Revision of the New World species of *Ommatius* Wiedemann (Diptera: Asilidae): the neotropical *costatus* species group

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Abstract: Fourteen species of New World Omnatius Wiedemann are assigned to the costatus species group. Characters diagnostic of the group and of each species are described and illustrated, and keys to the species are presented. The new species O. achaetus, O. complanatus, O. dentatus, O. didymus, O. humatus, O. incurvatus, O. spinosus, and O. uncatus are described. O. amula Curran and O. costatus Rondani are redescribed. Data are added to existing descriptions of O. alexanderi, O. orenoquensis, O. oreophilus, and O. piliferous. Lectotypes are designated for O. costatus [=O. barbiellinii Curran, NEW SYNONYMY] and O. orenoquensis Bigot [=O. infractus Scarbrough, NEW SYNONYMY]. O. spatulatus, a similar species, is compared with the costatus group.

Key words: Ommatius, Ommatinae, asilids, robber flies, Diptera, costatus species group, neotropical.

Ommatius Wiedemann is one of the most widely distributed genera of the family Asilidae, with about 200 species occurring in subtropical and tropical regions (Hull 1962). Fifty-eight neotropical species are presently known (Martin and Papavero 1970, Scarbrough 1990, Scarbrough and Poinar 1992); 28 modern and two extant species from the West Indies, 15 from Mexico and Mesoamerica and 13 from South America. Another 50 or more neotropical species, in at least 6 species groups, remain to be described and reported to science.

This paper, which assigns 14 species to the costatus species group, represents Part II of a series revising the New World Ommatius Wiedemann. Part I assigned eight species to the pumilus species group (Scarbrough 1990). The costatus species group includes six previously known species: O. oreophilus Farr and O. alexanderi Farr (Jamaica, Farr 1965), and O. piliferous Scarbrough (Cuba, Scarbrough 1985b); O. amula Curran (Mexico, Curran 1928), O. costatus Rondani (Brazil, Rondani 1850), and O. orenoquensis Bigot (Guiana, Bigot 1876). Eight new species are reported

here, increasing the number of neotropical species to 66.

MATERIAL AND METHODS

General methodology used in this study follows that by Scarbrough (1990). Descriptive terminology follows that in McAlpine (1981). Figures 1-11, 34 and 35 indicate terminology for structures of the terminalia, wing and mid femur. Hind tibiae and characters of the terminalia are illustrated at the same scale. To conserve space, scale lengths associated with these structures are listed only once in the caption of Figures 1-11. Descriptions and redescriptions are composites of all specimens in each species series. O. alexanderi is described in detail while only significant differences are included for the remaining species. Characters omitted in the latter are essentially identical to those listed under O. alexanderi. Only significant differences of characters are listed for females.

The following ratios are used in the descriptions, and are defined here for the

convenience of the user. Face-to-head ratio (FHWR) is the width of face at antenna/width of head (greatest width as measured horizontally from outer margin of one eye to the other); width-to-length ratio of flagellum (FWLR) is the greatest lateral width/length from base to apex; width-to-length of hind femur (HFWLR) is the greatest vertical width/dorsal length from the apex of the femur to the trochanter. Ratios are averages of 15 specimens of each sex whenever possible. All specimens were measured and averages calculated when the number of specimens in the series was less than 15.

Collection and locality data of new species are standardized and listed sequentially whenever possible, i. e. by country, sexes, numbers, state or province, specific location, elevation, date, and collector. Acronyms of museums or private collections storing the specimens are placed in parentheses following the locality data of each specimen or a series of specimens. Curators and acronyms for collections are as follows: David Grimaldi, (AMNH) American Museum of Natural History, New York; A. G. Scarbrough, (AGS) Towson State University, Baltimore; K. V. G. Smith & J. E. Chainey, (BMNH) Natural History Museum, London, England; C. V. Riley, (BYU) Brigham Young University, Provo, UT.; Norman Penny, (CAS) (California Academy of Sciences, San Francisco, CA.; P. P. Parrillo, (CFMNH) Chicago Field Museum of Natural History, IL.; Monty Wood & P. LaClair, (CNC) Canadian National Collection, Ottawa, Canada: Chen W. Young, (CMNH) Carnegie Museum of Natural History, Pittsburgh, PA.; Jerry A. Powell, (CIS) University of California, Berkeley, CA.; L. L. Pechuman, (COR) Cornell University, Ithaca, N. Y.; Eric M. Fisher, (EMF) California Department of Agriculture, Sacramento, CA.; Vanda H. P. Bueno, (ESAL) Escola Superior de Agriculture de Lavras, Lavras, Brazil; Henry A. Hespenheide, (HAH) University of California, Los Angeles, CA.; L. Tsacas, (NMNH) Museum National D'Historie Naturelle, Paris, France; Howard L. Weems, (FSCA) Florida State Collection of Arthropods, Gainesville, FL.; Renato Contin Marinoni, (FUPC) Federal Universidade de Parana, Curitiba, Brazil; Abraham Willink, (IML) Instituto Lillo Miguel, Tucuman, Argentina; J. A. Rafael, (INPA) Instituto Nacional de Pesquisas da Amazonia, Manaus, Brazil; F. Fernandez Yepes, (IZA) Instituto de Zoologia Agricola, University of Central Venezuela, Maracay; Donald Webb, (INHS) Illinois Natural History Survey, Champaign, ILL.; (INBIO) Instituto Nacional de Biodiversidad of Costa Rica; (LJB) Larry Bezark, California Department of Agriculture, Sacramento, CA.; Charles L. Hogue, (LANHM) Los Angeles County Natural History Museum, CA.; J. Manuel Ayala L., (MAL) Isle de Margarita, Venezuela; D. J. Furth, (MCZ) Museum of Comparative Zoology, Cambridge, MA.; Mike Ivie, (MIV) Montana State University, Bozeman, MT.: Nelson Papavero, (MZSP) Museo de Zoologia, Universidade de Sao Paulo, Brazil; C. A. Triplehorn, (OSU) Ohio State University, Columbus, OH.; D. Spencer Smith & George C. M. McGavin, (OXF) Hope Entomological Museum, Oxford, England; Donald Azuma, (PAS) Philadelphia Academy of Science, Philadelphia, PA.; Hilda Alice de O. Gastal, (RGSZ) Museu de Ciencias Naturais da Rio Grande du Sol, Porto Alegre, Brazil; Thomas H. Farr, (SMIJ) Science Museum, Institute of Jamaica, Kingston, Jamaica; Todd Shelly, (TSC) Honolulu, HI.; R. O. Schuster, (UCD) University of California, Davis, CA.; Saul Frommer, (UCR) University of California, Riverside, CA.; L. Fernando Jiron, (UCRM) Universidad de Costa Rica, Ciudad Universitaria, Rodrigo Facio, Costa Rica; Antonio Rolondo, (UDT) Museo di Zoologia, Della Universito, Torino, Italia; G. W. Byers & R. W. Brooks, (UKN) University of Kansas, Manhattan, KN.; F. Christian Thompson, (USNM) United States National Museum of Natural History, Washington, D. C.; W. J. Hanson, (USU) Utah State University, Logan, UT.; Roberto A. Zucchi, (USPP) Universidad de Sao Paulo, Campus de Piracicaba, Sao Paulo, Brazil

costatus species group

Members of this species group are recognized by a lancet or spear-shaped flagellum, conspicuous marginal scutellar bristles except 0. achaetus, and one-three thin, proclinate postocular bristles on each side of the head. In addition, the ventral setae of the fore femora and the posteroventral setae of the mid femora are conspeciously long.

Males are recognized by the presence of a long, thin to bristly preapical, dorsoposterior seta on the mid femora (Fig. 35; this structure is usually thick and brown to black in other species groups), and the veins M₁ and M₂ are slightly sigmoid, being slightly convex before the base of cell d and concave toward the wing margin. Thus these converging veins produce a constriction on the apical third of the m₁ cell (Fig. 34). The constriction of the m_1 cell is usually subequal to the diameter of the cell basally. The basal vein of cell m₁ is usually slightly oblique with its anterior end slightly angled more toward the wing base whereas the posterior end is nearest the wing margin. The apical margin of the wing is usually produced. The epandrium has two to three long, thin setae or thick bristles (Figs. 2, 39, 134). The gonostylus is slightly to strongly flat, and usually wide in lateral profile. The rim of the gonocoxite is usually a simple ridge or "elevated lip", although in a few species the inner margin is modified into a short to elongate digitate process. The distiphallus is usually slightly or strongly angled downward, and thin to moderately thick in cross-section; the anterior margin of the aedeagal sheath is usually flared as a low angled ridge or a long flat process (Figs. 8, 19, 30, 43, 54, 73, 84, 95, 106, 117, 128, 139).

The female is characterized by a short tergite 9, usually one-third or less the length of the cercus, and the medioapical margin of sternite 8 is narrowly produced with the corners angular. Spermathecae are usually elongate with slightly crenulate surfaces. Two or three posteroventral bristles in the posteroventral row of the hind femora are contrastingly long.

Relationships. Some of the major diagnostic characters listed above are present in isolated species of other species groups, but no known New World species possess all of these

characters in combination. At least three West Indian species (Scarbrough 1984) have similarly shaped m₁ cells but lack the thin, preapical, dorsoposterior seta of the mid femur, and marginal scutellar bristles. Five undescribed South American species, in addition to O. holosericeus Schiner and O. exilis Curran, have a thin mid femoral seta, and O. norma Curran and O. neotropicus Curran have two-three long, thin setae on the epandrium but each lacks other attributes which would align them to this species group. The costatus group may be the sister group to the lineage giving rise to O. spatulatus Curran. This relationship is evidenced by the general similarity of the body, the shape of cell m₁ and the terminalia of both sexes. However, O. spatulatus lacks the marginal scutellar bristles, the long, proclinate, postocular bristles, and the thin, preapical, dorsoposterior seta on the mid femur. Further studies are necessary to clarify the relationship of the costatus species group and O. spatulatus. Geographical range. Cuba, Jamaica, Lesser Antilles, Mexico, Mesoamerica, and South America south to Tucuman, Argentina. Species of Ommatius are thus far not reported from Chile or Uruguay.

Remarks. Species of this group closely resemble each other. Few characters, apart from the terminalia, can be used to construct a dichotomous key. Dissection of the terminalia is necessary for identification of most specimens, especially females. In males, the epandrium, ventral lamella, gonostylus, and aedeagus are of great importance. Shapes of the gonocoxal process and hypandrium are sometimes useful for identification of some species. In females, relative length of tergite 9 and shape of the spermatheca are important for identification. Shapes of the cercus and furca and sternite 8 usually lack significant species characters.

