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FLOWER FLIES OF THE SUBGENUS *OCYPTAMUS* (*MIMOCALLA* HULL) (DIPTERA: SYRPHIDAE)

F. CHRISTIAN THOMPSON AND MANUEL A. ZUMBADO

(FCT) Systematic Entomology Laboratory, PSI, Agricultural Research Service, U.S. Department of Agriculture, % National Museum of Natural History Smithsonian Institution, Washington, DC 20560-0169 U.S.A. (e-mail: cthompso@sel.barc.usda.gov); (MAZ) Entomology, Instituto Nacional de Biodiversidad, Santo Domingo, Heredia, Costa Rica (e-mail: mzumbado@inbio.ac.cr)

Abstract.—The subgenus *Ocyptamus* (*Mimocalla*) is revised. ***Ocyptamus* (*Mimocalla*) *tristani* Zumbado, new species,** is described and two **new synonyms** are proposed (*Salpingogaster flukei* Curran 1941 and *Baccha polista* Hull 1943 = *Baccha bonariensis* Brèthes 1905). A key to the species, along with synonymies, descriptions, distributions, and figures for all species are given.

Key Words: Neotropical, key

The New World tropics have the richest diversity of flower flies in the World. This diversity holds great promise for sustainable agriculture. The flower fly diversity largely resides in three genera (*Toxomerus* (150 spp.), *Ocyptamus* (300 spp.) and *Copestylum* (320 spp.)). The flies of the genus *Ocyptamus* are predators of a diverse array of plant pests (mites, scales, plant hoppers, aphids, etc.). To fully utilize their potential, the species must be named and described so that their life-histories can be studied and reported. Then the relative contribution of these predators to agroecosystems can be assessed and, perhaps, enhanced.

Consider coffee production: While most coffee is today grown in large, open, single crop systems which require insecticide use, there is a growing trend to return to more natural shade-grown systems. In such systems, the new species described herein may be a useful biological control agent. The species is a predator of black, soft-brown and hemispherical scales, which are pests of coffee and various ornamental plants.

This paper is the second in a series to treat various components of the large diverse genus *Ocyptamus*. The first part (Thompson, in preparation) includes a description and diagnosis of the genus and a key to the components (subgenera and species groups) along with the treatment of several species groups. This paper treats the species group named and treated as a subgenus by Hull. Until a cladistic analysis is done of the genus as a whole, we, for pragmatic reasons, retain *Mimocalla* as a subgenus. The likely sister to *Mimocalla* is *O. conjunctus* Wiedemann and the sister to *O. conjunctus* + *Mimocalla* is *O. sargoides* Macquart. Using these species as outgroups, we include a preliminary cladistic hypothesis for the species of *Mimocalla*. Redescriptions, complete synonymies, illustrations, and distributions are given for all species. Terminology follows Thompson (1999), the abbreviations found in the synonymies follow Thompson (2000), the use of the asterisk in the distribution statement means verified records to be found below

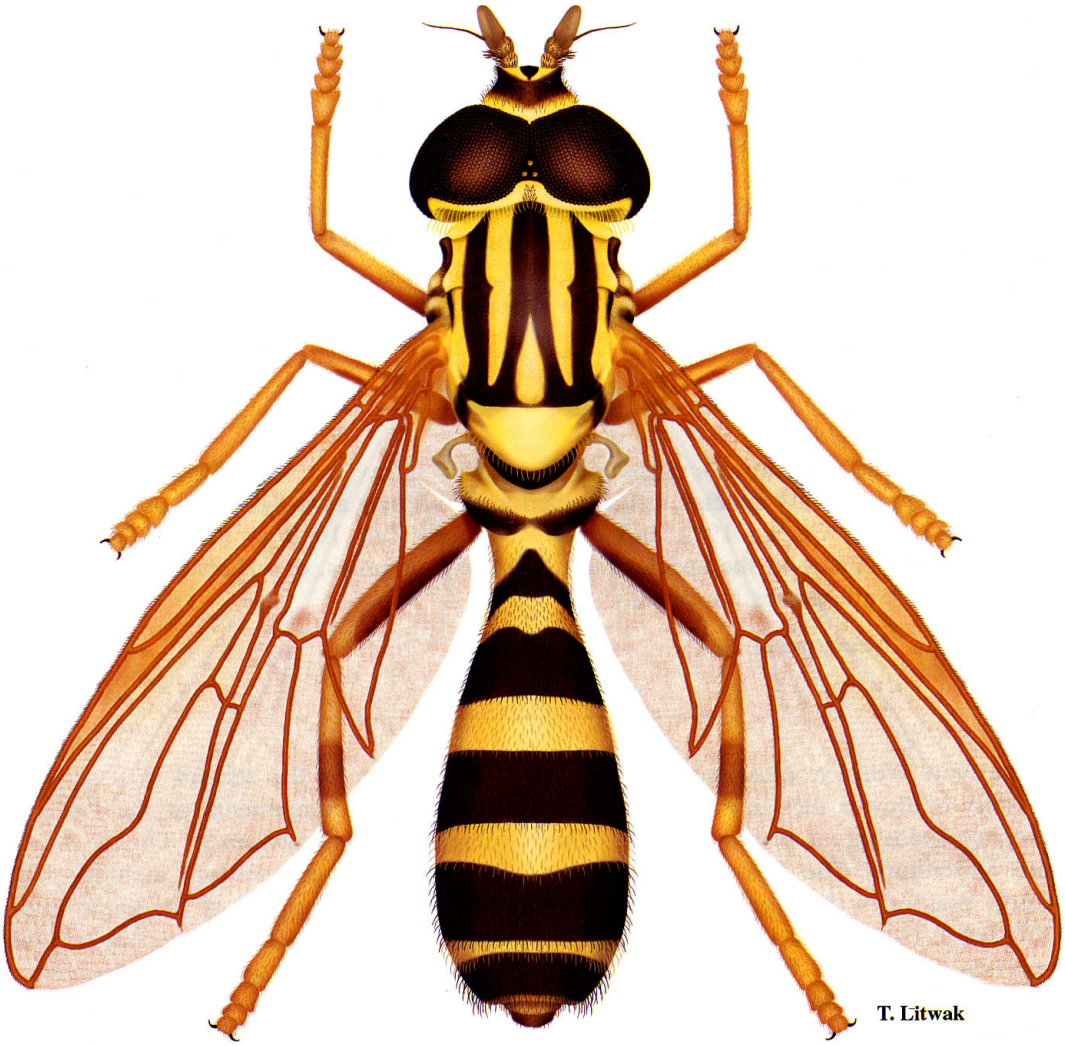


Fig. 1. Habitus of *Ocyptamus tristani*, dorsal.

in the material examined section. Color images of these flies along with the rest of the information in this paper may be found on the Diptera WWW site (http://www.sel.barc.usda.gov/Diptera/) and on the *Diptera Data Dissemination Disk.*

Genus *Ocyptamus*

Ocyptamus Macquart 1834: 554. Type species, *fascipennis* Macquart (Coquillett 1910: 577) = *fuscipennis* Say.

Subgenus Mimocalla Hull

Baccha subg. *Mimocalla* Hull 1943d: 46. Type species, *Baccha capitata* Loew (orig. des.); Hull 1949: 97 (discussion, key).

Description.—Face usually yellow, rarely with weak brownish vitta or black with narrow yellow vitta, with strong tubercle; frons prominent; vertex short, broad, with ocellar triangle about 1½ times its length anterior to hind margin of eye; occiput with 2 rows of cilia, with cilia normal, not scale-like; metasternum bare; metathoracic episternum pilose; postmetacoxal bridge incomplete; scutellum yellow or rarely entirely black, with 1 row of strong and long ventral

pile; plumula long to absent; calypter with strong fringe only on ventral edge; mesonotum usually with bright yellow pollinose vittae, rarely entirely dark; metatrochanter always with a tuft of long black pile, frequently males with long ventral pile also on metacoxa and femur; abdomen clavate, constricted at base of 2nd tergum and gradually widening apically, brown to black, with yellow fasciae; male genitalia greatly enlarged, with cercus and apicolateral corners of 9th tergum enlarged; male 5th sternum variously modified on apical half.

Wing: Alula normal, about 1½ times as broad as cell BM, bare or microtrichose; crossvein r-m at basal ⅓ of cell DM, slightly beyond termination of vein Sc; vein M1 sinuate, ending approximately at termination of vein R1; vein R4+5 sinuate, making a shallow loop into cell R4+5.

Length: 12–16 mm; wing, 10–14 mm.

Discussion.—The subgenus *Mimocalla* is readily distinguished from all other groups of *Ocyptamus* by: 1) strongly petiolate and clavate abdomen; 2) large size; 3) enlarged male genitalia including a modified 4th sternum; 5) vein R4+5 sinuate; 6) vein M1 sigmoid; and 7) metatrochanter with a strong pile tuft. In appearance *Mimocalla* can only be confused with *O.* (*Theranta*) *conjunctus,* but *Mimocalla* is readily distinguished by the sinuate vein R4+5 and short antenna.

While a full cladistic analysis has not been done, the characters of the male genitalia suggest these relationships (*Mimocalla* = (*giganteus* + *willistoni*) + ((*bonariensis* + *erebus*) + (*nymphaea* + (*capitatus* + *tristani*)))). In most *Ocyptamus,* the cercus is unmodified, small, and oval, but in *Mimocalla* the cercus is enlarged. In one group (*giganteus* + *willistoni*), the shape of the cercus is triangular and the surstylus short, blunt apically and directed ventrally. In the other group, the cercus is elongate and the surstylus is also elongate, tapered apically and directed posteriorly. Within this second group, the genitalia of *capitatus* and *tristani* are the same, and those of *nymphaea* are very similar. These three species also share the more or less simple 5th sternum. The other two species (*bonariensis, erebus*) have the 5th sternum produced apicolaterally on the right side.

