

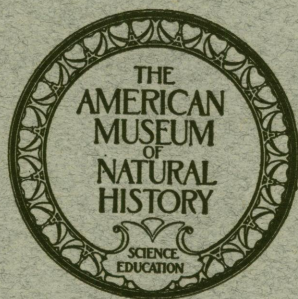
THE DIPTERA OF KARTABO, BARTICA DISTRICT, BRITISH GUIANA

By C. H. CURRAN

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**Article III.—THE DIPTERA OF KARTABO, BARTICA DISTRICT,
BRITISH GUIANA, WITH DESCRIPTIONS OF NEW
SPECIES FROM OTHER BRITISH GUIANA
LOCALITIES**

BY C. H. CURRAN

Text Figures 1 to 55; 1 Map

INTRODUCTION

Part I of this report is a list of the species of Diptera collected during the last ten years at the Tropical Research Station of the New York Zoölogical Society under the direction of William Beebe. This is situated at Kartabo, British Guiana, and the collections were all made in the quarter-mile of jungle in which intensive studies have been carried on during the last ten years. For a résumé of the ecological investigations see 'Studies of a Tropical Jungle' by William Beebe, *Zoologica*, VI, No. 1.

Part II is a systematic account of these collections. It should be pointed out that records of Diptera from British Guiana are not numerous, although many species have been described from French Guiana and Venezuela. None of the specimens are from the highlands, all being from comparatively low elevations.

In view of the fact that only a relatively small number of the species occurring in British Guiana are available for study, it seems advisable merely to present synopses of the various families, thus giving some idea of the characters of the species thus far determined. This may be used as a basis for the preparation of a comprehensive treatment of the Diptera of the region in the future.

In the preparation of this report I have been fortunate in receiving the generous coöperation of specialists in several groups, thus rendering the determinations most reliable. Dr. C. P. Alexander has undertaken to report upon the Tipulidae; Dr. Jos. Bequaert,¹ the Tabanidae; Mr. G. S. Walley, the Chironomidae; Mr. S. W. Bromley, the Asilidae, Therevidae and Rhagionidae; while Dr. E. T. Cresson, Jr., has determined many of the Micropezidae.

I wish to express to William Beebe, Director of the Tropical Research Station at Kartabo, and to his Assistant, John Tee-Van, my sincere appreciation of their kindness in permitting me to examine the

¹Report on Tabanidae will appear as a separate paper.

collections; and also to Dr. Frank E. Lutz, of The American Museum of Natural History, Mr. C. W. Johnson and Dr. Jos. Bequaert, for the loan of material collected in British Guiana.

The types of the new species, unless otherwise stated, are in The American Museum of Natural History, having been donated to the Museum by Dr. Beebe.

PART I.—THE DIPTERA OF KARTABO, BARTICA DISTRICT, BRITISH
GUIANA

LIST OF SPECIES

Species marked with an asterisk were taken at localities within
Bartica District, shown on the map (page 298), but have not yet been
captured at Kartabo.

DIPTERA

TIPULIDAE

<i>Holorusia</i> species, near <i>longitarsis</i> Macquart.	<i>Lecteria armillaris</i> Fabricius
<i>Holorusia</i> species, near <i>schineri</i> Alexander	<i>Gnophomyia arcuata</i> Alexander
<i>Ozodiceria guianensis</i> Alexander, n. sp.	<i>Teucholabis melanocephala</i> Fabricius
<i>Tanypremna longipes</i> Fabricius	<i>Teucholabis</i> species, near <i>jocosa</i> Alexander
<i>Limonia domestica</i> Osten Sacken	<i>Erioptera parva</i> Osten Sacken
<i>Epiphragma varia</i> Wiedemann	<i>Erioptera apicalba</i> Alexander
<i>Polymera pulchricornis</i> Alexander	<i>Styringomyia americana</i> Alexander
<i>Eriocera kaieturensis</i> Alexander	<i>Toxorhina brasiliensis</i> Westwood

CHIRONOMIDAE

<i>Chironomus modestus</i> Say	<i>Chironomus fumeus</i> Walley, n. sp.
<i>Chironomus subaberrans</i> Walley, n. sp.	<i>Chironomus daktylos</i> Walley, n. sp.
<i>Chironomus ochros</i> Walley, n. sp.	

CULICIDAE

<i>Sabethes cyaneus</i> Fabricius	<i>Megarhinus superbus</i> Dyar and Knab
<i>Goeldia longipes</i> Fabricius	<i>Megarhinus trinidadensis</i> Dyar and Knab
<i>Sabethoides purpureus</i> Theobald	<i>Megarhinus</i> species
<i>Trichoprosopon digitatus</i> Rondani	

PSYCHODIDAE

<i>Psychoda guianica</i> Curran, n. sp.

RHYPHIDAE

<i>Rhyphus varipes</i> Curran, n. sp.

BIBIONIDAE

Plecia funebris Fabricius*Plecia confusa* Loew*Plecia alacris* Curran, n. sp.

STRATIOMYIDAE

- | | |
|---|---|
| <i>Acanthinomyia metallica</i> Curran, n. sp. | <i>Cyphomyia auriflamma</i> Wiedemann |
| <i>Acanthinomyia elongata</i> Wiedemann | <i>Cyphomyia flavimana</i> Gerstaecker |
| <i>Acanthinomyia centor</i> Curran, n. sp. | <i>Cyphomyia cyanea</i> Fabricius |
| <i>Euryneura rufifrons</i> Curran, n. sp. | <i>Cyphomyia cyanispinis</i> Bigot |
| <i>Chrysochlora varia</i> Curran | <i>Cyphomyia wiedemanni</i> Gerstaecker |
| <i>Hermetia pulchra</i> Wiedemann | <i>Cyphomyia pulchella</i> Gerstaecker |
| <i>Hermetia flavipes</i> Wiedemann | <i>Promerania vittata</i> Walker |
| <i>Hermetia teevani</i> Curran, n. sp. | <i>Stratiomys aleus</i> Walker |
| <i>Hermetia beebei</i> Curran, n. sp. | <i>Odontomyia heteroneura</i> Macquart |
| <i>Hermetia illucens</i> Linnaeus | <i>Pedicella</i> species |
| <i>Hermetia mitis</i> Curran, n. sp. | <i>Pedicella</i> species |
| <i>Hermetia apicalis</i> Wiedemann | <i>Ptecticus inversus</i> Curran, n. sp. |
| <i>Hermetia albitarsis</i> Fabricius | <i>Merosargus subinterruptus</i> Bellardi |
| <i>Hermetia sphecodes</i> Curran, n. sp. | <i>Merosargus cingulatus</i> Schiner |

PANTOPHTHALMIDAE

- | | |
|---|--|
| <i>Rhaphiorhynchus planiventris</i> Wiedemann | <i>Pantophthalmus tabaninus</i> Thunberg |
| <i>Pantophthalmus conspicuus</i> Austen | <i>Pantophthalmus vittatus</i> Wiedemann |

RHAGIONIDAE

- | | |
|--|-------------------------------------|
| <i>Chrysopilus fascipennis</i> Bromley | <i>Chrysopilus sericeus</i> Bromley |
| <i>Chrysopilus rhagiodes</i> Bromley | <i>Chrysopilus guianicus</i> Curran |
| <i>Chrysopilus argenteofasciatus</i> Bromley | |

MYDAIDAE

Mydas dives Westwood

ASILIDAE

- | | |
|--|---|
| <i>Leptogaster pubescens</i> Curran, n. sp. | <i>Andrenosoma punctata</i> Bromley, n. sp. |
| <i>Leptogaster magnicauda</i> Curran, n. sp. | <i>Lampria clavipes</i> Fabricius |

- Leptogaster tropica* Curran, n. sp.
Plesiomma testaceum Fabricius
Holcocephala oculata Fabricius
Holcocephala rufithorax Wiedemann
Senobasis analis Macquart
Senobasis tibialis Curran, n. sp.
Senobasis mendax Curran, n. sp.
Blepharepium cayennensis Fabricius
Deromyia aberrans Wiedemann
Deromyia nigricauda Curran
Deromyia fasciata Macquart
Saropogon mellipes Bromley, n. sp.
**Atractia nigripes* Macquart
**Atomosia tibialis* Macquart
Atomosia andrenoides Bromley, n. sp.
**Eumecosoma mollis* Bromley, n. sp.
Andrenosoma clausicella Macquart
Andrenosoma xanthocnema Wiedemann
Andrenosoma rufipennis Wiedemann
**Andrenosoma erax* Bromley, n. sp.
**Andrenosoma elegans* Bromley, n. sp.
Lampria spinipes Fabricius
Lampria macquartii Perty
**Pholidotus rubriventris* Hermann
Ommatius orenoquensis Bigot?
Ommatius norma Curran
Ommatius neotropicus Curran
Ommatius marginellus Fabricius
Mallophora tibialis Macquart
Mallophora speciosa Curran, n. sp.
Mallophora calida Fabricius
Mallophora nigritarsis Fabricius
Mallophora fusca Bromley, n. sp.
Promachus forfex Osten Sacken
Promachina nigripes Fabricius
Promachina annularis Fabricius
Promachina trapezoidalis Bellardi
**Anarmostus iopterus* Wiedemann
Senoprosopis tenuis Wiedemann
Pachychoeta virilis Wiedemann
Pachychoeta apicalis Bromley, n. sp.
Pachychoeta genitalis Bromley, n. sp.
Erax macularis Wiedemann
Erax fulvithorax Macquart
Erax obscurus Macquart
Erax titan Bromley, n. sp.
Proctacanthus tibialis Macquart

THEREVIDAE

- Henicomymia brevicornis* Bromley, n. sp.
Psilocephala senilis Bromley, n. sp.

BOMBYLIIDAE

- Anthrax guianica* Curran, n. sp.
Anthrax acroleuca Wiedemann
Anthrax gideon Fabricius
Hyperalonia morio Fabricius
Heterostylum rufum Olivier
**Toxophora cuprea* Fabricius
Toxophora verona Curran, n. sp.

EMPIDIDAE

- Syneches curvipes* Fabricius
Lactistomyia serrata Bezzi

DOLICHOPIDAE

- | | |
|---|--|
| <i>Condylostylus praestans</i> Aldrich | <i>Condylostylus fuscipennis</i> Van Duzee, n. sp. |
| <i>Condylostylus bellulus</i> Aldrich | <i>Condylostylus latifacies</i> Van Duzee, n. sp. |
| <i>Condylostylus squamifer</i> Becker | <i>Diaphorus mundus</i> Loew |
| <i>Condylostylus guttula</i> Wiedemann | <i>Hercostomus flavimanus</i> Van Duzee, n. sp. |
| <i>Condylostylus similis</i> Aldrich | <i>Sarcionus pectinicauda</i> Van Duzee, n. sp. |
| <i>Condylostylus filiformis</i> Becker | <i>Sarcionus maculipennis</i> Van Duzee, n. sp. |
| <i>Condylostylus semicomatus</i> Van Duzee | |
| <i>Condylostylus barbipes</i> Van Duzee, n. sp. | |

SYRPHIDAE

- | | |
|---|--|
| <i>Microdon trivittatum</i> Curran | <i>Callostigma neuralis</i> Curran, n. sp. |
| <i>Microdon carinifacies</i> Curran, n. sp. | <i>Salpingogaster bipunctifrons</i> Curran, n. sp. |
| * <i>Microdon guianica</i> Curran | <i>Mesogramma floralis</i> Fabricius |
| <i>Microdon inarmatus</i> Curran | <i>Mesogramma polita</i> Say |
| <i>Microdon angustiventris</i> Macquart | <i>Mesogramma duplicata</i> Wiedemann |
| * <i>Microdon angustus</i> Macquart | <i>Mesogramma musica</i> Fabricius |
| * <i>Microdon bidens</i> Fabricius | * <i>Mesogramma basilare</i> Wiedemann |
| * <i>Microdon flavipennis</i> Curran | <i>Mesogramma laciniosa</i> Loew |
| * <i>Microdon langi</i> Curran | <i>Mesogramma picta</i> Macquart |
| <i>Volucella tympanitis</i> Fabricius | <i>Mesogramma planiventris</i> Loew |
| <i>Volucella musta</i> Williston | <i>Planes grandifemoralis</i> Curran, n. sp. |
| <i>Volucella brevifacies</i> Curran | <i>Planes vagans</i> Wiedemann |
| <i>Volucella vaga</i> Wiedemann | <i>Planes palitarsis</i> Curran, n. sp. |
| * <i>Volucella nigrifrons</i> Hine | <i>Cerogaster scutellata</i> Curran, n. sp. |
| <i>Volucella macquarti</i> Curran | <i>Eristalis obsoletus</i> Wiedemann |
| * <i>Volucella cyanescens</i> Macquart | <i>Eristalis vinetorum</i> Fabricius |
| * <i>Volucella macula</i> Wiedemann | <i>Eristalis langi</i> Curran, n. sp. |
| <i>Volucella vitripennis</i> Curran, n. sp. | <i>Eristalis penaltis</i> Curran, n. sp. |
| * <i>Volucella alcedo</i> Curran, n. sp. | <i>Eristalis floreus</i> Hull |
| <i>Ornidia obesa</i> Fabricius | <i>Eristalis fasciatus</i> Wiedemann |
| <i>Baccha adspersa</i> Fabricius | <i>Eristalis minutalis</i> Williston |
| * <i>Baccha signifera</i> Austen | * <i>Eristalis spectabilis</i> Hull |
| * <i>Baccha johnsoni</i> Curran, n. sp. | <i>Eristalis conicus</i> Fabricius |
| <i>Baccha incompta</i> Austen | <i>Eristalis scutellaris</i> Fabricius |
| * <i>Baccha clavata</i> Fabricius | <i>Meromacrus niger</i> Sack |
| * <i>Baccha livida</i> Schiner | <i>Meromacrus pratorum</i> Fabricius |
| <i>Baccha dimidiatus</i> Fabricius | |
| <i>Baccha prudens</i> Curran, n. sp. | |

PHORIDAE

- Aphiochaeta pilipleura* Borgmeier
Apocephalus frontalis Curran, n. sp.

PIPUNCULIDAE

- Pipunculus rex* Curran, n. sp.

CONOPIDAE

- | | |
|---|--|
| <i>Physocephala brasiliensis</i> Kröber | * <i>Stylogaster fasciata</i> Aldrich |
| <i>Conops guianica</i> Curran, n. sp. | <i>Stylogaster rectinervis</i> Aldrich |
| <i>Stylogaster breviventr</i> Aldrich | |

PYRGOTIDAE

- Tauroscypson guiana* Curran, n. sp.

ORTALIDAE

- | | |
|---|---|
| <i>Richardia podagrica</i> Fabricius | <i>Chondrometopum arcuatum</i> Hendel |
| <i>Richardia teevani</i> Curran, n. sp. | <i>Dasymetopa sordida</i> Hendel |
| <i>Richardia annulipes</i> Curran, n. sp. | <i>Dasymetopa lutulenta</i> Loew |
| <i>Richardia proxima</i> Schiner | <i>Pterocalla obscura</i> Wiedemann |
| <i>Richardia flavipes</i> Schiner | <i>Pterocalla ocellata</i> Fabricius |
| <i>Epiplatea arcuata</i> Hendel | <i>Acrosticta profunda</i> Hendel |
| <i>Coelometopia trimaculata</i> Fabricius | <i>Acrosticta scrobiculata</i> Loew |
| <i>Beebeomyia versicolor</i> Curran, n. sp. | <i>Axiologina ferrumequinum</i> Hendel |
| <i>Senopterina brevipes</i> Fabricius | <i>Euphara caerulea</i> Macquart |
| <i>Senopterina macularis</i> Fabricius | <i>Notogramma cimiciformis</i> Loew |
| <i>Setellia unispinosa</i> Bigot | <i>Euxestina fuscipennis</i> Curran, n. sp. |
| <i>Automola automaria</i> Wiedemann | <i>Zacompsia metallica</i> Curran, n. sp. |
| <i>Pterocerina americana</i> Curran, n. sp. | <i>Euxesta nitidiventr</i> Loew |
| <i>Pterocerina pallidibasis</i> Curran,
n. sp. | <i>Euxesta bipunctata</i> Macquart |
| | <i>Euxesta guianica</i> Curran, n. sp. |
| | <i>Euxesta species</i> |

ROPALOMERIDAE

- Ropalomera clavipes* Fabricius
Ropalomera minima Curran, n. sp.

TRYPANEIDAE

- | | |
|--|--------------------------------------|
| * <i>Anastrepha obliqua</i> Macquart | <i>Blepharoneura poecilosoma im-</i> |
| <i>Anastrepha parallela</i> Wiedemann | <i>punctata</i> Hendel |
| <i>Anastrepha ludens</i> Loew | <i>Hexachaeta eximia</i> Wiedemann |
| <i>Kartabia anastrephoides</i> Curran,
n. sp. | <i>Xanthaciura phoenicrura</i> Loew |
| | <i>Euaresta spectabilis</i> Loew |

SEPSIDAE

- Sepsis carnivora* Curran, n. sp. *Sepsis armata* Schiner
Sepsis pusio Schiner *Sepsisia costalis* Wiedemann
Sepsis haemorrhoidalis Schiner

CHLOROPIDAE

- Oscinella sulfurihalperata* Enderlein
Oscinella mars Curran
Hippelates microcentrus Coquillett

EPHYDRIDAE

- Gastrops niger* Williston
Ochtheroidea glaphyropus Loew
Psilopa species

DROSOPHILIDAE

- Leucophenga maculosa* Coquillett *Curtonotum pantherinum* Walker
Stegana antica Curran, n. sp. *Curtonotum salinum* Curran, n. sp.
Stegana norma Curran, n. sp. *Curtonotum hendeli* Malloch
Curtonotum taeniatum Hendel

CLUSIIDAE

- Sobarocephala guianica* Curran, n. sp.
Sobarocephala imitans Curran, n. sp.

SAPROMYZIDAE

- Physegenua ferruginea* Schiner *Pseudogriphoneura luteipennis*
Physegenua vittata Macquart Curran, n. sp.
Xenochaetina muscaria Loew *Pseudogriphoneura claripennis*
Xenochaetina flavipennis Fabricius Curran, n. sp.
Chaetominettia spinitibia Malloch **Pseudogriphoneura scutellata*
Chaetominettia latelimbata Curran, n. sp.
Macquart *Griphoneura imbuta* Wiedemann
Pseudogriphoneura nigra Curran, *Minettia geminata* Fabricius
n. sp. *Sapromyza ornata* Schiner
Pseudogriphoneura diversa Curran, *Sapromyza eronis* Curran, n. sp.
n. sp. *Supromyza incidens* Curran, n. sp.
 Clusina nigriventris Curran, n. sp.

LONCHAEIDAE

- Lonchaea* species No. 1
Lonchaea species No. 2

PSILIDAE

Somatia xanthomelas Schiner

MICROPEZIDAE

<i>Glyphidops filus</i> Fabricius	<i>Taeniptera lasciva</i> Fabricius
<i>Nerius pilifer</i> Fabricius	<i>Grallomya testacea</i> Fabricius
<i>Cardiacephala triluminata</i> Cresson	<i>Grallomya annulata</i> Fabricius
<i>Cardiacephala myrmex</i> Schiner	<i>Grallomya parens</i> Cresson
<i>Scipopus cartaboensis</i> Cresson	<i>Grallomya livida</i> Cresson
<i>Scipopus diversa</i> Schiner	<i>Grallomya alicia</i> Curran
<i>Scipopus penicillus</i> Enderlein	<i>Grallomya tarsata</i> Wiedemann
<i>Rainieria postica</i> Curran	<i>Grallomya velutina</i> Curran
<i>Systellapha simplex</i> Wiedemann	<i>Ptilosphen insignis</i> Wiedemann
<i>Parasphen amazonicus rificauda</i> Curran	<i>Ptilosphen comis</i> Cresson

TETANOCERIDAE

Thecomyia longicornis Perty

MUSCIDAE

<i>Musca domestica</i> Linnaeus	<i>Cyrtoneuropsis fuscicosta</i> Curran, n. sp.
<i>Bdellolarynx flavicornis</i> Malloch	<i>Fannia femoralis</i> Stein
<i>Morellia nitida</i> Stein	<i>Fannia obscurinervis</i> Stein
<i>Morellia violacea</i> Fabricius	<i>Fannia species</i>
<i>Morellia neotropica</i> Curran, n. sp.	<i>Ophyra aenescens</i> Wiedemann
<i>Mallocharia beebei</i> Curran, n. sp.	<i>Darwinomyia mallochi</i> Curran, n. sp.
<i>Cyrtoneurina digramma</i> Van der Wulp	<i>Bithoracochaeta leucoprocta</i> Wiede- mann
<i>Cyrtoneurina armipes</i> Stein	<i>Neodexiopsis plumiseta</i> Stein
<i>Cyrtoneurina gemina</i> Wiedemann	
<i>Cyrtoneuropsis perspicua</i> Stein	
<i>Cyrtoneuropsis veniseta</i> Stein	

CALLIPHORIDAE

<i>Mesembrinella randa</i> Walker	<i>Lucilia cluvia</i> Walker
<i>Mesembrinella incompleta</i> Curran, n. sp.	<i>Chrysomya desvoidyi</i> Hough
<i>Mesembrinella bicolor</i> Fabricius	<i>Cochliomyia macellaria</i> Fabricius
<i>Mesembolia peregrina</i> Aldrich	<i>Hemilucilia segmentaria</i> Fabricius
<i>Lucilia rica</i> Schannon (?)	<i>Hemilucilia fuscipennis</i> Mac- quart
<i>Lucilia hirtiforceps</i> Shannon	

SARCOPHAGIDAE

- Harpagopyga divergens* Curran and Walley, n. sp.
Harpagopyga angustiventris Curran and Walley, n. sp.
Harpagopyga species
Sarcophagula orbitalis Curran and Walley, n. sp.
Sarcophagula occidua Fabricius
Helicobia guianica Curran and Walley, n. sp.
Helicobia species
Sarcophaga lithogaster Curran and Walley, n. sp.
Sarcophaga clotho Curran and Walley, n. sp.
Sarcophaga clotho impura Curran and Walley, var.
Sarcophaga occipitalis Thomson
Sarcophaga pallidipilosa Curran and Walley, n. sp.
Sarcophaga anguilla Curran and Walley, n. sp.
**Sarcophaga bartica* Curran and Walley, n. sp.
Sarcophaga collusor Curran and Walley, n. sp.
Sarcophaga sternodontis Townsend
Sarcophaga excitans Curran and Walley, n. sp.
Sarcophaga mentor Curran and Walley, n. sp.
Sarcophaga kartabo Curran and Walley, n. sp.
Sarcophaga molitor Curran and Walley, n. sp.
Sarcophaga fringidea Curran and Walley, n. sp.
Sarcophaga intona Curran and Walley, n. sp.
Sarcophaga xanthosoma Aldrich
Adiscochaeta abnormis Enderlein

TACHINIDAE

- Euscopoliopteryx nebulosa* Townsend
Ormia buscki Townsend
Ormia punctata Desvoidy
Ormia nocturna Curran, n. sp.
Ormia guianica Curran, n. sp.
Icelia triquetra Olivier
Trichodura anceps Fabricius
Rhynchiodesia vittigera Curran, n. sp.
Scotiptera melaleuca Wiedemann
Scotiptera potens Wiedemann
Melaleuca potens Curran, n. sp.
Cordyligaster petiolata Wiedemann
Cholomyia longipes Fabricius
Euthelaira inambarica Townsend
**Thelairodes lavinia* Curran, n. sp.
**Myobia flava* Townsend
Myobia verna Curran, n. sp.
Lydella pulchella Curran, n. sp.
Lydella frugale Curran, n. sp.
Lydella prudens Curran, n. sp.
Lydella verticale Curran, n. sp.
Pelixia vexans Curran, n. sp.
Phorocera pluto Curran, n. sp.
Phorocera guianica Curran, n. sp.
Winthemia rufilatera Rondani
Winthemia species
Argyrophylax albincisa Wiedemann
Sturmia orbitalis Curran, n. sp.
Sturmia varipennis Curran, n. sp.
Blepharipeza leucophrys Wiedemann

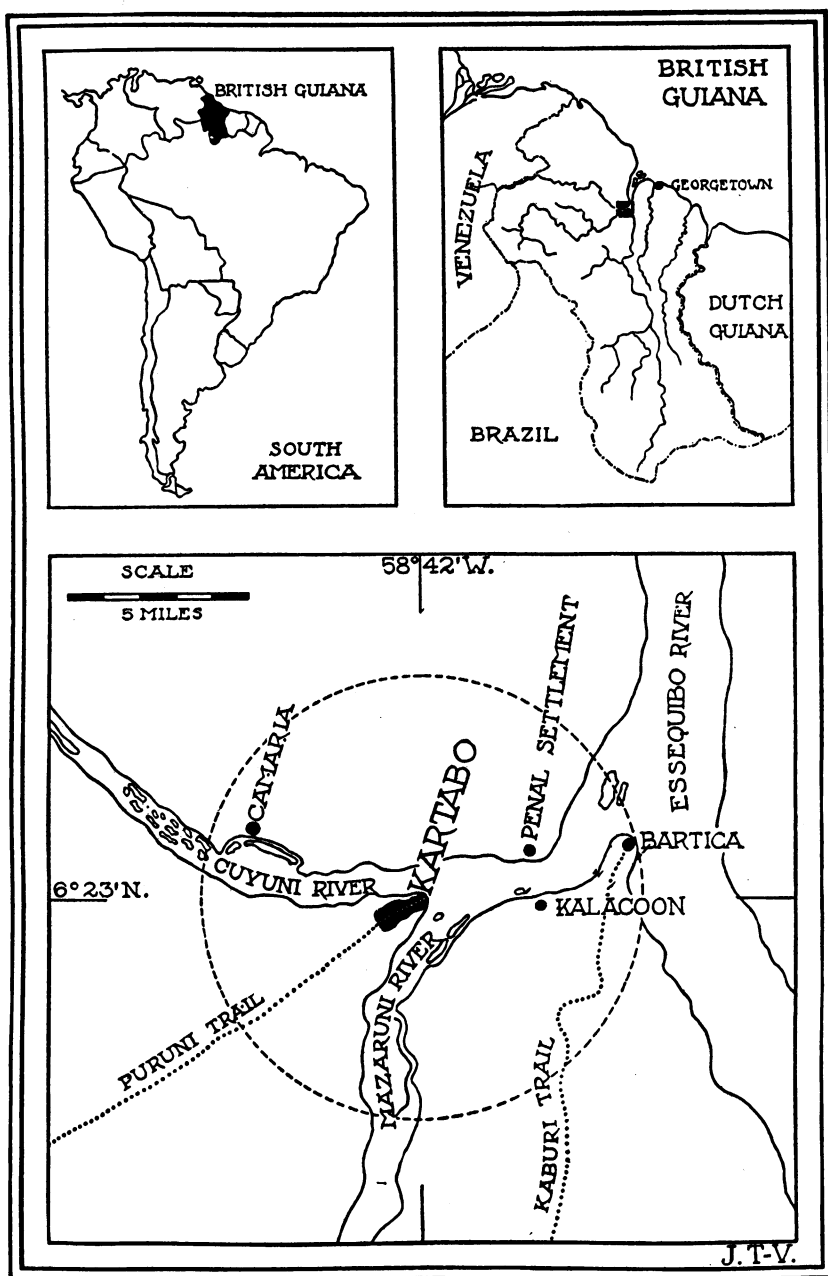
<i>Phillophilopsis dolichotarsis</i> Curran, n. sp.	<i>Belvosia esuriens</i> Fabricius
<i>Phillophilopsis tenuifrons</i> Curran, n. sp.	<i>Belvosia bicincta</i> Desvoidy
<i>Calodexia insolita</i> Curran, n. sp.	<i>Archytas antillicolla</i> Curran
<i>Myobia (Stomatodexia) cothurnata</i> Wiedemann	<i>Archytas species</i>
<i>*Myobia penaltis</i> Curran, n. sp.	<i>Archytas sibillans</i> Curran
	<i>Archytas vernalis</i> Curran
	<i>Cuphocera pretiosa</i> Curran

STREBLIDAE

<i>Kesselia pallida</i> Curran, n. sp.	<i>Euctenodes mirabilis</i> Waterhouse
<i>Trichobius phyllostomae</i> Kessel	<i>Speisseria ambigua</i> Kessel

SUMMARY

Species from Kartabo.....	396
Species from Bartica District outside of Kartabo	24
Total number of species from the Bartica District.....	420



British Guiana Tropical Research Station of the New York Zoological Society.
 The circle represents a radius of six miles.
 (Courtesy New York Zoological Society.)

PART II.—SYSTEMATIC ACCOUNT

KEY TO FAMILIES

- 1.—Flattened, more or less coriaceous flies, the legs in each pair broadly separated by the sternum. 51.
 Rarely flattened: legs closely approximated. 2.
- 2.—Antennae consisting of four or more segments. 3.
 Antennae consisting of three segments and often a stout, terminal style or arista. 17.
- 3.—Antennae consisting of six or more freely articulated segments; anal cell not or scarcely narrowed apically. 4.
 Antennae consisting of three to five freely articulated segments, those beyond the third usually more or less fused; anal cell narrowed or closed apically. 13.
- 4.—Wings with less than nine longitudinal veins or with cross-veins on the apical half. 5.
 Wings with nine or more longitudinal veins, without cross-veins except basally, densely haired along the veins. *PSYCHODIDAE*.
- 5.—Mesonotum without a V-shaped transverse suture. 6.
 Mesonotum with a deep V-shaped transverse suture. *TIPULIDAE*.
- 6.—Wing without a net-work of fine lines. 7.
 Wing with a net-work of fine lines over much of its surface. *BLEPHARICERIDAE*.
- 7.—Anal veins present or represented by folds. 8.
 Anal veins entirely absent. *CECIDOMYIDAE*.
- 8.—Ocelli present. 10.
 Ocelli absent. 9.
- 9.—Wings and body with scales. *CULICIDAE*.
 Wings and body without scales. *CHIRONOMIDAE*.
- 10.—Antennae usually longer than the thorax or, if not, the coxae elongate or the legs slender. 11.
 Antennae shorter than the thorax; legs usually stout; coxae short. *BIBIONIDAE*.
- 11.—Discal cell present. *RHYPHIDAE*.
 Discal cell absent. 12.
- 12.—Eyes rounded or oval. *MYCETOPHILIDAE*.
 Eyes strongly produced towards each other above the antennae. *SCIARIDAE*.
- 13.—Antennae consisting of four or five freely articulated segments. 14.
 Antennae consisting of more than five segments, the apical ones not freely articulated. 15.

- 14.—Front excavated above on either side of the ocellar swelling. . . . 14a.
 Front not concave above from anterior view. BOMBYLIIDAE.
- 14a.—Proboscis with fleshy labella. MYDAIDAE.
 Proboscis without fleshy labella. ASILIDAE.
- 15.—Alulet of wing large. TABANIDAE.
 Alulet small, elongate, often almost wanting. 16.
- 16.—Fourth posterior cell closed. PANTOPHTHALMIDAE.
 Fourth posterior cell never closed. STRATIOMYIDAE.
- 17.—Wings with strong veins on the posterior half and usually with
 cross-veins. 18.
 Wings with two or three strong veins in front and several weak
 longitudinal veins, without cross-veins. PHORIDAE.
- 18.—With a frontal lunule or suture, the anal cell never extending close
 to the wing margin except as a long, narrow production. . . . 28.
 Without frontal lunule or suture, or when one is present the anal
 cell extends close to the wing margin. 19.
- 19.—Second basal cell present. 20.
 Second basal cell absent. DOLICHOPIDAE.
- 20.—Third vein simple. 25.
 Third vein with anterior branch. 21.
- 21.—Front concave on either side of the ocellar swelling from anterior
 view. ASILIDAE.
 Front not hollowed from anterior view. 22.
- 22.—Empodia bristle-like or wanting. 23.
 Empodia developed pulvilliform. RHAGIONIDAE.
- 23.—Wings with three or four posterior cells. 23a.
 Wings with five posterior cells. THEREVIDAE.
- 23a.—Third antennal segment without style or arista, three posterior
 cells. SCENOPINIDAE.
 Third antennal segment usually with terminal style; three or four
 posterior cells. 24.
- 24.—Anal cell extending close to the margin of the wing, sometimes open.
 BOMBYLIIDAE.
 Anal cell not reaching more than half-way to the wing margin.
 EMPIDIDAE.
- 25.—Anal cell extending more than three-fourths the distance to the
 wing margin. 26.
 Anal cell not extending more than half-way to the wing margin.
 EMPIDIDAE.

- 26.—No spurious vein between the third and fourth longitudinal veins.....27.
 A spurious vein between the third and fourth longitudinal veins.
 SYRPHIDAE.
- 27.—Without frontal and facial sutures.....PIPUNCULIDAE.
 With frontal and facial sutures.....CONOPIDAE.
- 28.—Squamae usually greatly developed; costal cell reaching to the middle of the wing; mesonotum with the transverse suture almost entire.....48.
 Squamae never large, the lower lobe linear or nearly so; mesonotal suture obsolete for almost half the length.....29.
- 29.—Subcostal vein entirely free from the first vein and ending in the costa some distance before end of first vein, the first vein usually ending near the middle of the wing.....38.
 Subcostal vein partly or wholly fused with the first vein, evanescent at its tip or absent.....30.
- 30.—First segment of the posterior tarsus longer than the second...31.
 First segment of the posterior tarsus swollen and conspicuously shorter than the second.....BORBORIDAE.
- 31.—Subcostal vein not evanescent at its tip or, if so, no transverse indication of its end.....32.
 Subcostal vein evanescent at its tip, its apex represented by a transverse fold extending across the costal cell.
 TRYPAEIDAE.
- 32.—Anal cell absent.....33.
 Anal cell present.....34.
- 33.—Frontal bristles feebly developed.....CHLOROPIDAE.
 Frontal bristles strong.....EPHYDRIDAE.
- 34.—Arista rarely plumose (if so, the costa fractured once), usually pubescent or bare.....35.
 Arista plumose or pectinate; costa with two fractures.
 DROSOPHILIDAE.
- 35.—Costa broken once, or if broken twice the proboscis not geniculate.....36.
 Costa broken twice, the proboscis geniculate.....MILICHIIDAE.
- 36.—Ocelli absent.....PYRGOTIDAE.
 Ocelli present.....36a.
- 36a.—Anal cell long and very conspicuous.....PSILIDAE.
 Anal cell short, not strikingly large.....37.

- 37.—Basal segment of the arista longer than wide; postvertical bristles divergent, often absent. GEOMYZIDAE.
 Basal aristal segment very short; postverticals divergent, rarely absent. 37a.
- 37a.—Front with two or more bristles. AGROMYZIDAE.
 Front with only a single, weak bristle. SAPROMYZIDAE.
- 38.—Oral vibrissae present. 46.
 Oral vibrissae absent. 39.
- 39.—Legs short, normal. 40.
 Legs long and stilt-like; apical cell narrowed apically. MICROPEZIDAE.
- 40.—Tibiae with preapical bristles. 45.
 Tibiae without preapical bristles. 41.
- 41.—Ovipositor membranous and retractile. 42.
 Ovipositor chitinized, not wholly retractile. 43.
- 42.—Palpi well developed; front with bristles anteriorly. OCHTHIPHILIDAE.
 Palpi vestigial; front not bristled anteriorly. SEPSIDAE.
- 43.—A conspicuous black bristle at the opening of the posterior spiracle of the thorax. RHOPALOMERIDAE.
 No such bristle. 44.
- 44.—Only one fronto-orbital bristle; a single costal break. LONCHAEIDAE.
 Usually more than one fronto-orbital, or, if not, there are indications of two costal breaks or the anal cell is acutely produced posteriorly. ORTALIDAE.
- 45.—Postvertical bristles converging; middle femora without a small anterior median bristle. SAPROMYZIDAE.
 Postvertical bristles parallel or wanting; middle femora with a small anterior median bristle. TETANOCERIDAE.
- 46.—A conspicuous black bristle situated at posterior spiracle of thorax. RHOPALOMERIDAE.
 No such bristle, or the scutellum short and not swollen apically. . 47.
- 47.—Costa broken before the tip of the subcostal vein. . . . CLUSIIDAE.
 Costa not broken. SEPSIDAE.
- 48.—Metascutellum not conspicuously swollen. 49.
 Metascutellum well developed, appearing as a strong convexity immediately below the scutellum. TACHINIDAE.
- 49.—Hypopleural bristles present. 50.
 Hypopleural bristles absent. MUSCIDAE.

- 50.—Posthumeral bristle situated nearer the side of the mesonotum than the presutural; if absent, the color metallic green or blue.

CALLIPHORIDAE.

Posthumeral bristle situated farther from the side of the thorax than the presutural. SARCOPHAGIDAE.

- 51.—Head with a conspicuous movable neck; eyes vestigial or wanting.

STREBLIDAE.

Head deeply sunk into the thorax, the neck not conspicuous; eyes well developed, round or oval. HIPPOBOSCIDAE.

TIPULIDAE

(Crane-flies)

BY CHARLES P. ALEXANDER

Holorusia species

Tipula longitarsis MACQUART, 1846, 'Dipt. Exot.,' Suppl. 1, p. 17, Pl. II, fig. 2.

One female of a species close to *longitarsis* Macquart, Kartabo, March 19, 1922.

It is impossible to determine female specimens of most genera of Tipulidae with any degree of accuracy.

Holorusia schineri, new name

Tipula eluta SCHINER, 1868, 'Novara Reise,' Dipt., p. 35 (not *Tipula eluta* Loew, 1863).

One female of a species close to *schineri* but possibly distinct, labeled "Tropical Research Station, No. 20657."

Ozodicera (*Dihexaclonus*) *guianensis*, new species

The subgenus *Dihexaclonus* includes the following described species: *apicalis* Macquart, *fumipennis* Loew, *panamensis* Alexander, *triguttata* Alexander, and *xanthostoma* Loew. *O. extensa* Alexander is intermediate between *Dihexaclonus* and typical *Ozodicera*.

Length, about 24 mm.; wing, 20 mm.

The present species is very close to *triguttata* Alexander of Brazil, agreeing in the pale yellowish-brown coloration of the scapal and all branched flagellar segments, the quadrivittate praescutum and the general features of the wing and hypopygium. It differs in the wings having only a small dusky seam at *r-m* (Fig. 11) and in the structure of the male hypopygium. The ninth tergite (Fig. 12) has the caudal margin deeply split by a median notch, the lateral lobes thus formed relatively long and slender, their tips narrow and subacutely obtuse. Caudal prolongation of the combined sternite and basistyle (Fig. 13) produced into a relatively long and slender flattened blade, the apex of which is somewhat expanded and extends ventrad into a

short prolongation. In *triguttata* the lobes of the tergite (Fig. 14) are shorter, more broadly and obtusely rounded; caudal prolongation of the sternite and basistyle (Fig. 15) shorter, broader, not produced ventrad at apex.

HOLOTYPE.—Male, Kartabo, Bartica District, April 16, 1922, at light (Tropical Research Station, N. Y. Zoöl. Soc., No. 22194).

Tanypremna longipes Fabricius

Tipula longipes FABRICIUS, 1805, 'Syst. Antl.,' p. 25.

A broken male specimen, Kartabo, March 13, 1924.

Limonia (Rhipidia) domestica (Osten Sacken)

Rhipidia domestica OSTEN SACKEN, 1859, Proc. Acad. Nat. Sci., Philadelphia, p. 208.

Kartabo, December 9–14, 1920; some were taken at trap-lanterns.

Epiphragma varia Wiedemann

Limnobia varia WIEDEMANN, 1828, 'Ausser. Zweifl.,' I, p. 573.

One female, Kartabo, March 7, 1922.

Polymera (Polymera) pulchricornis Alexander

Polymera pulchricornis ALEXANDER, 1914, Trans. Amer. Ent. Soc., XL, p. 251.

Kartabo, December 17, 1920.

Eriocera kaieturensis Alexander

Eriocera kaieturensis ALEXANDER, 1914, Psyche, XXI, p. 41, Pl. iv, fig. 1.

Kartabo, one female, September 7, 1922; one additional female, June 1.

Lecteria armillaris Fabricius

Tipula armillaris FABRICIUS, 1805, 'Syst. Antl.,' p. 26.

One male, Kartabo, No. 20568.

Gnophomyia arcuata Alexander

Gnophomyia arcuata ALEXANDER, 1914, Trans. Amer. Ent. Soc., XL, p. 244.

One female, Kartabo, December 14, 1920. The species was described from Bartica, January 4–28, 1914.

Teucholabis melanocephala Fabricius

Tipula melanocephala FABRICIUS, 1794, 'Ent. Syst.,' IV, p. 241.

A broken specimen, Kartabo, August 16, 1922.

This species has been passing as *melanocephala* but without a comparison with the type.

Teucholabis species

Teucholabis jocosa ALEXANDER, 1913, Ent. News, XXIV, p. 440.

A single female of a species near *jocosa* Alexander, Kartabo, December 14, 1920. The species *jocosa* was described from Bolivia.

Erioptera (Mesocyphona) parva Osten Sacken

Erioptera parva OSTEN SACKEN, 1859, Proc. Acad. Nat. Sci. Philadelphia, p. 227.

Kartabo, December 14, 1920.

Erioptera (Erioptera) apicalba Alexander

Erioptera (Erioptera) apicalba ALEXANDER, 1921, Proc. Acad. Nat. Sci. Philadelphia, p. 70.

One female specimen, Kartabo, April 6, 1924.

The species was described from a single imperfect specimen taken at Teffé (Ega), Brazil, December 29, 1919, by Herbert S. Parish. From the dimensions of the type as compared with this second specimen, it is now evident that the type was a male. The present specimen is described as allotype.

FEMALE.—Length, about 3.5 mm.; wing, about 3.4 mm.

Agrees closely with the type male, differing in the following characters:

Scutellum broadly and conspicuously light yellow, with a dark basal triangle. Longitudinal silvery stripe on the thoracic pleura more diffuse. The dark bands on the legs somewhat narrower, not conspicuously wider than the white interspaces.

The head and halteres of the type were broken and these structures may be described from the present specimen. Rostrum and palpi dark brown. Antennae dark brown throughout. Head in front light yellow, behind clear silvery-gray. Halteres uniformly white.

ALLOTYPE.—Female, Kartabo, April 6, 1924.

Styrgomyia americana Alexander

Styrgomyia americana ALEXANDER, 1914, Trans. Amer. Ent. Soc., XL, p. 231.

Kartabo, December 12, 1920.

Toxorhina brasiliensis Westwood

Limnobia rhynchus brasiliensis WESTWOOD, 1835, Ann. Soc. Ent. France, p. 683.

One female, Kartabo, November 9, 1920, at trap-lantern.

CHIRONOMIDAE

BY G. S. WALLEY

Through the courtesy of Mr. C. H. Curran, I have had the privilege of studying the Chironomidae included in this paper. Figures of the male genitalia are given for three new species, as these structures seem most valuable for accurate determination in a group of this nature.

Chironomus modestus Say

Chironomus modestus SAY, 1823, Journ. Acad. Nat. Sci. Phil., III, p. 13.

Two specimens, Kartabo, agree very well with Say's description and with a specimen determined by Johannsen, in the Canadian National Collection. The latter differs slightly in having the front tarsi wholly pale, whereas in the specimens examined the tips of the tarsal joints are slightly darkened.

Chironomus subaberrans, new species

MALE.—Length, 5 to 6 mm. Greenish. Basal segment of antenna pale yellowish; antennal plume and palpi dirty yellowish-white. Frontal tubercles lacking. Thorax pale greenish with three faint yellowish-green vittae on notum. Scutellum, postnotum and halteres greenish. Legs pale yellowish, tinged with green. Apices of joints of front legs slightly fuscous. Front legs without long hairs; middle and hind femora and tibiae sparsely clothed with rather long yellowish hairs; hind basitarsi with somewhat shorter and more appressed hairs. Wings hyaline, the veins pale yellowish. Abdomen darker green than thorax, with subapical fuscous bands on tergites 1, 2, 3 and 4, on the remainder of the tergites the bands becoming broader and poorly defined. Hypopygial arms slender and pointed at their tips.

TYPES.—Holotype, male, Kartabo, Bartica District, December 12, 1920; paratype, male, same locality as holotype, December 13, 1920.

Chironomus ochros, new species

Figure 17

MALE.—Length, 8 mm. Yellowish brown. Antennae dirty yellowish-brown. Palpi fuscous. Frontal tubercles lacking. Ground color of thorax dirty yellowish with three indistinct fulvous vittae on the dorsum, the middle one bearing a narrow median fuscous streak. Notum with a trace of whitish pollen when viewed obliquely. Scutellum yellowish; postnotum with apical half infuscated. Legs dirty yellowish-brown with traces of fuscous on knees; front tibiae and tarsi darkened. Front femora with a few long hairs on apical fourth; front tarsi with short hairs; front basitarsi on apical fourth and the remainder of the front tarsal joints and entire middle and hind legs with long yellowish-brown hairs. Wings with yellowish tinge, cross-vein slightly darkened. Abdomen yellowish brown with broad, ill-defined, obscurely fuscous bands most conspicuous on basal tergites.

The proportions of the femora, tibiae, basitarsi and remainder of tarsi are as follows:

Front legs 9: 8:II:19
Middle legs 9: 9: 5: 6.5
Hind legs 10:10: 7: 8

FEMALE.—Anterior notal region with a fuscous blotch; abdominal tergites each with a broad fuscous band; otherwise as in male.

TYPES.—Holotype, male, Kartabo, Bartica District, May 6, 1924; allotype, female, same locality as holotype, April 18, 1924; paratypes, five males, same locality as holotype.

***Chironomus fumeus*, new species**

Figure 18

MALE.—Length, 4 mm. Fuscous; wings each with a broad median fascia. Basal segment of antenna deep brown, shining; second segment dirty brownish-white; remaining segments and antennal plume brownish. Remainder of head and entire thorax dark brown with traces of grayish pruinescence when viewed obliquely, most conspicuous on the postnotum. Halteres fuscous. Entire femora and tibiae of all legs brown; middle and hind tibiae somewhat thickened and densely covered with rather short blackish subappressed hairs; femora with sparse, longer and suberect brownish hairs. Wings smoky, the veins brownish, the median third of the wing with a distinct fuscous band. Abdomen brownish black with the incisions ash-gray pollinose. Hypopygium blackish; hypopygial arms moderately stout; median dorsal process broadly triangular terminating in a short spinose tip.

TYPE.—Male, Kartabo, Bartica District, March 6, 1924.

***Chironomus daktylos*, new species**

Figure 19

MALE.—Length, 1.5 mm. Dirty yellowish-green. Basal segment of antenna dirty yellowish-brown; remaining joints and plume yellowish. Dorsum and pleura yellowish-green, suffused with brownish and tending to form three indistinct brownish blotches on the anterior dorsal area. Scutellum and postnotum yellowish brown. Legs dirty yellowish-green with the tips of the femora, tibiae and entire front legs slightly darker than the rest. Wings and veins rather dirty yellowish. Abdomen dirty yellowish-green with the apical one-fourth of all segments, except the basal one, obscurely infuscated. Hypopygial arms elongate, finger-like, usually with the tips slightly overlapping, pale.

TYPES.—Holotype, male, Kartabo, Bartica District, December 14, 1920; paratypes, six males, Kartabo, December 14, 1920, December 16, 1920, December 18, 1920, and December 14, 1921.

CULICIDAE

The mosquitoes in the collection are few in number and their condition, for the most part, is such as would prevent identification. Certain species have been determined, all belonging to unusually striking forms. None of these can be classed as serious pests, and several of them are predaceous in the larval stage on other mosquitoes. Those which have been determined are listed below.

Sabethes cyaneus Fabricius

Culex cyaneus FABRICIUS, 1805, 'Syst. Antl.,' p. 35.

Four specimens from Kartabo: male, March 11, male, March 19, female, March 27, 1922, and female, March 5, 1924.

Goeldia longipes Fabricius

Culex longipes FABRICIUS, 1805, 'Syst. Antl.,' p. 34.

A single male, Kartabo, July 15, 1922.

Sabethoides purpureus Theobald

THEOBALD, 1907, 'Mon. Culic.,' IV, p. 617.

A somewhat damaged female from Kartabo traces to this species in the Howard, Dyar and Knab key.

Trichoprosopon digitatus Rondani

Culex digitatus RONDANI, 1848, in Truqui, 'Studi Ent.,' p. 109.

A female from Kartabo, 1921, is quite evidently this species.

The substitution of the generic name *Joblotia* for *Trichoprosopon* by Dyar and Knab is not justified.

Megarhinus superbus Dyar and Knab

DYAR AND KNAB, 1906, Smiths. Misc. Coll., XLVIII, p. 255.

There are four males and one female in the collection: male and female, Kartabo, October 25, 1920 (Nos. 20296-20297); male, Kartabo, April 29, 1922; male, December 5, 1920 (No. 201274), and male, Bartica District.

Megarhinus trinidadensis Dyar and Knab

DYAR AND KNAB, 1906, Smiths. Misc. Coll., XLVIII, p. 247.

A single male, Kartabo, August 28, 1920.

Megarhinus species

A female, from Kartabo, without middle legs, differs from both of the above.

PSYCHODIDAE

The single species belonging to this family represents an undescribed species.

PSYCHODA Latreille***Psychoda guianica*, new species**

Related to *P. albipunctata* Williston and *erecta* Curran. Length of wing, 2.75 mm.

MALE.—Antennae thick, white-haired; face and occiput with brown, the front with white hair. Palpi long, with brown hair, the apical segments with grayish hair. Thorax with dense white hair except on the posterior fourth of the mesonotum, where it is brown; inner half of squamae brown-haired. Legs with abundant brown hair, the middle and posterior tibiae and tarsi with dull yellowish scales behind, the anterior tibiae with scattered white scales in front; all the tibiae and basal tarsal segments with apical white scales. Abdomen brown-haired, the dorsum mostly white, but with two longitudinal rows of brown tufts which are more or less distinctly connected with each other by scattered hairs, and also the lateral dark hair. Genitalia with white hair. Wings thickly brown-haired, with white hair as in figure 9, the anterior prefurcal region with yellow hair which is continued to the white tufts beyond the black patches.

TYPES.—Male, Kartabo, June 11, 1924 (No. 24912); paratype, male, Kartabo, December 5, 1920 (No. 201272).

The picture of the wings is almost the same as in *P. albopunctata* Williston, figure 16, but the color of the hair at once distinguishes it.

RHYPHIDAE

There is but one species which appears to be undescribed.

***Rhyphus varipes*, new species**

Wings brownish, paler posteriorly, with subhyaline spots. The black femora with a broad yellowish preapical band will serve at once to distinguish the species. Length, 4 to 5.5 mm.

FEMALE.—Head shining black, the occiput thinly grayish pollinose, the face reddish brown, the facial and frontal orbits narrowly white pollinose. Palpi reddish, the second segment large, swollen, the apical two small, the hairs black. Antennae black, the apical segment yellow, the two basal segments reddish. Ocellar triangle situated well in front of the posterior angles of the eyes; occiput with strong bristly hairs on upper half.

Mesonotum dull brownish-red with a pair of slender brownish vittae. Pleura shining reddish-brown. Scutellum opaque reddish-brown, with two black bristles. Mesonotum with the dorsocentral bristles complete, longer behind, a row of bristles between the suture laterally and the posterior calli, each of which bears three bristles, the hairs elsewhere sparse, bristly, short, black. Propleura with black bristly hairs and also clusters on the sternopleura in front near the upper edge, on the pteropleura and in front of the posterior spiracle. Metanotum reddish, thinly grayish pollinose, the pleura more noticeably so.

Legs blackish brown, the anterior four tibiae, except the broad base, and the first segment of all the tarsi except the broad apex, yellowish; each femur with a broad preapical reddish or yellowish band. Anterior femora with a row of long, fine, posteroventral bristles, the others with a few anteroventral longer bristles, the hair

elsewhere short and appressed; posterior tibiae with a row of five widely spaced, short black bristles, and the same number of fine, erect hairs on the anterodorsal surface. Apical spur of front tibia yellow, the others black. Tarsi with short black spines below. Claws and pulvilli small.

Wings brownish, paler posteriorly, with subhyaline spots as follows: one before the fork of the third vein, extending from the first vein to a little behind the fourth; a subrectangular yellowish spot at the apex of the subcostal vein extending through the costal cell and a hyaline one behind it extending through the first submarginal and base of discal cell; another beyond the discal cell and a broad one at apex of marginal cell, extending half-way through the marginal cell. Cross-veins broadly blackish. Squamæ transparent grayish with brown border and fringe. Halteres yellow.

Abdomen shining brownish-black, the first segment brownish red. Pile wholly black, short, appressed.

TYPES.—Holotype, female, and three female paratypes, Kartabo, Nos. 2232 and 2233.

BIBIONIDAE

Only a single genus of this family is represented in the collection, one of the species being undescribed.

PLECIA Wiedemann

TABLE OF SPECIES

- | | |
|---|---------------------------|
| 1.—Mesonotum reddish..... | 2. |
| Mesonotum black; wings largely black..... | <i>funebis</i> Fabricius. |
| 2.—Second vein curved and running parallel with the costa in the stigmal area;
pectus reddish..... | <i>alacris</i> , n. sp. |
| Second vein straight; pectus brownish..... | <i>confusa</i> Loew. |

Plecia funebris Fabricius

Hirtea funebris FABRICIUS, 1805, 'Syst. Antl.,' p. 54.

Male, Bartica, April 19, 1924; male and two females, Kartabo, March 26, June 6, September 21, 1922; two females, Kartabo, April 4, May 20, 1924.

Plecia confusa Loew

LOEW, 1858, Berl. Ent. Zeitschr., II, p. 109.

Male, Kaieteur, February 18, 1921; male, Kangaruma, February 15, 1921; female, Kartabo, 1921.

Plecia alacris, new species

MALE AND FEMALE.—Length, 6 to 6.5 mm.; of wing, 6.5 mm. Black, the thorax pale rusty-reddish; pleura brownish anteriorly and behind. Head of female thinly grayish pollinose; fourth and following antennal segments of equal length; hair of the head black; front of female with strong carina above the antennae bearing a small

tubercle at each end. Thorax almost bare, a few black hairs on the mesopleura and above the posterior coxae; scutellum bare. Wings strongly tinged with blackish; stigma weak; anterior branch of third vein and the anterior cross-vein oblique; fork of the media before the tip of the first vein. Abdomen with black hair which is very short dorsally and rather short ventrally. Halteres blackish.

Types.—Five males and two females from Kartabo; two males and one female March 5, 1924; male, May 8, 1924; male and female, May 9, 1924; male, 1921. The type male and allotype female were taken on March 5.

This species resembles a small *confusa* Loew, but the frontal carina is stronger, the front conspicuously pale pollinose, and the third antennal segment is gradually widened, not strongly widened on the apical half.

STRATIOMYIDAE

This family is fairly well represented in the region and a number of peculiar forms are contained in the collection. These are distributed among eleven genera, for the separation of which a key is given.

- 1.—Four posterior veins. 2.
Three posterior veins, all arising from the discal cell; antennae situated near the oral margin; third antennal segment not furcate; scutellum with four spines; thorax long and narrow. ACANTHINOMYIA Hunter.
- 2.—All the posterior veins arise from the discal cell. 3.
The last posterior vein arises from the second basal cell. 5.
- 3.—Scutellum without spines. 4.
Scutellum with two spines; antennae situated near or below the lowest fourth of the head, with a short, thick terminal style, the third antennal segment with five or six annuli. EURYNEURA Schiner.
- 4.—Third antennal segment with a long, slender arista. CHRYSOCHLORA Latreille.
Third antennal segment with a long, flattened, densely fringed style. HERMETIA Latreille.
- 5.—Antennae with a long, slender, terminal or dorsal arista. 9.
Antennae without style or arista; scutellum with two spines. 6.
- 6.—Third antennal segment composed of four to six closely united segments. . . . 7.
Third antennal segment composed of seven or eight annuli. CYPHOMYIA Wiedemann.
- 7.—Head not strongly produced forward as a cone. 8.
Head produced forward as an obtuse cone on the end of which the antennae are inserted, the distance from the orbit to the antennal base being at least two-thirds as great as the diameter of either eye. PROMERANISA Walker.
- 8.—First antennal segment at least two and one-half times as long as the second. STRATIOMYS Geoffroy.
First antennal segment not over one-half longer than the second. ODONTOMYIA Meigen.
- 9.—Lower lobe of the squamae transverse. 10.
Lower lobe of the squamae with a strap-like lobe near its outer end. PEDICELLA Bigot.

10.—Second antennal segment produced triangularly into the third on its inner end.

PRECTICUS Loew.

Second antennal segment only gently convex on its inner apical margin.

MEROSARGUS Loew.

ACANTHINOMYIA Hunter

HUNTER, 1901, Trans. Amer. Ent. Soc., XXVII, p. 129.

Acanthina WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 50 (not Fischer, Mollusca, 1806).

Artemita KERTESZ, 1908, 'Catalogus Dipteriorum,' III, (not Walker).

In the Kertesz catalogue the name *Artemita* is accepted for this genus although none of the species which Walker included in it are placed here in the catalogue. Obviously, then, Walker's name cannot apply to *Acanthina* Wiedemann and it was evidently not the author's (Walker's) intention to re-name *Acanthina*, nor to divide it, since he recognized *Acanthina* in the same List which contains the description of *Artemita*.

The three species which are contained in the collection may be separated as follows:

- 1.—Metallic greenish-blue; head mostly shining rusty-reddish. *metallica*, n. sp.
Aeneous or blackish species. 2.
- 2.—Posterior orbits almost wholly shining black; eyes with a large round patch of black pile above. *elongata* Wiedemann.
Posterior orbits shining rusty-yellowish above, yellowish white on the lower half;
eyes wholly sparsely short pale pilose. *centor*, n. sp.

Acanthinomyia metallica, new species

MALE.—Length, 8 mm. Head shining; front dirty yellowish between the suture and ocelli; narrow facial orbits and the cheeks, yellowish pollinose, the cheeks somewhat golden; strongly thinned posterior orbits and the face, rusty reddish, the posterior orbits paler below; a large, narrow, triangular black spot above the antennae reaching to the suture; face strongly produced, the antennae situated at its tip. Proboscis and palpi blackish, the labellae obscure reddish below. Antennae brownish red, the terminal annulus of the third segment and the broad, flattened style, blackish. Front narrow, with parallel sides.

Mesonotum rather coarsely punctured, black-haired, with two fairly broad, posteriorly diverging (they reach the corners of the scutellum), weakly yellowish, shining pilose vittae which expand laterally in front to reach the humeri; pleura with a broad, pale-haired vitta above, widened above and beneath the wings, elsewhere black-haired. Hair of thorax wholly very short. Hair of the scutellum inconspicuous, the four short spines with reddish tips.

Legs black; broad apices of the femora, narrow bases of the tibiae, and the front tarsi wholly brownish red, the remaining tarsi yellowish white with the apical segments rather reddish yellow. Hair of the legs blackish; on the posterior four tarsi, pale yellowish.

Wings hyaline, with a pale luteous tinge anteriorly, the basal half, except behind, with a strong brownish tinge. Squamae and fringe brownish. Halteres pale yellow.

Hair of the abdomen inconspicuous except as follows: fairly long and black on the whole of the first and base of the second segment; a large lateral triangle covering most of the second and the base of the third segment, sides of the fourth segment narrowly and the moderately wide depression of the fifth, with rather sparse, coarse, silvery whitish hair. Venter with moderately conspicuous white hair.

TYPE.—Male, Kartabo, May 26, 1924 (No. 24725).

***Acanthinomyia elongata* Wiedemann**

Acanthina elongata WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 52.

Three males and one female Kartabo, July 24, 1922; four specimens, Kartabo, October 10, 1920 (No. 20832), February 6, 1921 (No. 21121), March 9, 1921 (No. 21125), and March 9, 1921 (No. 21236); female, Kartabo, March 22, 1922; male (?), Kalacoon, Bartica District, March 22, 1916, bearing label, "eyes decorated"; the head is missing and the specimen otherwise damaged. Three males, 1924, two from Kartabo, March 10 and June 5 (No. 24821), and one from Bartica, April 24.

Originally described from "South America." The above specimens agree perfectly with Wiedemann's description. The two sexes are quite similar: the eyes are not contiguous in either sex, but closely approximated in the male.

***Acanthinomyia centor*, new species**

Very similar to *aurata* Macquart in markings, but the pale markings are yellowish white, not at all golden yellow. Length, 6 mm.

FEMALE.—Face brown, receding, head scarcely produced forward; front ferruginous, rusty reddish on the upper third, the broad facial and frontal orbits, narrowly interrupted at the junction of the face and front, and the broad posterior orbits, yellowish white, the posterior orbits more yellowish above; facial orbits and cheeks white pubescent; face and frontal orbits with very short white pile, the head elsewhere bare. Palpi and proboscis brown, the labellae largely luteous. Antennae rusty reddish with the apical annulus reddish brown, the broad style blackish.

Thorax silvery white pilose, the pile on the mesonotum with a yellowish tinge; a broad median vitta, a large, suboval spot on either side in front of the suture and the space outside the vitta behind the suture, short black-haired except that a large triangle projects forward from the posterior calli, half cutting each posterior black area in two. The convex scutellum bears appressed short pale hair and four luteous, fairly long spines.

Wings grayish beyond the discal cell and on the posterior border; a pale somewhat brownish cloud extends back from the basal half of the brown stigma over the cross-veins. Squamae brownish, with white fringe. Halteres yellow.

Sides of the abdomen rather broadly silvery white-haired, the pale hair extending broadly inward on the lateral fourth of the second segment to form an arch, its outer

end near the middle, its inner end near the base of the segment; on the third and following segments it is expanded into a large, transverse basal triangle, and the fourth and fifth segments bear, in addition, a broad, pale-haired vitta on either side of the broad depression, these vittae only narrowly separated from the lateral triangles, or even connected to them; hair on the venter silvery white, but less abundant; on the dorsum, except as mentioned, short, appressed, blackish or brownish.

TYPE.—Female, Kartabo, October 25, 1920 (No. 20269).

EURYNEURA Schiner

Euryneura rufifrons, new species

Black, except portions of the head. Hardly a true *Euryneura* as the antennae are situated near the lowest fourth of the head and are more elongate than usual, the third segment with six annuli. Length, 7 mm.

FEMALE.—Front, except the lower fourth, and the upper half of the fairly broad posterior orbits, rusty reddish, rather shining; front swollen except below, with a broad, not sharply defined median longitudinal depression which is divided by a low, very sharp, carina, the more strongly raised lateral portions with irregular furrows, on either side at the vertex with small, strongly raised portions of a blackish color. Antennae brownish red, brownish apically; arista over half as long as the terminal annulus. Raised portion of the front with inconspicuous but fairly long, fine, appressed hairs, the occiput on the lower half, face and the sides of the front below, silvery-whitish pollinose and short white pilose. Palpi and proboscis black. Ocellar tubercle fairly strong, in line with the upper corners of the eyes.

Mesonotum with appressed dull golden-yellow pile; with a pair of fairly broad, posteriorly diverging and widening black vittae, and a second vitta on either side commencing above the wings and extending half-way beyond the suture inside the humeri. The sides in front of the wings are broadly paler pilose, while the pleura bear appressed silvery pile, except a large median bare rectangle on the mesopleura above; pteropleura and anterior half of the hypopleura with inconspicuous black hair, the hypopleura with brownish pubescence. Spines of the golden-yellow pilose scutellum short and black.

Legs black, the tarsi obscurely reddish basally in some specimens. Anterior femora very much thickened, strongly narrowed apically, between the middle and the apical third with an angular, thinned plate which tapers exteriorly to the apical fourth of the femora.

Wings cinereous hyaline. Squamae brown, with whitish fringe. Halteres reddish or orange.

Abdomen with very short black hair, the sides of the second to fourth segments each with a large, more or less rectangular whitish pilose spot on the apical two-thirds or more, that on the fourth segment produced inward along the posterior border; on the fifth segment the pale spots are subtriangular and extend forward on their inner ends almost to the base of the segment behind the inner ends of the spots on the preceding segment, the spots separated from each other by a rectangular, longitudinal blackish area. Venter with pale pile.

TYPES.—Holotype, female, Kartabo, May 26, 1924 (No. 24726). Paratypes: two females, Kartabo, May 23, 1924, both without antennae, one without wings; and one female, Kartabo, June 11, 1924.

Superficially this species resembles some of the species of *Cyphomyia*.

CHRYSOCHLORA Latreille

The following table separates the described species belonging to this genus.

- | | |
|---|-------------------------------|
| 1.—Front with black vitta or largely black | 2. |
| Front yellow, at most the ocellar triangle brown | 10. |
| 2.—Face yellowish, at least below | 3. |
| Face blue or green | 9. |
| 3.—Front purplish | <i>annulipes</i> Walker. |
| Front partly yellowish | 4. |
| 4.—Scutellum yellowish, the base black; mesonotum always vittate | 5. |
| Scutellum black, the apex broadly yellowish or the thorax not vittate | 8. |
| 5.—Second segment without a median pale vitta | 6. |
| Second segment with median pale vitta | <i>pluricolor</i> Bigot. |
| 6.—Wings with dark cloud at middle and near apex (Brazil) | <i>willistoni</i> Curran. |
| Wings evenly clouded on apical half, at least in front | 7. |
| 7.—Costal border evenly brown; abdominal segments without median black spots (Guiana) | <i>castanea</i> Macquart. |
| Costal border not noticeably darker than apical half of wing; segments each with a median black spot (Colombia) | <i>femorales</i> Curran. |
| 8.—Thorax vittate (Cuba) | <i>quadrilineata</i> Bigot. |
| Thorax not vittate (Galapagos) | <i>fasciata</i> Thomson. |
| 9.—Front with two yellowish spots anteriorly (Venezuela) | <i>maculiventris</i> Rondani. |
| Front wholly metallic (Mexico) | <i>purpurea</i> Walker. |
| 10.—Pleura and pectus wholly yellow (Brazil) | <i>incompleta</i> Curran. |
| Pleura and pectus in part brownish or black | 11. |
| 11.—Pectus in part black | 12. |
| Pectus wholly pale, scarcely darker than pleura | <i>varia</i> Curran. |
| 12.—Costal border of wings broadly and evenly brown | <i>similis</i> Macquart. |
| Costal border luteous or not evenly brown | 13. |
| 13.—Wings with median and apical brown spot on anterior half | <i>vespertilio</i> Fabricius. |
| Wings evenly luteous in front | <i>pulchra</i> Williston. |

Chrysochlora varia Curran

CURRAN, 1929, Amer. Mus. Novitates, No. 339, p. 3.

Five specimens of both sexes, Kartabo, August 16, 1922; Kartabo, November 1, 1920 (No. 20840); (A19), (A2).

HERMETIA Latreille

There are nine species belonging to this genus in the collection, four of them undescribed.

TABLE OF SPECIES

- | | |
|---|----------------------------|
| 1.—First two segments of the posterior tarsi white or yellow | 3. |
| Posterior tarsi black, the apical one or two segments yellowish | 2. |
| 2.—Scutellum reddish, the hair reddish yellow | <i>pulchra</i> Wiedemann. |
| Scutellum black, the hair white | <i>coarctata</i> Macquart. |

- 3.—Tibiae in large part black or brownish.....6.
Tibiae creamy white or at most partly reddish.....4.
- 4.—Face angulate below from frontal view.....*flavipes* Wiedemann.
Face broadly rounded below.....5.
- 5.—Scutellum black, with reddish border.....*aurata* Bellardi.
Scutellum yellow, with the base very broadly black.....*chrysopila* Loew.
- 6.—Abdomen strongly constricted sub-basally.....7.
Abdomen broad, not constricted.....8.
- 7.—Narrowest part of abdomen with a narrow, entire, reddish band. *sphcodes*, n. sp.
Narrowest part of the abdomen with a wide, interrupted, yellowish band.
ceriogaster Williston.
- 8.—Abdomen with one or two clearly defined whitish or yellowish spots on the second
segment, or this segment mostly pale.....10.
Abdomen wholly black or the second segment only obscurely reddish in front. 9.
- 9.—Tarsi wholly yellowish white.....*teevani*, n. sp.
Apical two or three tarsal segments brown.....*beebei*, n. sp.
- 10.—Wings brownish or brownish gray, almost uniformly colored.....11.
Wings hyaline on basal half, at least in front.....12.
- 11.—Front wholly blue-black on the upper two-thirds; yellow of the second ab-
dominal segment not divided.....*mitis*, n. sp.
Front with a yellow spot on either side above the middle and another at the
vertex.....*illucens* Linnaeus.
- 12.—Discal cell hyaline.....*apicalis* Wiedemann.
Discal cell grayish (*flavifrons* Macquart).....*albitarsis* Fabricius.

***Hermetia pulchra* Wiedemann**

WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 24.

Male and two females, Kartabo, April 12, May 14, 22, 1924.

***Hermetia flavipes* Wiedemann**

WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 26.

Male and female, Kartabo, 1922, and October 25, 1920 (No. 20755);
male, Bartica, April 20, 1924.

***Hermetia teevani*, new species**

Black, with pale pile. Related to *albitarsis* Fabricius but the third antennal segment is strongly widened basally, the front is differently shaped and the abdomen, except the narrow, incomplete base of the second segment, is black. Length, 10.5 mm.

FEMALE.—Facial orbits narrowly rusty reddish, the face with a longitudinal subtriangular spot above, the front with a slightly transverse, subtriangular orbital spot below, pale yellowish, both thinly short silvery-white pilose; a large, subtriangular spot on the face above and the front below, enclosing the antennae, pale rusty yellowish. Head with erect black hair, the upper half of the face and lower third of the front finely white-haired, the vertex with similar hair intermixed with the black; posterior orbits wholly silvery. Proboscis reddish yellow; palpi rusty reddish, short. Face scarcely produced downward; frontal callosity weak. Antennae brownish red on the basal half, black apically.

Humeri yellow. Hair of the thorax whitish, yellowish and more or less recumbent on the dorsum except laterally, but there are scattered black hairs and these form two solid patches on either side, one in front of, the other behind the suture; pleura with the usual bare area. Free border of the scutellum obscurely reddish.

Legs black, short black-haired, the anterior tibiae in front, the posterior pair dorsally and the tarsi, white-haired; basal third of all the tibiae and the whole anterior surface of the anterior pair, pale yellowish; tarsi yellowish white.

Wings brownish gray, somewhat paler on the basal half. Squamae and their fringe luteous. Halteres brown, with reddish stem.

Abdomen with the basal half of each segment (two-thirds of the fifth) black-haired, the segments elsewhere with silvery-white hair, the hair wholly short and appressed. Apical half of the first and basal half of the second sternite reddish yellow; first two sternites and the apical third of the following two white-haired, the hair elsewhere black and appressed.

TYPE.—Female, Kartabo, April 11, 1924.

***Hermetia beebei*, new species**

Shining black; of the size and shape of *H. illucens* Linnaeus. Length, 17 mm.