Key to the adults of the costatus species group males

- Mid femur with a brown, moderately thick, preapical, dorsoposterior seta
 Mid femur with a pale, long, thin, preapical, dorsoposterior seta (Fig. 35)
- 2. Hind tibia with a short, thick spurlike bristle anteriorly (Fig. 132); margin of scutellum with strong bristles; terminalia as in Figs. 133-139; (Brazil, Colombia, Peru).....uncatus, N. Sp.

SPECIES SYNOPSIS

Ommatius alexanderi Farr Figures 1-11

Ommatius alexanderi Farr, 1965, 13 (2): 24-25. Type locality: St. Andrews, Ferry, Jamaica. Holotype O, and allotype Q, (USNM). Martin and Papavero 1970 (35b):59.

Male. Brown to blackish. Length, body 9.0-12.0 mm; wing 8.9-9.7 mm. Face yellowish white to grayish tomentose with mostly whitish vestiture, four dark bristles present; FHWR 1/9.0. Palpus with whitish vestiture. Vestiture of antenna, frons, and ocellarium, blackish; FWLR 1/1.8. Occiput with four-five blackish postocular bristles, two-three short with apical one-fourth to one-third of each proclinate.

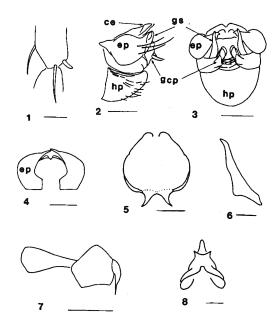
Scutum mostly brownish tomentose, posthumerus, sides, grooves and prescutellum grayish; vestiture blackish, two notopleural, one supra-alar, one postalar bristle present; posteriorly, three-four dorsocentral setae present on each side, subequal to equal length and thickness of lateral bristles and greater in length and thickness than marginal scutellar bristles. Scutellum grayish tomentose with sparse whitish pile and two marginal bristles. Pleuron mostly grayish tomentose with whitish vestiture. Wings anteriorly and apically brownish; costal margin with weak dilation anteriorly.

Coxa with thin whitish to yellowish bristles. Fore and mid femora largely brownish yellow to reddish, apical one-third to one-half brown anterodorsally. Fore femora ventrally with several long whitish setae. Mid femora with three anterior, one dorsoposterior, and three-four anteroventral thick, blackish bristles; posteroventrally, four-five long thin setae present. Hind femora with apical half dark brown, brownish yellow basally; all or most bristles short, thick, and whitish; HFWLR 1/4.4. Tibiae with narrow apices and apical third of hind tibiae dark brown; hind tibiae with one short, spurlike apical bristle. Basal tarsomere of fore and mid tarsi largely yellowish; fore tarsi with two-three yellow bristles.

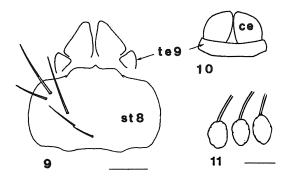
Abdomen dark brown to blackish with mostly grayish tomentum and whitish vestiture, all or most tergites dorsally with brown tomentum and dark vestiture.

Terminalia dark brown. Epandrium with apex acutely pointed. Gonostylus styliform. Ventral lamella simple with basolateral margins only slightly curved downward. Gonocoxite with a prominent mediobasal process. Distiphallus strongly decumbant, thin apically. Hypandrium simple.

Female. Length: body, 9.0-12.0 mm; wing, 9.5-10.0 mm. FHWR 1/7.1; FWLR 1/1.9; HFWLR 1/4.9. Tergite 9 about third as long as cercus. Spermatheca oval, slightly crenulate. Sternite 8 dark, apical third often lighter in color; medioapical margin produced anterior, lateral corners subacutely rounded.



Figs.1-8. Omnatius alexanderi Faπ, male. 1. Left hind tibia with a spurlike bristle, lateral view, 2-4. terminalia, lateral, ventral and dorsal views, 5. ventral lamella, 6. left gonostylus, 7-8. aedeagus, lateral and dorsal views. Abbr.: ce=cercus, ep=epandrium, hy=hypandrium, gs=gonostylus, gcp=gonocoxal process. Scale: Figs. 1, 5 = 0.3 mm; Figs. 2-4, 7 = 0.5 mm; Fig. 6 = 0.1 mm; Fig. 8 = 0.2 mm.



Figs. 9-11. Ommatius alexanderi Farr, female. 9-10. terminalia, ventral and dorsal views, 11. spermathecae. Abbr.: ce=cercus, t9=tergite 9, s8=sternite 8. Scale: Fig. 9= 0.3 mm; Fig. 10 = 0.2 mm; Fig. 11 = 0.1 mm.

Specimens examined. Holotype \circlearrowleft , allotype \circlearrowleft , 22 paratypes.

Distribution: 17 April-2 October; JAMAICA. Collections with specimens. AGS, BMNH, SMIJ, USNM.

Remarks. The male of *O. alexanderi* is recognized by a dark brown body, a clubbed terminalia, an epandrium which is acuminate apically and abruptly angled posteriorly, and a prominently developed gonocoxal process. The female is characterized by a long tergite 9, i. e. about one-third as long as the cercus, and spermathecae that are oval and slightly crenulate. The female is similar to *O. oreophilus* (Farr 1965) but is separated from the latter by the uniform width of tergite 9. In *O. oreophilus*, tergite 9 is much longer laterally than medially.

Ommatius amula Curran Figures 12-22

Ommatius amula Curran. 1928(327):4. Holotype Q, monotypic. Type locality: Amula, Guerrero, Mexico (S. W. Williston Coll.), (AMNH). Hull 1962, 224 (2):435; Martin and Papavero 1970(35b):59.

Male. Length: body, 8.7-12.6 mm; wing, 6.7-9.1 mm; body dark brown to black. Face yellowish gray to metallic yellow tomentose with light yellow setae and four-eleven brown bristles; FHWR 1/7.4. Palpus usually with mostly or entirely whitish to yellowish vestiture, rarely only black vestiture present. FWLR 1/1.8. Occiput with five-seven brownish postocular bristles above each eye.

Scutum with four-five dorsocentral bristles; scutellum with two-four, marginal bristles. Wing usually with costal margin weakly dilated.

Femora mostly brown-yellow to black; fore and mid femur usually with venters and ventral half or more of posterior surfaces slightly lighter in color, usually brown-yellow or reddish, black anteriorly and dorsally, sometimes this color distinction is limited to a large, red-black to yellow-brown, preapical or basal spot posteriorly and ventrally; most ventral setae or bristles of fore and mid femora unusually long and yellowish; mid femur with one-two blackish, anteroventral bristles. Hind femur usually with basal fifth or less yellowish to reddish, all or most bristles usually brown to black, sometimes one-six ventral bristles and one anterior bristle whitish; one long, yellowish setae usually present basally in posterior row of bristles; HFWLR 1/3.8. Narrow apices of fore and mid tibiae and apical one-third to one-half of hind tibia blackish to reddish brown; anterior surface of each tibia usually with a brown-yellow strip, often extended entire length of tibia; hind tibia with one apical spurlike bristle. Fore tarsus with one-four whitish to yellow bristles.

Abdomen mostly grayish tomentose with pale yellow to whitish vestiture, tergites 1-5 medially brown tomentose; tergites 6-7 usually entirely brown with brown setae.

Terminalia brown to black. Apical third of each epandrium angled about 90° behind terminalia, apex flat horizontally with a shallow sinus between two differentially short lobes, and a vertical ridge which terminates in a short spine dorsally. Ventral lamella basolaterally C-shaped, with shallow depressions formed by margins projecting ventrally. Gonostylus narrow and subcylindrical. Distiphallus elongate, moderately thick in cross-section, apically angled obliquely downward; base of distiphallus in dorsal view bordered laterally by two small flanges. Gonocoxite with a large, thin, flat process medially, usually transparent, and fused with rim laterad; the rim and process slightly angled posteriorly forming a median, vertical groove in dry specimens.

Female, redescription. Length: body, 10.3-13.4 mm, wing, 7.9-11.0 mm; FHWR 1/6.8; FWLR 1/1.8. Hind femur with one-three unusually long bristly, yellow setae basally;

HFWLR 1/5.2. Tomentum of head and thorax usually grayish with only a slight tint of yellow. Specimens from the southern part of the range have a darker yellow tomentum. Tergite 9 long in dorsal view, about half as long as cercus. Sternite 8 with a large medioapical yellow spot. Spermatheca small, oval, slightly longer than wide, surface slightly crenulate

Specimens examined. Holotype \bigcirc , 96 \bigcirc 0, 109 \bigcirc \bigcirc .

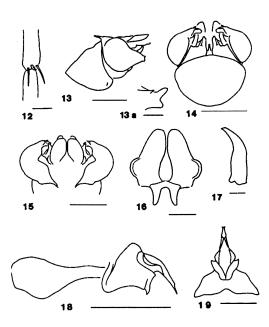
Distribution: 6 July-12 November; MEXICO: Chiapas, Chihuahua, Guerrero, Jalisco, Michoacan, Morelas, Nayarit, Oaxaca, Sinaloa, Veracruz. BELIZE: El Cayo. GUATEMALA: Peten. EL SALVADOR: Quezaltpeque.

Collections: AMNH, CNC, CMNH, EMF, FSCA, LAMNH, UCD, USNM, CFMNH, CIS.

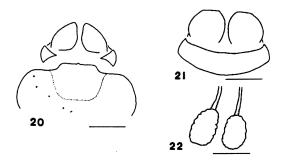
Remarks. O. amula is recognized by the brown to dark black body and combined characters of the terminalia. Also, the male has a moderately swollen hind femur, and the female has a large yellow spot on the medioapical margin of sternite 8.

Many specimens from the province of Peten, Guatemala, and a few from the state of Veracruz, Mexico, differ as follows from the "typical" black specimens: body cuticle light brown to brown, fore and mid femora yellow except for the narrow anterior and dorsal apices, brownish to slightly reddish brown; hind femur mostly brown, extreme base yellow. The dorsoapical spine of the epandrium and the outer flange of the flat, gonocoxal process are significantly weaker or reduced. They are otherwise identical to the "typical" black specimens, and are included here as O. amula.