Little is known about the biology of *Ocyptamus* species. However, the life history of one species of *Mimocalla* has been published. We review that work in light of our rearing of *tristani,* new species. Bruch (1923) noted that *bonariensis* larvae completely suck dry a scale insect before moving on to the next and that the complete larval cycle probably lasts about three weeks. Once the larva finishes feeding, the larva remains quiescent for about two days, then evacuates the gut and changes position in order to pupate, either on the same plant or nearby, and finally resting about one more day before pupating. The larva slowly becomes smaller and releases a viscous transparent liquid, which when hardens to anchor the puparium. During the process of transformation the posterior part of the larva becomes narrower, while undulatory and contraction movements of the pupa forming inside inflates bit by bit the anterior portion; this process lasts about two hours. The recently formed puparium is colored the same as the mature larva but shortly after pupation it becomes pale brown. The pupal stage lasts about two weeks.

Observations by M. Zumbado and J. A. Ugalde on *tristani* confirm Bruch's observations. Mature *tristani* larvae (Figs. 20–22) measure between 12 and 14 mm long and about 5 mm wide. The body is subparallel along its length, rather convex dorsally and flat ventrally; anteriorly it is narrower and posteriorly is obliquely truncated. The color is similar to that of *bonariensis.* The puparium (Fig. 23) is smaller than the larva and measures 8 to 9 mm long; in a dorsal view, its shape is pyriform; the anterior portion is highly convex dorsally, becoming narrower and cone shaped posteriorly. Ventrally the puparium is flat posteriorly and slightly concave anteriorly. The surface is

coarse, without tubercules. The posterior breathing tube is very short and black.

We reared *tristani* from July 1st to October 13, 1993 and from June 20 to October 10, 1994, at INBio headquarters in Santo Domingo, Heredia Province, Costa Rica, at an elevation of 1,100 m. During the first season we did not successfully rear a single adult, just parasitic wasps (Hymenoptera: Pteromalidae and Encyrtidae). Larvae and puparia were found from June to October, during the rainy season in Costa Rica, when humidity favors scale insect development. Adults were present from February to August.

We found *tristani* larvae feeding on scale insects (Homoptera: Sternorrhyncha: Coccoidea: Coccidae) on various plant species (Rutaceae: *Citrus* sp., Fabaceae: *Acacia* sp., *Gliricidia sepium* (Jacq.) Kunth ex Walp, Solanaceae: *Datura* sp., Rubiaceae: *Coffea arabica* Linnaeus, Lamiaceae: *Ocimum basilicum* Linnaeus).

The larvae use a glue-like saliva (Rotheray 1986) to defend themself against aggressive organisms such as ants. Two *Camponotus* ants were seen attacking a larva that responded by turning the anterior portion of the body towards the ant and releasing a drop of this liquid substance on them. The ants were trapped for at least 2 minutes before freeing themselves.

Several species of parasitic wasps were found to attack *tristani,* all of them emerging from puparia. All reared parasitic wasps belong to the Encyrtidae, mainly *Syrphophagus* sp. which attacks the larval stage (Noyes 1995), and Pteromalidae, mainly *Pachyneuron* sp. In most cases, several to many (4 to 75 encyrtids, 1 to 33 pteromalids) emerged from a single puparium. These natural enemies seem to be very effective against *tristani* larvae. Neither *Pachyneuron* nor *Syrphophagus* are host specific in *Ocyptamus,* both are hyperparasitoids in aphids (Homoptera: Aphididae) or primary parasitoids in syrphids (Hanson and Gauld 1995). *Syrphophagus* also parasitizes Braconidae and Aphelinidae hymenopterans (Noyes 1995).

In our first attempts to rear the fly (60 puparia), we got only parasitic wasps (636 Encyrtidae and 260 Pteromalidae). So we started taking very recently formed puparia (17) and were then successful in getting adult flies (12). This suggests that female wasps are ovipositing on freshly formed puparia, perhaps attracted by the chemicals released during the transformation into pupae.

Key to Species of *Ocyptamus* (*Mimocalla*)

1. Legs black; mesonotum black; wing broadly black anteriorly; large, body length 20 mm . . . . . *giganteus*
– Legs partially or entirely pale, always with mesotibia yellow; wing hyaline or at most narrowly light brownish anteriorly 2
2. Metafemur and tibia black; mesonotum black; face yellow; large, body length 16 mm or more . . . . . *willistoni*
– Metafemur and tibia partially pale, brownish orange to yellow; mesonotum at least yellow on postalar callus; if mesonotum extensively dark, then face extensively dark; smaller, body length less than 16 mm 3
3. Abdomen yellow on 1st, 2nd and basal ⅓ of 3rd segments, elsewhere black; pleuron entirely yellow; legs yellow. Alula microtrichose . . . . . *nymphaea*
– Abdomen not as such, with 1st and 2nd segment partially dark, brown to black; pleuron and legs partially dark 4
4. Postpronotum brownish black, only margins pale; notopleuron extensively brownish black; face extensively brownish black, only narrowly yellow laterally; abdomen appearing totally dark, abdominal pale fasciae greatly reduced . . . . . *erebus*
– Postpronotum and notopleuron extensively yellow; face yellow or with narrow brown vitta; abdomen with distinct yellow fasciae 5
5. Alula almost entirely bare. Antenna pale, orange to brownish orange; scutellum yellow or obscurely grayish on disc (West Indies) . . . . . *capitatus*
– Alula more extensively microtrichose, entirely (♀) or partially bare medially (♂). Antenna and scutellum usually partially dark (not West Indies) 6
6. 2nd tergum brown to black, except broadly yellow basolaterally and with medial triangular macula; scutum with lateral yellow vitta continuous behind transverse suture; abdominal

fasciae on 3rd & 4th terga broad, about ⅓ as wide as segment . . . . . *tristani*

– 2nd tergum reddish brown except narrowly yellow basolaterally; scutum with lateral yellow vitta broadly interrupted behind transverse suture; abdominal fasciae on 3rd & 4th terga narrow, about 1/6 as wide as segment . . . . . *bonariensis*

Ocyptamus (*Mimocalla*) *bonariensis* (Brèthes) (Figs. 2–4)

Baccha bonariensis Brèthes 1905: 340 Argentina, Buenos Aires (HT ♂ MACN lost); Kertész 1910: 157 (cat. cit.); Fluke 1957: 153 (cat. cit.).

Ocyptamus bonariensis: Thompson et al. 1976: 13 (cat. cit.).

Salpingogaster flukei Curran 1941: 284 Ecuador, Tungurahua, Baños (HT ♂ AMNH); Arnaud and Owen 1981: 125 (type data). **New synonym.**

Baccha flukei: Hull 1949: 98, 105 (key ref., note); Fluke 1956: 246 (cat. cit.).

Ocyptamus flukei: Thompson et al. 1976: 18 (cat. cit.).

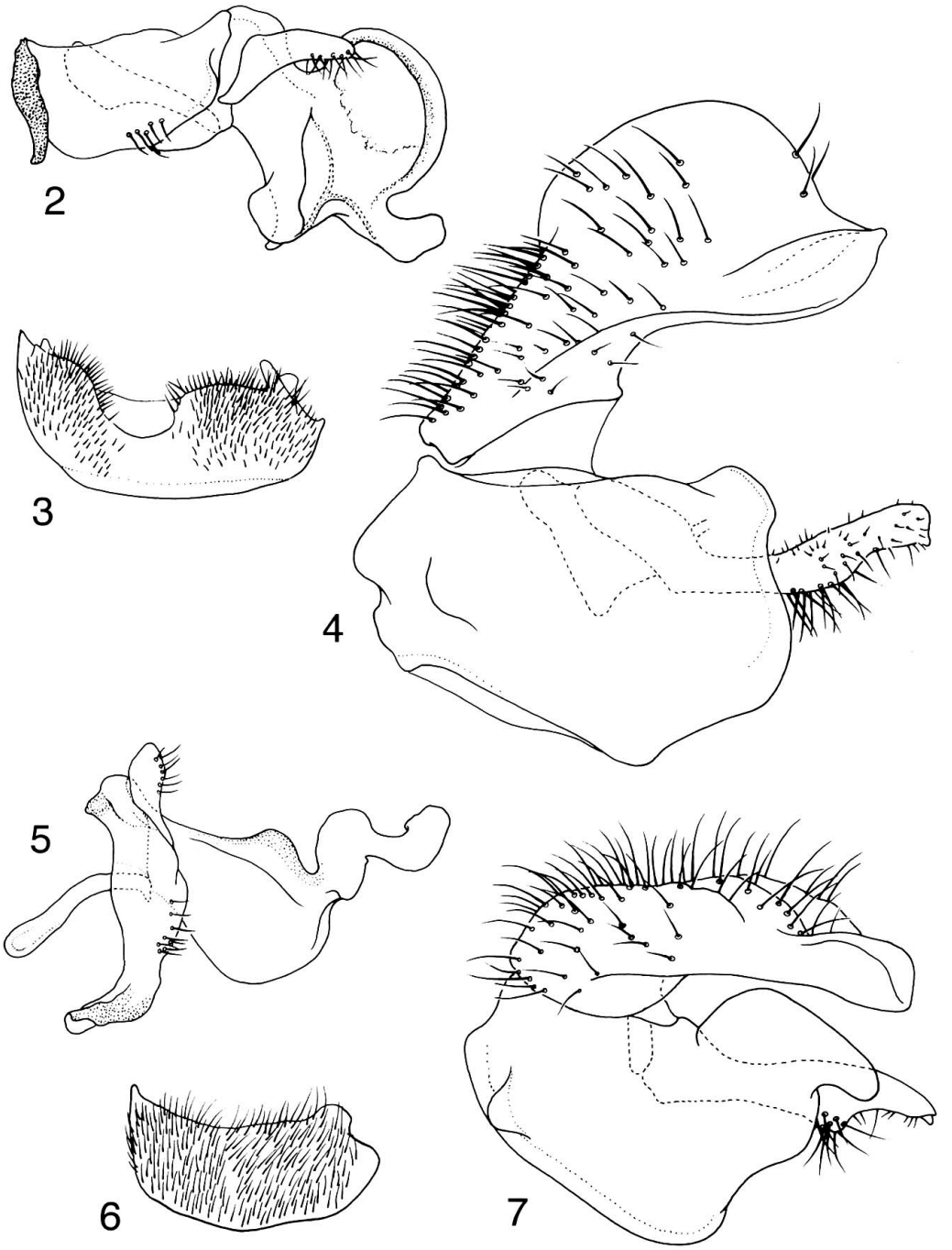
Baccha (*Mimocalla*) *phobia* Hull 1943b: 51 Ecuador, Tungurahua, Baños, Chaupi (HT ♂ AMNH); Hull 1949: 240 (fig. (abdomen pattern)). Syn. Hull 1949: 98.