MALE (?).—A lanceolate spot on the middle of the face, facial orbits, spot on the frontal orbits below and another opposite the anterior ocellus yellowish, the frontal orbits between the spots largely reddish; a deep narrow furrow between the antennae; frontal swelling large, convex, moderately high. Hair of the head silvery white, very dense and appressed on the pale lower frontal and facial spots. Back of the head with silvery tomentum in some lights. Antennae black (third segment missing).

Mesonotum with three indistinct white vittae on the anterior half, broadly white-haired behind, the sides narrowly, the pleura wholly so except the usual bare areas. Humeri and posterior calli shining rusty-reddish; free border of the scutellum narrowly reddish except basally.

Legs black, tips of the femora and the broad bases of the anterior four tibiae reddish; basal third of the posterior tibiae yellowish white; posterior tarsi with the first two segments whitish, the tarsi elsewhere brownish above, yellowish below, the basal segments pale on the sides. Hair of the legs very short, appressed, rather silvery white, the apical one or two tarsal segments with black hair above.

Wings dark gray on almost the apical half and broadly along the posterior border except basally; hyaline basally, with a brownish streak in the two basal cells, this color extending through the discal cell and spreading to the costa beyond the stigma.

Abdomen with the apex of the fifth segment broadly obscure reddish, the sides of the second to fourth segments posteriorly with silvery-white haired spots, those on the first two segments transverse, those on the fourth extending almost the whole length of the segment, the hair elsewhere very short and blackish, the first two sternites white-haired.

TYPE.—Male (?), Kartabo, April 4, 1924.

***Hermetia illucens* Linnaeus**

Musca illucens LINNAEUS, 1758, 'Syst. Nat.,' II, p. 979.

Thirty-four specimens of both sexes from Kartabo (March to October), Arakaka, Bartica, Bartica District, and Penal Settlement; one

female, collected by A. Emerson, Kartabo, December 5, 1920 (No. 201230); one specimen August 9, 1920 (No. 20111) and another, No. 94.

This species is very common in the Neotropical region and its range extends far up into the United States.

***Hermetia mitis*, new species**

Black, the abdomen mostly reddish and whitish yellow; legs and face partly yellowish. Length, 7 mm.

MALE.—Head black, the front with bluish tinge; facial orbits and a spot on either side of the front at the lowest third, yellowish; a roundish spot above the antennae and a pair of more or less confluent spots below, reddish. Hair cinereous, erect on most of the front; very abundant, short and brassy yellow on the posterior orbits. Face and front with almost parallel sides, the face angulate below, the tubercular swelling in the middle of the front rather low. Eyes with sparse, short brownish hairs. Basal two antennal segments and the base of the third reddish, the remainder of the third segment and the style black, the former with brownish pollen.

Thorax shining black, the dorsum with moderately long yellowish pile, the pleura with whitish pile; scutellar pile shorter than that on the mesonotum and pale yellowish; scutellar margin brownish.

Coxae and femora blackish, with brownish-yellow hair, the apices of the femora reddish. Tibiae reddish yellow, the anterior pair brown on the median half of the posterior surface, the posterior pair on the apical two-thirds (middle legs missing); tarsi yellow, with yellow hair.

Wings grayish brown, the stigma brown. Halteres reddish with pale yellow knob. Squamae brown, with short, cinereous fringe.

Abdomen dull orange, the lateral margins and the whole of the first segment black, the second segment translucent yellowish-white. Hair reddish yellow, short and abundant.

TYPE.—Male, Kartabo (W. M. Wheeler).

***Hermetia apicalis* Wiedemann**

WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 25.

Female, Kartabo, May 3, 1924.

***Hermetia albitarsis* Fabricius**

FABRICIUS, 1805, 'Syst. Antl.,' p. 63.

Male, Kartabo, September 20, 1922.

***Hermetia sphecodes*, new species**

Dull black. Related to *ceriogaster* Williston, but at once distinguished from all the species with petiolate abdomen by the narrow reddish median band on the second abdominal segment and the grayish-hyaline wings which have almost the anterior half deep brown. Length, 16.5 mm.

FEMALE.—Facial orbits and a small, contiguous, transverse spot on the front below, reddish. Face produced rather strongly downward as a sharp cone. Hair of

the head whitish; on the sides of the beak below, sides of the front and on the cheeks, mostly black, the occiput with silvery reflection toward the orbits, mostly black pubescent above. Frontal callosity strongly produced upward, clothed with sparse black hair. Palpi and proboscis deep black; antennae opaque black on the apical half, reddish basally.

Mesonotum black-haired to a little behind the suture and above the wings, except the broad lateral, anterior border and humeri, where it is whitish-haired, behind the suture rather yellowish. Pleura whitish-haired, without bare area in front. Posterior half of the pteropleura and the rather narrow border of the scutellum, brownish red or luteous. Scutellum with yellowish hair.

Legs black, pale-haired; tips of the femora and bases of the tibiae brownish red; tarsi whitish, the apical three segments pale brownish above.

Wings grayish tinged, almost the anterior half blackish brown, bordered behind by a narrow, almost hyaline streak. Squamae and their fringe brown. Halteres brownish with yellowish stem.

Abdomen very strongly narrowed at the middle of the second segment where it is quite cylindrical, the narrowest part with a reddish-yellow band, elsewhere finely granulate, with rather abundant, short, appressed cinereous pile.

TYPE.—Female, Kartabo, April 11, 1924.

CYPHOMYIA Wiedemann

The species occurring in British Guiana, as represented in the collection, are separable as follows:

- 1.—First segment of the posterior tarsi white or pale yellow on the basal half or more.....2.
Posterior tarsi wholly black.....*auriflamma* Wiedemann.
- 2.—Abdomen with patches of shining pale pile.....4.
Abdomen wholly black-haired above.....3.
- 3.—Anterior femora and tarsi wholly pale.....*flavimana* Gerstaecker.
Anterior femora wholly, their tarsi except the first segment, blue or black.
cyanea Fabricius.
- 4.—Scutellar spines yellowish.....5.
Scutellar spines blue.....*cyanispinis* Bigot.
- 5.—Antennae wholly black.....*wiedemanni* Gerstaecker.
Antennae reddish on the basal half.....*pulchella* Gerstaecker.

Cyphomyia auriflamma Wiedemann

WIEDEMANN, 1819, 'Zool. Mag.,' I, p. 3.

Female, Kartabo, July 24, 1922 (No. 22408). Dug from sawdust, under bark.

Cyphomyia flavimana Gerstaecker

GERSTAECKER, 1857, *Linnaea Entom.*, XI, p. 291.

Female, Kartabo, March 5, 1924.

Cyphomyia cyanea Fabricius

Stratiomys cyanea FABRICIUS, 1794, 'Ent. Syst.,' IV, p. 265.

Male, Kartabo, May 10, 1924; female, "British Guiana," No. 95.

Cyphomyia cyanispinis Bigot

BIGOT, 1875, Ann. Soc. Ent. France, p. 487.

Female, Kartabo, March 10, 1924.

Cyphomyia wiedemanni Gerstaecker

GERSTAECKER, 1857, Linnaea Entom., XI, p. 302.

Male, Kartabo, August 5, 1920 (No. 2069); two females, Kartabo, November 10, 1920 (No. 20922), November 12, 1920 (No. 201173); female, Kartabo, April 10, 1922; two females, Kartabo, 1921; male, Guanoco, Venezuela, October 19, 1922.

The male agrees with the description of *C. leucocephala* Wiedemann in having a complete silvery-haired fascia in front of the scutellum.

Cyphomyia pulchella Gerstaecker

GERSTAECKER, 1857, Linnaea Entom., XI, p. 309.

Two females, Kartabo, 1920, one, August 18.

Promerania Walker

One of the three species referred to this genus is before me.

Promerania vittata Walker

WALKER, 1854, 'List Dipt. Brit. Mus.,' V (Suppl. 1), p. 306.

Male, Kartabo, August 6, 1922.

Stratiomys Geoffroy

Only one species in the collection belongs to this genus. It appears that the species recorded below is distinct from *S. mutabilis* Fabricius, under which it is placed as a synonym in the Kerteszi catalogue.

Stratiomys aleus Walker

Acrochaeta aleus WALKER, 1849, 'List Dipt. Brit. Mus.,' III, p. 526.

Two males, Kartabo.

Odontomyia Meigen**Odontomyia heteroneura** Macquart

MACQUART, 1838, 'Dipt. Exot.,' I, part 2, p. 186.

Male, Kartabo, April 5, 1922.

This specimen shows some differences from the original description in the color of the legs: the anterior four femora are brownish on the

apical half, all the tibiae black, the posterior pair with a broad yellow median band, the apical three tarsal segments brown, the legs elsewhere reddish yellow.

PEDICELLA Bigot

BIGOT, 1856, Ann. Soc. Ent. France, p. 63.

Sargus FABRICIUS, 1798, 'Ent. Syst.,' Suppl., p. 549 (not Walberg).

Macrosargus BIGOT, 1897, Ann. Soc. Ent. France, p. 187.

Geosargus BEZZI, 1907, Wien. Entom. Zeitg., XXVI, p. 53.

There are evidently two species of *Pedicella*, in the strict sense, in the collection. One of these has broad posterior, interrupted fasciae of yellow pile on the second to fourth segments while the other entirely lacks them; both species have the legs pale except the apical two or three tarsal segments. Without abundant material it is impossible to determine the species belonging to this genus with any degree of certainty. One of these is, I think, *claviventris* Rondani, but I cannot be certain.

PTECTICUS Loew

There is only one species of *Ptecticus* in the collection, but it is evidently undescribed. In searching the literature it became evident that Wiedemann apparently redescribed *P. testaceus* Fabricius under the name of *Sargus posticus*, as Wiedemann's description of *testaceus* does not agree with that given by Fabricius in 'Systema Antliatorum,' the color of the posterior tarsi disagreeing. In *Ptecticus* there is often great variation in the amount of black on the abdomen and in the species herein described the variation is most marked. The three Neotropical species before me are tabulated, but I am not at all certain that *P. cyanifrons* Rondani is more than a variety of *testaceus* Fabricius.

TABLE OF SPECIES

- 1.—Second and third segments of the hind tarsi whitish, the first and apical two, black.....2.
Posterior tarsi black, with the first segment mostly whitish.....3.
- 2.—Front in both sexes metallic black above the callus.....*cyanifrons* Rondani.
Front above the callus rusty reddish except a small, brown ocellar spot (*posticus* Wiedemann).....*testaceus* Fabricius.
- 3.—Posterior tarsi blackish, the base sometimes obscurely reddish..*inversus*, n. sp.
Posterior tarsi broadly whitish basally.....*testaceus* Wiedemann, not Fabricius.

Ptecticus inversus, new species

Rusty reddish or reddish yellow, the abdomen with black markings; posterior tibiae brownish red, their tarsi black. Length, 10 to 12 mm.

MALE.—Frontal callus and face rather whitish, the former with a shallow longitudinal sulcus, large; front narrowed below, but the eyes well separated, with erect,

long black hair, the hair elsewhere on the head fine and whitish, on the antennae mostly yellowish. Antennae reddish yellow, the first segment quite pale; arista brown, situated at the upper corner of the third antennal segment.

Thorax black-haired above, anteriorly and laterally in front of the wings broadly, and on the pleura, pale yellowish-haired. Scutellum with short, appressed black hair.

Legs reddish yellow, with yellowish hair; the posterior legs, except behind, and the apical three segments of the tarsi, black-haired; the hair rather abundant on the posterior tibiae which are more often than not brownish-tinged on much of their surface, but often quite pale in ground color, their tarsi blackish, the first segment rarely broadly reddish basally; the apical two segments of the anterior tarsi black, the preceding segment usually brown.

Wings cinereous hyaline, with slight luteous tinge, a little darkened apically in front. Squamae reddish, with pale fringe. Halteres reddish yellow, with brown knob.

Abdomen pale, with blackish or brown markings which usually form fasciae on each segment except the first; but these are often absent on one or other of the segments and they are usually more or less distinctly connected toward the sides, especially those on the apical segments. Hair short, rather abundant, black; yellow on the first three sternites and the sides of the first three or four tergites.

TYPES.—Holotype, male, Kamakusa, British Guiana (H. Lang). Paratypes: three males, same data; male, Kartabo, 1921; male, Kartabo, May 16, 1924. Two additional males are without heads: one from Kartabo, August 23, 1920, and one from Kalacoon, 1916.

MEROSARGUS Loew

The collection contains but two species belonging to this genus. The species I have recognized may be separated by means of the following table.

TABLE OF SPECIES

- 1.—Posterior tibiae practically wholly black in ground color. 3.
 Posterior tibiae white or yellowish on the basal third or more, or with a broad white band before the middle. 2.
- 2.—Anterior four tarsi with the apical three segments black, the legs reddish yellow, the apical half of the posterior tibiae black. *bequaerti* Curran.
 Tarsi whitish, the apical two or three segments of the posterior pair black; posterior tibiae black on apical half, brown on basal fifth, white between. *cingulatus* Schiner.
- 3.—Mesonotum green or bluish. 4.
 Thorax rusty reddish-yellow. *subinterruptus* Bellardi.
- 4.—Tarsi black apically; posterior femora black on the basal half or more. 5.
 Tarsi wholly white. *gowdeyi* Curran.
- 5.—At most the immediate base and the extreme apex of the posterior femora reddish. 6.
 Broad apex of the posterior femora reddish. *fasciatus* Fabricius.
- 6.—Legs black except the basal tarsal segment of the posterior four legs which is yellowish. *intensicus* Curran.
 Anterior four legs reddish, all the tarsi black apically. *stamineus* Fabricius.

Merosargus subinterruptus Bellardi

Sargus subinterruptus BELLARDI, 1859, 'Saggio di ditteol. Messico,' I, p. 44.

Four specimens from Kartabo, 1920 and 1921.

Merosargus cingulatus Schiner

SCHINER, 1868, 'Novara Reise,' Dipt., p. 62.

Five specimens from Kartabo, 1921, and March 13, 18, and 30, 1924.

The third antennal segment varies in color from reddish to brown. This has been considered a synonym of *stamineus* Fabricius, but the color of the legs will serve at once to distinguish it. I have specimens of *stamineus* from Panama and Brazil.

PANTOPHTHALMIDAE

The collection contains four species belonging to this peculiar family. There are three genera in the family, which is known only from America.

KEY TO GENERA

- 1.—Palpi with coarse hairs; form rather slender. *ATOPOMYIA* Austen.
Third palpal segment almost bare, sometimes very large; form broad. 2.
- 2.—Third palpal segment very large. *RHAPHIORHYNCHUS* Wiedemann.
Third palpal segment cylindrical, slender. *PANTOPHTHALMUS* Thunberg.

RHAPHIORHYNCHUS Wiedemann

Only a single species belongs to this genus which is readily identified by the large, subtriangular third palpal segment.

Rhaphiorhynchus planiventris Wiedemann

WIEDEMANN, 1821, 'Dipt. Exot.,' p. 60.

Five specimens, all females, from Kartabo, 1920, 1921, December 5, 1924 (No. 201303), and June 16, 1924.

PANTOPHTHALMUS Thunberg

The three species belonging here are separable by the key given below.

TABLE OF SPECIES

- 1.—Facial beak pointed. *conspicuous* Austen.
Beak rounded, tubercular. 2.
- 2.—Venter wholly blackish or brown. *tabaninus* Thunberg.
Venter reddish except the sides; mesonotum reddish, with three dark vittae and four spots. *vittatus* Wiedemann.

***Pantophthalmus conspicuus* Austen**

AUSTEN, 1923 (September), Proc. Zool. Soc. London, p. 581.

Originally described from a male and female from Honduras and Brazil respectively, its occurrence in British Guiana indicates the accuracy of the association of the sexes by Major Austen, who suggests that in life the abdomen of the female is probably greenish. In my specimen, which is very well preserved, the abdomen is rusty reddish with the lateral margin black, the usual white spots present. The specimen was taken at Kartabo, June 24, 1922.

***Pantophthalmus tabaninus* Thunberg**

THUNBERG, 1819, Göth. Kongl. Wett. Witt. Samh. Nya Handl., III, p. vii.

A female from British Guiana, measuring over 40 mm., without data, and another specimen from Kartabo, May 4, 1924, measuring only a little more than 24 mm., exclusive of ovipositor.

***Pantophthalmus vittatus* Wiedemann**

Acanthomera vittatus WIEDEMANN, 1828, 'Ausser. Zweifl.,' I, p. 109.

Two specimens: male, Arakaka; female, Kartabo, 1924.

RHAGIONIDAE

By S. W. BROMLEY

Five species are represented in the present collection, all belonging to the genus *Chrysopilus*.

***Chrysopilus* Macquart**

GENOTYPE.—*Musca diadema* Linnaeus, the third species by designation of Westwood, 1840, 'Intr.,' II, Synops., p. 134.

***Chrysopilus fascipennis* Bromley**

BROMLEY, 1931, Amer. Mus. Novitates, No. 462, p. 8.

Small species with black thorax (golden pubescence on mesonotum, silver pubescence on pleura), pale yellow legs, abdomen yellow and brown and wings beautifully banded with brown. Length, 6 to 7 mm.

MALE.—Antennae brownish, second segment contrastingly white pruinose. Face and clypeus white pruinose. Labrum pale yellow. Beard white. Thorax deep brownish-black. Mesonotum with fine, short appressed golden pile. Pleura with white pile and bloom. Front coxae with rather long white hairs; the other coxae with both white and black hairs. Scutellum shining brown with a few short, fine black hairs. Postscutellum with a few silvery hairs and a scanty tuft of black hairs at sides. Legs pale yellow; tibiae and tarsi grayish. Halteres with yellow stems and brown knobs. Wings hyaline with three broad brown bands, the first at the base, the second at about one-third of the length of the wing and the last, the broadest, occu-

pies the apical half of the wing. The third band contains four hyaline areas: a spot on the outer portion of the first submarginal cell and two spots in the second submarginal cell while the second posterior cell has over half of its exterior portion hyaline. Abdomen with silver hairs at the base and sordid white hairs along the sides. Ventral segments one to five yellow, the rest black. Dorsal segments: first yellow, second yellow with median brown band, third brown with the borders yellow, fourth brown with only the anterior border yellow, the fifth and following, blackish brown.

Male, Kartabo, May 1, 1924; male, Kartabo, March 5, 1924 and another May 5, 1924.

***Chrysopilus rhagiodes* Bromley**

BROMLEY, 1931, Amer. Mus. Novitates, No. 462, p. 8.

A pale brown species with wings yellow basally, grayish apically, and a conspicuous brown stigma in the apex of the marginal cell. There is a stump vein at the base of the anterior branch of the third vein. Length, 11 mm.

FEMALE.—Mouth-parts and antennae pale yellowish, the arista brown; remainder of the head dark brown. Occiput grayish pollinose, the occipital bristles black; beard scanty, pale yellow. Thorax sordid brown, pleura and coxae paler. Mesonotum and scutellum with fine black hairs. Coxae with pale sordid yellow hairs. Postscutellum pale yellowish, parascutellum with pale yellowish hairs. Halteres pale yellowish-brown with dark knobs. Legs pale yellowish with gray-brown tibiae and tarsi. Wings with brown veins, the base pale yellowish; apical third and posterior border grayish; discal cell and a spot in the first submarginal cell nearly hyaline; veins bordered with brownish; a dark brown stigma in the apex of the marginal cell. Abdomen brown with short light brownish hairs, the first abdominal segment with blackish hairs on the dorsum. First tergite pale brown, the second, third and fourth pale brown with dark band, the fifth and following dark brown. One female from Panama has only the apical fifth of the wing grayish and no stump vein.

MALE.—Similar, but the abdomen lighter colored and with all tergites banded; no stump on the anterior branch of the third vein.

Female, Kartabo, May 12, 1924; male, British Guiana, March 11, 1913.

***Chrysopilus argenteofasciatus* Bromley**

BROMLEY, 1931, Amer. Mus. Novitates, No. 462, p. 9.

Brown species with reddish eyes, hyaline wings with brown stigma, and the abdomen velvety black banded with silvery-white pilose fasciae. Legs pale yellow with the tibiae and tarsi grayish. Length, 6 to 8 mm.

FEMALE.—Head, mouthparts and antennae brown. Eyes reddish. Occiput grayish-brown pollinose, with brown bristles; beard whitish. Thorax dark brown, the sides and coxae paler. Mesonotum and scutellum with fine appressed yellowish-white pile, the scutellum with dark, stronger hairs along the margin. Coxae with brown hairs. Wings hyaline with brown stigma in apex of marginal cell. Parascutellum with black hairs. Legs pale yellowish-brown with the tibiae and tarsi grayish. Halteres brown with the knobs darker. Abdomen deep velvety blackish-brown with fine black hairs and the anterior borders of the segments with bands of silvery-white pile.

Female, Kartabo, May 18, 1924; female, Kartabo, March 5, 1924.

Chrysopilus sericeus Bromley

BROMLEY, 1931, Amer. Mus. Novitates, No. 462, p. 9.

A small golden species with the tip of the abdomen black; wings hyaline (except for pale brown inconspicuous stigma); legs yellow, mesonotum with fine golden pubescence; eyes large, dark reddish-brown above, black below. Length, 5 mm.

MALE.—Eyes large, reddish brown above, black beneath, the rest of the head, including the mouth-parts, yellowish. Beard and occipital hairs light brown. Thorax light golden brown; legs yellow. Mesonotum and scutellum with fine golden pubescence. Halteres yellow, the knobs darker. Coxae and pleura with yellowish hairs. Wings hyaline, the veins yellow; a small, indistinct, pale yellowish-brown stigma in the marginal cell. Abdomen golden brown with concolorous hairs; fourth tergite with brownish median spot, the fifth with a brown band, the following tergites blackish brown. Venter yellowish brown.

Male, Kartabo, April 7, 1924.

Chrysopilus guianicus Curran

MALE.—Length, 5.5 mm. Globular portion of face brownish yellow, covered with similarly colored pollen, the face elsewhere brown with yellowish-gray pollen, the small frontal triangle brownish-yellow pollinose. Beard black. Antennae yellow, third segment brown, wider than long; arista brown, short pubescent. Vertical triangle prominent, and together with the occiput, brownish-ochreous pollinose, the ground color blackish. Proboscis reddish; palpi blackish with reddish base, the hairs black.

Mesonotum opaque rusty-brown with three obscure, linear darker vittae; clothed with golden tomentum, the posterior calli with some erect black hairs. Humeri, notopleura and posterior calli luteous, the scutellum and pleura slightly darker, the latter with diffuse yellowish-brown and grayish-yellow pollen. Propleura black-haired, the mesopleura and metapleura with deep golden pile, the hairs evidently brownish apically. Scutellum with marginal row of golden-brown bristles and some golden-yellow hairs.

Legs yellow, the tarsi brown except the first segment. Wings hyaline, the stigma luteous, of moderate size. Squamae transparent, with brown border and short fringe. Halteres reddish with brown knob.

Abdomen with the first three segments dull reddish, the fourth with a lateral reddish-yellow triangle behind and the narrow apices of the fourth and following segments reddish yellow, elsewhere opaque black. Pile golden yellow, erect, black on black portions. Venter with the first three sternites dull reddish, the remainder black, the golden pile extending along the middle to the apex of the abdomen.

Male, Kartabo (No. 20686).

MYDAIDAE

Only a single species belonging to this family is in the collection.

Mydas dives Westwood

WESTWOOD, 1841, 'Arcana Entom.', I, p. 50.

Two males, Kartabo, September 16, 1922 (No. 221098), and August 6, 1922.

The specimens measure about 45 mm. in length. The allulae are largely whitish.

ASILIDAE

BY S. W. BROMLEY

A very good representative collection of Asilidae was obtained at Kartabo and elsewhere in British Guiana and this material is here described.

In addition, collections loaned by Mr. C. W. Johnson, Dr. J. Bequaert, The American Museum of Natural History, the Academy of Natural Sciences of Philadelphia, and Cornell University were worked over and the data obtained added to the present paper.

In many cases the keys include species not as yet taken in British Guiana but whose relationships with the fauna now known are close and might be confusing.

A number of the genera were originally worked over in whole or in part by Dr. Curran and descriptions of several of the new species drawn up. These descriptions are credited to Dr. Curran.

KEY TO SUBFAMILIES

- 1.—Palpi one-jointed; antennae with a slender, bristle-like terminal arista. 2.
- Palpi two-jointed; antennae with or without a thickened terminal style, very rarely with a terminal arista. 3.
- 2.—Marginal cell open; very slender, nearly bare species
LEPTOGASTRINAE.
- Marginal cell closed; more robust and bristly. ASILINAE.
- 3.—Marginal cell open (very rarely closed at tip). . . . DASYPOGONINAE.
- Marginal cell closed. LAPHRIINAE.

LEPTOGASTRINAE

There is only one American genus in this subfamily—the genus *Leptogaster*.

LEPTOGASTER Meigen

MEIGEN, 1803, Illiger's 'Mag. f. Ins.,' II, p. 269.

Gonypes LATREILLE, 1804, 'Hist. Nat. d. Crust. et d. Ins.,' XIV, p. 309.

GENOTYPE.—*Asilus cylindricus* De Geer, 1776, 'Mem. pour serv. l'hist. d. Ins.,' VI, p. 249, Tab. xiv, fig. 13. Designation by Meigen as *tipuloides* Fabricius.

Three of the four species from the Bartica District are from Kartabo.

TABLE OF SPECIES

- 1.—Knob of halteres black or brown.....2.
Halteres wholly reddish yellow.....*pubescens*, n. sp.
- 2.—Posterior tibiae pale basally, blackish on apical half or more.....3.
Posterior tibiae with three brown and three pale bands.....*magnicauda*, n. sp.
- 3.—Pleura black except posteriorly.....*vorax*, n. sp.
Pleura wholly yellowish.....*tropica*, n. sp.

Leptogaster pubescens, new species (Curran)

Reddish yellow, the dorsum of the abdomen brown on the apical half. Length, 8 to 8.5 mm.

FEMALE.—Face white, the front and occiput brownish-yellow pollinose; four pale yellowish oral bristles; antennae reddish; third segment brown, twice as long as wide; style about as long as the third segment.

Thorax opaque, with brownish tinge along the median line, clothed with conspicuous pubescence, the dorsum with long black pile on the posterior half in the middle and shorter black pile in front; a single pair of black bristles situated above the wing; pleura with yellow pile in front. Scutellum with dark hair.

Posterior tibiae with a narrow brown median band; claws black; empodia very short. Hair of legs blackish, erect on the posterior femora.

Wings with brownish tinge, very narrowly gray at the tip; discal cell obtusely angulated apically.

Abdomen variable in color, sometimes brown except basally, or brown only on the apical half of the dorsum. Hair inconspicuous except laterally.

TYPES.—Holotype, female, Kartabo, 1921; paratypes, female, Bartica, May 22, 1901 (R. J. Crew), in Academy of Natural Sciences of Philadelphia; female, Bartica, December, 1912 (H. S. Parish), in Cornell University Collection.

Leptogaster magnicauda, new species (Curran)

Blackish; male genitalia globose. Length, 9.5 to 11 mm.

MALE.—Face and occiput gray, the front brownish-yellow pollinose; four whitish oral bristles. Hair of occiput white; orbital cilia blackish, short. Antennae brown, second segment and base of the third reddish; third segment three times as long as wide; style two-thirds as long as the third segment.

Mesonotum brown pollinose, the sides, posterior border, scutellum and pleura gray; hair of mesonotum black, short; one pair of notopleural and supra-alar bristles; scutellum with a few marginal hairs; pleura with short white hair in front. Posterior calli pale yellow.

Coxae reddish, the middle pair black. Legs reddish, the posterior femora on the basal half, and the basal two-thirds of the first tarsal segment yellow; apices of all the femora brown, the anterior pair with a broad, median, brown band, the middle pair with the brown band occupying about one-third of each femur, the posterior pair with a broad band just beyond the middle. Apical fifth of the tibiae brown, each with a broad brown band lying before the middle, the posterior pair brownish on the basal fifth and with the base paler. The pale basal bands of the tibiae are yellowish. Tarsi reddish brown; claws black; empodia absent.

Wings cinereous hyaline, with brownish tinge on apical half, at least in front. Apex of discal cell slightly angular in the middle. Halteres reddish, the knob brown. Squamae yellowish.

First abdominal segment yellow, the narrow apex and a broad median vitta brown. Dorsum brown pollinose, the broad apex of each segment, a basal band, a broad median band on the second segment, the lateral margins and venter, gray pollinose. The gray posterior band usually covers a yellowish ground but this pale fascia is often interrupted in the middle; base and apex of each sternite yellowish. Hair whitish. Genitalia shining black, the dorsal plate with black hair apically.

FEMALE.—Differs only sexually.

TYPES.—Holotype, male, and male paratype, Kartabo, October 21, 1920; allotype, female, Tumatumari, July 12, 1911; paratype, female, Kartabo, October 21, 1920. There are two other damaged males from Kartabo, November 25, 1920 and "1921."

***Leptogaster vorax*, new species (Curran)**

Black, the antennae and legs partly reddish. Length, 17 to 18 mm.

FEMALE.—Head grayish-white pollinose, the front with ochreous tinge; hair wholly white; six fine white oral bristles; base of proboscis yellow. Apex of second antennal segment reddish; third segment two and one-half times as long as wide; style longer than antenna.

Mesonotum shining black, the sides, posterior fifth, scutellum and pleura, whitish pollinose. Hair black on dorsum, the sides and pleura with whitish pile; scutellum with marginal hairs; notopleural bristle yellow, the supra-alar black. Humeri and posterior calli yellow.

Coxae yellow; femora reddish brown, becoming dark brown apically, the posterior pair with a broad yellow band at the apical fifth. Tibiae brown, the anterior pair whitish yellow above, the middle pair similarly colored on the basal fifth of the upper surface, the posterior pair similar on the basal fourth of the upper and lower surfaces. Tarsi blackish, the basal segment pale yellowish on the basal three-fourths. Empodia four-fifths as long as the claws.

Wings cinereous hyaline, the tips narrowly gray; posterior branch of fourth vein long, not simulating a cross-vein. Squamae whitish. Halteres yellow with blackish knob.

First abdominal segment yellow on sides and venter. Abdomen rather shining, the basal half of the second and a band on the middle of the third segment grayish pollinose. Apices of the apical three or four segments reddish laterally and one or more sometimes reddish on the whole width. Hair sparse, short, white.

TYPES.—Holotype, female, Tumatumari, July 13; paratype, female, Bartica, May 22, 1901 (R. J. Crew), in Academy of Natural Sciences of Philadelphia.

***Leptogaster tropica*, new species (Curran)**

Reddish and blackish; wings narrowly gray at apex. Length, 11.5 mm.

FEMALE.—Face whitish, the occiput gray pollinose, occipital cilia black, the hair whitish; four whitish oral bristles. Proboscis reddish, the base yellow. Antennae yellowish, the third segment black, four times as long as wide, the arista slightly longer than the third segment; first segment shorter than the second.

Thorax reddish, the pleura largely reddish yellow, the mesonotum shining ferruginous on the disc, the border, scutellum and pleura yellowish pollinose. Mesonotum bare in front, the obscure hair yellowish; notopleural and supra-alar bristles black; scutellum bare.

Legs reddish brown; coxae, base of femora and a broad band beyond the middle of the anterior tibiae, except ventrally, the posterior pair on the basal third of the upper surface and the basal segment of the anterior four tarsi except apically, yellowish. Anterior empodia about one-fourth as long as the claws.

Wings hyaline, the apex narrowly gray; first section of posterior branch of fourth vein oblique. Squamae yellow. Knob of halteres blackish.

Abdomen dark brown, the incisures yellow; first segment yellow except the tip and a median vitta. Pile black, yellow on sides and venter.

TYPE.—Female, Kartabo, May 16, 1924.

DASYPOGONINAE

KEY TO THE GENERA

- 1.—Front tibiae with a terminal, claw-like spur. 6.
Front tibiae not with a terminal, claw-like spur. 2.
- 2.—Pulvilli vestigial. 3.
Pulvilli normal (the hind pair rarely shortened). 4.
- 3.—Claws very long with a long tooth at the base of each claw; large species.
DICRANUS Loew.
Claws normal, smaller species. ABLAUTUS Loew.
- 4.—Four posterior cells. TOWNSENDIA Williston.
Five posterior cells. 5.
- 5.—Front broad anteriorly, very narrow behind, the ocelli far forward; elongate, slender species. PLESIOMMA Macquart.
Front not narrowed behind; head much broader than high; wings long and broad, abdomen short; hind tibiae distally and metatarsus thickened; small species. HOLCOCEPHALA Jaenke.
- 6.—Fourth posterior cell closed a considerable distance before the margin of the wing. 7.
Fourth posterior cell open or closed at margin. SAROPOGON Loew.
- 7.—Posterior pulvilli very much shorter than the elongate claws. 8.
Posterior pulvilli only scarcely shorter than the claws. 9.
- 8.—Abdomen coarctate; scutellum bare. BLEPHAREPIUM Rondani.
Abdomen normal; scutellum with bristles. ALLOPOGON Schiner.
- 9.—Scutellum without bristles; abdomen decidedly coarctate. SENOBASIS Macquart.
Scutellum with bristles. 10.
- 10.—Third segment of antennae dilated; thoracic dorsum with four longitudinal rows of bristles. LESTOMYIA Williston.
Third segment of antennae more slender, elongate. 11.
- 11.—Robust, thickly hairy species; in some the face covered thickly with hair.
LASTAURUS Loew.
More slender, bare species; mystax sparse and confined to the oral margin.
DEROMYIA Philippi.

No species of *Dicranus*, *Ablautus*, *Townsendia*, *Allopogon*, *Lestomyia*, or *Lastaurus* are represented in the collection. *Dicranus* and

Lastaurus are widely distributed throughout Central and South America. *Ablautus*, *Lestomyia*, and *Townsendia* are more typically North American, although a species of the latter occurs in the West Indies. *Allopogon* seems to be strictly a South American genus.

PLESIOMMA Macquart

MACQUART, 1838, 'Dipt. Exot.,' I, part, 2, p. 54.

GENOTYPE.—*Plesiomma testaceum* Macquart, 1838, 'Dipt. Exot.,' I, part 2, p. 54. by designation of Back, 1909, Trans. Amer. Ent. Soc., XXXV, p. 306.

TABLE OF SPECIES

- | | |
|--|---------------------------------|
| 1.—Mystax black. | 2. |
| Mystax yellowish. | 4. |
| 2.—Wings uniformly brown (Brazil) | <i>caminarium</i> Wiedemann. |
| Wings darkest along costal border. | 3. |
| 3.—Abdomen entirely brown; decidedly coarctate (Brazil) | <i>leptogastrum</i> Perty. |
| Abdomen black, the base brownish (Brazil) | <i>fuliginosum</i> Wiedemann. |
| 4.—Wings uniformly deep brown (Brazil) | <i>caedens</i> Wiedemann |
| Wings with costal margin darker or lighter than the rest of wing. | 5. |
| 5.—Wings with costal margin darker than rest of wing (♂) | <i>testaceum</i> Fabricius. |
| Wings with costal margin light yellowish, rest of wings grayish. | |
| | (♀) <i>testaceum</i> Fabricius. |

Plesiomma testaceum Fabricius

Dasypogon testaceum Fabricius, 1805, 'Syst. Antl.,' p. 617.

A yellowish-brown species with dark tarsi and posterior femora and tibiae. The anterior branch of the third vein bears a stump-vein as frequently occurs in this genus. Length, 16 to 19 mm.

Three males; two from Kartabo, April 7, 1922 and June 23, 1924, and one from the Bartica District, June 9, 1924. Three females; one Kartabo, June 4, 1922, one June 16, 1924, and one from Bartica June 5, 1901, collected by R. J. Crew and now in the collection of the Philadelphia Academy of Sciences.

HOLCOCEPHALA Jaennecke

JAENNECKE, 1867, Abhandl. Senckenberg. Naturf. Ges., VI, p. 359 (*Discocephala* Macquart, 1838, 'Dipt. exot.,' I, part 2, p. 56, preoccupied).

GENOTYPE.—*Dasypogon abdominalis* Say, 1823, Journ. Acad. Nat. Sci. Phil. III, p. 50.

TABLE OF SPECIES

- | | |
|--|------------------------------|
| Wings uniformly dark brown; thorax black with four yellow lines, the median two disappearing anteriorly; scutellum yellow. | <i>oculata</i> Fabricius. |
| Wings grayish, nearly hyaline, the basal two-fifths black; thorax reddish yellow, the disk velvety brown; scutellum reddish yellow. | <i>rufithorax</i> Wiedemann. |

Holcocephala oculata Fabricius

Dioctria oculata FABRICIUS, 1805, 'Syst. Antl.,' p. 151.

Dasypogon agalla WALKER, 1849, 'List Dipt. Brit. Mus.,' II, p. 361.

Kartabo, male, June 3, 1924; female, June 11, 1924.

Holcocephala rufithorax Wiedemann

Dasypogon rufithorax WIEDEMANN, 1828, 'Ausser. Zweifl.,' I, pp. 410 and 570.

Kartabo, male, 1921; female, March 14, 1924.

SENOBASIS Macquart

MACQUART, 1838, 'Dipt. Exot.,' I, part 2, p. 52.

GENOTYPE.—*Senobasis analis* Macquart, 1838, 'Dipt. Exot.,' I, part 2, p. 53, Tab. V, fig. 1.

TABLE OF SPECIES

- 1.—Antennae and abdomen wholly black.....*mendax* Curran.
Antennae with first segment reddish; the abdomen always partly reddish in ground color.....2.
- 2.—Antennae reddish; seventh abdominal segment of female largely opaque black.
tibialis Curran.
Antennae with the third segment wholly black or nearly so; seventh abdominal segment of female wholly shining.....*analis* Macquart.

Senobasis analis Macquart

Senobasis analis MACQUART, 1838, 'Dipt. Exot.,' I, part 2, p. 53, Tab. v, fig. 1.

Male, Kartabo (No. 21271); two males, three females, Kartabo, August 13, July 6, May 6, 1920, 1921, 1924; male, Bartica, April 25, 1924; male and female, Kartabo, December 5, 1920, and July 6, 1922.

Senobasis tibialis, new species (Curran)

Differs from *analis* in having the anterior and posterior tibiae wholly reddish, antennae wholly reddish and the seventh abdominal segment of the female mostly opaque black dorsally. Length, 19 mm.

FEMALE.—Face, cheeks, and lower fourth of front reddish yellow; face yellow pollinose, the front with ochreous pollen on the lower two-thirds; vertex shining black, occiput grayish pollinose. Hair and bristles yellow, reddish toward the vertex; four or six rather whitish oral bristles. Antennae reddish yellow.

Mesonotum opaque black, the broad margins reddish, with pale golden pollen, a rather narrow median vitta gray. Pleura brownish red, with pale golden pollen. Scutellum reddish, the corners black. Hair yellowish, the few hairs on the dark part of the mesonotum black.

Anterior legs reddish, their tarsi black; middle legs blackish with the broad base of femora and tibiae reddish; posterior legs reddish, the femora more or less brown except basally, the apices of the first and second tarsal segments and the whole of the apical segments, black. Hair and bristles reddish or reddish yellow, the tarsal hair mostly black.

Wings with grayish tinge which becomes more marked apically. Squamae reddish brown; halteres brown with reddish stems.

Abdomen deep reddish or brownish red, the basal half of the first segment except laterally, a fascia on the middle of the sixth segment which widens laterally to occupy all but the posterior border and the seventh segment except the apex, black; venter black on the apical half. Abdomen opaque; a broad basal fascia on the sixth segment, a large basal, transverse, subrectangular spot on either side of the seventh segment and the genitalia, shining black. Venter with brownish-gray pollen. Hair pale on basal half of abdomen, black on apical half.

TYPE.—Female, Kartabo (No. 21244).

***Senobasis mendax*, new species (Curran)**

Black, the intermediate abdominal segments with broad basal bands of grayish pollen, the sides of the abdomen wholly pollinose. Length, 14 to 16 mm.

MALE.—Face and broad sides of front on lower two-thirds golden pollinose, the two nasal bristles white or black, the sparse facial hairs black; front shining; occiput gray pollinose, the hairs mostly black, chiefly pale on the lower half, not abundant. Palpi black, with black hair. Antennae black, the first segment with reddish tinge beneath; third segment broad on apical half, pointed, with black hairs above.

Mesonotum dull black with a pale yellowish median vitta and golden-yellow side margins, the pleura and coxae gray pollinose, the pollen becoming brown on the upper part of the mesopleura. The few dorsal hairs are black, the pleura with very fine whitish hairs; bristles black. Scutellum moderately golden-brown pollinose, without hair or bristles. Hypopleura! bristles black and whitish.

Legs black, the femora reddish on their lower half, the short hair and bristles black; pubescence of front tibiae blackish. The long pulvilli are brown.

Wings cinereous hyaline, the apical third or less blackish. Squamae brown with very short brown fringe. Halteres brown with reddish knob.

Abdomen opaque black, the apical half of the seventh segment and genitalia more or less metallic blue. Basal two-thirds of the second, more than half of the third and about half of the fourth segment grayish or yellowish-gray pollinose leaving a large anteriorly rounded black posterior spot, the sides of these segments very broadly pollinose, the pollen tapering from the base of the fourth to the apex of the sixth segment. Hair sparse, appressed, black, pale yellowish on the sides of the first four segments and on the disc of the first, whitish on the genitalia.

FEMALE.—The legs are usually wholly black, the nasal bristles generally pale and usually a second weak lateral pair present. The second abdominal segment is brownish pollinose on the basal third, the third on the basal fourth or less while the fifth and following segments are metallic and often have reddish tips.

TYPES.—Holotype, male, Kartabo, May 5, 1924; allotype, female, May 6, 1924. Paratypes: male, two females, Bartica, April 17, May 2, 3, 1924; male, Bartica District, May 5, 1924; six males, three females, Kartabo, March 31, 1922, April 10, 1922, May 9, 1924, October 8, 1922, October 20, 1920 and (Nos. 2154, 2168, 20634, 20503); female, W. Bank Demerara River, February 9, 1923; two females, Arakaka. A male, Kartabo, May 20, 1924, is pinned with female *S. analis* on which it had apparently been feeding.

BLEPHAREPIUM Rondani

GENOTYPE.—*Blepharepium luridum* RONDANI, 1848, in Truqui, 'Studi Ent.,' I, p. 89, Tab. III bis, fig. 8.

TABLE OF SPECIES

- 1.—Posterior femora black basally; reddish or yellowish apically.....2.
Posterior femora uniformly colored.....3.
- 2.—Thoracic markings black (Cuba).....*annulatum* Bigot.
Thoracic markings reddish (Mexico).....*secabilis* Walker.
- 3.—Mostly black; proboscis black; posterior femora black or dark brown.
cayennensis Fabricius.
Mostly reddish yellow; proboscis reddish; posterior femora dark reddish-yellow
(Brazil).....*coarctatum* Perty.

Blepharepium cayennensis Fabricius

Asilus cayennensis FABRICIUS, 1867, 'Mantissa Insect.,' II, p. 360.

Senobasis auricincta SCHINER, 1867, Verh. zool.-bot. Ges. Wien, XVII, p. 371.

Black species, 22 to 25 mm. in length, with light yellow markings.

Female, W. Bank, Demerara River, February 9, 1923; three males, two females, Kartabo, 1921; female, Kartabo (No. 201118); male (No. 201194); male and female, Bartica District; female, Kartabo, October 11, 1920; female, Kartabo, September 20, 1922; female, Kartabo, July 11, 1922; four males and one female, May 1–June 31, 1920; four males, May 24, June 1, 1924.

DEROMYIA Philippi

PHILIPPI, 1865, Verh. zool.-bot. Ges. Wien, XV, p. 705.

Diogmites LOEW, 1866, Berl. Entom. Zeitsch., X, p. 21.

GENOTYPE.—*Deromyia gracilis* Philippi, 1865, Verh. zool.-bot. Ges. Wien, XV, p. 706, by designation of Williston, 1901, 'Biol. Centrali-Americana,' Dipt. I, p. 311.

TABLE OF SPECIES

- 1.—Thoracic dorsum with distinct black or dark-brown longitudinal markings...2.
Thoracic dorsum without such markings, brown; abdomen and legs brown, the tarsi darker, wings tinged with brownish, hyaline at base and along basal veins.....*aberrans* Wiedemann.
- 2.—Abdomen black with blue-gray bands.....*nigricauda* Curran.
Abdomen yellowish with dark markings.....3.
- 3.—Dark markings on abdomen interrupted, presenting the appearance of a median dorsal line of yellowish, sides of abdomen yellowish.....4.
Dark markings complete, forming bands over the dorsal surface of each segment.
fasciata Macquart.
- 4.—Postocellar bristles black (Brazil).....*lineola*, n. sp.
Postocellar bristles yellow (Cayenne; Venezuela).....*brunnea* Fabricius.

***Deromyia aberrans* Wiedemann**

Dasypogon aberrans WIEDEMANN, 1821, 'Dipt. Exot.,' p. 223.

Dasypogon examinans WALKER, 1851, 'Insecta Saunders,' Dipt., p. 90.

A brownish species, 18 to 22 mm. in length, with brownish thoracic dorsum punctate with yellowish.

Four males, Arakaka, Bartica, May 30, 1901; "Bartica Dist." and Kalacoon, Bartica Dist., 1916; five females, Bartica, June 14, 1901, "Bartica District"; Kartabo, July 7, 1922, and July 25, 1932 (with small *Atomosia* sp. as prey).

Walker's *examinans* is quite apparently a synonym.

***Deromyia nigricauda* Curran**

Deromyia nigricauda CURRAN, 1925, Trans. Amer. Ent. Soc., LI, p. 259.

The black abdomen and black line on the posterior aspect of the hind tibia and tarsus characterize this rather large species. Length, 23 to 30 mm.

Kartabo, March 4, 1924; June 8, 1924; "Bartica Dist.," April 10, 24, 26, 1924; May 10, 14, and June 25, 1924; "Arakaka"; Tukeit, July 7, 1911; Chenopowu, July 31, 1911.

***Deromyia fasciata* Macquart**

Dasypogon fasciatus MACQUART, 1834, 'Suite à Buffon,' I, p. 295.

The golden thoracic dorsum with three velvety black stripes, the grayish wings which are yellowish basally and anteriorly, and the yellowish coarctate abdomen with brownish bands are characteristic. Length, 14 to 19 mm.

Two specimens, Kartabo, one March 28, 1924, the other without date.

Deromyia lineola*, new species*Figure 22**

This is a rather striking species from Brazil having a length of 17 to 20 mm. A yellowish species with the dark brown markings on the thorax, characteristic of many species of this genus, and a row of large black maculations on each side of the abdomen.

Antennae yellow with black hairs, the third segment darkest, nearly brown. Face light yellowish pruinose. Mystax light yellow. Proboscis and palpi, as well as the palpal hairs, black. Postocellar and occipital bristles, black. Two black bristles on ocellar tubercle. Beard very thin, light yellowish, the postgenal bristles light yellowish. Thorax yellowish, the pleura with a light silvery bloom. Prothoracic bristles black for the most part; bristles of mesonotum black; a row of three or four black bristles and a few white hairs on the metapleura (parascutellum). The median thoracic line broadens anteriorly, extending over the pronotum where it becomes black; posteriorly it narrows, not quite reaching the scutellum, the two lateral spots of the same color as the median line. The scutellum is brownish, with a yellowish margin and bears two black bristles.

The wings are nearly hyaline, the interior of the cells along the posterior border and apex are very slightly smoky. Halteres yellowish.

Legs yellow with sparse black bristles. Coxal hairs and bristles light yellowish. The posterior femora bear a brownish spot at the apex and the distal portion of the posterior tibia is also brownish.

The venter of the abdomen is entirely yellowish. The narrow margins of the tergites on each side are yellowish, as are the posterior margins. The first and second segments bear a grayish band, but the succeeding segments bear black markings on each side leaving a broad median area of light orange which becomes narrower on the posterior segments. Genitalia yellowish. In the female, the ovipositor is dark reddish with slightly darker spines and fine black hairs.

TYPES.—Holotype, male, Chapada (Brazil), November; allotype, female, November 4. Paratypes: two males and two females, Chapada, November; female, Gloria, Brazil, November, 1885. All S. W. Williston collection.

SAROPOGON Loew

LOEW, 1847, *Linnaea Entom.*, II, p. 439.

Saropogon mellipes, new species (Bromley)

Length, 12 mm. Mystax, beard, palpal hairs and facial pruinosity light yellowish. Proboscis black apically, reddish basally. Palpi reddish. Antennae yellowish the third segment darker. Occipital and pronotal bristles black. Thorax yellowish with black median and lateral stripes, the median one broad anteriorly but not extending over the pronotum. Dorsal bristles black, the coxal hairs yellowish. Pleura, scutellum and postscutellum with golden bloom, the margin of the scutellum bearing two long, black bristles; a row of pale reddish bristles on the metapleura (para-scutellum).

Legs honey-yellow with the claws and bristles black. Wings long, hyaline basally, pale yellowish along the costal border, the apex and posterior margin very pale smoky. Halteres dull yellowish.

Base of abdomen pale yellow, the distal portion dark brown, becoming black at the tip, the fine hairs and bristles black. First segment yellowish with an indistinct brownish area on the dorsum; second segment pale yellow with a pale clouded area posteriorly, the narrow posterior margin very pale yellow, the second segment narrower than the first and slightly more than twice as long; third segment slightly broader and a little more than half as long as the second, the anterior and posterior margins pale yellow, the median area pale smoky, slightly darker than the posterior dark area of the second segment. The fourth to seventh segments are dark brown to black, the fourth being the lightest in color. The fifth segment is the broadest, the remainder tapering to the apex; eighth segment deep reddish-brown, as are the spines of the ovipositor.

TYPE.—Female, Kartabo, Bartica District, March 6, 1924.

LAPHRIINAE

KEY TO GENERA

- 1.—Front tibiae with a terminal spur.....2.
Front tibiae without a terminal spur.....4.
- 2.—Hind tibiae and metatarsi distinctly thickened.....*DORYCLUS* Jaennecke.
Hind tibiae and metatarsi not thickened.....3.
- 3.—Thorax projecting prominently in front.....*PSEUDORUS* Walker.

Thorax not projecting prominently in front (*Pronomopsis* Hermann).

MEGAPODA Macquart.

- 4.—Veins at distal ends of discal and fourth posterior cells parallel or continuous in the same straight line. 5.
 These veins very distinctly angulated and not parallel. 10.
- 5.—Third antennal segment with a distinct terminal style. 6.
 Third antennal segment without a distinct terminal style. 7.
- 6.—Scutellum without bristles; small species. ATONIA Williston.
 Margin of scutellum with bristles. ATRACTIA Macquart.
- 7.—Third segment of antennae at least three times as long as first two combined.
 APHESTIA Schiner.
 Third antennal segment not more than twice the length of the first two combined. 8.
- 8.—First antennal segment more than twice the length of the second; front widened above; eyes disciform, with enlarged facets in front. . CEROTAINIA Schiner.
 First antennal segment not more than twice the length of the second; margin of scutellum with upturned bristles. 9.
- 9.—Abdomen coarctate; body not punctulate. EUMECOSOMA Schiner.
 Abdomen not coarctate; body punctulate. ATOMOSIA Macquart.
- 10.—Antennae very long; the third segment at least three times as long as the first two; abdomen coarctate. RHOPALOGASTER Macquart.
 Antennae not exceptionally long; third segment less than three times as long as first two. 11.
- 11.—Proboscis in profile tapering to tip which is pointed and sometimes slightly upturned; ovipositor cylindrical. 12.
 Proboscis more or less cylindrical, of even thickness to tip which is truncate in profile; ovipositor not developed. 13.
- 12.—Very large stout, coarsely pilose species, resembling bees; mystax appressed over proboscis. DASYLLIS Loew.
 More slender, less pilose or finely pilose species; mystax normal.
 ANDRENOSOMA Rondani.
- 13.—Posterior femora greatly enlarged, frequently with spines below; posterior tibiae decidedly arcuate. LAMPRIA Macquart.
 Posterior femora not greatly enlarged, tibiae straight. . . . PHOLIDOTUS Hermann.

No species of *Doryclus*, *Pseudorus*, *Megapoda*, *Atonia*, *Aphestia*, *Cerotainia*, *Rhopalogaster*, or *Dasyllis* are represented in the present collection, these genera being included in the key for comparison.

The genus *Dasyllis*, the type of which is *haemorrhoea* Wiedemann, is quite strictly a South and Central American genus of which two other species besides the type are known, *croceiventris* Wiedemann, of which *fascipennis* Macquart is a synonym, and *erythrura* Hermann, 1912. The North American species previously placed in *Dasyllis* are entirely unrelated to the South American forms and constitute the genus *Bombomima* Enderlein.

***Atomosia tibialis* Macquart**

Atomosia tibialis MACQUART, 1846, 'Dipt. Exot.,' Suppl. 1, p. 76.

This small species, 6 to 8 mm. in length, apparently widely distributed through Mexico, Central and South America, is closely related to *puella* Wiedemann of N. America and *incisularis* Macquart, of Cuba, from both of which it may be distinguished by the more dense golden pubescence of the scutellum and posterior portion of the mesonotum, and the reddish-yellow coloration of the greater portion of the tibiae.

Several specimens at hand from Bartica, May 29, 1901, from the collection of Mr. C. W. Johnson. One male, Bartica, April 8, and one male labelled 1917—Penal Settlement, Bartica District, September 20, and two specimens taken at Belem, Para, Brazil, July 13, 1924, by Dr. J. Bequaert.

***Atomosia andrenoides*, new species (Bromley)**

Length, 10 to 11 mm. First two segments of antennae yellowish, the others missing. Proboscis black; palpi black with white hairs. Face silvery pruinose, with white hairs; mystax and beard white. Ocellar tubercle black, with two long bristles which may be either black or yellowish; occiput with yellow bristles and yellowish-brown bloom above, grayish below. Thorax black; prothorax and pleura silvery pruinose and pilose; pronotal bristles yellowish, the fine pile of the thoracic dorsum yellowish. Posterior calli light yellowish-brown with yellow bristles. A few yellow bristles in front of the wings and a few black ones above the wings; bristles on the margin of the scutellum brownish; a tuft of yellowish bristles on the parascutellum (metapleura).

Wings exceptionally long and broad, very pale smoky, nearly hyaline basally. Halteres yellow.

Legs yellow with yellow bristles and hairs. Posterior tarsi and apical part of pro- and mesotarsi as well as the posterior trochanter and tip of the posterior tibiae brownish. Venter of abdomen dull yellow; dorsum black with yellowish brown, rather broad, posterior margins and hairs, the lateral margins also yellowish brown, being particularly broadly so on the second to fourth segments.

Types.—Holotype, male, Kartabo, 1924 (No. 24676); allotype, female, Kartabo, August 23, 1922; paratype, Kartabo, May 23, 1924.

The large size, long broad wings, yellowish-brown posterior calli, light yellowish incisures of the abdomen and the rather bee-like appearance characterize this species.

***Atomosia bequaerti*, new species (Bromley)**

Length, 9 mm. Antennae exceptionally long, the third segment nearly twice the length of the first two and notched dorsally at not quite half the distance from the base to the apex; first and third segments black, the second brown; antennal bristles black. Palpi and proboscis black. Eyes with a greenish tint. Face, vertex, and occiput black; facial bristles, mystax, palpal hairs, beard, ocellar bristles and occipital bristles pale yellow.

Thorax black, covered with fine yellow pile. Lower part of pleura and a line in front of the wings extending to the humeral callus, silvery pruinose; pronotal, meta-pleural and scutellar bristles and the bristles of the posterior calli, yellow.

Wings nearly hyaline, iridescent; veins black, yellow at the base. Halteres yellow.

Legs yellow, with yellow bristles and hairs; distal segment of each tarsus, the apex of the posterior tibia, and the claws black.

Abdomen black covered with fine, short, sparse, appressed yellow pile; segments very narrowly margined with yellowish white, becoming a clearer white at the lateral margins. Bristles yellow.

TYPE.—Female, above Santarem, River Amazon, July 22, 1924. Received from Dr. J. Bequaert in whose honor the species is named.

EUMECOSOMA Schiner

SCHINER, 1866, Verh. zool-bot. Ges. Wien, XVI, p. 673.

GENOTYPE.—*Laphria pleuritica* Wiedemann, 1828, 'Ausser. Zweifl.,' I, p. 257; designation by Schiner, 1866.

TABLE OF SPECIES

- | | |
|--|------------------------------|
| 1.—Legs wholly black or only the knees narrowly reddish | 2. |
| At least the basal half of the anterior tibiae yellowish | 3. |
| 2.—Face of male golden yellow above, white below; of the female yellow on the sides, black in the middle | <i>metallescens</i> Schiner. |
| Face pale yellow or whitish | <i>hirsutum</i> Hermann. |
| 3.—Legs partly black | 4. |
| Legs wholly yellowish | <i>pleuritica</i> Wiedemann. |
| 4.—Anterior femora mostly yellowish | 5. |
| Anterior femora practically all black | <i>shropshirei</i> Curran. |
| 5.—Anterior four tibiae pale or only a little darkened apically | 6. |
| Anterior four tibiae blackish on the apical third or more | <i>gibbum</i> Curran. |
| 6.—Posterior tarsi blackish | 7. |
| Posterior tarsi yellow | <i>tarsalis</i> Curran. |
| 7.—Face yellow pollinose | <i>stauraphora</i> Schiner. |
| Face white pollinose | <i>mollis</i> , n. sp. |

Eumecosoma mollis, new species (Bromley)

Length, 8 mm. Head much wider than high; wider than the thorax. Abdomen narrower than thorax, the second and third segments constricted, the fifth broadest. Antennae black, the third segment about twice as long as the first. Third segment slightly broadened at two-thirds its length, with an extremely small terminal spine. Mystax sparse, black. Proboscis black. Face silvery pruinose. Palpi black, black-haired. Beard and the ocellar and occipital bristles black.

Thorax black, grayish pollinose with markings similar to *Andrenosoma*; the median black line widens anteriorly; bristles of thorax black. Scutellum grayish pruinose, with coarse, upturned black bristles along the margin. Pleura grayish pruinose.

Legs hairy, the posterior femora slightly dilated; femora and posterior tibiae piceus, the other tibiae light brown; apices of femora brown, the long hairs mostly black; tarsi and claws dark brown.

Wings long and wide, nearly hyaline, slightly iridescent, tinged with very pale yellowish basally. Halteres light brown.

Abdomen clavate, the second and third segments constricted, fourth broader, the fifth broadest, sixth narrowing, the seventh very small, black with a metallic bluish or purplish tinge (as have the dark portions of the legs). Venter yellowish. Anterior, posterior and lateral margins of the second to fourth segments light brownish; fifth segment laterally and very narrowly posteriorly margined with brown. Hairs of abdomen black.

Types.—Holotype, male, Bartica, May 21, 1901 (Philadelphia Academy of Sciences); paratype, male, Bartica, June 22, 1901, received from Mr. C. W. Johnson.

ANDRENOSOMA Rondani

RONDANI, 1856, 'Dipterol. Ital. Prodr.,' I, p. 160.

GENOTYPE.—*Asilus ater* Linnaeus, 1758, 'Syst. Nat.,' 10th Ed., p. 605, by designation of Rondani, 1856.

TABLE OF SPECIES

- 1.—First posterior cell closed. *clausicella* Macquart.
First posterior cell open. 2.
- 2.—Anterior branch of third vein with a stump-vein. *eraz*, n. sp.
Anterior branch of third vein normal. 3.
- 3.—Apex of abdomen black or dark brown. 4.
Apex of abdomen reddish. 5.
- 4.—Wings yellow at base, dark at tip. *rufipennis* Wiedemann.
Wings uniformly dark; abdomen, legs, and scutellum metallic greenish-blue;
large species, over 20 mm. in length. *cyaniventris*, n. sp.
- 5.—Base and most of tibiae reddish, only the apex black; wings hyaline with brownish areas. *xanthocnema* Wiedemann.
Tibiae wholly black or metallic. 6.
- 6.—Ground color of abdomen metallic blue or purple. 7.
Ground color of abdomen black. *punctata*, n. sp.
- 7.—Thorax brownish pruinose; mystax thickly haired (Venezuela, Columbia).
rubidapex Hermann.
Thorax grayish pruinose; mystax thinly haired. *elegans*, n. sp.

Under *Andrenosoma* Rondani are included a number of New World species which previously have been placed in the genus *Nusa* Walker. Miss Ricardo has shown, however, that Walker's *Nusa aequalis*, the type species, from the East Indies, is not related to the *Andrenosoma* forms but is a *Dasythrix*. As *Nusa* has priority over *Dasythrix* Loew, the *Dasythrix* species now become *Nusa* and reversion to Rondani's genus *Andrenosoma* for our American species which bear the distinguishing characters of the European *Andrenosoma ater* Linnaeus, the typical species of *Andrenosoma*, is necessary.

The genus *Andrenosoma* is not to be distinguished by the closure of the first posterior cell, which may or may not be the case, or by the arcuate

posterior tibiae which occur in other genera of the Laphriinae, but by the structure of the proboscis which tapers, becoming pointed or upturned at the tip, the relatively short antennae, the structure of the ovipositor which is elongate and cylindrical, the male genitalia, the slender body when compared with *Dasyllis* and *Hyperechia* to which genera, and *Proagonistes*, it seems most closely related, and the thoracic markings. This combination of characters should serve to separate easily our American species from *Laphria* or *Lampria* with which they have been sometimes confused.

Andrenosoma is an abundant genus in the American tropics and there are no doubt many undescribed species. The table presented is by no means complete, and further study of the entire South American group of this genus would be desirable.

***Andrenosoma clausicella* Macquart**

Laphria clausicella MACQUART, 1849, 'Dipt. Exot.,' Suppl. 4, p. 74, Tab. VII, fig. 6.

Laphria laticornis WALKER, 1855, 'List. Dipt. Brit. Mus.,' VII (Suppl. 3), p. 535.

Andrenosoma clausicella WILLISTON, 1891, Trans. Amer. Ent. Soc., XVIII, p. 81.

Nusa clausicella KERTÉSZ, 1909, 'Catalogus Dipteriorum,' IV, p. 198.

A small species, 8 to 12 mm. in length, with entirely black legs, deep red abdomen becoming blackish on the fourth and fifth segments, the apex reddish. Wings brownish with the bases clear, the first posterior cell closed.

Four males and one female, Kartabo (Nos. 2137, 20599, 20600, 20644, 20649); three males, Kartabo, August 23, 1922; male, Kartabo, July 15, 1922; female, May 23, 1924.

***Andrenosoma xanthocnema* Wiedemann**

Laphria xanthocnema WIEDEMANN, 1828, 'Ausser. Zweifl.,' I, p. 509.

Andrenosoma xanthocnema SCHINER, 1866, Verh. zool.-bot. Ges. Wien, XVI, p. 691.

Nusa xanthocnema ALDRICH, 1905, 'Cat. N. Amer. Dipt.,' p. 270.

Length, 15 to 20 mm. Abdomen reddish with the fourth and fifth segments darker. Tibiae reddish, except the tip, which is black; femora black. Mystax composed of stout bristles. Wings clear with the tip and median area gray.

Three males, Kartabo (Nos. 20601, 20630, 2059).

***Andrenosoma rufipennis* Wiedemann**

Laphria rufipennis WIEDEMANN, 1828, 'Ausser. Zweifl.,' I, p. 522.

Nusa rufipennis HERMANN, 1912, Nova Acta, Abhandl. Kaiser. Leopold-Carol Akad. der Naturf., XLVI, p. 248.

One male, Kartabo, October 25, 1920 (No. 20224).

***Andrenosoma erax*, new species (Bromley)**

A rather small grayish species related to *A. fulvicauda* Say. Length, 16 mm.

Antennae black, the third segment about the length of the first two; base of the third segment very narrow but it broadens rapidly, reaching its greatest width at about two-thirds the distance from the base to the apex. Face black in the center, silvery pruinose on sides; vertex and occiput silvery pruinose. Ocellar tubercle with two black bristles; mystax mostly black; the hairs on each side and next to the eyes, white. Proboscis and palpi black. Beard and palpal hairs white. Occipital bristles black.

Thorax black with an inconspicuous metallic-blue tint; with silvery pruinose markings immediately behind the humeral callus, in front of the wing insertion and in front of the posterior callus. Pleura silvery pruinose. Scutellum dark metallic-blue, with silvery pruinosity at the base, and a row of black bristles on the margin. Most of the pleural hairs white, the dorsal bristles and hairs, black; pronotal bristles black; metapleural tuft white.

Legs black, covered thickly with long, white, fine pile with a few black hairs intermingled, particularly on the distal portions of tibiae; claws and hairs on tarsi black.

Wings nearly hyaline, very faintly smoky beyond the middle; anterior branch of third vein with a stump branch.

Abdomen slender, dark metallic blue-black, the venter dark reddish. The second to fifth tergites under direct light appear deep reddish-brown, particularly at the incisures; this may, however, be due to the fact that the specimen is dried and the chitin is more or less translucent. The sides of the abdomen are fringed with fine long white pile; segments two to five bear a black bristle on each side, the first segment bearing two. There is a small silvery pruinose marking at the posterior lateral margins of segments two to four. The sixth and seventh segments and the genitalia are deep reddish-brown with reddish hairs, a few black hairs on the forceps. A female is similar but has black hairs on the palpi and the stump-vein is abortive.

Types.—Holotype, male, Bartica, June 12, 1901, received from Mr. C. W. Johnson; allotype, female, British Guiana, March 20, 1913.

***Andrenosoma elegans*, new species (Bromley)**

A medium-sized black species with the legs and abdomen beautifully metallic blue with purplish reflections and with the tip reddish brown. Length, 14 to 19 mm.

Antennae black, the third segment a trifle longer than the first two together. Palpi, proboscis, vertex and middle of the face shining black; occiput and sides of the face silvery pruinose. Mystax sparse, composed of fine black bristles, with white hairs at sides; palpal hairs black; beard white; the ocellar and occipital bristles black.

Thorax black with the usual silvery pruinose markings, described in the preceding species. Hairs of pleura white, the dorsal bristles black; metapleural tuft black. Scutellum deep metallic blue, the base silvery pruinose and the margin with several long stout black bristles.

Legs black with metallic bluish-purple tint and covered with long fine white pile with some black hairs intermingled. Hairs and bristles of tarsi black. Claws black.

Wings light brownish, hyaline at the base. Halteres pale dull-yellow.

Abdomen deep metallic-blue with purplish luster; the tip of the abdomen from the seventh segment on, reddish brown with reddish and some black hairs. Segments two to four bear on their posterior lateral margins a silvery pruinose spot which bears fine white pile. There is fine white pile along the margins of segments one to four and black pile along the margins of segments five and six; a black bristle on each side of segments two to four, and two on the first segment.

The female is similar.

Types.—Holotype, male, Kamakusa, collected by H. Lang and received from Dr. J. Bequaert; allotype female and paratype male, same data.

***Andrenosoma punctata*, new species (Bromley)**

Length, 19 mm. Antennae black, the third segment longer than the first two. Proboscis, palpi, middle of face and ocellar tubercle shining black; sides of face pale brownish pruinose, the occiput gray pruinose. Mystax black, with white hairs at the sides; beard white, the occipital bristles black.

Thorax black with the usual silvery pruinose markings. Pronotum and pleura dull silvery pruinose, with brownish tinge. Scutellum black with black hairs and marginal bristles. Metapleural tuft black above, white below; dorsal bristles black, the pleural hairs white.

Legs black, with white hairs and black bristles.

Wings light smoky, very light in interior of the cells and nearly hyaline at the base. Halteres pale brown.

Abdomen black with white hairs along the sides of the first five segments, the abdomen from the sixth segment on, reddish, with pale reddish hairs. Segments one to five have a narrow gray pruinose mark at the anterior lateral margin extending part way across the dorsal anterior margin; segments two to four have also a similar but narrower marking on the posterior lateral margin and on these segments the two markings are united by a narrow line along the lateral margin of the segment. Venter with segments one to five black.

TYPE.—Female, Kartabo, May 23, 1924.

***Andrenosoma cyaniventris*, new species (Bromley)**

Figure 23

Length, 23 mm. Antennae, palpi and proboscis shining black. Sides of face light yellowish pruinose; mystax black, with white hairs on each side; beard white; occipital bristles and palpal hairs black.

Thorax blue-black in ground color, with brownish tint, the hairs and bristles of the dorsum black, of the pleura and coxae white. Wings dark brown. Halteres pale yellowish-brown. Scutellum, abdomen and legs metallic dark greenish-blue. Tarsi with reddish-brown pubescence beneath. First four abdominal segments with white hairs and black bristles at the sides, the remainder with black and white hairs intermingled.

TYPE.—Male, Tukeit, B. G., August 15, 1911.

LAMPRIA Macquart

MACQUART, 1838, 'Dipt. Exot.', I, part 2, p. 60.

GENOTYPE.—*Laphria clavipes* Fabricius, 1805, 'Syst. Antl.', p. 162. Designation by Coquillett, 1910.

TABLE OF SPECIES

- 1.—Dorsum of thorax, scutellum, and abdomen glabrous . . . (♀) *spinipes* Fabricius.
Dorsum of thorax covered with fine golden pubescence 2.
- 2.—Distal third of abdomen with fine reddish-gold pubescence; genitalia reddish.
(♂) *clavipes* Fabricius.
Apex of abdomen black, metallic greenish or bluish 3.
- 3.—Ground color of abdomen dull black in both sexes; apex of abdomen and
genitalia of male black (Mexico) *aurifex* Osten Sacken.
Ground color of abdomen metallic 4.
- 4.—Mesonotum with golden pile; scutellum bare (Brazil) . . . *macquartii* Perty.
Mesonotum and scutellum with golden pile (♀) *spinipes* Fabricius.

Lampria clavipes Fabricius

Figure 24

Laphria clavipes FABRICIUS, 1805, 'Syst. Antl.,' p. 162.

This very striking and beautifully colored asilid appears to be quite abundant in British Guiana. The fact that all specimens are males and all specimens of the following species, *spinipes* Fabricius, are females from the same locations leads us to believe that *spinipes* is probably only the female of *clavipes*. No specimens have been taken in coitu, however, and hence the synonymy is not certain, but the assumption seems very probable. Macquart (1848, 'Dipt. Exot., Suppl. 3, p. 22) describes what he takes to be the female of *clavipes*. This description fits very well that of *spinipes*. He does not, however, mention the spines on the under side of the posterior femora, but this seems to be an evanescent character.

Clavipes is widely distributed in South America and also occurs in Panama.

Thirteen males, Kartabo, October 16, 1920; March 10, and April 29, 1922; March 2, March 10, and October 9, 1924; Bartica District, March 24, March 28, and April 14, 1924; one "British Guiana," No. 73.

Lampria spinipes Fabricius

Laphria spinipes FABRICIUS, 1805, 'Syst. Antl.,' p. 162.

Laphria affinis FABRICIUS, 1805, 'Syst. Antl.,' p. 163.

