broad as long. Stem of proboscis shorter than length of oral cavity, labella attached to apical three-fourths and extending out at about a 90° angle. Antennal segment 1 cylindrical and about two times as long as broad; 2 about as broad as long, half the length of 1; 3-4 missing. Occiput almost flat in lateral view, and very deeply concave on middle.

Mesonotum with short hairs on anterolateral and lateral margins, bare of pollen, except under the hairs, finely striate, the striae close together, and highly polished. Scutellum rugose, bare, a few longish hairs on arms. Postscutellum rugose, pollinose, bare of hairs. Pleura long pilose on episternum-1, pteropleura, and metasternum, plus some other hairs on dorsal margin of mesopleura.

Abdominal tergite 1a tuberculate, with a few hairs; 1p long pilose, remainder tergites with short, recumbent hairs, very dense, giving an appearance of extremely fine punctuation; bullae narrow, four times as long as wide. Sternites 2-7 with recumbent, sparse hairs. Female

segments 7-9 becoming progressively narrower, with longer, recumbent hairs directed posteriorly. Male unknown.

Fore and middle legs moderately short and robust. Hind femora exceptionally strongly swollen, 3.8 times as long as broad, with 16 more or less short tuberculate spines on venter; fore and middle tibiae with a dense patch of short hairs on anterior, posterior and especially apical margin. Hairs on legs not very long or dense; no strong, differentiated bristles present. Hind tibiae with a ventral keel, and relatively short apical spur. Hind metatarsus short, about as long as broad, subequal in length to segment 2, and shorter than 5.

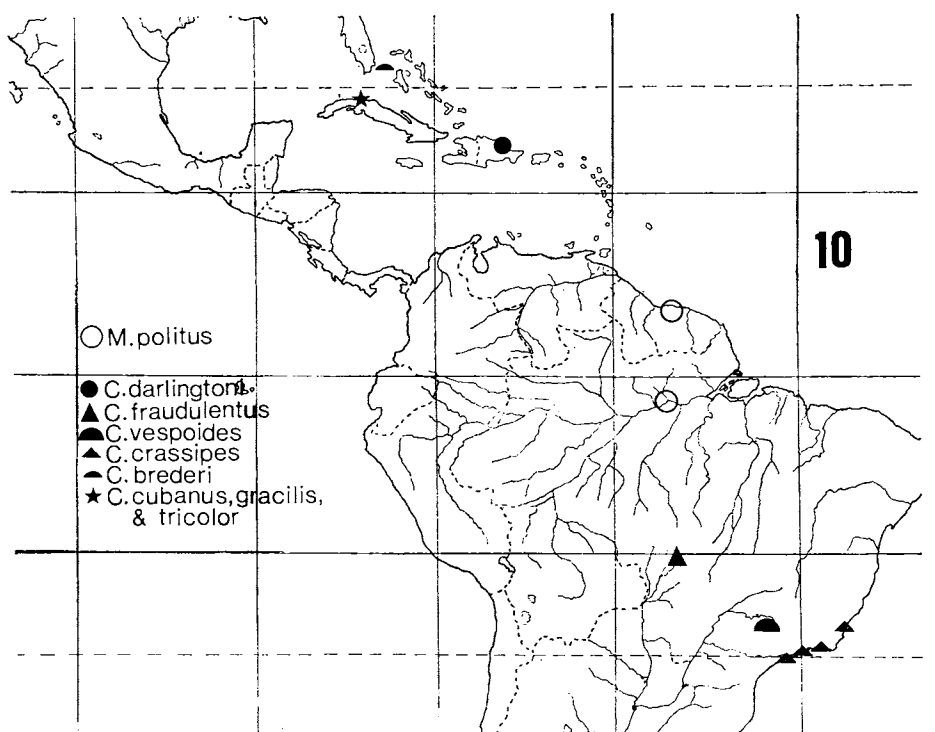


Fig. 10, Distribution of *Ceriomydas* and *Mapinguari*.

Alulae broad, with a dense fringe of long, squamose hairs. Wings two and one-half times as long as broad; second submarginal cell closed and petiolate; first posterior cell broadly open; R_3 present as a stump vein; posterior crossvein present; ambient vein complete.