Baccha (*Mimocalla*) *polista* Hull 1943c: 89 Brazil, Santa Catarina, Nova Teutonia (HT ♂ AMNH); Hull 1949: 98, 105, 236 (fig. (abdomen pattern), key ref.). **New synonym.**

Baccha nigriventris (misidentifications): Sack 1920: 249, 1921: 135 (puparium); Bruch 1923: 1 (cat. cit.); Knutson 1971: 29 (notes).

Male.—*Head:* Face yellow, with light brown medial vitta, sparsely white pollinose laterally, only densely pollinose narrowly along eye margin, white pilose except black pilose ventrad to antenna; gena yellow, shiny, bare; lunule yellow except brown medially; frontal triangle brown on anterior ½, yellow posteriorly, black pilose; vertical triangle black, black pilose; occiput black except yellow on ventral 1/6, densely whitish gold pollinose ventrally becoming more golden dorsally, white pilose ventrally becoming more golden dorsally; antenna brownish black except reddish brown basoventrally on basoflagellomere, black pilose; basoflagellomere elongate, about ⅓ longer than wide.

Thorax: Mainly brownish black with yellow maculae; postpronotum yellow, with rest of prothorax brownish yellow; scutum black except with broad yellow vitta running from postpronotum to and including anterior ½ of postalar callus but broadly interrupted behind transverse suture and dorsad to wing base, with vitta about as wide as postpronotum, with black areas black pollinose except for broad golden pollinose submedial vitta which tapers posteriorly and does not reach scutellum and a very narrow indistinct brown pollinose medial vitta on anterior ⅔ which expands into a broader golden pollinose vitta at level of postalar callus, long yellow pilose anteriorly and laterally, short intermixed black and yellow pile elsewhere; scutellum brownish black except yellow base and apical margin, short sparse black pilose with a few intermixed yellow pili basally; subscutellar fringe singular, white; pleuron blackish brown except yellow dorsad to procoxa and broadly yellow on posterior anepisternum, dorsal ½ of katepisternum, anterior ½ anepimeron and anterior ½ katatergum, very sparsely white pollinose except denser dorsally on katepisternum, yellow pilose; plumula very short, white; calypter yellowish white except dorsal margin brownish; halter brownish yellow. *Legs:* Procoxa orange, sparsely gray pollinose, yellow pilose; mesocoxa brown, black pilose medially, yellow pilose laterally; metacoxa black, long black pilose with a few intermixed yellow pili laterally; protrochanter orange; mesotrochanter brownish black; metatrochanter black, long black pilose; profemur orange, yellow pilose; mesofemur orange except blackish basally and apicoposteriorly, yellow pilose except for a few black pili on dorsoposterior surface; metafemur orange except black ventrally, orange



Figs. 2–7. Male genitalia. 2, *Ocyptamus bonariensis,* 9th sternum, aedeagus and associated structures, lateral view. 3. *O. bonariensis,* 4th sternum, ventral view. 4, *O. bonariensis,* 9th tergum and associated structures, lateral view. 5, *O. tristani,* 9th sternum and associated structures, lateral view. 6, *O. tristani,* 4th sternum, ventral view. 7, *O. tristani,* 9th tergum and associated structures, lateral view.

pilose except black pilose ventrally; pro and mesotibiae and tarsi yellow, yellow pilose; metatibia orange except yellow basal ⅓ and apex, yellow pilose; metatarsus brownish orange, yellow pilose. *Wing:* Narrowly brown anteriorly, hyaline posteriorly, microtrichose except bare cell R1 anterior to vein Rs, cell R, cell BM, anterobasal ⅓ of cell CuP, cell R4+5 posterior to spurious vein, narrowly on basoposteriorly in cell DM, basomedial ⅓ of cell CuA1, anterior to vein A2; alula entirely microtrichose to bare basomedially, normal, as wide as cell CuP; brown area including base and extending posteriorly to veins R and R1.

Abdomen: Dark brown with yellow fasciae; 1st tergum brownish black except yellow basally, white pilose basolaterally, black pilose elswhere; 2nd tergum brownish black except narrowly yellow basolaterally, yellow pilose basolaterally, black pilose elsewhere; 3rd tergum yellow on basal $\frac{1}{8}$, brownish black apically, yellow pilose on yellow area, black pilose elsewhere; 4th tergum brown except yellow basal $\frac{1}{5}$, black pilose except yellow pilose basolaterally; 5th tergum brown, black pilose except yellow laterally; genitalia brown and yellow, black pilose; 1st sternum brown, white pilose; 2nd sternum brown except yellow basal ½, yellow pilose; 3rd & 4th sterna brown except narrowly yellow basally, black pilose; 5th sternum brown, yellow pilose. Male genitalia: See Figs. 2–4.

Female.—Similar to male except for normal sexual dimorphism and frons black anteriorly except broadly yellow along eye margin, brown on medial ⅓, black posteriorly, shiny on anterior ⅓, sparsely gray pollinose medially, black pollinose on posterior ¼, short black pilose.

Length.—15 mm; wing, 12 mm.

Distribution.—Ecuador*, Peru*, Brazil (Santa Catarina*), Uruguay*, Argentina (Buenos Aires*, Misiones*).

Types.—*Baccha bonariensis* was described from a unique male from Palermo, Buenos Aires, Argentina, collected on 11 April 1904. A search of the Diptera collection of MACN failed to find this specimen. However, there is a single reared female from Buenos Aires (9 Dec 1904) which was identified by Brèthes.

Salpingogaster flukei was described from a series of 4 males from Ecuador collected by W. Clark McIntyre. The holotype is now in the AMNH and was examined. Paratypes are in the CNC and UWEC.

Baccha phobia was described from a series of 2 males from Ecuador collected by W. Clark McIntyre. The holotype is now in the AMNH and paratype is in the CNC. Both were examined.

Baccha polista was described from a series of 6 specimens from Brazil (Santa Catarina) collected by Fritz Plaumann and in the Fluke Collection. The holotype is now in the AMNH and was examined. Paratypes are in the CNC and UWEC.

Material examined (15 ♂, 6 ♀).—ECUADOR. Types of *flukei* and *phobia*. PERU. Cuzco, Kilometer 94, Machu Picchu RailRoad, 7 Mar 1978, P. M. Marsh (♂ USNM ENT 00037937 USNM); Lima, Bosque Carrion, 2,400 m, 16 April 1987, P. Hocking (♂ USNM ENT 00030147 USNM). BRAZIL. Santa Catarina: types of *polista*; Nova Teutonia, 300–500 m, Jan 1965, F. Plaumann (2♂ ♀ USNM ENT 00037924–6 USNM); . . . Feb 1965 (♂ USNM ENT 00037927 USNM); . . . Feb 1972 (♂ USNM ENT 00037930 USNM); . . . Nov 1971 (♂ USNM ENT 00037929 USNM); . . . Feb 1972, F. Plaumann (♂ USNM ENT 00037977 USNM); . . . Dec 1964 (♂ USNM ENT 00037928 USNM). URUGUAY. Montevideo, "Rec. 3.1.42," H. L. Parker (♀ with puparium USNM ENT 00037938 USNM). ARGENTINA. Buenos Aires: Buenos Aires, 4 Dec 1904 (MACN); Moreno, Dec 1971, Fritz (♂ USNM ENT 00037931 USNM); . . . Dec 1972 (2 ♀ USNM ENT 00037932–3 USNM); . . . Jan 1973 (♀ USNM ENT 00037934 USNM); Villa Elisa, 15–29 Dec 1979, C. M. & O. S. Flint, Jr. (♀ USNM ENT 00037935 USNM); Santa Catalina, near Buenos Aires, 10 Nov 1970, J. W.

Boyes (♂ USNM ENT 00022541 CNC). Misiones: Dos de Mayo, Dec 1973, M. Fritz (♂ USNM ENT 00037936 USNM).

Discussion.—*Ocyptamus bonariensis* is very similar to *erebus,* but differs in having distinct yellow pollinose vittae on the mesonotum and broader yellow fasciae on the abdomen. The shape of the male cercus is also distinctive.