Represented only by female specimens. Some have the mesonotum and scutellum glabrous, others have golden pile on both mesonotum and scutellum and even the base of the abdomen. I am inclined to consider *spinipes* to be the female of *clavipes*, dimorphic in the female sex. This would explain the two different descriptions of the female of *clavipes*, the first by Macquart (1848, 'Dipt. Exot.,' Suppl. 3, p. 22) describing the glabrous form and the second by Schiner (1868, 'Novara Reise,' Dipt., p. 174) describing the form with the golden pile.

Eleven females, Kartabo, 1920, June 14, 1924; No. 20499, No. 20941, No. 20944, June 12, 1922, July 19, 1922, July 31, 1924; Bartica District, April 13, 1924; May 19, 1924; April 6, 1924.

Lampria macquartii (Perty)

Laphria macquartii PERTY, 1830-1834, 'Delect. animal. articul. Brasil.,' p. 181, Tab. XXXVI, fig. 3.

I am inclined to consider *macquartii* to be one of the forms of the female of *clavipes*.

PHOLIDOTUS Hermann

HERMANN, 1912, Nova Acta, Abhandl. Kaiser. Leopold-Carol Akad. der Naturf., XCVI, p. 229.

GENOTYPE.—*Pholidotus rubriventris* Hermann, 1912, Nova Acta, Abhandl. Kaiser. Leopold-Carol Akad. der Naturf., XLVI, p. 229.

Pholidotus rubriventris Hermann

Length, 18 mm. Thorax black marked with gray as in *Andrenosoma*. Mystax sparse, black. Legs black. Abdomen deep reddish. Basal half of wings hyaline, the rest black. Female, Bartica, April 30, 1901, from C. W. Johnson.

ASILINAE

KEY TO THE GENERA

- 1.—Arista of antennae pectinate below. OMMATIUS Wiedemann
Arista bare. 2
- 2.—Three submarginal cells. 3
Two submarginal cells. 5.
- 3.—Claws pointed. PROMACHUS Loew.
Claws obtuse. 4.
- 4.—Robust, densely pilose species, the abdomen decidedly shorter than the wings;
genitalia small, the ovipositor not developed. MALLOPHORA Macquart.
More slender and scantily pilose species; genitalia similar to *Promachus*, the
ovipositor long, the lateral compression of the segments including the sixth
to eighth. PROMACHINA Bromley.
- 5.—Third joint of antennae usually hairy; wings broad and longer than abdomen.
Third joint of antennae bare. ANARMOSTUS Loew. 6.
- 6.—Arista thickened preapically; tip very fine, pointed; mystax sparse; scutellum
without long hairs or bristles, facial gibbosity small, restricted to oral margin.
Arista not noticeably thickened preapically. PACHYCHOETA¹ Bigot. 7.
- 7.—Front very narrow, about the thickness of the proboscis immediately beneath
antennal insertion. SENOPROSOPIS Macquart.
Front not abnormally narrow. 8.

¹Cf. *Lecania* Macquart. I have never identified this genus. In case of synonymy *Lecania* would have priority over *Pachychoeta*.

- 8.—Ovipositor cylindrical, with a terminal circlet of spines.....9.
 Ovipositor compressed laterally without a circlet of spines; anterior branch of third vein usually with a stump-vein.....*Eraz* Scopoli.
- 9.—Abdomen shorter than wings, broadened at base and sharply tapering; short, compact species.....*Ecritosis* Schiner.
 Abdomen longer than wings, elongate species.....*Proctacanthus* Macquart.

OMMATIUS Wiedemann

WIEDEMANN, 1821, 'Dipt. Exot.', p. 213.

Emphysomera SCHINER, 1866, Verh. zool.-bot. Ges. Wien, XVI, p. 845.

GENOTYPE.—*Asilus marginellus* Fabricius, 1781, 'Species Insect.', II, p. 464, by designation of Coquillett, 1910.

TABLE OF SPECIES

- 1.—Posterior tibiae wholly brown; rest of legs yellowish.....*apicalis* Schiner.
 Posterior tibiae yellowish or reddish on basal fourth or more.....2.
- 2.—Scutellum with marginal bristles.....3.
 Scutellum without marginal bristles; middle femora with one or more coarse black bristles below (North America).....*tibialis* Say.
- 3.—Middle tarsi wholly black or brown.....4.
 Middle tarsi with first segment mostly yellow.....6.
- 4.—Middle tibiae black on lower surface.....*orenoquensis* Bigot?
 Middle tibiae mostly yellowish.....5.
- 5.—Second posterior cell narrowed near its apex (Mexico).....*amula* Curran.
 Second posterior cell not at all narrowed.....*norma* Curran.
- 6.—Posterior femora with setigerous tubercles only on the anteroventral surface (in female; male without coarse bristles).....*neotropicus* Curran.
 Posterior femora with setigerous tubercles on antero- and posteroventral surfaces.....*marginellus* Fabricius.

Ommatius orenoquensis Bigot

Ommatius orenoquensis BIGOT, 1876, Bull. Soc. Entom. France, p. lxxxv.

A small individual, 7 mm. in length, from Kartabo (No. 201111) is doubtfully referred here.

Ommatius norma Curran

Ommatius norma CURRAN, 1928, Amer. Mus. Novitates, No. 327, p. 2.

Blackish, the legs largely reddish. Length, 8 to 12 mm.

The holotype, female, in The American Museum of Natural History, is from British Guiana, February 12, 1913; the allotype, male, from Bartica, May 29, 1901. In addition there are 14 females from Kartabo, 1921, July 19, 1922, August 17, 1922, May 17, 19, 20, 27, and June 9, 1924, Bartica, May 18, 19, 20, and 22, 1901, and female, Bello Horizonte, Minas Geraes, Brazil, November 1 to 6, 1919.

Ommatius neotropicus Curran

Ommatius neotropicus CURRAN, 1928, Amer. Mus. Novitates, No. 327, p. 3.

Blackish, the legs reddish yellow, costa not dilated in male. Length, 8 to 10 mm.

Two females, Kartabo, August 6, 1922, and April 23, 1924; female, Waratub, February 16, 1921; female, Bartica, May 15, 1901, and female, Bello Horizonte, Minas Geraes, Brazil, November 1 to 6, 1919 (R. G. Harris).

Ommatius marginellus Fabricius

Asilus marginellus FABRICIUS, 1781, 'Species Insect.,' II, p. 464.

Dasypogon marginellus FABRICIUS, 1794, 'Ent. Syst.,' IV, p. 384.

Ommatius marginellus WIEDEMANN, 1821, 'Dipt. Exot.,' p. 213.

Ommatius saccas WALKER, 1849, 'List. Dipt. Brit. Mus.,' II, p. 474; idem, 1855, VII (Suppl. 3), p. 755.

Ommatius vitreus BIGOT, 1875, Ann. Soc. Ent. France, p. 246.

The North American species, *tibialis* Say, is a distinct species. *Marginellus* Fabricius is a widely distributed Neotropical species and is represented in this collection by a male from Kartabo (No. 20565) and 2 females, Kartabo, August 13, 1920, and August 23, 1920; a male, Kartabo, No. 201166; two females, Nos. 20524, 20552; two females, Kartabo, 1921, and a female from the Bartica District.

Mallophora Macquart

MACQUART, 1834, 'Suite á Buffon,' I, p. 300.

Megaphorus BIGOT, 1857, Ann. Soc. Ent. France, p. 542.

GENOTYPE.—*Asilus bomboides* Wiedemann, 1821, 'Dipt. Exot.,' p. 203, designation by Coquillett, 1910.

TABLE OF SPECIES

- 1.—Wings brownish with broad median band of yellowish gray... *tibialis* Macquart.
Wings colored otherwise.....2.
- 2.—Abdomen with only black pile.....3.
Abdomen with most of the pile yellowish or brownish.....6.
- 3.—Scutellum with black pile.....4.
Scutellum with white pile (Brazil)..... *belzebul* Schiner.
Scutellum with yellow pile..... *speciosa* Curran.
- 4.—Legs reddish brown (Brazil)..... *testaceipes* Macquart.
Legs black.....5.
- 5.—Hind tibiae black-haired (Brazil)..... *freycineti* Macquart.
Half the upper surface of the hind tibiae white-haired (Brazil).... *atra* Macquart.
Hind tibiae with ferruginous hairs on outer surface (Brazil)... *xylocopioides* Walker.
- 6.—Scutellum black-haired.....9.
Scutellum yellowish-haired.....7.
- 7.—First antennal segment reddish, stout species, 16 mm. in length.
calida Fabricius.
- First antennal segment dark brown or black.....8.

- 8.—All abdominal segments fringed with yellowish or brownish hairs. . . *fusca*, n. sp.
Last two segments fringed dorsally with black hairs. . . . *nigritarsis* Fabricius.
9.—First abdominal segment bordered with yellowish hair. . . . *robustus* Wiedemann.
First abdominal segment bordered with black hair. (Brazil) . . *pluto* Wiedemann.

Mallophora tibialis Macquart

Mallophora tibialis MACQUART, 1838, 'Dipt. Exot.,' I, part 2, p. 285.

Mallophora fascipennis MACQUART, 1849, 'Dipt. Exot.,' Suppl. 4, p. 75.

Mallophora fasciata WALKER, 1851, 'Insecta Saunders.,' Dipt., p. 112.

Female, Kartabo, August 10, 1920; male, Kartabo, March 10, 1924; female, June 21, 1924; three males, Bartica District, March 24, May 23, 1924; two males, Bartica, June 26, 1924.

This large striking species may be easily distinguished by the fasciate wings, the piceous legs having a tuft of white pile at the base of the posterior tibiae and sometimes on the anterior tibiae, the dark reddish or black scutellum clothed thinly with black hairs, the yellowish or whitish abdominal fasciae on the first four segments, the third sometimes black-haired, and the remaining segments reddish-yellow haired.

The color pattern is very similar to that of the great *Dasyllis croceiventris* Wiedemann.

Mallophora cruralis Rondani described from "Guyane" by Macquart under the name *tibialis* (1846, 'Dipt. Exot.,' Suppl. I, p. 77), from a damaged specimen has not been identified in the present collection. It is described as black, face gray on each side, wings brown, legs black except the posterior which are testaceous, with the base and extremity black. The abdomen was missing on the original specimen and there is a strong possibility that a damaged specimen of *tibialis* Macquart (1838, 'Dipt. Exot.,' I, part 2, p. 85), was described. Macquart also described *tibialis* under the name *fascipennis*.

Mallophora speciosa, new species (Curran)

A very large, robust species, wholly black-haired except the reddish-yellow pilose scutellum and parts of the head. Length, 28 mm.

MALE.—Face broad, shining black, yellowish pollinose laterally; mystax yellow in the middle above oral margin, limited to the lower half of the face, the sides of the face above with scattered yellow hair; front with short yellow pile, beard black, some yellow hair on the cheeks above. Antennae blackish, with pale hair. Palpi castaneous.

Thorax black-haired laterally, the mesonotum with rather sparse yellow pile except laterally, the pile becoming longer posteriorly; scutellum with yellowish pile and no bristles.

Legs castaneous, wholly black-haired, the hind tibiae and tarsi with very abundant long hair dorsally.

Wings brownish; squamae and fringe brown, the halteres brown and red.

Abdomen black; the hair long and abundant laterally.

TYPE.—Male, in rather poor condition, Kartabo, 1922.

This species is close to *belzebul* Schiner, from which it differs in having the scutellar hairs yellow instead of white, the abdomen black instead of metallic blue-black and the wings with metallic green-blue luster instead of plain brown.

***Mallophora calida* Fabricius**

Asilus calidus FABRICIUS, 1787, 'Mantissa Insect.,' II, p. 358.

Laphria calida FABRICIUS, 1805, 'Syst. Antl.,' p. 159.

Mallophora argentipes MACQUART, 1838, 'Dipt. Exot.,' I, part 2, p. 88.

Trupanea calida WALKER, 1855, 'List. Dipt. Brit. Mus.,' VII (Suppl. 3), p. 590.

A small species, about 16 mm. in length, rather stout and fuscous, related to *nigritarsis* Fabricius, *fusca* Bromley, etc., from which it may be distinguished by its more robust habitus and the reddish first antennal segment.

More than twenty specimens from Kartabo and Bartica.

***Mallophora nigritarsis* Fabricius**

Dasypogon nigritarsis FABRICIUS, 1805, 'Syst. Antl.,' p. 168.

Asilus nigritarsis WIEDEMANN, 1821, 'Dipt. Exot.,' p. 208.

Mallophora nigrifemorata MACQUART, 1838, 'Dipt. Exot.,' I, part 2, p. 90.

A widely distributed, apparently common South American species, easily distinguished by the characters given in the key. Length, 20 mm.

Male, Bartica District; male and female, Kartabo, March 4, 6, 1924.

***Mallophora fusca*, new species (Bromley)**

A small, rather slender, yellowish-brown pilose species, closely related to *nigritarsis* Fabricius, occurring commonly in British Guiana but apparently undescribed. Length, 15 to 20 mm.

MALE.—Antennae black, the base of second segment somewhat reddish, with black hairs. Proboscis and palpi black. Mystax composed of both yellow and black hairs; palpal hairs black and yellow. Beard and postgenal hairs yellowish; occipital bristles black.

Thorax yellowish-brown pollinose with a pair of obscure dark median lines. Hairs of the pleura mostly yellowish, of the mesonotum both yellow and black; scutellum with mostly yellowish hairs and a few black bristles.

Legs yellowish brown, a black dorsal line on the front and median femora; tip of the posterior tibia and all of the posterior tarsus, except the ultimate segment which is reddish, blackish, with black bristles. The apical three tarsal segments with fine, silvery pile.

Wings yellowish gray with brown veins.

Abdomen slender for a *Mallophora*, black with the lateral and posterior margins yellowish, and clothed with yellowish hairs which are absent on the anterior portions of the black spots. There are also occasional black hairs on the ultimate segments.

Genitalia small, shining black, with a patch of fine silvery pile at the base, and black hairs at the tip.

FEMALE.—Similar, the palpal hairs all yellow and the ovipositor short, shining black with black hairs and a few yellow ones intermingled.

TYPES.—Holotype, male, Kartabo, December 15, 1920; allotype, female, Kartabo, December 15, 1920, on the same pin. Paratypes: three males, Kartabo, 1921; October 25, 1920; "Bartica District"; seven females, Kartabo, three with date 1921; October 25, 1920; May 8, 1924; "Bartica Dist."; and a specimen from "British Guiana," April 16, 1913.

Mallophora robusta Wiedemann

Asilus robustus WIEDEMANN, 1828, 'Ausser. Zweifl.,' I, p. 478.

The deep brown thorax, castaneous legs, yellow beard and golden-yellow mystax, black-haired scutellum and the dark reddish-gold abdominal pile characterize this species which seems to be widely distributed in South America. It has also been recorded from Mexico. Length, 20 to 23 mm.

Male, "Br. Guiana"; female, Camoria; female, Hoorio.

PROMACHUS Loew

LOEW, 1848, 'Linnaea Entom.,' III, p. 390.

Telejoneura RONDANI, 1863, Archivio per la zool., III, p. 48.

Trupanea MACQUART, 1838, 'Dipt. Exot.,' I, part 2, p. 91, [preoccupied, Schrank, Dipt. 1803].

GENOTYPE.—*Asilus maculatus* Fabricius, 1775, 'Syst. Ent.,' p. 794. Designation by Coquillett, 1910.

TABLE OF SPECIES

- 1.—Legs all black.....2.
Legs otherwise colored.....3.
- 2.—First submarginal cell with dark shadow (New Granada) *fuscipennis* Macquart.
First submarginal cell without dark shadow (Mexico, Panama).
anceps Osten Sacken.
- 3.—Tibiae light-colored contrasting with black or very dark femora.....4.
Tibiae and femora not in striking contrast.....6.
- 4.—Abdominal segments margined posteriorly with grayish.....5.
Lateral margins (not hind) grayish pollinose.....*forfex* Osten Sacken.
- 5.—Mystax golden yellow; thorax gray-spotted; femora black (Mexico).
cinctus Bellardi.
Mystax white; thorax spotted with yellowish brown; femora very dark reddish,
nearly black (Mexico).....*magnus* Bellardi.
- 6.—Legs dark reddish; shadow in first submarginal cell broad (Costa Rica).
nobilis Osten Sacken.
Femora chestnut with longitudinal black spots; abdomen without bands
(Mexico).....*truquii* Bellardi.

Promachus forfex Osten Sacken

Length, 22 to 28 mm. The yellowish pile of the beard, pleura and abdomen, together with the brownish thorax and wings, the brownish scutellum with black bristles and yellowish hairs and the contrasting reddish tibiae and black femora characterize this species, hitherto recorded only from Central America and Mexico.

Five females, Kartabo, June 9, 1920; October 11, 1920; October 25, 1920; November 5, 1920 and one "1921."

No other species of *Promachus* are represented in this collection.

PROMACHINA, new genus

GENOTYPE.—*Promachus trapezoidalis* Bellardi, 1861, 'Saggio di ditterol. Messico,' II, p. 28, Tab. XI, fig. 4. By present designation.

The genus *Promachina* is here proposed for those species previously placed in either *Mallophora* or *Promachus*, and which partake of characters of both these genera. The habitus of the species is like *Promachus*, they are not as robust or as densely pilose as *Mallophora* but are more so, as a rule, than *Promachus*. The wings are generally about as long as the abdomen, not greatly exceeding it in length as in *Mallophora*. The genitalia and ovipositor are similar to *Promachus*, being elongate and conspicuous, not small and undeveloped as in *Mallophora*. Their relationship with *Mallophora* is indicated by the blunt claws, otherwise they might unquestionably be placed in *Promachus*.

Mallophora is a neotropical off-shoot of the cosmopolitan genus *Promachus* and *Promachina* may be considered as a genus bridging the two.

TABLE OF SPECIES

- 1.—All legs black..... *nigripes* Fabricius.
Some of the legs with yellow..... 2.
- 2.—Front tibiae black..... 3.
Front tibiae at least partly reddish or yellowish..... 4.
- 3.—Abdomen with band of white pile on second segment... (♀) *annularis* Fabricius.
Abdomen with golden-yellow pile (Mexico)..... *pulchellus* Bellardi.
- 4.—Scutellum with black pile..... 5.
Scutellum with yellow pile, thorax yellowish brown pollinose.
trapezoidalis Bellardi.
- 5.—Abdomen with golden-yellow pile..... (♂) *annularis* Fabricius.
Abdomen black with tuft of thick white pile parted in the middle on second and third segments in males and on second segment in females (Brazil).
trichonotus Wiedemann.

Promachina nigripes Fabricius

Asilus nigripes FABRICIUS, 1787, 'Mantissa Insect.,' II, p. 360.

Dasypogon nigripes FABRICIUS, 1805, 'Syst. Antl.,' p. 171.

Mallophora nigripes RONDANI, 1848, in Truqui, 'Studi Ent.,' I, p. 95.

Trupanea nigripes WALKER, 1855, 'List Dipt. Brit. Mus.,' VII (Suppl. 3), p. 592.

Male and female, Bartica, June 5, 1901 (R. J. Crew), and April 18, 1925; male and female, Bartica District, May 6, April, 2, 1924; female, Kartabo, July 23, 1922; female, Kartabo, June 28, 1924.

Promachina annularis Fabricius

Dasypogon annularis FABRICIUS, 1805, 'Syst. Antl.,' p. 171.

Asilus annularis WIEDEMANN, 1821, 'Dipt. Exot.,' p. 211.

Trupanea annularis WALKER, 1855, 'List. Dipt. Brit. Mus.,' VII (Suppl. 3), p. 589.

Male, Kartabo, October 16, 1920; male, March 9, 1922; two males, "1921"; two males, Nos. 20515, 201291; one male and two females, West Bank Demerara River, February 9, 1923; four females, Nos. 20428, 20513, 20951, 20974; two females September 26, 1922 (No. 221120); four females, Kartabo, "1921"; one female September 1, 1922; one female, October 21, 1922; female, March 25, 1922; female, March 9, 1922; female, August 28, 1920; male and female, Kartabo, October 8, 1922; ten males, twenty females, Kartabo, Penal Settlement and Bartica District, March to June, 1924.

Promachina trapezoidalis Bellardi

Promachus trapezoidalis BELLARDI, 1861, 'Saggio di ditterol. Messico.,' II, p. 28.

Mallophora trapezoidalis WILLISTON, 1901, 'Biol. Centrali-Americana,' Dipt. I, p. 320.

The specimens represented in this collection average smaller and appear to be a trifle slenderer than Mexican specimens but I believe they are the same.

Two males, Kartabo, November 23, 1920, and No. 20488; two females, Kartabo, May (?) 1922, and October 8, 1920; four males and females, Kartabo, 1921, 1922; female, Kartabo, May 5, 1924; female, Bartica, April 26, 1924; female, "British Guiana," March 20, 1913.

ANARMOSTUS Loew

LOEW, 1860, 'Dipt. Fauna Südafrikas,' I, p. 142.

GENOTYPE.—*Asilus iopterus* Wiedemann, 1828, 'Ausser. Zweifl.,' I, p. 438.

Anarmostus iopterus Wiedemann

Asilus iopterus WIEDEMANN, 1828, 'Ausser. Zweifl.,' I, p. 438.

Length, 19 mm. This is a beautiful dark-colored species with contrasting golden or whitish pile on the tibiae. The abdomen and legs are metallic blue. There is thick, light-yellow pile on the first three abdominal segments and the wings are dark brown with violet reflections.

One specimen, a male from Bartica District, June 4, 1924.

SENOPROSOPIS Macquart

MACQUART, 1838, 'Dipt. Exot.,' I, part 2, p. 130.

GENOTYPE.—*Senoprosopis diardii* Macquart, 1838, 'Dipt. Exot.,' I, part 2, p. 130.

The species considered here under this genus partakes of the generic characters formulated by Macquart in erecting this genus. The thin, nearly bare body, the scant mystax of long hairs, the narrow face, large eyes, slender abdomen, small genitalia, long thin hairs of the legs are all characteristic of the American species here listed. There is, however, considerable difference between the structure of the antennae in the American species and that of the type figured by Macquart. This difference in structure appears so great as to suggest a distinct genus for the American species, but I would hesitate to propose one without having examined the Indian species.

In the figure of *diardii* the third antennal segment is thicker than the first and the arista is considerably longer than the third segment. In the British Guiana species under consideration, the third antennal segment is long and slender, about twice as long as the first two together, and the arista is short, about half the length of the first segment, shining, thickened, tapering suddenly at about three-fourths its length to a fine point. This, however, may be a variable character, as a closely related undetermined species from Peru examined by the writer has the arista slender and about two-thirds the length of the third segment.

Senoprosopis tenuis Wiedemann

Figure 21

Asilus tenuis WIEDEMANN, 1828, 'Ausser. Zweifl.,' I, p. 448.

Senoprosopis tenuis SCHINER, 1866, Verh. zool.-bot. Ges. Wien, XVI, p. 685.

Length, 11 to 17 mm. A slender yellowish species with the abdomen banded with black dorsally. Occiput and pleura white pollinose. Mystax and beard white. Thoracic markings dark brown. Wings nearly hyaline, brownish at the apex. Genitalia small, the forceps slender. Ovipositor short, thick, shining black.

Two males, Kartabo, No. 201235, December 5, 1920, and June 3; five females, Bartica District, May 22, 1924, and Nos. 201180, 20464, 20899, 20468; one female Kartabo, October, 1920.

PACHYCHOETA Bigot

BIGOT, 1857, Ann. Soc. Ent. France, p. 545.

GENOTYPE.—*Erax annulipes* Macquart, 1846, 'Dipt. Exot.,' Suppl. 1, p. 83, Tab. VIII, fig. 8; by designation of Bigot, 1857.

1.—Blackish or grayish species 2.
Brownish species *virilis* Wiedemann.

2.—Posterior femora mostly black; male genitalia broadened and enlarged; eighth abdominal segment of female shorter than sixth and seventh.
genitalis, n. sp.

Posterior femora mostly reddish but with some black 3.

3.—Posterior tibiae reddish with black tips (Brazil) *annulipes* Macquart.

Posterior tibiae nearly all black; male genitalia normal in width, longer than abdominal segments six and seven; female with the eighth abdominal segment longer than sixth and seventh. *apicalis*, n. sp.

Pleural pruinosity light bluish-gray. Thoracic markings bold, black, the median line very broad anteriorly, divided medianly by a narrow line of grayish-brown;

pollinosity between the markings light grayish-brown dorsally, becoming more grayish or whitish along the sides. Scutellum and the posterior pruinosity of the mesonotum and postscutellum bluish gray; scutellum with fine black hairs. Wings very light brownish, nearly hyaline, with a brownish clouding at the apex, darkest at the anterior terminus of the wing between the costal and third veins. Halteres dull brown.

Legs reddish yellow; coxae bluish-gray pollinose; the base and most of the posterior dorsal portion of the hind femora black; posterior tibiae black dorsally, their tarsi black; middle femora black at the tip, their tibiae black at the base and tip, their tarsi with the four distal segments black; front legs with only the four distal segments of the tarsi black; underside of anterior femora with fine white bristles (a few black bristles may be intermingled), practically all other bristles of the legs black.

Abdomen black, the posterior and lateral margins of the segments grayish. Genitalia shining black, elongate, slightly longer than the sixth to eighth segments together, as broad at the base as the sixth segment but rapidly narrowing so that for most of the length the genitalia are narrower than the eighth segment which is shining black like the genitalia.

FEMALE.—Similar. Ovipositor long, slender and laterally compressed; eighth segment much longer than the sixth and seventh combined.

TYPES.—Holotype, male, Bartica, no date (Nos. 11-46); allotype, female, Bartica District, May 6, 1924. Paratypes; male and female on one pin (both greased) Bartica District, May 16, 1924; female, Kartabo, May 16, 1924; female (feeding on immature fulgorid), Kartabo, November 5, 1920; female, Kartabo, March 17, 1922 (No. 21242). Also a headless, abdomenless specimen, Kartabo, May 28, 1921.

***Pachychoeta genitalis*, new species (Bromley)**

Figure 20

A more robust species than either of the preceding, with the male genitalia very broad and thick; blackish, with the legs black and reddish and the pollinosity of the mesonotum brownish. Length, 20 to 25 mm.

MALE.—Antennae black, with black hairs. Proboscis and palpi black, the latter with black hairs. Beard white; mystax very pale yellowish or whitish with a few intermingled black bristles above. Face, vertex, and occiput light yellowish-brown pollinose, the vertex darkest. Postocellar and other bristles of the vertex black, the lower occipital bristles white.

Pleura white, with light brownish tinge. Coxae and parascutellum with white hair. Dorsal markings dark brown, the lateral spots indistinct; median marking broadly divided by a line of brownish pollinosity; forming posteriorly a triangular black marking immediately in front of the scutellum, the pollinosity around this triangle bluish gray. Bristles black. Scutellum and postscutellum bluish gray, the scutellum with short, fine black hairs.

Wings faintly tinged with brown, darkest at the apex and along the posterior border. Halteres pale brown. Legs reddish, the following portions black: most of the posterior femora, tibiae and tarsi, distal dorsal half of the middle femora, tip of their tibiae and all of their tarsi; tip of front femora, tip of tibiae and all of their tarsi, except base of first segment. Bristles of legs black, hairs white.

Abdomen black with the posterior and lateral borders of the segments gray; eighth segment and genitalia shining black. Forceps broad and stout; the eighth

segment considerably broader than the seventh and very slightly narrower than the width of the genitalia. Forceps about as long as sixth and seventh segments.

FEMALE.—Similar in coloration, the ovipositor shorter and stouter than in the preceding species, shining black, the eighth segment shorter than sixth and seventh.

TYPES.—Holotype, male, and allotype, female, on same pin, Tropical Research Station, No. 20674. Paratypes: male (with a small *acridian* as prey), Kartabo, November 5, 1920 (No. 20976); female, No. 21255. Also a male Kaieteur, August 11, 1911 (F. E. Lutz).

ERAX Scopoli

SCOPOLI, 1763, 'Ent. Carniol.,' p. 359.

GENOTYPE.—*Erax rufibarbis* Macquart, 1838, 'Dipt. Exot.,' I, part 2, p. 116, by designation of Hine, 1919.

TABLE OF SPECIES

- 1.—Abdomen with conspicuous light-colored maculations on the posterior lateral borders of the first three segments. 2.
 Abdomen with segments evenly bordered posteriorly or uniformly colored. 3.
- 2.—Posterior branch of third vein meeting the margin of the wing before the apex; large species, 18 to 23 mm. in length. *striola* Fabricius.
 Posterior branch of third vein reaching margin of wing beyond the apex, stump-vein very small; small species, 14 mm. in length. *macularis* Wiedemann.
- 3.—Legs black; thorax fulvous pollinose with usual black markings.
 fulvithorax Macquart.
- Legs with reddish tibiae. 4.
- 4.—Femora all black; general appearance similar to *fulvithorax* but thorax grayish-brown pollinose. *obscurus* Macquart.
 Femora mostly reddish; abdomen uniformly colored; posterior branch of third vein meeting margin away behind apex of wing; very large species, 30 mm. or over. 5.
- 5.—Thorax grayish pollinose, with black markings. *titan*, n. sp.
 Thorax yellowish pollinose, with brown markings. *amazonicus*, n. sp.

Erax striola Fabricius

Dasypogon striola FABRICIUS, 1805, 'Syst. Antl.,' p. 172.

Asilus striola WIEDEMANN, 1821, 'Dipt. Exot.,' p. 197.

Erax striola SCHINER, 1866, Verh. zool.-bot. Ges. Wien, XVI, p. 686.

This species differs from the North American *interruptus* Macquart in averaging smaller, in being darker in color, and in the structure of the male genitalia. In *interruptus* the male claspers are deeply notched (in profile), while in *striola* they are entire. Macquart's *maculatus* from South America is generally considered as a synonym of *interruptus*. I have not identified the species from South America but Schiner has called attention to the difference existing between it and *striola* and his description of *maculatus* quite closely agrees with *interruptus*.

A male and female from Surinam (oberer Pará) collected by J. Michaelis, July 20, 1901, from Dr. Kröber, in the Hamburg Museum.

***Erax macularis* Wiedemann**

Asilus macularis WIEDEMANN, 1821, 'Dipt. Exot.,' p. 193.

Erax macularis SCHINER, 1866, Verh. zool.-bot. Ges. Wien, XVI, p. 684.

This abundant Neotropical species is easily distinguished by its small size, robust habitus, brownish-gray thorax marked with black, black abdomen with the silvery white spots on the posterior margins of segments one to three in the male and on segments one to four in the female, and on the seventh segment in the male and the sides of the seventh in the female. The ovipositor is short, conical and only slightly laterally compressed and the male genitalia are broad, about as long as segments six and seven and notched in profile. The venation is *Asilus*-like, the posterior branch of the third vein meeting the margin of the wing considerably behind the apex, and the stump-vein is abortive.

One male, Kartabo, March 6, 1924; four females, Kartabo, March 17, 1922; Kartabo, July 15, 1922 (feeding on a small moth-like fulgorid); "Bartica District"; Potaro Landing, February 21, 1921; another female from Kaietur, August 14, 1911 (F. E. Lutz). There is also in the American Museum, in the Williston Collection, a good series of this species from Chapada, Brazil, November.

***Erax fulvithorax* Macquart**

Erax fulvithorax MACQUART, 1838, 'Dipt. Exot.,' I, part 2, p. 113.

This is a beautiful species of the *aestuans* group, distinguished by the entirely black legs and fulvous thorax. Length, 19 to 24 mm.

Two males, Kartabo, May 9, and Bartica District, March 24, 1924. Three females, Kartabo, September 1, 1922, October 25, 1920 (No. 20222) and 1921. A male, British Guiana, March 31, 1913; and a female in the Philadelphia Academy of Science, Bartica, May 25, 1901.

***Erax obscurus* Macquart**

Erax obscurus MACQUART, 1838, 'Dipt. Exot.,' I, part 2, p. 112.

Asilus obscurus WALKER, 1849, 'List. Dipt. Brit. Mus.,' II, p. 401.

This is also a species of the *aestuans* group, related to *fulvithorax* Macquart but distinguished from it in having the wings lighter brown, the thorax grayish-brown pollinose instead of fulvous, and in having the tibiae red, except the apices, which are black. Length, 20 to 24 mm.

A male and female (on one pin) Kartabo, November, 1920, and a large damaged female, Bartica.

The two following huge species belong to a group of the genus *Erax* which may be fairly characterized as a subgenus. The furcation of the third vein occurs before the base of the second posterior cell and the posterior branch of the third vein does not bend forward as in most other species of the genus, but backward, meeting the margin of the wing at a considerable distance behind the apex. The stump-vein, when present,

frequently curves backward meeting the third vein, thus forming a small areolet as in *Erax singularis* Macquart. This areolet is often present in one wing and absent in the other wing of the same specimen. The ovipositor is greatly compressed laterally and is very deep and sword-like.

***Erax titan*, new species**

A large, robust, grayish pollinose species with reddish-brown legs. Length, 35 mm.

FEMALE.—First two and base of third antennal segments reddish brown, the rest black; hairs black. Bristles of vertex and occiput black; occipital hair very pale yellowish. Proboscis and palpi black, the palpal hairs yellowish at the base, black at the tip; beard light yellowish, nearly white; mystax composed of pale yellow bristles, with black bristles above and below. Face grayish-yellow pollinose, the occiput grayish pollinose.

Pronotum light brownish-gray pollinose, with pale yellowish-white pile and black bristles along the anterior margin. Mesonotum grayish pollinose, with fine black hairs and bristles; two median black lines divided by a pale brownish-gray pollinose streak, the lateral markings obscure. Scutellum bluish-gray pollinose, with black upturned hairs evenly distributed rather thickly over the disc. Pleura grayish pollinose, with light yellowish hairs.

Legs reddish brown, the tibiae lightest; a blackish median dorsal area on the femora; posterior tibiae blackish apically, all the tarsi becoming darker, nearly black, apically.

Wings long and strong, suffused with a faint brownish tinge. Halteres brownish.

Abdomen uniformly brownish-gray pollinose, the hair on the sides and venter mostly white, on the dorsum mostly black. Ovipositor long, sword-like, compressed laterally, black; eighth segment about as long as segments five to seven together.

TYPE.—Female, with acridian slightly smaller than itself as prey, "Bartica." Two other specimens with abdomen missing, both apparently females, Bartica District, and Kartabo, British Guiana (No. 69).

***Erax amazonicus*, new species**

Similar to the preceding but differs in being yellowish-brown pollinose instead of grayish; the thoracic markings are brownish and not black and the hairs of the palpi are all light-colored. The black markings of the femora are on the under sides rather than on the dorsal as in the preceding. Length, 34 mm.

Antennae reddish brown, the third segment black. Head yellowish pollinose. Mystax, palpal hairs and occipital bristles pale yellowish; beard white. Proboscis and palpi black.

Coxae, pleura, pronotum, and mesonotum yellowish-brown pollinose; pleural hairs and the pronotal and mesonotal bristles above the wings yellowish; fine short hairs of mesonotum black, a few black bristles in front of scutellum. Thoracic markings reddish brown; the median stripe very broad, its anterior portion being cleft by a very narrow line of yellowish bloom. Humeral calli rusty brown. Scutellum and the posterior part of the mesonotum immediately in front of it grayish-brown pollinose, the scutellum with fine black hairs with light hairs intermingled.

Wings light brownish. Halteres light reddish-brown.

Legs reddish brown, the tarsi becoming black distally, the tibiae lightest; femora largely black below. Legs with black bristles and fine light hairs.

Abdomen greased but it was evidently uniformly grayish-brown pollinose, the hairs all light yellowish or white.

TYPE.—Female, Curralinho, Minas Geraes, Brazil, November 18, 1919, in Cornell University Collection.

PROCTACANTHUS Macquart

MACQUART, 1838, 'Dipt. Exot.,' I, part 2, p. 120.

GENOTYPE.—*Proctacanthus philadelphicus* Macquart, 1838, 'Dipt. Exot.,' I, part 2, p. 123, by designation of Coquillett, 1910.

TABLE OF SPECIES

Mystax reddish yellow.....	<i>tibialis</i> Macquart.
Mystax white (Colombia).....	<i>mystaceus</i> Macquart.

Proctacanthus tibialis Macquart

Proctacanthus tibialis MACQUART, 1850, 'Dipt. Exot.,' Suppl. 4, p. 88.

A dark brown species, 23 to 30 mm. in length, with reddish-yellow mystax, a few black bristles intermingled, and white beard; tibiae reddish, the rest of legs black; scutellum brown, with black bristles; abdomen with reddish-yellow hairs; the wings brownish.

Male, Kartabo, June 12, 1924; female, Bartica District.

THEREVIDAE

By S. W. BROMLEY

Only two species are represented in the present collection.

KEY TO GENERA

Slender, nearly bare species; the abdomen laterally compressed; third antennal segment at least twice as long as first; upper face bare... *HENICOMYIA* Coquillett.
Abdomen broader and more pilose; third segment of antennae less than twice as long as first; face bare..... *PSILOCEPHALA* Zetterstedt

HENICOMYIA Coquillett

COQUILLETT, 1898, Journ. New York Ent. Soc., VI, p. 187.

This genus is represented by one species of which two specimens are at hand. The species under consideration has the third segment of the antennae only slightly more than twice the length of the first, and a very short slender style is present and much more differentiated than in the genotype, *hubbardi* Coquillett.

***Henicomys brevicornis*, new species**

Length, 7 mm. (exclusive of antennae which are 1.75 mm.). A black species with the first four abdominal segments narrowly margined posteriorly with white, the thorax with a grayish bloom, the femora light brown on the under and inner sides and the wings hyaline with a gray apical band and a pale brown stigma.

MALE.—First two antennal segments with black bristles, face black with silvery bloom, beard white; occipital bristles black, occiput with white bloom; eyes black with reddish tinge.

Thorax black, covered with a gray-white bloom; a few scattered bristles black. Scutellum with grayish bloom, the margin with two black bristles.

Coxal hairs white; lower margins with black bristles. Legs black, the inner and lower distal portions of the femora pale brown; a small tubercle on the ventral aspect of the hind coxa. Wings hyaline with a gray apical band; stigma brown; fourth posterior cell closed.

Abdomen shining black, three times the length of the mesonotum, laterally compressed, club-shaped in profile; posterior margins of segments one to four narrowly white, that of the fourth very narrow; a fringe of very small fine white bristles on the posterior margin of these segments, the sternites with a few fine white hairs. Segments five to seven black, with short, fine, scattered black hairs and with longer, thickly set black hairs on the ventral portion. Genitalia very small and withdrawn into the seventh segment.

TYPES.—Holotype, male, Kartabo, May 20, 1924; paratype (abdomen and antennae missing), Kartabo, April 12, 1924.

***Psilocephala* Zetterstedt**

ZETTERSTEDT, 1838, 'Ins. Lappon,' Dipt., p. 525.

GENOTYPE.—*Bibio imberbis* Fallén.

***Psilocephala senilis*, new species**

A small black species, the thorax thinly and the abdomen thickly covered with fine white pile. Legs pale brown. Length, 6 mm.

MALE.—Eyes contiguous, reddish brown. Proboscis black. First segment of antennae with black bristles; first, second and base of third segment of antennae silvery pollinose, as is the face and occiput. Beard white, occipital bristles black.

Mesonotum with a few black bristles; thorax silvery pruinose and pilose. Mesonotum with a broad median and two side lines, darker than rest of thorax. Scutellum silvery pollinose with two marginal black bristles.

Coxae with white hairs and black bristles. Legs pale brown with minute scattered black hairs. Wings nearly hyaline. Halteres dull brown.

Abdomen white pruinose, covered with short fine white pile. Genitalia small, dark brown, with black hairs below.

TYPE.—Male, Kartabo (No. 20933).

BOMBYLIIDAE

There are but few members of this family in the collection, only four genera and eight species being represented. The genera are separable as follows:

KEY TO GENERA

- 1.—Bifurcation of the second and third veins near the anterior cross-vein, at a right angle, or nearly so.....2.
 Bifurcation of the second and third veins far before the anterior cross-vein, at a rather acute angle.....3.
- 2.—Antennal style distinctly separated from the third segment, with an apical pencil of hairs.....*ANTHRAX* Scopoli.
 Antennal style distinctly separated, but without a pencil of hairs at tip; four submarginal cells; claws long and strong.....*HYPERALONIA* Rondani.
- 3.—Four posterior cells, the first closed; two submarginal cells; first basal cell longer than second; proboscis elongate; eyes emarginate in middle behind.
 *HETEROSTYLUM* Macquart.
 Three posterior cells; rather short, fairly robust species, the abdomen drooping, thorax strongly convex; abdomen with scales and scarcely any hairs.
 *TOXOPHORA* Meigen.

ANTHRAX Scopoli

Argyromoeba auct.; *Spogostylum* auct.

The three species are separable as follows:

- 1.—Wholly black pilose; wings blackish on the basal half....*acroleuca* Wiedemann.
 Not wholly black pilose.....2.
- 2.—The black of the wing is carried along the first posterior cell to slightly beyond the apex of the discal cell where it widens slightly, thence to the apex of the first vein.....*gideon* Fabricius.
 The black is limited to the basal sixth of the first posterior cell and is diffuse on its border.....*guianica*, n. sp.

Anthrax guianica, new species

Wings blackish brown basally, the dark color filling out the whole of the anal cell, basal half of the fourth and immediate base of the third posterior cells, its hind border extending thence to the apex of the first vein, the dark color not sharply separated from the hyaline, but rather quickly merging into it. The anterior branch of the third vein bears a long appendage at the basal bend, the basal section being transverse, and there is also usually a short appendage at the bend of the second vein. Length, 11 to 12 mm.; of wing, 13 to 14 mm.

MALE.—Black-haired, the pleura, except above, sides of the first abdominal segment and the sides of the apical two, snow-white pilose, the genital opening filled with very dense yellowish hair. Head with thin brownish-gray pollen, the linear cheeks reddish; the short occipital pile is whitish except on the upper fourth, the hair elsewhere black, although there are a few pale hairs on the sides of the face below. Antennae black, the third segment tapering on less than its basal half, slender apically, the style conspicuously separated, twice as long as wide, with several very short apical hairs.

Thorax rather brownish, with thin black tomentum above and fairly abundant black hair; pectus black-haired. Suprasquamal tuft black.

Legs brownish, the tarsi black, with black hair and scales. Anterior four tibiae with slight whitish sheen above, with many tiny black bristles, the anterior tarsi without erect, longish fine hairs, but with well-developed claws and pulvilli.

Abdomen wholly black, with appressed black tomentum dorsally and rather abundant black hair; venter with some pale pile basally.

The single female is badly denuded and lacks its abdomen, but evidently differs only sexually.

TYPES.—Holotype, male, Kartabo, January 17, 1921 (No. 2156); allotype, female, Kartabo, June 26, 1922; paratype, male, Kartabo, May 5, 1924.

***Anthrax acroleuca* Wiedemann**

Anthrax acroleuca WIEDEMANN, 1828, 'Ausser. Zweifl.' I, p. 312, footnote.

Length, 9 mm.; of wing, 11 mm. Similar to the preceding species but entirely black-haired. The blackish area of the wing is sharply defined and not as oblique anteriorly, while the appendage on the third longitudinal vein is only half as long. The genital opening lacks the dense yellowish pile.

Male, Kartabo, British Guiana (No. 91).

***Anthrax gideon* Fabricius**

Anthrax gideon FABRICIUS, 1805, 'Syst. Antl.', p. 124.

Four specimens from Kartabo, March 10, 1922, May 12, 17, and June 29, 1924.

***Hyperalonia morio* Fabricius**

Stomoxys morio FABRICIUS, 1775, 'Syst. Ent.', p. 797.

Anthrax erythrocephala FABRICIUS, 1805, 'Syst. Antl.', p. 118.

Three specimens from Kartabo.

***Heterostylum rufum* Olivier**

Bombylius rufum OLIVIER, 1789, 'Encycl. Method.', IV, p. 327.

Seven specimens: Bartica District, Kartabo, 1921, March 26, May 29, 1924, (No. 24762), June 4 and 6, 1922, and June 1, 1924 (No. 24790).

***Toxophora cuprea* Fabricius**

Bombylius cuprea FABRICIUS, 1787, 'Mantissa Insect.', II, p. 366.

A single male from Bartica, 1924.

***Toxophora verona*, new species**

Very similar to *cuprea* Fabricius, but only the second abdominal segment bears a basal median yellow spot, the others golden yellow with the incomplete base metallic green. Length, 9.5 to 10 mm.; of antennae, about 4 mm.

MALE.—Head grayish pollinose, thickly yellowish or pale golden pilose. Frontal triangle very small; ocellar triangle small, with grayish scales. Palpi long, tapering to a long, narrow point. Antennae black, with black scales, the first segment with cinereous scales intermixed, the second silvery white on the inner surface, the third with the long pointed tip ferruginous, with a sensory area near the middle of the upper part of the outer surface.

Thorax grayish pollinose and pale golden pilose and tomentose, the mesonotum, except the anterior third and lateral margins, with dark metallic greenish scales;

dull black when denuded; scutellum with similar scales, the sides and narrow apex with dense, short, tomentum of a golden color.

Legs black, with black scales, the anterior four tibiae and middle femora posteriorly and the anterior surfaces of the posterior femora and tibiae, with yellowish scales, the posterior tibiae with long scales below.

Wings brownish gray; luteous on the anterior third of the basal two-thirds. Squamae yellow, with dense, longish yellow fringe. Halteres luteous, with pale yellow knob.

Abdomen with the ground color wholly concealed by scales of a pale golden yellow or yellow, metallic greenish and whitish. Dorsally the scales are predominantly yellowish, the first segment on the apical half or more, the second except the apex and a rather small median basal spot and the rather broad bases of the third to sixth segments, metallic greenish, the sides of the abdomen wholly broadly yellowish. The scales concealing the venter are almost whitish and there are some pale hairs.

FEMALE.—Similar, but the front is wide, narrowing to the vertex.

TYPES.—Holotype, male, allotype, female, Kartabo, October 25, 1920 (No 20233). Paratypes: three males and four females, Kartabo, October 17, 1920, August 5, 1920, 1921, March 8, 10, 1924, and February 5, 1921 (No. 21126).

T. cuprea Fabricius has the wings darker and the scales of the thorax and abdomen are of a darker green, usually somewhat bronzed, while the first four abdominal segments show no trace of pale fasciae, each segment bearing a triangular, basal golden yellow spot in the middle, these being more or less joined to the rather incomplete posterior fasciae on the terminal segments.

EMPIDIDAE

Two species represent this family.

SYNECHES Walker

Syneches curvipes Fabricius

Damalis curvipes FABRICIUS, 1805, 'Syst. Antl.,' p. 147.

Five males from Kartabo, 1921, March 17, 1922, and Nos. 226 and 20526.

LACTISTOMYIA Melander

Lactistomyia serrata Bezzi

BEZZI, 1910, Nova Acta Acad., Halle, XCI, p. 312.

Two females, Kartabo, July 3 and August 31, 1922.

DOLICHOPIDAE

BY M. C. VAN DUZEE

[This family is only fairly well represented in the collection, although seven of the sixteen species are undescribed. Mr. M. C. Van Duzee has described the new species, the descriptions being herein published for the first time. C. H. C.]

KEY TO GENERA

- 1.—Fourth vein with a widely diverging fork beyond the posterior cross-vein.
CONDYLOSTYLUS Bigot.
Fourth vein not forked, straight or bowed forward.....2.
- 2.—Fourth vein strongly curving forward on apical section...SARCIONUS Aldrich.
Fourth vein only gently curved or straight.....3.
- 3.—Front narrower than the face, the eyes often contiguous above the antennae.
DIAPHORUS Meigen.
Front wider than face.....4.
- 4.—Arista apical or subapical.....CHRYSTOTUS Meigen.
Arista sub-basal.....HERCOSTOMUS Loew.

CONDYLOSTYLUS Bigot

The specimens comprising the types of the new species bear the generic name *Psilopus* but are referable to the genus *Condylostylus* Bigot.

TABLE OF SPECIES

- 1.—Face with hair below.....*cancer*, n. sp.
Face without hair.....2.
- 2.—Front coxae yellow except at immediate base.....9.
Front coxae black for half their length or more.....3.
- 3.—Front femora black or green.....4.
All the femora yellowish.....*barbipes*, n. sp.
- 4.—Tibiae yellow or brownish yellow.....5.
Tibiae brown.....*praestans* Aldrich.
- 5.—Anterior tibiae with one or more dorsal bristles.....6.
Anterior tibiae without strong dorsal bristles.....7.
- 6.—Anterior tibiae with four dorsal bristles.....*bellulus* Aldrich.
Anterior tibiae with eight dorsal bristles.....*semicomatus* Van Duzee.
- 7.—Halteres with the knob yellow or brownish yellow.....8.
Halteres wholly brown.....*squamifer* Becker.
- 8.—Front deep violet.....*guttula* Wiedemann.
Front green.....*similis* Aldrich.
- 9.—First two antennal segments wholly blackish.....10.
Basal antennal segment yellow.....*latifacies*, n. sp.
- 10.—Third antennal segment brownish yellow.....*cinctiventris*, n. sp.
Antennae wholly blackish.....11.
- 11.—Anterior tibiae with two or three posterior or posteroventral bristles.....12.
Anterior tibiae without posterior bristles.....13.

- 12.—Anterior tibiae with three dorsal and two posterior bristles. . . (♀) *barbipes*, n. sp.
Anterior tibiae with two dorsal and three posterior bristles. (♀) *squamifer* Becker.
- 13.—Hyaline spot in front of posterior cross-vein wholly isolated. . . *fuscipennis*, n. sp.
Hyaline spot separated by the clouded vein from another behind it.
filiformis Becker.

Condylostylus praestans Aldrich

Psilopodinus praestans ALDRICH, 1901, 'Biol. Centrali-Americana,' Dipt., I, p. 355.
Male, Kartabo, August 11, 1920.

Condylostylus bellulus Aldrich

Psilopodinus bellulus ALDRICH, 1901, 'Biol. Centrali-Americana,' Dipt., I, p. 355.
Two males, "Kartabo," four males, Kartabo, March 5, 10, 29, April 10, 1924, two females without data and female, No. 20228, 1920.

Condylostylus squamifer Becker

BECKER, 1921, Abhandl. zool.-bot. Ges., XIII, p. 340.
Eight males and four females from Kartabo; two females, 1921; female, July 6, 1922 (No. 37); two males and two females, 1924, one No. 24777; six males, May 5, 9, 14, 19, 26, and June 1, 1924.

Condylostylus guttula Wiedemann

Psilopus guttula WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 22.
Male and five females, from Kartabo.

Condylostylus similis Aldrich

Psilopodinus similis ALDRICH, 1901, 'Biol. Centrali-Americana,' Dipt., I, p. 359.
Male, Kartabo, October 25, 1920 (No. 20393).

Condylostylus filiformis Becker

BECKER, 1921, Abhandl. zool.-bot. Ges., XIII, p. 298.
Female, Kartabo, 1920 (No. 201451); female, Kartabo, October 17, 1920; female, 1921; male, Kartabo, February 22, 1922.

Condylostylus semicomatus Van Duzee

Psilopus semicomatus VAN DUZEE, 1929, Proc. U. S. Nat. Mus., LXXIV, Art. 10, p. 4.

Two males, (No. 20624) and Kartabo, May 2, 1924.

Condylostylus cancer, new species

Figure 1

MALE.—Length about 3.5 mm. Face and front wide, violet, vertex and frontal orbits green; face with white pollen; palpi black, proboscis dark yellow. Antennae black, second joint with the longest bristles below about as long as antenna; arista dorsal, about as long as the width of the head. Face with numerous white hairs.

Thorax and abdomen dark green, shining, their hairs and bristles black; dorsum of thorax with violet reflections; hypopygium and its appendages (Fig. 1) blackish brown; the claspers very long and curved, with two finger-like appendages at the tip; there are two long bristles at the tip of the abdomen, each composed of several long hairs, these are about 63 fiftieths of a millimeter long; the hypopygium is large, projecting and conspicuous.

Coxae and femora black with green reflections. Front coxae with abundant white hair on anterior surface and black bristles at tip; femora with yellow tips and a few white hairs below; tibiae yellow, a very little brownish at the tip, the posterior ones also brown at the base, the brown on the anterior pair extends up nearly to the middle; middle tibiae with a long erect bristle below at the tip, three rather long bristles on lower posterior surface of basal half and two longer ones on upper anterior edge, one near basal fifth and one near the tip. Front tarsi yellowish at the base, the middle and hind ones wholly blackish; middle basitarsi sometimes a little yellowish at the base, with a row of little hooked bristles below; joints of posterior tarsi as 45-22-14-8-8. Calypters brown with black cilia; knobs of halteres yellow, their stems brown.

Wings nearly hyaline; third vein bent back at the tip; fork of fourth vein at nearly a right angle to the fourth vein and nearly evenly rounded from the fork to its tip; fourth vein from the cross-vein to the fork 36, from fork to wing-margin 28, cross-vein 28, and last section of fifth vein 21 fiftieths of a millimeter long.

TYPE.—Male, taken at Georgetown, British Guiana, July 6, 1911, number on label "C 3."

This is the fifth species belonging to the *caudatus* group, all having long bristles at the tip of the abdomen, a long erect spur at tip of middle tibiae, hooked bristles on the lower surface of the middle basitarsi and many white hairs on the face. This form differs from the others in having the hypopygium large and conspicuous and the claspers long and curved (they reminded me of the claws of a crab); they have two fingers at tip as in *caudatus* Wiedemann. The neurulation is nearly like that of *cockerelli* and *gravenicheri* Van Duzee; these three differ from *caudatus* in having the upper bend of the fork of fourth vein broader, so that there is scarcely any straight part at the tip, while in *caudatus* the bend is abrupt and there is a long straight portion from this bend to the wing-margin.

Condyllostylus barbipes, new species

Figures 2, 3, and 4

MALE.—Length, 8 mm. Face wide, narrower and rounded below, green, thickly covered with white pollen, its suture below the middle; palpi black; proboscis yellow; front green or blue with thick white pollen and a few pale hairs on the sides of the vertex; antennae (Fig. 2) black, small, longest bristle on second joint shorter than the antenna, arista long, slender, with a small elongate lamella at the tip.

Thorax shining green, sometimes largely violet, its bristles of moderate length; scutellum with four bristles on the margin. First abdominal segment green or blue, the base and apical half of the second green with an almost opaque black band between

the green, third and fourth segments black at the base, green on more than posterior half, the fifth, sixth, and small seventh segments wholly purple or violet; bristles on posterior margins of segments quite long, all the hairs on the abdomen black, those on the lower edges of the sides and the venter long. Hypopygium (Fig. 3) black, its appendages rather small, yellow, the central organ blackish.

Fore coxae green with yellow tips and hairs; middle and hind coxae black with green reflections; all femora, tibiae, and basitarsi yellow, tips of hind femora narrowly black above; narrow tips of the hind basitarsi and the last four joints of all tarsi black; all the femora with pale hairs below, some of which are as long as the width of the femora, those on fore and middle femora extend their entire length, but on the posterior pair they are quite short, except on basal third, and leave a glabrous stripe below; on the middle femora there is a glabrous stripe on each side of these hairs and the lower edge is also rather bare; fore tibiae with four slender bristles below, which are scarcely twice as long as the diameter of the tibia, and there are also three stouter ones on the upper surface; middle tibiae with four bristles on the upper anterior and two on the upper posterior edge, and also several large bristles on lower edges; posterior tibiae a little thickened in the middle and wholly covered (except a nearly glabrous stripe on the inner surface) on all sides with long black hair, these hairs are longest on the middle of the tibia and give it the appearance of being much more swollen than it really is, the hair in the middle twice as long as the diameter of the tibia; fore basitarsi with dense, black, bristle-like hairs below, which are longer at base of joint; middle basitarsi with a number of stiff bristles below, two of those on the anterior edge being long; last three joints of hind tarsi (Fig. 4) enlarged, somewhat flattened, nearly glabrous and shining above; joints of fore tarsi as 103-31-27-14-11; of middle ones as 154-40-31-10-12; those of posterior pair as 126-35-21-22-21, fourth and fifth joints as wide as long. Calypters brown, with black cilia; halteres yellow.

Wings grayish with the usual brown cross-bands united in front from the costa to back of the third vein; the brown begins on the costa at the first third of the distance from the tip of the first vein to the tip of the second and reaches to the tip of the third vein; the basal band extends across the wing to tip of fifth vein, while the apical band extends back to fork of the fourth vein and is slightly united to the basal band by a cloud along the fourth vein; fork of fourth vein a little less than a right angle as it bends back a little, the upper bend of the fork rather broadly rounded, then running nearly straight to its tip; fourth vein from cross-vein to the fork 81, from the fork to wing margin 42 (the vein reaching about halfway to the wing margin), last section of fifth vein 19 fiftieths of a millimeter long; the hind margin of the wing is notched at the tip of the fifth vein and has two very prominent lobes at the anal angle.

Described from six males, all taken at Kartabo, Bartica District, British Guiana, at the Tropical Research Station of the New York Zoölogical Society, one July 24, 1920 and one July 22, 1922; one is without a label; three are numbered 20463, 20936, and 201451, respectively.

This is an abundant species in British Guiana, but I cannot find that it has been described. The species is characterized by the lamella at the tip of the arista, the green fore coxae, form of hind tarsi and especially by the long hair on the posterior tibiae. Two of the specimens are im-

mature and have the wings entirely clear, there being no trace of the cross-bands.

[Eight females from Kartabo, Nos. 20465, 20855, 20546; 1921; August 11, 1920, March 31, 1922, July 6, 1922 and a female, Kamakusa, September 1922, H. Lang. The females have the front coxae yellow and the arista and hind tarsi simple. Some of them were taken in association with males. The characters in the key will serve to distinguish them from related species. C. H. C.]

***Condylostylus fuscipennis*, new species**

Figure 5

MALE.—Length, 6.5 mm. Face wide, rounded below, reaching a little below the eyes, the suture near the middle. The face is covered with white pollen when viewed from in front, the upper third green or violet; palpi black, with black bristles; proboscis yellow; front with the orbits, lower margin and vertex covered with thick white pollen. Antennae black, second joint with the longest bristle above, this bristle scarcely as long as the width of the joint. Vertex deeply excavated on the sides and with several small pale hairs near the orbits.

Thorax green in front, the posterior part and the scutellum violet, shining on the dorsum; scutellum with four bristles; pleura dulled with white pollen. Abdomen black, the narrow margins of the three first segments violet and of the remaining segments green; bristles of thorax and abdomen rather long. Hypopygium (Fig. 5) somewhat square in outline when seen from the side; the outer appendages very long and slender, fringed with black hairs.

Front coxae wholly yellow, with white pollen and short white hair on the anterior surface and three black bristles at the tip; middle and hind coxae wholly black, their trochanters brown; all the femora and tibiae narrowly black, the femora with short white hair below. Front tibiae with one very small bristle; middle tibiae with a large bristle near the base on the upper anterior edge, two a little smaller on the upper posterior edge and several small ones; posterior tibiae with one bristle near the base. Tarsi black, plain, the posterior tarsi very slightly widened; front tarsi with the first joint much longer than the tibia, length of front tibia as 123; joints of front tarsi as 129-52-32-16-8; those of middle ones as 172-44-28-17-8; joints of posterior pair as 168-50-25-20-12. Calypters brown with black cilia; halteres yellow.

Wings largely blackish brown, costal cell more gray, a light gray spot in front of the cross-vein represents the usual hyaline space between the cross-bands; the whole of the discal cell darkened; the outer half of the first and second posterior cells and the posterior margin of the wing back of the fifth vein more grayish; cross-vein 56, last section of fifth vein 27, fourth vein from the cross-vein to the fork 86 and from the fork to the wing margin 33 fiftieths of a millimeter long; fifth vein reaching the wing margin, fourth beyond the fork not quite reaching the wing margin; third vein only a little bent back at the tip; fork of fourth vein bending back a little toward the base of the wing, the upper bend of the fork quite abrupt and the last part of fork nearly straight.

FEMALE.—Like the male in form and color of the head-parts, the third antennal segment is small and somewhat rounded, arista nearly apical; color and venation of

wings and color of legs about as in the male, the front basitarsi are a little longer than their tibiae; the posterior margins of the first three abdominal segments are green, the apical segments almost wholly violet.

TYPES.—Described from one male and two females, taken at the Tropical Research Station of the New York Zoölogical Society, Kartabo, Bartica District, British Guiana, the male October 25, 1920; one female November 5, 1920 and one March 27, 1924. The holotype, male, and allotype, female, are the first two mentioned.

This species has the hypopygium and its appendages formed about as in *flagellatus* Becker, described from South America, but it differs in having the last abdominal segment as long as the hypopygium, while in Dr. Becker's species it is only half as long as the hypopygium. In *fuscipennis* the wings are largely blackish, while in *flagellatus* the cross-bands are well separated and only connected along the costa as far back as the second vein.

Condyllostylus latifacies, new species

Figure 6

MALE.—Length, 5.5 mm. Eyes with the facets on the upper half very large, on the lower part small, the line between very distinct; this makes the front only about half as wide as the face at the line where the large facets begin. Face green with violet reflections on the upper third and at the suture, which is deeper than usual and with a little yellowish pollen on the sides and lower part; below the suture the face is slightly narrower and half as long as the upper part; front violet below, green at the vertex; ocellar tubercle prominent, its bristles short, curving outward and backward; palpi yellow, with black bristles; proboscis yellow. Antennae yellow, third joint more brownish, about as long as wide, abruptly pointed at the tip; arista apical, not as long as the width of the head; second joint of antennae with the longest bristles above and about as long as the antenna.

Thorax green, dorsum shining, violet on posterior part; posterior edge of pleura narrowly yellow; mesonotum green; scutellum mostly violet. First abdominal segment green; second, third, and fourth yellow, more or less glazed with green on upper surface; the remaining segments green. Hairs of abdomen largely pale; hairs on the apical segment and bristles near posterior margin of the segments black; hypopygium (Fig. 6) nearly concealed under the apical segment of the abdomen, its appendages yellow and conspicuous, extending forward under the venter.

Coxae wholly yellow, the anterior pair with white hair, the bristles at the tip black; all femora, tibiae and fore and middle tarsi yellow, the last joint of fore tarsi black; all the femora with delicate yellow hair below; all tibiae with only very small bristles, except that the middle ones each have two longer curved ones close to the base, last joint of middle tarsi with two long slender hairs; front tibiae as 92, joints of fore tarsi as 63-30-22-13-8; middle tibia as 130; joints of middle tarsi as 113-33-20-12-6, hairs at tip of middle tarsi as 45. Calypters yellow with black tip and yellow cilia; halteres yellow.

Wings grayish; third vein bent back at the tip, a little recurved before the wing margin so as to be parallel with the fourth vein for a short distance at the tip; fourth vein from the cross-vein to the fork 70, from fork to wing margin 41 fiftieths of

a millimeter long; the fork at almost right angles to the fourth vein, its upper bend only a little rounded and also nearly a right angle, beyond the upper bend the fork runs almost in a straight line to the wing margin; cross-veins 42, last section of fifth vein 27 fiftieths of a millimeter long.

TYPE.—Male, taken at Kartabo, Bartica District, British Guiana, March 27, 1924.

***Condylostylus cinctiventris*, new species**

Figure 7

MALE.—Length, 9 mm. Face wide above, narrowing to the suture which is at the middle of the face, the lower part of nearly equal width, rounded below, reaching fully to the lower margin of the eyes. Face green, with blue reflections and white pollen; front very deeply excavated, the sides at the vertex extending a little inward, the front green with white pollen; palpi black; proboscis yellow. First two antennal segments black, the third brownish yellow; bristles on upper and lower edges of second antennal joint of nearly equal length and about as long as the antenna; arista dorsal, as long as the width of the head.

■ Dorsum of thorax green with violet reflections, its posterior slope and the scutellum violet, the latter with four bristles; posterior edge of pleura yellow; bristles of thorax and abdomen rather long. Abdomen yellow with the posterior margins of the segments violet or green, which color extends forward more or less on the middle of the dorsum, the first and sixth segments mostly metallic; small hairs on the dorsum of the abdomen black, the long hairs on the sides and venter yellow. Hypopygium (Fig. 7) and its appendages black, appendages nearly straight and fringed with hair; seventh abdominal segment black, and therefore seeming to form part of the hypopygium.

Anterior and posterior coxae wholly yellow, the middle ones mostly black, front coxae with delicate white hair, the three large bristles at the tip black. Femora and tibiae yellow, the extreme tips of hind femora brown, the posterior tibiae becoming brownish toward their tips. Tarsi black or brownish. Middle tibiae with three moderately large bristles on upper anterior surface, the hind tibiae with two small bristles; all femora with white hair below; last two joints of hind tarsi slightly flattened and widened. Front tibiae as 295, first two segments of the front tarsi as 50-33; joints of middle tarsi as 195-45-28-9-7; of posterior ones as 139-48-30-12-8, their last joint nearly round when viewed from above.

Wings grayish with the usual cross-bands connected along the costa as far back as the third vein, the front cells yellowish from the base of wing to the cross-band and as far back as third vein; first cross-band narrow, beginning about halfway from the tip of the first vein to the cross-vein and reaching from the costa to the tip of the fifth vein, but not extending much toward the root of the wing from the cross-vein; the second band begins before the fork of the fourth vein and extends about the same distance beyond the fork; third vein much bent backward, recurved at the tip so as to be parallel with the fourth vein for a short distance at the tip; fork of fourth vein a little less than a right angle, the fork bending slightly back toward the base of the wing, more so near upper bend which is broadly rounded, from this bend the fork runs nearly straight to the wing margin; fourth vein from the cross-vein to the fork 100, from the fork to wing margin 40, cross-vein 60 and last section of fifth vein 27 fiftieths of a millimeter long.

TYPE.—Male, taken at Vista Nieve, San Lorenzo Mountains, Colombia, December 22, 1922.

Diaphorus mundus Loew

LOEW, 1861, 'Neue Beitr.', VIII, p. 47.

Male, Kartabo, October 25, 1920 (No. 20408); male, Kartabo, (trap-lantern), November 9, 1920.

Hercostomus flavimanus, new species

MALE.—Length, 5.2 mm. Face narrow, covered with yellowish-brown pollen, the lower part separated from the upper by a carina at about the lowest fourth of the face; front black, with yellowish-brown pollen. Antennae wholly yellow, third joint nearly round in outline, arista brown, dorsal; orbital cilia wholly black.

Thorax blackish with green reflections, nearly opaque with brown pollen; on some parts the pollen appears more greenish gray; humeri covered with gray pollen; anterior part of dorsum covered with little black bristles or stiff hairs, which extend back halfway to the suture. Sides of abdomen green, dorsum more blue or violet, the dense white pollen on the sides of the abdomen extends almost over the dorsum but is thinner above. Hypopygium and its lamellae black, the latter large, rounded on the sides, extended into a narrow rounded lobe on the apical edge.

All coxae, femora, and the middle and hind tibiae and their tarsi black; front tibiae and tarsi yellow, the last two segments of the latter infuscated, the first three segments a little compressed and widened, their sides nearly glabrous; middle and hind femora each with a row of bristles on the apical third of the upper anterior surface, ending in the usual preapical bristle; there are four of these bristles on the middle femora and five on the posterior. Segments of fore tarsi as 45-28-18-12-13; of middle ones as 64-42-29-18-12; calypters and halteres yellow, the cilia of the former black.

Wings gray, slightly brownish in front; third and fourth veins nearly parallel and straight, the fourth ending in the apex of the wing; cross-vein 40, last section of fifth vein 21 fiftieths of a millimeter long.

TYPE.—Male, Kartabo, Bartica District, British Guiana, May 20, 1924.

SARCIONUS Aldrich

TABLE OF SPECIES

- 1.—Inferior orbital cilia and the hypopygial lamellae black or brown (Mexico).
flavicoxa Aldrich.
- At least the lower orbital cilia pale. 2.
- 2.—Hypopygial lamellae black. 3.
- Hypopygial lamellae largely white or yellow. 4.
- 3.—Hypopygial lamellae small (West Indies; Mexico). *lineatus* Aldrich.
- Lamellae large (British Guiana). *pectinicauda*, n. sp.
- 4.—Hypopygial lamellae blackish on the apical edges, pointed at tip, with a long hair at apex; tip of wing broadly brown (British Guiana).
maculipennis, n. sp.
- Hypopygial lamellae oval with a large brown spot at tip (South America).
maculatus Van Duzee.

Sarcionus pectinicauda, new species

Figure 8

MALE.—Length, 4 mm. Face narrow, only a little wider below, silvery white; palpi brownish with the edge yellow; occiput green; front violet, with considerable white pollen. Antennae yellow, the third joint blackened at the tip, arista feathered with long but scattering hairs; lateral and inferior orbital cilia white, a few of the upper ones black.

Thorax shining green, with a median coppery vitta and abundant white pollen along the front of the dorsum and on the pleura; a broad black stripe above the root of the wing extends to the suture and becomes coppery above. Abdomen black, base of segments purplish black, the basal bands become wider on the apical segments; spots on the sides of the segments and the whole of the last segment silvery-white pollinose. Hypopygium (Fig. 8) brownish black, more yellow below, its lamellae large, black, a little yellowish at the base above, the lower edge with about nine thick, blunt bristles, and there is a cluster of bristles at the base of the lamellae.

Front coxae, all trochanters, femora and tibiae yellow, with black hair, middle and hind coxae blackish on the outer surface and covered with white pollen; posterior femora with a large preapical bristle on the upper anterior edge and one about half as large on the lower anterior edge; one long black bristle above each front coxa. Tarsi blackened from the tip of the first joint; joints of front tarsi as 32-15-11-7-7; those of the middle ones as 44-26-23-14-7; joints of posterior tarsi as 33-44-33-18-10. Calypters and halteres yellow, the former with long black cilia.

Wings tinged with brownish gray; third vein nearly straight, only a little bent back at the tip; last section of fourth vein gradually bent near its middle, very slightly concave posteriorly near the tip, ending near the tip of third vein and considerably before the apex of the wing; fifth vein slightly arched, its last section not any more bent than the preceding section; cross-vein 19, last section of fifth vein 23 fiftieths of a millimeter long.

TYPE.—Male, labeled "A 15."

This is much like *lineatus* Aldrich, but differs in having the lamellae large, tarsi of darker color and in having the pulvilli of the front tarsi no larger or scarcely larger than those of middle and hind tarsi.

[There is one female, Kartabo, April 1, 1924, which apparently belongs here. C. H. C.]

Sarcionus maculipennis, new species

Figures 9 and 10

MALE.—Length, 5 mm. Face very narrow in the middle, a little wider above and below, silvery white; palpi black with white pollen; front and occiput black, the former with white pollen; antennae (Fig. 9) yellow, third joint somewhat pointed, blackish on the edges and at tip, arista feathered with rather short hairs; lateral and inferior orbital cilia white, a few of the upper ones black.

Thorax dark blue, almost blackish, the posterior slope of dorsum and the scutellum dark green; dorsum of thorax dulled with brown pollen when viewed obliquely; pleura black, with white pollen; a long curved bristle above each front coxa. Abdomen black with slight purple reflections; the spots of pollen on the sides of the

segments white, the pollen on the dorsum brown; first segment with a cluster of long black hairs on each side. Hypopygium (Fig. 10) with a slender petiole, black, with the lower surface yellow, its lamellae yellow, blackish on the edges and at the tip which is pointed; there is a long hair at the tip; central organ yellow with a blackish tip.