The "typical" form of O. amula is similar to O. willistoni Curran, O. maculatus Banks and O. parvulus Schaffer in that they are all black. This form differs from the latter three species in the presence of scutellar bristles, combined characters of the terminalia, slightly dilated costal margin of the wing, and the thin, hairlike, posterodorsal, preapical seta of the mid femur. O. willistoni also differs in having a wholly whitish facial vestiture whereas O. amula has a few to several dark facial bristles. The light forms of O. amula are similar to O. incurvatus and O. humatus in color but differ in the combined characters of the terminalia.



Figs.12-19. Ommatius amula Curran, male. 12. Left hind tibia with a spurlike bristle, anterior view; 13-15. terminalia, lateral, dorsal, and ventral views; 13a. apex of epandrium, lateral view; 16. ventral lamella; 17. left gonostylus; 18-19. aedeagus, lateral and dorsal views. Scale: Fig. 13a. = 0.1 mm.



Figs.20-22. Ommatius amula Curran, female. 20-21. Terminalia, ventral and dorsal views; 22. spermathecae.

Ommatius complanatus, N. Sp. Figures 23-33

Male. Length: body, 10.1-11.9 mm; wing, 8-9.7 mm. Body dark brown to blackish. Face dull to golden yellow tomentose with six-eight brown bristles; FHWR 1/8.8. Palpus with only yellowish vestiture. FWLR 1/1.8. Occiput with five-seven dark brown to blackish postocular bristles.

Scutum posteriorly with four-five long dorsocentral bristles in each row; five-six lateral

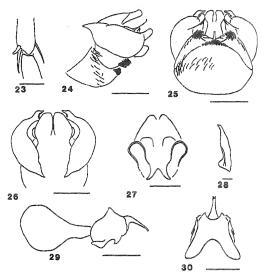
bristles present with one-two bristles subequal in thickness and length. Wing without anterior dilation, C slightly thickened medially.

Legs mostly yellow with slight tint of red, brown to dark brown as follows: anterior and dorsal two-thirds to three-fourths of fore and mid femora with a diagonal stripe apically, narrow apices posteriorly of fore and mid femora, apical two-thirds of hind femur, narrow apices of fore and mid tibiae, and apical half of hind tibia. Mid femur with only one thin, brown bristle anteroventrally; hind femur with one-two yellow bristles in each ventral row, bristles otherwise dark brown; HFWLR 1/4.5. Hind tibia with one short spurlike bristle apically, about one-fourth to one-third length of adjacent black bristle. Fore tarsus with basal segment mostly yellow and two yellow bristles; mid tarsus with basal segment yellow-brown.

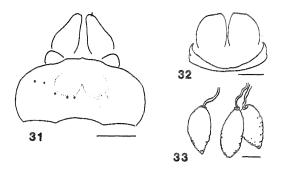
Abdomen with tergites mostly brown tomentose with brown vestiture, all sternites and lateral margin of tergites 1-5 yellowish to slightly brownish yellow tomentose with yellowish vestiture.

Terminalia black. Epandrium with apex narrow, angled 90° subapically behind the terminalia, apex acuminate in dorsal view, rounded in lateral view; subapical ventral margin of epandrium expanded as a thin, flat, subrectangular process. Ventral lamella produced ventrally in lateral view, basolateral figure-eight process elongate, anteriorly with thick vertical walls. Gonostylus elongate, subcylindrical. Gonocoxite basomedially with numerous bristles. Medioapical margin of hypandrium with dense yellow pile, a sparse transverse cluster of thin, yellowish setae medially. Aedeagus with distiphallus moderately thick in cross-section, angled ventrally 45°, sheath wings small, short and narrow.

Female. Length: body, 10.9-13.2 mm; wing, 8.5 mm. FHWR 1/7.9; FWLR 1/1.9; HFWLR 1/5.2. Scutum with four dorsocentral bristles in each row, anterior setae shorter and more sparse than in male. Fore and mid femora with diagonal brown streak on anterior and dorsal apical half or slightly less; mid femur with one-two black, anteroventral bristles. Sternite 8 with medioapical surface yellowish; tergite 9 short, less than one-seventh as long as cercus; spermatheca elongate, narrowed basally and apically, apex pointed, surface weakly crenulate.



Figs. 23-30. Ommatius complanatus, N. Sp., male. 23. Left hind tibia with a spurlike bristle, anterior view; 24-26. terminalia, lateral, ventral and dorsal views; 27. ventral lamella; 28. left gonostylus; 29-30. aedeagus, lateral and dorsal views.



Figs. 31-33. Ommatius complanatus, N. Sp., female. 31-32. Terminalia, ventral and dorsal views; 33. spermathecae.

Holotype O, BRAZIL: S. P. (=Sao Paulo), Est. Biol. Boraceia, Salesopolis, 850 m, I.30.68, Rabello, (MZSP); allotype Q & 1 O paratype, D.F., Alto da Boa Vista Tijuca, III.1950, C. A. C. Seabra, (MZSP). Remaining paratypes: 1 O, Sao Paulo, Ferraz Vascon, XII.1946, E. Rab, (MZSP); 2 QQ, Sao Paulo, Ciudade Jardim, II.20.1943, Carrera, (USNM); 1 Q, 727, 98'; 1 Q, J. Paulisti, XII.5.44, Ramalha; 1 O, no data, (AMNH).

Distribution: Dec.-Mar.; BRAZIL.

Etymology. Latin *complanatus*, meaning "flattened", refers to the ventral, subapical process of the epandrium.

Remarks. O. complanatus is recognized by the combined characters of the terminalia. The male is further characterized by an absence of a costal dilation of the wing, entirely yellow palpal vestiture and only a single brownish anteroventral bristle of the mid femur.

Ommatius costatus Rondani Figures 34-46

Ommatius costatus Rondani 1850:188. Type locality: Distr. Brazil (Sao Paulo), Ilha de Sao Sebastiao; Lectotype O, Museo di Zoologia, Della Universita, Torino, Italia.

Ommatius barbiellinii Curran 1934 (752):18. Type locality: Sao Paulo, Brazil; holotype ♂, allotype ℚ, 2 ℚ ℚ paratypes, (AMNH); New synonymy. Hull, 1962:435; Martin and Papavero, 1970 (35b):59.

Redescription, male. Length: body, 11.0-15.6 mm: wing, 8.8-13.0 mm. Body brown to dark brown. Face yellowish gray to golden yellow tomentose with four-ten brown bristles; FHWR 1/7.7. Palpus with mostly or entirely yellow vestiture, often with a few to several brown bristles and setae. FWLR 1/2.3. Occiput with five-six brown, postocular bristles.

Scutum posteriorly with two-five pairs of long dorsocentral bristles. Scutellum with two-four brown marginal bristles. Wing with costal margin slightly to moderately dilated.

Fore coxa sometimes with one-three brown bristles. Fore and mid femora brown to yellowish brown, sometimes reddish, on apical two-thirds or less dorsally and anteriorly; hind femur mostly brown-yellow to reddish, basal third or less yellow. Mid femur with three-six brown anteroventral bristles, posteroventral bristles either long, thin and yellowish or moderately thick, long and brown. Hind femur posteroventrally with one thin yellowish seta between basal two bristles, length about as long as adjacent bristles; HFWLR 1/5.0. Apical one-third to one-half of hind tibia brown, one spurlike bristle present apically. Fore and mid tarsi with basal half yellowish to yellow brown, sometimes reddish, fore tarsus usually with one-two yellow bristles.

Abdomen largely brownish tomentose dorsally, sometimes reddish to grayish, sides of tergites and all sternites usually yellowish gray tomentose; vestiture of tergites largely brown dorsally, especially on apical three-four segments, vestiture otherwise yellowish to whitish.

Terminalia brown to dark brown. Epandrium apically slightly angled posteriorly, with a prominent, dorsal, subapical, thom-like process; apex flat, subtruncate, usually with a small median emargination. Gonostylus subcylindrical. Gonocoxite with a simple, flat mediobasal process. Base of distiphallus with two prominent winglike processes, apex strongly curved down, thin in cross-section. Hypandrium and ventral lamella as in Figs. 38, 40.

Female. Length: body, 9.5-15.0 mm; wing, 9.1-13.0 mm. FHWR 1/7.1. Scutum with three-four pairs of long dorsocentral bristles. Hind femur with two long, yellow, posteroventral setae or bristles basally; HFWLR 1/5.4. Fore tarsus often entirely brown. Tergite 9 short, about one-seventh or less as long as cercus. Spermatheca usually spherical, rarely subspherical, surface smooth.

Material examined. Lectotype \circlearrowleft ; holotype \circlearrowleft , and $3 \circlearrowleft \circlearrowleft$, of O. barbiellinii Curran; 181 $\circlearrowleft \circlearrowleft$, 238 $\circlearrowleft \circlearrowleft$.

Distribution: September-June; TRINIDAD and SOUTH AMERICA except CHILE and URUGUAY

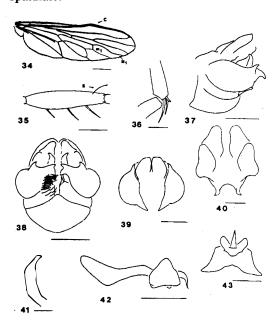
Collections. AMNH, BMNH, CAS, CMNH, CNC, CFMNH, INPA, IML, IZA, NMNH, FSCA, FUPC, MAL, MCZ, MIV, MZSP, OSU, RGSZ, UDT, USPP, USNM.

Remarks. O. costatus is recognized by the subapical, spinelike process and the flat, subtruncate apex of the epandrium and the subcylindrical gonostylus. The female is recognized by the smooth, subspherical to spherical spermatheca and a short tergite 9, being less than one-seventh the length of the cercus. All females of other species have oval or elongate spermathecae with slightly to strongly crenulate surfaces.

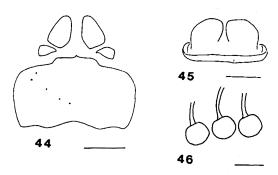
This species is one of the two most common and abundant neotropical species in collections, and one of the most variable in color and size. The color of the tomentum ranges from a weak yellow to brownish yellow or reddish; vein C is only slightly thickened and weakly dilated in some specimens whereas in others it is quite thick and moderately dilated; the anterior and dorsal surfaces of the fore and mid femora range from narrowly brown apically to almost entirely brown whereas the posterior and ventral surfaces are usually mostly or entirely yellow.

The posteroventral bristles on the mid femur are moderately long and thick and usually brown in specimens from southern Brazil and Argentina whereas these bristles are much thinner, slightly longer and usually yellow in specimens in other areas of South America. Similarly the scutellar bristles are usually short and thin or hairlike in specimens in the southern extreme of its range whereas they are significantly thicker and slightly longer in specimens from more northern populations.