The concepts of *flukei* Curran and *polista* Hull are very close. Hull (1949: 105) separated them by two characters (shape of the 2nd tergum (2nd tergum narrow, only as wide basally as apically (*flukei*) versus broader, about twice as wide apically as basally (*polista*)) and color of hind femur (hind femur entirely brownish yellow (*flukei*) versus black ventrally (*polista*))). While these differences are supported by the material we have examined, we consider them to be a function of geographic variation which will be bridged once material from intermediate localities are studied. Hence, we have synonymized the two concepts. The name *bonariensis* was unknown to Hull, hence he could not have known that it was an older synonym for his *polista.* Also, we include here a single male from Peru (Cuzco) with a bare alula, no basal yellow fascia on 4th tergum, greatly reduced yellow fascia on 3rd tergum and which is slightly larger than typical *Mimocalla* (16 mm body length, 14 mm wing length). As the male genitalia are the same as those of typical specimens, we consider this to be an aberrant specimen.

Ocyptamus (*Mimocalla*) *capitatus* (Loew)

Baccha capitata Loew 1863: 14 Cuba (LT ♂ MCZ here designated); Williston 1887: 124 (Cuba, redescr.); Aldrich 1905: 354 (cat. cit.); Kertész 1910: 157 (cat. cit.); Fluke 1956: 239 (cat. cit.); Wolcott 1923: 217, 1936: 346, 1948: 461 (Puerto Rico, with *Saissetia hemisphaerica* on coffee).

Ocyptamus captitatus: Thompson et al. 1976: 14; Thompson 1981: 44 (figs. (abdomen pattern, male genitalia, wing), West Indies).

Doros insularis Bigot 1883: 330 Cuba (HT ♀ BMNH); Williston 1887: 299 (note). Syn. Thompson 1981: 44.

Xanthogramma insulare: Aldrich 1905: 369 (cat. cit.); Kertész 1910: 152 (cat. cit.).

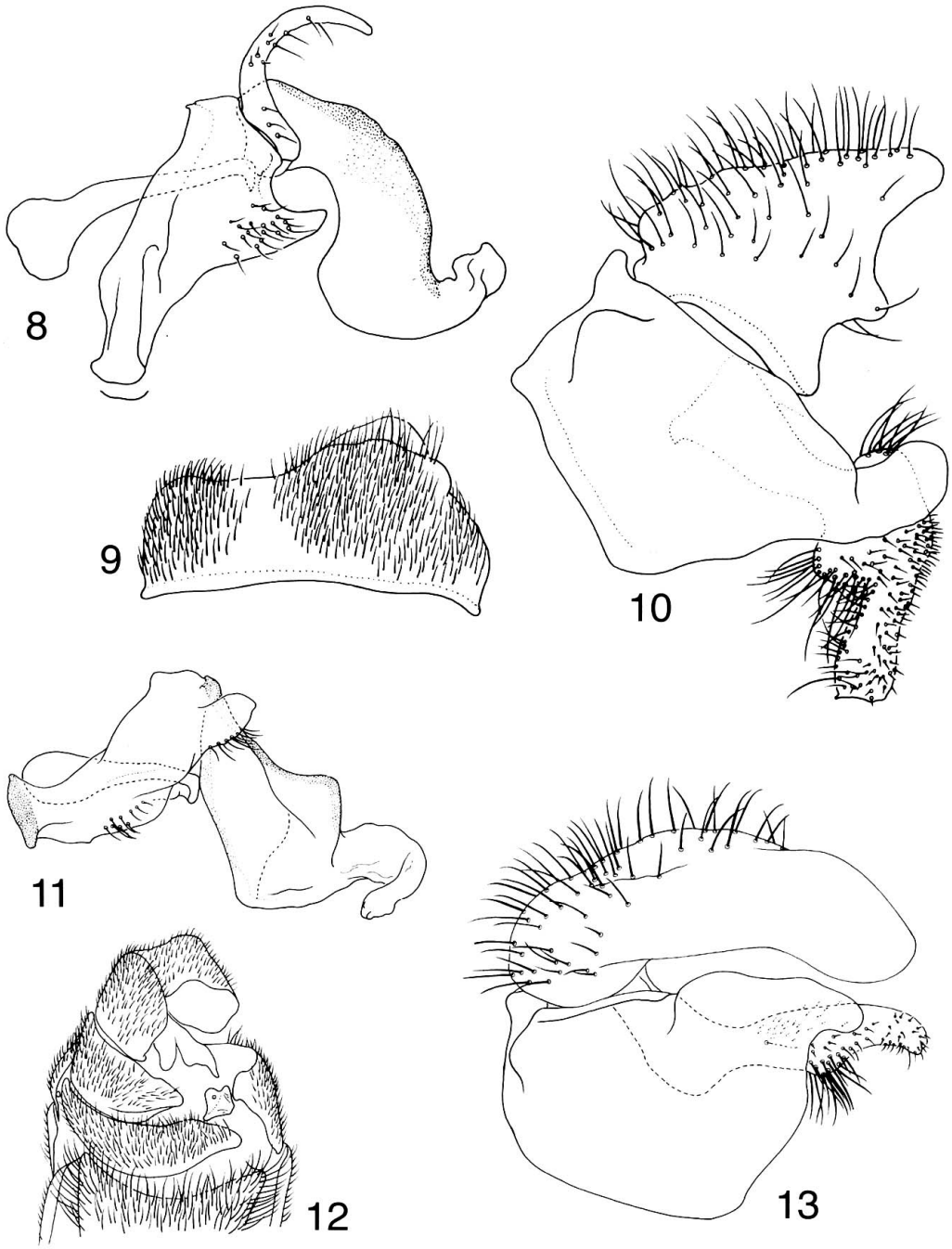
Ocyptamus insularis: Thompson et al. 1976: 20 (cat. cit.).

Baccha carlota Curran 1929: 491 Cuba, Trinidad Mountain, Mina Carlota (HT ♀ AMNH); Hull 1949: 98, 105. 238, 240 (fig. (abdomen pattern), key ref.); Fluke 1956: 239 (cat. cit.); Arnaud and Owen 1981: 83 (type data). Syn. Thompson 1981: 44.

Ocyptamus carlota: Thompson et al. 1976: 14 (cat. cit.).

Male.—*Head:* Face yellow, with light brown medial vitta, sparsely white pollinose laterally, only densely pollinose narrowly along eye margin, white pilose except black pilose ventrad to antenna; gena yellow, shiny, bare; lunule brown except yellow submedially; frontal triangle yellow except brown along lunule, black pilose; vertical triangle black, black pilose; occiput black except yellow on ventral ⅕, densely golden pollinose becoming more brownish on dorsal ⅓, yellow pilose except pile more golden dorsally; antenna orange except more brownish orange on dorsoapical ¾ of basoflagellomere, black pilose; basoflagellomere elongate, slightly less than twice as long as wide.

Thorax: Mainly black with yellow maculae; postpronotum yellow; scutum black except with broad yellow vitta running from postpronotum to and including anterior ½ of postalar callus but broadly interrupted behind transverse suture and dorsad to wing base, with vitta about as wide as postpronotum, with black areas black pollinose except for broad golden pollinose submedial vitta which tapers posteriorly and does not reach scutellum and a very narrow indistinct brown pollinose medial vitta on anterior ⅔ which expands into a broader golden pollinose vitta at level of postalar callus, long yellow pilose anteri-



Figs. 8–13. Male genitalia. 8, *Ocyptamus giganteus,* 9th sternum, aedeagus and associated structures, lateral view. 9, *O. giganteus,* 4th sternum, ventral view. 10, *O. giganteus,* 9th tergum and associated structures, lateral view. 11, *O. nymphaea,* 9th sternum and associated structures, lateral view. 12, *O. nymphaea,* 4th sternum, ventral view. 13, *O. nymphaea,* 9th tergum and associated structures, lateral view.

orly and laterally, short intermixed black and yellow pile elsewhere; scutellum yellow except disc blackish, short sparse black pilose with a few intermixed yellow pili basally; subscutellar fringe singular, white; pleuron black except yellow dorsad to procoxa and broadly yellow on posterior anepisternum, dorsal ½ of katepisternum and anterior ½ anepimeron, very sparsely white pollinose except denser dorsally on katepisternum, yellow pilose; plumula very short, yellow; calypter yellowish white except dorsal margin brownish; halter yellow. *Legs:* Procoxa brownish black except yellow apex, sparsely gray pollinose, yellow pilose; mesocoxa black, black pilose medially, yellow pilose laterally; metacoxa black, long black pilose with a few intermixed yellow pili laterally; protrochanter yellowish brown; mesotrochanter brownish black; metatrochanter black, long black pilose; profemur yellow, yellow pilose; mesofemur yellow except black on basodorsal ⅓, yellow pilose except for a row of black pili on dorsoposterior surface; metafemur black except yellow apical $\frac{1}{5}$, black pilose except yellow pilose on yellow area; pro and mesotibiae and tarsi yellow, yellow pilose; metatibia black except yellow basal ⅓ and apex, black pilose; metatarsus yellow, yellow pilose. *Wing:* Brown anteriorly, hyaline posteriorly, microtrichose except bare cell R posterior to spurious vein on apical ⅓, cell BM, anterobasal ⅓ of cell CuP, cell R4+5 posterior to spurious vein, narrowly on basoposteriorly in cell DM, basomedial ⅓ of cell CuA1, anterior to vein A2; alula bare, normal, as wide as cell CuP; brown areas including base and extending posteriorly to vein M to level of end of vein RS, to spurious vein in apical portion of cell R, to vein R4+5 except narrowly hyaline along sinuate portion.