All coxae, femora, tibiae and basitarsi yellow, the tarsi black from the tip of the first joint, middle coxae blackened on the outer surface; hairs of front coxae black, a few of those on the upper outer corner longer, and with the usual large black bristles at the tip; posterior femora with one large preapical bristle; joints of the front tarsi as 34-19-11-8-7; of middle ones as 59-42-30-17-7; those of posterior pair as 44-63-34-15-7. Calypters and halteres yellow, the former with black cilia.

Wings grayish on basal portion, the apical part from a little beyond the cross-vein brown, the brown sometimes very sharply defined; third vein nearly straight; last section of fourth vein evenly bent from the cross-vein to its tip, reaching the wing margin a little back of the tip of the third vein and distinctly before the apex of the wing; cross-vein 23, last section of fifth vein 24 fiftieths of a millimeter long.

Types.—Described from two males, type taken at Kartabo, Bartica District, British Guiana, in 1921; the paratype was taken at the same place, August 17, 1920.

This is a very distinct species, being the only form known in the genus with the wings marked with brown, except that some have a light brown shade along the costa.

[A female, Kartabo (No. 20982), evidently belongs to this species. The wings are not in good condition but the third antennal segment is pointed, although shorter than in the male. C. H. C.]

SYRPHIDAE

Few families of Diptera are as popular with entomologists as the Syrphidae, commonly called "flower flies" or "hover flies." Most of the members of the family are quite striking in appearance and several species may always be encountered in any part of the world. In South America the Syrphidae are probably better known than any of the large families of Diptera, several species having been described more than a hundred and fifty years ago. The collections before me contain many syrphids, including a surprisingly large number of new species. Several of these have been described during the past few years, while descriptions of the remainder are contained in the present contribution.

The examination of many of the types of the species described by Wiedemann enables me to present, also, redescriptions of some of the species based upon specimens in better condition than the types, and to correct one or two slight errors.

KEY TO GENERA

- 1.—Anterior cross-vein joining the third vein well before the middle of the discal cell.....2.
Anterior cross-vein ending at or beyond the middle of the discal cell.....7.
- 2.—Humeri pilose; antennae elongate, the arista bare; face flattened or gently convex.....MICRODON Meigen.
Humeri bare, or the arista plumose.....3.
- 3.—Arista plumose; humeri pilose; antennae elongate.....4.
Arista bare; humeri bare; antennae short.....5.
- 4.—Face with three strong tubercles, one on either side of the median tubercle.
ORNIDIA St. Fargeau and Serville.
Face with only one tubercle.....VOLUCELLA Geoffroy.
- 5.—Third vein strongly looped into the apical cell.....SALPINGOGASTER Schiner.
Third vein straight or gently curved forward.....6.
- 6.—Face tuberculate or not, never strongly produced forward so as to be most prominent in the middle; apical cross-vein sometimes transverse; abdomen often clavate.....BACCHA Fabricius.
Face strongly produced forward from the antennae and very prominent in the middle; apical cross-vein never transverse; mesonotum usually with a median slender ashy vitta.....MESOGRAMMA Loew.
- 7.—Third vein at most weakly looped into the apical cell; no patch of tiny setulae at base of the femora.....8.
Third vein strongly looped into the apical cell; a dense patch of tiny setulae at base of each femur.....10.
- 8.—Face concave in profile, at most weakly carinate.....PLANES Rondani.
Face not concave, strongly carinate.....9.
- 9.—Facial carina receding above.....CERIOGASTER Williston.
Facial carina practically straight.....CREPIDOMYIA Shannon.
- 10.—Thorax or abdomen, or both, with bright yellow markings due to dense tomentum.....MEROMACRUS Rondani.
Pale markings of the thorax due to ground color, pollen or pile.....11.
- 11.—Abdomen elongate, with almost parallel sides on basal two-thirds or more; arista thickened on almost its whole length.....HABROMYIA Williston.
Abdomen short and robust, or at least tapering from the broad basal segments; arista tapering, often plumose.....ERISTALIS Latreille.

MICRODON Meigen

The genus *Microdon* possesses many peculiar forms in the Neotropical region and there are nine species known to occur in British Guiana. Several of these have been recently described by the author. The larvae live in the nests of ants and termites and are of very peculiar structure. The relationship existing between the larvae and the ants is unknown. In the following key I have included species collected in Panama, in order that the relationships of the various forms might be better understood.

TABLE OF SPECIES

- 1.—Scutellum unarmed, without spines.....2.
Scutellum with two spines.....7.
- 2.—Scutellum deeply emarginate at the apex and rather strongly directed upward.
panamensis Curran.
Scutellum almost evenly convex apically or not directed upward.....3.
- 3.—Second abdominal segment narrower than the first or third...*trivittatum* Curran.
Second abdominal segment wider than the first.....4.
- 4.—Face wholly yellow or orange; abdomen partly pale.....*guianica* Curran.
Face with a broad median brown vitta.....5.
- 5.—Abdomen wholly blackish.....*inarmatus* Curran.
Abdomen largely reddish yellow.....6.
- 6.—Face broadly carinate.....*carinifacies*, n. sp.
Face gently convex (Panama).....*apiculus* Curran.
- 7.—Scutellum wholly reddish; abdomen broadly red basally.....8.
Scutellum with the basal half or more dark.....9.
- 8.—Apical third of the fourth abdominal segment, and the broad sides, with rusty hairs.....*angustiventris* Macquart.
Apex of the fourth abdominal segment black-haired.....*angustus* Macquart.
- 9.—Face metallic green, white pilose (Panama).....*solitaria* Curran.
Face not brilliant green.....10.
- 10.—Wings blackish with about the apical fourth white or pallidly yellowish.
normalis Curran.
Wings differently colored.....11.
- 11.—Abdomen chiefly red, the first segment always black.....*bidens* Fabricius.
Abdomen differently colored.....12.
- 12.—Wings with luteous tinge, evenly colored (Panama).....*nigrispinosus* Shannon.
Wings partly brownish or smoky.....13.
- 13.—Wings yellow, with fuscous apex and posterior border.....*flavipennis* Curran.
Wings smoky, especially darkened in front.....*langi* Curran.

Microdon trivittatum Curran

CURRAN, 1925, Ann. Mag. Nat. Hist., XVI, p. 344.

Only the type, a male from Kartabo, February 5, 1921 (No. 21125), has been seen.

Microdon carinifacies, new species

Reddish yellow, with black markings and mostly rusty-reddish legs; wings hyaline. Length, 9 mm.

FEMALE.—Head brownish; face yellowish, with a broad median brown vitta tapering to a point above the oral margin, the vitta entirely raised and forming a prominent carina; sides of the face almost parallel on most of the length, converging below; in profile the face is gently convex, produced distinctly below the lower border of the eyes, the hair sparse, yellowish, very short and appressed. Front very slightly narrowed above, mostly cinereous pollinose, with a large, opaque blackish spot on either side of the lower half, the ocellar swelling very large, occupying most of the middle of the front above the weak transverse depression, the ocellar triangle small,

slightly wider than long, the posterior ocelli situated distinctly in front of the posterior angles of the eyes; frontal hair limited to the large lower angles, yellowish and not conspicuous. Occiput cinereous pollinose except on the upper half of the posterior orbits, the hair sparse and yellow. Cheeks very narrow, white pollinose. Antennae elongate; first segment reddish brown, with the base and most of the inner surface reddish; second segment brown, about one-fifth as long as the first; third segment three-fourths longer than the first, widest near the apex, the lower apex rounded, the upper rather angulate; first segment practically without hair; arista reddish, tapering, scarcely half as long as the third segment. Eyes bare.

Thorax reddish yellow, the pleura with dark ferruginous areas, the incisures yellow, the disc of the mesonotum brownish black, the dark color extending broadly almost to the base of the wings behind the suture and over the anterior edge in the middle. Hair very short, whitish on the pleura, yellow on the scutellum, sides, and broad posterior border of the mesonotum, blackish on the black area except for a broad, broadly interrupted band of brassy-yellow pile immediately in front of the suture and another on the anterior border. Scutellum very short, convex, evenly rounded on its free border, the hair inconspicuous.

Front legs and all the tarsi missing; middle coxae yellow, the posterior pair ferruginous; femora rusty reddish, the middle pair becoming yellow apically; tibiae rusty reddish; hair of coxae yellowish, of the femora and tibiae black, very short and appressed, abundant on the apical half of the tibiae.

Wings hyaline, lightly cinereous on the apical half; apical cross-vein transverse, slightly recurrent. Squamae and halteres pale yellowish.

Abdomen rusty reddish-yellow, with brownish markings, the first segment brown, the second with a very large, transverse brown triangle resting on the posterior border and reaching the anterior border in the middle, the lateral borders also broadly brown. Third segment irregularly and diffusely brown on the basal half, except broadly toward the sides, the lateral margins also brown; basal two-thirds of the fourth segment broadly brown laterally, the fifth segment mostly brownish except the broad middle and posterior border. Sternites brown, with pale incisures. Hair inconspicuous, following the ground color. The abdomen increases in width to the apex of the second segment, the fourth segment moderately, the fifth strongly narrowing, the third to fifth segments strongly convex dorsally.

TYPE.—Female, Kartabo, 1920 (No. 201330), with pupal case attached. A second specimen, Kartabo, 1920, is in very poor condition. The specimens were both preserved in alcohol.

***Microdon guianica* Curran**

CURRAN, 1925, Ann. Mag. Nat. Hist., XVI, p. 340.

The type female, from Bartica, June 6, 1901 (R. J. Crew), is the only representative of the species known to me. For shape of abdomen and facial profile see figures 26 and 27.

***Microdon inarmatus* Curran**

CURRAN, 1925, Amer. Mus. Novitates, No. 176, p. 5.

The following examples of this species, which is thus far known only from British Guiana, have been examined: two males, Bartica, April 1,

May 5, 1901, (R. J. Crew); male and female, Kartabo, March 17, 1922; female, Bartica District; male, Tukeit, July 26, 1911 (F. E. Lutz). For shape of abdomen and facial profile see figures 26 and 27.

***Microdon angustiventris* Macquart**

Aphritis angustiventris MACQUART, 1855, 'Dipt. Exot.,' Suppl. 5, p. 105.

Belongs to the *bidens* group. Length, 16 mm. Mesonotum with a complete golden fascia across the suture; legs wholly reddish; face reddish; back of the head orange below; cheeks brown in front. Thorax and scutellum dirty reddish-yellow, the mesonotum rather dull blackish with more or less continuous pale border. Wings grayish, yellow in front on more than the basal half, the apical two-fifths black in front of the third vein. Abdomen with the first three segments reddish, the apex of the third, and a more or less broad, not very conspicuous middle line on the second and third, and the apical segments, blackish. Genitalia brownish red. Fourth abdominal segment largely ferruginous pilose.

Three specimens: male, Kartabo, February 7, 1921 (No. 21146); male, Kartabo, May 12, 1924; male, Kartabo, May 22, 1924.

This species is very similar in appearance to *angustus* Macquart but is readily distinguished by the characters mentioned in the key.

***Microdon angustus* Macquart**

Aphritis angustus MACQUART, 1846, 'Dipt. Exot.,' Suppl. 1, p. 122.

Similar to the preceding, from which it differs as follows: there is no forward prolongation of the black on the third abdominal segment; apical fourth or less of the third abdominal segment black; pile on the apical segment entirely black; wings paler grayish.

Two males, Bartica, British Guiana. Originally described from French Guiana.

***Microdon normalis* Curran**

CURRAN, 1925, Ann. Mag. Nat. Hist., XVI, p. 343.

Originally described from a single female taken on the west bank of the Demerara River, near Ureed-en Hoop, British Guiana, February 9, 1923.

***Microdon bidens* Fabricius**

Mulio bidens FABRICIUS, 1805, 'Syst. Antl.,' p. 185.

Length, about 16 mm. Face orange, front and cheeks blackish; antennae black, the third segment as long as the basal two combined. Thorax black, the pleura reddish brown below; pile black, whitish on the anterior and posterior margins, the sutural depressions and on the pleura, but not conspicuous. Scutellum green, with reddish margin and spines, its pile sparse, inconspicuous, black except that the base is narrowly white-haired. Legs brown; bases of the anterior four femora, the posterior pair except the apex and the basal two-thirds of the posterior tibiae, reddish, the tarsi reddish below; pile appressed, white, with silvery reflection. Abdomen red, the first segment black. Wings yellowish brown, a little darker in front.

There is a male from Bartica District, June 28, 1901 (R. J. Crew).

This species is taken as typical of a large group of Neotropical species. The abdomen is elongate, not wider than the thorax, fourth segment as long as the two preceding or almost so, or as long as the basal three, the second shorter than the third but longer than the first, the sides of the second segment convex, widest at the middle or with the sides almost parallel behind the middle. Antennae long to very long. The limits of the species comprising this group are not clearly established because, with few exceptions, they are quite rare in collections.

***Microdon flavipennis* Curran**

CURRAN, 1925, Ann. Mag. Nat. Hist., XVI, p. 342.

Belongs to the *bidens* group. Only the type female from Bartica, April 5, 1901 (R. J. Crew), in the Johnson Collection, has been seen. This collection is now in the Museum of Comparative Zoölogy.

***Microdon langi* Curran**

CURRAN, 1925, Ann. Mag. Nat. Hist., XVI, p. 341.

Belongs to the *bidens* group. Only the type specimens have been seen; they are from Kamakusa, September 22 (H. Lang), and Bartica, April 5, 1901 (R. J. Crew).

***VOLUCELLA* Geoffroy**

As here used, this genus also includes *Phalacromyia* Schiner as the character of the open marginal cell is not at all reliable and in the same species this cell may be open or petiolate. There are many species of *Volucella* in the Neotropical region, but many determinations are very doubtful and records of species from certain localities must be verified. I have before me eleven species from British Guiana and several others have been recorded from adjacent territories. The following key separates the species known to me.

TABLE OF SPECIES

- | | |
|--|---------------------------|
| 1.—Scutellum with preapical depression..... | 2. |
| Scutellum differently shaped, flattened to strongly convex..... | 26. |
| 2.—Face metallic green..... | 3. |
| Face not metallic green..... | 6. |
| 3.—Eyes with dense, short, thickened white pile; cheeks with yellow triangle; tarsi reddish..... | <i>viridis</i> Williston. |
| Eyes with normal cinereous pile; tarsi blackish..... | 4. |
| 4.—Cheeks wholly green; mesonotum wholly yellow-haired..... | <i>ernesta</i> Curran. |
| Cheeks with reddish or yellowish vitta in front..... | 5. |

- 23.—Lateral depressions on scutellum as long as wide. *tricincta* Bigot.
 Lateral depressions on scutellum decidedly transverse. 24.
- 24.—Fourth abdominal segment entirely pale; ferruginous species with narrow black
 apices to the abdominal segments. *chalybescens* Wiedemann.
 Fourth segment black or bordered with black. 25.
- 25.—Fourth abdominal segment wholly white pilose. *deceptor* Curran.
 Fourth abdominal segment white pilose only on the broad sides and extreme
 apex. *salti* Curran.
- 26.—With a prescutellar row of bristles or at least a pair of short, spinous
 bristles. 27.
 Without clearly differentiated prescutellar bristles. 65.
- 27.—Marginal cell much broadened before its tip and always closed. 28.
 Marginal cell scarcely widened apically, sometimes open. 30.
- 28.—Legs black. 29.
 Legs reddish. *spinigera* Wiedemann.
- 29.—Front yellow pilose; four setigerous tubercles on scutellum.
spinithorax Arribalzaga.
 Front black pilose; six setigerous tubercles on scutellum. . *fulvicornis* Bigot.
- 30.—Epistoma strongly projecting forward and acutely conical; face scarcely pro-
 duced downward. 31.
 Face, if produced forward, also considerably produced downward. 34.
- 31.—Third antennal segment kidney-shaped. 32.
 Third antennal segment very slightly concave above. *pica* Schiner.
- 32.—Third and fourth abdominal segments wholly black. *pubescens* Loew.
 Third and fourth abdominal segments mostly reddish. 33.
- 33.—Front of female less than three times as wide as ocellar triangle (Jamaica).
intona Curran.
 Front of female at least four times as wide as ocellar triangle. . *haagii* Jaenicke.
- 34.—Face with dark median vitta or wholly dark. 35.
 Middle of face wholly pale, at most the sides and cheeks blackish or brown. . 38.
- 35.—Face and front steel-blue; body chalybeous or metallic greenish-blue; wings
 with quadrate black spot in middle anteriorly. *azurea* Philippi.
 Face pale brown or with median blackish vitta. 36.
- 36.—Mesonotum with a rectangular, yellow prescutellar spot; pleura with soft,
 whitish pile. *isabellina* Williston.
 Mesonotum with a geminate prescutellar yellow spot or not yellow
 posteriorly. 37.
- 37.—Mesonotum with prescutellar geminate yellow spot; tibiae reddish basally;
 second abdominal segment pale yellow. *comastes* Williston.
 Mesonotum greenish cyaneous; legs wholly black; second abdominal segment
 yellow with black apex and median vitta, the following segments usually
 with laterally widened, broad, basal reddish fasciae. *macquarti* Curran.
- 38.—Wings without sharply defined brown spots, sometimes delicately infuscate
 anteriorly or along the veins. 39.
 Wings with one or more sharply defined brown spots. 55.
- 39.—Abdomen wholly metallic green; no dark anterior vitta on cheeks; legs reddish,
 the femora chiefly black above; squamae thick, the fringe short, rusty
 reddish; wings hyaline with brown stigmal spot. *barei* Curran.

- Differently colored species. 40.
- 40.—Abdomen deep violet, the base light yellow; wings infuscate; head broad, the face produced acutely downward. *Megametopon amethystina* Bigot.
- Abdomen differently colored or otherwise different. 41.
- 41.—Scutellum armed with six or eight strong, setigerous tubercles; large, blackish species with rusty-brown scutellum; face reddish yellow, the oral margin narrowly black. 42.
- Scutellum rarely with setigerous tubercles (if so the abdomen pale in color), although the bristles may arise from a slightly raised base. 44.
- 42.—Cheeks black behind. *scutellata* Macquart.
- Cheeks wholly reddish or yellowish. 43.
- 43.—Face wholly black-haired. *bradleyi* Curran.
- Face yellow-haired on either side of lowest third. *aricia* Curran.
- 44.—Head very large, inflated; no distinct facial tubercle, the face carried straight downward into a narrow, acute cone; squamae white, with brown border and fringe, thorax with soft white pile and black hair intermixed. . . . 45.
- Head not unusually large; facial tubercle present. 46.
- 45.—Basal three sternites wholly pale. *escomelli* Curran.
- Second and third sternites bearing large black triangles. . . *concinna* Philippi.
- 46.—Abdomen brownish black, shining; thorax cobalt-blue; legs castaneous; frontal triangle black pilose. *chaetophora* Williston.
- Abdomen not wholly black, if so the frontal triangle pale pilose. 47.
- 47.—Squamae white, the outer half of the lower lobe yellowish and very much thickened. *vesiculosa* Fabricius.
- Squamae differently colored and not thickened. 48.
- 48.—Squamae with yellow border and fringe. 49.
- Squamae with black border and fringe; abdomen black, the second and third segments usually largely yellow. 51.
- 49.—Third and fourth abdominal segments with the basal third yellow pilose. . . 50.
- Third and fourth abdominal segments black pilose. . . . *dorsalis* Wiedemann.
- 50.—Scutellum yellow. *prescutellaris* Williston.
- Scutellum shining black. *Megametopon nasicum* Williston.
- 51.—Wings wholly hyaline. *vitripennis* Curran.
- Wings conspicuously infuscated, at least on the anterior part. 52.
- 52.—Scutellum wholly yellow. 53.
- Scutellum black or brown on apical third or more. 54.
- 53.—Sides of facial tubercle and of the mesonotum behind the suture, yellow pilose. *persimilis* Williston.
- Facial tubercle wholly black-haired; sides of mesonotum posteriorly with very little yellow pile. *fuscipennis* Macquart.
- 54.—Scutellum wholly blackish. *panamensis* Curran.
- Scutellum broadly reddish basally, at least in the middle. . . *correcta* Curran.
- 55.—Scutellum with twenty setigerous tubercles on the margin; abdomen rusty reddish. *cockerelli* Curran.
- Not more than eight setigerous tubercles; abdomen not wholly reddish. . . 56.
- 56.—Pleura with soft whitish pile. 57.
- Pleura with coarse pile or hair. 58.
- 57.—Costal border brown on apical half in front of third vein. . *megacephala* Loew.
- Costal border not brown on apical half. *macrocephala* Giglio-Tos.

- 58.—Abdomen entirely pale yellow; thorax rusty yellow.....*unicolor* Curran.
 Abdomen not entirely yellow, at least fasciate with black.....59.
- 59.—Scutellum with six or eight strong, setigerous tubercles (cf. couplet 42).
scutellata Macquart.
 Scutellum without strong tubercles.....60.
- 60.—Legs wholly black.....61.
 Legs partly pale-colored.....62.
- 61.—Wings very strongly brownish apically, clouded along the veins.
alcedo Curran.
 Wings evenly very pale brownish apically in front, not clouded along the veins.
meretricias Williston.
- 62.—Abdomen yellow with very narrow black segmental apices; scutellum yellow
 above, flattened before its tip.....*opinator* Williston.
 Abdomen differently colored.....63.
- 63.—Squamae whitish, the outer half of the lower lobe orange, much thickened;
 fringe pale.....*vesiculosa* Fabricius.
 Squamal fringe blackish.....64.
- 64.—Face very strongly produced downward; plumula brown.. *cyanescens* Macquart.
 Face moderately produced downward, rather obtuse; plumula pale yellowish.
macula Wiedemann.
- 65.—Thorax and abdomen with long, abundant pile, that on the thorax largely
 yellow.....109.
 Thorax and abdomen with shorter, sparser pile, the ground color not
 concealed.....66.
- 66.—Marginal cell broadened apically, always closed.....67.
 Marginal cell scarcely broadened apically, often open.....88.
- 67.—Margin of scutellum with very evident bristles.....68.
 Bristles of scutellum scarcely differentiated from the hairs.....74.
- 68.—Face with median black stripe.....69.
 Face without median black stripe.....70.
- 69.—Mesonotum thickly yellow pilose.....*caesariata* Williston.
 Mesonotum thinly long black pilose.....*fraudulenta* Williston.
- 70.—Abdomen yellow with deep black posterior borders to the segments, first
 segment wholly black, the second with broad median vitta; mesonotum
 with rectangular prescutellar yellow spot.....71.
 Abdomen black and reddish yellow, the colors differently arranged.....72.
- 71.—Middle and sides of face black-haired.....*tau* Bigot.
 Face wholly yellow-haired.....*satur* Osten Sacken.
- 72.—Abdomen shining black or castaneous.....73.
 Abdomen reddish yellow, with blackish markings.....*mellea* Jaenicke.
- 73.—Wings hyaline; scutellum weakly tuberculate.....*boliviana* Hine.
 Wings with large median brown spot in front; scutellum with six strong
 tubercles.....*fulvicornis* Bigot.
- 74.—Face perpendicular, not tuberculate; marginal cell not bulbous at apex; wings
 clouded only on the cross-veins near the middle.....75.
 Face concave above; wings with brown bands apically, the apex of the
 marginal cell bulbous.....80.

75.—Mesopleura with a large, oval whitish spot behind.
Mesopleura wholly blackish; arista twice as long as third antennal segment.
avida Osten Sacken.

76.—Wings with a large, quadrate brown spot near the middle anteriorly, brownish yellow on the basal half.
Only the median cross-veins clouded with brown.
quadrata Williston.

77.—Face with a narrow brownish or blackish vitta.
Face without median vitta.
79.

78.—Abdomen with median black vitta.
Abdomen without median black vitta.
lutzi Curran.
isabellina Williston.

79.—Fourth abdominal segment wholly black.
Fourth abdominal segment yellow on basal half.
clarki Curran.
sternalis Curran.

80.—Mesopleura with a whitish-yellow spot above.
Mesopleura wholly blackish.
81.

81.—Yellow spots on sternopleura, hypopleura, and metapleura.
No pale spots on metapleura and sternopleura.
82.

82.—Second abdominal segment wholly pale in front; posterior femora yellow on basal half.
Second segment black with crescentric yellow spots.
picta Wiedemann.
83.

83.—Legs reddish, the tarsi paler basally.
Legs black, the basal two tarsal segments yellow.
pusilla Macquart.

84.—Scutellum yellow pilose.
Scutellum with dense black pile on apical half.
imitans Curran.
timberlakei Curran.

85.—Scutellum thickly reddish-yellow pilose.
Scutellum chiefly black pilose.
87.

86.—Mesonotum wholly reddish-yellow pilose.
Mesonotum largely black pilose.
ornata Williston.
pulchripes Bigot.

87.—Legs black, the tarsi reddish yellow basally.
Legs reddish.
feminea Curran.
unipunctata Curran.

88.—Abdomen unicolorous or practically so.
Abdomen with the base broadly yellow or banded with reddish yellow.
103.

89.—Abdomen not metallic green.
Abdomen metallic green; small species.
barei Curran.

90.—Abdomen violaceous.
Abdomen not strongly violaceous.
98.

91.—Face pale yellow; cheeks black; front yellow pilose.
Face rusty red to black; wings blackish on basal half in front or brownish on apical half or more.
95.

92.—Mesopleura entirely black-haired.
Mesopleura with cinereous-yellow pile above.
93.
watsoni Curran.

93.—Scutellum with more than the apical half black-haired.
Scutellum yellow pilose, at most a few of the bristly hairs on the margin black.
abdominalis Wiedemann.

94.—Notopleura and scutellum wholly black pilose.
Notopleura and broad base of the scutellum reddish-yellow pilose.
ingenia Curran.
eugenia Williston.

95.—Wings hyaline on apical half, blackish on basal half in front; face with a low, large tubercle; marginal cell closed.
mexicana Macquart.

- Wings wholly more or less brown; face produced forward below 96.
- 96.—Antennae bright red; marginal cell open *nigripes* Bigot.
Antennae black or brown 97.
- 97.—Marginal cell open *latei* Curran.
Marginal cell petiolate *duida* Curran.
- 98.—Basal half of wings blackish or dark brown on the anterior half; large, broad species *esuriens* Fabricius.
Wings variable in color, but not as above 99.
- 99.—Wings wholly hyaline, the base but little brownish; cross-veins never darkened *comstocki* Williston.
Cross-veins clouded or the wings extensively pale brownish 100.
- 100.—Wings wholly brownish *duida* Curran.
Wings not wholly brownish 101.
- 101.—Abdomen castaneous with slight purplish reflections; cross-veins clouded. 102.
Abdomen deep black; only the anterior cross-vein clouded; subcostal cell and base of wing brownish *anna* Williston.
- 102.—Cross-veins clouded *postica* Say.
Wings with a large, subrectangular brown spot covering the cross-veins. *watsoni* Curran.
- 103.—Wings with small brownish spots on apex of marginal cell and on apical cross-veins *satur* Osten Sacken.
Wings either clouded apically in front or hyaline beyond the stigma 104.
- 104.—Epistoma produced as a long, porrect snout *pica* Schiner.
Epistoma not snout-like 105.
- 105.—Face with pale brown or blackish median vitta 106.
Face wholly yellow *yura* Curran.
- 106.—Basal abdominal segment black; each segment with a broad, more or less interrupted posterior black fascia *isabellina* Williston.
First abdominal segment, basal half of second and transverse spots on third and fourth segments yellowish or reddish 107.
- 107.—Tibiae reddish 108.
Tibiae black *lugens* Wiedemann.
- 108.—Front of female yellow; pile on basal half of femora mostly yellowish. *vagoides* Curran.
Front of female blackish; hair of legs all black *correcta* Curran.
- 109.—Face yellow in ground color 110.
Face brown or black 112.
- 110.—Third abdominal segment with a pair of large, sometimes confluent, reddish spots *bombylans rufomaculata* Jones.
Third segment black in ground color 111.
- 111.—Thorax in part, at least the scutellum yellow pilose. *bombylans plumata* De Geer.
Thorax and scutellum wholly black pilose (Europe). *bombylans* Linnaeus.
- 112.—Antennae reddish 113.
Antennae dark brown *bombylans arctica* Johnson.
- 113.—Abdomen wholly black pilose beyond the second segment. *bombylans americana* Johnson.
Fourth segment with tawny pilose band *bombylans evecta* Walker.

Volucella tympanitis Fabricius

Syrphus tympanitis FABRICIUS, 1805, 'Syst. Antl.', p. 226.

There is a single female from Kartabo, 1921.

Volucella musta Williston

WILLISTON, 1888, Trans. Amer. Ent. Soc., XV, p. 274.

One female, Kartabo, June 6, 1920.

Volucella brevifacies, new species

Figure 29

FEMALE.—Length, 7 mm. Head shining rusty reddish, the facial depression pale yellow pollinose; back of head black except below. Face short. Frontal depressions shallow; ocellar triangle slightly longer than wide; black portion of the occiput gray pollinose. Pile yellow, only the upper fifth of the front black haired. Antennae reddish, the third segment scarcely concave above; aristal plumes and apex black.

Thorax yellowish, the disc more reddish, shining; scutellum yellow, with brownish preapical depression. Thoracal bristles yellow, the scutellum with only two bristles, one on the margin at either side of the depression; prescutellars absent. Pile all yellow.

Legs reddish; tibiae and tarsi, except the first segment, brown; coxae and femora yellow haired, the tibiae and tarsi with black hair.

Wings yellowish, the apical third grayish; stigmal cell yellow, the rectangular stigma brown. Veins closing the basal cells margined with brown. Squamae yellow, with broad brownish border and fringe; halteres yellow, with white knob.

Abdomen rusty reddish-yellow, the apices of the second to fourth segments with narrow brown fasciae, the lateral margin of the fourth brownish tinged on its whole length; very narrow base of the third segment brown; all the fasciae except the last broadly separated from the lateral margins. Pile yellow in front of the first dark fascia, short and black behind it.

TYPE.—Female, Kartabo, British Guiana, 1920.

Readily distinguished from *vaga* by the short face and longer, less obtusely rounded scutellum. The description of this species has not previously been published although the name has been validated in keys to the species.

Volucella vaga Wiedemann

WIEDEMANN, 1830, 'Ausser. Zweifl.', II, p. 205.

The collection contains a single female taken at Kartabo, May 26, 1924, (No. 24724).

Volucella nigrifrons Hine

Phalacromyia nigrifrons HINE, 1914, Ohio Naturalist, XIV, p. 340.

Originally described from British Guiana. There is a female in the collection of C. W. Johnson which I take to be this species. It was collected at Bartica, August 12, 1901 by R. J. Crew. As the identification is somewhat doubtful I have not included it in the key.

***Volucella macquarti* Curran**

CURRAN, 1926, Ann. Entom. Soc. Amer., XIX, p. 60.

Four females from Kartabo: August 17, 1922, May 23, 1924, and May 22, 1924 (Nos. 24662 and 24665).

***Volucella cyanescens* Macquart**

MACQUART, 1842, 'Dipt. Exot.,' II, part 2, p. 24.

One specimen from Bartica, June 12th. Closely related to *macula* Wiedemann.

***Volucella macula* Wiedemann**

WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 200.

There is a specimen in the C. W. Johnson Collection, collected by R. J. Crew at Bartica in July, 1901.

***Volucella esuriens* Fabricius**

Syrphus esuriens FABRICIUS, 1794, 'Syst. Ent.,' p. 281.

While this species is not represented in the collection before me, it undoubtedly occurs at the higher altitudes in British Guiana, as I have examined specimens from Venezuela.

***Volucella vitripennis*, new species**

Related to *fuscipennis* Macquart, from which it differs in having the wings wholly hyaline. Length, 10.5 mm.

FEMALE.—Face and cheeks, except the back of the latter, reddish, the head elsewhere black, the occiput, swellings of the front opposite the antennae, and the frontal depressions, yellowish-gray pollinose. Pile of the front, except on the pollinose areas, of the face, except the sides of the facial slopes and orbits, and the occipital cilia, black; elsewhere on the head pale yellowish. Front narrow, moderately widening anteriorly, the depressions broad and deep, the front transversely convex; ocellar triangle situated near the vertex. Face obtusely short conical, thinly yellowish pollinose above and laterally, in profile perpendicular, the tubercle rather large. Antennae brownish red, the third segment broad basally, tapering to the apical third, thence with almost parallel sides to the rounded apex; arista reddish with black apex and long, abundant rays. Eyes with dense, short, whitish pile.

Thorax black, the mesonotum with metallic watery greenish opalescence and violaceous reflections, the scutellum similar but rather brownish in ground color. Mesonotum with coarse black hairs and slightly shorter, more abundant pale yellowish pile which becomes more conspicuous laterally and covers the pleura in front of the base of the wings as well as the narrow base and lower sides of the scutellum. Pteropleura and sternopleura with coarser, longer blackish hair. Scutellum with rather sparse, coarse, black hair which becomes longer on the margin, and with four pairs of strong marginal bristles. There are about twelve strong prescutellar bristles.

Legs black, the tarsi obscurely reddish-tinged basally; hair of legs wholly black; middle tibiae with four bristles behind near the apex.

Wings hyaline, the stigma pale luteous; marginal cell long petiolate, regular in outline. Squamae grayish white, with yellowish border and fringe. Halteres yellowish, with white knob.

Abdomen metallic bluish, black pilose, the second to fourth segments each with a broad, basal transverse band which is somewhat narrowed and interrupted in the middle, except on the second segment where the inner ends are broadly rounded, the ground color beneath the pale pile more or less obscurely reddish, the sides of the first segment also pale pilose. Venter similar in color to the dorsum, the basal three segments and genitalia pale pilose, the other segments with coarse black hair.

TYPES.—Holotype, female, Kartabo, May 26, 1924 (No. 24704); paratype, female, Kartabo, May 22, 1924 (No. 24661).

This name has been validated in keys but no detailed description has been published previously.

***Volucella alcedo*, new species**

Face yellow, front black; thorax brown, the disc violaceous with watery-blue opalescence; scutellum violaceous, the margin narrowly shining black; abdomen metallic blue. Length, 10 mm.

FEMALE.—Face yellow, rather short, deeply concave on the upper half, the tubercle small, the face perpendicular below, short conical. Front blue-black, the sides below and immediately above the antennae brownish or reddish; lateral depressions deep, elongate. Occiput black, grayish pollinose; cheeks brown behind, yellow in front. Antennae reddish, the third segment broad, tapering on the apical half; rays of the arista long, brown. Pile of the head mostly yellowish, on the front and vertex, black.

Sides of the mesonotum and upper part of the pleura reddish brown, the mesonotum deep blue, with blue-green opalescence and strong purplish reflections. Pile pale, short, not abundant; longer, coarser and black in front of the scutellum; two strong prescutellar bristles. Scutellum concolorous with the mesonotum or more purplish and rather dull owing to the abundant punctures, the border shining black; four pairs of strong marginal bristles; pile black.

Legs blackish brown, the joints paler; tarsi reddish basally, becoming black at their apices.

Wings hyaline, all the veins clouded with brown, the middle of the wing clouded over the cross-veins; marginal cell short petiolate, regular.

Abdomen metallic blue, pale yellowish pilose, the sides of the first segment, second except large basal triangles, third except the base laterally and the lateral margin basally, and the base of the fourth segment except at the sides, black haired.

TYPES.—Holotype, female, Venezuela; paratype, female, Bartica, British Guiana, June 19, 1901 (R. J. Crew), in the Museum of Comparative Zoölogy.

ORNIDIA St. Fargeau and Serville

ST. FARGEAU AND SERVILLE, 1825, 'Encycl. Method.,' X, p. 786.

Only one of the four described species is known to occur in British Guiana.

Ornidia obesa Fabricius

Syrphus obesus FABRICIUS, 1775, 'Syst. Ent.,' p. 763.

There are twenty specimens in the collection from the following localities: female, Kartabo, July 17; two males and one female, August 5; male, August 17; male, August 13; female, October 25; female, August; female, 1921; female, July 24; two females, Bartica District; female, "Br. Guiana"; two females, Kartabo, September 20, 26, 1922; male, Bartica District, May 6, 1924; male and female, Kalacoon, Bartica District, 1916.

This species is everywhere common in tropical and subtropical America.

BACCHA Fabricius

FABRICIUS, 1805, 'Syst. Antl.,' p. 199.

Ocyptamus MACQUART, 1834, 'Hist. Nat. Dipt.,' I, p. 554.

This genus comprises slender species of rather diverse form, some being extremely slender, while others have the abdomen with parallel sides and not at all constricted basally. The separation of *Ocyptamus* Macquart is not feasible and this genus is here considered as forming only a group in the genus *Baccha*. The key includes the American species of which I have seen specimens.

TABLE OF SPECIES

- 1.—Face black or with a median black or brown vitta at least above or below the tubercle.....35.
Face yellowish or reddish, the oral margin rarely blackish.....2.
- 2.—Third antennal segment much longer than the first or second.....3.
All the antennal segments of nearly equal length.....*atypica* Curran.
- 3.—Scutellum wholly black or brown.....4.
Scutellum partly or wholly reddish or yellow.....5.
- 4.—Abdomen in part steel-blue (West Indies).....*cylindrica* Fabricius.
Abdomen partly bronzed, never steel-blue.....*fuscipennis* Say.
- 5.—Wings with a disconnected small apical brown spot.....6.
Wings without disconnected apical spot.....7.
- 6.—Disc of scutellum shining black.....*exigua* Williston.
Scutellum wholly pale.....*lineata* Macquart.
- 7.—Scutellum with definite black or brown markings.....8.
Scutellum yellowish or reddish, the discal markings never black or brown, although often darker than the margins.....11.
- 8.—Base of scutellum narrowly stramineous.....9.
Base of scutellum blackish.....10.
- 9.—Costal border strongly brown, sharply contrasting with the hyaline posterior part.....*dolosa* Williston.
Wings pale brown, paler basally.....*bromleyi* Curran.

- 10.—Wings with a large median brown triangle or uniformly grayish, the base always brown. *gastrostactus* Wiedemann.
Wings rich brown on basal half or more, or pure hyaline sub-basally. 11.
- 11.—Wings hyaline with a brown fascia or triangle at the middle. 12.
Wings differently colored. 13.
- 12.—Anterior cross-vein situated at basal fifth of discal cell. . . *lemur* Osten Sacken.
Anterior cross-vein beyond basal third of discal cell. . . *fascipennis* Wiedemann.
- 13.—Sides of mesonotum broadly yellow or reddish. 15.
At most the humeri, notopleura, and posterior calli yellowish or reddish. . . 14.
- 14.—Second abdominal segment wider than long. *scutellatus* Loew.
Second abdominal segment almost twice as long as wide. . . *funebis* Macquart.
- 15.—Pleura yellowish on the whole length. 16.
Pleura blackish or at least with an entire black fascia which is not interrupted by the posterior spiracle. 23.
- 16.—Ventral scutellar fringe yellow and composed of abundant long, fine hair. *persimilis* Williston.
Ventral fringe black, usually very short. 17.
- 17.—Mesonotum ochreous, usually with shining black vittae. 19.
Mesonotum shining blackish, the ground color sometimes with two metallic reddish vittae. 18.
- 18.—Mesonotum with two reddish vittae dividing the black ground color into three more or less equal stripes. *croacea* Austen.
Mesonotum without reddish integumental vittae, but with yellowish, pollinose vittae. *prudens*, n. sp.
- 19.—Second abdominal segment very much longer than wide. 20.
Second abdominal segment not longer than wide, very strongly narrowed on basal half. *flavipennis* Wiedemann.
- 20.—Sternum wholly yellowish or reddish. 22.
Sternum black. 21.
- 21.—Abdominal segments with three black vittae. species, Brazil.
Abdominal segments with four black vittae. *notata* Loew.
- 22.—Median black mesonotal vittae wider than the intervening pale vitta. . . . 24.
Median black mesonotal vittae narrower than the intervening pale vitta. . . . *livida* Schiner.
- 23.—Yellow markings on third and fourth abdominal segments in form of inverted V. . . . *placiva* Williston.
Yellow markings forming more or less continuous vittae. . . *phaeoptera* Schiner.
- 24.—Second abdominal segment not twice as long as wide. 25.
Second abdominal segment at least twice as long as wide. 28.
- 25.—Abdomen strongly narrowed basally, at least widest on apical half. 27.
Abdomen broad, not spatulate. 26.
- 26.—Third abdominal segment with an anteriorly broadened median black vitta cutting across the yellow band. *lepida* Macquart.
Third segment with a very obscure line of black connecting the two black fasciae. *cultrata* Austen.
- 27.—The lateral black markings on the third abdominal segment strongly converge anteriorly. *pumilla* Austen.
The lateral black markings form basal triangles at the sides of the segment. . . . *crocata* Austen.

- 28.—Wings with brown tinge at least in front. 30.
 Wings hyaline with brown stigmal cell. 29.
- 29.—A black spot above the antennae. *chapadensis* Curran.
 No black spot above the antennae. *macer* Curran.
- 30.—Apical segments of posterior tarsi yellow. 31.
 Apical segments of posterior tarsi brownish. *mentor* Curran.
- 31.—Hind tibiae wholly yellowish. 32.
 Hind tibiae broadly brown apically. 33.
- 32.—Second abdominal segment with interrupted yellow fascia. . . . *vierecki* Curran.
 Second abdominal segment with entire yellow fascia behind the middle. . . . *crocata* Austen.
- 33.—Costal border brownish on at least basal half. 34.
 Wings almost uniformly colored, slightly darker on apical part. . *prenes* Curran.
- 34.—The brown costal border is evanescent apically. *murina* Curran.
 The brown costal border extends to the apex of the wing. . *punctifrons* Williston.
- 35.—Face with a conspicuous tubercle. 40.
 Face with a scarcely perceptible tubercle. 36.
- 36.—Cross-veins bordered with brown. 38.
 Cross-veins not bordered with brown. 37.
- 37.—The black of the third and fourth abdominal segments is bisected for most of its length by a very broad reddish vitta. *gowdeyi* Curran.
 The black is not bisected by a pale vitta. *gracilis* Williston.
- 38.—Mesonotum shining black. 39.
 Mesonotum reddish with brown median vitta in front. . . . *rubida* Williston.
- 39.—Second abdominal segment reddish. *bigoti* Austen.
 Second abdominal segment black. *incompta* Austen.
- 40.—Abdomen not at all constricted on second segment and always shorter than the wings. 41.
 Abdomen constricted basally or longer than the wings. 42.
- 41.—Wings uniformly colored on whole length in front. *latiusculus* Loew.
 Wings paler on apical third or more. *dimidiatus* Fabricius.
- 42.—Oral margin more prominent than the tubercle. *clavatus* Fabricius.
 Oral margin not as prominent as the tubercle. 43.
- 43.—Sixth abdominal segment of female not longer than fourth. 45.
 Sixth abdominal segment much longer than fourth segment and cylindrical. . 44.
- 44.—Wings hyaline on apical half. *telescopica* Curran.
 Wings hyaline on apical fourth. *peruviana* Shannon.
- 45.—Legs entirely black. 46.
 Legs partly yellow. 47.
- 46.—Apical cross-vein very little curved. *signifera* Austen.
 Apical cross-vein conspicuously bisinuate (*punctata* Shannon?) *adpersa* Fabricius.
- 47.—Wings hyaline with a transverse median triangle and the base brown. . . . *lemur* Osten Sacken.
 Wings differently marked. 48.
- 48.—Anterior four femora black or brown, the apex narrowly pale. 49.
 Anterior four femora mostly reddish or yellow. 56.
- 49.—Posterior femora and tibiae with short, appressed pile. 50.
 Posterior femora and tibiae with abundant, long, suberect pile. . *pilipes* Schiner.

and white. Front very narrow above, the sides parallel behind the ocelli, thence rather strongly diverging to the antennae; face narrowed below; cheeks very narrow, in profile sloping upward anteriorly; face slightly receding, with a very strong tubercle a little below the middle. Antennae brown, the third segment three-fourths longer than wide, oval; arista brown, slender, as long as the third antennal segment.

Thorax aeneous, the dorsum, except broad, incomplete submedian vittae and the broad lateral margins, rather bronzed, with a pair of narrow, moderately separated median blackish lines; mesonotum thinly brown pollinose, the sides and pleura grayish pollinose, the pollen on the middle of the pleura with a brownish-yellow tinge. Dorsum with short, sparse black pile, the sides in front and the pleura, with finer, longer, white pile. Scutellum bluish black, with short, sparse, black pile.

Coxae brown, gray pollinose and white pilose. Legs brown or blackish; trochanters, immediate base and apex of the femora, broad bases of the tibiae and the apices of the anterior four, and the tarsi, except the first segment of the posterior pair, reddish yellow, the anterior four tarsi brownish basally on the upper surface. Pile of the femora black, the anterior four with some long whitish hairs behind; tibiae black-haired, the tarsi pale-haired on the pale portions.

Wings yellowish brown on the basal two-fifths and in the costal and subcostal cells, elsewhere hyaline. Alulae strongly developed. Squamae brownish, with brown border and fringe. Halteres reddish yellow.

Abdomen strongly constricted basally, blackish blue, the third segment with a small, subtriangular orange sub-basal spot on either side. Second segment with a broad, preapical opaque black fascia; third and fourth segments opaque or sub-opaque black on about the median half except toward the sides. Sixth and seventh segments bronze-black. Abdominal pile short and sparse, white on the sides of the second segment except apically, on the sides of the third segment basally and on the whole of the first segment, on which it is long laterally, elsewhere appressed and black.

TYPE.—Female, Bartica, May 30, 1901 (R. J. Crew), in Museum of Comparative Zoölogy.

***Baccha incompta* Austen**

AUSTEN, 1893, Proc. Zool. Soc. London, p. 147, 1893.

Male and female, Bartica, May 5, 6, 1901 (R. J. Crew); male, Kartabo, March 25, 1924.

***Baccha clavata* Fabricius**

Syrphus clavatus FABRICIUS, 1794, 'Ent. Syst.', IV, p. 298.

I have seen specimens from Bartica District and have it from various places in neighboring countries.

***Baccha livida* Schiner**

SCHINER, 1868, 'Novara Reise,' Dipt., p. 343.

A single female from the collection of C. W. Johnson from Bartica, May 5, 1901 (R. J. Crew).

This species occurs commonly in the American tropics and I found it to be abundant in Panama.

Baccha dimidiatus Fabricius

Syrphus dimidiatus FABRICIUS, 1781, 'Spec. Insect.,' II, p. 434.

One male, Kartabo, January 17, 1921 (No. 2160).

Common in the Neotropical region.

Baccha prudens, new species

Abdomen widening from the base to the apex of the fourth segment; legs wholly yellow; wings hyaline, the stigmal cell, middle of marginal cell and an obscure small spot before the apex of the wing, brownish yellow. Length, 8.5 mm.

FEMALE.—Face, cheeks, and lower two-thirds of the front except a narrow, anteriorly widened, incomplete median frontal vitta, pale yellow, the face very thinly whitish pollinose and pale pilose. (The lunular area and upper part of the face are missing.) Front very narrow, on upper third with parallel sides, the hair short and black. Occiput grayish pollinose, white pilose, the occipital cilia yellowish.

Thorax shining yellowish, the pectus with four ferruginous stains, the mesonotum, except the broad sides, bronze-black, somewhat purplish, with three broad, rather weak, ochreous vittae. Pile sparse, short, pale yellowish. Scutellum rather dull yellowish with brownish tinge above, its hair black; ventral fringe absent.

Legs reddish yellow, the posterior femora with a weak, transverse brownish spot near the apical third in front; hair all yellowish.

Wings hyaline, shining. Squamae with slight brownish tinge, the border darker, the fringe brownish yellow. Halteres reddish yellow, with paler stem.

Abdomen reddish yellow, with brownish-black markings; apex of the first segment and more than the basal fourth of the second blackish, the band not reaching the lateral margins, the apical fourth of the segment blackish, the broad yellow fascia widening laterally. Third segment with the apical fifth blackish and with three slender vittae, the median one a little widened anteriorly, the others slightly approaching each other in front and not reaching the base of the segment, the black posterior band widened outside the outer vittae; fourth segment similar except that the black posterior fascia is broadly interrupted on either side of the median black vitta which expands triangularly behind, and the black outside the outer vittae occupies the posterior two-fifths of the segment. Fifth segment short, but with very similar markings to the fourth, the black lateral spot, however, only occupying the posterior third of the segment, while the lateral margins are narrowly black. Sixth segment with a pair of narrowly separated longitudinal yellow spots and a small, obscure, sublateral reddish spot. Hair conspicuous, black, rather coarse, long on the first segment and the immediate base of the second laterally, mostly yellow on the sides of the first.

TYPE.—Female, Kartabo, June 10, 1924.

CALLOSTIGMA Shannon

SHANNON, 1927, Proc. U. S. Nat. Mus., LXX, Art. 9, p. 8.

This genus is distinguished from the broad-bodied species of *Baccha* by the transverse apical cross-vein, but I doubt if the character is sufficiently developed to maintain the genus. *Baccha croacea* Austen very closely approaches *C. panamensis* Curran and *neuralis*, new species, in

wing venation, and large series may prove that the two species mentioned and *hyalipennis* Curran all represent a single species. Each species is known from a single specimen and it is not possible to decide whether the characters upon which they are based are stable. The species rather resemble specimens of *Mesogramma* but with the face as in *Baccha*.

TABLE OF SPECIES

- 1.—Wings without a brown apical spot. 2.
 Wings with a brown apical spot. *elnora* Shannon.
- 2.—Posterior cross-vein strongly bent before its middle; sixth abdominal segment mostly yellowish. 3.
 Posterior cross-vein almost straight and oblique; sixth abdominal segment wholly black (Honduras). *hyalipennis* Curran.
- 3.—Black band on the second segment abruptly increased laterally to twice the width of the median portion. *panamensis* Curran.
 Black band on second segment much less widened laterally. . . *neuralis*, n. sp.

***Callostigma neuralis*, new species**

Alulae large, ventral scutellar fringe absent; apical cross-vein transverse; face receding, tuberculate. Length, 6.5 mm.

FEMALE.—Head yellow; occiput blackish; front polished black on the upper third, with a broad, apically tapering vitta reaching to the anterior fourth, and a small black lunular spot. Face with obscure white pollen, the occiput with whitish pollen below and ochreous-yellow pollen on the middle and upper sixth of the front, the pile following the color of the pollen, black on the front, whitish on the face. Cheeks linear; face with a prominent, large, low, broad tubercle which is less prominent than the antennal base, strongly receding below the tubercle; front rather wide above, the sides parallel on the upper fourth, the large ocellar triangle remote from the vertex. Antennae reddish yellow, the third segment somewhat longer than wide; arista pale on the thickened basal half, blackish apically.

Thorax shining yellow, the mesonotum, except the broad sides, bronze-black, with three grayish ochreous vittae which are diffuse anteriorly, the median one entire, the others broadly separated from the scutellum. Pile sparse, yellowish, rather short. Scutellum dull rusty-yellow, with sparse, short, erect black pile.

Legs reddish yellow, the posterior femora with a faint, narrow brownish band near the apical fourth. Pile all yellow.

Wings cinereous hyaline, the stigma luteous. Apical cross-vein transverse, with appendage at posterior end, very gently curved; posterior cross-vein a little more strongly curved. Squamae grayish white, with fuscous border and fringe. Halteres yellow.

Abdomen widest at the middle, slightly narrowed to the base, pointed apically. First segment yellow, with a broad, incomplete brownish apical fascia; second reddish with the broad apex bronze-black and an incomplete brownish sub-basal fascia which reaches the base broadly in the middle. Third segment reddish with the apical fourth or less deep black, the black angularly expanded laterally where it has a slight projection at its inner corners in front, while there is a linear, median black vitta which is more or less obsolete in the middle. Fourth segment reddish, with the apical fifth

black, the median vitta entire, the lateral black productions extending almost to the middle of the segment, their inner arms reaching to the basal sixth of the segment. Fifth segment shorter than the fourth, but quite similarly marked. Sixth segment covered with fungus. Pile black, subappressed, conspicuous, wholly pale on the sides of the first segment and base of the second laterally.

TYPE.—Female, Kartabo, May 3, 1924 (No. 24802).

SALPINGOGASTER Schiner

The single representative of this genus is an undescribed species, which should be easily recognized on account of its pale color and the maculation of the wings.

TABLE OF SPECIES

- 1.—Face wholly yellow.....2.
- Face with black or dark reddish median vitta or with a black spot above....11
- 2.—Yellowish or rusty-reddish species.....3
- Blackish species, the pleura and abdomen not simultaneously yellowish....6.
- 3.—Pleura blackish or ferruginous with a broad yellow band between the humeri and middle coxae.....17.
- Pleura yellow with narrow brownish stripes.....4.
- 4.—Mesonotum ochre-yellow with three dull black vittae.....*minor* Austen.
- Mesonotum blackish or with brownish-yellow pollen and two grayish vittae.....5.
- 5.—Frontal triangle wholly yellow.....*frontalis* Sack.
- Frontal triangle largely black.....16.
- 6.—Legs shining black, the apex of the femora and basal third of the tibiae whitish.
macula Schiner.
- Legs differently colored.....7.
- 7.—Thorax and legs brownish red, with yellow markings; abdomen black.
nova Giglio-Tos.
- Thorax black or brown, if marked with yellow, the legs yellow; always partly or wholly yellowish.....8.
- 8.—Abdomen shining black or brown, except the first segment.....10.
- Abdomen reddish with brown markings or yellow with black apex.....9.
- 9.—Abdomen reddish with brown markings.....*cothurnata* Bigot.
- Abdomen with the basal four segments yellow, the apical ones black.
nigricauda Sack.
- 10.—Mesonotum chocolate-brown, with two dull-yellow vittae; abdomen black, the first segment yellow.....*abdominalis* Sack.
- Mesonotum dull black, with three yellow vittae; second to fourth segments with yellow spots.....*nigriventris* Bigot.
- 11.—Facial tubercle reddish, sometimes flecked with black.....12.
- Facial tubercle, or a spot above, black.....13.
- 12.—Abdomen suddenly widened at the third segment.....*bicolor* Sack.
- Abdomen slender; mesonotum with yellow, U-shaped marking before the scutellum.....*gracilis* Sack.
- 13.—Pleura and legs yellow.....*costalis* Walker.
- Pleura black with yellow markings.....14.

TABLE OF SPECIES

- 1.—Mesonotum with yellow lateral margins or with yellow markings laterally in addition to the yellow humeri 6.
 Mesonotum with only the humeri yellow..... 2.
- 2.—Face with a median blackish vitta..... 3.
 Face wholly pale-colored..... 5.
- 3.—Middle tibiae whitish yellow..... 4.
 Middle tibiae with broad brown or blackish band..... *anthrax* Schiner.
- 4.—Abdomen of female with opaque black markings, of male shining blackish and reddish..... *flavipleura* Hall.
 Abdomen of female shining (male with yellow face).... *basilare* Wiedemann.
- 5.—Anterior tibiae with a blackish median band..... *nitidiventris* Curran.
 Anterior tibiae wholly yellow..... *basilare* Wiedemann.
- 6.—Margin of mesonotum black in front of the suture; humeri and sometimes a spot on the notopleura yellow..... 7.
 Mesonotum laterally with at least a narrow yellow lateral stripe in front of the suture..... 10.
- 7.—Posterior tibiae wholly yellow; abdomen with very broad yellow fasciae..... *planiventris* Loew.
 Posterior tibiae black except the base and apex..... 8.
- 8.—Abdomen vittate..... *boscii* Macquart.
 Abdomen fasciate..... 9.
- 9.—Face black in the middle, at least above..... *verticalis* Curran.
 Face wholly yellow..... *mitis* Curran.
- 10.—Posterior femora and tibiae yellow, at most with obscure reddish bands.... 11.
 Posterior femora or tibiae with black or brown bands..... 20.
- 11.—Abdomen with the lateral margins wholly pale yellow..... 12.
 Abdomen with the lateral margin in part black..... 13.
- 12.—Pale abdominal fasciae transverse, interrupted and enlarged inwardly..... *philippi* Shannon.
 Pale abdominal fasciae very broad, separated by a geminate vitta..... *marginata* Say.
- 13.—Abdomen with entire, narrow pale yellow fasciae which sometimes contain small black spots, the apical fasciae sometimes subinterrupted..... 14.
 Abdomen with interrupted or irregular yellow fasciae; the segments usually with geminate vitta or all reddish..... 16.
- 14.—Fifth abdominal segment with a median, basal black vitta..... 15.
 Fifth abdominal segment with basal and apical black fasciae..... *calceolata* Macquart.
- 15.—Scutellum yellowish..... *duplicata* Wiedemann.
 Scutellum black with yellow border..... *saphiridiceps* Bigot.
- 16.—The geminate median vitta expands anteriorly on the segments to form a linear black fascia..... *polita* Say.
 The geminate median vitta does not form a fascia anteriorly..... 17.
- 17.—Pale abdominal fasciae linear..... *vierecki* Curran.
 Pale abdominal markings broad..... 18.
- 18.—Mesonotum with a bright blue median vitta..... *tibicen* Wiedemann.
 Mesonotum with three grayish vittae, the median vitta rarely with bluish tinge; smaller species, under 8 mm..... 19.

- 19.—The pale abdominal fasciae reach the lateral margins in more than half the width of the segment *planiventris* Loew.
The pale fasciae reach the lateral margin very narrowly in front. *florale* Fabricius.
- 20.—Scutellum yellow, the immediate base black or the disc a little infuscated . . . 21.
Scutellum black with yellow border or wholly black. 31.
- 21.—The yellow fasciae on the third segment bears no black markings except the median geminate vitta. 22.
The yellow fascia is either broken up into spots or bears a black spot toward either side. 28.
- 22.—The black pile on the under surface of the posterior femora reaches almost to the base; middle femora short black pilose behind. 23.
The black pile on the posterior femora is limited to the apical half. *subannulata* Loew.
- 23.—Fifth abdominal segment with narrow median vitta on the basal half; black spots in the cross-bands. *norma*, Curran.
Fifth segment with round or oval basal black spot in the middle; some of the pale bands with black spots or geminate median vitta. 24.
- 24.—Posterior calli black-haired. *productus* Curran.
Posterior calli yellow-haired. 25.
- 25.—Smaller species, 4 to 6 mm. in length, the fused posterior forceps of the male more than half as long as the broad lamellate outer forceps. 26.
Larger species, 6.5 to 7 mm. in length, the posterior forceps triangular and only about one-fourth as long as the outer forceps. *duplicatus* Wiedemann.
- 26.—The lamellate outer forceps of the male are deeply emarginate apically on their outer side. *difficilis* Curran.
The lamellate outer forceps are not emarginate but are longest on their outer side or evenly convex. 27.
- 27.—Outer forceps obliquely truncate apically. *watsoni* Curran.
Outer forceps evenly convex apically. *taenia* Curran.
- 28.—The black spots in the yellow fasciae are isolated, often minute. 29.
The black spots are connected with the black posterior border, leaving four irregular yellowish spots and a slender median vitta. *maculata* Bigot.
- 29.—The black spots on the third segment are linear and longitudinally placed or transverse. 30.
The black spots are oblique and strongly separated from the anterior margins of the segments. *laciniosa* Loew.
- 30.—Sublateral black markings in the pale fasciae on the third segment in the form of transverse, oval spots. *pulchellus* Macquart.
Sublateral black markings forming narrow, abbreviated vittae. *musicus* Fabricius.
- 31.—Second abdominal segment with a pair of lunulate yellow spots, their inner ends rather parallel with each other and produced posteriorly; often fused so that the middle of the segment is all yellowish. *arcifera* Loew.
Second segment variable in color, the inner ends of the spots at most slightly produced posteriorly. 32.
- 32.—Second abdominal segment entirely shining black, with small, obscure shining reddish spots medianly or only the lateral margins reddish. 33.

- Second abdominal segment with a median yellow fascia or broadly reddish apically.....35.
- 33.—A yellow spot above the anterior coxae.....34.
- No yellow spot above the anterior coxae.....*nitida* Schiner.
- 34.—Yellow lateral vitta of the mesonotum entire; second abdominal segment always black or ferruginous on its whole width posteriorly.
- floralis* Fabricius.
- Yellow lateral vitta broadly interrupted immediately behind the suture; lateral margins of second segment wholly pale reddish.....*lutzi* Curran.
- 35.—Abdomen entirely reddish beyond the second segment.....36.
- Abdomen with black markings beyond the second segment.....37.
- 36.—Second abdominal segment wholly reddish.....*aurulenta* Williston.
- Second abdominal segment mostly black.....*panamensis* Curran.
- 37.—Posterior tibiae black or brown except the base and apex.....38.
- Posterior tibiae with apical third or more yellow or with sub-basal and subapical bands.....44.
- 38.—Abdomen chiefly reddish, the black markings forming longitudinal vittae.
- boscai* Macquart.
- Abdomen with broad black fasciae and median vitta which may be geminate.....39.
- 39.—The black posterior fascia on the third segment is produced forward laterally at least to the anterior fourth of the segment.....40.
- The black fascia is scarcely produced forward laterally.....*anchorata* Macquart.
- 40.—The black of the third abdominal segment is most strongly carried forward sublaterally.....41.
- The black of the third abdominal segment is widest laterally.....43.
- 41.—The black on the third segment is triangularly produced...*confusa* Schiner.
- The black on the third segment is convex or transverse on the anterior margin toward either side.....42.
- 42.—First abdominal segment mostly yellow.....*purus* Curran.
- First abdominal segment almost all violaceous.....*violacea* Curran.
- 43.—A yellow spot above the front coxae.....*tibicen* Wiedemann.
- No yellow spot above the front coxae.....*slossonae* Curran.
- 44.—Second abdominal segment broadly black basally.....45.
- Second abdominal segment orange on more than the basal half.....*clara* Curran.
- 45.—The black basal fascia on the second abdominal segment is very much wider than the yellow fascia.....*maculata* Bigot.
- The black basal fascia is scarcely wider than the yellow fascia.....46.
- 46.—Third abdominal segment with three yellowish or reddish fasciae.
- saphiridiceps* Bigot.
- Third abdominal segment with only one pale fascia or with longitudinal black markings.....47.
- 47.—A yellow spot above the front coxae.....48.
- No yellow spot above the front coxae.....*picta* Schiner.
- 48.—Median black vitta on third abdominal segment geminate.....*floralis* Fabricius.
- Median black vitta not geminate.....*imperialis* Curran.

Mesogramma floralis Fabricius

Scaeva floralis FABRICIUS, 1798, 'Entom. Syst.,' Suppl., p. 563.

Originally described from Cayenne, it has been redescribed by Loew as *parvula*. It is common and widely distributed in the Neotropical region. The fact that the abdomen varies greatly in color in both sexes and that the female differs considerably from the male, having a black facial spot, has led to the description of the species under several names, but the full synonymy has not been worked out.

There are three specimens from British Guiana: male, Kartabo, November 10, 1920 (No. 20909); male and female, Kartabo, June 12, 14, 1924.

Mesogramma polita Say

Scaeva polita SAY, 1823, Journ. Acad. Nat. Sci. Phila., III, p. 88.

A single male from Kartabo, June 6, 1924.

Mesogramma duplicata Wiedemann

Syrphus duplicatus WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 142.

One male from Kartabo, October 25, 1920.

This species is readily recognized from the characters given in the key and is widely distributed in the Neotropical region.

Mesogramma musica Fabricius

Scaeva musica FABRICIUS, 1805, 'Syst. Antl.,' p. 253.

Male and female, Kartabo, 1921. Apparently not common in British Guiana but widely distributed in the Neotropical Region.

Mesogramma basilare Wiedemann

Syrphus basilaris WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 143.

One specimen, Bartica, April 27, 1901.

Very similar to *florale* Fabricius but readily distinguished by the absence of a yellow spot above the anterior coxae. Extremely variable in color and often redescribed. *M. soror* Schiner, *variabilis* Van der Wulp, and *diversa* and *bidentata* Giglio-Tos are among the synonyms. Not rare in tropical America.

Mesogramma laciniosa Loew

Mesogramma laciniosa LOEW, 1865, Berl. Ent. Zeitschr., IX, p. 159.

Three females from Kartabo: August 10, 1920, and April 2, 1924; and five males, June 1, 12, 13 and 21, 1924. Not uncommon in the West Indies; it ranges into Peru and Brazil. *M. pulchella* Van der Wulp is this species and not *pulchella* Macquart.

Mesogramma picta Macquart

Syrphus pictus MACQUART, 1842, 'Dipt. Exot.', II, part 2, p. 99 (f.).

Three females, Kartabo, October 20, 1920; 1921; September 1, 1922.

A fine, small species readily recognized by the figure given by Macquart.

Mesogramma planiventris Loew

Mesogramma planiventris LOEW, 1865, Berl. Ent. Zeitschr., IX, p. 158.

Two males from Kartabo, 1921, and July 12, 1922, are evidently this species, but they are damaged and the identification must be considered somewhat doubtful.

PLANES Rondani

RONDANI, 1863, Arch. Zool., III (p. 9?). (Type: *vagans* Wiedemann.)

The three species in the collection may be distinguished by the following key.

- 1.—Anterior tibiae wholly whitish, at least dorsally.....2.
 Anterior tibiae broadly brown apically.....*grandifemoralis*, n. sp.
- 2.—Second pale abdominal band extending over the lateral margin in its full width.....*palitarsis*, n. sp.
 Second pale abdominal band separated from the lateral margin by a moderately wide aeneous stripe.....*vagans* Wiedemann.

Planes grandifemoralis, new species

Figure 28

MALE.—Length, 10 mm. Head greenish black, wholly silvery-gray pollinose except a triangle above the oral angles and the upper surface of the antennal prominence; lower fourth of the face reddish; face retreating, the oral margin a little produced; anterior margin of the frontal triangle reddish. Eyes contiguous for a distance equal to the length of the ocellar triangle; vertical triangle long, fairly acute. Front and lower orbits with short white pile; vertical triangle and occiput above, with long yellow pile, a few black hairs on the former; cheeks with short white hairs. Antennae deep brownish-red, the two basal segments darker, the whole pale pubescent; third segment twice as long as wide, oval; second segment almost half as long as the third; arista reddish, slender.

Thorax deep black, moderately shining, with slight bronze reflections, the pile yellowish; a broad median vitta, slightly widened behind, and broad, interrupted, incomplete sublateral vittae; short black pilose, the margins behind the suture with short, black setulae; a broad band running over the mesopleura rather silvery short-pilose; anterior margin of the mesonotum wholly sericeous in some views. Posterior calli and margin of the scutellum diffusely brownish, the scutellum not large, pale pilose and with two pairs of fine yellowish marginal bristles, its apex evenly rounded.

Femora black, their apices yellow; trochanters brownish red; tibiae reddish brown, their basal third or less yellow; tarsi brown with the first three segments of

the anterior four and the apex of the first and whole of the following two segments of the posterior pair reddish yellow. Pile of the legs short, appressed, yellowish; posterior femora with three to five fairly slender black spines near the lower surface on the apical fourth and with short ones on almost their whole length. Posterior trochanters with a small, sharp tubercle; posterior femora very strongly swollen, scarcely over twice as long as their median thickness; the posterior tibiae end in a spur.

Wings cinereous hyaline, the stigma brown. Squamae white, with brownish border and fringe. Halteres orange.

Abdomen shining metallic black, the disc of the second and third segments subopaque; second segment with an elongate, inwardly rounded, subtriangular metallic-red spot on either side, narrowly separated from the lateral margins, more widely separated from the anterior and broadly separated from the posterior margins, the spots separated from each other by almost their width. Third segment with rather similar spots but they are more obtuse inwardly and reach the base of the segment broadly, and the lateral margin in their full width. Fourth segment brassy reddish on the apical third. Pile wholly brassy, short, not abundant.

TYPE.—Male, "Kartabo."

***Planes vagans* Wiedemann**

Xylota vagans WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 101.

This species was placed in *Syritta* in the Kertész catalogue. Length, 10 mm.

FEMALE.—Head black, the face and broad frontal band silvery pollinose; lower fourth of the face reddish yellow; face retreating, gently concave, the lower fourth scarcely produced; front shining black, narrow above, the sides of the upper half but little diverging. Pile of the head short, fine, white; black on the upper half of the front. Antennae brownish red, the third segment brown except on the lower basal third, over twice as long as wide; arista slender, reddish.

Thorax metallic black, the anterior slopes sericeous pollinose; black and brassy-yellow pilose, the pleura with white pile. The brassy pile forms submedian, fairly wide vittae on the anterior half and a broad prescutellar band which reaches broadly forward at the sides as far as the root of the wing, and also a broad lateral vitta between the humeri and posterior slopes of the suture. Pale pile of the pleura underlaid by sericeous pollen. Scutellum aeneous, with strongly margined, rather reddish-brown apex, the pile thin, yellow, black on the disc; no marginal bristles.

Femora black, their apices reddish; tibiae pale yellow, the posterior ones reddish brown except on the basal third; anterior tibiae with obscure postmedian brownish band. Posterior four tarsi and apical two segments of the others, brownish; anterior four trochanters and coxae reddish brown. Posterior trochanters with small, acute tubercle. Posterior femora greatly swollen, widest before the middle, with several long black bristles on either side of the apical half and rows of short ones beneath. Pile of the legs yellowish, short; tibiae with whitish reflection in some lights, the posterior pair evenly arcuate.

Wings with yellowish-gray tinge, the stigma luteous. Squamae white, with fringe of long brownish, sub-isolated hairs. Halteres yellow.

First abdominal segment, lateral margin of the following two and whole of the fourth and fifth segments, metallic black. Second segment with an elongate, subrectangular reddish-yellow spot on either side, the inner side rounded off in front, the

outer end produced posteriorly so that the posterior border is a little oblique; behind the pale spots, which are broadly separated from each other by an opaque brown vitta which is widest in front, the color is opaque black. Third segment opaque black, with a roughly oval orange spot on either side, the spots almost or quite reaching the base and extending about three-fifths the distance to the apex of the segment. Pile of the abdomen yellow, black on the opaque areas.

Female, Kartabo, November 10, 1920 (No. 20929). This specimen agrees exactly with the type female in the Vienna Museum. I have also a male from Bartica, June 9, 1901. This differs from the male of *palitarsis* as indicated in the key.

***Planes palitarsis*, new species**

Allied to *vagans* Wiedemann but the anterior tibiae and tarsi are wholly pale yellowish, the posterior tarsi similar with the apical two segments brownish. Length, 10 mm.

MALE.—Face retreating, moderately concave, the oral margin conspicuously produced. Lower half of the face pale yellow, the head elsewhere black, although the cheeks are rather brownish. Head whitish pollinose, the frontal triangle except the orbits, the vertical triangle except in front of the ocelli, shining. Pile of the head short, white, the vertical triangle largely black pilose; frontal triangle almost bare. Vertical triangle narrow, about four times as long as wide, the eyes touching for a distance almost equal to the length of the frontal triangle. Antennae brownish, grayish-white pollinose; third segment yellow on the lower basal third, twice as long as wide, with almost parallel sides; arista missing.