O. costatus is separated from all others in the species group by the combined characters of the terminalia. The terminalia of both sexes are almost identical to those of O. spatulatus. O. spatulatus differs in the lack of marginal scutellar bristles, and the presence of a slender yellowish brown hind femora with only pale yellow to yellow bristles on the hind femora, a thick, posterodorsal, preapical bristle, and a spatulate abdomen. The male of O. costatus has a long, thin posteroventral seta on the mid femur, largely dark brown bristles below the hind femora, and the abdomen is only slightly spatulate.



Figs. 34-43. Ommatius costatus Rondani, male. 34. Right wing; 35. left mid femur with posterodorsal preapical thin, hairlike setae, dorsal view; 36. right hind tibia with a short, spurlike bristle, lateral view; 37-39. terminalia, lateral, ventral and dorsal views; 40. ventral lamella; 41. right gonostylus; 42-43. aedeagus, lateral and dorsal views. Abbr.: C=costal dilation, M₁=first medial vein, m₁=first medial cell, S= thin hairlike seta.



Figs. 44-46. Ommatius costatus Rondani, female. 44-45 Terminalia, ventral and dorsal views; 46. spermathecae.

A male from the Rondani collection in the Museo di Zoologia, Della University, Torino, Italy, is in excellent condition, having only lost the right stylus and flagellum, left tibia and fore tarsus, and the two apical tarsomeres of the right tarsus. The pin with the specimen bears a hand written label with the name *Ommatius costatus* Rondi., Lupd. S. Sebast. geni, and a second label with the word Holotype, the name *Ommatius tibialis* Rondo, N. Papavero 72 (misidentified). The specimen is essentially identical to the holotype of *O. barbiellinii* Curran. The latter name is thus a synonym of *O. costatus*, and the Rondani specimen is here designated **Lectotype**.

Ommatius dentatus, N. Sp. Figures 47-57

Male. Length, body 11.3 mm; wing, 8.4 mm. Face and occiput light yellowish gray tomentose with pale yellowish to whitish vestiture; FHWR 1/8.3. Palpus yellowish brown with brown bristles apically. FWLR 1/1.8. Each side of occiput with six-seven brown postocular bristles.

Scutum laterally with four long dorsocentral bristles. Wing without an anterior dilation, C only slightly thickened medially.

All femora mostly yellow, apical third of fore and mid femora with only a faint brownish color dorsoapically; hind femur with most of dorsum and anterior apical half brown, otherwise yellow; mid femur anteroventrally with only two long, thin, brown bristles. Hind femur with mostly brown bristles, at least one anterior and two ventral bristles yellow; HFWLR 1/5.1. Hind tibia brown on apical third, spurlike apical bristle absent. Basal segment of fore and

mid tarsi mostly yellow; fore tarsus with one yellow bristle,

Abdomen with tergites mostly brown, apices yellowish, sternites lighter yellow-brown; tomentum yellowish to slightly grayish laterally and ventrally on most segments with light vestiture; dorsum of tergites 1-6 with small to large brown tomentose spot and brownish setae; anterior corners of segment 6, most or all of tergites 7-8 sparsely tomentose.

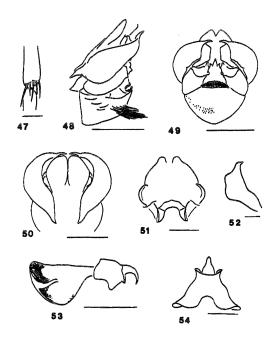
Terminalia brown. Epandrium with apex long, toothlike. Gonostylus flat and wide in lateral view, abruptly narrowed subapically. Basolateral margin of ventral lamella produced ventrally, and cupshaped. Aedeagus with apex curved strongly downward, apodeme wide in lateral view, moderately thick distally; aedeagal flanges moderately strong in dorsal view. Hypandrium with dense yellow pile anteriorly, medioapical margin truncate, and a subapical transverse cluster of yellow bristly setae.

Female. Length: body, 12.3-16.7 mm; wing, 10.7-13.7 mm. FHWR 1/8.2; FWLR 1/2.1; HFWLR 1/5.3. Body yellow tomentose, face with four-five brown bristles and palpus with vestiture entirely brown; brownish streak of femora and tergites much darker brown than in male. Mid femur with three-four anteroventral bristles. All bristles of hind femur black except for one anterior, yellowish red bristle; bristles absent on basal third of hind femur posteroventrally. Apical two-thirds of hind tibia brownish yellow to brownish.

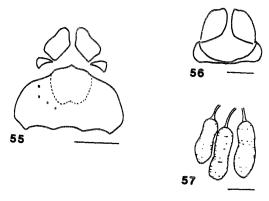
Abdomen with tergites much darker brown than in male, lateral margins of tergites 1-5 or 6 narrowly reddish to reddish yellow, sternites yellowish brown; tergites mostly brown tomentose with brown setae; sternites with sparse, yellowish tomentum. Tergite 9 short, one-sixth or less as long as cercus. Spermatheca elongate, sausagelike, apically rounded, with a weak constriction admedially, surface weakly crenulate.

Holotype O, BRAZIL: Manaus, Res. 1210 RLO, Bk (X.22 85), V. P. Daniel (alcohol specimen, mounted on a pin), (INPA). Allotype Q, and paratype O, BRAZIL: terr. Amapa', Serra do Navio, IX.28.1957, K. Lenko, (MZSP); 1 Q, #5650, Para, Tucurui-Ilha Chorona, VIII.17.1980, eq. Nunes de Mello, (INPA); CAYENNE: 2 QQ, V.1917, acc. 6008, (CMNH).

Distribution: May-Oct.; BRAZIL, CAYEN-NE.



Figs. 47-54. Ommatius dentatus, N. Sp., male. 47. Left hind tibia with slender bristles only, anterior view; 48-50. terminalia, lateral, ventral and dorsal views; 51. ventral lamella; 52. right gonostylus; 53-54. aedeagus, lateral and dorsal views.



Figs. 55-57. Ommatius dentatus, N. Sp., female. 55-56. Terminalia, ventral and dorsal views; 57. spermathecae.

Etymology. Latin dentatus, meaning "toothed", refers to the strong toothlike apex of the epandrium.

Remarks. O. dentatus is recognized by the mostly yellow to reddish pleura and the brownish streak on the anterodorsal surface of each femora. In addition, the strong toothlike apex of the epandrium and the apically truncate hy-

pandrium characterize the male. The shape of the spermatheca separate it from the females of spinosus and complanatus.

Two females (#5650 and 6008)) are darker than the other female paratypes. The pleura of specimen #5650 are brown on the dorsal half and the femora are brown anteriorly and dorsally except on the basal one-fourth to one-third which is yellow to yellow-brown. The pleura of one specimen (#6008) are entirely black and the femora are dark brown to blackish on the apical third or more.

Ommatius didymus, N. Sp. Figures 58-65

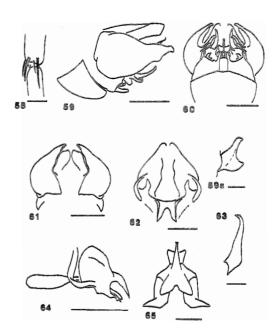
Male. Length: body, 12.1 mm; wing, 10 mm. Face golden yellow tomentose, with six brown bristles and sparse brown setae above mystax; FHWR 1/8.7. Palpus brown with mostly yellow vestiture, apical bristles brown to brownish yellow. FWLR 1/2.5. Occiput with seven postocular bristles on each side of head.

Scutum laterally with four dorsocentral bristles. Wing without an anterior dilation, C slightly thickened medially.

Fore and mid femora mostly yellow, apical third or less brownish dorsally and anteriorly, narrow apices brown posteriorly. Mid femur with two dark brown anteroventral bristles. Hind femur with apical half brown, basal half yellow, all bristles dark brown or black except one anterior and one ventral yellow bristle; posteroventral row with one long, thick, yellow seta present between basal two bristles; HFWLR 1/4.3. Narrow apex of mid tibia and apical third of hind tibia, brown; spurlike apical bristle absent. All tarsi brown; fore tarsus with one yellow bristle.

Abdomen dark brown to blackish with mostly light grayish to brownish gray tomentum and pale yellow to yellow vestiture, most tergites with brown tomentum dorsally with increasing density of brown setae on apical four-five tergites.

Terminalia blackish brown to slightly blackish red. Epandrium with apex narrow and subtruncate; ventral margin with a flat, bifurcated process. Ventral lamella with an inverted C-shaped ventrolateral process. Gonostylus elongate and subcylindrical. Each gonocoxite with one narrow, bladelike mediobasal process. Distiphallus moderately thick in cross-section,



Figs. 58-65. Ommatius didymus, N. Sp., male. 58. Left hind tibia withslender bristles, anterior view; 59-61. terminalia, lateral, ventral and dorsal views; 59a. ventral process of epandrium; 62. ventral lamella; 63. left gonostylus; 64-65. aedeagus, lateral and dorsal. Scale: Fig. 59a = 0.1 mm.

angled downward at 45° angle, ventrally with a flat, apically truncate, plate which bears a thick, medioventral ridge terminating in a short, acute spine; flanges of aedeagal sheath absent; ejaculatory apodeme narrow, spatulate. Hypandrium with mostly yellow setae or weak bristles, subapical median margin with fine, dense, yellow pile.

Female unknown.

Holotype O, BRAZIL, #2876, Amazonas-Manaus, Est. nm1, km 134, VII.10.1968, (INPA).

Distribution: July; Brazil.

Etymology. Latin *didymus*, meaning "divided", refers to the divided thin, ventral process of the epandrium.

Remarks. The male of *O. didymus* is recognized by the absence of a costal dilation and by the combined characters of the terminalia.

Ommatius humatus, N. Sp. Figures 66-76

Male. Length: body, 10.5-15.6 mm; wing, 9.1-11.9 mm. Body reddish brown to blackish.

Face bright to dull yellow tomentose with two-seven long, thin, brown bristles; FHWR 1/8.0. Palpus with vestiture entirely yellow to mostly brown. FWLR 1/2.7. Occiput with five-seven brown postocular bristles.

Scutum laterally with four-five long brown dorsocentral bristles. Pleuron mostly bright yellow tomentose. Wing with anterior margin moderately dilated.