Abdomen: Dark brown with yellow fasciae and orange apex; 1st tergum yellow except brownish black apicomedial ⅓, yellow pilose; 2nd tergum brownish black except for yellow basolateral triangular macula, with maculae broadly separated medially, yellow pilose basolaterally, black pilose elsewhere; 3rd tergum yellow on basal ⅓, brownish black apically, yellow pilose on yellow area, black pilose elsewhere; 4th tergum brown except with yellow basal fascia which is narrowly isolated from lateral margin and occupies basal ¼, with apical portion of tergum becoming more orange, black pilose; 5th tergum orange, black pilose; genitalia yellowish orange, black pilose; 1st sternum yellow, yellow pilose; 2nd sternum brown except yellow basally, yellow pilose; 3rd sternum brown except yellow basal ⅓, black pilose except yellow pilose basally; 4th sternum brown, brown pilose; 5th sternum orange except yellow apically, brown pilose. Male genitalia. See Figs. 56a–c in Thompson (1981: 59); essentially the same as *tristani* (Figs. 5–7).

Female.—Similar to male except for normal sexual dimorphism and frons yellow except may be darker medially and along lunule, orange pollinose except maybe more brownish medially, short black pilose.

Length.—14 mm; wing, 11 mm.

Variation.—The brownish black color in some examined individuals is brownish orange; also the antenna may be entirely orange and scutellum entirely yellow.

Distribution.—West Indies (Cuba*, Dominican Republic*, Puerto Rico*, Lesser Antilles*).

Types.—*Baccha capitata* was described from an unspecified number of male specimens from Cuba from Gundlach. In the MCZ, there is a male with a silver square and labelled "capitata mihi" in Loew's hand. This specimen is here designated lectotype so as to fix and stabilize the current concept of the name, and has been so labelled.

Doros insularis was described fron a unique female specimen from Cuba. The holotype is now in the BMNH and has been examined.

Baccha carlota was described from a unique female from Cuba collected by G. Salt and in the Curran collection. The ho-

lotype is now in the AMNH and was examined.

Material examined (8 ♂, 7 ♀).—CUBA. Types of *capitata, insularis* & *carlota.* DOMINICAN REPUBLIC. Pedernales, 23.5 km N Cabo Rojo, 18-16N 71-38W, 540 m, 13 July 1990, C. Young, J. Rawlins & S. Thompson (♂ USNM ENT 00037907 USNM). PUERTO RICO. Comerio, 10 Aug 1913, J. R. Johnston (♂ USNM ENT 00037900 USNM); Mayaguez, 4 Mar 1912, C. W. Hooker (♀ USNM ENT 00037901 USNM); . . . 26 Jul 1915, R. H. van Zwalenberg (♂ USNM ENT 00037902 USNM); . . . 5 May 1939, H. K. Plank (3 ♂♂ 2 ♀♀ with puparia USNM ENT 00037904–6, . . . 72–73 USNM) VIRGIN ISLANDS. St. Croix, 6 Jul 1963, R. M. Bond & R. Boyd (♂ ♀ USNM ENT 00037899, . . . 903 USNM).

Discussion.—*Ocyptamus capitatus* is similar to *tristani* and *bonariensis* in having distinctive yellow pollinose vittae on mesonotum, but differs from these species in having a yellow scutellum and the apex of the abdomen orange to brownish orange.

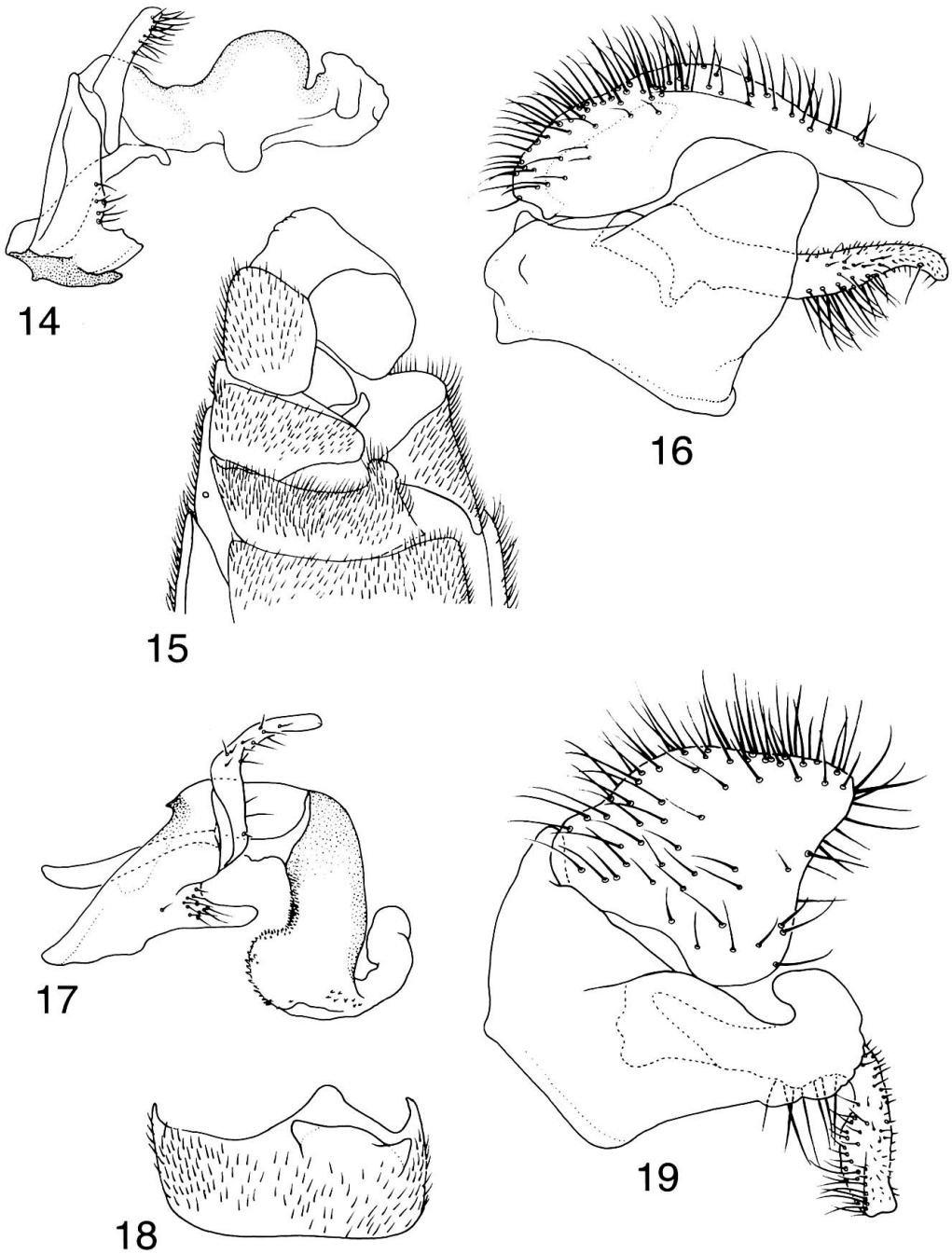
Ocyptamus (*Mimocalla*) *erebus* (Hull) (Figs. 14–16)

Baccha (*Mimocalla*) *erebus* Hull 1943d: 54; 1943e: 137 Brazil, Santa Catarina, Nova Teutonia (HT ♂ AMNH); Hull 1949: 98, 105, 240 (fig. (abdomen pattern), key); Fluke 1956: 245 (cat. cit.).

Ocyptamus erebus: Thompson et al. 1976: 17 (cat. cit.).

Male.—*Head:* Face yellowish brown, with dark brown medial vitta, sparsely white pollinose laterally, only densely pollinose narrowly along eye margin, white pilose except black pilose ventrad to antenna; gena yellow, shiny, bare; lunule black except brownish submedially; frontal triangle black except narrowly yellow along eye margin, shiny except dull pollinose on posterior ½, black pilose; vertical triangle black, black pilose; occiput black except yellow on ventral ⅙, densely gray pollinose, white pilose; antenna black except more brownish orange basoventrally on basoflagellomere, black pilose; basoflagellomere elongate, slightly less than twice as long as wide.

Thorax: Mainly brownish black; postpronotum reddish brown; scutum black except with obscure narrow reddish brown vitta posterior to postpronotum and another anterior to and including anterior ½ of postalar callus, with area behind transverse suture and dorsad to wing base dark, with black areas black pollinose except for narrow golden pollinose submedial vitta which tapers posteriorly and does not reach scutellum and a narrow golden pollinose medial vitta on posterior ⅓ at level of postalar callus, long yellow pilose anteriorly and laterally, short intermixed black and yellow pile elsewhere; scutellum dark brown except brownish yellow on base and apical margin, short sparse black and yellow pilose; subscutellar fringe singular, white; pleuron black except obscurely yellow on posterior anepisternum, dorsal ½ of katepisternum and medially on katatergum, very sparsely white pollinose except denser dorsally on katepisternum, white pilose; plumula very short, yellow; calypter brownish white except dorsal margin brown; halter brown. *Legs:* Procoxa yellow, sparsely white pollinose, yellow pilose; mesocoxa orange, brownish-orange pilose; metacoxa black, long black pilose with a few intermixed yellow pili laterally; pro and mesotrochanter brown; metatrochanter black, long black pilose; pro and mesofemur reddish brown, yellow pilose except for a few black pili on dorsoposterior surface; metafemur reddish brown except yellow apical ⅕, orange pilose except black apicoventrally; pro and mesotibiae and tarsi yellow, yellow pilose; metatibia yellow except reddish brown medially, orange pilose; metatarsus dark brown, yellow pilose. *Wing:* Light brown anteriorly, hyaline posteriorly, microtrichose except bare cell R1 anterior to vein Rs, cell R, cell BM, anterobasal ⅓ of cell CuP, cell R4+5 posterior to spurious



Figs. 14–19. Male genitalia. 14, *Ocyptamus erebus,* 9th sternum, aedeagus and associated structures, lateral view. 15, *O. erebus,* 4th sternum, ventral view. 16, *O. erebus,* 9th tergum and associated structures, lateral view. 17, *O. willistoni,* 9th sternum and associated structures, lateral view. 18, *O. willistoni,* 4th sternum, ventral view. 19, *O. willistoni,* 9th tergum and associated structures, lateral view.

vein, narrowly on basoposteriorly in cell DM, basomedial ⅓ of cell CuA1, anterior to vein A2; alula microtrichose, normal, as wide as cell CuP; brown areas including base and extending posteriorly to vein R and R1.