Thorax and scutellum as in *vagans*, but with a wide, geminate, metallic greenish-blue vitta on the anterior three-fourths of the mesonotum, the apex of the scutellum less thinned than in that species.

General color of the legs as in *vagans* except as previously noted: structure similar, the tubercle scarcely as strong.

Wings and squamae similar, the stigma brown. Halteres orange.

Abdomen with the first and fourth segment steel blue. Second segment reddish yellow, the apical fourth at the sides, extending obliquely almost to the middle, opaque black, the median vitta and narrow base, opaque brown. Third segment with the broad apical triangle as on the second, but lacking the median vitta. Pile short, black on the opaque areas, elsewhere pale yellow.

TYPE.—Male, Kartabo, October 30, 1920 (No. 20678).

CREPIDOMYIA Shannon

SHANNON, 1926, Proc. U. S. Nat. Mus., LXIX, Art. 9, p. 46.

This genus is only weakly differentiated from *Ceriogaster* Williston, the character given in the key being the only one I have found.

***Crepidomyia plagiata* Wiedemann**

Xylota plagiata WIEDEMANN, 1830, 'Ausser. Zweifl.' II, p. 98.

Five specimens, Kamakusa (H. Lang). These have been compared with the type, which is not in the best condition. Wiedemann's state-

Legs brownish red, the broad bases of the tibiae, their tips and the posterior four tarsi wholly yellowish; front tibiae becoming brown on the apical half, their tarsi

black, broad. Hair very short, whitish, rather silvery on the upper part of the posterior tibiae, the short spines on the posterior femora abundant.

Wings cinereous hyaline, the anterior apical half brownish. Squamae whitish, with brown border and fringe.

Abdomen shining greenish-black, the middle of the first two segments opaque, the opaque expanding on the first and apex of the second segments, and there is a spot on the middle of the posterior half of the third segment. Pile short, appressed, sparse, white, some black pile on the second segment. Sometimes there may be a pair of obscure, elongate, longitudinal reddish spots on the second segment. The abdomen is strongly narrowed on the basal half, narrowest at the apex of the second segment.

Types.—Holotype, male, Kartabo, May 22, 1924 (No. 24672); paratype, male, Kartabo, May 23, 1924.

HABROMYIA Williston

A female specimen belonging to this genus was collected by Dr. H. Lang in British Guiana. The species belonging to the genus may be distinguished as follows:

TABLE OF SPECIES

- | | |
|--|----------------------------------|
| 1.—Face reddish. | 2. |
| Face black, white pollinose laterally (Brazil). | <i>coeruleithorax</i> Williston. |
| 2.—Wings black, the base almost hyaline; legs black (Chile). | <i>xylotaeformis</i> Schiner. |
| Wings brown anteriorly, paler apically; front tarsi wholly, apical segment of the middle tarsi and broad base of the anterior femora, reddish. | <i>langi</i> , n. sp. |

Habromyia langi, new species

FEMALE.—Length, 13 mm. Head orange, the upper two-fifths of the front and the occiput except below the eyes, black; the front also with two oval black spots near the upper edge of the orange ground; a band across the median third of the front, the broad frontal orbits below and the sides of the face, leaving a broad median vitta, yellow pollinose; occiput grayish-yellow pollinose. The sparse pile is reddish yellow except the short hairs about the ocelli and a few short bristles on the occiput well away from the vertex. Face perpendicular, with a long, low, nose-shaped tubercle; antennal prominence strong. Antennae dull orange, the third segment oval; arista longer than the antenna, stout.

Thorax rather dull black, the disc with short whitish pile; behind the suture a large oval spot on either side clothed with very short black pile; sides and pleura with slightly longer pale pile. Scutellum short, convex, short white pilose, the apex broadly, obscurely brown.

Legs black; broad bases of the middle femora above, basal fourth of front femora, all the knees and apices of the tibiae, at least below, the front tarsi wholly and the apical one or two segments of the middle tarsi reddish. Legs wholly pale-haired. Posterior femora only slightly enlarged, their tibiae but little arcuate.

Wings blackish brown in front of the third vein, somewhat paler apically, hyaline posteriorly. Squamae brown, with white fringe. Halteres yellow.

Abdomen rather dull black, the first segment and basal two-thirds of the second, slightly gray pollinose and whitish pilose, the sides of the abdomen with short white

pile as far as the base of the fifth segment, the abdomen elsewhere with very short stout black hair.

TYPE.—Female, Kamakusa, September, 1922 (H. Lang).

ERISTALIS Latreille

There are several species of *Eristalis* in the collections, three of them new to science. The key which follows includes all the American species of which there are examples before me.

TABLE OF SPECIES

- 1.—Eyes reddish brown, with more or less confluent dark brown spots.
Lathyrrophthalmus aeneus.
Eyes not spotted.....2.
- 2.—Arista plumose or at least with conspicuous pubescence on basal half.....59.
Arista quite bare and of rather even thickness, not conspicuously narrowed before the middle.....3.
- 3.—Legs wholly reddish.....4.
At least the posterior femora or tibiae over one-fourth black.....8.
- 4.—Apical half of wings brown on anterior half.....*hortorum* Fabricius.
Wings hyaline or only lightly clouded along veins, the cross-veins sometimes conspicuously clouded.....5.
- 5.—Mesonotum black with a pair of short median ochreous vittae or gray with black vittae.....6.
Mesonotum not vittate, with transverse pale bands at least along the suture.....7.
- 6.—Mesonotum gray pollinose, with an opaque black vitta on either side and a furcate median one overlaid with gray pollen.....*penaltis*, n. sp.
Mesonotum black with the sides and a pair of short discal vittae ochreous.
rufipes Macquart.
- 7.—Scutellum with short, black hairs which are abundant on the margins.
praecipuus Williston.
Scutellum with longish pale hair on margins.....*vinetorum* Fabricius.
- 8.—Posterior femora reddish with about the apical third shining black.....9.
Posterior femora black with the apex and sometimes the base reddish.....10.
- 9.—Front of female wholly black pilose; thorax without obscure darker vittae.
alacris Curran.
Front pale pilose below; thorax with obscure darker vittae (Brazil).
ochraceus Williston.
- 10.—Scutellum at least with black pile predominating on part of the surface....11.
Scutellum with at most a few scattered black hairs.....43.
- 11.—Scutellum black, with a transverse, rectangular, apical yellow spot, the mesonotum with a pair of gray vittae in front of the suture....*meigenii* Wiedemann.
Scutellum differently colored or the mesonotum without the gray vittae....12.
- 12.—Scutellum dull black, at most the apex shining.....13.
Scutellum marked with yellow or shining brownish-black.....14.
- 13.—Apex of scutellum gray pollinose.....*cosmius* Schiner.
Scutellum wholly slaty black.....*vierecki* Curran.
- 14.—Mesonotum slaty gray with three opaque blackish vittae.....15.
Mesonotum differently marked.....17.

- 15.—Median mesonotal vitta geminate on anterior half. *furcatus* Wiedemann.
 Median vitta not geminate. 16.
- 16.—Transverse gray spot on second abdominal segment very broadly connected
 behind. *mitis* Curran.
 The gray spots are very widely separated from each other. *parvulus* Williston.
- 17.—Tibiae, or tarsi, or both partly blackish. 18.
 Tibiae and tarsi wholly reddish. *cyatheus* Hull.
- 18.—Apex of posterior tibiae produced as distinct spur or lobe. 19.
 Apex of posterior tibiae not at all produced. 29.
- 19.—Scutellum wholly yellowish. 20.
 Scutellum with the base more or less broadly black. 23.
- 20.—Third abdominal segment black pilose on posterior third or more. 21.
 Third abdominal segment without black pile. *nigripes* Wiedemann.
- 21.—Prescutellar pile black. 22.
 Prescutellar pile yellow. *mus* Curran.
- 22.—Mesonotum wholly opaque black behind the suture. *amazon* Curran.
 Mesonotum with prescutellar grayish or metallic fascia. *spectabilis* Hull.
- 23.—Mesonotum behind the suture wholly black pilose except the posterior calli. . . 24.
 Mesonotum largely yellow pilose behind the suture; ground color of male
 scutellum almost wholly concealed by short, black pile.
melanaspis Wiedemann.
- 24.—At most the narrow posterior margin of the mesopleura black pilose. 25.
 Posterior half of mesopleura and upper third of sternopleura black pilose.
pygolampus Wiedemann.
- 25.—Scutellum black with a large, subrectangular apical spot pale yellow.
claudia Curran.
 Scutellum with only the base more or less broadly black. 26.
- 26.—Scutellum black pilose. *doris* Curran.
 Disc of scutellum yellow pilose. 27.
- 27.—Posterior tibiae strongly produced at the apex. 28.
 Posterior tibiae only slightly produced at the apex. *erraticus* Curran.
- 28.—Pile very abundant on sides of mesonotum behind and on sides of scutellum;
 posterior calli with only a few pale hairs on outer surface in front.
conicus Fabricius.
 Pile less abundant, the posterior calli chiefly reddish-yellow pilose on outer
 surface. *scutellaris* Fabricius.
- 29.—Mesonotum with grayish or yellowish pollinose fascia behind the suture. . . . 30.
 Middle of mesonotum unicolorous or nearly so behind the suture. 37.
- 30.—Pteropleural pile partly black. 31.
 Pteropleural pile wholly pale. 33.
- 31.—Prescutellar band not appearing bluish. 32.
 Prescutellar band bluish, only thinly pollinose. *erraticus* Curran.
- 32.—Posterior tibiae shining black, the base reddish. *agrorum* Fabricius.
 Posterior tibiae brownish red. *clarissimus* Giglio-Tos.
- 33.—Front of both sexes wholly whitish pilose on lower half or more. 34.
 Front of both sexes black pilose on whole length in the middle. 36.
- 34.—Fourth abdominal segment black except the extreme apex.
albifrons Wiedemann.

- Fourth abdominal segment largely red in both sexes. 35.
- 35.—Male genitalia reddish and ferruginous; third abdominal segment of female two-thirds shining. *nigripes* Wiedemann.
Male genitalia shining black; third abdominal segment of female with narrow shining fascia. *rufiventris* Macquart.
- 36.—Front of female very narrow, the ocelli almost touching the eyes. *tenuifrons* Curran.
Front of female wider, the ocelli separated from the eyes by about width of single ocellus. *minutalis* Williston.
- 37.—Posterior calli entirely pale-haired. 38.
Posterior calli mostly black-haired. 40.
- 38.—Front in the middle with black pile on the whole length. 39.
Front wholly pale pilose on lower half or more. *distinguendus* Wiedemann.
- 39.—Posterior fourth of mesonotum black pilose. *tatei* Curran.
Mesonotum wholly yellowish pilose. *philippii* Schiner.
- 40.—Mesonotum wholly cinereous in front of the suture. *pusillus* Macquart.
Mesonotum with a black fascia in front of the suture. 41.
- 41.—Pteropleura entirely pale-haired. *urotaenia* Curran.
Pteropleura partly black-haired in front. 42.
- 42.—Mesonotum with a grayish spot on either side in front of the scutellum. *atrimanus* Loew.
Mesonotum wholly opaque black behind the suture. *floreus* Hull.
- 43.—With an ashy or metallic fascia situated between the scutellum and suture. . 44.
Without a prescutellar band. 49.
- 44.—Posterior tibiae with a distinct apical triangular production on outer ventral apex. 45.
Posterior tibiae not produced. 47.
- 45.—Prescutellar ashy fascia narrow, separated from the scutellum by almost its width. *langi* Curran.
Prescutellar fascia rather cyaneous, not broadly separated from the scutellum. 46.
- 46.—Posterior tarsi wholly yellow. *mirabilis* Hull.
Posterior tarsi wholly black. *mus* Curran.
- 47.—Posterior tibiae ciliate. *vinetorum* Fabricius.
Posterior tibiae not ciliate. 48.
- 48.—Mesonotum wholly gray in front of suture. *?alhambra* Hull.
Mesonotum with opaque black presutural fascia. *agrorum* Fabricius.
- 49.—Mesonotum opaque black with a strikingly contrasting presutural fascia of white to whitish ochraceous. 50.
Mesonotum not opaque black and only obscurely fasciate. 53.
- 50.—Pale presutural fascia entire. 51.
Pale presutural fascia broadly interrupted leaving a triangle at either side. *triangularis* Giglio-Tos.
- 51.—Pteropleura entirely pale-haired. 52.
Pteropleura mostly black-haired. *fasciatus* Wiedemann.
- 52.—Front of both sexes largely black-haired in the middle. *urotaenia* Curran.
Frontal triangle of male and lower half of front of female wholly white pilose. *pusio* Wiedemann.

- 53.—Posterior tibiae ciliate. 54.
 Posterior tibiae not ciliate. 55.
- 54.—Frontal triangle of male and front of female wholly pale pilose.
 testaceicornis Macquart.
 Frontal triangle of male and front of female in the middle, black pilose.
 obsoletus Wiedemann.
- 55.—Front of both sexes wholly pale pilose, at least on lower half. 56.
 Front of both sexes black pilose at least in the middle on whole length. 58.
- 56.—Mesonotum shining. 57.
 Mesonotum opaque with pollen. *distinguendus* Wiedemann.
- 57.—Second abdominal segment with a posterior black fascia. *latifrons* Loew.
 Second segment wholly reddish laterally. *bellardii* Jaennicke.
- 58.—Middle tibiae wholly yellow, the apex rarely brownish. *philippii* Schiner.
 Middle tibiae black on apical third. *assimilis* Macquart.
- 59.—Third abdominal segment wholly shining. 60.
 Third segment with at least a small opaque black spot or triangle in the middle
 or with opaque black fascia. 64.
- 60.—Tarsi wholly reddish yellow. *flavipes* Walker.
 Tarsi partly black or brown. 61.
- 61.—Pile of eyes arranged in vertical bands. 62.
 Pile of eyes not forming bands. 63.
- 62.—Posterior femora wholly black. *tenax* Linnaeus.
 Posterior femora reddish on basal fourth. *tenax campestris* Meigen.
- 63.—Wings reddish brown on basal half in front. *compactus* Walker.
 Wings with a large median brown spot in front. *rupium* Fabricius.
- 64.—Face with a median shining black stripe. 66.
 Face wholly pale pollinose or pubescent. 65.
- 65.—Middle tarsi wholly black or brown. *brousi* Williston.
 Middle tarsi reddish yellow basally. *arbutorum* Linnaeus.
- 66.—Mesonotum fasciate with cinereous and opaque black.
 transversus Wiedemann.
 Mesonotum unicolorous or nearly so. 67.
- 67.—Posterior calli mostly black pilose. *dimidiatus* Wiedemann.
 Posterior calli pale pilose. 68.
- 68.—Pile of head and thorax reddish, largely concealing the ground color.
 circe Williston.
 Pile of head and thorax yellowish or not sufficiently abundant to conceal the
 ground color. 69.
- 69.—Sides of mesonotum with long, pale yellowish pile concealing the ground
 color. 70.
 Pile shorter and not concealing the ground color. 72.
- 70.—Third abdominal segment with a broadly interrupted opaque black anterior
 fascia. *pilosus* Loew.
 Third segment with entire anterior fascia or none. 71.
- 71.—Scutellum shining; abdomen largely aeneous. *anthophorinus* Fallén.
 Scutellum dull or very slightly shining; abdomen black. *bastardi* Macquart.
- 72.—Deep bluish black in color. *sazorum* Wiedemann.
 Not at all bluish. 73.

- 73.—Base of posterior femora reddish.....74.
 Posterior femora wholly black.....75.
 74.—Third abdominal segment with an opaque black anterior fascia. . *obscurus* Loew.
 Third segment with at most a median opaque black triangle in front.
temporalis Thomson.
 75.—Wings reddish brown on anterior half in front. *compactus* Walker.
 Wings not strikingly bicolored. *nemorum* Linnaeus.

***Eristalis mirabilis* Hull**

HULL, 1925, Ohio Journ. Sci., XXV, p. 305.

A male from Arakaka is undoubtedly this species. The posterior femora are considerably larger than in the type female and the apical tarsal segment is brown, but there are no other differences worthy of note.

***Eristalis obsoletus* Wiedemann**

WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 175.

One male, Kartabo.

As I have previously pointed out, this is not the same as the species occurring in Mexico, described as *testaceicornis* by Macquart, and generally considered a synonym of *obsoletus*.

***Eristalis vinetorum* Fabricius**

Syrphus vinetorum FABRICIUS, 1798, 'Ent. Syst.,' p. 562.

Male, Penal Settlement, Bartica District, 1917; male and female, Kalacoon, Bartica District, 1916; female, Kartabo, May 4, 1924.

This common species is very widely distributed in the Neotropical region.

***Eristalis langi*, new species**

Readily distinguished from *minutalis* Williston by the wholly yellow scutellum which bears yellow pile, etc. This species does not belong to the *albifrons* group but is related to *scutellaris* Fabricius as is apparent by the extensively villous wings, which are, in *langi*, pubescent on almost the apical half, while in the *albifrons* group there is only (sometimes) a streak in the submarginal cell and less often streaks in some of the other cells, but these are not conspicuous. I have previously included the species in a key but no detailed description has been published. Length, about 10 mm.

FEMALE.—Head shining black, about the lateral third of the face, posterior half of the cheeks, the occiput and narrow frontal orbits on their lower half, silvery-white pollinose, the front opaque black on the fourth above the middle and with a broad median vitta projecting from this band halfway to the antennae, the vertex also opaque black. Face almost perpendicular, with a large, low, broad, nose-shaped tubercle lying chiefly below the middle. Front gently convex transversely, with large, low supra-antennal tubercle. Pile of the head fine, white except on the front and vertex where it is coarse and black. Eyes thickly short white pilose above,

becoming almost bare below. Antennae brownish red, the third segment elongate-oval; arista ferruginous, bare.

Mesonotum opaque black, with a moderately wide gray band immediately in front of the suture and a slightly narrower one well before the scutellum, the outer ends of which are carried forward but fail to reach the anterior band. Pleura gray except a triangle below the anterior wing-base and a spot behind and above the anterior spiracle. Pile of the mesonotum black, on the posterior and lateral margins except in front, and on the anterior pale band, yellowish, on the pleura whitish. Scutellum sulphur-yellow, yellow pilose.

Legs shining black; basal half of the anterior four and one-third of the posterior tibiae, and the first segment of the middle tarsi reddish yellow. Pile of the legs yellowish or whitish; tarsi black-haired above. Posterior femora moderately enlarged; posterior tibiae arcuate, not ciliate.

Wings hyaline or somewhat luteous tinged, the stigma brown; largely villous on the apical half. Squamae brown, whitish exteriorly at the base, the lower lobe with yellow fringe. Halteres reddish.

Abdomen opaque, chiefly black, the lateral margins and narrow, continuous or moderately interrupted median fasciae on the third and following segments, shining black. First segment gray except the sides, the following segments each with a narrow, light-yellow apex, the second segment with a pair of large, suborbicular reddish yellow spots, separated from each other by the width of one spot and broadly so from the lateral margins. Pile pale on the broad base of the abdomen, side margins and apex, shorter and black on the disc.

MALE.—Frontal triangle shining black, the narrow orbits grayish, the upper third with an opaque black triangle which is narrowly separated from the gray orbits; a large, low tubercle near the middle; pile black. Vertical triangle a little longer than wide, opaque, black haired.

Mesonotum yellow pilose only across the sutural gray fascia, the pale fasciae narrower; black pre-alar pleural spot black pilose; base of the scutellum very narrowly black, the sides with a few black hairs.

Femora and tibiae partly black pilose; middle tarsi brownish red, the tibiae less widely pale.

Wings clearer, the tiny hairs not nearly so abundant but easily visible under magnification.

Abdomen as in the female, but with only four segments, the transverse shining fasciae somewhat broader and there is a subtriangular reddish spot laterally on the basal half of the third segment, the posterior margin of the spot somewhat oblique, the width almost as great as the length. The pile is more extensively black and longer, the black pile reaching the lateral margins on the opaque bands. Genitalia shining black.

TYPES.—Holotype, female, Kamakusa, September, 1922 (H. Lang); allotype, male, Kartabo, 1921. Paratypes, female, Chapada, Brazil (Williston Collection), and female, Kartabo, May 2, 1924.

***Eristalis penaltis*, new species**

Evidently most closely related to *texensis* Hull from which it differs in having the median stripes of the mesonotum extending over the anterior margin and obscurely united behind as in *furcatus* Wiedemann, and the much paler color. Length, 11.5 mm.

MALE.—Eyes hairy on the upper half where the facets are very much enlarged. Face and frontal triangle reddish brown, densely whitish pollinose; lunula, incomplete facial vitta and a large area on the cheeks, bare; tubercle moderately large, the face gently receding. Frontal triangle with a conspicuous sharp tubercle near its middle; vertical triangle small but prominent, moderately brownish-yellow pollinose. Pile of the frontal and vertical triangles and the occipital cilia, black, elsewhere white. Cheeks rather narrow. Antennae brownish red, the third segment darker, oval, one-third longer than wide; arista reddish, slender, bare.

Thorax densely pale gray pollinose, the mesonotum with four black vittae, the median pair gently diverging posteriorly, reaching to the posterior third where they are replaced by a single vitta, the outer pair tapering posteriorly, abbreviated at both ends and interrupted at the suture. Pile with yellowish tinge, almost all black behind the suture except on the outer surface of the posterior calli. Scutellum opaque yellow, with brownish stain basally, especially laterally, the border narrowly yellow-haired, the pile black.

Legs reddish ferruginous, the broad base of the anterior four and narrow base of the posterior tibiae yellow, the tarsi becoming brownish on the apical two or three segments. Hair of the legs short, pale on the femora, elsewhere black, the posterior femora somewhat enlarged, with fine, short black bristles below, their tibiae very gently arcuate.

Wings vitreous hyaline, the veins black. Squamae blackish, the basal half white, the fringe of the lower lobe pale.

Abdomen pale yellowish, becoming rusty yellowish apically, the narrow lateral margins, incisure between the first two segments, a narrow median triangle on the second segment connected with the rather narrow apex, a spot on the middle and a preapical fascia on the third and a preapical fascia on the fourth segment, opaque rusty-brownish or blackish. Hair sparse, very pale yellowish; a broad band, widened in the middle and not reaching the sides on the second to fourth segments, with coarser, short black hairs; second segment with black hairs inside the lateral margins. Venter, except the fourth segment, pale yellow, the pile all pale.

TYPE.—Male, Kartabo, May 30, 1924.

This beautiful species is readily recognized by its pale color and markings. There is no trace of black hair on the pleura.

***Eristalis alacris*, new species**

Almost wholly ochraceous, only parts of the abdomen and legs black. Differs from *ochraceus* Williston in the black pilose front and scutellar disc, more extensively black legs, etc. Length, 11 mm.

FEMALE.—Head ochraceous, only the top of the tubercle and a triangle on the cheeks, shining rusty-yellow. Face, in profile, slightly receding, broadly concave above the oval, well-developed tubercle; front prominent, convex, gently transversely convex, the antennal base not produced and without a tubercular swelling above the lunula. Ocellar triangle broader than long, its base on a line with the posterior angle of the eyes, the ocelli large. Front gently widening from a little before the ocelli. Pile of the front short, erect, black, elsewhere longer, finer and yellow. Antennae and arista orange, the third segment obtusely elongate-oval; arista bare. Eyes with short sparse black hairs on the upper fifth.

Thorax wholly ochreous pollinose, the pleura somewhat paler below; from in front there is a slight trace of two darker mesonotal vittae. Pile wholly yellow, stout, short and appressed on the mesonotum. Scutellum large, broad, subtruncate, the disc with short black spinules, the margin with slightly longer coarse yellow hairs.

Legs rusty reddish; apical third of the posterior femora and tibiae, antemedian ring on the tibiae, apical third of the anterior tibiae and the apical segment of all the tarsi, shining black; anterior femora with a more or less complete, broad, obscure brownish preapical band; basal third or more of all the tibiae yellow. Pile of the legs yellow; on the dark portions of the femora, apical half of the tibiae and apical two segments of the tarsi, black. Posterior femora moderately broadened, compressed, their tibiae also compressed, widened and gently arcuate.

Wings tinged with luteous, perhaps often pure hyaline, the stigma black. Squamae yellow, with slightly darker border and fringe, the upper lobe with brown margin and fringe. Halteres rusty yellow.

Abdomen opaque ochreous, the third and following segments each with a moderately wide, laterally broadened, shining fascia, these increasing in width on the apical segments, the sides of these segments broadly blackish, the fifth segment wholly so, the apices of all the segments with a slender black fascia; first segment opaque grayish. Pile sparse, yellow; on the apices of the second to fourth segments with a median triangle of sparse black spinules.

TYPES.—Holotype, female, and paratype, female, Kamakusa, September 1922 (H. Lang).

***Eristalis floreus* Hull**

HULL, 1925, Ohio Journ. Sci., XXV, p. 39.

Eleven specimens of both sexes: three males, Kartabo, May 6, 22, 30, 1924; male, May 29; male and female, Bartica District; two males, Kartabo, 1921; male, Kartabo, October 25, 1920 (No. 20487); male, British Guiana; male, Bartica, June 12, 1901 (R. J. Crew); male, Arakaka.

***Eristalis fasciatus* Wiedemann**

WIEDEMANN, 1819, Zool. Mag., I, p. 51.

Seven specimens, as follows: two females, July 3, 19, 1901; female, Kartabo, October 23, 1920 (No. 20261); male, Kartabo, June 5, 1919; female, Kartabo, 1921; male and female, Kartabo, March 29, May 4, 1924.

***Eristalis minutalis* Williston**

WILLISTON, 1892, 'Biol. Centrali Americana,' Dipt., III, p. 64.

A male from Kartabo, 1921.

Originally described from Mexico. I have also specimens collected by Dr. J. Bequaert in Honduras.

Eristalis pusillus Macquart

MACQUART, 1842, 'Dipt. Exot.,' II, part 2, p. 54.

A single female from Georgetown, July 2, 1911.

Eristalis spectabilis Hull

Eristalis aemulus HULL, 1925 (not Williston), Ohio Journ. Sci., XXV, p. 288.

Eristalis spectabilis HULL, 1925, Ohio Journ. Sci., XXV, p. 289.

Four males, Bartica District, British Guiana, June 8, 10, 19, 1901 (R. J. Crew); also three females, Caura Valley, Venezuela. The females have the wings darker than the males. Hull included the males under *aemulus* Williston, a species unknown to him.

I examined a specimen from the Winthem Collection, supposed to be *inversus* Wiedemann and so determined by him, but I feel certain that it was not a type specimen and that it was wrongly identified. If the specimen was correctly named, Wiedemann's description is very misleading, as the wings are brownish on the apical half and at the base, pale between the base and middle and on the whole posterior border.

Eristalis conicus Fabricius

Milesia conica FABRICIUS, 1805, 'Syst. Antl.,' p. 190.

Eighteen specimens: two males and one female, Kartabo, October 31, 1920 (No. 20895), October 23, 1920 (No. 20259), March 10, 1921 (No. 21254); three males and one female, Kaieteur, February 18, 1921; female, Kartabo (Wheeler); male and female, Bartica District, June 10, 12, 1901 (R. J. Crew); female, Kartabo, 1921; three males, Kartabo, June 4, 14, 1924; male, March 5, 1924, and female, Arakaka.

Eristalis scutellaris Fabricius

Milesia scutellaris FABRICIUS, 1805, 'Syst. Antl.,' p. 190.

Female, No. A3; male, Bartica District, March 20-30, 1901 (H. S. Parish); female, Kartabo (Wheeler); female, Bartica District; male, Kartabo, November 10, 1920 (No. 20925); male, Kartabo, July 7, 1922; two females, August 5, 1920; female, Bartica, May 27, 1901 (R. J. Crew); male, Kartabo, March 31, 1922; five males and four females, Kartabo, April 24, May 6, 12, 14, 18, 21, 26, and June 4, 1924.

MEROMACRUS Rondani

I have before me, from British Guiana, two species belonging to this genus. They may be separated as follows:

Abdomen wholly black, without conspicuous pale markings. *niger* Sack.
Abdomen with interrupted light yellow fasciae. *pratorum* Fabricius.

Meromacrus niger Sack

SACK, 1921, Arch. für Naturg., LXXXVII, p. 145.

Originally described from Paraguay. There are four females from Kartabo, September and October.

Meromacrus pratorum Fabricius

Syrphus pratorum FABRICIUS, 1775, 'Syst. Ent.,' p. 765.

Four males, Kartabo, 1924, May 14 (No. 24601), May 25 (No. 24663), and June 29, 1924.

PHORIDAE

There are but two species in the collection.

APHIOCHAETA Brues**Aphiochaeta pilipleura** Borgmeier

BORGMEIER, 1925, Arch. Mus. Nac. Rio Janeiro, XXV, p. 147.

Twelve specimens from Kartabo, April 25, 26, May 15, 1924, and No. 24480.

APOCEPHALUS Coquillett**Apocephalus frontalis**, new species

Differs from *piliventris* in having the front brown or blackish. Length, 3 mm.

FEMALE.—Face, lower fifth of front and median stripe reddish; front and vertex brown with trace of gray pollen, the hair black; lower orbitals close to orbits. Antennae reddish, the third segment darkened at the apex; arista brown, the base reddish. Palpi yellow.

Thorax yellow, the dorsum with strong brownish tinge. Scutellum bare except for two pairs of marginals, one pair strong, the other very weak.

Legs yellow, the posterior tarsi becoming brownish apically. Wings cinereous-hyaline, the first thin vein curving strongly toward the wing tip apically, the wings rather sharply rounded at the apex. Halteres with black knobs.

Abdomen reddish, the first to fifth segments each with a subtriangular opaque black spot on either side, the second to fourth with a broad, blackish median vitta. Genitalia shining black. Abdomen and pleura without hair.

TYPE.—Female, Kartabo, March 27, 1922.

PIPUNCULIDAE

This family is represented by a single specimen belonging to the genus *Pipunculus*.

Pipunculus rex, new species

Figure 25

Opaque black and brown; eyes contiguous for a distance equal to the length of the frontal triangle; genital groove more than half as wide as the segment bearing it, slightly oblique; wings brownish; halteres brown. Length, 5 mm.

MALE.—Face, except the extremely narrow orbits, opaque brownish; front opaque black with the exception of a small lanceolate brown median spot; vertical triangle and the occiput opaque black, the former small, the latter brownish toward the orbits. Labellae reddish; palpi brown. Antennae dull blackish, the third segment not longer than the second, not produced, sharply rounded at the lower apex; arista thickened on the basal fifth.

Thorax opaque black; the dorsum, except the very broad anterior border and the broad side; in front of the wings, brownish, the brownish color convex anteriorly except for two short black projections, one on either side of the middle, varying in extent according to the view. Pleura with brown tinge in some lights. Scutellum with the free border broadly and sparsely black-haired.

Legs black, with brownish pollen in some lights; knees narrowly reddish-yellow; tips of the tibiae and the first two or three segments of the anterior tarsi more or less brownish red.

Wings brownish, clear, the stigma somewhat darker; anterior cross-vein situated behind the tip of the auxilliary vein, the posterior cross-vein situated its own length before the tip of the fifth vein, curved gently outward; ultimate section of fourth vein with a broad curve forward on its median portion. Squamae and halteres brown.

Abdomen opaque black, the genitalia brown; apices of the first to fourth segments each with a narrow, rather silvery tip except on the broad middle, when seen from behind; venter appearing black and brownish according to angle from which viewed. Hair on the abdomen sparse, black, the sides of the first segment with short hairs.

TYPE.—Male, Kartabo, June 15, 1924.

CONOPIDAE

There are representatives of five species belonging to this family.

PHYSOCEPHALA Schiner

Physocephala brasiliensis Kröber

KRÖBER, 1915, Arch. für Naturg., LXXXI, Heft 4, p. 136.

Female, Kartabo, June 10, 1924.

CONOPS Linnaeus

Conops guianica, new species

Blackish; face and cheeks yellow; first basal cell hyaline. Length, 13.5 mm.

FEMALE.—Front and occiput black, the former shining, with a broad dull band across the middle, this band with faint whitish sheen in some views; face, cheeks and two large spots on the occiput below the neck, yellow, whitish pollinose, the posterior orbits with whitish pollen. Proboscis black. Antennae black, first segment below and the third on the basal half of the lower surface, reddish. First segment hardly half as long as the second, the second and third equal; style long, narrow, tapering from base to middle.

Mesonotum thinly brown pollinose, a yellow spot inside each humerus; posterior calli reddish brown. Pleura rather thinly yellowish pollinose, somewhat more thickly so above the middle coxae.

Legs black; tibiae brown, the basal third of the anterior four yellowish; posterior tibiae yellow with the apical half reddish brown except dorsally; first segment of anterior four tarsi dorsally and the basal three of the posterior pair, yellowish.

Wings brown in front of third vein and in the apical cell in front of the spurious vein. Squamae brownish, the upper lobe with yellow border. Halteres reddish.

Abdomen black, the apices of the first to third segments narrowly brassy yellow, the sixth segment and genitalia moderately yellow pollinose. Genital plate long, narrow, with almost parallel sides, subtruncate apically, as long as the third to fifth segments combined.

TYPE.—Female, Kartabo, June 20, 1924.

This species is related to *C. sequax* Williston but may be readily distinguished by the yellow cheeks.

STYLOGASTER Macquart

In his revision of the genus *Stylogaster* Aldrich¹ records three species from British Guiana, describing two of them for the first time from material collected at Kartabo. The types of these are stated to be in the Canadian National Collection but are in The American Museum of Natural History.

Stylogaster breviventris Aldrich

ALDRICH, 1930, Proc. U. S. Nat. Mus., LXXVIII, Art. 9, p. 19.

The original description was based upon six males and three females from Kartabo. The five specimens before me were taken in August 1920 and April 1922. There is also a female collected by Dr. Lutz at Tukeit on July 26, 1911.

In the key to the species on page 11 the locality is given as Dutch Guiana although it is given correctly on the preceding page.

Stylogaster fasciata Aldrich

ALDRICH, 1930, Proc. U. S. Nat. Mus., LXXVIII, Art. 9, p. 20.

This species was described from a single male collected at Bartica. The species is not represented in the collection.

Stylogaster rectinervis Aldrich

ALDRICH, 1930, Proc. U. S. Nat. Mus., LXXVIII, Art. 9, p. 23.

Two specimens from Kartabo (the types). The type male was taken on March 30, 1924.

PYRGOTIDAE

The single species belonging to this family represents a very peculiar new genus, the reduced mouthparts, unusual head-shape, and unique antennae separating it from any described genus.

¹Aldrich, 1930, Proc. U. S. Nat. Mus., LXXVIII, Art. 9.

TAUROSCYPSON,¹ new genus

Lateral view of head as in figure 52; frontal view as in figure 53. The middle of the face is formed of a raised plate, above which is an elongate-oval inter-antennal plate on practically the same plane; large depressions occupy the sides of the face except along the narrow orbits, the depressions deepest outside the edge of the antennae and again just outside the median plate, the immediate sides of the face and cheeks raised. The ptilinal area is large and prominent, the lower portion being hidden from lateral view. Front very gently convex. Antennae situated at upper edge of facial depression, appearing to be two-segmented but the very short first segment may be discerned; second segment large, broader than long, subrectangular; third segment small, elongate-oval, arising at the lower apex of the second; arista situated on the base of the third segment but extending upward and backward along the apex and upper margin of the second, against which it is closely appressed, the exterior surface densely long plumose so that the second segment appears plumose apically and dorsally. Mouth parts small, probably retractile, the palpi moderately long, narrow. Ocelli wanting. Thorax rather spherical, the mesopleura, sternopleura, and hypopleura with long, sparse hairs. A distinct neck connects the head and thorax. Scutellum three times as wide as long, its posterior edge convex. Post-scutellum absent. Legs long, slender, the femora slightly thicker on basal half. Wings large, the venation as in figure 51. Squamae small. Abdomen shaped as in figure 54, apparently composed of seven segments, the basal two forming the pedicel fused, but a slight depression and bare space indicates the point of fusion; the seventh segment is actually part of the female genitalia, the remaining segments of the ovipositor slender, probably telescopic. In the specimen described the abdomen is curved forward beneath the basal segments, from the apex of the fourth segment. From lateral view it is moderately flattened.

GENOTYPE.—*T. guiana*, new species.

***Tauroscypson guiana*, new species**

Figures 51 to 54

Length (to tip of first genital segment), about 12 mm.

FEMALE.—Head dirty clay-yellowish, more or less translucent, the facial orbits, cheeks, ptilinal area, front and upper part of occiput more fuscous, overlaid with dirty brownish-yellow pollen. Mouth-parts yellowish. Antennae paler in color than the front. Whole head, except the facial depression, with moderately coarse black hair, especially abundant on the front. Plume of arista brownish.

Thorax of the same obscure dirty-yellowish color, still somewhat lighter in parts due to the rather whitish pollen, the mesonotum fuscous, but overlaid with dirty-yellowish pollen for the most part.

Legs brownish-translucent yellowish, the femora slightly enlarged on the basal half, the posterior four increasingly longer than the front ones, the tibiae of the same relative lengths, all swollen just beyond the middle. Posterior tarsi brown, the others with brownish apices.

Wings hyaline, wholly black villous, the first vein hairy above from base to apex, the markings (Fig. 51) amber-colored.

¹From the Greek, *ταῦρος* = bull, *κῶνυ* = dog, on account of peculiar shape of face from frontal view.

Abdomen dirty yellow, the color deeper than on the thorax, the fourth to sixth segments with a pair of shining black spots as shown in figure 54. The pile of the whole insect is black, rather short, not very abundant, moderately stout.

TYPE.—Female, Kartabo, British Guiana, June 12, 1922.

ORTALIDAE

Of this family there is a goodly representation, several of the species being apparently undescribed. The retention of the various subfamilies used by Hendel and others appears undesirable, at least insofar as the presence or absence of short bristly hairs on the first vein is concerned. Any division of the family must be entirely artificial. The use of the character of the presence of distinct hairs on the middle of the propleura, or the presence of only pubescence, in addition to the presence or absence of thoracal bristles, would appear to form the basis of a much simpler classification than any now in existence.

KEY TO THE GENERA

- 1.—Anal cell rounded or transverse at apex.....2.
Anal cell produced posteriorly to form a distinct angle with the anal vein, sometimes greatly prolonged.....10.
- 2.—Middle portion of the propleura with distinct, long, though often fine hairs..6.
Middle portion of the propleura with pubescence only.....3.
- 3.—Posterior femora not conspicuously larger than the middle pair.....4.
Posterior femora incrassate, much stronger than the middle pair.
RICHARDIA Desvoidy.
- 4.—At least the anterior ocellus situated near the middle of the front.....5.
Ocellar triangle small, situated at the upper fourth of the front.
EPIPLATEA Loew.
- 5.—Ocellar triangle small, all the ocelli near the middle of the front; front gently concave above.....COELOMETOPA Macquart.
Ocellar triangle very long, only the anterior ocellus near the middle of the front which is scarcely hollowed above.....BEEBEOMYIA, new genus.
- 6.—Anterior cross-vein oblique.....7.
Anterior cross-vein transverse.....SENOPTERINA Macquart.
- 7.—Posterior sternopleural bristle present.....8.
No sternopleural bristles.....SETELLIA Desvoidy.
- 8.—Anterior femora not or scarcely stronger than the others.....9.
Anterior femora much stronger than the others.....AUTOMOLA Loew.
- 9.—First vein with tiny bristles on its whole length; face longer than wide.
PTEROCERINA Hendel.
First vein bare; face at least twice as wide as long..CHONDROMETOPUM Hendel.
- 10.—Subcostal cell unusually broad and large.....DASYMETOPA Loew.
Subcostal cell normal, at most a little broader than the costal cell.....11.
- 11.—First vein wholly bare.....13.
First vein with tiny bristly hairs on at least the apical half.....12.
- 12.—Anterior cross-vein situated at the apical fifth of the discal cell.
PTEROCALLA Loew.

- Anterior cross-vein not much beyond the middle of the discal-cell; front with large punctures or transverse ridges.....ACROSTICTA Loew.
- 13.—Anterior cross-vein situated near or beyond the middle of the discal cell....14.
Anterior cross-vein situated at or before the basal fourth of the discal cell.
AXIOLOGINA Hendel.
- 14.—Front with deep, large punctures or transverse wrinkles.....15.
Front without series of punctures or wrinkles.....16.
- 15.—Third longitudinal vein distinctly sinuate.....EUPHARA Loew.
Third vein curved forward, narrowing the subcostal cell, not doubly curved.
NOTOGRAMMA Loew.
- 16.—Stigmatal bristle absent; posterior cross-vein transverse or recurrent.....17.
Stigmatal bristle present; posterior cross-vein oblique..EUXESTINA, new genus.
- 17.—Abdomen long and narrow; third antennal segment at least twice as long as wide.....ZACOMPSIA Coquillett.
Abdomen short and rather wide; third antennal segment scarcely over one and one-half times as long as wide.....EUXESTA Loew.

RICHARDIA Desvoidy

Two of the five species belonging to this genus appear to be undescribed. The key which follows will separate the species in the collection.

TABLE OF SPECIES

- 1.—Mesopleura posteriorly broadly yellow in ground color..*podagrica* Fabricius.
Mesopleura wholly dark in ground color.....2.
- 2.—All the femora black on at least the basal half although the posterior pair may have somewhat reddish basal band.....*teevani*, n. sp.
Anterior four femora almost wholly reddish, sometimes a little infuscated basally.....3.
- 3.—Posterior femora of the male with a stout, sub-basal process on either side below; penultimate section of the fourth vein as long as the posterior cross-vein.
proxima Schiner.
Posterior femora with only the anterior ventral process; penultimate section of fourth vein at least one-fifth shorter than posterior cross-vein.....4.
- 4.—Posterior femora wholly reddish; face wholly yellow.....*flavipes* Schiner.
Posterior femora with broad, blackish median band; middle of the face brown.
annulipes, n. sp.

Richardia podagrica Fabricius

Dacus podagrica FABRICIUS, 1805, 'Syst. Antl.', p. 272.

Three males and six females, all from Kartabo: male and female, October 21, 1920 (No. 20822); female, February 24, 1922 (No. 2225); male and female, October 25, 1920; male and female, 1921; female, August 6, 1920; female (No. 201451).

***Richardia teevani*, new species**

MALE.—Length, about 8 mm. Face brown, yellowish above, the parafacials, cheeks broadly along the orbits, posterior orbits broadly below, curving over to form an arch at the neck, and the head behind the mouth, yellowish; front dull rusty brownish, with a broad dull yellow band across the middle and three triangles above, one on either side, the other over the ocelli, extending forward from the vertex, polished blackish or rusty brownish, the head elsewhere black; the yellowish portions are densely silvery grayish or whitish pollinose; middle section of the face pollinose except the oral border. Palpi rusty or brownish red. Antennae brownish, the basal two segments more reddish, the whole sometimes paler; arista black, with yellow base, the rays fairly long.

Thorax black in ground color; mesonotum with three whitish vittae which have a slight yellowish tinge, the median one entire and expanding immediately in front of the scutellum into an entire fascia connected with the narrow lateral vittae which are obscure in front of the suture, the broad lateral margins in front of the suture similarly pollinose, the mesonotum elsewhere with brownish pollen except for a fairly broad, subinterrupted anterior fascia which is bare and a slender bare vitta extending along each row of dorsocentrals; posterior third of the mesopleura white pollinose, the metanotum laterally and the pleura behind the posterior coxae more grayish pollinose. Hair of the mesonotum short, black, of the pleura, long, whitish, Scutellum wholly shining black.

Coxae black, gray pollinose; femora shining black, the apical third or less of the anterior and posterior pairs and slightly more of the middle pair, reddish yellow; middle and hind tarsi and whole of the middle tibiae yellowish; base of posterior femora more or less reddish, at least below, rarely with a broad band extending two-thirds the distance around it. Posterior femora with a stout, oblique yellow process near the basal fourth of the lower surface toward the front, and with short, stout bristles on the apical half of both lower edges. Legs black-haired, the middle tibiae with two or three rows of yellow hairs behind, the first segment of the middle tarsi wholly yellow-haired, the first segment of the anterior and whole of the posterior tarsi yellow-haired beneath, the first three segments of the posterior tarsi each with an apical comb-like fasciculus of yellow spinules on the anterior half.

Wings cinereous hyaline, the costal and subcostal cells lightly infuscated, a darker spot behind the brown stigma, a broad, usually tapering, entire fascia at the apical third of the wing and a fairly large apical spot, brown. Squamae whitish, with white fringe. Halteres yellow.

Abdomen metallic greenish blue, the first segment almost wholly pale yellow. Hair black; yellow on the first segment.

FEMALE.—Similar: the ovipositor as long as the preceding three abdominal segments. Legs simple, the middle femora with two or three short spines on each lower edge of the apical third.

TYPES.—Described from twelve specimens from Kartabo: four males, October 20, 1920 (No. 24070), November 10, 1920 (No. 20937), November 11, 1920 (No. 20950); male, June 6, 1920; two males, 1921; two males, March 17, 29, 1922; two males, March 17, 29, 1922; two males, July 23, 1922; male, Kalacoon, Bartica District, 1916; four males and four females, Kartabo, March 25, 30, April 12, May 6, 8, 14, and 28, May 6, 1924 (No. 24495).

Richardia annulipes, new species

Length, 7 mm.

MALE.—Similar to *teevani* except the color of the legs. The anterior four femora are yellow, the posterior pair with the median third and an apical spot, brown. The anterior cross-vein is situated about its own length beyond the discal cross-vein.

TYPE.—A single male, Kartabo, October 11, 1920.

Richardia proxima Schiner

SCHINER, 1868, 'Novara Reise,' p. 260.

A single male, Kartabo, July 5, 1922.

Richardia flavipes Schiner

SCHINER, 1868, 'Novara Reise,' p. 260.

One male, Kartabo, May 8, 1924 (human excrement).

EPIPLATEA Loew**Epiplatea arcuata** Hendel

HENDEL, 1911, *Deutsch. Ent. Zeitschr.*, p. 192.

Three specimens from Kartabo: male, May 26, 1924 (No. 24730); female, May 12, 1924; female, April 23, 1924 (human excrement); male, Kaieteur, August 8, 1911 (F. E. Lutz).

COELOMETOPIA Macquart**Coelometopia trimaculata** Fabricius

Scatophaga trimaculata FABRICIUS, 1805, 'Syst. Antl.,' p. 208.

Male, Kartabo, May 12, 1924 (human excrement); female, Kartabo, July 8, 1922.

BEEBEOMYIA, new genus

Belongs to the Richardinae, all the femora with row of bristles on at least the apical half of the lower surface, the middle pair with a row on either side of the ventral edge. Front twice as long as wide, much narrower than either eye, the anterior ocellus situated at the middle of the front, the posterior two closely approximate at the upper fourth, the long, convex ocellar triangle continued to the vertex; one pair of frontals opposite the ocellars; postocellars extremely weak; outer verticals as strong as verticals; no prescutellars; two pairs of dorsocentrals; two posterior callar bristles; one supra-alar, two notopleural, one humeral; one mesopleural; no sternopleurals or propleurals; auxilliary vein ending near the first vein; anterior cross-vein situated slightly before the middle of the discal cell, transverse; posterior cross-vein transverse, the last section of the fifth vein one-third as long as the cross-vein; femora all moderately slender; first abdominal segment narrowed to the base, the apical portion of abdomen oval. Head characters as in *Coelometopia* Macquart, except as mentioned.

GENOTYPE.—*Beebeomyia versicolor*, new species.

I take great pleasure in naming this genus in honor of Dr. Wm. Beebe to whom I am indebted for many favors in connection with the material studied.

Beebeomyia versicolor, new species

Length, 7 mm. Head, thorax above and the legs, reddish; pleura, pectus and abdomen shining brown or black.

FEMALE.—Head rusty reddish, the face and front paler anteriorly, rather yellowish; face, occiput and linear frontal orbits with rather whitish pollen, the occiput bare on the upper fourth; front with inconspicuous, short, reclinate hairs on the anterior half, occipital hair fine, yellowish except at the neck, the cheeks with one long black bristle behind. Palpi subtriangular, large, rounded below. Third antennal segment three times as long as wide, slightly tapering; arista with extremely short sparse rays.

Mesonotum rusty reddish, with a broad, gently widening median whitish pollinose vitta extending from the anterior margin to the scutellum, and a narrow vitta on either side in front of the wings. Pleura and most of the metanotum, brown, the latter with whitish sheen. The hair is very fine and yellowish. Propleura with short pubescence.

Legs reddish yellow, the tibiae and tarsi slightly paler; hair wholly short and yellowish, the bristles black.

Wings grayish hyaline, with yellowish tinge in the subcostal cell, the veins luteous. First vein wholly bare. Squamae reddish yellow. Halteres whitish.

Abdomen shining black, with appressed brownish hair which appears pale in some lights, the hair erect laterally and basally; second to fifth segments each with a terminal row of long, appressed bristly hairs, the second with four bristles in a transverse row on either side at the middle. Ovipositor not one and one-half times as long as wide, one-third as wide at apex as at base, more strongly tapering on the apical half, gently convex and reddish ventrally. Sternites thinly grayish pollinose.

TYPE.—Female, Kartabo, April 12, 1924.

SENOPTERINA Macquart

The collection contains two species referable to this genus.

Senopterina brevipes Fabricius

Dacus brevipes FABRICIUS, 1805, 'Syst. Antl.', p. 272.

Male, Kartabo, May 6, 1924.

Senopterina macularis Fabricius

Dacus macularis FABRICIUS, 1805, 'Syst. Antl.', p. 275.

Male and female, Penal settlement, Bartica District, March 10. Four specimens from Kartabo; male, March 18, 1922, male, April 12, 1922, male and female, August 17, 1922. Four males and three females, Kartabo, 1924: March 5, 22, 27, June 6, and June 13, 1924 (No. 24928); female, Bartica, April 17, 1924.

SETELLIA Desvoidy***Setellia unispinosa* Bigot**

BIGOT, 1886, Ann. Soc. Ent. France, (6) VI, p. 388.

?*S. fusca* MACQUART, 1843, 'Dipt. Exot.', II, part 3, p. 232 (Guiana).

Male, Kartabo, March 27, 1924; female, March 10, 1921 (No. 21284).

AUTOMOLA Loew***Automola automaria* Wiedemann**

Ortalis automaria WIEDEMANN, 1830, 'Ausser. Zweifl.', II, p. 461.

Six specimens of each sex from Kartabo: March 14, June 8, 1921; May 19, 1924 (No. 24646), May 22, 1924 (No. 24660), May 31, 1924 (No. 24780), June 8, 1924 (No. 24832), and May 26, 1924 (No. 24734).

PTEROCERINA Hendel***Pterocerina americana*, new species**

Figure 31

MALE AND FEMALE.—Length, 5 to 5.5 mm. (excluding ovipositor). Head pale yellow, the broad posterior orbits above and three triangles on the vertex, grayish; head white pollinose, the front bare except along the orbits and above, mostly somewhat golden, the lunula dull. Two pairs of strong, reclinate orbitals, the front sparsely hairy on the anterior half; a row of bristly hairs along the oral margin. Occiput with black bristly hairs. Palpi large, flat, reddish. Antennae orange; arista black, rather long plumose.

Thorax ferruginous, with the prothorax and some of the lower portions yellow, the whole gray pollinose with more or less yellow reflections; a pair of slender dark dorsocentral vittae. A single bristle on the yellow humeri; two posterior dorso-centrals; presuturals well developed; a single sternopleural; hair black. Scutellum rusty brown, very thinly pollinose, with two pairs of bristles and without hair.

Legs yellow; anterior and posterior tibiae broadly brownish apically, the tarsi with brownish apices; hair black. Posterior femora with a single long, preapical anteroventral bristle, a row of three anterodorsal bristles and a single posterodorsal toward the apex.

Wings with brownish yellow markings as follows: a broad, oblique fascia extending back to halfway between the fifth vein and wing margin at the middle of the discal cell enclosing an elongate hyaline spot in the marginal cell, a slender, transverse fascia on the anterior half beginning in the apex of the discal cell and extending over the anterior cross-vein to the costa, and beyond this a broad fascia which extends from the costa straight back to the anterior end of the posterior cross-vein, thence along the cross-vein to the wing margin, moderately broadly connected along the costa with the apical brown spot which does not pass the fourth vein but runs somewhat inward along the third vein. Third vein undulating, bristly to beyond the anterior cross-vein; first vein wholly bristly; posterior cross-vein moderately oblique; anal cell rounded distally.

First abdominal segment wholly, the second on the basal fourth, expanding to half at the sides, pale yellow; remainder of the abdomen shining brown, the fourth

segment grayish pollinose on the basal half. In the female the first genital segment is as wide as long, strongly tapering, quite as long as the two preceding segments combined.

TYPES.—Male, Kartabo, September 17, 1922; allotype, female, Kartabo, October 17, 1920. There is a third badly damaged specimen (female) from Kartabo, October 16, 1920.

***Pterocerina pallidibasis*, new species**

Length, 5.5 mm.; of wing, 4.5 mm. Abdomen brown, the base pale yellow.

FEMALE.—Head pale, the occiput on the upper two-thirds and three vertical spots, brownish. Face, linear frontal orbits and the occiput, grayish white pollinose; front not shining but with faint metallic luster, a dark spot on either side above and on the vertical triangle, surrounded by pale pollen; three linear dark vittae on the occiput beneath the vertex. Frontal hair short, coarse, sparse; two pairs of orbitals, the anterior weak. Palpi and antennae reddish yellow, the third segment of the latter with brownish tinge, slightly narrowing to the rounded apex, almost twice as long as wide; arista long, sparsely pubescent. Cheeks with two brownish spots.

Thorax brownish gray pollinose, each hair rising from a brown spot, those on the dorsum in rows. Scutellum with base, median vitta and free border brownish in certain lights.

Front coxae, apices of the others, apices of the femora, the tibiae and tarsi, reddish yellow, the tibiae each with two brownish bands, the apical segments of the anterior four tarsi becoming brownish.

Wings dark brown, with hyaline areas as follows: base of wing before the humeral cross-vein, two rectangular spots in the basal half of the costal cell, a posteriorly tapering broad spot just behind the tip of the auxilliary vein extending from the costa to the second vein, a slightly wider spot of the same shape just beyond the apex of the first vein, three spots in the submarginal cell: a transverse oval one in front of the anterior cross-vein, a smaller, roundish one a little beyond and a large roundish one apically near the end of the second vein; two rectangular, longitudinal spots in the first basal cell, one near the base, the other very close to the apex; two in the first posterior cell, one very close to the base, transversely oval, the other much smaller, rather roundish, in front of the apex of the posterior cross-vein; two in the discal cell, a small basal one and a large round one behind the anterior cross-vein; three spots on the posterior margin, two in the second posterior cell, the first much the larger and one behind the apical spot in the discal cell; anal cell mostly hyaline and there is a large rectangular spot immediately beyond it. Behind the anal cell the wing is more grayish, the alula gray. The second vein is swung strongly forward on its median third, reaching its greatest curve in front of the anterior cross-vein, which is oblique and situated at the apical fourth of the discal cell; posterior cross-vein oblique and bowed outwards.

Abdomen brown, with rather inconspicuous brown pollen, the first segment pale yellow except the broad sides; ovipositor wide, twice as long as wide, narrowing on its apical half. Hair of the whole insect black.

TYPE.—Female, Kartabo, May 8, 1924 (human excrement).

CHONDROMETOPUM Hendel**Chondrometopum arcuatum** Hendel

HENDEL, 1909, *Deutsch. Ent. Zeitschr.*, Append., p. 9 (Peru).

A female from Kartabo, 1920.

DASYMETOPA Loew**Dasymetopa sordida** Hendel

HENDEL, 1909, *Deutsch. Ent. Zeitschr.*, Append., p. 23 (Bolivia).

Three males, Kartabo, August 17, 1922; male, August 20, 1922.

Dasymetopa lutulenta Loew

LOEW, 1867, *Berl. Ent. Zeitschr.*, XI, p. 285.

Two males, Kartabo, August 20, 1922 (Nos. 221019, 221020), two males, Kartabo, May 14, 1924 (Nos. 24602-03).

PTEROCALLA Loew**Pterocalla obscura** Wiedemann

Trypeta obscura WIEDEMANN, 1830, 'Ausser. Zweifl.', II, p. 499.

Three specimens: Kartabo, June 11, 1924; May 22, 1924 (No. 24686); and May 31, 1924 (No. 24776).

Pterocalla ocellata Fabricius

Dictya ocellata FABRICIUS, 1805, 'Syst. Antl.', p. 330.

Male, Kartabo, October 25, 1920; three males, Kartabo, March 5, May 7, July 17, 1924; female, Kartabo, November 10, 1920 (No. 201190).

ACROSTICTA Loew

Three species from our region are before me. The genus is doubtfully distinct from *Euxesta*, evidence being present of the gradual intergradation of the characters separating the two groups.

TABLE OF SPECIES

- 1.—Knob of the halteres yellowish, at least on the apical half 2.
 Knob of the halteres blackish *profunda* Hendel.
- 2.—Anterior femora reddish; costal cell brown basally, pale on more than the
 apical half *pallipes* Grimshaw.
 Anterior femora brownish; costal cell wholly brown *scrobiculata* Loew.

Acrosticta pallipes Grimshaw

GRIMSHAW, 1901, 'Fauna Hawaiiensis,' Dipt., p. 44.

Female, Tukeit, July 17, 1911 (F. E. Lutz).

Acrosticta profunda Hendel

HENDEL, 1909, Wien. Entom. Zeitschr., XXVIII, p. 250.

Blackish, the mesonotum in front of the suture and the anterior half of the pleura, blackish green; first segment of the tarsi reddish; parafacials brownish red. Length, 4 mm. (excluding ovipositor).

FEMALE.—Face greenish black, together with the cheeks, occiput and narrow frontal orbits, gray pollinose. Front rather brownish, with very large setigerous pits which leave the vertex, more widely at the sides and in the middle, normal; two pairs of weak fronto-orbitals; ocellars rather weak; verticals, outer verticals and post-ocellars fairly strong. Hair black, sparse, bristly. Palpi reddish. Antennae brown, the third segment yellowish at the base; arista black, slender.

Thorax grayish pollinose, with the median third or more opaque black. Two posterior dorsocentrals, one pair of acrosticals, the acrostical hairs in four rows. Hair of pleura black; a single sternopleural. Scutellum with two pairs of bristles.

Middle femora with an entire posteroventral row of long cilia, those on the anterior femora confined to the apical third, the posterior femora not ciliate.

Wings hyaline, the costal and subcostal cells and a subtriangular apical spot which does not reach the fourth vein, deep brown. Squamae whitish. Halteres brown.

Abdomen thinly grayish pollinose, somewhat bronzed. Ovipositor one and one-fourth times as long as wide, convexly tapering. Hair short, black, pale on the basal sternites.

Female, Kartabo, 1921; two females, Kartabo, May 19, 23, 1924 (No. 24647).

Acrosticta scrobiculata Loew

LOEW, 1867, Berl. Entom. Zeitschr., XI, p. 293.

Three males and four females from Kartabo, 1921 and 1924: April 20, 23, May 6; October 30, 1920 (No. 20641), May 16, 1924 (No. 24626); some from human excrement.

Axiologina Hendel**Axiologina ferrumequinum** Hendel

HENDEL, 1909, Wien. Entom. Zeitschr., XXVIII, p. 268.

A male, Kartabo, October 30, 1920 (No. 20605).

This genus is close to *Euxesta* and perhaps not truly separable. Only the position of the anterior cross-vein is distinctive.

EUPHARA Loew**Euphara caerulea** Macquart

Ceroxys caerulea MACQUART, 1847, 'Dipt. Exot.,' Suppl. 2, p. 62.

Female, Kartabo, April 3, 1924.

NOTOGRAMMA Loew

Contrary to the opinion expressed by Loew in the third volume of the 'Monographs of North American Diptera,' there are two species in this genus, one of which definitely occurs in British Guiana, while the other probably occurs there.

Notogramma cimiciformis Loew

LOEW, 1867, Berl. Entom. Zeitschr., XI, p. 289.

N. stigma LOEW, 1873 (not Fabricius), 'Mon. N. Amer. Dipt.,' III, p. 148.

This is not *Musca stigma* Fabricius and *Ulidia stigma* Wiedemann, but a quite distinct species. The brown costal border is entire, not broadly interrupted beyond the tip of the first vein, the ocellar triangle is longer and divided by a wide, shallow, transverse depression, while the pale pollen of the pleura is black punctate. In *N. stigma* Fabricius the pleura, as stated by Wiedemann, lack the pollen. I have not seen South American specimens of *stigma* but there are representatives from Porto Rico in The American Museum of Natural History.

Male, Kartabo, May 24, 1924.

EUXESTINA, new genus

Related to *Euxesta*, but the fourth vein is not carried as far forward apically and there is a bristle above the anterior coxae. One humeral, two notopleurals, one pair of prescutellars, two pairs of dorsocentrals, two supra-alars, and one bristle on the posterior calli; a row of ventrally shortening mesopleurals, one sternopleural and one propleural; two pairs of marginal scutellars. Head and leg characters as in *Euxesta*, the species a little more elongate.

GENOTYPE.—*Euxestina fuscipennis*, new species.

Euxestina fuscipennis, new species

FEMALE.—Length, 4.5 to 5 mm. Head yellowish, the front rather golden; occiput black, grayish pollinose; face and narrow frontal orbits whitish pollinose. Front two-thirds as wide as either eye, slightly widened in the middle, with very many short, black bristly hairs; two pairs of orbitals; ocellars weak; verticals and outer verticals strong; postocellars rather weak. Hair black. Palpi yellowish, broad, large, the hairs black. Antennae reddish, the third segment brown except on the base and lower portion, large, short-oval; arista black, bare, long and slender, as long as the front.

Thorax densely gray pollinose, with three slender brown vittae, the notopleura and an anterior projection from its inner end, brown; pleura more or less brownish on the upper half, wholly pollinose; hair black. Scutellum yellow beneath, wholly pollinose its disc flat.

Legs reddish yellow, the coxae and femora grayish pollinose, the posterior four coxae more or less extensively brown. Middle femora with a row of short, fine cilia along the middle of its anterior and posterior ventral surfaces; anterior femora with ciliate row posteroventrally and two rows of longish bristly hairs on the upper posterior half. Hair of legs black.

Wings deep brown, the second posterior cell hyaline on the posterior half, the wings hyaline behind the discal and second basal cells. Squamae lightly infuscated, with darker border and yellowish fringe. Halteres yellow, with brown knob.

Abdomen densely brownish-gray pollinose. Ovipositor brown, with the apical fourth black; broad, flat, convexly narrowed apically. Hair black.

Types.—Six females from Kartabo, August 17, 1922 (No. 221013), November 12, 1920 (No. 201190), May 3, 1924 (No. 24799), May 16, 1924 (No. 24625), and June 18, 1924.

ZACOMPSIA Coquillett

Zacompsia metallica, new species

Bluish black, the head, femora and posterior four tarsi reddish. Length, 5.5 mm.

FEMALE.—Occiput broadly on either side, front broadly above, part of the parafrontals on their whole length and a median triangle extending from the vertex half-way to the antennae, with strong bluish-black tinge; anterior ocellus situated a little behind the middle of the front, the rather large ocellar triangle twice as long as wide; ocellars situated behind the anterior ocellus; one pair of orbitals; frontal hair black. Cheeks and face with slight bluish reflection. Palpi and antennae reddish, the third antennal segment twice as long as wide, somewhat tapering; arista reddish on the basal fourth.

A large area on the pleura in front, including the humeri, reddish. Mesonotum about twice as long as wide; hair exceptionally short, inconspicuous. Thorax thinly cinereous pollinose. One mesopleural bristle, no sternopleural or propleural.

Middle and posterior coxae more or less brownish outwardly; tibiae and anterior tarsi brown or blackish.

Wings rather pale blackish brown, the base before the humeral cross-vein, a broad band beyond this cross-vein extending over the anal vein and including most of the anal cross-vein, a broad, inwardly arched median band beginning at the costa in front of the posterior cross-vein and ending over this vein, and the broad apex of the wing, hyaline, the apical pale area not sharply defined and connected posteriorly with the median hyaline band by the rather grayish posterior border. The apical brownish area is rather rounded. Anal cell produced to form a small angle on its posterior half; posterior cross-vein strongly recurrent on its anterior two-thirds. Halteres yellow.

Abdomen shining blackish-blue, long and rather narrow, the ovipositor one and three-fourths as long as wide, gently tapering, its sides strongly convex toward the apex, its second segment black, the third reddish. Abdominal hair inconspicuous except on the ovipositor.

TYPE.—Female, Kartabo, August 3, 1920 (No. 2073).

EUXESTA Loew

There are four species from British Guiana before me, one of them, without head, being indeterminable. They are distinguishable by the table of species which follows.

TABLE OF SPECIES

- 1.—Femora black, at most with reddish tips. 2.
Femora reddish; wings with subtriangular preapical spot and small, dark stigmal spot. *nitidiventris* Loew.
- 2.—Wings hyaline except the costal border and apical spot. 3.
Wings with four black or brown fasciae. species.
- 3.—Wings without stigmal spot, with small preapical spot; face reddish; no velvet-black spot between the antennae. *guianica*, n. sp.
Wings with brown spot at base of stigma; apical spot longer, triangular; a large, opaque black spot between the antennae. *bipunctata* Macquart.

***Euxesta nitidiventris* Loew**

LOEW, 1873, 'Mon. N. Amer. Dipt.,' III, p. 157.

A single male from Kartabo agrees with specimens from Florida.

***Euxesta bipunctata* Macquart**

Ulidia bipunctata MACQUART, 1835, 'Suite à Buffon,' II, p. 505.

This is a striking species. The face is aeneous, the opaque black spot covering the lunule and extending between the antennae very conspicuous. The tibiae and tarsi are black, the first segment of the anterior four tarsi yellow.

Female, Kartabo, August 17, 1922.

***Euxesta guianica*, new species**

Front and parafacials reddish; anterior legs black except the tips of the femora; mesonotum with a rather broad, dark, bronzed arch behind the suture; abdomen wholly shining black. Length, 2.75 mm.

MALE.—Head blackish, thinly grayish pollinose, three brown triangles project forward from the brownish vertex, the lateral ones wider and longer. Frontal hair sparse, very short, stout; anterior fronto-orbital bristle very weak; ocellars short; verticals, outer verticals and postocellars fairly strong. Hair of the head wholly black. Palpi brown. Antennae brown, the base of the third segment reddish; third segment oval, large, one and one-fourth as long as wide; arista brown, slender, elongate.

Thorax aeneous, thickly grayish pollinose, the mesonotum with a moderately wide blackish bronzed arch lying immediately behind the suture, extending beneath the wings to the posterior coxae; pronotum blackish, this color extending broadly along the anterior border of the mesopleura to its lower edge. Acrostical hairs in four rows; a single mesopleural and sternopleural bristle. Scutellum shining black, very thinly gray pollinose.

Legs black; apices of the femora, middle tibiae on their whole length below and the apical fourth, apex of the posterior tibiae, first three segments of the middle and two of the posterior tarsi, yellow. Hair of the legs black except beneath the tarsi.

Wings hyaline, with a brown spot in the apex of the marginal cell extending to slightly behind the third vein. Squamae white. Halteres orange.

Abdomen shining black, black-haired.

TYPE.—Male, Kartabo, October 1, 1920 (No. 20598).

This species, which closely resembles *E. pusio* Loew in the apical wing markings, has the costal and stigmal cells wholly pale.

Euxesta species

One female, Kartabo, January 17, 1921 (No. 2144), without head, I am unable to place as I have no perfect specimens of the species for comparison.

ROPALOMERIDAE

Two species of the genus *Ropalomera* Wiedemann have been taken at Kartabo and the species before me may be distinguished as follows:

- 1.—Pregenital tergite without whitish spots in the middle; wings clouded along the veins (Colombia, Costa Rica).....*flaviceps* Macquart.
Each abdominal segment with two whitish spots dorsally; wings with numerous brownish spots.....2.
- 2.—Face and pectus with black hair.....*clavipes* Fabricius.
Face wholly, the sternopleura except above, with yellowish hair...*minima*, n. sp.

***Ropalomera clavipes* Fabricius**

Dictya clavipes FABRICIUS, 1805, 'Syst. Antl.', p. 329.

Represented in the collection by the following specimens. Kartabo: two females, March 20, male, March 29, 1922; three males and female, April 14, 1922; male, August 9, 1920; female, October 16, 1920; pair in copula, Kartabo, February, 1922 (No. 2237); female, no data; male, Bartica, April 23, 1924; male, Kartabo, April 12, 1924.

***Ropalomera minima*, new species**

Agrees with *clavipes* except as follows: the head is ochreous yellow except the ocellar triangle and the upper half of the occiput toward the sides, the hair yellow except on the dark part of the occiput. Hair of legs shorter and less abundant, the middle femora wholly without long black hair on the basal half bordering the long yellow hair.

TYPE.—Male, Kartabo, March 30, 1924.

TRYPANEIDAE

This important family is represented by thirteen species of which seven are from Kartabo. The flies develop in the seed-pods or fruit of plants and many of them are of economic importance.

ANASTREPHA Schiner

There are before me representatives of seven species of *Anastrepha* from British Guiana, two of them taken at Kartabo and a third across the river at Kalacoon. In the key which follows I have included all the described species of which I have specimens.

TABLE OF SPECIES

- 1.—Second basal cell hyaline.....2.
Second basal cell yellowish or brownish.....*atrigona* Hendel.
- 2.—The hyaline band extending over the second basal cell, base of the discal cell and apical half of the first basal cell to the costa beyond the apex of the first vein is not interrupted.....3.
The hyaline band is interrupted.....6.
- 3.—Anal cell partly or wholly yellowish or brownish.....4.
Anal cell wholly hyaline.....*consobrina* Loew.
- 4.—With an inverted V-shaped marking on the apical half of the wing.....5.
With a brown band extending over the posterior cross-vein.....*leptozona* Hendel.
- 5.—The V-shaped marking is connected with the dark costal border in front....11.
The V-shaped marking is separated from the other brownish markings.....*integra* Loew.
- 6.—Outer arm of the inverted V-shaped marking on the apical third of the wing more or less distinct.....7.
Outer arm of the V-shaped marking entirely absent.....*serpentina* Wiedemann.
- 7.—The hyaline spot immediately beyond the first vein extends back to the third vein.....8.
The hyaline spot extends only to the second vein.....*striata* Schiner.
- 8.—The V-shaped marking is connected with the anterior band.....9.
V-shaped marking is isolated, often weak in front.....10.
- 9.—Base of discal cell narrowly hyaline, the pale band very much narrowed or interrupted.....*?acidusa* Walker.
Base of discal cell broadly hyaline, the pale band not narrowed at this point.....*distans* Hendel.
- 10.—Ovipositor 2 mm. long; apical segment of male not as long as the preceding two segments combined.....*fratercula* Wiedemann.
Ovipositor 4 mm. long; apical segment of male longer than the two preceding segments combined.....*ludens* Loew.
- 11.—Second vein sinuous.....*parallela* Wiedemann.
Second vein not sinuous.....*obliqua* Macquart.