Fore coxa sometimes with one-four brown bristles. Fore and mid femora mostly yellow, apical third or less brown; mid femur with two-three brown anteroventral bristles. Hind femur with apical one-third to four-fifths dark brown, all or most bristles dark brown to black, often one-two anterior and ventral yellow bristles present; posteroventral row of bristles with one short, thin, yellow seta between basal two bristles, length as long as adjacent bristles; HFWLR 1/5.2. Apical one-third to one-half of hind tibia brown with one short, spurlike bristle, length one-fourth to one-third nearest apical bristle. Fore tarsus with only one-two yellow bristles.

Abdomen mostly brown-yellow tomentose with lateral margins of tergite 1 and basal corners of tergite 2 and all sternites yellowish to light brownish gray tomentose, tergites 1-7 with dark brown tomentum medially, appearing as a narrow strip on tergite 1 and becoming wider on each succeeding tergite; lateral margins of tergites 6-7 shiny, with a dense brown tomentose triangle dorsally, base of triangle widest at base of tergite 6 and apex at apical margin of tergite 7; tergite 8 narrowly tomentose apically. Vestiture of abdomen mostly yellowish, brown tomentose areas with brown setae.

Terminalia dark brown. Epandrium with an acute apex. Ventral lamella basolaterally angular, not unusually enlarged or projecting ventrally. Gonostylus flat, wide medially, narrow apically. Distiphallus narrow in cross section and cylindrical apically, strongly decurved and recurved subapically; aedeagal sheath usually with two dorsolateral flanges in dorsal view. Gonocoxite and hypandrium simple (Fig. 68).

Female. Length: body, 10.4-14.4 mm; wing, 8.7-10.9 mm. FWLR 1/2.1; FHWR 1/6.6. Hind femur with basal two-three yellow posteroventral bristles significantly longer than remaining ventral bristles; HFWLR 1/5.5. Tergite 9 one-third as long as cercus.

Medioapical margin of sternite 8 weakly produced. Spermathecae oval, slightly longer than wide, surface smooth to weakly crenulate.

Holotype O, COSTA RICA: Prov. Heredia, F. La Selva, 3 km s Pto Viejo, 100 26' N 80 01 W, IV.9.1985, H. A. Hespenheide; allotype Q, same data except VI.18.1985, (US-NM). Paratypes. BELIZE (=British Honduras): 1 Q, J. M. Aldrich; 1 Q, Frio Temez; 1 Q, Manatos, (AMNH); COSTA RICA: 1 Q, Heredia Prov., 4 km se Puerto Viejo de Sarapiqui, Finca La Selva, IX.15.1981, Charles E. Griswold; 1 O, 1 Q, Heredia, 3 km s Puerto Viejo, IV.18.72, P. A. Opler, (CIS); 1 ♀, Prov. Alajuela, Est. Exp. Fabio Baudrit, VIII.16.1967, G. Miranda, (UCRM); 1 0, 1 Q, Cart. Turrialba, CATIE, VI.26-29.1986, W. Hanson, G. Bohart; 1 0, 2 00, same location, VIII.20.1989, F. D. Parker; 25 O'O', 24 QQ, Guan.(Guanacaste Pk), 20 km s Upala, V.6-XII.6.1990, P. D. Parker; 28 0 0, 24 00, same location, I.1.-XII.5.1991; 4 0 0, 2 00, same location, X.1-10.1992, XI.11-20.1992; 1 O, 2 QQ, Guan., 3 km se R. Naranjo, IV.11-21.1992, XI.11-20.1992, F. D. Parker; 1 \bigcirc , 2 \bigcirc , Guan., 14 km s Canas, II.15-24.1990, IX.1-15.1990, 1, I.17-24.1991, 1, III.16-28.1991, F. D. Parker; 1 O, Guan, exp sta s Canas, VIII.1.1988, F. D. Parker; 1 O, 3 km se R. Naranjo, IX.10-20.1992 F. D. Parker, (USU); 2 ♀♀, VII.13, VIII.4.1957, Arnold Menke; 1 Q, IICA grounds, Turrialba, XII.8.62, C. L. Hogue, (LANHM); 2 0 0, 3 QQ, Alajuela, 20 km w San Antonio, Hwy. 3, 600 m, VII.17.75, E. M. Fisher; 5 ♀ ♀, Cartago, 5 km e Turrialba, CATIE, VII.21,22.75, E. M. & J. L. Fisher; 1 O, latter location and date, E. M. Fisher; 3 0°0°, 16 QQ, Prov. Heredia, F. La Selva, 3 km s Pto. Viejo, 10^o 26' N 84^o 01' W, VII.23-31.1976, H. A. Hespenheide/E. M. Fisher; latter location, 3 ⊙ ⊙, IV.2-12.1983, 1 , 2 , III.28-30.1984, 9 \circlearrowleft \circlearrowleft , 2 \circlearrowleft \circlearrowleft , III.29-VII.6.1985, H. A. Hespenheide; 2 \circlearrowleft \circlearrowleft , 5 \circlearrowleft \circlearrowleft , Puntarenas, Prov. Parque Nacional Corcovado, Est. Sirena, 8º 28-31' N 83º 36' W, III.17-25.1981, H. A. Hespenheide; 1 O, Limon Prov., Guapapiles, VI.24.65, R. J. Hamton; 2 0 0, Puntar, F. Las Cruces, 6 km s San Vito, 1200-1400 m, VIII.21,25.76, E. M. Fisher, (EMF); 5 0 0, 13 Q, Prov. Heredia, F. La Selva, 3 Km S PTO. Viejo, 10°, 20' N 84° 01' W, VI.16-VIII.13.1982, III.25,30.1984, IV.1-VII.6.1985,

III.22.1987, III.30.1988, IV.21-IX.23.1989, IV.28.1990, prey: 1 Psocoptera, 1 Diptera, Hemiptera (2 Fulgoridae), Hymenoptera (1 Echaritidae & 2 Formicidae) & 6 Coleoptera (3 Scolytidae, 1 Chrysomelidae, 1 Platypodiae, 2 unid.), H. A. Hespenheide, (HAH/INBIO); 1 O, Pedregoso, D. L. Rounds; 1 Q, San Jose', 10 km n VIII.9.1972, J. Maldonado C., (USNM); EL **SALVADOR**: 1, No. 444-16B, Stelco, V.20.54, M. S. V., (AMNH); GUATEMALA: 1 O Guat., 31 km ne Guatemala, 915 m, VII.4.1977, E. M. Fisher; 1 O, 1 Q, Peten, 10/31 km se Flores VIII.26,27.1974, VII.7.1977, E. M. Fisher, (EMF); 1 0, 1 Q, La Providencia Obispo, IV.14, J. M. Aldrich; 1 O, Gualan, I.12.1905, Chas. C. Deam, (AMNH); 1 O, La Providencia Obispo, C. M. Roiullard, A. E. Pritchard, (USNM); 1 Q, Gualan, I.22.05; 1 Q, Santa Lucia, II.2.1905, (OSU); HONDURAS: 1 San Pedro, VIII.21.05, (OSU); 1 O, Minas de Oro, Comay, 4000 ft, V.29, J. B. Edwards (AMNH); 3 OO, Copen, Ruines de Copan, VIII. 22,23. 1974, E. M. Fisher, (EMF); MEXICO: 2 QQ, Xilitla S. L. P., 1450 ft., VII.23.54, Univ. Kans. Exp., (UKN); 1 Q, Chiapas, Tapachula, III.7.52, Crawford, (OSU); 1 O, Tab. (=Tabasco), Frontera, 6.4, Townsend; 1 Q, Tabasco, Teapa, II, H. H. S.; 1 Q, Gro., Acapulco, VI.18.1936, A. E. Pritchard, (USNM); 1 O, Ver. (Veracruz) Fortin de las Flores, 3000', VIII.11.62, R. H. & E. M. Painter, (FSCA); 1 O, Veracruz, Fortin de las Flores, VIII.17.1965, A. S. Gillogly; 7 O'O', 1 Q, Veracruz, 6.5/7 km ne Catemaco, 300-305 m, VIII.1.1977, E. M. Fisher & P. Sullivan; latter location, 2 00, 2 00, VI.27-VIII.1.1977, E. M. Fisher; latter location/date/col. except 14 km s Catemaco, 10; 10, Oaxaca, 42 km n Matias Romero, VII.26.1963, 1, S. Luis Potosi, 13 km ne Xilitla, VI.24.1977, E. M. Fisher, (EMF); 1 O, Ver. (=Veracruz), Telcolopa, V.28.51, A. Berrera, (CNC); 1 O, Veracruz, Metlac, 910 m, XI.5.1975, H. Brailovsky, (MAL); PANAMA: 1 O, 1 Q, Barro Colorado I., Panama C. Z., I.1947, N. L. H. Krauss; 1, Taboga Is., VI.29. 1924, N. Banks, S. W. Bromley; 1 Q, Taboga Island, XI.23.1923, F 4863; 1 O, Trinidad Rio, III.6.1912, A. Busch; 1 Q, Trinidad Riv, III.30 .1912, VIII, Busch; 1 Q, Summit, Panana C. Z., XI.1946, N. L. H. Krauss; 1 Flamenco I. X..1946, N. L. H. Krauss, (USNM); 1 Q, 4 km w Balboa, Pan Am Hwy, Canal Zone, VI.20.1974, M. L. Siri, (UCD); 1 O BCI, V.17.1980, Todd Shelly, (TSC); 2 QQ, Canal

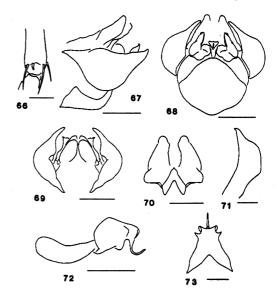
Zone, Barro Colorado Island, II.22.67, Roger D. Akre (FSCA); 3 OO, 3 QQ, Canal Zone, Chiva Rd. 8 air km n Ft Clayton VII.23.1978, Eric Fisher; 1 O, Panama Pt, Cerro Jefe, 1000 m (nr C. Azul), VII.31.78, E. M. Fisher, (EMF); NICARAGUA: 1 Q, Chinandega, Baker, (USNM); ECUADOR: 2 OO, 1 Q, Los Rios, Queredo Pichilingue, V.1936, Fritz leg, coll Martinez, (MAL); 1 O, Provide, Los Rios, III.7.38, W. Clarke-McIntyre, A. E. Pritchard Col., (USNM); 1 O, Pich. e Sto Domingo, V.6-12.1990. W. R Hanson, (USU).

Distribution: January-December; MEXICO, MESOAMERICA, ECUADOR.