Abdomen: Dark brown with greatly reduced yellow fasciae; 1st tergum brownish black, white pilose; 2nd tergum brownish black except for small yellow basolateral triangular macula, with maculae broadly separated medially, yellow pilose basolaterally, black pilose elsewhere; 3rd and 4th terga brownish black except for very narrow obscure yellow fasciate maculae broadly separated medially and occupying less $1/10$ of tergal length, yellow pilose laterally, black pilose elsewhere; 5th tergum black, black pilose; genitalia brownish black, black pilose; 1st sternum brown, white pilose; 2nd sternum brown except yellow basally, yellow pilose; 3rd and 4th sterna brown except yellow apical margin, black pilose; 4th sternum brown, brown pilose; 5th sternum brownish orange, brown pilose. Male genitalia. See Figs. 14–16.

Female.—Similar to male except for normal sexual dimorphism and frons black except narrow yellow vitta along eye margin, shiny anteriorly, gray pollinose on medial ⅓, black pollinose posteriorly, short black pilose.

Length.—13 mm; wing, 11 mm.

Distribution.—Brazil (Minas Gerais*, São Paulo*, Santa Catarina*).

Type.—*Baccha erebus* was described from 4 male specimens collected in southern Brazil (Santa Catarina) by Fritz Plaumann and in the Fluke Collection. The holotype is now in the AMNH and was examined. Paratypes are in the CNC and the University of Wisconsin Entomology Collection. The name was first validated in a key which appeared before the original description.

Material examined (10 ♂ 6 ♀).—BRAZIL. Minas Gerais: Arceburgo, F. Fortaleza, Dec 1946, Barretto (2 ♀♀ USNM ENT 00037974–5 MZUSP). São Paulo: Cantareira, Chapadao, Nov 1946, Barretto (♀ USNM ENT 00037976 MZUSP). Santa Catarina: types of *erebus*; Nova Teutonia, 27-11S 52-23W, 300–500 m, Feb 1965, F. Plaumann (2 ♂♂ USNM ENT 00037908–9 USNM); . . . Feb 1972 (♀ USNM ENT 00037916 USNM); . . . Mar 1957 (♀ USNM ENT 00037910 USNM); . . . Mar 1960 (♀ USNM ENT 00037912 USNM); . . . Nov 1952 (♂ USNM ENT 00037911 USNM); . . . Nov 1971 (3 ♂♂ USNM ENT 00037913–5 USNM).

Discussion.—*Ocyptamus erebus* is a dark version of *bonariensis,* the yellow vittae on the mesonotum and abdominal fasciae are greatly reduced, obscure or absent. The shape of the male cercus is also very distinctive.

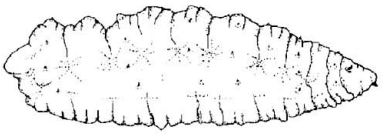
Ocyptamus (*Mimocalla*) *giganteus* (Schiner) (Figs. 8–10)

Baccha gigantea Schiner 1868: 340 "South America" = Venezuela (LT ♂ NMW here designated); Williston 1886: 314 (cat. cit.); Kertész 1910: 160 (cat. cit.); Fluke 1956: 154 (cat. cit.).

Ocyptamus giganteus: Thompson et al. 1976: 19 (cat. cit.).

Male.—*Head:* Mainly black; face black, with narrow yellow medial vitta, white pollinose except narrowly shiny medially, with pollinosity denser along eye margin becoming sparser medially, black pilose; gena black, shiny, bare; frontal triangle black except narrowly yellow medially along eye margin, black pilose, black pollinose except white pollinose on yellow areas; lunule black except brownish submedially; vertical triangle black, black pollinose and pilose; occiput black, black pilose except mesial row of cilia mainly white and white pilose on ventral $1/5$; antenna black except slightly reddish basoventrally on basoflagellomere, black pilose, elongate, with basoflagellomere about twice as long as wide.

Thorax: Black, black pilose except white pilose along anterior margin of scutum and



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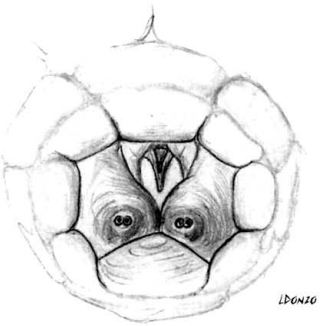

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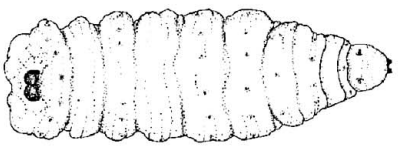

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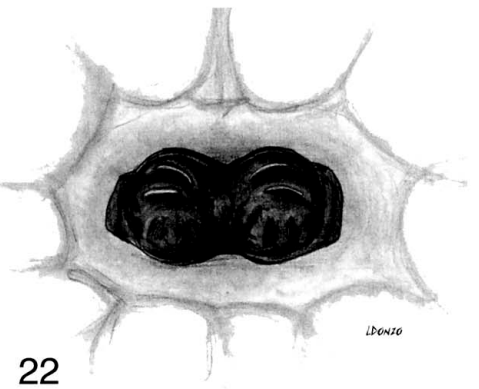

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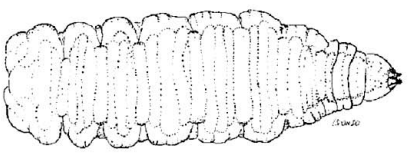

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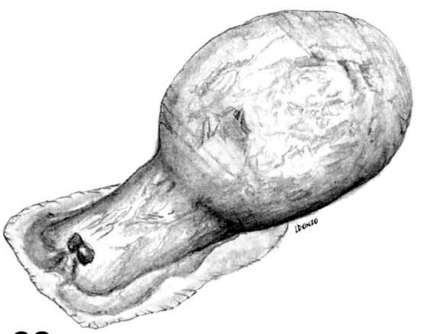

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Figs. 20–23. Immature stages of *Ocyptamus tristani*. 20, Larva, a, lateral view, b, dorsal view, c, ventral view. 21, Larva, anterior view. 22, Larval posterior spiracle, posterior view. 23, Puparium, dorsoblique view.

posterior anepisternum; scutum brownish gray to black pollinose, with whitish to gray submedial and medial vittae; scutellum brownish black pollinose, subscutellar fringe singular, white; pleuron black pollinose except katepisternum white pollinose on dorsal ½; calypter black; plumula long; halter black. *Legs:* Black except grayish white basal ¼ of mesotibia, black pilose; metatrochanter with distinct pile tuft; metafemur without long pile. *Wing:* Dark anteriorly, hyaline posteriorly, microtrichose except bare on anterobasal ⅓ of cell CuP; alula dark, normal, as wide as cell CuP, mi-

crotrichose; black area covering base of wing including base of cell CuP, all of cell BM, most of cell R except posterior to spurious vein on apical ⅔, anterobasal corner of cell R4+5, extending almost to level of middle of cell R4+5; brownish orange area between black area and gray apex; gray area covering apex of wing, anterior to vein R4+5, distal to end of vein R1.

Abdomen: Black except yellow basolateral triangular macula on 2nd tergum and narrow yellow fascia on base of 3rd, black pilose except white pilose on 1st, bases of 2nd and 3rd terga and on yellow areas and male genitalia. Male genitalia. See Figs. 8–10.

Female.—Similar to male except for normal sexual dimorphism and frons black except very narrowly yellow on ventrolateral ⅔, black pollinose sublaterally becoming gray pollinose medially, black pilose.

Length.—20 mm; wing, 14 mm.

Distribution.—Costa Rica*, Colombia*, Venezuela*.

Types.—*Baccha giganteus* was described from an unspecified number of specimens from an unspecified locality in South America. In NMW, there are a male and two females from Venezuela, Lindig collector, labelled as *giganteus.* The male is here designated lectotype so as to fix and stabilize the current concept of the name, and has been so labelled.

Material examined (3 ♂ 4 ♀).—VENEZUELA. Types of *giganteus.* COSTA RICA. Puntarenas: Las Alturas, Cerro Chai, 2,100 m, 14 Aug 1995, T. Pape (2 ♂ USNM ENT 00037918 NRS, . . . 00030146 USNM); Quijada del Diablo, 3.1 km NE de Mellizas, 1,800 m, LS 316900_600600, 17 Aug 1997, A. Picado, Lot# 47696 (♀ INBIOCRI002546773 INBIO). COLOMBIA. Antioquia: Caldas, Oct 1973, R. Velez (♀ USNM ENT 00037917 USNM).

Discussion.—*Ocyptamus giganteus* is readily recognized by its overall dark coloration, black thorax, legs, anterior wing margin and abdomen except for a single yellow fascia on the base of the 3rd tergum. Also, true to its name, *giganteus* is the largest species of the genus.