Length, 29-32 mm.

Type-species, *Midas politus* Wiedemann.

The generic name (masc. gender) refers to a mythic entity of Brazilian Amazonia.

Mainguari politus (Wiedemann), comb. n.

Midas politus Wiedemann, 1828: 240. Type-locality : unknown. Type ♀, RNH (seen in 1972).

Midas (or *Mydas*) *politus*; Wiedemann, 1831: 43, pl. 53, fig. 7 (whole insect, color) — Brief description; locality unknown; Westwood, 1841: 51 (brief note); Walker, 1854: 370 (brief note); Gerstaecker, 1868: 94; Wulp, 1896: 99 (examination of type; compared to *fruhstorferi* Wulp, from Java); Kertész, 1909: 40 (above references).

Messiasia polita; d'Andretta, 1951 : 64, misident. d'Andretta misidentified as *polita* two different species of *Messiasia*; see Part III.

Female. Length, 29-32 mm. Head dull black, gibbosity shining dark brown to black; sides of face extending broadly below antennae, very narrow sides of frons, and occiput, especially along broad margins of eyes, white pollinose. Hairs on gibbosity longer than antennae 1-2, mixed black and golden; numerous, semierect to sides of antennae and frons, also mixed black and yellowish white; shorter on occiput, black externally, yellowish white internally and ventrally, especially on beard. Proboscis very dark shining reddish brown, labella 1.60 (1.44) in length (width); oral cavity (including posterior lip) 2.40 in length. Face at lower eye margin 1.84, at antennae 2.64, vertex 1.76, one eye 1.88, in width. Antennae missing, except first two segments, with black hairs.

Mesonotum polished black. Hairs short, semierect, more or less sparse on anterolateral, lateral, and narrow posterior margins, leaving the disc completely bare, mixed black and yellow. Humeri, anterolateral slopes, lateral and posterior margins sparsely yellowish grey pollinose. Scutellum black, anteriorly grey pollinose, arms reddish brown, hairs yellow; postscutellum dull black, transverse rugose, grey pollinose. Pleura black, grey pollinose, more intensely so on pteropleura, hairs on pteropleura long, yellow, with a few black ones intermixed. Coxae orange red (cupreous), hairs long, yellow, a few short black ones mixed in.

Abdomen entirely orange-red (cupreous of Wiedemann). Hairs on tergite 1 long, yellowish, a few short, recumbent, black ones intermixed. Remainder tergites with dense, short, recumbent, reddish yellow hairs, giving to the tergites the appearance of a minute and dense punctuation; hairs longer on posterior margins of 7-10. Sternites somewhat darker, with sparser, similar hairs. Bullae black, 0.80(0.24) in length (width).

Legs orange-red; fore femora with short yellow hairs dorsally, and longer, denser, recumbent black hairs on anterior side; middle femora with long orange-red hairs; fore and middle tibiae with a dense patch of relatively long hairs, black on dorsum, ventral and apical sides, orange-red on anterior and posterior aspects. Hind femora entirely with more or less short orange-red hairs, 7.60(2.00) in length (width), 16

black tuberculate spines on venter; tibiae with sparse, short, orange-red hairs, tibial spur 0.40 in length; tarsi orange-red, with long orange-red hairs and long black bristles (the only ones present on all legs), more numerous apically; tarsal segments 0.60 (0.50)-0.56-0.50-0.40-1.10, in length (width). Claws reddish brown, tip black; pulvilli yellowish.

Halteres yellowish brown; alulae black, margin and the long, dense fringe, very light brown. Wings intensely dark brown, with violet reflections, darker along anterior half; veins black; lighter areas in costal cell, distally to humeral crossvein, very narrow apex of subcostal, submarginal 2, discal and posterior cells. Second submarginal cell closed and petiolate; posterior crossvein present.

Material examined. Holotype ♀ of *politus*, in the RNH. One ♀ from BRAZIL. *Pará* : Óbidos (Colônia Rio Branco), x.1953 (J. Brazilino), in the MZUSP.

The type of *Mapinguari politus* (Wiedemann) at the RNH has the face eaten away by dermestids, the antennae and the halteres are missing, and is less shining than our specimen from *Pará*. Otherwise, it is excellently well preserved. The only label it has is a round, white dot, with the name "Calkoen" on it.