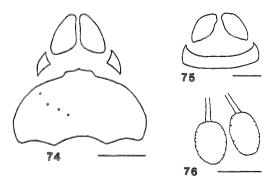
Etymology. Latin *humatus*, meaning "hooked", refers to the shape of the distiphallus.

Remarks. O. humatus differs from other species by the bright yellow tomentum of the pleuron and the combined characters of the male terminalia. It is most similar to O. oreophilus (Farr 1965) from Jamaica but differs in its type locality, in its lighter body and yellow tomentum and in the male terminalia.

Females of O. humatus and O. orenoquensis are difficult to separate, especially in regions where the ranges of the two species overlap. The light brownish color of the wings, the



Figs.66-73. Omnatius humatus, N. Sp., male. 66. Left hind tibia with a spurlike bristle, anterior view; 67-69. terminalia, lateral, ventral, and dorsal views; 70. ventral lamella; 71. left gonostylus; 72-73. aedeagus, lateral and dorsal views.



Figs. 74-76. Ommatius humatus, N. Sp., female. 74-75. Terminalia, ventral and dorsal views; 76. spermathecae.

darker brown color of the femora, and the narrow yellow base of the hind femora, in combination with other characters, are usually reliable for separation of O. humatus and O. orenoquensis. The basal third or more of the hind femora of O. orenoquensis is usually yellow. Spermathecae of O. humatus are consistently oval and their surfaces are only weakly crenulated. The spermathecae of O. orenoquensis are also oval, but usually tapered apically with the tip exposed or sometimes inverted. The surface of each spermatheca is usually strongly crenulate, giving the entire structure a flaccid appearance.

Ommatius incurvatus, N. Sp. Figures 77-87

Male. Length: body, 9.1-13.8 mm; wing, 7.5-10.4 mm. Body mostly brownish yellow. Head mostly yellowish gray tomentose; face sometimes golden yellow, five-seven brown bristles present; FHWR 1/6.9. Palpus with yellowish vestiture. FWLR 1/1.9. Occiput with three-seven brownish bristles on each side.

Scutum with three-four dorsocentral and four-five lateral bristles; pleuron and scutellum light yellow to yellowish gray tomentose; scutellum with two short, weak, marginal bristles (bristles often lost and basal scars sometimes obscure). Pleuron mostly yellow to brownish yellow tomentose, dorsal one-third or less darker brown. Wing with costal margin moderately dilated.

Each coxa yellow with a narrow blackish stripe posteriorly. Fore and mid femora usually mostly yellow, anterior apical one-fifth to one-third, posterior and dorsoapical margins

usually slightly yellowish brown to darker brown, sometimes anterior femur largely dull yellow-brown to brown anteriorly. Mid femur with anterior and anteroventral bristles long, two-three bristles about one and one-fourth to one and one-half times width of mid femur medially (these bristles in other species usually equal to the greatest width of the mid femur); three-five dark brown bristles present in anteroventral row; posterodorsal, preapical bristle brown, moderately thick. Hind femur with apical half to four-fifths reddish brown to brown and only brown bristles; HFWLR 1/4.2. Apical third of hind tibiae reddish brown; hind tibia apically without spurlike bristle. Fore tarsus usually with one yellow bristle.

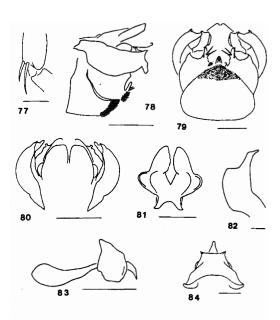
Abdomen yellow to brownish yellow except as follows: narrow apical margin of tergite 1, narrow transverse band on tergite 2, small medial spots on tergites 3 and 4, most or all of tergites 5-8, these areas brown to black with brown tomentum and usually brown to reddish brown setae, vestiture otherwise yellow with yellowish gray to yellow tomentum.

Terminalia short and narrow, about half width and length of segment 5. Apex of epandrium wide, subtruncate and moderately emarginate, dorsal corner acuminate. Ventral lamella thick basolaterally, cupshaped in ventral view with lateral margin projected ventrally. Each gonocoxite with a slender vertical process and three thick, yellowish bristles in posterior view. Distiphallus short, thick in cross-section basally, curved downward, lateroapical margin of aedeagal sheath projecting as a weak flange on each side of base of distiphallus. Hypandrium with dense yellowish pile subapically; gonostylus flat, basal half or more wide in lateral view, abruptly narrowed apically.

Female. Length: body, 9.0-12.8 mm; wing, 6.9-10.3 mm. Body mostly dark brown to blackish. FHWR 1/6.4; FWLR 1/1.8; HFWLR 1/5.3. Tomentum of body often much lighter than in male, light yellowish gray on head or brownish gary on abdomen. Fore and mid femur sometimes with dull yellow-brown anterodorsal streak absent. Hind femur basally with two long, posteroventral bristles, one thin and yellow, and one thicker, subequal and dark brown. Abdomen broad, dark brown, dorsally with mostly brown tomentum and brown setae; lateral margins of tergites 1-5 and all sternites grayish tomentose with slight tint of brown or

yellow, and yellow vestiture; tergite 8 with sparse brown tomentum, surface subshiny. Tergite 9 short in dorsal view, about fifth length of cercus. Spermatheca elongate, about twice as long as wide, surface slightly crenulate.

Holotype. O, GUATEMALA: 31 km ne Guatemala, 915 m, VII.4.1977, E. M. Fisher, (EMF); allotype Q, GUATEMALA: Peten, Runias Tikal, 245 m., VII.7,10.77, E. M. & J. L. Fisher, (EMF). Paratypes. COSTA RICA: 1 Q, Prov. La Pacifica, 4 km nw Canas, Guanacaste, IX.15,20.1973, P. A. Opler, (CIS); 6 QQ, Prov. Guanacaste, OTS, Palo Verde Sta., 29 km wsw Canas, 100 21' N 850 21' W, VII.1-11.1976, H. A. Hespenheide, E. M. Fisher; $4 \bigcirc \bigcirc$, Guanac., 11/32 km nw Liberia, VII.12.1975, E. M. Fisher; 1 Q, Cartago, 5 km e Turrialba, VII.21,22.75 E. M. & J. L. Fisher, (EMF); 1 Q, Higuito, San Mateo, Pablo Schild, (USNM); 2 00, Guanacaste Pk, 14 km s Canas, XII.7-9.1990, F. D. Parker; 3 00, same data except III.8-31.1991; 1Q, same data as before except IV.23-30.1991; 1 \bigcirc , 1Q, same data as before except V.20-29.1991



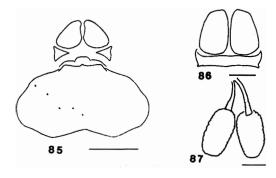
Figs. 77-84. Ommatius incurvatus, N. Sp., male. 77. Left hind tibia with only slender bristles, lateral view; 78-80. terminalia, lateral, ventral, and dorsal views; 81. ventral lamella; 82. right gonostylus; 83-84. aedeagus, lateral and dorsal views.

(USU); GUATEMALA: 3 ぴぴ, Baja Verapaz, 50 km s Purulha, 925 m, 20 m, VII.20.1977, E. M. Fisher, P. Sullivan, (EMF); 1℃, 2 ♀♀, Guat., 31 km ne Guatemala, 915 m, VII.1,4.1977, E. M. Fisher; 10, 200, Peten, Ruinas Tikal, 245 m, VII.7,10.77, E. M. Fisher, (EMF); HONDURAS: 2 ♂♂, 3 ♀♀, Puerto Castilla, VI.21-23.26, R. H. Painter, (AMNH); MEXICO: 1 O, Tepotzlan, IX.7.1951, F. M. Hull, (CNC); 1, Agua Priesta, VII.18.37, (BYU); 1 O, Alencingo, VI.2.1922, E. G. Smyth; 1 Q, Mor (=Morelos), Acatlifun, X.4.49, W. G. Downe, (USNM); 1 O, Nayarit, 30 km n Puerto Vallarta, VI.21.1983, L. G. Bezark, (LGB); 4 QQ, Nayarit, 55/82 km sse Acaponeta, VI.27.75, E. M. Fisher; 1 Q, Chiapas, 6 km nw El Jaote, 610 m, VII.1.1977, E. M. Fisher; 2 OO, 3 QQ, Tamaulipas, 7 km s Tomaseno, 335 m, VI.22,23.77, E. M. & J. L. Fisher, (EMF); NICARAGUA: 400, 10, Leon, 36 km se Leon, VIII.22.1975, E. M. Fisher, (EMF).

Distribution: June 2-Oct. 4; MEXICO to COSTA RICA.

Etymology. Latin *incurvatus*, meaning "curved inward", referring to the emarginate apical margin of the epandrium.

Remarks. O. incurvatus is recognized by its largely yellowish gray tomentum, yellow-brown to yellow body; yellow vestiture of the palpus; short, thin, marginal scutellar bristles; combined characters of the male terminalia; and the elongate spermathecae. In addition, the male has a moderately thick, brown, posterodorsal preapical bristle.



Figs. 85-87. Ommatius incurvatus, N. Sp., female. 85-86. Terminalia, ventral and dorsal views; 87. spermathecae.

Ommatius orenoquensis Bigot Figures 88-98

Ommatius orenoquensis Bigot 1876:1xxxxv, Type locality: Guiana (Cayenne), Distr. Guyana. Lectotype Q, Hope Entomological Collection, (OXF). Martin and Papavero, 1970(35b):59.

Ommatius infractus Scarbrough 1985a:643-644. Type locality: St. Vincent Island, holotype O, (USNM). New SYNONYMY.

Male. Brown. Length: body, 10.6-16.5 mm; wing, 9.7-14.9 mm. Face and front usually pale brassy yellow tomentose, with mostly pale yellow vestiture; face with 4-8 brown bristles; FHWR 1/7.9. Palpus usually with vestiture entirely yellow to brown, often mixed yellow and brown. FWLR 1/2.0. Occiput with four-eight brown postocular bristles on each side of head, two-three moderately proclinate.

Scutum laterally with three prominent dorsocentral setae, subequal in length and thickness to lateral bristles. Pleuron mostly grayish tomentose, anepisternum and katepisternum brownish yellow. Wing slightly yellowish anteriorly; costal margin slightly dilated anteriorly.

Legs mostly yellow to reddish yellow; fore and mid femora with apical fourth or more brownish, hind femora and hind tibiae with apical one-third to one-half brown. Basal half of mid femora with four brown anteroventral bristly setae or bristles. Hind femora usually with all dark brown bristles ventrally; HFWLR 1/4.7. Hind tibiae with a spur-like apical bristle. Fore and mid tarsi with basal segments in part yellowish; fore tarsus laterally with one-two yellow bristles.