Ocyptamus (*Mimocalla*) *nymphaea* (Hull) (Figs. 11–13)

Baccha nymphaea Hull 1943a: 40 Brazil, São Paulo, Campinas (HT ♂ USNM); Hull 1949: 98, 105, 238 (fig. (abdomen pattern), key ref.); Fluke 1956: 256 (cat. cit.).

Ocyptamus nymphaea: Thompson et al. 1976: 23 (cat. cit.).

Male.—*Head:* Face orange, shiny except narrowly white pollinose laterally, white pilose; gena yellow, shiny, bare; frontal triangle orange on posterior ½ along eye margins, brownish black anteromedially, black pilose, shiny anteriorly, dull pollinose posteriorly; lunule orange except black medially; vertical triangle black, black pilose; occiput black on dorsal ⅔, orange basally, densely yellow pollinose, yellow pilose; antenna orange except more brownish orange on dorsoapical ¾ of basoflagellomere, densely black pilose; basoflagellomere elongate, slightly less than twice as long as wide.

Thorax: Orange except brownish black medially on scutum; scutum broadly orange laterally and anterior to scutellum, brownish black and brown-black pollinose medially, with broad golden pollinose submedial vitta and a very narrow indistinct brown pollinose medial vitta on anterior ⅔ which expands into a large triangular golden pollinose macula on posterior ⅓, long yellow pilose anteriorly and laterally, short intermixed black and yellow pile elsewhere; scutellum orange, short sparse black pilose; subscutellar fringe singular, yellow; pleuron sparsely white pollinose, yellow pilose; calypter orange except dorsal margin brownish; plumula absent; halter orange. *Legs:* Orange except metatarsus brownish orange, yellow pilose except black ventral pile tufts on metacoxa and trochanter and scattered intermixed black pile on posterior surface of mesofemur and medially on metatibia.

Wing: Hyaline except cell C brownish orange and cell Sc brownish, extensively microtrichose except bare: cell R posterior to spurious vein, cell BM, anterobasal ⅓ of cell CuP, cell R1 anterior to spurious vein; cell R4+5 posterior to spurious vein, narrowly on base of cells DM and CuA1.

Abdomen: Orange and orange pilose on 1st, 2nd and basal ¼ of 3rd segment; black and black pilose elsewhere. Male genitalia. See Figs. 11–13.

Female.—Similar to male except for normal sexual dimorphism and frons black and shiny on anterior ⅓, orange and orange pollinose on posterior ⅔, short black pilose.

Length.—14 mm; wing, 11 mm.

Distribution.—Brazil (São Paulo*, Minas Gerais*).

Type.—*Baccha nymphaea* Hull was described from two reared males from Brazil. Although Hull headed his description as "female," the types are males. The holotype is preserved in the USNM and has been examined. The paratype is now in CNC.

Material examined (5 ♂ 2 ♀).—BRAZIL. Minas Gerais: Arceburgo, F. Fortaleza, Dec 1946, Barretto (3 ♂ 2 ♀ USNM ENT 00037978–82 USNM MZUSP). São Paulo: Campinas, 14 Oct 1939, H. F. G. Sauer (Holotype ♂ with puparium USNM ENT 00037983 USNM); Campininha, Mogi Guacu, 23 Oct 1970, J. W. Boyes (♂ USNM ENT 00022540 CNC).

Discussion.—*Ocyptamus nymphaea* is readily recognized by the orange and black abdomen. The other species of *Mimocalla* have the abdomen fasciate or mostly dark.

Ocyptamus (*Mimocalla*) *tristani* Zumbado, new species

(Figs. 1, 5–7)

Male.—*Head:* Face yellow, with light orange medial vitta, sparsely white pollinose laterally, only densely pollinose narrowly along eye margin, white pilose except black pilose ventrad to antenna; gena yellow, shiny, bare; lunule yellow except brown medially; frontal triangle yellow except brown along lunule, black pilose; vertical triangle black, black pilose; occiput black except yellow on ventral ⅕, densely yellowish-white pollinose ventrally becoming more golden dorsally, white pilose ventrally becoming more golden dorsally; antenna brown except more brownish orange basoventrally on basoflagellomere and yellow on inner side of scape and pedicel, black pilose; basoflagellomere elongate, slightly less than twice as long as wide.

Thorax: Mainly yellow with black maculae; prothorax yellow; scutum black except with broad yellow vitta running from postpronotum to and including anterior ½ of postalar callus but narrowly attenuated dorsad to wing base, with vitta about as wide as postpronotum, with black areas black pollinose except for broad golden pollinose submedial vitta which tapers posteriorly and does not reach scutellum and a very narrow indistinct brown pollinose medial vitta on anterior ⅔ which expands into a broader golden pollinose vitta at level of postalar callus, long yellow pilose anteriorly and laterally, short intermixed black and yellow pile elsewhere; scutellum yellow except disc blackish, short sparse black pilose with a few intermixed yellow pili basally; subscutellar fringe singular, white; pleuron yellow except black narrowly on anterior convex surface of posterior anepisternum, ventral ⅔ of katepisternum, posteriorly on katatergum and anteriorly on anatergum, very sparsely white pollinose except denser dorsally on katepisternum, yellow pilose; plumula absent short, yellow; calypter yellowish white except dorsal margin brownish; halter yellow, with capitulum brownish. *Legs:* Proleg yellow except slightly brownish subapically on posterior of femur, sparsely gray pollinose, yellow pilose; mesoleg yellow except sligthly brownish on base of and subapically on posterior of femur, yellow pilose except for a row of black pili on dorsoposterior surface; metacoxa brown, long black pilose with intermixed yellow pili laterally; metatrochanter brown, long black pilose; metafemur yel-

low except black ventrally and posteriorly except apically, black pilose except yellow pilose on yellow area; metatibia yellow except brownish medial ⅓, yellow pilose; metatarsus yellow except brownish-orange basotarsomere, yellow pilose. *Wing:* Hyaline except stigma brownish and cell Sc yellowish orange, microtrichose except bare cell R posterior to spurious vein on apical ⅓, cell BM, anterobasal ⅓ of cell CuP, cell R4+5 posterior to spurious vein, narrowly on basoposteriorly in cell DM, basomedial ⅓ of cell CuA1, anterior to vein A2; alula microtrichose, normal, as wide as cell CuP.

Abdomen: Dark brown with broad yellow fasciae; 1st tergum yellow on basal ⅔, black apically, yellow pilose basally, black pilose apically; 2nd tergum brownish black except for large yellow basolateral triangular macula and medial inverted V-shaped macula, with basolateral maculae narrowly separated medially and occupying basal ½ of tergal length, with V-shaped macula slightly beyond middle of tergum and completely surrounded by black areas, yellow pilose basolaterally, black pilose elsewhere; 3rd tergum yellow on basal ⅜, brownish black apically, yellow pilose on yellow area, black pilose elsewhere; 4th tergum yellow on basal ⅓, margin and apicolateral corner, elsewhere black, yellow pilose; 5th tergum yellow except with broad medial black fasciate macula, black pilose; genitalia yellow, black pilose; 1st sternum yellow, yellow pilose; 2nd sternum brown except yellow basally, yellow pilose; 3rd sternum brown except yellow basal ⅓, black pilose except yellow pilose basally; 4th sternum brown, brown pilose; 5th sternum orange except yellow apically, brown pilose. Male genitalia. See Figs. 5–7.

Female.—Similar to male except for normal sexual dimorphism and frons black except yellow broadly along eye margin, short black pilose.

Length.—14 mm, wing, 12 mm.

Distribution.—Mexico*, El Salvador*, Costa Rica*, Colombia*, Venezuela*.

Holotype.—Male, Costa Rica, Heredia, Santo Domingo, Instituto Nacional de Biodiversidad, 1,100 m, LN 217300 526200, 2 Jul 1994, M. A. Zumbado, voucher# 94-MAZ-28, with puparium (INBIOCRI001146854), deposited in INBio, Santo Domingo.

Paratypes (25 ♂, 25 ♀).—MEXICO. Vera Cruz: Fortin de la Flores, 9 June 1959, H. E. Evans (♂ ♀ USNM ENT00022536–7 CNC). EL SALVADOR. Santo Tecla, 7 Sep 1970, J. Lipes (2 ♀ USNM ENT 00037962–3 USNM). COSTA RICA. Alajuela: Sarchí, 27 Jul 1954, L. A. Salas, ex larva feeding on *Saisseta hemisphaerica* on coffee (2 ♂ ♀ USNM ENT 00037957–9 USNM); Upala, Dos Rios, Sect. San Ramón, 620 m, LN 318100 381900, 18 Mar-13 Apr 1995, F. A. Quesada, lot# 5274 (♂ with puparium INBIOCRI002246265 INBIO). Guanacaste: Volcan Cacao, Cerro Pedregal, 1,000 m, Feb–Apr 1989, I. Gauld (♀ USNM ENT 00037970 MIUCR). Heredia: same data as holotype (♀ INBIOCRI001146855 INBIO, ♂ with puparium INBIOCRI002153879 INBIO); same locality as holotype, 4 Jul 1994, M. A. Zumbado (♂ with puparium, INBIOCRI002153880 INBIO); . . . 7 July 1994, M. A. Zumbado (♂ with puparium INBIOCRI002153881 INBIO); . . . Oct 1994, M. A. Zumbado (3♂ 2♀ INBIOCR002153891–5 INBIO); . . . 11–13 Aug 1994, L. Donzo lot# 3317, (♂ INBIOCRI002112689 INBIO); . . . 2 Jul 1994, J. A. Ugalde (♂ with puparium, INBIOCRI002153889 INBIO); . . . 4 Jul 1994, J. A. Ugalde (♂ with puparium, INBIOCRI002153887 INBIO); . . . 13 Jul 1994, J. A. Ugalde (♀ with puparium, INBIOCRI002153888 INBIO); Heredia, 1 Apr 1960, A. Morales, "feeding on black scale" (♂ USNM ENT 00037960 USNM); Santo Domingo, 7 Jun 1974, E. Solera (♀ USNM ENT 00037961 USNM); Belén, San Antonio, 950 m, LN 218800 516175, 8 Aug 1996, M. A. Zumbado, reared from scales on *Ocimum basilicum* (Lamiaceae) (♂ ♀ with puparia INBIOCRI00215877–8 INBIO). San José: San José, May 1930, J. F. Tristán (♀ USNM ENT 0037956 USNM);