According to Gijzen (1938 : 282) : "The 'Rijksmuseum van Natuurlijke Historie' (the Leiden Museum of Natural History) was founded in the year 1820. Before this time existed already at Leiden an old collection, the so-called 'Academic Cabinet' which was formed by the fusion of the 'Cabinet Stadhouderienne' (taken to Paris by the French in about 1795 and returned to Leiden by Thyssens under the supervision of Brugmans in the year 1815), the private collection of Professor Brugmans, and an old collection which was kept in one of the buildings of the Hortus Botanicus. To these in 1820 two collections were added, namely the Government Cabinet in Amsterdam (founded by King Louis Napoleon and kept in the "Trippenhuis") and the private collection owned by C. J. Temminck. The later was appointed director of the new Museum, as his collection formed the more important part of the whole."

One of the collections which formed the "Trippenhuis" collections just mentioned was that of Jan Calkoen, about whom very little is known. Gijzen (1938: 30) gives the following information (in translation) :

"About the Collection CALKOEN (Jensen, 1919 : 183), which formed the main component of the collections of the Trippenhuis, I found a number of data in the catalogue of the auction from 30 June 1814 and following days. This catalogue, *Catalogue d'une collection très étendue et très bien conservée d'insectes, contenant un nombre considérable des espèces les plus belles, et les plus rares de tous les genres, surtout de Coléoptères, Papillons ou Lépidoptères, et Hemiptères. Collection formée par feu Monsieur Joan Calkoen. Et de quelques Oiseaux étrangers empaillés conservés dans des caisses vitrées.* — gives only the Latin name and the quantity, plus the sex. In addition larvae. At rare occasions we come across a vague indication of the procedente of the objects, such as 'espèce de Java'."

Calkoen must have been a very active buyer of collections, and the type of *politus*, studied by Wiedemann in the Leiden Museum, has very probably been acquired from collectors in Surinam. Contemporary collectors in Surinam were Holthuysen and Cardua (see Papavero, 1971: 112). So, the most probable type-locality for this species is Surinam. That the species is Amazonian is corroborated by the finding of a second specimen, from *Pará*.

6. Tribe **PHYLLOMYDINI**, new

The Phyllomydini differ from all other Mydinae by the following combination of characters : stem of proboscis attached to apical one-half or more of labella, which extends downwards at about a 90° angle; oral margin opposite the lower eye margin; facial gibbosity about one and one-half times as broad as high; ♀ tergite 9 wider apically than basally, fluted; apical process of male gonopods double. This tribe occurs in the United States and Mexico.

Type-genus, *Phyllomydas* Bigot, 1880.

Genus **Phyllomydas** Bigot, 1880.

- Phyllomydas* Bigot, 1880: xlv. Type-species, *phyllocerus* Bigot (mon.).
Refs. — Hardy, 1943: 50; Wilcox & Papavero, 1971: 104 (description), figs. 3-4 (head), 34-37 (antennae), 54 (bulla), 61 (♀ terminalia), map 6 (distr.), figs. 122-124 (♂ genitalia).
- bruesii* Johnson, 1926: 140. Type-locality: USA, Texas, Galveston, vi.1900 (T. Brues). Distr. — USA (Texas, Colorado). Types ♂ ♀, MCZ. Ref. — Wilcox & Papavero, 1971: figs. 1-2, 36 (antenna), 61 (♀ terminalia), 122-124 (♂ genitalia).
- currani* Hardy, 1943: 51. Type-locality: USA, Arizona, Douglas (W. W. Jones). Distr. — USA (Arizona, New Mexico, Texas), Mexico (Coahuila). Type ♂, AMNH. Ref. — Wilcox & Papavero, 1971: fig. 37 (antenna).
- eupolis* (Séguy), 1928c: 142 (*Mydas*). Type-locality : Mexico, Jalisco, Huejotitan, 1700 m, vi-vii.1913 (L. Diguët). Distr. — Mexico (Durango, Jalisco, Nayarit). Type ♀, MNHN.
- parvulus* (Westwood), 1841: 53, pl. 13, fig. 6 (whole insect) (*Mydas*). Type-locality : "America Septentrionalis" (D. Doubleday). Distr. — USA (Florida). Ref. — Johnson, 1926: 138, lists as a synonym of *Mydas maculiventris* Westwood. Type ♂, HM n.º 15).
Comb. n.
- phyllocerus* Bigot, 1880: xlvii. Type-locality : "Amer. boreal." (Rocky Mountains). Distr. — USA (Colorado, Kansas, New Mexico, Texas). Refs. — Johnson, 1926: 139, pl. 3, figs. 5-11 (brief descr.); Curran, 1934: 164, figs. 1-3, 5, 7; Wilcox & Papavero, 1971: fig. 35 (antenna). Types ♂ ♀, HM.
- scitulus* (Williston), 1886: 291 (*Mydas*). Type-locality : USA, Arizona (Comstock, n.º 150). Distr. — USA (Arizona), Mexico (Sonora). Ref. — Wilcox & Papavero, 1971: fig. 34 (antenna), 54 (bulla). Type ♂, UK.