Abdomen dorsally with dark brown tomentum and sparse to entirely brown setae; sides of tergites and sternites entirely light yellowish to yellowish brown tomentose with pale yellowish vestiture.

Terminalia brown. Epandrium strongly curved posteriorly, apex flat dorsally, wider than constricted subapex, weak emargination present. Ventral lamella simple (Fig. 92). Gonostylus flat, wide in lateral view. Gonocoxite basomedially with a long, flat digitate process. Aedeagus thin in cross-section, strongly decumbant, basally with prominent winglike flanges. Hypandrium simple, subtruncate apically.

Female. Length: body, 8.5-15.0 mm; wing, 7.9-13.5 mm. FHWR 1/7.6; FWLR 1/2.0. Fore femora, mid femora and hind tibiae usually with apical one-third to one-half brown to dark brown; apical two-thirds to three-fourths of hind femora brown-dark brown; femora antero-basally often reddish. Hind femora basally with two long yellowish bristles, about one and one-half times or more length of other longest bristles. Tergite 9 long, at least one-third length of cercus. Spermatheca oval, surface crenulate, apex somewhat pointed, often retracted.

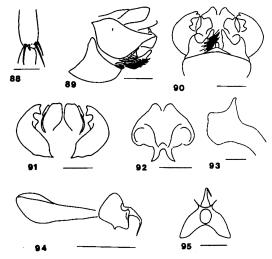
Distribution: January-December; COSTA RICA and ST. VINCENT ISLAND southward, SOUTH AMERICA except URUGUAY and CHILE.

Specimens examined. Lectotype \bigcirc , of O. orenoquensis Bigot; type series of O. infractus; 220 \bigcirc \bigcirc , 226 \bigcirc \bigcirc .

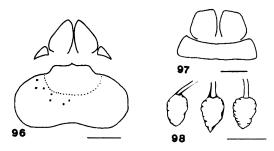
Collections: AMNH, BMNH, CAS, CMNH, CNC, CFMNH, EMF, FSCA, FUPC, INPA, IML, INHS, IZA, MAL, MCZ, MIV, MZSP, NMNH, OSU, OXF, USNM, USU.

Remarks. O. orenoquensis Bigot is recognized by the combined characters of the terminalia: male with epandrium curved posteriorly, apex subtruncate and flattened dorsoventrally; process of gonocoxite elongate and flat; gonostylus flat, wide most of its length, abruptly narrowed subapically; female with tergite 9 fourth or more the length of cercus, and spermatheca oval, length between one and one-fourth to one and one-half its width, surface strongly crenulate, sometimes pointed apically.

Two females from the Bigot collection, in the Hope Entomological Collection, bear identification labels of this species. One female has three labels with the following information: "714 in Coll Bigot"; "coll. Bigot abt. 1845-93. pres. 1914 by J. E. Collin."; "Type Dip: 290 1/2, Ommatius orenoquensis Bigot, Hope Dept. Oxford." The second female also has three labels with similar information: "Ommatius orenoquensis Bigot (hand written), 714 in Coll Bigot"; "coll Bigot abt. 1845-93 pres. 1914 by J. E. Collin".; Type Dip: 290 2/2, Ommatius ore noquensis Bigot, Hope Dept. Oxford." Both specimens are severely damaged although the wing venation and terminalia were suitable for study. Examination of these struc-



Figs. 88-95. Ommatius orenoquensis Bigot, male. 88. Left hind tibia with a spurlike bristle, anterior view; 89-91. terminalia, lateral, ventral and dorsal views; 92. ventral lamella; 93. right gonostylus; 94-95. aedeagus, lateral and dorsal views.



Figs. 96-98. Ommatius orenoquensis Bigot, female. 96-97. Terminalia, ventral and dorsal views; 98. spermathecae.

tures revealed that the two females were different species. The wing venation and terminalia of specimen number 290 1/2 were identical to those of *O. infractus* Scarbrough, whereas those of specimen 290 2/2 were identical to *O. norma* Curran. The specimen numbered 290 1/2 is declared here **LECTOTYPE** for the species and bears a label as such. The species name *O. infractus* thus becomes a synonym of *O. orenoquensis*.

Ommatius oreo philus Farr Figures 99-109

Ommatius oreophilus Farr, 1965, 13(2): 21-22. Type locality: Hardwar Gap, Jamaica.

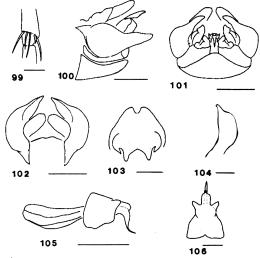
Holotype \circlearrowleft and \circlearrowleft , allotype (USNM), 8 \circlearrowleft \circlearrowleft , and 14 \circlearrowleft \circlearrowleft paratypes. Martin and Papavero, 1970 (35b): 59.

Male. Length: body, 13.0-16.0 mm; wing, 10.0-11.0 mm. Face, frons and occiput grayish to slightly brownish gray tomentose with largely whitish vestiture; face with two-four brown bristles; FHWR 1/1.8. Palpus with whitish vestiture. FWLR 1/1.9. Occiput often with all white postocular bristles or only one or two brown.

Scutum with four long, thick dorsocentral bristles, much longer and thicker than marginal scutellar bristles. Pleuron light yellowish gray to gray tomentose. Wing with only a slight anterior dilation.

Fore and mid femora largely brown anteriorly and dorsally, brownish yellow to yellow elsewhere. Hind femora with apical two-thirds brown, basal third yellow; each ventral row with three-four brown bristles; HFWLR 1/4.5. Fore and mid tibiae brownish anteriorly; hind tibiae with apical three-fourths brown, brownish yellow basally, and a short spurlike bristle. Tarsi brownish; fore tarsi with three-four yellow bristles.

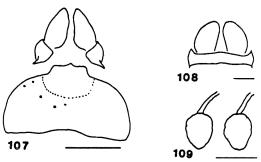
Abdomen largely brownish tomentose dorsally with brown vestiture; lateral and apical margins of tergites and all sternites grayish tomentose with pale vestiture.



Figs. 99-106 Omnatius oreophilus Farr, male. 99. Right hind tibia with a spurlike bristle, anterior view; 100-102.terminalia, lateral, ventral, and dorsal views; 103. ventral lamella; 104. left gonostylus; 105-106. aedeagus, lateral and dorsal views.

Terminalia dark brown. Epandrium elongate with apex acutely pointed dorsally. Ventral lamella with basal corners rounded. Gonocoxite and hypandrium as in Figs. 100-102. Gonostylus slightly curved forward, broad and flat in profile. Distiphallus apically thin in cross-section, strongly decurved with apex slightly recurved; aedegal sheath apically and distiphallus basally with a pair of short, narrow flanges.

Female. Length: body, 14.0-16.0 mm; wing, 10.5-11.9 mm. FHWR 1/7.9; FWLR 1/2.2; HFWLR 1/6.1. Tergite 9 laterally long, dorsally short, about one-third as long as cercus. Medioapical margin of sternite 8 moderately produced with large yellowish spot. Spermathecae oval, longer than wide, surface weakly crenulate.



Figs. 107-109. Ommatius oreophilus Farr, female. 107-108. Terminalia, ventral and dorsal views; 109. spermathecae.

Specimens examined. Holotype \circlearrowleft , allotype \circlearrowleft , 22 paratypes.

Distribution: June 24-September 18; JAMAICA. Collection with specimens. AGS, BMNH, SMIJ, USNM.

Remarks. O. oreophilus, probably a sister species of O. humatus N. Sp., differs in the darker body, narrow face, grayish tomentum of the pleuron, and combined characters of the terminalia.

Ommatius piliferous Scarbrough Figures 110-120

Ommatius piliferous Scarbrough, 1985b:1227-1229. Type locality:

Cuba, holotype O, allotype Q, (MCZ); paratype O & Q (AMNH).

Male. Length, body 12.0 mm; wing 10.7 mm. Face and front pale yellow tomentose,

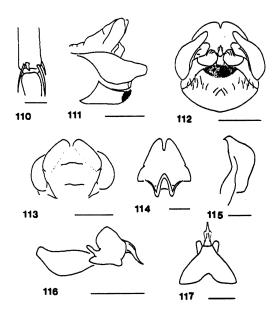
face with six brown bristles; FHWR 1/9.1. Palpus with pale yellow vestiture. FWLR 1/1.7. Occiput with one-two brown postocular bristles, short and moderately proclinate.

Scutum with three brown dorsocentral setae on each side. Scutellum with two brown, weak, marginal setae. Wing with costal margin only slightly dilated anteriorly.

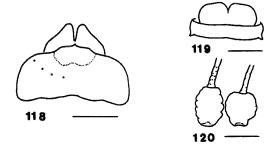
Legs mostly yellow to reddish-yellow, brown as follows: apical one-third to one-half of fore and mid femora, apical one- third to one-half of hind femora, narrow apices of mid tibiae and apical third of hind tibiae. Hind femora ventrally with largely black bristles; HFWLR 1/4.5. Hind tibiae with a spurlike bristle. Basal tarsomere of fore and mid tarsi largely yellow; fore tarsi with four yellow bristles.

Abdomen dorsally mostly brown tomentose with brown vestiture, ventrally and narrow lateral margins of most tergites brownish gray to grayish with whitish vestiture.

Terminalia brown. Epandrium subtruncate apically. Ventral lamella with basolateral corners angular. Gonostylus flat and wide in profile with short hooked apex. Gonocoxite simple with a recessed subtruncate process. Distiphallus moderately decurved and thin in



Figs. 110-117. Omenatius piliferous Scarbrough, male. 110. Left hind tibia with only slender bristles, anterior view; 111-113. terminalia, lateral, ventral, and dorsal views; 114. ventral lamella; 115. right gonostylus; 116-117. aedeagus, lateral and dorsal views.



Figs. 118-120. Ommatius piliferous Scarbrough, female. 118-119. Terminalia, ventral and dorsal views; 120. spermathecae.

cross-section, and basolaterally with a pair of small, thin winglike process or flange; aedeagal sheath anterolaterally with a pair of larger winglike processes. Hypandrium medioapically with a dense pad of pale pile, and medially a sparse band of short brown setae.

Female. Length, body 10.0-11.0 mm; wing 9.2-10.3 mm. Palpus with two-three brown setae. FHWR 1/8.0; FWLR 1/1.7. Hind femora with 4/5 brown; black ventral bristles present except basally two long yellow setae; HFWLR 1/4.8. Hind tibiae with apical one-half to two-thirds brown. Tergite 8 about half as long as cercus. Sternite 8 as in Fig. 118. Spermathecae oval with crenulate surfaces.