***Anastrepha consobrina* Loew**

Acrotoza consobrina LOEW, 1873, 'Mon. N. Amer. Dipt.,' III, p. 230 (f.).

A single female, Tumatumari, July 12, 1911 (F. E. Lutz).

***Anastrepha leptozona* Hendel**

HENDEL, 1914, Abhandl. Bericht. Zool. Mus., Dresden, XIV (1912), No. 3, p. 19.

Male and two females "British Guiana," February 20 and March 10 and 20, 1913.

***Anastrepha obliqua* Macquart**

Tephritis obliqua MACQUART, 1835, 'Hist. Nat. Dipt.,' II, p. 464.

Male, Kalacoon, Bartica District, 1916.

Anastrepha parallela Wiedemann

Dacus parallela WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 515.

Female, Kartabo, 1921; female, Kartabo, August 11, 1920.

Anastrepha integra Loew

Acrotoxa integra LOEW, 1873, 'Mon. N. Amer. Dipt.,' III, p. 230.

One female from "British Guiana," April 14, 1913.

Anastrepha striata Schiner

SCHINER, 1868, 'Novara Reise,' Dipt., p. 264.

Female, "British Guiana," March 14, 1913.

Anastrepha fratercula Wiedemann

Dacus fraterculus WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 524.

Female, "British Guiana," April 16, 1913.

Anastrepha ludens Loew

Acrotoxa ludens LOEW, 1873, 'Mon. N. Amer. Dipt.,' III, p. 223.

Male, Kartabo.

The mesonotum bears a blackish vitta toward either side and the metanotum is brownish.

KARTABIA, new genus

In Hendl's key to the genera of Neotropical Trypanidae [1914, Abhandl. Bericht. Zool. Mus. Dresden, XIV (1912)] this traces to couplet 11, where it fits neither alternative: the third antennal segment is three times as long as wide and the eyes about one and one-half times as long as wide. Close to *Anastrepha* Schiner, but the apical cell is not narrowed apically and the third vein turns forward at a right angle near the basal third of the wing so that the space between it and the auxiliary vein is twice as long (transversely) as the distance between the tips of these two veins. The ovipositor is short and cylindrical.

GENOTYPE.—*Kartabia anastrephoides*, new species.

Kartabia anastrephoides, new species

Blackish brown, the head, humeri, prothorax, front coxae, tibiae and tarsi, reddish yellow. Length, almost 4 mm.

FEMALE.—Head thickly whitish pollinose, the front, except the narrow orbits, rather dull rusty-reddish; front twice as long as wide, slightly narrowed anteriorly, with two pairs of reclinate and three pairs of proclinate orbitals, the reclinate ones stouter; ocellars very weak; postocellars weak; outer verticals half as long as verticals; all the bristles slender, at most some of the lower occipital cilia rather luteous. Palpi large, reddish. Antennae extending to beyond the oral margin, the third segment with brownish tinge; arista slender, sparsely long pubescent, brown, the thickened basal sixth yellow.

Mesonotum and scutellum moderately gray pollinose, with very short, fine, appressed yellowish hair. Presutural bristle present; one pair of acrosticals; two pairs of dorsocentrals; one bristle on posterior calli; two supra-alars; two notopleurals, one humeral; mesopleura, sternopleura, and pteropleura each with one strong bristle; two pairs of marginal scutellars. Hair of pleura erect, black; propleura hairy. Scutellum broadly obscure reddish on its free border and beneath.

Femora, diffuse broad apices of the posterior four tibiae and the apical two segments of all the tarsi, brown. Hair black.

Wings deep brown on the basal two-thirds except for the following hyaline areas: about the subapical half of the costal cell; two large triangles in the marginal cell, the first resting on the costa and the angular end of the first vein and reaching back just to the third vein, the portion in the marginal cell almost quadrangular, the second hyaline spot with its inner edge almost transverse, its outer oblique, reaching from the costa to halfway through the apical cell a little beyond the anterior cross-vein; alula, whole wing behind the anal vein and a broad band contiguous with the anal vein in the third posterior cell, becoming very narrow just beyond the anterior apex of the anal cell, from which point there is a slender, obscure line reaching toward the hyaline spot in the costal cell; the apex of the wing is hyaline except for the moderately wide costal band extending from the anterior edge of the basal brown pattern to halfway across the apical cell and a similarly curved, equally wide band rising immediately in front of the third vein and ending in the hind margin near the apical fourth of the second posterior cell. The posterior cross-vein is situated well inside the main brown pattern. The second vein is curved gently backward on its apical fifth while the third vein changes direction rather sharply in front of the anterior end of the posterior cross-vein, so as to end only moderately in front of the wing-tip. Squamae grayish, with brown border. Halteres brown.

Abdomen short and broad, conspicuously grayish pollinose, with appressed, rather sparse, fine yellow hair. Ovipositor shining black, not longer than the third abdominal segment.

TYPE.—Female, Kartabo, April 12, 1924; paratype, female, Kartabo, May 1, 1924.

BLEPHARONEURA Loew

Blepharoneura poecilosoma impunctata Hendel

HENDEL, 1914, Abhandl. Bericht. Zool. Mus., Dresden, XIV (1912), No. 32, p. 22.

Male, Kartabo, October 30, 1920 (No. 20455); two males, Kartabo, March 18, 31, 1922.

HEXACHAETA Loew

Hexachaeta eximia Wiedemann

Trypeta eximia WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 477.

Female, Kartabo, October 25, 1920 (No. 20355); female, Kartabo, June 13, 1924 (No. 24927).

XANTHACIURA Hendel

Xanthaciura phoenicrura Loew

Trypeta phoenicrura LOEW, 1873, 'Mon. N. Amer. Dipt.,' III, p. 269.

A badly damaged female, Kartabo, October 16, 1920.

EUARESTA Loew**Euaresta spectabilis** Loew

Euaresta spectabilis LOEW, 1873, 'Mon. N. Amer. Dipt.,' III, p. 309.

Four specimens of both sexes, Kartabo, October 8, 21, 1920 and March 25, 1919 (No. 1921).

SEPSIDAE

The collection contains five species belonging to this family, one of them new to science.

Sepsis Fallén

The British Guiana species belonging to this genus may be distinguished as follows:

- 1.—Mesonotum practically wholly shining black; anal vein extending more than half the distance from the anal cell to the border of the wing.
pusio Schiner.
- Mesonotum pollinose, or dull on at least the posterior three-fourths 2.
- 2.—Mesonotum black in ground color 3.
- Head and thorax reddish; three pairs of dorsocentrals; no mesonotal hairs or setae; wings with subapical blackish spot *carnivora*, n. sp.
- 3.—Middle and hind tibiae each with one or more distinct bristles in addition to the apical ones *haemorrhoidalis* Schiner.
- Middle and hind tibiae without such bristles *armata* Schiner.

Sepsis carnivora, new species

Head and thorax rusty reddish; legs reddish; abdomen brownish black, more or less reddish on apical segments; wings with the costal cell and a rather large, sub-oval, preapical spot brown. Length, 4.25 mm.

FEMALE.—Face and cheeks yellowish, the antennal grooves narrowly brown below; head shining. Front strongly narrowed anteriorly; fronto-orbital bristle hardly as long as the third antennal segment; ocellars, postocellars and verticals distinctly longer than antenna; outer verticals half as long as verticals. Basal antennal segment and most of the third, pale brownish.

Mesonotum dull, posteriorly obscurely brownish, with a pair of widely separated, rather narrow, pale vittae; pollinose posterior portion of the sternopleura and a contiguous, roundish spot behind, blackish in ground color. Notopleura, posterior border of the mesopleura, a vitta along the upper border of the sternopleura, commencing above the anterior coxae and expanding to form a very wide band on the sternopleura behind, white pollinose. Sternopleura with a very weak bristle; thorax without hairs except a few inconspicuous ones on the mesopleura.

Tibiae and tarsi reddish yellow, the apical tarsal segment obscure brownish; hair of the middle and posterior tibiae rather long; no tibial bristles except at the apex.

Wings cinereous-hyaline; anal vein extending almost to the border of the wing. Squamae yellowish brown. Halteres reddish.

Abdomen brown, constricted basally but not at the apex of the fourth segment; apical one or two segments more or less reddish above.

TYPE.—Female, Kartabo, March 20, 1924 (peccary entrails, I).

Sepsis pusio Schiner

SCHINER, 1868, 'Novara Reise,' Dipt., p. 262.

Sepsis insularis WILLISTON, 1896, Trans. Ent. Soc. London, p. 431.

Male, Kartabo, April 23, 1924 (human excrement).

Sepsis haemorrhoidalis Schiner

SCHINER, 1868, 'Novara Reise,' Dipt., p. 261.

Male, Kartabo, April 23, 1924 (human excrement); female, Kartabo, March 30, 1924 (peccary entrails, I); two males and two females, Kartabo, March 9, 12, 26, and May 12, 1924.

This species is common and widely distributed in the American tropics.

Sepsis armata Schiner

SCHINER, 1868, 'Novara Reise,' Dipt., p. 261.

Female, Kartabo, August 16, 1920; female (H3); two males and one female, May 12, 1924; female, Kartabo, March 30, 1924 (peccary entrails, I); two females, Kartabo, April 23, May 8, 1924 (human excrement).

SEPSISIA, new genus

Related to *Megamerina* Rondani. No oral bristles; front narrowed anteriorly; one pair of dorsocentrals; one pair of scutellars, the scutellum small; anterior legs simple in male; posterior femora with short spines on the whole length beneath; anal vein reaching the posterior border of the wing; second basal and anal cells short, not half as long as the first basal cell; third and fourth veins parallel apically; abdomen very strongly constricted basally, the first segment subcylindrical, not as long as the second, the apical segments forming an almost circular disc and with large, low tubercles from which the long white hairs arise, the tubercles forming more or less regular transverse rows.

GENOTYPE.—*Sepsis costalis* Wiedemann.

This genus differs from *Megamerina* in having the second basal and anal cells short.

Sepsisia costalis Wiedemann

Sepsis costalis WIEDEMANN, 1830, 'Ausser. Zweifl., II, p. 467.

A single male of this beautiful species from Kartabo, 1920.

The costal border is deep brown in the costal and subcostal cells and along the anterior border to the apex of the wing. The male genitalia are rather small.

CHLOROPIDAE

The members of this family are small insects and there are but three species in the collection, belonging to two genera.

There is a single specimen referable to this genus. Without additional material it is not possible definitely to determine the species.

DROSOPHILIDAE

There are representatives of three genera in the collection.

KEY TO GENERA

- 1.—Apical cell not narrowed apically.....2.
 Apical cell strongly narrowed apically.....*STEGANA* Meigen.
- 2.—Costa pectinate.....*CURTONOTUM* Macquart.
 Costa not pectinate.....*LEUCOPHENGIA* Mik.

LEUCOPHENGIA Mik***Leucophengia maculosa*** Coquillett

Drosophila maculosa COQUILLET, 1895, Proc. Acad. Nat. Sci. Philadelphia, p. 47.

Male, Kartabo, May 14, 1924.

STEGANA Meigen

Two species, both unnamed, belong to this genus. They are separable as follows:

- Front flat, almost horizontal, shining brown in front.....*antica*, n. sp.
 Front convex, wholly brownish red.....*norma*, n. sp.

Stegana antica, new species

FEMALE.—Length, 4 mm. Face white pollinose; lower half of face and cheeks pale yellow in ground color, the upper half pale brown; posterior orbits, except below, broadly yellowish. Anterior third of front shining dark brown, the upper two-thirds reddish brown with the sides broadly reddish yellow and thinly whitish pollinose. Basal two segments (third segment missing) and the palpi, yellow.

Mesonotum brown or reddish brown, the shoulders whitish yellow; upper half of pleura dull blackish-brown; lower half of thorax pale yellowish.

Legs pale yellowish, the apical half or less of the posterior four femora and the basal third of their tibiae brownish, the femora less extensively blackish below.

Wings brown, becoming gray posteriorly, with only a brown tinge basally.

Abdomen brown, thinly brown pollinose; hair black.

TYPE.—Female, Kartabo, May 26, 1924. A second female lacks its head.

Stegana norma, new species

Rusty brownish-red, the abdomen brown. Length, 3.5 mm.

MALE.—Front hardly twice as long as its width below, widening on its upper half. Face brownish; cheeks yellowish, very narrow. Proboscis and palpi yellow. Third antennal segment black, elongate oval, its base and the first two segments reddish yellow.

The broad longitudinal brown vitta on the pleura is broadly separated from the mesonotum in front of the wings. Lower half of thorax yellowish.

Legs pale yellow, the apical fourth of the front and apical half of the posterior four femora and the basal third or less of the posterior four tibiae, blackish or brown.

Wings brownish, paler posteriorly, cinereous hyaline basally.

Abdomen brownish, brownish red basally at the sides.

TYPE.—Male, Kartabo, April 24, 1924.

CURTONOTUM Macquart

There are four species belonging to this genus, two of them evidently undescribed. The species occurring in British Guiana are separable as follows:

- 1.—Sternopleura with a single bristle *gibbum* Fabricius.
Sternopleura with two bristles 2.
- 2.—Sternopleura with a row of stiff, short black hairs along the margin immediately in front of the middle coxae 3.
Sternopleura with inconspicuous very fine, usually yellowish hairs immediately in front of the middle coxae *salinum*, n. sp.
- 3.—Abdomen chiefly yellow in ground color *murinum* Hendel.
Abdomen mostly black in ground color 4.
- 4.—Costal border of wing brown on apical half or more *pantherinum* Walker.
Brown markings of the wing limited to the apical fourth or less and the posterior cross-vein *hendeli* Malloch.

Curtonotum gibbum Fabricius

Helomyza gibba FABRICIUS, 1805, 'Syst. Antl.,' p. 586.

Curtonotum taeniatum HENDEL, 1913, Deutsch. Ent. Zeitschr., p. 629.

Seven males and three females, Kartabo: 1921; June 6, 1923, July 23, 1922; March 30, April, 4, May 12, 21, 1924; October 27, 1920 (No. 20469); November 10, 1920 (No. 20935), and male and female, Bartica, April 25, 30, 1924.

Curtonotum pantherinum Walker

Helomyza pantherina WALKER, 1849, 'List Dipt. Brit. Mus.,' IV, p. 1090.

Male, Kartabo, 1920; male and female, Kartabo, 1921; female, Kaieteur, February 18, 1921.

Curtonotum salinum, new species

In Hendel's key traces to *pantherinum* Walker, but it cannot be that species because Walker says "pedibus fulvis" and "legs tawny," whereas in the present species the legs are quite pale yellowish, the femora each with a brown apical spot above or even a brown band and the tarsi are scarcely darkened apically. Wiedemann's statement ('Ausser. Zweifl.,' II, p. 587) in regard to the color of the legs of *gibbum* leaves no doubt as to the color of the tarsi which are described as "wholly brown." This may be an error except in respect to the anterior tarsi, but it nevertheless eliminates the possibility of the present species being the same. Length, 5.5 to 8 mm. Differs from *hendeli* as follows:

MALE AND FEMALE.—Cheeks narrower; incomplete pollinose frontal vittae usually grayish, rarely partly brown.

Brown spots of the mesonotum much more extensively fused so that the posterior half is mostly brown, with three very narrow pale vittae. In front of the sternopleurals there are only from three to five extremely short fine hairs while the row of setae in front of the middle coxae is very fine and usually yellow, never conspicuous and usually difficult to make out.

The legs are pale yellowish, the femora each with a brown apical band which is often obsolete on its lower half, the posterior tibiae with a corresponding basal band, the first two segments of the posterior four tarsi whitish yellow, the apical segments scarcely darkened, the anterior bristle on the middle femora is very much shorter than the posterior one.

Wings as in *pantherinum*, with luteous-gray tinge, the costal cell, very broad costal border except in the subcostal cell, broadly beyond the apex of the first vein, broad clouds along all the veins (paler on the third and fourth veins along most of their length), the apical and the posterior borders, broadly brown, the spaces between the clouds covering the veins paler; from apical view the pale areas have a whitish tinge. Halteres pale yellowish.

Pollinose band on the second abdominal segment usually broadly interrupted toward the sides, that on the third usually entire although very strongly narrowed by anterior and posterior indentations; on the fourth segment the pale pollen rests on the base of the segment.

TYPES.—Holotype and allotype, male and female (in copula), Kartabo, May 22, 1924; paratypes: 34 specimens of both sexes from Kartabo, Bartica, Bartica District and Kalacoon, March to October (Nos. 24779, 20873, 20234, 20820, H2, H5, H6, H7, A20). In addition there are several damaged specimens. Several of the specimens are from human excrement.

***Curtonotum hendeli* Malloch**

MALLOCH, 1930, Ann. Mag. Nat. Hist., VI, p. 325, *Curtonotum gibbum* HENDEL, 1913, Deutsch. Ent. Zeitschr., p. 624 (not Fabricius).

MALE AND FEMALE.—Length, 7 to 8.5 mm. Head reddish; face and cheeks yellowish, the middle of the face narrowly brownish; broad frontal orbits and median vitta and the narrow, anterior border of the front, reddish yellow. Pollen of the face and narrow frontal orbits rather silvery white, of the occiput, silvery grayish, of the broad vittae extending on either side from the vertex and enclosing the frontal bristles, brown, bordered in front with grayish, the pollen on the ocellar triangle mostly brown. Bristles strong; occipital cilia in a single row, but on the lower half of the occiput there is a second very irregular row of quite short, bristly, black hairs. Proboscis ferruginous; palpi brown. Antennae red, the third segment brown on its apical three-fourths, arista reddish on the basal half, with very long black rays.

Thorax evidently reddish, the pleura and pectus paler, the whole so densely pollinose as to conceal the ground color. Mesonotum gray pollinose but appearing mostly brown because of the brown spots from which each hair rises and these spots form two conspicuous brown vittae toward the middle on the posterior two-thirds and weaker, narrower, sublateral vittae behind on the posterior third to half. Pleura rather whitish pollinose, the numerous hairs on the mesopleura each arising from a brown spot. In front of the two strong sternopleural bristles are from seven to ten coarse black setae while in front of the middle coxae is a row of finer ones. Propleural bristle strong. Scutellum rusty brownish with the free border reddish-yellow.

Legs reddish; anterior four tarsi with the basal two segments whitish yellow; middle femora with a very long, strong apical bristle in front and behind.

Wings lightly grayish with the usual luteous tinge, the apical fifth and the posterior cross-vein broadly, blackish brown, paler in the middle of the cells. Costal bristles long and stout, few in number.

Abdomen shining brownish, the sides and venter more or less reddish; second segment with the narrow base, broadened to form large lateral triangles, third with interrupted fascia occupying almost the basal half toward the middle, less sublaterally and more laterally and ventrally, grayish pollinose; fourth segment with a gray band rather similar to that on the third but it is usually interrupted sublaterally, leaving a pair of broadly separated spots; fifth segment gray pollinose with the apex, broad middle line widening basally, and transverse, basal lateral triangles, bare. Hair black.

Six males and three females, Kartabo, March 25, 26, May 8, 1924 (human excrement); two males, Kartabo, March 6, 1924.

In Hendel's key this traces to *gibbum* Fabricius but differs in the abdominal maculation and the color of the wings. Fabricius' statement, "*alis fusco striatis*," indicates clearly that the present species cannot be *gibbum*.

CLUSIIDAE

Two underscribed species belonging to the genus *Sobarocephala* are the only representatives of this family.

Sobarocephala guianica, new species

FEMALE.—Length, 5 mm. Face white, the sides, cheeks, and lower third of the occiput, yellowish, the occiput above and the front, rusty yellow; front with a broad, ferruginous fascia above the antennae. Face and front broad, the former distinctly narrowed at the middle; ocellar triangle and a large triangle on either side behind the upper part of the eyes, brownish. Bristles black, those on the lower half of the occiput yellow. Proboscis and palpi rusty yellow, the latter black-haired. Antennae orange, the large third segment with a brown spot surrounding the base of the brown arista which bears long, sparse pubescence.

Mesonotum rusty reddish, with three black vittae on the median half which are broad in front, narrow on the median portion and fused on the posterior third; there is a small, blackish spot above the notopleura and a large one above the wings. Hair and bristles black; two dorsocentrals. Pleura, pectus and coxae pale shining yellow, the hair yellow, the sternopleura and mesopleura each with a black bristle. Scutellum black, the sides and lower surface rusty reddish; four or six black bristles, the apical pair strong.

Legs rusty yellow, black haired.

Wings yellowish; brown on almost the apical half and in the cubital cell. Upper squamal lobe brownish, with brown fringe. Halteres yellow.

Basal one and one-half abdominal segments reddish yellow, the tergites elsewhere bronze-blackish; with long appressed black hair, the seventh and following segments (ovipositor) yellow, the venter also yellow, with black hair; first dorsal segment with yellow hair.

TYPE.—Female, Kartabo, October 27, 1920 (No. 20477).

This species differs from *dorsata* Czerny by the black markings of the thorax, rusty yellow metanotum, yellow anterior tarsi, etc.

Sobarocephala imitans, new species

FEMALE.—Length, 4.5 mm. Face dull yellow, the parafacials and cheeks silvery-white pollinose. Occiput and the sides of the front on the upper three-fifths, yellow, the front elsewhere brownish. Bristles and hairs wholly black. Palpi and proboscis reddish yellow. Antennae reddish yellow, the arista blackish, with long black rays.

Mesonotum shining black, with the anterior border rusty yellow and a similarly colored rectangular spot inside the inner ends of the suture, the spots narrowly connected with the pale anterior slopes by a line extending forward from the outer anterior corner, the pale color also margining the blackish humeri. Pleura yellow, with short yellow hair. Mesonotum and scutellum with black hair and bristles, the scutellum black. Two pairs of dorsocentrals. Metanotum and metapleura, shining brown.

Legs reddish yellow, all the tibiae brown, the anterior tarsi blackish; middle and posterior tarsi pale yellow; femora all slightly infuscated subapically.

Wings brownish, paler posteriorly; yellowish hyaline on the basal third except behind where they are grayish.

First abdominal segment reddish yellow, the second narrowly so on the base of each lateral third, the sternites wholly of this color, the dorsum elsewhere shining dark brown. Hair black.

TYPE.—Female, Kartabo, 1921.

SAPROMYZIDAE

The collection contains several species belonging to this family, distributed among six genera.

KEY TO GENERA

- 1.—Anterior orbital bristle directed inward..... *PHYSEGENUA* Macquart.
Anterior orbital bristle directed backward..... 2.
- 2.—Either the second or third vein with tiny bristles basally..... 3.
Second and third veins bare..... 4.
- 3.—One or two bristles on the base of the second vein; third vein bare; base of
radius not setulose posteriorly..... *XENOCHAETINA* Malloch.
Second vein bare; third vein setulose..... *CHAETOMINETTIA* Malloch.
- 4.—Sternopleura with only one bristle..... 6.
Sternopleura with two bristles, the anterior one weak..... 5.
- 5.—Intra-alar bristle present..... *MINETTIA* Desvoidy.
Intra-alar bristle absent..... *SAPROMYZA* Fallén.
- 6.—Fourth vein bowed forward apically and almost closing the apical cell.
Fourth vein straight or nearly so..... *GRIPHONEURA* Schiner:
PSEUDOGRIPHONEURA Hendel.

PHYSEGENUA Macquart

The two species in the collection are separable as follows:

- Face wholly yellow..... *ferruginea* Schiner.
Face with three black vittae below..... *vittata* Macquart.

Physegenua ferruginea Schiner

SCHINER, 1868, 'Novara Reise,' Dipt., p. 277.

Three specimens from Kartabo, July 3, 1922, June 3, 1924.

Physegenua vittata Macquart

MACQUART, 1847, 'Dipt. Exot.,' Suppl. 3, p. 220.

There are three specimens from Kartabo, July 3, 1922, May 3 and July 25, 1924. They have the pleura largely blackish and the pectus blackish.

XENOCHAETINA Malloch

The two species belonging here are shining black (one with reddish-brown abdomen), with luteous wings.

Front legs wholly blackish.....*muscaria* Loew.
First segment of the anterior tarsi pale yellow.....*flavipennis* Fabricius.

Xenochaetina muscaria Loew

Lauzanina muscaria LOEW, 1861, Berl. Ent. Zeitschr., V, p. 352.

One female, Kartabo, May 6, 1924.

Xenochaetina flavipennis Fabricius

Scatophaga flavipennis FABRICIUS, 1805, 'Syst. Antl.,' p. 207.

This species, common in South America, is represented by fifteen specimens from Kartabo, taken on the following dates: male and female, March 31, 1922; male and female, July 4, 1922; male and female, August 1, 1922; male, August 13, 1920; male, August 31, 1922; male and female, 1921; male, November 27, 1920 (No. 20446); male and female, November 30, 1920 (No. 20681); male, March 6, 1924; female, June 8, 1924.

CHAETOMINETTIA Malloch

Both the species originally included in this genus occur in British Guiana and are separable as follows:

Wings yellowish; both cross-veins lightly clouded.....*spinitibia* Malloch.
Wings yellowish; cross-veins strongly clouded; costa broadly brown on at least the apical half.....*latelimbata* Macquart.

Chaetominettia spinitibia Malloch

MALLOCH, 1926, Proc. U. S. Nat. Mus., LXVIII, Art. 21, p. 10.

A single female, Kartabo, May 4, 1924.

Chaetominettia latelimbata Macquart

MACQUART, 1855, 'Dipt. Exot.,' Suppl. 5, p. 140.

Six specimens from Kartabo: female, November 31, 1920 (No. 20897); female, July 15, female, July 19, 1922; female, February 14, 1924; female, May 6, 1924; female, May 14, 1924.

Following is a redescription of this species.

FEMALE.—Length, 5.5 to 6 mm. Reddish yellow, slightly shining, the mesonotum rusty yellow or reddish. Legs yellowish, the tarsi, except the basal segment of the anterior four, brownish. Wings pale yellowish, the costa broadly on the apical three-fourths, to well beyond the fourth vein, broadly along the fourth vein apically, and large clouds on the cross-veins, blackish brown.

Sides of face and lower part of occiput, white pollinose. Palpi yellow, with black bristly hairs. Antennae reddish yellow, the bristles black, the third segment one-half longer than wide, obtusely rounded at the apex, slightly tapering; arista black, the rays very long above, shorter below. Bristles of the head black.

Thorax with a large, and a quite small sternopleural, one mesopleural and three pairs of dorsocentral bristles. Scutellum flat above, without hairs, the four bristles strong. Hair of thorax and abdomen black.

PSEUDOGRIPHONEURA Hendel

The five species in the collection appear to be undescribed. The forms thus far included in the genus are separable as follows:

TABLE OF SPECIES

- | | |
|---|-----------------------------|
| 1.—Legs wholly pale yellowish or whitish..... | 10. |
| Legs in part black or gray..... | 2. |
| 2.—Wings with more than the apical half brownish; apices of tergites not yellowish (Venezuela)..... | <i>cormoptera</i> Hendel. |
| Wings hyaline or yellowish, sometimes with blackish base..... | 3. |
| 3.—Base of wings broadly blackish..... | <i>nigra</i> , n. sp. |
| Base of wings not blackish..... | 4. |
| 4.—Cross-veins clouded..... | <i>marmorata</i> Malloch. |
| Cross-veins not clouded..... | 5. |
| 5.—Apices of tergites yellowish; mesonotum with four vittae (Venezuela). | |
| | <i>variata</i> Hendel. |
| Apices of tergites not yellowish; mesonotum without vittae or with three or six vittae..... | 6. |
| 6.—Mesonotum not vittate..... | 8. |
| Mesonotum vittate..... | 7. |
| 7.—Mesonotum with six vittae..... | <i>diversa</i> , n. sp. |
| Mesonotum with three brown vittae..... | <i>claripennis</i> , n. sp. |
| 8.—Wings hyaline (Costa Rica)..... | <i>hyalipennis</i> Malloch. |
| Wings luteous..... | 9. |
| 9.—Femora black; scutellum darkened on the broad posterior border. | |
| | <i>luteipennis</i> , n. sp. |
| Femora wholly reddish; scutellum with a sharply defined apical black spot. | |
| | <i>scutellata</i> , n. sp. |

- 10.—Mesonotum blackish in ground color; wings hyaline (Costa Rica).....8.
 Mesonotum reddish yellow, with three dark vittae; wings yellowish (Brazil).
elegantula Frey.
- 11.—Mesonotum shining black.....9.
 Mesonotum gray pollinose.....*pallipes* Malloch.
- 12.—Median frontal vitta opaque black.....*aliena* Malloch.
 Median frontal vitta shining black.....*lateralis* Malloch.

***Pseudogriphoneura nigra*, new species**

Deep black, rather shining; second to fourth tergites more or less brownish red, the apices and sides black, in some lights with whitish sheen. Length, 5 mm.

MALE.—Face brownish; head with thin grayish-brown pollen; anterior orbitals strong; ocellars very weak; palpi very large, flat, black. Antennae brownish red, the third segment mostly brown; arista black, with long rays above and below and a row of short rays inwardly.

Humeri, pleura and border of the scutellum more or less brownish, thinly grayish-brown pollinose. Two pairs of dorsocentrals; intra-alar present. Scutellum gently convex, large, obtusely rounded.

Legs black; first segment of the anterior tarsi, basal two of the middle and three of the posterior pair, pale yellow.

Wings pale luteous, the base black; small cross-vein situated before the middle of the discal cell. Squamae brown with black border and fringe. Halteres reddish.

The hair of the whole insect is black.

TYPE.—Male, Kartabo, March 27, 1924.

***Pseudogriphoneura diversa*, new species**

Rusty reddish, with shining brown and black markings. Length, 4 mm.

FEMALE.—Head yellowish; face polished, slightly darker, the parafacials thinly pollinose; a small blackish spot in the middle, resting on the oral margin; front with two black, comma-shaped vittae, their broad end at the antennae, the concavity outward, reaching to the vertex; anterior orbitals large; ocellars absent; palpi normal, brownish on the apical half. Antennae yellow; third segment missing.

Mesonotum rusty reddish, with six brown vittae, the outer pair extending from inside the humeri to the suture, the others entire. Intra-alar bristle absent. Pleura and metanotum yellowish, the former with a broad brown vitta extending from above the anterior coxae to the base of the wings. Scutellum brown on the apical half except between the bristles.

Legs yellowish; apices of the posterior four femora and tibiae brown; anterior legs black from the apical fourth of their femora; posterior four tarsi darkened apically.

Wings yellowish; anterior cross-vein situated slightly beyond the middle of the discal cell. Squamae brownish, with brown fringe. Halteres pale yellowish.

Abdomen rusty reddish with a median black vitta from the third segment to the apex, interrupted at the apices of the third and fourth segments, and a transverse lateral spot on the sides of the second and following segments, those on the apical segments almost or quite as broad as long. Hair of the whole insect black.

TYPE.—Female, Kartabo, April 3, 1924.

***Pseudogriphoneura luteipennis*, new species**

Rusty reddish, the tergites with the apices blackish laterally. Length, 5 mm.

MALE.—Face rather dull; parafacials thinly white pollinose; anterior orbital bristles large; ocellars absent. Palpi normal, mostly brownish. Antennae reddish, the third segment mostly brown; arista black, long plumose.

Thorax shining, with unusually few hairs; pectus blackish; scutellum becoming blackish apically.

Coxae reddish brown; femora black with reddish apices; front legs wholly black; tibiae black on the apical third or more; tarsi yellowish, becoming black apically.

Wings yellowish; small cross-vein situated a little beyond the middle of the discal cell. Squamae and their fringe brownish; halteres pale yellow.

Apical abdominal segment blackish, the preceding one or two with entire posterior dark fasciae; genitalia black. Hair of whole insect black.

TYPE.—Male, Kartabo, April 6, 1924.

***Pseudogriphoneura claripennis*, new species**

Yellowish brown in ground color, gray pollinose; abdomen yellow, with black spots. Length, 2 mm.

MALE.—Front slightly longer than wide, almost flat, gently sloping, triconvex in front; ocellars strong; with a narrow median pale brownish vitta extending from ocelli to antennae. Antennae reddish yellow, the third segment black on the apical lower half; arista black, the rays black, the basai half yellow. Palpi yellow.

Thorax gray pollinose, a rather broad median vitta, the very broad sides of the mesonotum, the mesopieura and the sides of the scutellum on the basal two-thirds, brown. Scutellum flat, gray pollinose, the apex more or less broadly yellow in ground color.

Legs yellow, the femora, except their apices, brownish; tips of all the tibiae and the apical tarsal segment blackish, the dark color less strong on the front tarsi.

Wings cinereous-hyaline, the veins luteous. Squamae and halteres whitish. Abdomen yellow, with three series of black spots.

TYPE.—Male, Kartabo, December 14, 1920.

***Pseudogriphoneura scutellata*, new species**

FEMALE.—Length, 5 mm. Rusty reddish-yellow, the broad apices of the anterior tibiae and their tarsi, black, the basal tarsal segment more or less reddish. Parafacials and pleura thinly white pollinose. Third antennal segment twice as long as wide, tapering to the broadly rounded apex; arista with very long black rays above and shorter ones below. Two pairs of dorsocentral bristles; scutellum with a large, sub-rectangular apical black spot. Wings luteous, the small cross-vein situated slightly before the middle of the discal cell. Squamae luteous, with brownish border and fringe. Halteres yellow. Apices of abdominal segments broadly rusty reddish.

TYPE.—Female, Bartica, April 26, 1924.

GRIPHONEURA Schiner

The collection contains a single species. The genus is peculiar on account of the wing venation, which reminds one of *Morellia*.

Griphoneura imbuta Wiedemann

Lauxania imbuta WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 474.

One female, Kartabo, June 14, 1924.

The wings are brown on the apical half in front.

MINETTIA Desvoidy

I have before me only a single species of *Minettia* from British Guiana.

Minettia geminata Fabricius

Dictya geminata FABRICIUS, 1805, 'Syst. Antl.,' p. 331.

One specimen, Kartabo, December 15, 1920.

Malloch has illustrated the wing in his 1926 paper.

SAPROMYZA Fallén

Three species, two of them new, may be separated as follows:

TABLE OF SPECIES

- 1.—*Mesonotum* bivittate; face with two brown vittae.....*ornata* Schiner.
Mesonotum wholly rusty reddish; face immaculate.....2.
- 2.—Three dorsocentrals; cross-veins clouded.....*eronis*, n. sp.
Two dorsocentrals; cross-veins not conspicuously clouded....*incidens*, n. sp.

Sapromyza ornata Schiner

This species is hardly a *Sapromyza* as the face is unusually long and the small anterior orbitals are inclined to turn inward.

A female, Kartabo, May 19, 1924 (No. 24648).

Sapromyza eronis, new species

FEMALE.—Length, 5 mm. Shining reddish-yellow, the sides of the face, lower part of the occiput and ventral portion of the tergites, whitish pollinose, the mesonotum rusty reddish. Palpi yellowish. Bristles and hairs black. Antennae yellowish red, the third segment twice as long as wide, gently concave above on the basal half. Arista black, the rays as long as the width of the third antennal segment. Apical three tarsal segments brownish red. Wings pale yellowish, the cross-veins margined with brown; pale brown markings as follows: narrowly along the apical half of the costa, narrowly along the apical third of the second and third veins and less distinctly so along the ultimate section of the fourth vein. Three pairs of dorsocentral bristles.

TYPE.—Female, Kartabo, November 26, 1920 (No. 20411); paratypes, two females, Kartabo, March 8, 1924.

Sapromyza incidens, new species

FEMALE.—Length, 4.5 mm. Shining rusty-reddish, the sides and under surface paler. Front ferruginous, with broad pale vittae along the line of the bristles; face thinly pale cinereous pollinose. Palpi yellow, somewhat broad, long. Third antennal segment mostly brown; arista missing. Two pairs of dorsocentral bristles; pleura

thinly pale pollinose; scutellum with pale border. Wings luteous, somewhat darker on the apical half in front and along the cross-veins; small cross-vein situated about the middle of the discal cell. Squamae tinged with brownish yellow, the border and fringe mostly brown. Halteres yellow.

TYPE.—Female, Kartabo, June 1, 1924.

CLUSINA, new genus

Third antennal segment oval, the arista basal, bare; front below much narrower than either eye when viewed from in front, gently widening to the vertex; one pair of reclinate orbital bristles; four tiny hairs above the middle of the front; ocellars long and strong; vertical bristles convergent, weaker than the divergent outer verticals; postocellars divergent; face concave; the sides bare; oral vibrissae strong; palpi large, flat, not protruding. Mesonotum with short, subappressed hair; four pairs of dorsocentrals, the anterior two pairs weak and not conspicuous, the anterior pair presutural; two humeral, two notopleural, one presuturai; one pair of prescutellars; one intra-alar, two supra-alar, two pairs of scutellars and three mesopleural bristles, the pleura otherwise bare except for two or three supracoxal hairs. Legs fairly strong, short, hairy, the anterior femora with a row of fine, posteroventral bristles. Subcostal vein separated from first vein on basal third, the first vein ending before the anterior cross-vein; posterior cross-vein situated but little more than its length beyond the small cross-vein. Abdomen about twice as long as wide, rather flattened above.

GENOTYPE.—*Clusina nigriventris*, new species.

This genus is placed doubtfully in the Periscelinae of the family Sapromyzidae. It resembles in many respects species of *Pteromicra* Loew (Tetanoceridae), certain Psilidae (*Chyliza*), and also several of the genera of the Clusiidae.

Clusina nigriventris, new species

Reddish yellow, shining, the abdomen black. Length, 4 mm.

FEMALE.—Cheeks one-fourth eye-height, with a row of fine, brownish hairs below; arista slender, blackish except on basal fourth; a band between the posterior ocelli and a triangle behind the anterior one, brown. Anterior tibiae and tarsi black; no preapical bristles. Wings cinereous hyaline. Abdomen with short black, appressed hair, which becomes longer laterally and apically.

TYPE.—Female, Kartabo, May 12, 1924.

LONCHAEIDAE

There are two species belonging to the genus *Lonchaea* but they are not in sufficiently good condition to permit of identification.

Lonchaea species No. 1

Female, Kartabo, May 25, 1924.

This species has the basal two tarsal segments yellow and no hairs surrounding the propleural bristle.

Lonchaea species No. 2

Male, Kartabo, October 25, 1920.

A blackish species with wholly black legs.

PSILIDAE

There is but one representative of the family before me.

SOMATIA Schiner**Somatia xanthomelas** Schiner

SCHINER, 1868, 'Novara Reise,' Dipt., p. 246.

One specimen, Kartabo, March 27, 1922.

This species is common in most places within its range. I have taken many specimens in Panama and have seen others from Costa Rica and Colombia.

MICROPEZIDAE

There are several genera represented in the collection, separable as follows:

KEY TO GENERA

- 1.—Arista dorsal and sub-basal.....3.
Arista apical.....2.
- 2.—Third antennal segment pointed, the arista white pubescent.
GLYPHIDOPS Enderlein.
Third antennal segment obtusely rounded, the bare arista subdorsal (*Bra-*
chantichis Enderlein).....NERIUS Fabricius.
- 3.—Head long, the posterior orbits flat and produced posteriorly on either side of
the vertex.....CARDIACEPHALA Macquart.
Head normal or the orbits more or less convex and not produced.....4.
- 4.—Anal cell extending two-thirds the distance to the wing margin, the cross-vein
very oblique.....7.
Anal cell short, the cross-vein at most moderately oblique.....5.
- 5.—Third costal section not as long as half the length of the ultimate section of the
fourth vein.....SCIPOPIUS Enderlein.
Third costal section more than half as long as the ultimate section of fourth
vein.....6.
- 6.—Arista bare.....RAINIERIA Rondani.
Arista short plumose.....SYSTELLAPHA Enderlein.
- 7.—Third costal section more than half as long as ultimate section of fourth vein..8.
Third costal section less than half as long as ultimate section of fourth vein.
PARASPHEIN Enderlein.
- 8.—Arista bare.....9.
Arista short plumose; posterior femora slender.....PTILOSPHEIN Enderlein.
- 9.—Apical cell closed and short petiolate.....TAENIAPTERA Macquart.
Apical cell open.....GRALLOMYIA Rondani.

GLYPHIDOPS Enderlein**Glyphidops filusus** Fabricius

Nerius filusus FABRICIUS, 1805, 'Syst. Antl.,' p. 265.

Two specimens, Kartabo, August 9, 1920, and No. 201238.

NERIUS Fabricius**Nerius pilifer** Fabricius

FABRICIUS, 1805, 'Syst. Antl.,' p. 264.

Seven specimens from Kartabo; March 27, 1922; August 19, 1922; September 27, 1922 and May 24, 1924.

CARDIACEPHALA Macquart

MACQUART, 1843, 'Dipt. Exot.,' II, Suppl. 3, p. 242.

Plocoscelus ENDERLEIN, 1922, Arch. für Naturg., LXXXVIII, Heft 5, p. 227.

There are two species in the collection. The three species before me are separable as follows:

- 1.—Posterior femora reddish on apical fourth.....2.
Posterior femora black except the base.....*nigra* Schiner.
- 2.—The broadest brown band is much wider toward the front of the wing.
triluminata Cresson.
- The broadest band is of almost equal width.....*myrmex* Schiner:

Cardiacephala triluminata Cresson

CRESSON, 1930, Trans. Amer. Ent. Soc., LVI, p. 330.

Musca longipes FABRICIUS, 1794, 'Ent. Syst.,' IV, p. 338; (not Scopoli, 1763).

Male, Bartica District.

Cardiacephala myrmex Schiner

SCHINER, 1868, 'Novara Reise,' Dipt., p. 254.

Three females, Kartabo, March 14, 26 and May 8, 1924. One damaged specimen from Kalacoon, 1916.

SCIPOPUS Enderlein

The three species from our region are included in the following key.

TABLE OF SPECIES

- 1.—Front not shining reddish.....2.
Front shining reddish.....*cartaboensis* Cresson.
- 2.—Front tarsi wholly black.....3.
Front tarsi white basally.....*diversa* Schiner.
- 3.—Clypeus bluish black.....4.
Clypeus reddish.....*penicillus* Enderlein.
- 4.—Sides of front polished black on upper half (Brazil).....*belzebul* Schiner.
Sides of front dull yellowish.....*erythrocephala* Fabricius.

Scipopus cartaboensis Cresson

CRESSON, 1926, Trans. Amer. Ent. Soc., LII, p. 270.

Described from two females from Kartabo, March 17, 1922.

Scipopus diversa Schiner

Calobata diversa SCHINER, 1868, 'Novara Reise,' Dipt., p. 250.

Female, Kalacoon, 1916; male, Kartabo, 1921; male, Kartabo, September 2, 1922.

Scipopus penicillus Enderlein

ENDERLEIN, 1922, Arch. für Naturg., LXXXVIII, Heft 5, p. 211.

Female, Kartabo, June 12, 1922, and May 8, 1924, from human excrement, and one specimen West Bank of Demerara River, February 9, 1923.

RAINIERIA Rondani

There is one species in the collection. The following table separates the American species.¹

TABLE OF SPECIES

- | | |
|--|-------------------------------|
| 1.—Wings unicolorous, pale luteous or brownish gray..... | 2. |
| Wings hyaline with brown spots or bands..... | 4. |
| 2.—Abdomen yellowish..... | 3. |
| Abdomen brown..... | <i>mulleri</i> Enderlein. |
| 3.—Posterior basitarsus yellow on basal half..... | <i>garleppi</i> Enderlein. |
| Posterior basitarsus brown..... | <i>hoffmannsi</i> Enderlein. |
| 4.—Thorax reddish or yellowish..... | 5. |
| Thorax black or brown in ground color..... | 8. |
| 5.—Posterior femora reddish or yellowish, with brown bands..... | 6. |
| Posterior femora brown with white bands..... | <i>versicolora</i> Enderlein. |
| 6.—Wings with more than one band or largely brown with hyaline areas..... | 7. |
| Wings with a large, triangular brown band near apical fourth. | <i>unifasciata</i> Fabricius. |
| 7.—Wings with three brown bands, the third preapical..... | <i>fasciata</i> Fabricius. |
| Wings brown on apical half, with pale roundish spots..... | <i>perforata</i> Enderlein. |
| 8.—Ground color of mesonotum not concealed by yellowish pollen..... | 9. |
| Ground color of mesonotum concealed by yellowish pollen. | <i>strophium</i> Enderlein. |
| 9.—Abdomen black or brown..... | 10. |
| Abdomen reddish..... | <i>rufiventris</i> Enderlein. |
| 10.—Femora brown or black, the base sometimes more or less yellowish..... | 11. |
| Femora brown or black, with whitish yellow bands, the apex very broadly reddish, or largely reddish..... | 14. |
| 11.—Anterior tarsi not wholly white..... | 12. |
| Anterior tarsi wholly white..... | <i>soccata</i> Enderlein. |

¹Since the preparation of this key, Cresson has described two species from Columbia and Central America.

- 12.—Front tarsi wholly blackish.....13.
 Front tarsi with the basal segment more than half whitish.....18.
- 13.—The hyaline band at the apical third of the wing reaches the costa.
orcina Wiedemann.
 The hyaline band does not reach beyond the second vein.....18.
- 14.—Femora with one or more pale bands.....15.
 Femora brown, the apical fourth reddish.....*postica* Curran.
- 15.—Coxae brown.....16.
 Front coxae yellow.....19.
- 16.—Front tarsi wholly white or yellow.....17.
 Apical segments of front tarsi brown.....*tritaeniolata* Enderlein.
- 17.—Apex of wing brownish.....*paraguayensis* Enderlein.
 Apex of wing hyaline.....*wiedemanni* Enderlein.
- 18.—Wings brownish, with two hyaline spots.....*biguttata* Enderlein.
 Wings brownish with one hyaline spot.....*guttata* Enderlein.
- 19.—All the coxae yellow (North America).....20.
 Posterior coxae brown.....*peruana* Enderlein.
- 20.—Basal segment of hind tarsi white-haired above.....*antennaeipes* Say.
 Basal segment of hind tarsi wholly black-haired.....species.

***Rainieria postica* Curran**

CURRAN, 1932, Amer. Mus. Novitates, No. 559, p. 2.

Black, the wings trifasciate; all the tarsi whitish basally. Length, 9 mm.

FEMALE.—Face and front reddish, the head elsewhere reddish brown, whitish pollinose, the front without pollen except on the large reddish median spot, the upper orbits shining except on the large upper inner corner. Postocellars present; two pairs of anterior frontals, the front with obscure hair. Antennae brownish, the base of the third segment reddish, the arista yellow basally. Clypeus brownish.

Thorax gray pollinose, the mesonotum brown on posterior half except a weak prescutellar fascia, between the humeri weakly brownish. One pair of dorsocentrals; scutellars erect; hair of pleura black. Pleura with two oblique dark vittae.

Legs black, the apical fifth of the femora reddish; front tarsi wholly white, the basal segment of the middle and basal two of the posterior tarsi whitish, the pale segments of the posterior tarsi with brown tips.

Wings cinereous-hyaline, the basal brown band entire, moderately broad, extending back from the apical portion of the subcostal cell; second band broad, its apical margin almost straight, slightly oblique, rising anteriorly just before the tip of the second vein and extending back to the tip of the fifth vein, its inner edge produced toward the base of the wing on the median portion but not reaching the base of the apical cell, apex of wing broadly brownish in front of the fourth vein.

Abdomen gray pollinose, each segment with a large band of brownish occupying more than the posterior half, the apices of the segments gray.

Female, Kartabo, May 10, 1924.

SYSTELLAPHA Enderlein

There is but one species in the collection.

Systellapha simplex Wiedemann

Calobata simplex WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 542.

Three specimens from Kartabo, March 25, 1924, from human excrement, and 1921, No. 24707.

PARASPHEIN Enderlein**Parasphen amazonicus ruficauda** Curran

CURRAN, 1932, Amer. Mus. Novitates, No. 559, p. 2.

Two males and one female, Kartabo, March 26, 27, and May 28, 1924.

These specimens agree with the description of *P. amazonicus* Enderlein except that the apex of the abdomen and the genitalia of the male are reddish and the ovipositor of the female is reddish yellow.

Male, March 26; allotype, female, May 28.

TAENIAPTERA Macquart

There is but one species in the collection, although others are likely to occur.

Taeniptera lasciva Fabricius

Musca lasciva FABRICIUS, 1798, 'Suppl. Ent.,' p. 564.

Female, Kartabo, May 28, 1924.

GRALLOMYA Rondani

The collection contains six species, two of them evidently undescribed.

TABLE OF SPECIES

- 1.—Thorax black in ground color. 3.
 Thorax reddish or yellowish. 2.
- 2.—Mesonotum with two black spots in front. *testacea* Fabricius.
 Mesonotum without black spots in front. *luridilabris* Enderlein.
- 3.—At least one pair of dorsocentrals. 4.
 No dorsocentrals. *tarsata* Wiedemann.
- 4.—One pair of dorsocentrals. 5.
 Two pairs of dorsocentrals. *parens* Cresson.
- 5.—Middle femora not white at base. 6.
 Middle femora broadly white at base. 7.
- 6.—Posterior tarsi white at base. *livida* Cresson.
 Posterior tarsi wholly black. *annulata* Fabricius.
- 7.—Posterior femora whitish yellow with three narrow brown bands. *alicia* Curran.
 Posterior femora black with two whitish bands. *velutina* Curran.

***Grallomya testacea* Fabricius**

Calobata testacea FABRICIUS, 1805, 'Syst. Antl.,' p. 261.

Seven specimens from Kartabo: No. 20553; May 23, 1924; June 10, 23, 1924; March 25, 1924, from human excrement.

***Grallomya annulata* Fabricius**

Musca annulata FABRICIUS, 1798, 'Ent. Syst.,' IV, p. 338.

Eleven specimens from Kartabo: May 18, 1922; March 16, 25, 26, April 15, May 8, 23, and 30, 1924. Several from human excrement.

***Grallomya parens* Cresson**

Taeniptera parens CRESSON, 1926, Trans. Amer. Ent. Soc., LII, p. 273.

Seven specimens, Kartabo: March 5, 1924; April 15, 17, 1924; "1921," and Nos. H8 and 20943. Two from human excrement.

***Grallomya livida* Cresson**

Taeniptera livida CRESSON, 1926, Trans. Amer. Ent. Soc., LII, p. 274.

One specimen, Kartabo, May 23, 1924, from human excrement.

***Grallomya alicia* Curran**

CURRAN, 1932, Amer. Mus. Novitates, No. 559, p. 3.

Black; femora with three brown bands, the anterior pair with two; wing with a median, semilunular brown spot and the apex pale brown. Length, 7.5 mm.

Front dull yellow, the vertex with a large, subtriangular shining brownish-red spot on either side; frontal spot rusty reddish, blackish at the ocelli. Facial grooves, clypeus and apex of proboscis brown, the palpi blackish with the lower border yellow on apical half. Face, sides of clypeus, posterior orbits and a broad stripe behind the ocelli, white pollinose. Postocellar bristles as long as verticals and forming a straight line with them; outer verticals weaker and divergent. Antennae reddish yellow, the arista black except basally.

Mesonotum brownish pollinose, on either side with a sublateral, broad, irregular, yellow pollinose vitta which turns sharply outward in front to cover the humeral depression and extends over the posterior calli; the pleura bear three slightly oblique white pollinose vittae, the anterior two of which unite on the pectus, the median one yellow on the mesopleura. One pair of dorsocentrals; hair of dorsum yellowish brown, obscure, of pleura whitish, the sternopleural fringe black; propleural hair and pectoral bristles, yellowish; scutellum with half a dozen hairs at most.

Front coxae mostly reddish. Femora yellow, the apical fifth of the posterior four brownish red, preceded by a narrow, oblique brown band, the femora with an oblique brown band at basal and apical third; anterior femora with a broad, incomplete brown band at the basal third and another occupying the apical fourth, the two connected along the anterior surface. Front tarsi wholly white, the others yellowish brown; tibiae brownish, the middle pair obscurely reddish on apical half.

Wings cinereous hyaline. The median brown cloud does not extend forward as far as the second vein and only obscurely reaches to the posterior margin at the end

of the fifth vein, its outer edge concave, the inner border convex; sometimes more subtriangular in shape and not reaching the posterior border; the apical cloud is weak, sometimes almost obsolete.

Abdomen shining black; the first segment, apical half of second and narrow base of third, white pollinose; basal half of second and the third segment, brown pollinose. Hair black. Ovipositor long. Fifth sternite of male with the arms separated by a V-shaped excision.

Female, Kartabo, 1924 (No. 24728); male, British Guiana, February 12, 1914 (H. S. Parish); three females, Kartabo, 1924, one of them May 23 (No. 4276).

The male is teneral and the wing markings are scarcely evident.

***Grallomya tarsata* Wiedemann**

Black; wings with two fasciae and two small spots of brown; middle and hind femora with white annules near apical fifth, the posterior pair with basal fourth white, the annules not oblique. Length, about 9 mm.

Occiput, lateral vertical stripes, antennal grooves, clypeus and proboscis brown, the palpi black with lower border yellow; occiput and vertex with blue reflection. Frontal spot dull brown, elongate, triangular; face, occiput, a spot on the ocellar triangle, extending a short distance toward the vertex and a triangle on the anterior part of the polished stripes, narrowly connected along the inner edge with another triangle at the vertex, white pollinose. Antennae brown, the third segment basally, and the base of the arista, reddish.

Median third of mesonotum dull black, with brownish pollen, the sides with bluish reflection and pale pollen, especially noticeable behind the suture and usually connected before the scutellum although there is a dull prescutellar band. Pleura with blue reflections, white pollinose, with two dark fasciae, the anterior one extending over the front of the mesopleura and the middle of the sternopleura, the second dull black, lying beneath the base of the wings; the portion on the middle of the sternopleura brown pollinose. No dorsocentral bristles; scutellum with scattered short hairs; hair of propleura and sternopleural hair black; sternum with black bristles.

Legs black; front coxae white pollinose; front tarsi white except the narrow base; middle femora with a broad white band at apical fifth, the posterior pair with a much broader band and the basal fourth whitish, the apex more or less reddish, the apices of the middle and hind femora often broadly reddish.

Wings cinereous hyaline; normally two brown spots at basal third of wing, one behind the apex of the first vein in the first basal cell, the other at the apex of the anal cell; across the middle of the wing a broad brownish band which is rather sharply concave on its outer border and correspondingly convex on inner border; at the apical fifth a narrow brown band extends back to the fourth vein, the costa is broadly brown and the veins bordered with brown, leaving two subtriangular, almost hyaline spots.

Abdomen blue, whitish pollinose, an apically convex spot on the base of the second segment and the third and fourth entirely, rather dull black. Hair pale on the two basal segments, elsewhere black.

Male, Chenapawn, British Guiana, July 31, 1911; female, Kartabo, March 7, 1924; three males, Kartabo, April 4, 12, and May 6, 1924.

Grallomya velutina Curran

CURRAN, 1932, Amer. Mus. Novitates, No. 559, p. 4.

Related to *tarsata* Wiedemann but the middle tibiae are broadly white basally, there is no pollen on the front and the abdomen is differently colored. Length, 9 mm.

FEMALE.—Front black, the upper orbits shining, the anterior fifth shining reddish; black frontal spot large, cordate, produced backward to the vertex, with whitish sheen in some lights. Face reddish, the antennal grooves black, occiput brown, whitish pollinose; palpi yellowish, brownish on basal half; proboscis brown. Post-ocellar bristles absent. Antennae missing.

Thorax as in *tarsata* but with one pair of dorsocentrals and without hairs on the scutellum.

Legs as in *tarsata* except that there is a broad basal white ring on the middle femora, and the tarsi are yellow with the basal segment white.

Abdomen with steel-blue reflections, the basal half of the second and whole of the third and fourth segments dull black, the first and apical half of the second rather whitish white pollinose.

Female, Kartabo, March 3, 1924.

Ptilosphen Enderlein

The species in the collection are separable as follows:

- 1.—Thorax reddish. 2.
 Thorax black. *comis* Cresson.
- 2.—Front tarsi wholly pale. *insignis* Wiedemann.
 Apical two segments of front tarsi black (Colombia). . *cyaneiventris* Macquart.

Ptilosphen insignis Wiedemann

Calobata insignis WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 533.

Four specimens from Kartabo: 1921; May 8, 20, 1924, and June 10, 1924; one specimen from Kalacoon, No. 6.

Ptilosphen comis Cresson

CRESSON, 1930, Trans. Amer. Ent. Soc., LVI, p. 347.

Near *facetus* Enderlein but differs in having the front tarsi wholly yellowish white. Length, 12 mm.

FEMALE.—Face and lower third of occiput yellowish red; front shining dark rusty reddish, the cordate opaque area brownish red or brown. Sides of vertex and occiput brown, thinly pollinose. Postocellar bristles absent. Antennae brownish, the third segment reddish basally except above. Palpi and proboscis reddish yellow.

Thorax metallic blackish-blue, the dorsum with the median and lateral vittae brownish black, dull; sides of mesonotum and the scutellum brownish. Pleura white pollinose.

Legs brown, the anterior pair darker; front tarsi wholly whitish; broad base of middle and hind femora and a band at the apical third, whitish yellow.

Wings with brownish tinge, a subtriangular cloud slightly beyond the middle and the apical fifth brown.

Abdomen shining black, the intermediate segments rather duller, the incision between the basal two segments broadly white pollinose, the abdomen otherwise with thin brownish pollen.

Two females, Kartabo, May 16, 1924, from human excrement. Cresson described the species from three females collected by H. Lang at Kamakusa.

TETANOCERIDAE

The single representative of this family belongs to the genus *Thecomyia* Perty.

Thecomyia longicornis Perty

PERTY, 1830, 'Insecta Brasiliensia,' p. 189.

Female, Kartabo.

The figure given by Macquart in his 'Diptera Exotica' is poor, since the median thoracic vitta is not strong, but is weak—as described and figured by Perty.

MUSCIDAE

The following key will separate the genera of which I have representatives from British Guiana. The genera *Morellia* Desvoidy and *Phaonia* Desvoidy are included, though not seen from the region.

KEY TO GENERA

- 1.—Pteropleura bare.....11.
Pteropleura haired.....2.
- 2.—Propleura bare in middle.....5.
Propleura haired in middle.....3.
- 3.—Arista pectinate, bare or practically so below.....*STOMOXYS* Geoffroy.
Arista plumose.....4.
- 4.—Fourth vein ending well before the apex of the wing.....*MUSCA* Linnaeus.
Fourth vein ending well behind the apex of the wing.....*MALLOCHARIA*, new genus.
- 5.—Prosternum setose.....6.
Prosternum bare or pubescent.....10.
- 6.—Palpi as long as the head-height; proboscis elongate and horny.
BDELLOLARYNX Austen.
Palpi short; proboscis short and stout.....7.
- 7.—Ridge at inner edge of lower squamal lobe bare.....8.
Ridge at inner edge of lower squamal lobe setose.....*ORTHELLIA*¹ Desvoidy.
- 8.—Middle tibiae with a strong posteroventral bristle beyond the middle.
PYRELLIA Desvoidy.
Middle tibiae without posteroventral bristles, often with posterior bristles.....9.
- 9.—Fourth vein ending before the tip of the wing.....*MORELLIA* Desvoidy.
Fourth vein ending behind the tip of the wing, the apical cell very widely open.
CYRTONEURINA Giglio-Tos.

¹The only Neotropical species I have seen is (*Morellia*) *sarcophagina* Wulp, occurring in Mexico and Panama.

- 10.—Palpi flat and broadened, spatulate or spoon-shaped. *LISPA* Latreille.
Palpi cylindrical or nearly so, but not greatly swollen apically.
CYRTONEUOPSIS Malloch.
- 11.—Prosternum bare. 12.
Prosternum haired. *LIMNOPHORA* Desvoidy.
- 12.—Fourth vein ending behind the tip of the wing. 13.
Fourth vein ending in or before the wing-tip. *GRAPHOMYIA* Desvoidy.
- 13.—Two pairs of presutural dorsocentrals. 15.
One pair of presutural dorsocentrals. 14.
- 14.—Three pairs of postsutural dorsocentrals. *NEODEXIOPSIS* Malloch.
Two pairs of postsutural dorsocentrals. *BITHORACOCOAETA* Stein.
- 15.—Third wing vein bare above. 16.
Third wing vein with two or three basal setae above. *MYOSPILA* Rondani.
- 16.—Sixth vein short and thick, the weak seventh vein curved forward and usually
passing beyond the apex of the sixth. *FANNIA* Desvoidy.
Sixth vein longer, the seventh parallel with it or divergent. 17.
- 17.—Frontal orbits more or less extensively pollinose. 18.
Front orbits polished black in both sexes. *OPHYRA* Desvoidy.
- 18.—Posterior tibiae with a strong posterodorsal bristle beyond the middle. 19.
Posterior tibiae without such bristle or with more than one on the posterodorsal
surface. *HELINA* Desvoidy.
- 19.—Front of female with cruciate bristles; male, front with only two pairs of
bristles anteriorly, otherwise bare; the ocellars and verticals weak.
DARWINOMYIA Malloch.
Front with several pairs of bristles and hairs in male, the female without
cruciate frontals. *PHAONIA* Desvoidy.

MUSCA Linnaeus

Musca domestica Linnaeus

LINNAEUS, 1758, 'Syst. Nat.,' 10th Ed., No. 54, under *Musca*.

There are two specimens of the "House Fly" in the collection, one labelled "Bartica Dist.," the other from Kartabo, May 11, 1924.

BDELLOLARYNX Austen

The single species referred to this genus is known only from the northern coast of South America, being described from a single male from Surinam.

Bdellolarynx flavicornis Malloch

MALLOCH, 1928, Ann. Mag. Nat. Hist., II, p. 307.

Blackish, the thorax more brownish yellow; antennae reddish yellow; palpi reddish; anterior tibiae yellow, middle pair brownish yellow. Length, 4.75 mm.

MALE.—Head with yellowish pollen, that on the frontal orbits more brownish, eyes narrowly separated; arista brown, with three rays below; proboscis brown.

Mesonotum with brownish pollen which becomes more yellowish brown laterally and with four darker, less thickly pollinose vittae visible from posterior view. Pleura

with grayish-yellow pollen. Two pairs of postsutural dorsocentrals, one intra-alar and only the prescutellar acrosticals present; presutural acrosticals and dorsocentrals absent; sternopleurals, 1-1.

Legs blackish; trochanters reddish yellow.

Wings with strong grayish-brown tinge. Squamae cinereous, brownish apically. Halteres reddish yellow.

Abdomen black, thickly reddish-brown pollinose, with a median darker vitta extending to the fourth segment.

Male, Kartabo, May 20, 1924.

GRAPHOMYA Desvoidy

There are three American species belonging to this genus known to me. The females are separable as follows:

TABLE OF SPECIES

- 1.—Front only about one-sixth longer than wide.....2.
Front only five-eighths as wide as long.....*stipata* Walker.
- 2.—Front as wide as long (Nearctic).....*maculata* Scopoli.
Front at least one-sixth longer than wide (Mexico, Panama).
mexicana Giglio-Tos.

Graphomya stipata Walker

Musca stipata WALKER, 1856, 'Dipt. Saunders.,' p. 348.

?*Graphomyia americana* SCHINER, 1868, 'Novara Reise,' Dipt., p. 304.

Three females, Tukeit, July 18, 1911 (F. E. Lutz).

The vittae of the thorax are more contrasting than in *maculata* and the outer pale vittae are broadly interrupted. The markings of the fourth abdominal segment are characteristic, consisting of three dark vittae separated by a pair of white ones and bordered on the outer side by large yellow triangles. According to Schiner's description the males have the abdomen quite extensively reddish, but this character is variable in *maculata* and also, no doubt, in the other species.

Musca idessa Walker is a synonym of *maculata* Scopoli, a common and widespread species in North America and Europe. The separation of *mexicana* Giglio-Tos and *maculata* Scopoli is not an easy matter, but the two appear to be quite distinct, the females of *mexicana* having a strong yellowish tinge to the pollen and appearing much paler. They also have the outer pale vittae of the mesonotum widely interrupted although it must be born in mind that from some views these vittae appear entire.

MORELLIA Desvoidy

In this genus the middle tibiae lack a strong bristle near the apical third of the posteroventral surface, whereas this is present in the genera *Pyrellia* Desvoidy and *Orthellia* Desvoidy. Malloch included in this

genus all the Neotropical species placed by Stein in *Pyrellia*. I feel sure that three of these more properly belong in *Pyrellia* even though the posteroventral bristle is not as strong as in typical *Pyrellia*.

The Neotropical species recognized as belonging to *Morellia* and allied genera are separable as follows:

TABLE OF SPECIES BELONGING TO *Morellia*,
Pyrellia, *Orthellia* AND *Xenomorellia*

- 1.—Humeri yellowish.....2.
Humeri blue or green.....3.
- 2.—Wings hyaline, not spotted.....*Pyrellia scapulata* Bigot.
Wings with a twice interrupted brown costal border...*Morellia? humeralis* Stein.
- 3.—Wings entirely hyaline.....4.
Wings with at least the inner cross-vein clouded.....5.
- 4.—Metallic green or blue, the thorax not white and blackish vittate.....10.
Thorax with blackish and whitish vittae extending onto the scutellum (Mexico, Panama).....*Orthellia sarcophagina* Van der Wulp.
- 5.—Blue or green, the abdomen not strongly pollinose.....6.
Black, the abdomen largely pale pollinose.....*Morellia neotropica*, n. sp.
- 6.—Wings hyaline, only the inner cross-vein clouded.
Morellia? ochricornis Wiedemann.
- Wings otherwise marked with brown.....7.
- 7.—Setulae of third vein not reaching half-way to small cross-vein.
Morellia nitida Stein.
- Setulae reaching at least to the small cross-vein.....8.
- 8.—Middle and posterior tarsi yellowish.....*Morellia ? semimarginata* Stein.
Tarsi black.....9
- 9.—Wings with small basal spot and one in subcostal cell brown.
Pyrellia bipuncta Wiedemann.
- Wings with the cross-veins and anterior border apically, brown.
Morellia violacea Fabricius.
- 10.—Antennae brownish.....11.
Antennae reddish yellow.....*Pyrellia ochrifacies* Rondani.
- 11.—First vein with a long, fine bristle opposite the humeral cross-vein.
Xenomorellia holti Malloch.
- First vein with only short setae opposite the humeral cross-vein.
Morellia ? affinis Malloch.

***Morellia nitida* Stein**

Pyrellia nitida STEIN, 1918, Ann. Mus. Nat. Hung., XVI, p. 205.

A single female, Kartabo, March 26, 1924, from human excrement.

***Morellia violacea* Fabricius**

Musca violacea FABRICIUS, 1805, 'Syst. Antl.', p. 288.

One female, Kartabo, April 23, 1924, from human excrement, and eight males and two females from Kaieteur and Tukeit, July and August (F. E. Lutz).

Morellia neotropica, new species

Blackish, the face, antennae, palpi and coxae reddish yellow. Length, 5.5 mm.

MALE.—Head with whitish pollen; eyes narrowly separated; arista yellowish on basal fifth.

Thorax cinereous pollinose, the mesonotum with four obscure dark vittae when viewed from behind. Acrosticals, 0-1; dorsocentrals, 2-3; sternopleurals, 1-2. Apex of scutellum brownish yellow. Spiracles pale yellowish.

Legs black; anterior tibiae without bristles; middle pair with two posterior, the posterior tibiae with three bristles on anterior surface, one near the upper and two near the ventral edge.

Wings cinereous hyaline, the veins bordered with pale brown; squamae with brown border, the knobs of the halteres brownish.

Abdomen with the first segment shining, the following segments grayish pollinose, the broad posterior border of the second segment and narrow border of the third thinly pollinose or bare.

HOLOTYPE.—Male, Kartabo, June 15, 1924.

Mallocharia, new genus

Related to *Steinella* Malloch but distinguished by the haired propleura, the absence of anterior intra-alar bristle, and in having the apical cell narrowed apically. Resembles *Cyrtoneuropsis* Malloch but the haired propleura at once separates it. The following characters are from the female only.

Front with a pair of strong, cruciate interfrontals above the middle; vibrissae level with the oral margin; palpi and proboscis normal; antennae elongate, reaching almost to the oral margin; arista long plumose. Acrosticals, one pair immediately in front of the scutellum; dorsocentrals, 2-4, all strong; one intra-alar; prealar present; mesopleura with a bristle anteriorly near the upper margin; sternopleurals, 1-2; scutellum with five pairs of marginals, the apical and sub-basal pairs strong, the sides haired below; declivity above the squamae bare; hypopleural swelling with a few black hairs above; prosternum bare; propleura haired in the middle; pteropleura haired in middle and above; hypopleura with hairs above the posterior coxae; posterior spiracle elongate oval, the lower lobe large, the posterior lower margin with two or three black hairs. Legs simple; posterior tibiae without posterodorsal bristles; posterior coxae bare on posterior surface. Wings with the first vein setose beyond the humeral cross-vein above and below, the third vein setose on practically its whole length above and below; fourth vein curved forward at the apex. Lower squamal lobe larger than the upper. Abdomen oval, not convex above, the fourth segment with a row of erect discal and marginal bristles.

GENOTYPE.—*Mallocharia beebei*, new species.

Mallocharia beebei, new species

Black, with cinereous pollen; antennae and humeri yellow. Length, 7 mm.

FEMALE.—Frontal vitta blackish, in some lights appearing cinereous yellow; eight pairs of frontals, the upper two reclinate, a median and lower pair strong; postocellars strong, divergent; verticals and outer verticals strong; head black-haired; cheeks narrow. Palpi brown. Antennae bright yellow; arista with long black hairs, the apical half black. Eyes entirely bare.

Thorax moderately cinereous-yellow pollinose, the bristles arising from dark spots, the vittae narrow and not conspicuous. Humeri yellow.

Legs blackish; broad apices of the femora and the tibiae more or less reddish. Anterior tibiae without bristles, the middle pair with two posterior bristles, the posterior pair with one anterior and one anterodorsal near the middle. Posterior femora with a row of weak anteroventral bristles ending in three stronger ones and with two weak apical bristles above; middle femora with three weak bristles on the basal fourth; tarsi simple.

Wings cinereous hyaline with brown markings as follows: both cross-veins broadly and a spot beyond the apex of auxiliary vein, filling out the costal cell and extending well into the marginal; costal border pale yellowish-brown, darker about the apex of the second vein, the apical fourth of the wing tinged with brown.

Abdominal pollen largely mixed with brown and black above, the hairs and bristles arising from dark spots, all the pale and dark spots small on the disc where the brown pollen predominates. Ovipositor ending in a pair of reddish, haired lamellae, apparently without spines.

TYPE.—Female, Kartabo, September 26, 1922.

Superficially this species resembles *Cyrtoneuropsis veniseta* Stein, and I had placed it with that species before discovering the presence of hair on the basal part of the first vein.