REFERENCES

(Including only those not cited previously in Part I)

ALDRICH, J. M.

1905. A catalogue of North American Diptera. *Smithson. Misc. Coll.* 46 [2 (= publ. 1444)]: 1-680.

ARTIGAS, J. N.

1970. Los Apioceratidos de Chile con la descripción de cinco nuevas especies (Diptera-Apioceratidae). *Bol. Soc. Biol. de Concepción* 42: 97-122, 38 figs.

GIJZEN, A.

1938. 'S *Rijks Museum van Natuurlijke Historie, 1820-1915*, xii + 335 pp., 2 pls. Rotterdam.

GROSSBECK, J. A.

1912. Types of insects, except Lepidoptera and Formicidae, in the American Museum of Natural History, additional to those previously published. *Bull. Amer. Mus. Nat. Hist.* 31: 353-379.

HUECK, K.

1972. *As florestas da América do Sul. Ecologia, Composição e Importância Econômica* (translation by H. Reichardt), xxiii + 466 pp., 253 figs. Editora da Universidade de Brasília, São Paulo.

HUNTER, W. D.

1901. A catalogue of the Diptera of South America. Part II. Homodactyla and Mydiadae [sic]. *Trans. Amer. Ent. Soc.* 27: 121-155.

JENSEN, J. N. J.

1919. *Reizigers te Amsterdam. Beschrijvende lijst van reizen in Nederland door vreemdelingen voor 1850*, viii + 259 pp. Genootschap Amstelodamum, Ipenburg & Van Seldam, Amsterdam.

KERTÉSZ, K.

1909. *Catalogus dipterorum hucusque descriptorum. (IV). Oncodidae, Nemestriidae, Mydidae, Asilidae* 4: 1-348. Budapest.

OSTEN SACKEN, C. R.

1878. Catalogue of the described Diptera of North America. [Ed. 2]. *Smithson. Misc. Coll.* 16 [2 (= publ. 270)]: 1-276.

PAPAVERO, N.

1971. *Essays on the history of neotropical dipterology with special reference to collectors (1750-1905) I* : vii + 216 pp., illus. São Paulo.

SHOR, E. M.

1971. *Fossils and flies. The life of a complete scientist, Samuel Wendell Williston (1851-1918)*, xiii + 285 pp., 40 illus. University of Oklahoma Press, Norman.

WILLISTON, S. W.

1879. Diptera Brasiliana. Part IV. *Kansas Univ. Quart.* (A) 6: 1-12.
1901. Supplement (part), pp. 249-264, 265-272, 273-296, 297-328, 329-332, pls. 4-5, pl. 6, figs. 1-6, in F. D. Godman & O. Salvin, eds., *Biologia Centrali-Americana. Zoologia-Insecta-Diptera 1*: 378 pp., 6 pls. London.
1908. *Manual of North American Diptera*. Ed. 3, 405 pp., 163 figs. New Haven, Conn.

WULP, F. M. VAN DER

1896. Aanteekeningen betreffende Oost-Indische Diptera. *Tijdschr. v. Ent.* 39: 95-113, pl. 2.