Distribution: June 26-August 27; Cuba. Specimens examined. Type series. Collections with specimens. AMNH, MCZ. Remarks. O. piliferous differs from other species in its type location and the combined characters of the terminalia.

Ommatius spinosus, N. Sp. Figures 121-131

Male. Length: body, 10.0-14.5 mm; wing, 9.3-12.5 mm. Face with four-five brownish bristles; FHWR 1/7.7. Palpus with vestiture entirely or mostly yellowish, few to several yellowish brown to brown bristles often present. FWLR 1/2.2. Occiput with six-twelve dark brown postocular bristles on each side of head.

Scutum with one extra but weaker postalar and three-five dorsocentral bristles present on each side. Pleuron mostly yellowish gray tomentose. Wing with costal margin weakly to moderately dilated. Fore and mid femora

mostly yellow with apical one-third to four-fifths dorsally and anteriorly brown to yellowish brown. Mid femora with two-three long, thin, brown anteroventral setae or bristles. Hind femora with apical one-half to four-fifths dark brown, yellowish basally; bristles mostly brown, often one-two pale yellow to yellow bristles present anteriorly and/or ventrally; HFWLR 1/4.7.

Fore and mid tibiae yellow except for narrow brown apices and a slender brownish streak on the mid tibia; bristles mostly yellow, those at apices, brown; hind tibia brown on apical half or slightly more anteriorly, only brown bristles present. Tarsal segments usually brownish with brown bristles, basal segment of fore tarsus usually yellow, sometimes only weakly yellowish basally; fore tarsus sometimes with one yellow bristle.

Abdomen mostly light brown to yellowish brown tomentose, small to large brown tomentose spots on tergites 1-6 medially; apical two-three tergites shiny, sparsely tomentose, lateral margin of tergite 1, sternite 1 and basal third of lateral margin of tergite 2 and sternite 2 densely gray tomentose. Vestiture brown in dark tomentose areas, with yellowish to whitish vestiture elsewhere.'

Terminalia brown to blackish. Epandrium with one-two long, thick, brown or black bristles and one longer, thinner yellowish seta; apex of epandrium short, pointed. Ventral lamella with basolateral margin flat and projecting ventrally, vertical width about half its length. Gonostylus flat and moderately wide medially, strongly narrowed subapically. Gonocoxite simple. Aedeagus strongly curved downward, moderately thick apically; anterolateral flanges of aedeagal sheath only slightly developed. Hypandrium with a short medioapical spinelike process, posteriorly a preapical thin, often contrasting lighter in color, flexible cuticle and a transverse cluster of yellow to brownish bristly setae.

Female. Length: body, 9.1-13.3 mm; wing, 9.5-11.7 mm. Face with 4-9 brownish bristles present; FHWR 1/6.8; FWLR 1/2.3. Legs dark brown anteriorly and dorsally. Basal one-third of hind femur with two long, thin, setae; HFWLR 1/4.6. Sternite 8 often with a large, thin, anteromedial spot. Tergite 9 unusually narrow dorsally, about one-eight length of cercus; spermatheca elongate, outer two spermathecae

Shannon, (USNM); COLOMBIA: 1 O, Rio Tacana, Amazonas, XI.I-13.1946, L. Richter & Frank Johnson donors, (AMNH); BRAZIL: 1 Q, Faseuda Taperinha, Santarem, PA, X-XI.1970, Exp. Perm. Amaz., (MZSP)

Distribution: Oct.-July; BRAZIL, COLOMBIA, PERU

Etymology. Latin *uncatus*, meaning "hook d", refers to the shape of the apex of the epandrium.

Remarks. O. uncatus is recognized by the reddish yellow colored cuticle of the pleuron and the combined characters of the terminalia. In addition, the male has a bristly, posterodorsal, preapical seta on the mid femur.

Ommatius achaetus, N. Sp. Figures 143-150

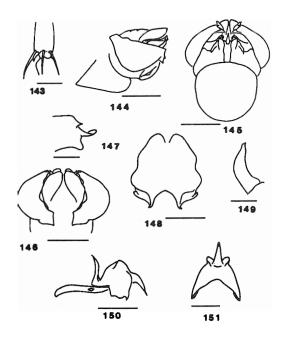
Male. Length, body 12.1 mm; wing 8.8 mm. Body brown. Face and front yellowish gray tomentose; face, palpus and scape ventrally with only pale yellow vestiture; FHWR 1/7.6. FWLR 1/1.7. Vestiture of antenna largely, front and ocellarium entirely, and three-six postocular bristles, brown. Occiput with apical third of one-two lateral postocular bristles strongly proclinate.

Scutum with three-four dorsocentral setae, the latter thick and subequal in length to lateral bristles. Scutellum and pleuron yellowish gray to grayish tomentose; scutellum with only short pile, bristles absent. Wing hyaline with anterior margin weakly dilated.

Fore coxae with several long, slightly thick bristles. Fore and mid femora largely brown, posteriorly and ventrally largely yellowish. Hind femora largely brown with narrow bases yellow with only brown bristles; HFWLR 1/4.6. Tibiae largely yellow with narrow apices brown; hind tibiae apically with one spinelike bristle. Tarsi entirely brown; fore tarsus with two yellow bristles.

Abdomen with basal four segments thin grayish tomentum and pale vestiture, apical four segments with brownish to brown tomentum and mostly brown vestiture.

Terminalia brown. Epandrium apically narrow with a shallow emargination and pointed corners, a prominent spine present which originates from apical inner surface of emargination. Ventral lamella as in Fig.



Figs. 143-151. Omnatius achaetus, N. Sp., male. 143. Left hind tibia with a spurlike bristle, anterior view; 144-146. terminalia, lateral, ventral and dorsal views; 147. apex of epandrium with a median process; 148. ventral lamella; 149. left gonostylus; 150-151. aedeagus, lateral and dorsal views. Scale: Fig. 147 = 0.1 mm.

147. Gonostylus slender in lateral view, weakly curved forward, apex narrow, truncate. Gonocoxite with flat, apically rounded basomedial process and a flat lateral flange. Aedeagus decurved, moderately thick in cross-section; two elongate lateral flanges on each side of distiphallus. Hypandrium apically subtruncate, a wide band of scattered brownish bristles present medially.

Female unknown.

Holotype O, MEXICO: Oaxaca, 7 mi n Juchatengo, 3700', 10.VIII.1970, E. Fisher, P. Sullivan.

Distribution. August; MEXICO.

Etymology. Latin achaetus, "a" meaning absent and "chaetus" bristles, refers to the absence of marginal scutellar bristles.

Remarks. Ommatius achaetus is similar to O. costatus, O. orenoquensis and O. humatus but can be distinguished from them by the absence of marginal scutellar bristles and the combined characters of the terminalia. This species is sympatric with the black form of O.

humatus, and can be further separated from that species by its lighter color.

ACKNOWLEDGEMENTS

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RESUMEN

Catorce especies de Ommatius Wiedemann del Nuevo Mundo son asignadas al grupo costatus. Este artículo describe e ilustra los caracteres diagnósticos del grupo y de cada especie. Además se presenta una clave para las especies. Se describen en detalle las siguientes especies: O. achaetus, O. complanatus, O. dentatus, O. didymus, O. humatus, O. incurvatus, O. spinosus, y O. uncatus. Las especies O. amula Curran y O. costatus Rondani fueron redescritas. También se añaden datos a las descripciones existentes de O. alexanderi, O. orenquensis, O. oreo philus y O. piliferous. Se designan nuevos lectotipos para O. costatus (=O. barbiellinii Curran - sinónimo nuevo) y O. ore nquensis Bigot (=O. infractus Scarbrough - sinónimo nuevo). A la especie parecida, O. spatulatus se la compara con el grupo O. costatus.

REFERENCES

Bigot, J. M. F. 1876. [Note: Descriptions of four new species of Asilidae]. Bull. Soc. Ent. France, ser. 5, 6:1xxxv-1xxxvi.

- Curran, C. H. 1928. New species of *Ommatius* from America, with key. (Asilidae, Diptera). Amer. Mus. Novitates 327:1-6.
- Curran, C. H. 1934. New American Asilidae (Diptera). III. Amer. Mus. Novitates 752:1-18.
- Farr, Thomas H. 1965. The robber-flies of Jamaica (Diptera, Asilidae). Part 2. The subfamilies Dasypogoninae, Laphriinae and Asilinae. Bull. Inst. Jamaica, Sci. Ser. 13: 17-26.
- Hull, F. M. 1962. Robber flies of the world. The genera of the family Asilidae. Bull. Smithsonian Institution, U. S. National Museum 224(2):433-435.
- Martin, Charles H. & Nelson Papavero. 1970. A catalogue of the Diptera of the Americas south of the United States, Family Asilidae. Bull. Mus. Zool., Univ. Sao Paulo 35b: 59-60. McAlpine, J. F. 1981. Morphology and terminology adults, p. 9-63. In J. F.
- McAlpine, B. V. Peterson, G. E. Shewell, H. J. Teskey, J. R. Vockeroth D. M. Wood (eds.). Manual of Neartic Diptera. Biosys. Res. Inst., Agr. Can., Ottawa. Monog. #27.
- Rondani, A. C. 1850. Observazioni sopra alqante specie di esapodi ditteri del Museo Torinese. Nuovi Ann. Sci. Nat. Bologna, ser. 3, 2:188.
- Scarbrough, A. G. 1984. Synopsis of *Ommatius* Wiedemann from Hispaniola. J. N. Y. Entomol. Soc. 92:131-149.
- Scarbrough, A. G. 1985a. Ommatius Wiedemann (Diptera: Asilidae) in the Lesser Antilles. Proc. Entomol. Soc. Wash. 87:641-655.
- Scarbrough, A. G. 1985b. New Ommatius Wiedemann (Diptera: Asilidae) from Cuba and the Bahamas. J. N. Y. Entomol. Soc. 93:1226-1239. Scarbrough, A. G. 1990. Revision of the New World Ommatius Wiedemann (Diptera: Asilidae). I. The pumilus species group. Trans. Amer. Entomol. Soc. 116:65-102.
- Scarbrough, A. G. & George O. Poinar, Jr. 1992. Upper Eocene robber flies of the genus *Ommatius* (Diptera: Asilidae) in Dominican Amber. Insecta Mundi 6:13-18.