CYRTONEURINA Giglio-Tos

Malloch¹ has recently restricted this genus to those species having the prosternum setose and the first vein setose only beyond the humeral cross-vein. This definition must be corrected to include all species having the first vein setose beyond the humeral cross-vein, and pilose prosternum. At least one species has the first vein setose both before and beyond the humeral cross-vein. I present here a key to the species I have recognized, although I cannot be positive of some of the identifications since most of the available descriptions omit the really important characters.

TABLE OF SPECIES

- 1.—First vein bare posteriorly before the humeral cross-vein.....2.
First vein setose posteriorly before the humeral cross-vein (*conspersa* Stein).
inuber Giglio-Tos.
- 2.—Four pairs of postsutural dorsocentrals, the anterior two pairs weaker.....3.
Three pairs of equally strong postsutural dorsocentrals... *spiloptera* Wiedemann.
- 3.—Thorax rather ochreous, with slender, not conspicuous, dark vittae.
digamma Wulp.
- Thorax more grayish, with broad vittae when viewed from the side.....4.
- 4.—Anterior postsutural dorsocentral as long as the following one in the male,
three-fourths as long in the female..... *armipes* Stein.
- Anterior postsutural dorsocentral only about half as long as the following
one in both sexes (*uber* Giglio-Tos)..... *gemina* Wiedemann.

¹1925, Ann. Mag. Nat. Hist., (9) XVI, pp. 89-92.

Cyrtoneurina inuber Giglio-Tos

GIGLIO-TOS, 1893, Boll. Mus. Torino, VIII, p. 6.

One male from Tukeit, July 21, 1911 (F. E. Lutz).

The wings are cinereous hyaline, with a brown spot before the tip of the first vein and another on the anterior cross-vein.

Cyrtoneurina digramma Van der Wulp

Clinopera digramma VAN DER WULP, 1896, 'Biol. Centrali-Americana,' Dipt., II, p. 308.

Two males from Kartabo, 1921.

This species has the brown stigmal spot, a spot on the anterior cross-vein and the apical half of the wings tinged with brown, especially in front. The pollen of the thorax is rather ochraceous, in some lights more or less golden, and the dark vittae are not distinct.

Cyrtoneurina armipes Stein

Mydaea armipes STEIN, 1911, Arch. für Naturg., LXXVII, Heft 1, p. 88.

Two males from Kartabo, March 5, April 23, 1924.

The male of *armipes* is separable from *gemina* Wiedemann by possessing a long ventral bristle beyond the middle of the posterior tibiae as well as in having many more antero- and posteroventral short bristles. The females of the two species are very similar but the dorsocentral bristles furnish a clue to their identity.

Cyrtoneurina gemina Wiedemann

Anthomyia gemina WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 436.

Cyrtoneurina uber GIGLIO-TOS, 1893, Boll. Mus. Torino, VIII, p. 6.

One female from Tumatumuri, July 13, 1911 (F. E. Lutz); one male and three females, Kartabo, the male No. 20835, the females all taken on March 28, 1924.

This species was originally described from Brazil and I have examples from Panama as well as Brazil. The male usually has two or three anteroventral bristles on the posterior tibiae but the absence of a ventral bristle will at once distinguish it from *armipes*. The female has the anterior postsutural dorsocentral bristle only half as long as the following one.

CYRTONEUOPSIS Malloch

This genus apparently contains most of the species previously placed in *Cyrtoneurina*, but it is possible that one more genus should be separated from it. *C. perspicua* Stein has a series of hairs extending over the lower valve of the metathoracic spiracle, and the valve reduced in

size, whereas the genotype (*veniseta* Stein) lacks the hairs, and the valve is large. It is possible that there are other differences as well.

All the species of *Cyrtoneurina* and typical *Cyrtoneuropsis* that I have observed deposit almost full-grown larvae, but I have not noticed the habit in connection with *perspicua*, which is probably the commonest species in Panama. Aldrich observed the same habit of *Neomuscina* Townsend, a genus separated from *Cyrtoneuropsis* by having the third vein bare. The larvae feed upon excrement and carrion and the development of the larvae within the adult is undoubtedly an adaptation to meet the conditions under which the creatures live. As a rule excrement disappears within a few hours, having been devoured by adult insects (flies, beetles, bees, and wasps), by the larvae of flies, or carried beneath the surface of the soil by beetles, as food for themselves and young. It is evident that the nearly full-grown larvae have a great advantage over the small larvae and those which may hatch from eggs, and they must reach the adult stage within a very short time.

The identity of many of the described species must remain uncertain until the types have been examined. The species which I have identified are tabulated below.

TABLE OF SPECIES

- 1.—Metathoracic spiracle with hairs on lower rim extending upward over the spiracle, the lower valve reduced in size.....2.
Metathoracic spiracle without hairs on lower edge.....3.
- 2.—Posterior tibiae of male with four or more anteroventral and posteroventral bristles on the basal half.....*geminata* Stein.
Posterior tibiae without such bristles.....*perspicua* Stein.
- 3.—Anterior pair of postsutural dorsocentrals more than half as long as the following bristles.....4.
Anterior pair of postsutural dorsocentrals scarcely one third as long as the following bristles, and quite weak.....*fuscicosta*, n. sp.
- 4.—Third antennal segment pale yellow; both cross-veins broadly bordered with brown.....*veniseta* Stein.
Third antennal segment yellowish brown with pale base.....5.
- 5.—First vein bare below just beyond the junction with the humeral cross-vein; posterior cross-vein narrowly bordered with brown.....*rescita* Walker.
First vein with a few setae below immediately beyond the humeral cross-vein; posterior cross-vein broadly bordered with brown, especially at the ends.
trita Stein.

Cyrtoneuropsis perspicua Stein

Mydaea perspicua STEIN, 1911, Arch. für Naturg., LXXVII, Heft 1, p. 86.

Male and three females from Kartabo, March 27 and May 8, 12, 13, 1924; two males, Kaieteur, July 31, 1911 (F. E. Lutz).

Cyrtoneuropsis veniseta Stein

Spilographa veniseta STEIN, 1904, Ann. Mus. Nat. Hung., II, p. 443.

Six specimens from Kartabo, October 17, 1920, March 26, 1924; April 12, 1924, May 8 and 12, 1924; male and female, Kaieteur, July 30 and August 2, 1911; male, Tukeit, July 21, 1911; two females, Kangaruma, July 13, 1911; and female, Chenapowu, July 31, 1911 (F. E. Lutz). I have also specimens from Brazil, Colombia, and Panama.

C. veniseta is separable from all the species known to me by the possession of a long bristly hair on the posterior of the first vein (in addition to several setulae) before the humeral cross-vein. While the cross-veins, costal cell beyond the apex of the auxiliary vein, and broad costal border beyond the posterior cross-vein are brown, the apices of the third and fourth veins are only weakly clouded, although the whole apex of the wing is tinged with brown. *C. rescita* Walker and *trita* Stein both lack the posterior setae on the first vein above. Both species probably occur in British Guiana.

Cyrtoneuropsis fuscicosta, new species

Related to *veniseta* Stein but readily distinguished by the wholly brown costal border, very weak anterior postsutural dorsocentral bristle, and the absence of setae on the stem vein posteriorly. Length, 6.5 to 7.25 mm.

MALE.—Head blackish in ground color, thickly covered with cinereous pollen; cheeks brown pollinose. Front linear, the frontal vitta forming a narrow blackish triangle in front; one pair of strong orbitals anteriorly and about seven pairs of bristly hairs, the upper pair strong and reclinate; ocellars long; verticals scarcely developed. Occiput wholly black-haired. Cheeks one-eighth as wide as eye-height. Palpi blackish. Antennae bright yellow, the mostly black arista long plumose.

Thorax brown; cinereous pollinose; mesonotum with four blackish or brown vittae, the middle pair united behind the suture, tapering posteriorly, displaced on either side by a pair of triangular vittae extending forward from the posterior border; humeri yellow in ground color. Dorsocentrals, 2-4, the anterior postsutural pair very weak, not more than one-third as long as the following pair; anterior intra-alar and the prealar bristles absent. Sternopleurals, 1-2.

Legs brown, the tibiae somewhat reddish. Anterior tibiae without bristles; middle tibiae with two posterior bristles; posterior tibiae with two anterior bristles, one anterodorsal bristle before the middle and a posterodorsal bristle near the basal third, the apical half of the posterodorsal surface with a row of short bristly hairs. Posterior femora with an anterodorsal row of bristles and three anteroventral bristles near the apex, the median one long and strong. Middle tibiae with three stout bristles on the basal fourth below.

Wings cinereous hyaline, with brown markings. Costal border broadly brown on its whole length although paler before the auxiliary vein; cross-veins broadly clouded with brown, the apices of the third and fourth veins broadly clouded, the end of the wing often completely brown. Squamae whitish. Halteres yellow.

Abdomen blackish or brown, brown pollinose, each bristle and hair arising from a bare, dark spot; incisure between first and second segments gray pollinose, the apices of the second and third segments with small gray spots between the bristles. All the segments with marginal bristles, those on the apical two segments and a transverse row of discals on the fourth segment, erect, the others subappressed. Sides of first segment yellow.

FEMALE.—Front wide, the vertical triangle brown, extending to the anterior border of the front; frontal vitta black; seven or eight pairs of frontal bristles, the upper two pairs reclinate, the others cruciate, only the anterior pair, a median pair and the upper pair strong; verticals and outer verticals strong. Palpi reddish brown. Bristles of the legs as in the male, but a little weaker. Bristles on the third abdominal segment subappressed. The ovipositor lacks any spinose setae. Large, well-developed maggots are oviposited.

TYPES.—Three males and seven females from Kartabo. October 17, 1920, March 26, 1924, April 12, 1924, May 6, 8, and 16, 1924. The holotype, male, was taken on May 8, 1924, the allotype on March 26.

FANNIA Desvoidy

Two of the four species in the collection are represented by females only and cannot be named at the present time.

TABLE OF SPECIES

1.—Tibiae black.....	2.
Tibiae yellow.....	<i>Fannia</i> species No. 2.
2.—Wings blackish brown in front.....	<i>obscurinervis</i> Stein.
Wings hyaline or nearly so.....	3.
3.—Frontal orbits narrowly whitish pollinose.....	<i>Fannia</i> species No. 1.
Frontal orbits wholly polished black.....	<i>femoralis</i> Stein.

Fannia species No. 1

A single female, Kaieteur, August 6, 1911 (F. E. Lutz), differs from *femoralis* Stein in having the frontal orbits whitish pollinose.

Fannia femoralis Stein

Homalomyia femoralis Stein, 1897, Berl. Ent. Zeitschr., XLII, p. 282.

Four females from Kartabo, two of them from snake carrion, April 26, 1924, one from peccary entrails, March 30, 1924, and one, May 8, 1924; 5 males and 6 females, Tukeit, July 17, 18, 1911, and five specimens of each sex, Kaieteur, August 6, 1911 (F. E. Lutz).

Fannia obscurinervis Stein

Homalomyia obscurinervis STEIN, 1900, Term. Fuzet., XXIII, p. 207.

Nine specimens of both sexes from Kartabo, April 26, 1924, from snake carrion, May 8, 1924, from human excrement; and May 12, 1924.

Fannia species No. 2

A single female, No. A9, with yellow antennae, cannot be identified without a male.

OPHYRA Desvoidy**Ophyra aenescens** Wiedemann

Anthomyia aenescens WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 435.

Male, female, Kartabo, April 26, 1924, male, April 29, 1924, all from agouti carrion.

LIMNOPHORA Desvoidy

The two species from British Guiana are readily separated by the length of the arisal rays.

Limnophora plumiseta Stein

STEIN, 1911, Arch. für Naturg., LXXVII, Heft 1, p. 117.

Four males, Potaro Landing, August 18, 1911 (F. E. Lutz).

This species agrees in coloration with *saeva* Wiedemann, but has stronger indications of pale dorsocentral vittae, especially on the anterior border of the mesonotum; the arisal rays are unusually long, being equal to more than half the length of the third antennal segment. I have also a single male from Chapada, Brazil.

Limnophora narona Walker

Anthomyia narona WALKER, 1849, 'List. Dipt. Brit. Mus.,' IV, p. 954.

Two males, Georgetown, July 2, 1911 (F. E. Lutz).

L. narona differs from *plumiseta* in having the arista very short plumose and the presutural pale vittae on the mesonotum wide and entire. Its range extends from Canada to Brazil, according to specimens before me.

DARWINOMYIA Malloch

One species, which is aberrant in that the posterior tibiae are bare posterodorsally beyond the calcar and in that the scutellum bears short, fine hairs on the under surface, is referred to this genus.

Darwinomyia mallochi, new species

Blackish, reddish brown and reddish yellow, the thorax thickly pollinose; arista long plumose; base of abdomen reddish yellow. Length, 5 to 7 mm.

MALE.—Head yellowish, the occiput black, the whole thickly yellowish pollinose, the front more brownish yellow. Palpi reddish. Antennae reddish, slightly darker apically. Front extremely narrow, the vitta mostly obsolete; eyes bare.

Thorax and scutellum densely yellowish-gray pollinose, the mesonotum with three brownish vittae. Presutural acrosticals moderately strong; dorsocentrals, 2-3;

prealar two-fifths as long as following bristle; sternopleurals, 1-2. Pleura brownish red in ground color.

Legs black, the coxae and trochanters reddish; tibiae obscure reddish. Middle femora with two ventral bristles near the base. Anterior tibiae with posterior bristle near middle; middle tibiae with one anterior, one posterodorsal and two posterior bristles; posterior tibiae with one anteroventral, three anterodorsal and one posterodorsal bristle.

Wings brownish, paler basally. Squamae pale brown, the border darker. Halteres reddish yellow.

Abdomen with first segment and the broad base of the second, except laterally, yellowish, thickly brownish pollinose, rather tessellate, each segment with a pair of yellowish pollinose posterior spots and a larger lateral spot of similar pollen forming anterior triangles. Hair erect except on middle line.

FEMALE.—Front two-thirds as wide as either eye, the frontal vitta brownish red; one pair of cruciate bristles. Thorax almost all reddish, the dorsum brownish red or reddish brown. Lateral spots on second abdominal segment yellowish.

TYPES.—Holotype, male, allotype female, Kartabo, March 26, 1924. Paratypes: two females, March 26, and three females, May 8, 1924, all from human excrement; twelve males and three females, Barro Colorado Island, Canal Zone, January and February 1929 (Curran).

BITHORACOCOAETA Stein

Bithoracochaeta leucoprocta Wiedemann

Anthomyia leucoprocta WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 433.

Male, Kartabo, July 8, 1922, and male, Rockstone, July 7, 1911 (F. E. Lutz).

NEODEXIOPSIS Malloch

Neodexiopsis plumiseta Stein

Coenosia plumiseta STEIN, 1911, Arch. für Naturg., I (1), p. 168.

Male, female, Kartabo, Nos. 2147 and 20811.

CALLIPHORIDAE

The members of this family, the "greenbottles," "bluebottles," etc., are all scavengers, and many of the specimens in the collection have been reared from various carrion as well as human excrement. The earlier collections made at Kartabo contained very few representatives of this family, most of the material enumerated being contained in the 1924 collection. The genera treated may be distinguished by the key given below.

KEY TO GENERA

- 1.—Stem vein (base of radius) with hairs behind.....3.
- Stem vein not ciliate.....2.
- 2.—Squamal ridge with coarse black hairs.....*LUCILIA* Desvoidy.
- Squamal ridge bare or with short, weak, pale hairs. *MESEBRINELLA* Giglio-Tos.

- 3.—Lower lobe of squamae with long fine hair on the inner apical half and basally; palpi robust..... *CHRYSOMYA* Desvoidy.
 Lower lobe of squamae bare on apical half or wholly so..... 4.
- 4.—Vibrissae close to or level with the oral margin; lower lobe of squamae bare above; palpi broadened..... 5.
 Vibrissae situated the length of the second antennal segment above the oral margin; lower lobe of squamae hairy on basal half; palpi slender.
COCHLIOMYIA Townsend.
- 5.—Metascutum distinct; fourth vein with rounded bend. . *MESEMBOLIA* Aldrich.
 Metascutum absent; fourth vein angularly bent.
HEMILUCILIA Brauer and Bergenstamm.

MESEMBRINELLA Giglio-Tos

One of the species belonging to this genus is undescribed. A table of species is given below.

TABLE OF SPECIES

- 1.—With two sublateral bristles; anterior acrosticals present. *bicolor* Fabricius.
 With only one sublateral bristle; anterior acrosticals absent..... 2.
- 2.—Wing with a strong, black costal band beyond the middle; third abdominal segment with a row of marginal bristles..... *randa* Walker.
 Wing but little darkened anteriorly; third abdominal segment without dorsal marginals..... *incompleta*, n. sp.

Mesembrinella randa Walker

Dexia randa WALKER, 1849, 'List Dipt., Brit. Mus.,' III, p. 852.

Thirteen specimens from Kartabo: male, November 5, 1920; female, Sept. 27, 1922; three males, eight females, March, April, and May, 1924, several of them from human excrement.

Mesembrinella incompleta, new species

Length, 11 to 11.5 mm. Rusty yellowish, the mesonotum rusty reddish with four rather strong yellowish pollinose vittae, and usually with a blackish, more or less metallic-bluish, median vitta; third and fourth abdominal segments metallic bluish, the second segment with a broad apical triangle of the same color which may reach to the base of the segment; rarely the third segment is somewhat reddish laterally. The incisure between the first two segments is brownish. Legs reddish, with the posterior four tibiae blackish, the tarsi becoming blackish apically.

Palpi and scutellum orange-yellow; facial ridges with a few hairs above the vibrissae; eyes separated by the width of the contiguous parafrontals. Head and pleura whitish pollinose. Only prescutellar acrosticals; dorsocentrals, 2-3; sublaterals, 1; intra-alars, 2; sternopleurals, 2; two pairs of marginal scutellars and a discal pair. Thorax with very short black hair, the pleura with longer yellow hair except on the mesopleura. Stem-vein not setulose. Second and third abdominal segments each with one lateral marginal bristle, the fourth with the marginals not clearly differentiated.

Types.—Holotype, male, allotype, female, Kartabo, May 8, 1924. Paratypes: 9 males, 9 females, Kartabo, March, April, May, 1924, and Nov. 5, 1921. Many of them, including the types, are from human excrement.

Mesembrinella bicolor Fabricius

Musca bicolor FABRICIUS, 1805, 'Syst. Antl.,' p. 291.

A dozen specimens from Bartica District: three males and two females, labelled only "Bartica District"; female, Kartabo, Aug. 16, 1920; female, British Guiana; five males and one female, Bartica, May 24 to 30, 1924, one from peccary entrails, four from human excrement.

MESEMBOLIA Aldrich

Mesembolia peregrina Aldrich

Mesembrinella (Mesembolia) peregrina ALDRICH, 1922, Proc. U. S. Nat. Mus., LXII, Art. 11, p. 22.

Two specimens from Kartabo, March 26, 1924, from human excrement.

LUCILIA Desvoidy

The collections before me contain examples of four species.

TABLE OF SPECIES

Males

- 1.—Three postsutural acrostical bristles.....*cuprina* Wiedemann.
Two postsutural acrostical bristles.....2.
- 2.—Parafrontals with bristles on the lower half only.....*rica* Shannon.
Parafrontals with bristles on at least the lower three-fourths.....3.
- 3.—An upper pair of frontals present.....*hirtiforceps* Shannon.
No upper pair of frontals.....*cluvia* Walker.

Females

- 1.—Hair of the cheeks largely pale.....2.
Hair of the cheeks wholly black.....3.
- 2.—Front as broad as length of third antennal segment.....*cluvia* Walker.
Front much narrower than length of third antennal segment.....species.
- 3.—Front but little longer than wide.....*cuprina* Wiedemann.
Front twice as long as wide.....*hirtiforceps* Shannon.

Lucilia species

One female, Kartabo, April 4, 1924.

This species is evidently related to *rica* Shannon, but without a male it cannot definitely be determined.

Lucilia hirtiforceps Shannon

SHANNON, 1926, Proc. Ent. Soc. Wash., XXVIII, p. 133.

Seven females, Kartabo, March and April 1924, from human excrement, agouti carrion, snake carrion, and peccary entrails, and one female, Kartabo, October 25, 1921.

Lucilia cuprina Wiedemann

Musca cuprina WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 654.

One female from Kamakusa, January 1923.

This is a small, widely distributed species, the abdomen usually quite depressed and the metasternum without hair.

Lucilia cluvia Walker

Musca cluvia WALKER, 1849, 'List Dipt. Brit. Mus.,' IV, 885.

One male, Kartabo, Oct. 25, 1920.

CHRY SOMYA Desvoidy

DESVOIDY, 1830, 'Essai sur Myodaires,' p. 444.

Paralucilia BRAUER AND BERGENSTAMM, 1891, Denkschr. Akad. Wien, LVIII, p. 391.

In his 'Synopsis of the American Calliphoridae,' (1926, Proc. Ent. Soc. Wash., XXVIII) Shannon separated *Chrysomya* and *Paralucilia* on the alleged difference in the extent of the pile on the upper surface of the lower lobe of the squamae. It is true that most of the species of *Chrysomya* occurring in the Old World have the lower lobe of the squamae pilose across the full width posteriorly, but I have seen at least one African species in which this is not the case. I am not familiar with any American species in which this lobe is pilose on more than the inner two-thirds of the posterior half. Shannon placed *Chrysomya desvoidyi* Hough in *Chrysomya* and *C. viridula* and *affinis* Desvoidy in *Paralucilla*. I have the type of *desvoidyi* before me and it is strictly congeneric with the other two species occurring in America, although the names *viridula* and *affinis* actually refer to the same species. Two of the three species occur in British Guiana, the following table separating those known to me.

- | | |
|--|-----------------------------|
| 1.—Cheeks not or scarcely wider than length of antenna..... | 2. |
| Cheeks much wider than length of antenna; femora mostly red on apical half or more..... | <i>fulvicrura</i> Desvoidy. |
| 2.—Mesonotum distinctly vittate in some views, the pollen dull blackish and whitish..... | <i>viridula</i> Desvoidy. |
| Mesonotum not vittate, very rarely with obscure dark coppery-black stripes. | <i>desvoidyi</i> Hough. |

Chrysomya desvoidyi Hough

HOUGH, 1900, Kansas Univ. Quarterly, IX, p. 203.

Twenty-six specimens from Kartabo, March and April, 1924, all from snake and agouti carrion, and many specimens from Tukeit and Kaieteur, July and August (F. E. Lutz).

It seems likely that an older name will be found for this species which varies in color from greenish to violaceous. The wings are cinereous hyaline, with dark base; the legs are black, the tibiae brown or brownish red and the mesonotum not distinctly vittate.

***Chrysomya viridula* Desvoidy**

DESVOIDY, 1830, 'Essai sur Myodaires,' p. 445.

Chrysomya affinis DESVOIDY, 1830, 'Essai sur Myodaires,' p. 445.

Paralucilia viridula SHANNON, 1926, Proc. Ent. Soc. Wash., XXVIII, p. 127.

Two females from Tumatumari, August 1913.

These specimens have the mesonotal vittae less distinct than in *fulvicrura* and wholly black femora, the tibiae varying from brown to brownish red.

Reference to Desvoidy's descriptions indicate that the two forms described represent only slight variations in the same species whereas *fulvicrura* is obviously distinct. It might be noted here that *Calliphora peruviana*, placed by Shannon as a synonym of (*affinis*) *fulvicrura* Desvoidy, is described as having a black face which would eliminate it, not only from the possibility of synonymy with *fulvicrura*, but also from the genus as defined by Shannon.

***Cochliomyia* Townsend**

***Cochliomyia macellaria* Fabricius**

Musca macellaria FABRICIUS, 1775, 'Syst. Ent.,' p. 776.

Forty-one specimens of both sexes from Kartabo, March, April, and May, 1924, from human excrement, peccary entrails, snake carrion, and agouti carrion.

***Hemilucilia* Brauer and Bergenstamm**

Two species, separable as follows:

Base of abdomen yellowish.....*segmentaria* Fabricius.
Abdomen wholly green.....*fuscipennis* Macquart.

***Hemilucilia segmentaria* Fabricius**

Musca segmentaria FABRICIUS, 1805, 'Syst. Antl.,' p. 292.

Thirty-two specimens from Kartabo, March, April, and May, 1924, from human excrement, agouti carrion, and peccary entrails; twenty specimens from Kaieteur, August, 1911 (F. E. Lutz).

***Hemilucilia fuscipennis* Macquart**

Lucilia fuscipennis MACQUART, 1850, 'Dipt. Exot.,' Suppl. IV, p. 250.

Male and female, from agouti carrion, Kartabo, April 25, 1924, and numerous specimens from Kaieteur, August 1911 (Lutz).

SARCOPHAGIDAE¹

BY C. H. CURRAN AND G. S. WALLEY

To this family belong a very large number of flies having the thorax and abdomen grayish pollinose, the former with blackish vittae which appear brown from anterior view, the latter usually tessellate. In most of the genera the species are extremely similar in appearance and it is only by means of a study of the male sexual organs that any progress can be made in determination of the numerous forms. Aldrich, in his publication of 'Sarcophaga and Allies,' in 1916, gave us a work which must form the basis of any study of the American species of this family, whether they be from North or South America.

Aldrich based his classification upon male characters only. The senior author has studied several collections belonging to this family from the Neotropical region and has prepared a key to the genera based upon characters which it is hoped will serve for both sexes. Unfortunately several genera have not been available for study. The genus *Boettcheria* Parker can hardly be maintained as more than a subgenus of *Sarcophaga*, as species occur in which the propleural hairs are both present or absent. However, the use of the subgenus groups several species and renders identification upon external characters less difficult.

KEY TO GENERA

- 1.—Arista plumose or strongly pubescent..... 2.
Arista bare..... 21.
- 2.—Lower lobe of the squamae bare above..... 4.
Lower lobe of the squamae with long hairs on upper surface..... 3.
- 3.—Propleura bare..... *ADISCOCHAETA* Enderlein.
Propleura hairy..... *SQUAMATOIDES* Curran.
- 4.—Three sternopleurals..... 11.
Only two sternopleurals..... 5.
- 5.—Hairs on the sides of the scutellum extending at least to the lower edge outside the marginals..... 6.
Sides of the scutellum wholly without hairs outside the marginal bristles; both sexes with orbitals; almost wholly grayish pollinose species with reddish legs..... *CAMPTOPS* Aldrich.
- 6.—Arista plumose..... 7.
Arista pubescent..... *WOHLFAHRTIA* Brauer and Bergenstamm.
- 7.—Abdomen largely pollinose, usually tessellate..... 8.
Abdomen shining black..... *PHRISSOPODIA* Macquart.
- 8.—Propleura bare..... 10.
Propleura hairy, the hairs sometimes quite fine and pale..... 9.

¹No representatives of the *Mitogramminae* are in the collection.

- 9.—Frontal bristles descending to below the base of the antennae and somewhat diverging below. NOTOCHAETA Aldrich.
Frontal bristles not extending below the base of the antennae. HARPAGOPYGA Aldrich.
- 10.—Notopleura at most with two bristles and in addition a very weak anterior one; front of male with at least one orbital; first vein sometimes bristled. . . . 19.
Notopleura with several hairs in addition to the two large and two weak bristles. SARCOPHAGA Meigen.
- 11.—Fifth vein not setulose. 12.
Fifth vein setulose. JOHNSONIA Coquillett.
- 12.—Propleura bare. 14.
Propleura hairy on median portion. 13.
- 13.—Third antennal segment but little longer than the second; arista short plumose; both sexes with orbitals. HARBECKIA Aldrich.
Third antennal segment usually twice as long as the second; male without orbitals (*Boettcheria* Parker). SARCOPHAGA Meigen.
- 14.—Sternopleurals situated in an almost straight line or forming a very shallow triangle. 15.
Sternopleurals 2-1, arranged in a very wide triangle. AGRIA Desvoidy.
- 15.—Head with pale hair at least below the neck. 16.
Head devoid of pale hair except on the proboscis. SARCOFAHRTIA Parker.
- 16.—Third antennal segment more than twice as long as the second; cheeks less than half as wide as eye-height; parafacials rarely with more than two rows of hairs. 17.
Third antennal segment less than twice as long as the second; cheeks more than half as wide as eye-height; parafacials with several irregular rows of hairs. EMBLEMASOMA Aldrich.
- 17.—Arista normally plumose. 18.
Arista with several rows of hairs dorsally and a single row of shorter, finer hair ventrally; vibrissae situated far above the oral margin. RAVINIOPSIS Townsend.
- 18.—Front of male without orbitals; invariably more than a single hair on the notopleura in addition to the two bristles, or the sternopleurals are all well developed and the apical cell ends well before the apex of the wing. . . . 20.
Front of male with one or two orbitals; at most a single hair on the notopleura in addition to the two bristles; apical cell ending rather near the apex of the wing. 19.
- 19.—Parafacials with two or three rows of hairs; metacephalon swollen. SAROTHROMYIA Brauer and Bergenstamm.
Parafacials with a single row of hairs; metacephalon not conspicuously swollen. SARCOPHAGULA Van der Wulp.
- 20.—First vein setulose. HELICOBIA Coquillett.
First vein bare. SARCOPHAGA³ Meigen.
- 21.—A row of orbitals in both sexes. PACHYOPHTHALMUS Brauer and Bergenstamm.
With at most two orbitals. SENOTAINIA Macquart.

HARPAGOPYGA Aldrich

The genus *Harpagopyga* Aldrich must be broadened to include species having, at times, the anterior dorsocentral bristles arranged as in the genus *Notochaeta* Aldrich, but there are always three posterior dorsocentrals. The differences existing between the two genera are slight and eventually it may be found necessary to unite them. The only real difference of importance, since Aldrich (Proc. U. S. N. M., LXVI, Art. 18, pp. 21-23) included species with three posterior dorsocentral bristles in his genus *Notochaeta*, is to be found in the divergence of the frontal bristles below and the fact that they reach to the middle of the second antennal segment in *Notochaeta*, while in *Harpagopyga* they do not diverge nor do they extend below the base of the antennae. Both genera have the propleura hairy, and the species show a strong resemblance.

As certain species of *Notochaeta* occur in British Guiana, I have prepared a key including the species of both genera.

KEY TO THE SPECIES OF *Harpagopyga* AND *Notochaeta*

- 1.—Second abdominal segment without marginals. 3.
 Second abdominal segment with a pair of strong marginals. 2.
- 2.—Posterior pair of presutural dorsocentrals almost in a line with the presutural bristles. *Harpagopyga divergens*, n. sp.
 Posterior pair of presutural dorsocentrals far in front of the presuturals. *Harpagopyga angustiventris*, n. sp.
- 3.—Three sternopleurals. 4.
 Two sternopleurals. 7.
- 4.—Three pairs of posterior dorsocentrals. *Notochaeta comata* Aldrich.
 Two posterior dorsocentrals. 5.
- 5.—Facial ridges with small bristly hairs extending to above the middle of the third antennal segment. *Notochaeta hinei* Aldrich.
 Facial ridges hairy only close to the vibrissae. 6.
- 6.—With small but distinct prescutellars; disc of scutellum not dark. *Notochaeta fuscianalis* Van der Wulp.
 Without prescutellars; scutellum shining, with broad yellow pollinose free border. *Notochaeta townsendi* Aldrich.
- 7.—Pollinose markings golden in color except on the pleura and legs. *Notochaeta angusta* Aldrich.
 Pollen pale dorsally, often golden yellow on the head. 8.
- 8.—Mesonotum with three black vittae. *Harpagopyga diversipes* Coquillett.
 Mesonotum with two broad and an extremely narrow median vitta. *Harpagopyga* species.

***Harpagopyga divergens*, new species**

Black; grayish pollinose, with slight brassy tinge; slender species. Length, 10 mm.

MALE.—Head rather golden yellow in front; eight or nine pairs of frontals; front half as wide as either eye; ocellars absent; occiput with rather sparse yellowish hair below the neck; cheeks with coarse black hair behind, one-fourth as wide as eye-height; an inconspicuous row of hairs on the parafacials. Palpi reddish brown. Antennae brown, the third segment very long and narrow, broadly reddish basally; arista long plumose.

Mesonotum with a pair of broad, widely separated brownish-black vittae and a very narrow median one which expands somewhat on the scutellum but does not nearly reach its hind border. Three anterior dorsocentrals, the anterior pair weak, and three strong posterior pairs; prescutellars weak; two sternopleurals; three pairs of marginal scutellars.

Legs black; trochanters, apices of the femora and the entire tibiae brownish red; middle tibiae with some longish hairs ventrally toward the sides of the apical half, with one anterodorsal bristle at the apical third.

Wings cinereous hyaline; squamae white; halteres yellow.

Abdomen with a median vitta and moderately wide segmental apices brownish pollinose, shining, the pollen scarcely tessellate. Second segment with a pair of long median marginals and one lateral pair; third segment with two median and two or three marginals toward the sides; fourth segment with eight dorsal marginals. Inner margins of the lobes of the fifth sternite parallel basally, thence diverging V-shaped. Male genitalia very much as in *H. diversipes* Coquillett (Fig. 32).

TYPE.—Male, Kartabo, August 31, 1922.

***Harpagopyga angustiventris*, new species**

Black; yellowish-gray pollinose; apex of abdomen and lateral edges of the tergites reddish yellow. Length, 9 to 10 mm.

MALE.—Head in front and the posterior orbits with a strong golden tinge or golden yellow; front slightly more than half as wide as either eye; about seven pairs of frontals; ocellars very small but distinct; a brown fascia extends across the ocellar region; occiput with some yellowish hair below the neck. Palpi brownish red. Antennae reddish, the third segment with more than the apical half reddish brown, about twice as long as the second; arista long plumose.

Mesonotum with two broad and a linear median brownish vitta, the median one scarcely evident on the scutellum. Acrosticals, one pair; dorsocentrals, 2-3; two sternopleurals; three pairs of marginal scutellars.

Legs black; trochanters, broad apices of the femora and the tibiae wholly reddish; middle tibiae without longish hairs, bearing a single anterodorsal bristle.

Wings cinereous hyaline; squamae whitish; halteres yellow, with brownish knob.

Abdomen long and narrow, the median vitta and rather narrow segmental apices brown pollinose; in some lights a sublateral vitta is evident. Second and third segments each with a pair of median marginals, the third with only a single bristle toward either side, the fourth with only four dorsal marginal bristles. Genitalia practically as in *divergens* (Fig. 34).

FEMALE.—Palpi reddish brown; tergites wholly dark; first genital segment largely reddish. Abdomen strongly tessellate, much more shining.

TYPES.—Holotype, male, Kartabo, November 2, 1920 (No. 20677); allotype, female Kartabo, March 10, 1924.

Harpagopyga species

A female, Kartabo, August 7, 1920, is evidently most nearly related to *diversipes* Coquillett but appears to represent an undescribed species. Its condition is not sufficiently perfect to permit of description and until the male is discovered it seems inadvisable to do more than note the occurrence of this species from within the limited area under discussion.

SARCOPHAGULA Van der Wulp

One of the two species is apparently undescribed. Perhaps it should be placed in a separate genus, although identification of the female would not be altogether easy. The male has two pairs of orbitals and the first vein is bristled. *S. occidua* Fabricius has the first vein bare.

Sarcophagula orbitalis, new species

Black; grayish pollinose. Length, 4.5 mm.

MALE.—Pollen of head with slight golden tinge; front two-thirds as wide as either eye; ocellars strong; upper pair of orbitals moderately strong; five pairs of frontals; occiput with pale pile below and near the neck. Cheeks one-fifth as wide as eye-height; parafacials narrow. Palpi and antennae reddish brown; arista long plumose.

Thorax with three shining black vittae; two pairs of moderately strong anterior and two weak and two strong pairs of posterior dorsocentrals; one pair of distinct anterior acrosticals and one posterior pair; three sternopleurals, the second very weak. Scutellum with two pairs of strong and a very weak third pair of marginals.

Legs black; femora thinly gray pollinose, the anterior pair densely so behind; middle tibiae with a very strong anterodorsal bristle beyond the middle.

Wings cinereous hyaline; first vein strongly bristled on its whole length; apical cell ending rather close to the wing-tip. Squamae white. Halteres yellow.

Abdomen (dorsal view) with a broad median vitta and the very broad posterior borders of the segments shining black, the black toward either side produced triangularly forward. Genitalia brownish, gray pollinose. Lateral view of genitalia as in figure 35.

TYPE.—Male, Kartabo, April 23, 1924, from human excrement.

Sarcophagula occidua Fabricius

Musca occidua FABRICIUS, 1794, 'Ent. Syst.,' IV, p. 315.

Four females, Kartabo, April 23 and 28, 1924, at human excrement.

HELICOBIA Coquillett

This genus is distinguished from *Sarcophaga* by the bristled first vein. None of the species is large, all being under 10 mm. in length.

***Helicobia guianica*, new species**

Black; gray pollinose. Length, 7 mm.

MALE.—Front two-thirds as wide as either eye; seven pairs of frontals, the lowest below the base of the antennae; ocellars strong; one or two rows of black hairs behind the occipital cilia; cheeks two-fifths as wide as eye-height, black-haired; parafacials two-thirds as wide as median depression. Vibrissae situated on a level with the oral margin. Palpi and antennae black, the arista long plumose.

The thorax is damaged; there are evidently two or three dorsocentrals; three sternopleurals; three pairs of marginal scutellars.

Legs black; middle tibiae with two anterodorsal bristles; femora thinly gray pollinose, the anterior pair densely so posteriorly.

Wings cinereous hyaline. Squamae white. Halteres yellow.

Abdomen discolored; rather deep; second and third segments each with a pair of median marginals. Lobes of the fifth sternite with their inner edges parallel, practically touching, the convex apex acute inwardly. Lateral view of genitalia as in figure 33.

TYPE.—Male, Kartabo.

***Helicobia* species**

A female from Kartabo, 1921, differs from the preceding species. It has much narrower parafacials, golden-pollinose head, and a strong ochreous tinge to the pollen on the thorax.

SARCOPHAGA Meigen

To this genus belong the vast majority of the species placed in the Sarcophagidae, and in collections from any part of the world this genus will be found to contain the greatest number of species. Identification is extremely difficult and it is quite impossible to determine species from descriptions unless they are accompanied by illustrations of the male genitalia. Of fifteen species and one variety, we have been able to identify only three previously described species. In every case we have prepared illustrations of the male genitalia, almost all from lateral view, and these should serve to render future identification of the species quite simple. Possibly some of the species have been previously described, but the fact that we were entirely unable to separate some of the species until the genitalia had been spread, when it became very obvious that they were different, may be taken as our justification for describing so many new forms in this genus. Since several of the species were found to agree quite well with previously described forms, it was considered advisable to describe all the species that we could not determine with absolute certainty in the hope that, should any of them prove to have been described previously, some one having the types available might indicate the synonymy. In following this course we are

following the precedent set by Dr. Aldrich and we feel that it is the only logical thing to do under the circumstances.

A study of the keys will reveal the fact that we have been unable to place several species represented by females only. There are representatives of at least five species in addition to those recorded and it is to be hoped that additional collecting will result in the capture of males.

MALES

- 1.—Only three pairs of marginal scutellars. 2.
 Four pairs of marginal scutellars, the apical pair usually weak and cruciate
 and either the second or third pair usually weaker than the others. 9.
- 2.—Posterior tibiae villous. 3.
 Posterior tibiae not villous. 5.
- 3.—Penis strongly enlarged apically, with four long slender apical appendages
 (Fig. 41). 4.
 Penis but little broadened on apical section (Fig. 49). *lithogaster*, n. sp.
- 4.—Many of the hairs of the middle tibiae much longer than the tibial width.
 clotho, n. sp.
 Villosity scarcely longer than the width of the middle tibiae and confined to the
 apical half. *clotho impura*, n. var.
- 5.—Second sternopleural situated near the anterior one; bend of fourth vein with-
 out true appendage. 6.
 Sternopleurals almost evenly spaced and equally strong; bend of fourth vein
 with appendage (Fig. 46). *mentor*, n. sp.
- 6.—Ocellars small though distinctly developed. 7.
 Ocellars entirely absent (Fig. 43). *kartabo*, n. sp.
- 7.—Face golden yellow. 8.
 Face silvery gray (Fig. 38). *molitor*, n. sp.
- 8.—Third abdominal segment without erect median marginals (Fig. 42).
 intona, n. sp.
 Third segment with fairly strong, erect, median marginals (Fig. 40).
 fringidea, n. sp.
- 9.—Posterior tibiae villous or at least with several hairs longer than the width of
 the tibiae. 10.
 Posterior tibiae not villous. 14.
- 10.—The yellow hair extends forward at least to the middle of the cheeks. 12.
 The yellow pile does not extend onto the cheeks proper. 11.
- 11.—Antennae reaching the lowest fourth of the face (Fig. 45). *collusor*, n. sp.
 Antennae reaching below the lowest fifth of face (Fig. 48). *bartica*, n. sp.
- 12.—Apical cruciate scutellars as strong (or almost so) as the adjacent pair of
 bristles. 13.
 Apical cruciate scutellars very weak. *anguilla*, n. sp.
- 13.—Sternites all with fine yellow hair (Fig. 47). *pallidipilosa*, n. sp.
 Sternites, except the basal two, with black hair at least laterally (Fig. 50).
 occipitalis Thomson.
- 14.—Cheeks wholly black-haired. 15.

Cheeks with pale hair on at least the posterior half (Fig. 37).

sternodontis Townsend.

- 15.—Genitalia brownish (Fig. 44).....*excitans*, n. sp.
 Genitalia reddish yellow (Fig. 39).....*xanthosoma* Aldrich.

FEMALES

- 1.—Second sternite clothed with fine yellow hair; large species, the genital opening in form of a vertical slit.....2.
 Second sternite wholly black-haired.....3.
- 2.—First genital segment with rather fine golden-yellow hair...*pallidipilosa*, n. sp.
 First genital segment with black hair.....*occipitalis* Thomson.
- 3.—Third abdominal segment with erect median marginals.....4.
 Third abdominal segment without erect median marginals.....11.
- 4.—Cheeks not wholly yellow-haired, sometimes mostly white-haired, but there are always many black hairs in front and above.....5.
 Cheeks wholly clothed with fine yellow hair, at most a very few scattered black hairs in front.....10.
- 5.—Cheeks proper wholly black-haired.....6.
 Cheeks at least broadly pale-haired behind.....9.
- 6.—Cheeks wholly dark in ground color.....7.
 Anterior third or more of the cheeks reddish in ground color.....8.
- 7.—Middle tibiae with two anterodorsal bristles.....*intona*, n. sp.
 Middle tibiae with only one anterodorsal bristle.....*kartabo*, n. sp.
- 8.—Median black vitta of thorax as wide as sublateral vittae.....species.
 Median black vitta decidedly narrower for most of its length than the sublateral ones.....*fringidea*, n. sp.
- 9.—Fourth abdominal segment reddish, with golden pollen; abdomen deeper than wide.....species.
 Fourth abdominal segment not reddish, with grayish-yellow pollen; abdomen wider than deep.....*sternodontis* Townsend.
- 10.—First genital segment with scattered hairs.....*clotho*, n. sp.
 First genital segment with only the marginal bristles.....species.
- 11.—Middle tibiae with only one anterodorsal bristle.....12.
 Middle tibiae with two anterodorsal bristles.....15.
- 12.—Anterior acrosticals well developed; genital segments blackish.
excitans, n. sp.
 Anterior acrosticals not longer than the surrounding hairs or the genital segments reddish.....13.
- 13.—Fourth abdominal segment reddish.....14.
 Fourth abdominal segment rather bronzed, not conspicuously reddish.
xanthosoma Aldrich.
- 14.—Cheeks red in front.....*fringidea*, n. sp.
 Cheeks not red in ground color on the anterior third.....species.
- 15.—Posterior buccal swelling wholly pale-haired.....16.
 Posterior buccal swelling black-haired toward the cheeks...*molitor*, n. sp.
- 16.—Fourth abdominal segment reddish, with golden pollen....*anguilla*, n. sp.
 Fourth abdominal segment blackish, with cinereous pollen....*collusor*, n. sp.

***Sarcophaga lithogaster*, new species**

Large, black; hair of the occiput and most of the cheeks yellow; apical half of the fourth abdominal segment and the whole of the genitalia reddish, the appendages brown; middle and hind tibiae villous. Length, 17 mm.

MALE.—Head golden yellow; a single row of black hairs behind the occipital cilia on the upper half; a single row of black hairs on the parafacials; cheeks with black hair above. Palpi and antennae black; arista mostly reddish, its long rays black. Vibrissae situated slightly above the oral margin, the antennae almost reaching them. Front less than half as wide as either eye.

Pollen of the thorax cinereous, bright yellowish on the sides of the mesonotum in front; pleura above and dorsal vittae in front with ochreous tinge, the median black vitta extending to the apex of the scutellum; mesopleura brown above. Only two pairs of dorsocentral bristles; second sternopleural quite weak, situated near the first; scutellum with three pairs of marginal bristles, the apical pair somewhat weaker than the others, cruciate.

Legs black; anterior femora gray behind; posterior four femora villous beneath, their tibiae very densely villous.

Wings cinereous hyaline. Disc of squamae blackish. Halteres brownish red.

Abdomen with three moderately wide, irregular black vittae which are brown pollinose, elsewhere cinereous pollinose, each pollinose spot tessellate. Fifth sternite V-shaped between the lobes, the V gently rounded at the base, the inner margins with very short, dense black hair which becomes a little longer just at the apex. No bristles on the genitalia. Third abdominal segment with a pair of strong median marginals. Abdomen wholly black-haired. Lateral view of genitalia as in figure 49.

TYPE.—Male, May 10, 1924, Kartabo, (No. 24530), on carrion.

This is one of seven specimens included in lot No. 24530, which was labelled "Giant gray stripes." There are at least ten species occurring in British Guiana and more than twice as many in Brazil which are similar to this species superficially, and because of this fact it is impossible to determine species without illustrations of the genital characters.

***Sarcophaga clotho*, new species**

Large, black; hair of occiput and most of cheeks, yellow; fourth abdominal segment mostly brownish red; genitalia red with brownish appendages; middle and posterior tibiae densely villous. Length, male, 14 to 16 mm.; female, 10 to 12 mm.

MALE.—Similar to the preceding species in color, the differences being in the shape of the genitalia; the vibrissae are situated a little higher above the oral margin and the antennae do not reach quite so close to them. Fifth sternite yellow, rather U-shaped, the sides of the U gently diverging, projecting almost perpendicularly downward, the inner edge with rather short, dense setulae which are longer basally. Lateral view of genitalia as in figure 41.

FEMALE.—Front hardly half as wide as either eye; apical scutellars not cruciate; legs simple; apices of abdominal segments brown pollinose; first genital segment reddish, hidden from above, yellow pollinose, with bristly hairs along the sides of the genital opening and scattered hairs except dorsally; owing to the dorsal fold it forms a rather slit-like opening. Middle tibiae with two anterodorsal bristles.

Types.—Holotype, male, and paratype, male, Kartabo, May 10, 1924 (No. 24530), on carrion; allotype, female, Kartabo, April 23, 1924 (snake carrion, I). Paratypes: three females, Kartabo, March 12, May 7, 12, 1924.

The males were included in the same lot as the preceding species.

***Sarcophaga clotho impura*, new variety**

Agrees with the typical form, but the villosity of the tibiae is less dense and much shorter, being hardly as long as the width of the tibiae, but there are a few slightly longer hairs on the apical fourth.

TYPE.—Male, Kartabo.

***Sarcophaga occipitalis* Thomson**

THOMSON, 1869, 'Eugenies Resa,' p. 532.

Sarcophaga auribarbata TOWNSEND, 1912, Proc. U. S. Nat. Mus., XLIII, p. 357.

Sarcophaga cotyledonea ALDRICH, 1916, 'Sarcophaga and Allies,' p. 187 (f).

Sarcophaga occipitalis ALDRICH, 1930, Proc. U. S. Nat. Mus., LXXVIII, Art. 12, p. 27.

Six males and four females: male, Bartica District; male, Kartabo, May 8, 1924 (human excrement, 1st hour); four males, Kartabo, May 10, 1924 (No. 24530); female, Kartabo, May 11, 1924; two females Kartabo, March 30, 1924 (peccary entrails, I); female, Kartabo, April 26, (agouti carrion, III).

Four of these specimens (lot No. 24530) were contained in a vial of alcohol with the label "Giant gray stripes," together with specimens of the first two species described. The female of this species is easily recognized by the presence of fine yellow pile on the first two sternites and the black-haired first genital segment. Like the following species, it has the genital opening in the shape of a vertical slit and from lateral view this segment is convex apically, thus presenting a very different appearance from that of most of the species in the genus.

***Sarcophaga pallidipilosa*, new species**

Large, black; genitalia red; head golden yellow; cheeks yellow pilose on the posterior three-fourths; middle and posterior tibiae and femora of the male long villous. Length: male, 17 to 18 mm.; female, 14 mm.

MALE.—Front one-third as wide as either eye; frontal bristles but little diverging below; ocellars scarcely evident; two rows of black hairs behind the occipital cilia on the upper half. Anterior third or fourth of the cheeks black-haired. Vibrissae situated conspicuously above the oral margin. Palpi and antennae blackish, the third antennal segment and arista rather brownish.

Thorax grayish pollinose, with slight ochreous tinge on the sides and in front, the median blackish vitta extending over the scutellum which has a broad, obscurely reddish, free border; two pairs of strong dorsocentrals; one pair of acrosticals; three sternopleurals, the second one weak; four pairs of marginal scutellars, the apical pair cruciate.

Legs black; anterior femora posteriorly and the middle pair below gray pollinose; middle tibiae with one anterodorsal bristle.

Wings cinereous hyaline, lightly infuscated on the apical half in front and along the fourth vein and cross-veins. Squamae white, the disc brownish, the lateral hair wholly white. Halteres yellow, the stem mostly brown.

Abdomen with median vitta and narrow segmental apices black, and, from dorsal view, with a sublateral vitta composed of oblique triangles; gray pollinose, tessellate. Hair black, the under surface with fine yellowish pile except on the first tergite and the border of the fourth, which is strongly produced downward and bears on its lower edge a dense fringe of very short black hair. Fifth sternite with the lobes fairly widely separated, their inner edges parallel or gently converging apically, with a dense, short black fringe, their transverse apices with very dense, short black bristles or bristly hairs. Lateral view of genitalia as in figure 47.

FEMALE.—Agrees with the male except sexually, and only the two basal sternites and the first genital segment bear yellowish hair, the first genital segment golden pollinose. Abdominal pollen less dense.

TYPES.—Holotype, male, Kartabo, March 26, 1924 (human excrement); allotype, female, same data; paratype, male, Kaieteur, August 5, 1911 (F. E. Lutz).

***Sarcophaga anguilla*, new species**

Large, black, the apical segment and genitalia reddish; head golden pollinose; abdomen golden-yellow pollinose apically. Length: male, 14 to 16 mm.; female, 11 to 14 mm.

MALE.—Front not half as wide as either eye; frontals gently diverging anteriorly; ocellars weak, proclinate, two or three rows of black hairs behind the occipital cilia, which extend to the black hair of the upper and anterior part of the cheeks. Vibrissae situated distinctly above the oral margin. Palpi blackish. Antennae blackish brown, not reaching to the vibrissae, the arista long plumose.

Pollen of the thorax cinereous, with yellowish tinge in front on the dorsum, especially at the sides. Two pairs of dorsocentrals; one pair of acrosticals; three sternopleurals, the second weak and situated near the first; four pairs of marginal scutellars, the apical cruciate pair weak.

Legs black; middle and posterior tibiae on both sides, and their femora below, long villous; middle tibiae with one anterodorsal bristle.

Wings cinereous hyaline. Squamae white, the disc with slight brownish tinge, the pile largely yellowish-tinged. Halteres brownish red.

Abdomen with the median vitta brownish pollinose, the pollen elsewhere cinereous, tessellate, on the fourth segment rather golden, the sublateral dark vitta continuous. Pile wholly black. Fifth sternite with the inner edges of the lobes strongly diverging although parallel for a short distance basally, the basal section with a dense patch of short hairs in the middle, the margins otherwise with sparse hair. Apical half of the first genital segment yellow pollinose above; lateral view of genitalia as in figure 36.

FEMALE.—Cheeks with mostly black hair, reddish in ground color on the anterior half (they are less clearly so in the male); legs simple; sides of the third abdominal segment golden-yellow pollinose; apical scutellars absent; two anterodorsal bristles on the middle tibiae; first genital segment golden pollinose, with an apical fringe of bristles which are much more numerous above, without a crease; bearing some black hair dorsally, bare basally and laterally.

TYPES.—Holotype, male, Kartabo, April 23, 1924 (snake carrion, I); allotype, female, Kartabo, April 19, 1924; paratypes, two females, April 23, 1924 (human excrement), male, British Guiana, No. 83, and male, Chapada, Brazil (Williston Coll.).

***Sarcophaga bartica*, new species**

Black; head gray pollinose with brassy yellow tinge; fourth abdominal segment and genitalia reddish; posterior tibiae with long, rather sparse hair in front and behind. Length, about 11 mm.

MALE.—Front not half as wide as eye, the frontals gently diverging below; ocellars long; three rows of black hairs behind the occipital cilia; cheeks wholly black-haired; pile with yellowish tinge. Palpi and antennae blackish, the third antennal segment very long and narrow; arista brownish, with long black rays; vibrissae situated on a level with the oral margin.

Thorax gray pollinose, with slight yellowish tinge dorsally, the median black vitta not reaching the apex of the scutellum. Dorsocentrals, 3-4; acrosticals, 2 or 3-3; three almost equally strong, equally spaced sternopleurals; four pairs of marginal scutellars.

Legs black; femora mostly grayish pollinose; middle tibiae with a single antero-dorsal bristle, without long hairs.

Wings cinereous hyaline. Squamae white, with a small brownish discal stain, the rim yellowish, the fringe white. Halteres brownish red.

Abdomen cinereous pollinose, tessellate, with three brownish pollinose vittae; fourth segment mostly reddish, its pollen with more or less brassy tinge. Lobes of the fifth sternite rather strongly produced posteriorly, their ends broadly rounded, their inner edges with short black setulae on the basal half. Lateral view of male genitalia in figure 48.

TYPE.—Male, Kartabo, Bartica District.

***Sarcophaga collusor*, new species**

Black; grayish pollinose; posterior femora below and their tibiae sparsely villous. Length: male, 12 mm.; female, 9 to 11 mm.

MALE.—Head pale golden-yellow; front not half as wide as either eye; ocellars weak, divergent; frontals gently diverging below; about three irregular rows of black hairs behind the occipital cilia; cheeks wholly black-haired; pile pale yellowish. Palpi blackish. Antennae brownish, rather short, reaching a little beyond the lowest third of the face; arista long plumose.

Femora thinly gray pollinose, the anterior pair densely so behind; middle tibiae with one anterodorsal bristle.

Wings cinereous hyaline. Squamae whitish, the disc with a brown spot, the lateral fringe rather brownish on the basal half. Halteres brownish red.

Median vitta and narrow segmental apices brown pollinose, the sublateral vitta regular. First genital segment brownish on the basal half above. Lobes of the fifth sternite separated by a U-shaped excision, their inner edges with fine hair, their apices rounded on the inner half. Lateral view of genitalia as in figure 45.

FEMALE.—Pollen with a more yellowish tinge; legs without long hairs; apex of scutellum transverse, without apical bristles; first genital segment brownish red or reddish brown, grayish-ochreous pollinose, mostly hidden, with a broad crease above, bare except the apical fringe, which is broadly interrupted above.

TYPES.—Male, Kaieteur, August 6 (F. E. Lutz); allotype, female, Kartabo, June 1, 1924. Paratypes, female, Kartabo, April 15, 1924 (human excrement); male, Chapada, Brazil (Williston Coll.).

***Sarcophaga sternodontis* Townsend**

Sarcodexia sternodontis TOWNSEND, 1892, Journ. Inst. Jamaica, I, p. 105.

Six males and twelve females from Kartabo and Bartica District, March to June. April 29, 1922 (No. 22234), hatched from living caterpillar; May 15, 1924 (Nos. 24609 and 24610) reared from sphinx caterpillar; and May 31, 1924 (No. 24783), reared from sphinx caterpillar.

This is a very common species in the Neotropical region and it seems probable that an older name will be found for it among the species described by Wiedemann or Macquart. Aldrich has illustrated the male genitalia from lateral view: we present an illustration from the more characteristic posterior view (Fig. 37).

***Sarcophaga excitans*, new species**

Black; tibiae not villous; genital segments blackish or brown, pollinose. Length, 8.5 to 9 mm.

MALE.—Face and front rather golden yellow, the posterior orbits more or less so, the occiput grayish pollinose. Front one-third as wide as either eye; frontals but little diverging below; ocellars fairly long; head black-haired except a few pale hairs below the neck. Palpi black. Antennae brown, the basal segments black, reaching to the lowest sixth of the face. Vibrissae practically level with the oral margin.

Thorax rather brownish-gray pollinose, paler ventrally, the median black vitta much narrower than the others, not reaching to the apex of the scutellum. Two or three pairs of short but distinct anterior acrosticals; dorsocentrals, 3–4; three sternopleurals, the second one strong; four pairs of marginal scutellars, the apical pair weak.

Femora thinly brownish-gray pollinose; middle tibiae with one anterodorsal bristle.

Wings cinereous hyaline, the veins more or less clouded with brownish yellow. Squamae brownish, with pale border. Halteres brownish red, the knob brown.

Abdomen yellowish-gray pollinose, the first segment brownish, the others with median vitta, posterior borders and sublateral triangles, brownish pollinose, only a little tessellate. Genitalia small, blackish, gray pollinose, the first and second segments with bristles; lateral view as in figure 44. Fifth sternite with the lobes broadly separated, diverging, the inner margin with very short hair.

FEMALE.—Dorsocentrals not quite as strong; third abdominal segment without marginals; scutellum without the apicals; genital segments dark, pollinose, creased above, with terminal rows of bristles.

TYPES.—Holotype, male, Kaieteur, August 11, 1911 (F. E. Lutz); allotype, female, Kaieteur, August 14, 1911 (F. E. Lutz). Paratypes: male, Kartabo, October 25, 1920 (discolored); female, Kaieteur, August 8, 1911, (F. E. Lutz).

***Sarcophaga mentor*, new species**

Black; thorax rather yellowish, the abdomen and pleura grayish, pollinose; genital segments brownish red, wholly grayish pollinose. Length, 13 mm.

MALE.—Head grayish-yellow pollinose, the parafacials and the front golden; front not half as wide as either eye; frontals scarcely diverging below; ocellars fairly long; two complete rows of black hairs behind the occipital cilia; cheeks wholly black-haired. Antennae long, reaching almost to the vibrissae, the third segment brownish red. Vibrissae level with the oral margin. Palpi black.

The median black mesonotal stripe does not reach to the apex of the scutellum; two strong pairs and one weak pair of postsutural and two pairs of strong presutural dorsocentrals; one pair of acrosticals; three almost equally strong, equally spaced sternopleurals; three pairs of marginal scutellars.

Legs black; femora thinly gray pollinose; middle tibiae with one anterodorsal bristle; posterior tibiae not villous.

Wings cinereous hyaline, lightly luteous along the veins. Squamae white. Halteres reddish, with brownish knob.

Abdomen grayish pollinose, with median vitta, apices of segments and large sublateral triangles black, tessellate. Fifth sternite divided, with rather parallel sides, the inner apices produced as two oval knobs, the border with short, fine black hair. Lateral view of genitalia as in figure 46.

TYPE.—Male, Kartabo.

***Sarcophaga kartabo*, new species**

Black; grayish pollinose, genitalia reddish, yellow pollinose; tibiae not villous. Length, 8 to 9 mm.

MALE.—Head with golden tinge in front; front about one-third as wide as either eye; frontals somewhat diverging below; ocellars quite weak; three or four rows of black hairs behind the occipital cilia; cheeks wholly black-haired. Antennae black, reaching almost to the vibrissae. Vibrissae very little above the oral margin. Palpi black.

The median mesonotal black stripe is well separated from the posterior border of the scutellum. Dorsocentrals, 2 or 3-4, the anterior ones weak; one pair of acrosticals; three sternopleurals, the second fairly strong; three pairs of marginal scutellars.

Legs black; femora thinly gray pollinose, middle tibiae with one anterodorsal bristle.

Wings cinereous hyaline. Squamae white, with slight brownish tinge on the disc. Halteres reddish yellow, with the base of the knob brownish.

Abdomen with the median vitta and segmental apices brownish pollinose, tessellate, the sublateral vittae continuous in some lights; fourth segment with yellowish tinge to the pollen. Inner edges of the lobes of the fifth sternite parallel, produced as a long, narrow, subtriangular lobe, the outer margins of which bear several long black hairs. Genitalia as in figure 43.

FEMALE.—Genitalia brownish red, gray pollinose, creased above, with a terminal row of bristles and a very few scattered hairs; ocellars somewhat stronger.

TYPES.—Holotype, male, Kartabo, March 14, 1924; allotype, female, Kartabo, April 26, 1924 (agouti carrion, III). Paratypes: two females, Kartabo, March 28 and April 19, 1924 (human excrement).

***Sarcophaga molitor*, new species**

Black; grayish pollinose, the thorax above and the fourth abdominal segment with yellowish tinge; tibiae not villous, the middle pair with a single anterodorsal bristle. Length, 8.5 to 9.5 mm.

MALE.—Front one-third as wide as either eye, the frontal bristles slightly diverging below; ocellars short; hair of head black except around the neck and below it. Antennae black, reaching to the lowest sixth of the face. Vibrissae situated on a level with the oral margin. Palpi black.

Dorsocentrals, 3-4, all but the posterior pair rather weak; one pair of acrosticals; three sternopleurals, the second weaker and situated near the front one; three pairs of marginal scutellars.

Legs black; femora thinly grayish pollinose.

Wings cinereous hyaline. Squamae white, brownish on the disc, with a brownish tinge on the apical half. Halteres brownish red.

Abdomen with median vitta, posterior margins of the segments and sublateral triangles shining black, weakly tessellate. Fifth sternite small, its lobes ending in a small triangular projection, their inner edges almost touching and parallel, clothed with short setulae. Lateral view of genitalia as in figure 38.

FEMALE.—Front wider, the front and face inclined to be golden-tinged; fourth abdominal segment rather bronzed, the abdominal pollen with yellowish tinge laterally and on the apical half. First genital segment dull reddish, yellowish pollinose, with many sparse black hairs in addition to the apical fringe of bristles, creased above.

TYPES.—Holotype, male, Kaieaur, August 5, 1911 (F. E. Lutz); allotype, female, Kartabo, March 24, 1924, and two female paratypes, Kartabo, March 28, 1924 (human excrement).

***Sarcophaga fringidea*, new species**

Black; fourth abdominal segment and genitalia reddish; cheeks reddish on the anterior half, wholly black-haired; gray pollinose, the head and the fourth abdominal segment with golden-yellow pollen. Length, 7 to 10 mm.

MALE.—Head golden; front one-third as wide as either eye, the frontals very slightly diverging below; ocellars short; head black-haired, the middle of the occiput and lower part with yellowish pile. Antennae reaching almost to the vibrissae which are slightly above the oral margin. Palpi black.

Thorax cinereous pollinose; two moderately strong anterior, two weak and two strong pairs of posterior dorsocentrals; one pair of acrosticals; three sternopleurals, the second weaker and situated near the first; three pairs of marginal scutellars.

Legs black; middle tibiae with one anterodorsal bristle; femora thinly gray pollinose, the anterior pair densely so posteriorly.

Wings cinereous hyaline. Squamae yellowish white, with a slight brownish tinge on the disc. Halteres yellow.

Abdomen reddish laterally and apically; median vitta and the segmental apices black, tessellate. Fifth sternite with the inner edges of the lobes parallel, narrowly separated, angulated at the apex, the end rounded. Lateral view of genitalia as in figure 40.

FEMALE.—Fourth abdominal segment with rather blackish median vitta, quite golden; first genital segment reddish, fused with the lower walls of the fourth abdominal segment dorsally, laterally with terminal black bristles.

Types.—Holotype, male, Georgetown, July 2, 1911 (F. E. Lutz); allotype, female, Kartabo, October 25, 1920 (No. 20268). Paratypes: four females, Kartabo, April 19, 23, and May 12, 1924, three at human excrement.

***Sarcophaga intona*, new species**

Black; fourth abdominal segment and genitalia reddish; gray pollinose, the head and fourth abdominal segment golden yellow; tibiae not villous. Length, 8.5 to 9 mm.

MALE.—Front one-third as wide as either eye; ocellars short; frontals gently diverging below; three or four rows of black hairs behind the occipital cilia; cheeks wholly black-haired. Palpi black. Vibrissae situated practically on a level with the oral margin. Antennae blackish, reaching to the lowest fifth of the face.

Median black mesonotal vitta broadly separated from the apex of the scutellum. Dorsocentrals, 2 or 3–4, the anterior ones much weaker than the posterior two pairs; one pair of acrosticals; three sternopleurals, the second long and fine, situated nearer the first; three pairs of marginal scutellars.

Legs black; femora thinly gray pollinose, the anterior pair thickly so posteriorly, middle tibiae with a single anterodorsal bristle.

Wings cinereous hyaline. Squamae white, with slight brownish tinge on the apical half. Halteres yellow.

Median abdominal vitta and the narrow segmental apices brown pollinose, the sublateral vittae not forming a straight line, tessellate; sides and venter of abdomen more or less reddish. Fifth sternite reddish, the lobes with their inner edges parallel, contiguous, bare, the apex angular inwardly, gently convex, with short, stout marginal hairs. Lateral view of genitalia as in figure 42.

FEMALE.—Middle tibiae with two anterodorsal bristles. Genital segments eaten away, probably as in *fringidea*.

Types.—Holotype, male, and allotype, female, Kartabo.

***Sarcophaga xanthosoma* Aldrich**

ALDRICH, 1916, '*Sarcophaga* and Allies.'

Three males and three females, Kartabo, March 6, 28, 30, and April 23, 1924 (human excrement and peccary entrails, I).

***ADISCOCHAETA* Enderlein**

ENDERLEIN, 1928 (January 31), Arch. Klass. phylog. Ent., Wien, I, p. 44.

Squamata CURRAN AND WALLEY, 1928 (January 20), Sci. Surv. Porto Rico and Virgin Islands, XI, p. 94.

The generic name *Squamata* was included in the key to genera published in the work cited, but since no species was named must be considered a *nomen nudum*. We had originally described the only known species several years before, but inasmuch as the name has never been published, we are fortunately able to suppress it, thus eliminating a synonym. It may be argued that *Squamata*, being entirely recognizable and including only one species known to science, should be recognized in

preference to *Adiscochaeta* but I do not hold this view, believing that no genus should be recognized until a species is included, and that the validation of a generic name dates only from the date of inclusion of a species and not the date of proposal. The synonymy of the two genera was determined by Dr. C. H. T. Townsend, who examined the Enderlein type and the labelled types of our proposed new species upon which *Squamata* was based. The generic description follows.

Related to *Sarcophaga* and *Harpagopyga*, but at once distinguished from all sarcophagid genera known to us by the presence of longish white or black pile on the upper surface of the lower lobe of the squamae and the absence of pile on the middle of the propleura. Front without orbitals in male; bristles of the thorax greatly reduced in number as there is only one weak pair of acrosticals (the prescutellars), two pairs of dorsocentrals, one of which is quite weak, situated in front of the scutellum, a single intra-alar, presutural present, three pairs of supra-alars, four notopleurals and two pairs of marginal scutellars and a weak decussate apical pair; sternopleurals, 1-1, with sometimes a very weak third; wings with bristles on basal part of third vein only; first two abdominal segments without dorsal bristles, with a single lateral, the third segment with one pair of dorsal marginals and one or two lateral pairs; fourth segment with a row of marginals; fifth sternite of the male divided V-shaped; first genital segment of the female closing in a slit and concealing the genitalia.

GENOTYPE.—*Adiscochaeta abnormis* Enderlein.

Adiscochaeta abnormis Enderlein

ENDERLEIN, 1928, Arch. Klass. phylog. Ent., Wien, I, p. 45.

Black, the fourth abdominal segment largely, and sometimes the others laterally, reddish; in the female the abdomen black, with the fourth segment mostly and the genitalia wholly, reddish. Length, 12 to 17 mm.

MALE.—Head golden-yellow pollinose; front half as wide as eye, somewhat widened above, moderately widening anteriorly; frontal vitta deep black, wider than parafrontal opposite any point; frontal bristles becoming very weak above, with a strong reclinate one on either side near the vertex, scarcely diverging below where they extend to the middle of the second antennal segment. Ocellar bristles absent or scarcely differentiated; outer verticals absent. The occipital cilia extend almost to the lower edge of the eyes and there is a row of black hairs behind them on most of their length, the pile elsewhere on the occiput, cheeks and parafacials yellowish; cheeks slightly more than one-third the eye-height; facial ridges with numerous short black hairs on lower half; vibrissae rather far above the oral margin. Palpi black; antennae black, the arista with abundant long black rays.

Thorax with grayish-yellow pollen which appears more or less golden or ochreous from most views, the mesonotum with three broad black vittae, the median one extending over the scutellum which is otherwise gray pollinose. Parts of the pleura are almost bare.

Legs black, the femora in part gray pollinose; middle femora with strong comb, their tibiae with a single anterodorsal bristle beyond the middle; posterior tibiae villous below. Pulvilli elongate, reddish.

Wings cinereous hyaline, more or less luteous on the basal half in front. Squamae whitish; halteres yellow.

Abdomen with a median vitta and an oblique, dark stripe on each segment, from dorsal view. Hair black, fine and yellow on the under side except laterally. Lobes of the fifth sternite with numerous small black setulae on their inner surfaces. Lateral view of the genitalia as in figure 30.

FEMALE.—Posterior tibiae not villous. The front is almost three-fourths as wide as either eye, with subparallel sides on the upper three-fourths; lateral spots on the abdomen diffuse and not well marked; fourth abdominal segment with blackish spots at base corresponding to the dark spots on the preceding segments, otherwise reddish, with yellowish tinged pollen. First genital segment reddish yellow, bare on its upper half except the tip.

Male, Chapada, Brazil, January (Williston Coll.); female, Kartabo, British Guiana, June 4, 1922; male, Chapada, Brazil, November (Williston Coll.); two males, Tukeit, British Guiana, July 17, 1911 (F. E. Lutz); female, Waratuk, British Guiana, February 16, 1921; female, Kartabo, June 3, 1924 (No. 24812), female, Kartabo, April 20, 1924 (human excrement). An additional specimen, Kartabo, May 31, 1924 (No. 24748) lacks head and abdomen.

This species was originally described from Paraguay and Colombia.

TACHINIDAE

The Tachinidae are regarded as the most beneficial family of Diptera, being parasitic upon other insects of all the main orders, and recently I have described a species from Africa which is parasitic upon another dipteran—a syrphid—a habit which has been previously noted but once. Lepidopterous larvae are the forms mainly attacked. The classification is extremely difficult to follow and few reliable keys are available. So many genera have been described that it is entirely impossible to form any true conception of their relationship, since they are not included in any keys that place their characters before one in a form that can be followed. In the following pages I record a goodly number of species occurring in British Guiana, and present keys to these forms, in many cases including species from other parts of the Neotropical region in order to show the affinities of the species described. Continued collecting will undoubtedly uncover these species, or many of them, in the very limited region of which Dr. Beebe has made such a thorough study in the time available.