San Sebastian, 16 May 1988, A. Retana, "Comiendo escama" (♂ with puparium, 3 ♀ USNM ENT 00037964–7 USNM); Cuidad Colón, 800 m, Feb 1990, L. Fournier (♀ USNM ENT 00037968 USNM); San Antonio de Escazú, 1,300 m, Apr 1989, P. Hanson (♂ USNM ENT 00037969 MIUCR). COLOMBIA. Antioquia: Medellín Valley, Apr–Jun 1947, F. L. Gallego (3♀ USNM ENT 00037939–41 USNM); . . . [no date], F. L. Gallego, "larva predator of aphids" (♀ USNM ENT 00037942 USNM); Bello, 25 Dec 1970, G. Sanchezg, "larva feeding on *Saisetia coffeae* on ornamental palm" (7 ♂ 5 ♀ with puparia USNM ENT 00037943–54 USNM). VENEZUELA. Distrito Federal: Cumbre de Boquerón, Frente a Bajo Seco, 1,700 m, 7 Mar 1970, larva predator of *Coccus hesperidum* on "naranjo" (♂ with puparium USNM ENT 00037955 USNM).

Etymology.—This species is named after José Fidel Tristán Fernández (1874–1932), the outstanding Costa Rican naturalist who published the first list of the insects of Costa Rica (Tristan 1897) and collected the first specimen of this species known to us.

Discussion.—This species has been reared a number of times, and specimens have been submitted for identification to the Systematic Entomology Laboratory, USDA. The species has been reared as a predator of various scales (*Saissetia coffaea* (Walker), *S. oleae* (Olivier) and *Coccus hesperidum* Linnaeus) on a range of hosts. The determination labels associated with the specimens in the USNM indicate that the species was first incorrectly identified as *Baccha bromleyi* by Hull and this mistake was perpetuated by subsequent specialists (e.g., W. W. Wirth, L. V. Knutson) as either *bromleyi* or new species near *bromleyi*. Apparently none of these misidentifications were published.

Ocyptamus tristani is similar to *capitatus* but differs by the presence of a yellow fascia on the 2nd tergum and broader yellow fasciae on the 3rd and 4th terga.

Ocyptamus (*Mimocalla*) *willistoni* Thompson (Figs. 17–19)

Baccha dolosa Williston 1891: 37 (preocc. Walker 1857) AH* H* Mexico, Guerrero, Omiltemi, 8,000 ft.; Amula, 6,000 ft.; Xucumanatlán, 7,000 ft.; Guatemala, Cerro Zunil, 4,000–5,000 ft. (ST ♂♀ AMNH, BMNH); Aldrich 1905: 355 (cit.); Kertész 1910: 158 (cit.); Hull 1949: 98, 105, 234 (abdomen pattern, key ref.); Fluke 1956: 244 (cit.).

Ocyptamus willistoni Thompson in Thompson et al. 1976: 30 (new name for *dolosa* Williston).

Male.—*Head:* Face yellow, white pollinose laterally, shiny medially, white pilose; gena yellow, shiny, bare; frontal triangle broadly yellow along eye margin, black medially, black pilose, sparsely gray pollinose medially; lunule yellow except black medially; vertical triangle black, black pilose; occiput black, densely white pollinose, white pilose; antenna black except reddish basally on scape and basoflagellomere; basoflagellomere about ¼ longer than wide.

Thorax: Bluish gray to black except yellow base of scutellum and pre-alar area; scutum grayish-white pollinose except with black pollinose submedial and sublateral vittae, long white pilose along anterior margin and laterally, short black pilose elsewhere; scutellum yellow on basal ¼, black elsewhere, short black pilose; subscutellar fringe multiple, white; pleuron sparsely silver pollinose except dense silver pollinose on dorsal ½ of katepisternum and posterior anepisternum, white pilose except black pilose on anepimeron; calypter white except black dorsal margin; plumula short; halter yellow. *Legs:* Coxae and trochanters black, silver pollinose, black pilose except white pilose apicolaterally; pro and mesofemora black except yellow apex, white pilose except black pilose on anteroapical ⅓; metafemur black, white pilose except black pilose on apical

⅓; pro and mesotibiae yellowish white, white pilose; metatibia black, black pilose; pro and meso tarsi black except brownish basal ⅔ of mesobasitarsomere, white pilose on basotarsomere and basally on 2nd tarsomere, black pilose elsewhere; metatarsus yellowish white to orange on basal 3 tarsomeres, black apically, white pilose; pile tufts distinct on metacoxa and trochanter. *Wing:* Hyaline except black apex and cell Sc, extensively bare; microtrichose on apical ⅓ of cell C, cell Sc, apical ⅘ of cell R1, apicomedial ⅔ of cell R2+3, apicomedial ¾ of cell R4+5 and DM, apicomedial ⅔ of cell CuA1, apicoposterior ¼ of cell CuP, along posterior edge from apical ½ of cell CuP to apex; dark apex extending apically from end of vein R1 and posterior to vein R4+5; alula hyaline, bare, normal, as wide as cell CuP.

Abdomen: 1st segement black, white pilose, sparsely grayish pollinose; 2nd segment black except yellow basolaterally, black pilose except white pilose basolaterally; 3rd segment yellow on basolateral ⅓, black apically, shiny, black pilose on dark areas, white pilose on yellow areas; 4th segment black, shiny, black pilose; 5th segment red except black basomedially on tergum, black pilose; genitalia red, yellow pilose, see Figs. 17–19.

Female.—Similar to male except for normal sexual dimorphism and: frons yellow on lateral ¼, black elsewhere, sparsely gray pollinose medially, black pilose; wing with black area more extensive, including all of cell C and R1.

Length.—16–17 mm; wing, 12–14 mm.

Types.—*Baccha dolosa* was described from 5 specimens collected in southern Mexico (Guerrero) by H. H. Smith, and Guatemala by G. C. Champion. A male specimen labelled "Omilteme, Guerrero, 8,000 ft., July, H. H. Smith," "Biol. Centr. Amer., Dipt.—Syrphidae, F. D. Godman, O. Salvin, 1903–51," [yellow cotype label] and printed Williston determination label, in the BMNH is here designated lectotype to fix and stabilize the current concept of the name, and has been so labelled. A paralectotype is in the AMNH.

Distribution.—Mexico (Guerrero*, Morelos*, Mexico*, Chiapas*), Guatemala (Williston), Costa Rica*.

Material examined (19 ♂, 8 ♀).—MEXICO. [no data] (♀ with puparium USNM ENT 00037920 USNM); "Cuernavaca, 8/24" [handwritten, illegible], G. Lassman (♀ USNM ENT 00022539 CNC). Chiapas: Teopisca, 2 miles W of, 4 Aug 1957, J. A. Chemsak & B. J. Rannells (6♂ 3♀ USNM ENT 00022547–55 CNC). Distrito Federal: Mexico City, Nov 1916, R. Muller (♂ USNM ENT 00037919 USNM); Carretera Pedregal, Ajusco, Km 7, 6 Sep 1979, J. Butze (♂ USNM ENT 00028744 UNAM); . . . 25 Oct 1979, J. Butze, J. Gutierrez (2 ♂ USNM ENT 00028745, 7 UNAM). Guerrero: Tuxpan, Torre microondas, 1,650 m, 16 Aug 1984, J. Butze (♂ USNM ENT 00028738 UNAM). Mexico: Tequesquinahuac, Cerro Tlaloc, 12 Oct 1983, M. Paz (3 ♂ USNM ENT 00028742 UNAM); Tequesquinahauc, Encinar, 12 Oct 1983, G. Sampedro (♂ USNM ENT 00028746 UNAM). Morelos: Tetela del Volcan, 8 Jul 1978, G. Aratz (♀ USNM ENT 00028748 UNAM); 6 mi E Cuernavaca, 1 Sep 1974, G. Bohart & W. Hanson (3 ♂ USNM ENT 00037921–3 USNM); Cuernavaca-Cuautla Highway, Canyon de Lobos, 26 Nov 1965, M. W. McFadden (♀ USNM ENT 00037971 USNM) COSTA RICA. Puntarenas: Gravel pit near Las Alturas, 8-57-9N 82-51-1W GPS, 1,600 m, 16 Aug 1995, M. A. Metz (♂ USNM ENT 00021672 USNM); Las Alturas, Cerro Chai, 2,100 m, 14 Aug 1995, T. Pape (♂ USNM ENT 00037984 NRS); Send. a c. Pittier, 1 km de la Estación, 1,800–2,000 m, LS 331800_577400, 8–20 July 1997, M. M, Moraga Red, Lot#47388 (♀ INBIOCRI002567298 INBIO).

Discussion.—Associated with a puparium in the AMHH are the notes from its collector (Marston Bates) which declares the adult was reared "from aphis colony on *Citrus* (probably *Aphis* sp.)," the larva be-

ing a "beautiful rose and blue, looking much like a limacodid."

Ocyptamus willistoni is readily recognized by the lack of yellow pollinose vittae on the mesonotum, the red apex of the abdomen, and the blackish apical wing macula.

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