KEY TO GENERA

- 1.—Abdomen without macrochaetae.....2.
 Abdomen with true macrochaetae.....4.
- 2.—Posterior and apical cross-veins transverse; abdomen but little longer than wide.....*EUSCOPOLIOPTERYX* Townsend.
 Posterior cross-vein oblique; apical cell open or closed near the apex of the wing; abdomen twice as long as wide.....3.
- 3.—Posterior tibiae on the dorsal surface with entire or partial row of scale-like hairs.....*TRICHIPODA* Latreille.

- Posterior tibiae without scale-like hairs *Acaulona* Van der Wulp.
- 4.—Eyes thickly hairy 5.
 Eyes with inconspicuous hairs or bare 11.
- 5.—Parafacials with fine hairs on lower half or more . . . *WINTHEMIA* Desvoidy.
 Parafacials bare on at least the lower two-thirds 6.
- 6.—Arista long plumose *THELAIRODES* Van der Wulp.
 Arista bare or pubescent 7.
- 7.—First two abdominal segments without dorsal bristles, the third with a row of
 very stout ones, the fourth with some fine, not strongly differentiated
 bristles; face carinate on whole length; oral vibrissae absent.
PELIXIA, n. gen.
 At least the second abdominal segment with marginals; oral vibrissae strongly
 developed 8.
- 8.—Posterior sublateral bristle absent 9.
 ■ Posterior sublateral bristle well developed 10.
- 9.—Facial ridges bristly on lower half or more *EUTHELAIRA* Townsend.
 Facial ridges bristly on less than the lowest third *URAMYA* Desvoidy.
- 10.—Facial ridges bristly on lower half or more *PHOROCERA* Desvoidy.
 Facial ridges bristly on less than lowest third; parafacials above with a single
 long reclinate bristle below the base of the arista, distinct from the frontals;
 first, third, and fifth wing veins bristly; bend of fourth vein with strong
 fold; scutellum with three pairs of strong marginals, the apical pair
 cruciate *HELIAEA*, n. gen.
- 11.—Arista plumose, the rays sometimes only about half as long as the width of the
 third antennal segment 12.
 Arista bare or pubescent, the hairs rarely one-fourth as long as the width of the
 third antennal segment 24.
- 12.—Face strongly carinate on its whole length 13.
 Face weakly or not at all carinate; at least not carinate on its lower half . . . 15.
- 13.—Palpi short, stout, cylindrical, enlarged apically, with only one or two short,
 weak black bristles at the apex; fourth abdominal segment of male pro-
 duced as a long, slender process . . . *TRICHODURA* Brauer and Bergenstamm.
 Palpi, if short, somewhat flattened and with numerous bristly hairs; oral
 margin prominent 14.
- 14.—Antennae reaching to the lowest fourth of the face; vibrissae but little above
 the oral margin *SCOTIPTERA* Macquart.
 Antennae not reaching beyond the lowest third of the face; vibrissae well
 above the oral margin *RHYNCHIODEXIA* Bigot.
- 15.—Squamae much reduced in size; abdomen very long, clavate.
CORDYLIGASTER Macquart.
 Squamae large 16.
- 16.—Vibrissal angles obsolete, the vibrissae not strongly developed; dorsal
 abdominal bristles limited to the apical two segments . . . *ORMIA* Desvoidy.
 Vibrissal angles well developed or the vibrissae quite strong 17.
- 17.—Width of cheeks equal to one-half the eye-height; proboscis short, with large
 labellae 18.
 Width of cheeks not over one-third the eye-height, or the proboscis slender,
 with small labellae 19.

- 18.—Vibrissal angles not well developed, the upper pair of bristles over one-third the length of the face above the receding oral margin; antennae lying in a deep, oval facial depression; parafacials hairy.

MICROPHTHALMA Macquart.

Only one pair of strong vibrissae; antennae elongate, not in a deep concavity; parafacials bare (*Ervia* Desvoidy).....ICELIA Desvoidy.

- 19.—Parafacials with some fine hairs, narrowed below; middle legs of the male extremely long.....CHOLOMYIA Bigot.

Parafacials bare.....20.

- 20.—Length of head at oral margin almost as great as at antennae, the oral margin projecting.....21.

Length of head at oral margin conspicuously shorter than at base of antennae, the oral margin not more prominent than the vibrissal angles.....22.

- 21.—Apical cell ending far before the wing tip; arisal rays three times as long as width of third antennal segment.....MELALEUCA Van der Wulp.

Apical cell ending close to wing tip; arisal rays at most but little longer than width of third antennal segment.....MYOBIA Desvoidy.

- 22.—Posterior pair of presutural acrosticals extremely close to the suture; three pairs of presutural dorsocentrals.....FRONTINA Meigen.

Posterior pair of presutural acrosticals well before the suture, but little behind the posterior pair of presutural dorsocentrals, or there are only two pairs of presutural dorsocentrals.....23.

- 23.—Abdomen tapering apically.....PHYLLOPHILOPSIS Townsend.

Abdomen egg-shaped, rounded apically from dorsal aspect, deeper than wide.

OESTROGASTRODES Townsend.

- 24.—Palpi absent or extremely short; ocellars absent; parafacials with one or two strong bristles below.....CUPHOCERA Macquart.

Palpi well developed, usually long.....25.

- 25.—A group of two to many spinules beneath the inner end of the squamae.....34.

Infrasquamal spinules absent.....26.

- 26.—Abdomen elongate, narrow, the bristles very short, the intermediate segments with at most one pair of marginals; genital opening ventral; apical cell ending close to apex of wing.....couplet 3.

Abdomen broad obconical, always with long bristles.....27.

- 27.—Frontal vitta reduced to a line by the broad, argenteous parafrontals; vibrissae level with oral margin; posterior tibiae closely ciliate anterodorsally.

ARGYROPHYLAX Brauer and Bergenstamm.

Frontal vitta wider; vibrissae usually well above the oral margin or the hind tibiae not ciliate.....28.

- 28.—Proboscis elongate, horny, usually pale-colored species; arista almost always strongly pubescent.....MYOBIA Desvoidy.

Proboscis short and fleshy; if pale-colored the parafacials are hairy.....29.

- 29.—Third and fourth abdominal segments with discal macrochaetae.

BLEPHARIBEZA Macquart.

At least the third segment without discals.....30.

- 30.—Palpi little more than twice as long as wide; face not at all carinate; ocellars short.....BELVOSIELLA, n. gen.

Palpi normal.....31.

- 31.—Ocellar bristles entirely absent. 32.
 Ocellars at least distinctly differentiated. STURMIA Desvoidy.
- 32.—Facial ridges with strong bristles on at least the lowest third.
 BELVOSIA Desvoidy.
 Facial ridges without strong bristles. 33.
- 33.—Parafacials with two or three strong bristles below. PELETERIA Desvoidy.
 Parafacials without strong bristles below. ARCHYTAS Jaencke.
- 34.—Parafacials with short hair. *Cryptomeigenia* Brauer and Bergenstamm.
 Parafacials bare. LYDELLA Desvoidy.

EUSCOPOLIOPTERYX Townsend

Related to *Phasia* but readily distinguished by the wide front, peculiar wing venation, etc. Head as in *Phasia*, but the sides of the front parallel in both sexes, in the male three-eighths as wide as either eye; the frontal bristles fine, short, decussate, not extending to the base of the antennae; ocellars small; postocellars strong; verticals duplicated, weak. Face perpendicular, gently concave above the vibrissae which are slender and situated well above the oral margin. Occiput swollen on the lower half; width of cheeks equal to one-eighth the eye-height. Antennae not reaching to the vibrissae; third segment narrow, twice as long as the second; arista long, plumose, its rays over half as long as the width of the third antennal segment. Thorax with two pairs of posterior dorsocentrals and one anterior pair; only the prescutellar acrosticals present; all the mesonotal bristles fine; sternopleurals, 1-1. Scutellum gently convex, subtriangular, with a basal and subapical pair of fine marginals. Abdomen short, oval or subcircular, without bristles, although the hair are partly strong on the apical segments. Apical and posterior cross-veins transverse or somewhat recurrent and sinuous, the fourth vein with a short appendage at the angle; third vein extending to the tip of the wing, with several basal bristles.

Euscopolipteryx nebulosa Townsend

TOWNSEND, 1917, Bull. Amer. Mus. Nat. Hist., XXXVII, p. 224.

Length, 4 to 4.5 mm.

MALE.—Face and occiput silvery white pollinose, the parafrontals with yellow pollen above, very narrow, the parafacials and cheeks with golden-brown pollen; parafacials linear except above; frontal vitta rusty brown. Pile of the occiput pallidly yellow. Antennae reddish yellow, the arista brownish.

Mesonotum gray pollinose, with three broad, rusty-brown vittae which are broadly separated from the posterior margin, all interrupted at the suture, the middle one divided by a slender median line in front of the suture. Pleura rusty-brown pollinose. Scutellum bluish black, thinly pollinose.

Legs brownish; femora yellow except the sub-basal half.

Wings cinereous hyaline, very largely brown; all the cross-veins very broadly clouded with brown, the costal and subcostal cells, the broad base of the wings, and the apex broadly, pale brown and connected with the irregular preapical fascia which extends along the veins so that two oval, clear spots are enclosed; there is also a brown expansion behind the apex of the first vein. Squamae white, with yellowish tinge. Halteres yellow, the knob blackish.

Abdomen metallic blue, shining; third and fourth segments each with a basal whitish pollinose triangle reaching the whole length of the segment on either side, and broadly separated in the middle.

FEMALE.—Differs only sexually.

Redescribed from two males and one female. Kartabo. Males, November 25, 1920, female, October 30, 1920 (No. 20471).

ORMIA Desvoidy

In the collection are four species belonging to this genus, two of them evidently undescribed. I have prepared the following key of the species known to me.

- 1.—Third antennal segment but little longer than the second.
brevicornis Townsend.
- Third antennal segment much longer than the second.....2.
- 2.—Abdomen brown, submetallic, the base yellow.....*buscki* Townsend.
- Abdomen rusty yellow to pale yellow, with narrow, brown segmental fasciae..3.
- 3.—Thorax pale cinereous; posterior valve of the posterior thoracic spiracle thread-like.....*nocturna*, n. sp.
- Thorax only moderately yellowish-cinereous pollinose, the ground color not wholly concealed; posterior valve usually larger, flattened.....4.
- 4.—Mesonotum with three broad brownish vittae (southern states).
montana Townsend.
- Mesonotum unicolorous or practically so.....5.
- 5.—Head very short; parafacials above narrower than the third antennal segment, very much narrower at the middle.....*guianica*, n. sp.
- Head longer; parafacials above wider than third antennal segment, scarcely narrower at middle.....6.
- 6.—Posterior valve of posterior thoracic spiracle broad, with moderate fringe.
ochracea Bigot.
- Posterior valve narrow, linear, evenly fringed.....*punctata* Desvoidy.

Ormia buscki Townsend

Ormiophasia busckii TOWNSEND, 1918, Ins. Ins. Mens., VI, p. 165.

A single female, Kartabo, 1921. Easily recognized by the dark abdomen.

Ormia punctata Desvoidy

DESVOIDY, 1830, 'Essai sur Myodaires,' p. 428.

Two females from Kartabo, March 4, May 19, 1922, the former at light, and one female, April 26, 1924.

Ormia nocturna, new species

FEMALE.—Length, 7 mm. Front at level of antennae as wide as either eye, strikingly narrowed on the upper fourth, the median vitta orange, the head elsewhere whitish, with a large fuscous spot below either eye. Ocellar bristles not developed, the frontals evidently in four rows (broken off). Antennae almost white, the third segment and arista yellow, the latter with short rays, but they are twice as long as in *punctata* Desvoidy. Palpi and proboscis yellow. Bristles and hair of the head wholly black.

Thorax pale ashy pollinose, the hair and bristles black. Dorsocentrals, 3-3; acrosticals, 3-3; the anterior bristles weak; sternopleurals 1-1; three pairs of strong marginal scutellars; no apicals or discals.

Legs pale yellowish, dull. Middle tibiae with a single anterodorsal bristle near the apical fourth. Wings cinereous hyaline, the subcostal cell luteous. Squamae slightly tinged with fuscous. Halteres pale yellow.

Abdomen pale yellow, the apices of the segments slightly darkened; apical two segments pale cinereous pollinose, the two basal segments very lightly so, subtranslucent. First two segments without dorsal bristles, the third with a preapical row of six short ones, the fourth with a median row of finer bristles. Hair wholly black.

TYPE.—Female, Kartabo, April 25, 1922, at light.

Ormia guianica, new species

Readily distinguished from the other species by the short head, narrow parafacials and narrow front. Length, 7 mm.

FEMALE.—Yellowish, the abdomen with obscure, black apical segmental fasciae in some lights; hair and bristles black. Head more than twice as high as long; front at antennae three-fourths as wide as either eye, slightly narrowed above; a single row of orbitals, the hair sparse; ocellars small but conspicuous; frontal vitta a little narrower than parafrontal for most of its length; outer verticals longer than the cruciate verticals. Parafacials without fine hairs above. Head with pale cinereous pollen. Rays of the arista less than twice as long as its basal diameter.

■ Thorax thinly grayish-ochreous pollinose. Acrosticals and dorsocentrals, 3-3; sternopleurals, 1-1; three pairs of marginal scutellars.

Tarsi scarcely darkened. Wings hyaline, tinged with luteous, yellowish in front. Squamae and halteres pale yellowish.

■ Third abdominal segment with a row of marginals, the fourth segment with a complete row of discals across the middle and a weak apical row.

TYPE.—Female, Kartabo, April 12, 1924.

MICROPHTHALMA Macquart

Aldrich¹ has reviewed the American species belonging to this genus. I have enlarged his key to include the new species from British Guiana.

TABLE OF SPECIES

- | | |
|---|----------------------------------|
| 1.—Arista pubescent or almost bare..... | 2. |
| Aristal rays three-fourths as long as the second antennal segment. | |
| | <i>vibrissatum</i> Van der Wulp. |
| 2.—Third antennal segment black, the base reddish..... | 3. |
| Third antennal segment reddish, the apex only a little darkened..... | 6. |
| 3.—Anterior cross-vein clouded with brown, all the veins more or less bordered with brown..... | 4. |
| Anterior cross-vein not clouded; wings hyaline..... | <i>cuzcana</i> Townsend. |
| 4.—First antennal segment produced into a scale-like lobe projecting over the base of the second segment..... | <i>sordida</i> Giglio-Tos. |
| First antennal segment simple, not produced..... | 5. |

¹1926, Proc. U. S. Nat. Mus., LXIX, Art. 13.

- 5.—Posterior half of abdominal segments two to four, shining brown; black mesonotal vittae not interrupted at the suture.*lativentris*, n. sp.
 Abdomen rather evenly pollinose, the apices of the segments rather narrowly bare; mesonotal vittae all interrupted at the suture.*virens* Aldrich.
- 6.—With three sternopleurals.7.
 Only two sternopleurals.*ruficeps* Aldrich.
- 7.—Abdomen practically all pollinose, without contrasting cross-bands.8.
 Abdomen with the apical half of the segments shining black, the basal half whitish pollinose.*disjuncta* Wiedemann.
- 8.—Scutellum with three pairs of marginals.*michiganensis* Townsend.
 Scutellum with two pairs of marginals.*shannoni* Aldrich.

***Microphthalma lativentris*, new species**

Related to *virens* Aldrich but differing as indicated in the table of species, in having five or six pairs of marginal scutellars, etc. Length, 12.5 to 13 mm.

FEMALE.—Head brownish, the clypeus and facial ridges reddish; pollen dull golden, the occiput grayish-tinged, the soft part of the face and cheeks appearing brown from most views. Front above almost six-sevenths as wide as greatest width of eye, above the antennae two-sevenths wider than eye; eight pairs of frontals, the lower two below the base of the antennae, the upper pair reclinate; two pairs of strong orbitals, and sometimes one or two parafrontal bristles anteriorly; frontal hair short, sparse and bristle-like; ocellars weak, divergent; outer verticals absent. Occiput black-haired, the central and lower part yellowish pilose. Cheeks slightly more than half as wide as eye-height, with a broad brown stripe between the orbit and oral margin, hair black. Parafacials wide, with coarse hair over the whole surface; the hair of the parafacials and cheeks is separated by a broad bare band but is unusually extensive. Facial depression limited to the upper half or slightly less, the vibrissae immediately below the depression very strong, all the other bristles below them and on the oral margin laterally, weaker and of about equal length. Palpi reddish, with black hair. Antennae reddish, the third segment mostly blackish beyond the base of the arista; arista pubescent.

Thorax blackish, with cinereous-yellowish pollen on the mesonotum, sternopleura, mesopleura, and scutellum, the pleura with cinereous-brown pollen; mesonotum with four black vittae, the median pair extending to a little behind the suture where they are replaced by a central vitta which extends on to the disc of the scutellum. Acrosticals, 3-2, and there are some weak anterior ones behind the suture; dorsocentrals, 3-4; three intra-alars; posterior sublateral present; sternopleural bristles arranged 1-1-1; five or six pairs of marginal scutellars, the apical pair strong and decussate, the scutellum with several discals in a submarginal row.

Legs blackish; femora with grayish pollen. Anterior tibiae with a dorsal row of bristles and a strong posterior bristle; middle tibiae with three anterodorsal bristles, two posterior and one ventral; posterior tibiae with a row of sparse anterodorsal bristles of which one at the middle is long, two posterodorsal, and one anteroventral bristle.

Wings pale brownish, darker anteriorly and along the veins. Appendage at bend of fourth vein extending more than halfway to the wing margin; third vein with about six bristles basally above. Squamae pale yellowish, with yellow border. Halteres reddish yellow.

Abdomen black, the basal half, or slightly more of the second to fourth segment, cinereous pollinose; the apical half of the segments with brownish pollen. Second segment with a pair of median marginals, the third and fourth each with a row, the fourth with a row of discals.

TYPES.—Holotype, female, Issororo, N. W. District, June 1916 (C. E. Bodkin); paratype, female, Issororo, July 1916 (C. B. Williams). The type is in the British Museum of Natural History.

***Microphthalma vibrissatum* Van der Wulp**

Dexiosoma vibrissatum VAN DER WULP, 1891, 'Biol. Centrali-Americana,' II, p. 244.

Distinguished from the remaining species in the genus by the long plumose arista. Length, 12.5 mm.

FEMALE.—Black, gray pollinose. Cheeks and inner portion of the parafacials rusty reddish in some views. Parafrontals deep brassy yellow, almost brown above, the upper part of the occiput yellow, the head elsewhere silvery gray. Ocellars weak. Cheeks with three long bristles on the lower border; oral vibrissae, two on either side, widely separated, with two weak bristles between them. Width of cheeks two-thirds the eye-height. Palpi and labellae orange. Antennae orange; arista brownish, tapering, yellowish basally, the rays more numerous above and below but arising on all surfaces; above and below much longer than the width of the third antennal segment.

Mesonotum with four black vittae, the inner ones narrower and joined behind to a median vitta which reaches the apex of the scutellum, the outer pair not reaching the scutellum. Pollen of the mesonotum grayish yellow, the pleura gray pollinose on the anterior half except a large triangle covering the brown spiracle. Posterior acrosticals, 2; dorsocentrals, 3; sternopleurals, 1-1; three pairs of strong marginal scutellars, the apical pair cruciate and with a weaker pair of convergent bristles halfway between their base and the next pair; a weak pair of discals.

Legs black, the anterior femora gray posteroventrally. Anterior coxae with two rows of bristles. Wings infuscated, paler behind and in the large cells. Squamae grayish white, the border with yellowish tinge. Halteres brownish, the base reddish.

Abdomen black, the basal half or more of the apical three segments grayish or silvery-white pollinose, the segments elsewhere thinly brownish pollinose. Second segment with one pair of marginals, the third with a row; fourth with a postmedian row of discals and row of marginals.

A single female, Kamakusa (H. Lang).

This species has been placed in *Dexiosoma*, but the length of the pubescence on the arista is variable in the genus and the so-called plumosity arises from all sides of the arista. It will be noted that this specimen differs from the descriptions given by Aldrich and Van der Wulp in having weaker bristles between the strong vibrissae, but I do not think that this is a specific character, although at first I was inclined to consider it so.

***Icelia triquetra* Olivier**

Ocyptera triquetra OLIVIER, 1810, 'Encycl. Method.,' VIII, p. 423.

Two females are evidently this species. They were collected at Kartabo on July 5, 6, 1922, and one bears the number "48" on the corner of the label.

This species agrees in all respects with the genotype of *Dexia*, except that the palpi are much smaller, although of the same general type.

***Trichodura anceps* Fabricius**

Musca anceps FABRICIUS, 1805, 'Syst. Antl.,' p. 296.

Female, Bartica District; female, Bartica, September, 1922 (H. Lang); two males, Tukeit, July 17, 1911 (F. E. Lutz); female, Kartabo, May 26, 1924.

Trichoduropsis guianensis Townsend, based upon two females in the United States National Museum, is certainly the same as *anceps* Fabricius, as suspected by Dr. Aldrich, who had not seen males from our region.

RHYNCHIODEXIA Bigot

Rhynchiodexia BIGOT, 1885, Bull. Soc. Ent. France, p. ix.

Ptilodexia BRAUER AND BERGENSTAMM, 1889, Denkschr. Akad. Wien, LVI, p. 119.

Clinoneura BRAUER AND BERGENSTAMM, 1889, Denkschr. Akad. Wien, LVI, p. 119.

Brauer and Bergenstamm indicated the synonymy of *Clinoneura* and *Ptilodexia*. *Ptilodexia* in the strict sense has the sides of the face setose, whereas typical species of *Rhynchiodexia* lack hairs on the parafacials. The character is not of generic importance since every gradation occurs, from bare to rather extensively setose. Some species have only a few setae on the parafacials above while others have the upper half sparsely haired. I have before me two species of *Rhynchiodexia* from British Guiana.

TABLE OF SPECIES

- | | |
|---|------------------------------|
| 1.—Infrasquamal setulae present..... | 2. |
| Infrasquamal setulae absent; parafacials with one or two setulae near the middle, none above..... | |
| | <i>vittigera</i> , n. sp. |
| 2.—Parafacials bare below the frontals; wings light brownish.. | <i>tinctipennis</i> , n. sp. |
| Parafacials with many setae above; wings cinereous hyaline.. | <i>sororia</i> Williston. |

***Rhynchiodexia tinctipennis*, new species**

Black, cinereous and grayish-yellow pollinose; palpi, antennae and halteres reddish; wings strongly tinged with brown; apices of abdominal segments shining. Length, 12 mm.

FEMALE.—Face and cheeks dark reddish in ground color, the head shining grayish-yellow pollinose. Front seven-twelfths as wide as either eye above, at the level of the antennae one-fourth wider than greatest width of eye; two pairs of strong, proclinate orbitals; ten pairs of strong, decussate frontals; ocellars long; outer verticals poorly developed; occipital hair black, the pile yellowish. Cheeks half as wide as eye-height, without bristles except posteriorly and on the lower edge. Parafacials wide, wholly without hair. Vibrissae situated the length of the second antennal segment above the oral margin; facial carina strong, convex. Third antennal segment twice as long as the second, convex apically; arista long plumose. Palpi and antennae reddish; proboscis black, the apical section as long as the eye-height.

Thorax cinereous-yellow pollinose, the mesonotum with three broad blackish vittae, the outer one not quite reaching the scutellum. Acrosticals, 3-3; dorso-centrals, 3-4; posterior sublateral absent; sternopleurals, 2-1; scutellum with three pairs of marginals, the apical pair decussate; infrasquamal setulae present.

Legs black; anterior tibiae with four strong anterodorsal and two posterior bristles; middle tibiae with two strong anterodorsal, three posterodorsal, and one ventral bristle; posterior tibiae with three anterodorsal, three posterodorsal, and two ventral bristles. Pulvilli reddish yellow.

Wings light brownish; bend of fourth vein without appendage; base of third vein with three or four setae above and below. Squamae light brownish, with whitish border. Halteres reddish yellow.

Abdomen black, with rather tessellate cinereous pollen, in some lights mostly shining, the narrow apices of the segments and an obscure median vitta on the second and third, bare. Hair appressed, black. Second segment with one pair of median marginals, the third and fourth each with a row, the fourth with a row of discals.

TYPE.—Female, Kaieeteur, July 30, 1911 (F. E. Lutz).

***Rhynchiodesia vittigera*, new species**

MALE.—Length, 9.5 mm. Head reddish, the occiput and the cheeks behind, black; gray pollinose, the face and front yellowish, a broad pale-brownish vitta on the cheeks. About twelve pairs of rather fine frontals; ocellars well developed; verticals rather weak. Front two-fifths as wide as either eye, strongly widening anteriorly. Pile cinereous; cheeks with sparse black hairs, four-ninths as wide as eye-height. Palpi reddish; proboscis slender, hardly as long as eye-height. Vibrissae the length of the second antennal segment above the oral margin; median carina large, high. Antennae reddish, reaching halfway to oral margin; arista pale yellow, with brown base, the brown rays very long.

Infrasquamal spinules absent. Thorax black, cinereous pollinose, the vittae conspicuous, the inner pair narrow, extending to a little behind the suture; a fifth triangular, median vitta extends forward from the scutellum. Four sternopleurals, arranged 2-1-1; three pairs of fairly long marginal scutellars, the apical pair cruciate, and two pairs of fine discals; acrosticals, 1-1; dorsocentrals, 3-3; a single intra-alar; posterior sublateral bristle absent. All the bristles are rather short, the hair fairly abundant. Apical half of the scutellum reddish.

Legs black; tibiae brown; pulvilli elongate; middle tibiae with two antero-dorsal bristles, the basal one weak.

Wings cinereous hyaline, brownish yellow in front and along the veins; fourth vein bent at right angle; basicosta and epaulet black. Squamae lightly infuscated, white basally. Halteres brownish.

Abdomen reddish, with the base and a very broad, slightly tapering median vitta extending to the apex of the third segment, black, and beneath with a broad, posterior brownish fascia on either side of the tergites; middle of venter black. The abdominal pollen is yellowish white, not dense, the broad apices of the segments bare or nearly so. Second segment with a pair of rather weak marginals, third and fourth each with a row, the latter with a row of discals.

TYPE.—Male, Kartabo, March 18, 1924.

SCOTIPTERA Macquart

Scotiptera melaleuca Wiedemann

Dexia melaleuca WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 369.

Male, Bartica District; male, Kartabo, August 13, 1920; female, Kartabo, May 16, 1924.

Scotiptera potens Wiedemann

Dexia potens WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 368.

Two males and one female, Bartica District; male, Kartabo, 1921; male, Kartabo, April 31, 1922; three males, Kartabo, March 5, 10, April 16, 1924.

MELALEUCA Van der Wulp

Melaleuca potens, new species

Agrees with *Scotiptera potens* Wiedemann, except that the facial carina is obsolete below and much weaker above, not high and narrow. Length, 14 to 15 mm.

MALE.—Facial carina broad and low, obsolete below, the oral margin rather strongly produced; front three-eighths as wide as either eye, slightly widening anteriorly, the brown frontal vitta bordered with rusty reddish; head silvery-white pollinose, the parafrontals except below, and the occiput above, with yellowish pollen, the ground color pale except on the occiput above the lower border of the eyes. Frontal bristles numerous, moderately long, extending to the base of the antennae; ocellars weak. Cheeks two-sevenths as wide as eye-height, with a few black bristly hairs. Vibrissae strong. Palpi reddish. Antennae reddish, the third segment narrow, slightly tapering, three times as long as the second, reaching almost to the vibrissae; arista and its rays ferrugineous.

Mesonotum ochreous pollinose, sometimes with slight grayish tinge, the four vittae very distinct, the inner narrow, divergent pair extending to slightly beyond the middle, the outer pair interrupted at the suture. Three pairs of posterior acrosticals and dorsocentrals; three sternopleurals; three strong pairs of marginals on scutellum, the apical pair absent, a pair of discals. Sides of the mesonotum more or less yellow, the scutellum at least half yellow, the base black; pleura brownish.

Legs ferruginous, the femora reddish except the broad apex; tarsi brown. Pulvilli long, brownish.

Wings brownish hyaline, the veins broadly bordered with brownish; third vein with three or four basal bristles. Squamae yellowish; halteres pale yellow.

Abdomen translucent rusty-yellow, with the base, a median vitta composed of more or less triangular spots, very narrow apex of the second, apical third or less of

the third and most of the fourth segment, blackish or brown, the posterior fasciae broadened laterally; fourth segment sometimes wholly reddish. There is a rectangular, longitudinal, median silvery-white pollinose spot on the second and third segments, and the basal half of the fourth is similarly pollinose, the pollen narrowed toward the middle. Second and third segments each with three or four pairs of discals in a median row, the second with a pair of marginals, the third with a row; fourth with row of marginals and discals, and some scattered discals in front. Genitalia reddish.

TYPES.—Holotype, male, and two male paratypes, Kartabo.

CORDYLIGASTER Macquart

Cordyligaster petiolata Wiedemann

Dezia petiolata WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, 374.

Male, Kartabo, July 29, 1922, female, August 17, 1920; male, (No. 228); male, October 27, 1920 (No. 20629), female, November 2, 1920 (No. 20698); male, Kartabo, March 11, 1922; male, Bartica District; male, Kartabo, August 9, 1920; male and female, Kartabo, November 10, 1920 (No. 201175); male and fourteen females, Kartabo, March and April 1924.

CHOLOMYIA Bigot

Cholomyia longipes Fabricius

Musca longipes FABRICIUS, 1805, 'Syst. Antl.,' p. 298.

Male, Bartica District, May 5, 1924; female, Kartabo, April 12, 1924.

The female has simple legs, the tibiae brownish red, the posterior four femora with brownish bands on the apical fourth, only the first abdominal segment yellowish.

EUTHELAIIRA Townsend

Euthelaira inambarica Townsend

TOWNSEND, 1912, Proc. U. S. Nat. Mus., XLIII, p. 306.

Following is a redescription of the male.

Length, 10 mm. Head argenteous white, the brown frontal vitta hardly as wide as a parafrontal opposite a given point; ocellars weak, the verticals not duplicated; front almost half as wide as either eye; ocellar region tawny yellow pollinose. Para-facials two-thirds as wide as third antennal segment. Facial ridges with long, weak bristles on the lower half. Palpi yellow, cylindrical, with two short, stout, apical, bristles. Width of cheeks equal to one-sixth the eye-height. The black occipital cilia extend to the lowest third of the eyes, the pile white. Third antennal segment three times as long as the second, moderately broad, truncate with rounded corners, the antennae black; arista long, slender, thickened on the basal sixth, luteous basally, bare.

Thorax densely gray pollinose, the mesonotum with yellowish tinge, the four vittae distinct, interrupted at the suture, the median pair narrow. Posterior dorso-

centrals, 4, the third (from behind) weak; posterior acrosticals, 3; sternopleurals, 3, the lowest weak; marginal scutellars 3, the apical pair somewhat weaker and inclined to be cruciate.

Legs black; tibiae obscurely ferruginous; pulvilli moderately large, luteous.

Wings moderately infuscated, darker anteriorly; third vein with bristles half-way to the small cross-vein. Squamae white. Halteres yellow.

Abdomen shining black, the second and third segments each with the basal two-fifths to one-half, silvery white; no discals; marginals on the first segment well before the margin; second segment with one pair, the apical segments each with a row of marginals, the bristles moderately long and stout.

Male, Kartabo, Feb. 8, 1921 (No. 21147); female, Kamakusa (H. Lang).

URAMYA Desvoidy

Uramya brevicauda, new species

Distinguished from the remaining species in the genus by the unusually short development of the fourth abdominal segment which is triangular in shape from lateral view and not strongly produced. Black; pollen whitish cinereous, the abdominal bands entire. Length, 12 mm.

MALE.—Front narrow, the brown vitta obsolete in front of the ocelli for a short distance; about eight pairs of frontals, two small ones opposite the base of the antennae; no ocellars; verticals hair-like; pile whitish. Cheeks one-third the eye-height, with coarse black hairs. A row of black setae behind the occipital cilia. Para-facials narrow below, twice as wide above. Vibrissae level with oral margin, several bristly hairs above them. Palpi reddish. Antennae black, reaching almost to the vibrissae, the third segment a little more than twice as long as the second; arista long pubescent, thickened on the basal third or less. Eyes cinereous pilose.

Thorax moderately pollinose, the vittae not conspicuous, the median pair linear. Acrosticals, 2-2; dorsocentrals 3-3; posterior sublateral absent; three sternopleurals; four pairs of marginal scutellars, the weaker apical pair cruciate.

Legs black; pulvilli long, reddish; middle tibiae with two anterodorsal bristles; hind tibiae with five to seven anterodorsal bristles.

Wings cinereous hyaline, somewhat brownish or luteous in front and along the veins; bend of fourth vein with short appendage; about five bristles on the third vein basally. Squamae whitish. Halteres reddish.

Abdomen black, the basal half of the apical three segments whitish pollinose, not so densely so in the middle, but the bands continuous. First and second segments each with a pair of strong marginals, third and fourth each with a row; second and third each with a pair of strong discals, the fourth with discals on apical half which are denser apically; hair of the abdomen appressed or subappressed, on the under surface, long and bristly.

TYPE.—Male, Guanoco, Venezuela, October 19, 1922.

THELAIRODES Van der Wulp

Thelairoides lavinia, new species

MALE.—Length 8 mm. Head silvery-white pollinose; blackish frontal vitta obsolete at upper third; frontal bristles limited to lower three-fifths of front, weaker above, extending to the base of the antennae. Parafrontals narrow; eyes narrowly separated at upper third of front. Ocellar bristles strong; verticals strong, cruciate.

Parafacials two-thirds as wide as third antennal segment. Facial ridges with fine, hair-like bristles extending to above the middle. Cheeks one-eighth as wide as eye-height. Antennae brown, the third segment grayish pubescent, narrowly reddish basally, three times as long as the second; arisal rays abundant, much longer than the width of the third antennal segment. Palpi reddish, the base brownish, gradually broadened, robust. Eyes with moderately short white pile.

Thorax, in certain lights, silvery-white pollinose, the dorsum, in some views cinnamon-brown pollinose, the four vittae only evident in certain views, interrupted at the suture, the median pair narrow, widely separated, slightly diverging. Posterior dorsocentrals, 3; posterior acrosticals, 1; sternopleurals, 1-1; three pairs of strong marginal scutellars, the apicals wholly absent.

Legs black; tarsi not elongate; pulvilli moderately large, yellowish brown.

Wings moderately infuscated, paler behind; third vein with bristles extending halfway to the small cross-vein.

Abdomen shining black, the broad bases of the second to fourth segments silvery white pollinose, the width of the bands decreasing toward the middle where they are broadly interrupted, the bands on the apical segments increasing in width and less widely interrupted. First segment without marginals, the second with one pair, the third and fourth each with row; no discals.

TYPE.—Male, Penal Settlement, 1917.

PHILLOPHILOPSIS Townsend

The two species which I place in this genus are separable as follows:

Abdomen entirely black in ground color (*Ebenia* Macquart?) . . . *tenuifrons*, n. sp.
Abdomen broadly yellow basally except a median black vitta . . . *dolichotarsis*, n. sp.

Phillophilopsis dolichotarsis, new species

This species agrees well with the genotype which I examined in the United States National Museum, but it is distinct from any of the related forms located there. Length, 4.5 mm.

MALE.—Front one-fifth as wide as either eye, the sides almost parallel; frontal vitta narrow; parafrontals silvery. Frontals descending to the base of the antennae, ocellars and postocellars small. Parafacials one-fourth as wide as third antennal segment. Head silvery pollinose; two hairs above the strong vibrissae. Antennae brown, the apex of the second and base of the third segment, reddish, the third segment narrow, four times as long as the second; arista long, slender, short plumose, thickened on the basal sixth. The antennae reach to the oral margin.

Mesonotum shining black: in front of the suture silvery pollinose, with a pair of broadly separated black vittae and a large, sublateral bare triangle visible in some views; pleura silvery-white pollinose; scutellum shining black, long, no small apicals, the long apical pair of bristles divergent; three posterior dorsocentrals; sternopleurals, 1-1.

Legs black; basal third of the posterior four femora pale yellow; coxae and trochanters reddish, the former black on the outer surface. Anterior tarsi long, their pulvilli elongate, the posterior ones successively shorter, all brownish yellow.

Wings conspicuously infuscated; third vein with a single basal bristle above and below. Squamae infuscated, the base and upper lobe white. Halteres orange.

Abdomen with the first and second segments translucent yellow, the base of the former, broad apex of the latter, and a narrow median vitta, brown or black, the apical segments shining black; basal fifth of the second to fourth segments silvery-white pollinose, the ground color yellow on the third segment beneath the pollen except on the broad middle. Venter pale yellow, black from the basal third of the third segment, the edges of the second tergite brown. First segment elongate, with a row of apically directed bristly hairs on the apex, the second segment with a pair of strong marginals and two pairs of apically directed bristly hairs; third and fourth segments each with a row of six strong marginals above.

TYPE.—Male, Kartabo, 1921; paratype, male, Kartabo, October 27, 1920 (No. 24073).

This species belongs to a rather large group of small flies with which I am only slightly familiar. The genus may not be distinct from *Chaetona* Van der Wulp, but I have followed Townsend as I have not access to the type species of *Chaetona*.

***Philophilopsis tenuifrons*, new species**

According to specimens in the United States National Museum, this species would belong to *Ebenia* Macquart, but it does not agree with the original diagnosis of the genus. Length, 5 mm.

MALE.—Front three-eighths as wide as either eye, widening on the anterior third. Head silvery-white pollinose, the cheeks brownish. Frontal bristles extending to slightly below the base of the antennae; ocellars moderately strong. Antennae situated a little below the middle of the eyes, brown, the third segment narrow, three times as long as the second; arisal rays almost as long as the width of the third antennal segment. Palpi brown.

Mesonotum shining black, slightly rusty pollinose behind the suture, more grayish pollinose in front, with four broad black vittae (the median ones narrower) broadly connected in front and not reaching the suture, their posterior ends rounded. Humeri, notopleura and pleura chiefly, silvery-white pollinose. Three posterior dorsocentrals; sternopleurals, 1-1; prescutellars present (?); scutellum with two pairs of long, fine marginals and a weak, divergent apical pair.

Legs black, pulvilli brownish yellow, moderately large; claws long.

Wings infumated, a little paler posteriorly. Squamae infuscated, the base broadly white. Halteres yellow.

Abdomen shining black; bases of second to fourth segments narrowly silvery-white pollinose, slightly more widely so laterally, rather brownish-tinged in the middle. Abdomen without discals; first segment without marginals; long; second segment with pair of marginals, the third and fourth each with a row, the bristles long and rather fine.

TYPE.—Male, Kartabo (No. 47), July 6, 1922.

***CALODEXIA* Van der Wulp**

Belongs to the Dexiinae; posterior sublateral and posthumeral bristles absent; sternopleurals, 1-1; propleura bare; infrasquamal spinules present; wings as in *Myobia*, the apical cell widely open just a little before the apex of the wing. Viewed from above the abdomen is "egg-shaped," and is deeper than wide; the termination

of the abdomen reminds one of the Conopidae; the genital slit is entirely ventral, while above, where the opening usually commences, there are four long, strong, backwardly directed bristles in a semi-circle. The first and second abdominal segments each bear a pair of very strong marginals and the second and third a pair of equally strong discals, while the third bears a marginal row of fourteen; the fourth is without bristles, except the four mentioned, and has rather fine, subappressed hairs, the hair elsewhere coarser and appressed.

***Calodexia insolita*, new species**

FEMALE.—Length, 7.5 mm. Rather robust, black, the venter largely reddish; with cinereous pollen. Head twice as high as long, the front gently convex, for most of its length half as wide as either eye, a little narrowed above; with six pairs of frontals, the lowest scarcely below the base of the antennae, the upper two reclinate; two pairs of orbitals; ocellars absent; verticals gently convergent; outer verticals short. The short, black occipital cilia extend to the lowest fourth of the eyes; occiput gently concave, white pilose. Cheeks very narrow, not more than one twenty-fifth the eye-height. Parafacials very narrow below, wider than the third antennal segment above. Vibrissae slightly above the not prominent oral margin, the ridges with one or two bristles above them. Face gently receding, the vibrissal angles slightly produced, but decidedly less prominent than the antennal base; facial depression rather shallow; no carina. Antennae reddish yellow, pale pollinose, extending almost to the vibrissae, their base above the middle of the eyes; third segment narrow, somewhat widening apically, the apex rounded, four times as long as the second; arista reddish on the swollen basal sixth, very short plumose. Proboscis evidently short and fleshy (mostly broken off). Head silvery-white pollinose, the front mostly golden yellow, the brown vitta as wide as either parafrontal.

Thorax grayish pollinose, with strong yellowish tinge above, the vittae conspicuous, the median pair replaced behind the suture by a large, transverse dark spot (in some views this spot is paler in the middle, the vittae being distinct) which is narrowly separated from the lateral vittae and occupies half the space behind the suture. Scutellum with the base broadly black. Acrosticals, 1-1; dorsocentrals, 2-3; intralalars, 3; three pairs of marginal scutellars, the second pair weak, the apical pair rather divergent.

Femora and coxae reddish; tibiae brown; tarsi black; pulvilli yellow.

Wings cinereous hyaline; bend of fourth vein broadly rounded; third vein with two or three basal bristles. Squamae whitish, the disc mostly brownish. Halteres pale yellow.

Abdomen reddish yellow ventrally except the broad, obscure segmental apices; basal half of the second and third segments, slightly expanded in the middle, and the fourth except a narrow apical vitta, moderately cinereous pollinose.

TYPE.—Female, Kartabo, June 11, 1924.

This species differs from *O. similis* Townsend in the weaker ocellars and less extensively pollinose abdomen.

- | | |
|---|-------------------------------------|
| 1.—Without discal bristles. | 2. |
| With discals..... | <i>penaltis</i> , n. sp. |
| 2.—First segment without strong marginals..... | 3. |
| First segment with a pair of strong marginals..... | 9. |
| 3.—Second segment without well-developed marginals..... | 5. |
| Second segment with strong marginals..... | 4. |
| 4.—Dorsocentrals 3-3..... | <i>cothurnata</i> Wiedemann. |
| Dorsocentrals 2-3..... | <i>flavipennis</i> Wiedemann. |
| 5.—Palpi rather short or distinctly broadened on apical third or less..... | 6. |
| Palpi long, with practically parallel sides.... | <i>Genea maculiventris</i> Rondani. |
| 6.—Only two pairs of strong marginal scutellars..... | 7. |
| Three pairs of strong marginal scutellars..... | <i>diadema</i> Wiedemann. |
| 7.—Third vein with at most three basal bristles..... | 8. |
| Third vein with bristles extending almost to the small cross-vein. | <i>pellucens</i> Curran. |
| 8.—Prealar bristles present..... | <i>tenera</i> Wiedemann. |
| Prealar bristle absent; second segment of proboscis as long as head-height;
palpi quite short; antennae pale yellow; arista fairly long plumose;
head silvery pollinose; frontal vitta yellow; thorax black, yellow pol-
linose; humeri pale; two pairs of anterior acrosticals; dorsocentrals 2-3;
legs yellow, posterior femora above at apex, and the hind tibiae, brown;
tarsi black; pulvilli very long; abdomen yellow, the black spots isolated,
without pale pollen. Male. (British Honduras, Bequaert, <i>Myobiopsis</i>
Townsend). | |
| | <i>pertinax</i> , n. sp. |

- 9.—Mesonotum thinly pale golden pollinose; abdomen wholly light yellowish; palpi rather short and slender.....*flava* Townsend.
 Mesonotum thickly cinereous pollinose; abdomen mostly blackish; palpi longer, enlarged apically.....*verna*, n. sp.

***Myobia (Leskiomima) tenera* Wiedemann**

Stomoxys tenera WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 251.

Male, Tukeit, July 26, 1911; male, Kaieteur, August 11, 1911.

The first vein is bare, the third with two or three bristles basally.

***Myobia (Stomatodexia) cothurnata* Wiedemann**

Stomoxys cothurnata WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 249.

Two females, Kartabo, November 1, 1920 (No. 20474), November 10, 1920 (No. 20676).

The abdominal spots may be united or subunited along the posterior margins of the third and fourth segments.

***Myobia penaltis*, new species**

MALE.—Length, 7.5 mm. Face and lower half of front yellow; face, front and occiput above, yellow pollinose. Frontal vitta brown, wider than parafrontal; about ten pairs of frontals, the lowest pair below the base of the antennae, the upper two strong and reclinate; ocellars scarcely developed; verticals fairly long, weakly convergent. The black occipital cilia extend to the lowest third of the eyes. Pile white; occiput silvery-gray pollinose. Cheeks one twenty-fifth as wide as eye-height, with a few weak black hairs. Parafacials very narrow, narrower than the antennae above. Vibrissae level with oral margin. Palpi short, gently curved. Proboscis short, yellowish, the labellae large. Antennae reddish yellow, the third segment largely obscure brown, five times as long as the second, fairly wide; arista very short pubescent, thickened on the basal seventh. Frontrather wide, narrowed in the middle.

Thorax black, cinereous pollinose, the mesonotum with strong yellow tinge, the vittae broad, distinct, the median pair replaced immediately behind the suture by a large, transverse, blackish spot which is narrowly separated from the lateral blackish vittae which are broadly interrupted. Acrosticals, 3-1, weak; dorsocentrals, 2-3; sternopleurals, 1-1; two pairs of marginal scutellars, no discals. Scutellum with brownish pollen and largely obscure reddish in ground color. Pleural pile all black.

Legs reddish yellow; tibiae brown; tarsi black; pulvilli of moderate length.

Wings cinereous hyaline, brownish on the apical half in front of the third vein, the apical half with a brownish tinge elsewhere; third vein with two or three basal bristles.

Abdomen rusty reddish-yellow; second segment with a broad blackish spot on either side, the third and fourth with the broad apices black. First and second segments each with a pair of strong marginals, second to fourth each with a pair of discals, the third and fourth with row of marginals. Hair entirely black.

TYPE —Male, Bartica, April 27, 1924.

***Myobia flava* Townsend**

Opsoleskia flava TOWNSEND, 1919, Proc. U. S. Nat. Mus., LVI, p. 566.

Originally described from a male from Bartica.

***Myobia verna*, new species**

Sternopleurals, 1-1; acrosticals, 3-2; dorsocentrals, 2-3; three pairs of marginal scutellars, the second pair quite weak. Length, 8 mm.

FEMALE.—Front five-eighths as wide as either eye; head grayish-white pollinose, somewhat silvery; five pairs of frontals, the low st below the base of the antennae, the upper two pairs reclinate; two pairs of strong frontals; no frontal hairs; the brown frontal vitta is one-third as wide as either parafrontal; ocellars absent; outer verticals half as long as verticals. The black occipital cilia extend to the lowest fourth of the eyes; pile white. Cheeks one-fifth as wide as eye-height, with a few black hairs. Parafacials very narrow below, five times as wide above. Vibrissae level with oral margin, two or three small bristles above them. Palpi yellow, fairly long, somewhat broadened. Proboscis short; labellae large, reddish. Antennae yellowish, the third segment brown beyond the arista, narrow, the apex truncate, four times as long as the second; arisal rays half as long as width of third antennal segment.

Thorax black, thickly cinereous pollinose, the outer vittae represented by two small triangles on either side. Scutellum apically, and the humeri, yellow in ground color. Hair of thorax wholly black.

Legs reddish; apices of the tibiae and the tarsi, black. Pulvilli small.

Wings cinereous hyaline, the costal border broadly brownish on the apical half, the veins broadly, weakly clouded with brown; third vein with two basal bristles. Squamae whitish. Halteres yellow.

Abdomen black, the first segment wholly, basal half of the second except a broad median vitta, expanding to the whole length ventrally pale yellow, the abdomen wholly moderately thickly cinereous pollinose; apex of abdomen reddish yellow; first and second segments each with a pair of very strong marginals, the third and fourth each with a row.

TYPE.—Female, Kartabo, May 24, 1924.

CRYPTOMEIGENIA Brauer and Bergenstamm

This genus was originally described from Brazil but most of the species occur in the Nearctic region. The type of the genus is the species discussed below.

***Cryptomeigenia setifacies* Brauer and Bergenstamm**

BRAUER AND BERGENSTAMM, 1891, Denkschr. Akad. Wien, LVIII, p. 311.

ALDRICH, 1925, Ann. Ent. Soc. Amer., XVIII, p. 458.

The original description was based upon a female and Aldrich added several important details from an examination of the type. The male has never been described. Strangely enough, while I can add to the knowledge of the species, I am at a loss as to the proper designation of the sex of the specimen before me. The head is that of a male while the

legs apparently display characters intermediate between male and female, and the abdomen is typically that of a female.

The male front is moderately wide, equalling almost three-fifths the greatest eye-width; there are about thirteen pairs of frontals, the upper two reclinate, the pair immediately in front of them decussate. Outer verticals more than half as long as the verticals. Back of head yellow-haired below; facial setae of moderate length for the genus. Posterior sublateral bristle weak but distinct; infrasquamal setae distinct. Femora brown, their apices and the tibiae reddish. Wing veins broadly bordered with pale brownish. Squamae with cinereous tinge, the border white. Apices of the second to fourth segments brownish pollinose, the pale pollen tessellate. The ovipositor is short, the upper apical valve semicircular and polished, the preceding upper half of the cylinder with a soft median line, the apex with a row of hairs, the lower half entire and with hairs at the apex at least toward the sides.

The above characters are from a single specimen from Kaieteur, August 10, 1911 (F. E. Lutz).

LYDELLA Desvoidy

This genus has been well characterized by Townsend as *Paradexodes*. The additions to the diagnosis necessary are as follows: a group of few to many spinules beneath the inner end of the squamae; cruciate scutellars present. It traces out to *Masicera* in Williston's 'Manual.' The four species in the collection may be separated by the key which follows:

- 1.—Wings deep brown on the apical half; abdomen broadly yellow laterally.
pulchella, n. sp.
- Wings not conspicuously bicolored; abdomen wholly dark in ground color. 2.
- 2.—Cruciate scutellars strong. 3.
- Apical scutellars weak, hardly cruciate; female without piercing ovipositor; deposits white, macrottype eggs. *frugale*, n. sp.
- 3.—Postocellars absent; female with long, chitinized piercing ovipositor.
verticale, n. sp.
- Postocellars present; female ovipositor not adapted for piercing. *prudens*, n. sp.

Lydella pulchella, new species

FEMALE.—Length, 9 mm. Head silvery-gray pollinose with slight yellow reflection, the front golden yellow; frontal vitta rusty brownish-red, about as wide as parafrontal opposite any point, widening anteriorly; front gradually, slightly widening anteriorly, at the vertex five-ninths as wide as either eye. Parafacials moderately narrowed below. Palpi reddish. Antennae blackish, the second segment largely obscurely reddish; arista black, long, slender, bearing conspicuous pubescence, thickened just at the base, where it is reddish.

Thorax bright grayish-yellow pollinose, the pleura and base of the scutellum more grayish, the dark mesonotal vittae very distinct; apical scutellars weak; three pairs of posterior dorsocentrals.

Legs blackish; coxae, trochanters and the under surface of the femora on the apical half, reddish, the coxae black on the outer surface; tibiae obscurely reddish.

Wings brown on slightly more than the apical half, paler behind, elsewhere cinereous hyaline, yellowish in front. Squamae pallidly yellowish, with white tinge. Halteres yellow.

Abdomen reddish, the immediate base, a narrow median vitta, apical half of the third and basal half or more of the fourth segment, blackish, the broad bases of the segments pale yellowish pollinose, the pollen much expanded on the middle of the second and third segments.

TYPES.—Female, Kartabo, July 11, 1922; paratype, female, Kartabo, March 12, 1921 (No. 21237).

***Lydella frugale*, new species**

FEMALE.—Length, 8 mm. Front three-fourths as wide as either eye, gently widening anteriorly, strongly golden-yellow pollinose, the brown frontal vitta hardly as wide as either parafrontal; head elsewhere silvery-white pollinose, the posterior orbits above slightly yellowish. Parafacials not quite half as wide as third antennal segment, slightly widened above. Two or three bristles on the facial ridges above the vibrissae. Palpi reddish. Antennae black, the third segment three times as long as the second; arista long, slender, slightly thickened on the basal sixth, microscopically pubescent. Postocellars well developed.

Thorax grayish-yellow pollinose above, the black vittae very distinct, the median pair widely separated. Pleura gray pollinose. On one side there are four posterior dorsocentrals, on the other three, as usual. Apical scutellars small.

Legs black; middle tibiae as in *verticale*.

Wings lightly infuscated, paler posteriorly. Squamae white; halteres pale yellow.

Abdomen shining black, the basal half of the second to fourth segments densely grayish pollinose, with yellowish tinge. Venter wholly gray pollinose except the broad segmental apices. First segment with a pair of marginals, second with pair of discals and marginals, third with pair of discals and row of marginals.

TYPE.—Female, Kartabo, 1921.

***Lydella prudens*, new species**

FEMALE.—Length, 8 mm. Differs from *frugale* as follows: third antennal segment a little longer and narrower; palpi decidedly thicker; three posterior dorsocentrals; apical scutellars fairly strong, cruciate; no discals on second and third abdominal segments.

TYPE.—Female, Kartabo, August 3, 1920 (No. 2072).

***Lydella verticale*, new species**

FEMALE.—Length, 8 mm. Front at vertex almost one-third as wide as either eye, gently widening anteriorly. Head silvery white pollinose, the front with strong, the face with slight, yellow tinge. The rusty brown frontal vitta is narrower than either parafrontal. Parafacials almost half as wide as third antennal segment. Two or three bristles on facial ridges above the oral vibrissae. Postocellar bristles absent. Palpi brown. Antennae black, the third segment two and one-half times as long as the second; arista long, short pubescent, slightly thickened on basal sixth.

Thorax whitish-gray pollinose, the dark vittae broad, the median pair widely separated. Cruciate scutellars long and fine.

Legs black, a single long, anterodorsal bristle at middle of middle tibiae.

Wings cinereous hyaline; third vein with two or three stout basal bristles. Squamae pure white Halteres reddish yellow.

Abdomen shining black, the basal third of the second to fourth segments white pollinose. First segment without marginals, second with pair of marginals; third with pair of discals and row of marginals.

TYPE.—Female, Kartabo, April 7, 1922 (No. 22169).

PELIXIA, new genus

Related to *Winthemia* and *Zenillia*. Eyes densely short pilose; face with moderately high and sharp median carina on whole length; oral vibrissae absent, but there are several very short bristles on the vibrissal angles and similar bristles along the lateral oral border. Parafacials three-fifths as wide as third antennal segment, somewhat widened above. Front of male hardly half as wide as either eye, widening anteriorly; frontal vitta narrower than parafrontal; frontal bristles extending to the base of the arista, strong below, becoming weak above and obsolete for a short distance in front of the ocelli, but with strong reclinate bristles above, one on either side opposite the anterior ocellus; ocellars moderately strong, obliquely proclinate; verticals directed backwards. Palpi rather stout, fairly long, slightly tapering apically; proboscis short. Posterior orbits rather narrow; head at oral margin practically as long as at antennae. Antennae reaching to the lowest fourth of the face; third segment wide, two and one-half times as long as the second, about three and one-fourth times as long as wide; arista long, slender, tapering on the basal half, microscopically pubescent. Posterior dorsocentrals, 4; sternopleurals, 3; four marginal scutellars; hair of thorax fine. Wings as in *Zenillia*. Abdomen somewhat flattened (as in *Winthemia*), with a row of ten short stout bristles on the apex of the third segment, the fourth with numerous long bristly hairs, the hair on the basal segments short, appressed. Posterior femora evenly closely ciliate on the anterodorsal surface.

GENOTYPE.—*Pelixia vexans*, new species.

***Pelixia vexans*, new species**

MALE.—Length, 11 mm. Head argenteous-white pollinose, the parafrontals somewhat less thickly so above; frontal vitta brown. Palpi reddish. Cheeks about one-fifth as wide as eye-height, densely clothed with short black hair on the lower two-thirds. Eyes with pale yellowish pile. Antennae black, the base of the third segment reddish.

Mesonotum black, moderately gray pollinose, the dark vittae brown, moderately distinct; narrow lateral margin behind the suture and the scutellum, bright yellow. Pleura dark, gray pollinose.

Legs black; tibiae reddish brown, middle tibiae with three anterodorsal bristles on basal three-fifths. Pulvilli elongate, luteous.

Abdomen brownish or ferruginous, the middle line and segmental apices darker, the increasingly wide bases of the second to fourth segments grayish pollinose, the apical segment chiefly so; in some views almost the whole abdomen is grayish pollinose.

TYPE.—Male, Kartabo.

PHOROCERA Desvoidy**Phorocera pluto**, new species

Black; brownish-yellow pollinose, rather golden; sternopleurals, 2-2; pulvilli small; middle tibiae with a single anterodorsal bristle; no discs on intermediate abdominal segments. Length, 8 mm.

FEMALE.—Front seven-tenths as wide as either eye, at the antennae as wide as eye; frontal vitta black, not as wide as parafrontal at upper third. Face and cheeks with grayish-yellow pollen, the occiput gray pollinose; front and occiput above with golden-yellow pollen. Seven pairs of frontals, two below the base of the antennae, the upper two reclinate; two pairs of orbitals, the upper pair much weaker; ocellars long and strong; outer verticals long; a row of black setae behind the occipital cilia; pile yellowish. Cheeks with sparse black hair, one-sixth as wide as eye-height. Para-facials narrow, widening above, at the middle one-third as wide as third antennal segment. Palpi reddish brown, the apical third reddish. Antennae blackish, reaching to the lowest sixth of the face, the third segment six times as long as the second, moderately wide; arista thickened on the basal third. Eyes with fairly abundant yellowish pile. Facial ridges with strong bristles on the lower two-thirds.

Thorax with brownish-ochreous, somewhat golden pollen, becoming grayish on the pectus, the vittae moderately distinct, the median ones close to the laterals. Dorsocentrals, 3-4; four pairs of marginal scutellars, the apical pairs weak and cruciate.

Legs black; pulvilli small; hind tibiae ciliate.

Wings cinereous hyaline; fourth vein without fold at bend; apical cell ending moderately before the wing-tip; third vein with two or three basal bristles. Squamae yellowish. Halteres yellow, with the knob darkened.

Apical three abdominal segments rather ochreous pollinose, with the broad apices shining blackish. First segment with a pair of weak marginals, the others each with a row, the fourth with a terminal row of weaker bristles.

TYPE.—Female, Kartabo.

A male is partly emerged from a pupal case on the same pin. The front is a little narrower and the bristles on the facial ridges are finer and more numerous; there are no orbitals or outer verticals.

Superficially this species has the aspect of a species of *Sturmia* and is very similar, except for the uncolored wings and hairy eyes, etc., to *Sturmia varipennis*, in color and general shape.

Phorocera guianica, new species

Traces to *appendiculata* in Van der Wulp's table ('Biol. Centrali-Americana,' Dipt., II, p. 76), but the first two antennal segments are reddish yellow. In the Aldrich and Webber table traces to *floridensis* Townsend, but only the front and upper posterior orbits are golden yellow, the face, cheeks and orbits silvery white. Length, 9 to 9.5 mm.

FEMALE.—Frontal bristles strong, extending to the arista, seven in number, the upper two reclinate and strong; two pairs of strong, proclinate orbitals; ocellars strong, postocellars short; outer verticals moderately strong. Front hardly as wide as either eye, somewhat widening below; the brown frontal vitta is half as wide as

either parafrontal. Parafacial at the middle as wide as third antennal segment, widened above, narrowed below. Facial ridges with five or six strong bristles on the lower three-fifths. Width of cheeks equal to two-ninths the eye-height. Eyes with short white hair. Palpi reddish. First two antennal segments reddish, the third brown except basally, twice as long as the second, moderately narrow; arista thickened on the basal half, the penultimate segment slightly longer than wide.

Thorax argenteous-gray pollinose, the dark vittae appearing brown in some views, the mesonotum with yellowish tinge; vittae equally separated from each other, the outer ones a little the wider and narrowly interrupted at the suture. Posterior dorsocentrals, 4; sternopleurals, 3; five marginal scutellars. Scutellum reddish with the base broadly black.

Legs black; femora gray pollinose below; pulvilli brownish yellow, small; middle tibiae with two strong anterodorsal bristles.

Wings cinereous hyaline; third vein bristled halfway to the small cross-vein. Squamae milky white, with narrow yellow border on the inner half. Halteres reddish, the knob infuscated.

Abdomen gray pollinose, the apical third or less of the apical three segments less thickly pollinose, and a narrow median vitta on the second and third segments, shining in some views. No discs on first two segments, the pair of marginals on the first short, on the second strong, the third with marginal row; fourth with two median discs and sublateral ones in addition to the marginal row. Abdominal hair appressed.

MALE.—Front as wide as in female, without orbitals; cheeks slightly wider. The posterior forceps are produced as a long, upturned obtuse beak, the basal flat or very gently concave portion, broad, subtriangular, gradually running into the beak; genitalia small, hair black, nowhere densely pubescent.

TYPES.—Female, reared from butterfly chrysalid, Kartabo, August 19, 1922 (No. 221015); allotype, male, Bartica District, in poor condition, and one paratype, female, same data.

WINTHEMIA Desvoidy

Winthemia ruflatera Rondani

Exorista ruflatera RONDANI, 1850, Nuovi Ann. Sci. Nat. Bologna, p. 9.

Male and three females, Kartabo, May 26, 1922; two females, Kartabo, June 4, 6, 1922; male, Kartabo, April 27, 1924; female, June 6, 1924.

Winthemia species

A single female, Kartabo, 1921.

The antennae are chiefly reddish and the anterior tarsi simple. It is almost impossible to determine the species belonging to this genus from the present descriptions.

ARGYROPHYLAX Brauer and Bergenstamm

Argyrophylax albincisa Wiedemann

Tachina albincisa WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 334.

A single male, Kartabo, 1921.

STURMIA Desvoidy***Sturmia orbitalis*, new species**

Black; male with two pairs of orbitals; vibrissae almost level with the oral margin; dorsocentrals, 3-4; acrosticals, 3-3; sternopleurals, 2-1; four pairs of marginal scutellars, the apical cruciate pair quite small. Length, 8 mm.

MALE.—Front seven-eighths as wide as either eye, the face but little wider than the front. Head white pollinose, front and occiput above, yellowish. Seven pairs of frontals, two or three below the base of the antennae, the upper two reclinate and strong; frontal hair rather coarse, fairly short, not extending below the bristles; ocellars fairly long; outer verticals half as long as verticals; one or two rows of black setae behind the occipital cilia; pile white. Cheeks one-ninth as wide as eye-height, with coarse black hair. Parafacials rather strongly narrowed below, wider at the middle than the third antennal segment. Facial ridges bristled on the lowest fourth. Palpi black. Antennae deep black, the third segment almost four times as long as the second; arista thickened on the basal fifth.

Thorax cinereous pollinose, the four vittae conspicuous, broad, the inner pair shorter, broadly separated, distinctly separated from the outer vittae posteriorly.

Legs black; pulvilli short; middle tibiae with a single long, anterodorsal bristle; posterior tibiae rather closely ciliate anterodorsally.

Wings cinereous hyaline; apical cell open moderately before the wing-tip; third vein with bristles three-fourths the distance to the small cross-vein. Squamae white; halteres brownish red.

Abdomen more or less reddish on the sides of the second and third segments, the apical three segments cinereous pollinose, the apical fourth of each segment brownish pollinose. First segment with a pair of short, second with pair of long marginals, the third and fourth each with a row; hair on fourth segment not erect, but less appressed than elsewhere. Third segment with a large sexual patch of very fine short hairs occupying more than half the under surface of the tergite on either side, beginning at the base of the segment and continuing as a small cordate patch on to the fourth.

Types.—Holotype, male, paratype, male, Kartabo, May 10, 1924 (Nos. 24521, 24522), both hatched from megalopygid caterpillars.

This species would appear to belong to a genus other than *Sturmia*, but the presence of orbital bristles in the male is hardly of generic importance and all the other characters agree with those of species referable to this genus. The sexual patch in the males of *Sturmia* is more often present than absent.

***Sturmia varipennis*, new species**

Black; male with two pairs of orbital bristles; pollen golden yellowish or deep ochreous; wings with large brown cloud beginning at the basal third and extending to the apex of the second vein, mostly limited to the veins except in front; apical cell ending moderately before wing-tip; sternopleurals, 2-1-1; four pairs of marginal scutellars, the apical cruciate pair weak. Length, 7 mm.

MALE.—Head almost as long below as at antennae, the lower part of the depression visible in profile; parafacials and most of the depression, reddish; head yellowish

pollinose, the occiput above and the front, golden. Seven pairs of frontals, the lower two below the base of the antennae, the upper two reclinate; front seven-eighths as wide as either eye, with parallel sides; face gently widening below. Ocellars very short and weak; outer verticals well developed; an interrupted row of black setae behind the occipital cilia; pile yellowish. Palpi reddish. Antennae black, the first two segments reddish, reaching to the lowest fifth of the face, the third segment six times as long as the second, moderately narrow; arista black, thickened on the basal fourth. Cheeks one-sixth as wide as eye-height. Parafacials about half as wide as third antennal segment, a little widened above.

Thorax densely golden pollinose above, becoming grayish ventrally; the very slender, dull black vittae distinct. Base of scutellum broadly deep black; anterior spiracle deep brown.

Legs black; pulvilli small; middle tibiae with one anterodorsal bristle; posterior tibiae rather closely ciliate.

Base of wings whitish; squamae whitish, with the broad border lightly fuscous in some views. Halteres reddish, the knob largely brown.

Abdomen with the sides, as far as the middle of the third segment, dull reddish; basal one-seventh of the second, one-fourth of the third, and one-third of the fourth segment, ochreous pollinose. Hair appressed; first segment with a pair of very small, fine marginals, second with strong pair, third and fourth each with a row, the latter with some discals laterally. No distinct sexual patch, although the hair on the ventral portion of the third and fourth tergites is rather abundant.

TYPE.—Male, Kartabo, June 8, 1924.

FRONTINA Meigen

Frontina ? erythrocauda, new species

Black; fourth abdominal segment red except on the basal half above; with cinereous pollen, the front, occiput above and dorsum of thorax rather ochreous; facial ridges with strong bristles on lower three-fourths. Length, 12 mm.

FEMALE.—Head cinereous pollinose, rather silvery; front five-sixths as wide as either eye, gradually widening anteriorly, with two strong and two hair-like orbitals on either side, the black frontal vitta at upper third narrower than parafrontal; about eight pairs of frontals, three below the base of the antennae, the upper two reclinate; ocellars long and strong; outer verticals well developed. A row of black setae behind the occipital cilia below; pile white. Cheeks bare except for three bristles along the oral border, one-fifth as wide as eye-height. Parafacials wide above, strongly narrowed below, with strong bristles on the lower three-fourths. Palpi blackish. Antennae black, reaching almost to the oral margin, third segment very narrow, widening apically, three and one-half times as long as the second; arista slender, thickened on the basal sixth, very short plumose.

Vittae of the mesonotum broad, not joined behind but the inner ones strongly approaching the outer; scutellum wholly evenly pollinose. Dorsocentrals, 3-3; sternopleurals, 2-1; four pairs of marginal scutellars, the weaker, cruciate apical pair horizontal.

Legs black; front tarsi broadened from the middle of the first segment; pulvilli short; middle tibiae with two anterodorsal bristles; posterior tibiae with sparse bristles.

Wings brownish in front of the third vein and along the veins, elsewhere grayish hyaline; bend of fourth vein with a short, sharp fold; one long and one very weak bristle at base of third vein; large cross-vein beyond apical third of apical cell; costal spine well developed. Squamae white, with yellow tinge. Halteres yellow.

Almost the basal half of the second to fourth abdominal segments whitish pollinose, more widely so in the middle. First segment with a pair of weak marginals, second with stronger pair; third and fourth with row of marginals; second and third segments each with a pair of strong discals, the fourth with two rows.

TYPE.—Female, Guanoco, Venezuela, October 19, 1922 (Wm. Beebe).

***Heliae mirabilis*, new genus and species**

Black; with white pollen; acrosticals, 3-3; dorsocentrals, 3-3; sternopleurals, three in equilateral triangle; abdomen without discals, long, shaped as in *Thelaira*; eyes pilose. Length, 8.5 mm.

FEMALE.—Front as wide as either eye, the face only a little wider, and very slightly narrowed below. Frontal vitta wider than parafrontal at upper third, widest above; three pairs of strong orbitals; five pairs of strong frontals, the lowest below the base of the antennae, the upper pair reclinate; ocellars well developed, situated well in front of the anterior ocellus; outer verticals well developed. No black setae behind the occipital cilia; pile whitish, not dense; occiput flat. Cheeks with a few hairs behind, one-sixth as wide as eye-height. Parafacials above twice as wide as third antennal segment, very narrow below. Vibrissae level with the oral margin, a few hairs above them. Head short, face rather strongly retreating, the depression rather shallow. Palpi yellow, long, rather slender. Antennae black, reaching to the oral margin, the apex of the first and whole of the second segment reddish; third segment narrow, gently widening to the rounded apex, two and one-fourth times as long as the second; arista slender, pubescent, thickened on the basal sixth.

Thorax moderately pollinose, the vittae conspicuous only in front. Three strong sublaterals; posthumeral weak; two intra-alars. Propleura bare; infrascapular spinules absent.

Legs black; pulvilli small; middle tibiae with three or more anterodorsal bristles; hind tibiae with strong bristles.

Wings cinereous hyaline, the veins yellowish basally; first vein bristled on its whole length, third on almost its whole length, fifth to the middle of the discal cell; fourth vein bent at right angle, the apical cross-vein bowed inwards; apical cell ending far before the tip of the wing; posterior cross-vein oblique, gently sinuate. Squamae and halteres yellowish.

Apical three abdominal segments with the basal half at the sides, narrowed to one-third or less in the middle, white pollinose. First segment without, second with a pair of strong marginals, third and fourth each with a row. Hair appressed, coarse. Abdomen rather deeper than wide.

TYPE.—Female, Guanoco, Venezuela, October 19, 1922 (Wm. Beebe).

BLEPHARIZEA Macquart

***Blepharizea leucophrys* Wiedemann**

Tachina leucophrys WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 308.

Two specimens: female, No. 80; male, Kartabo, April 29, 1922.

BELVOSIA Desvoidy**Belvosia esuriens** Fabricius

Musca esuriens FABRICIUS, 1805, 'Syst. Antl.,' p. 301.

Two males and two females, Kartabo, April 22, 1924 (No. 24421); May 4, 1924 (No. 24484).

Belvosia bicincta Desvoidy

DESVOIDY, 1830, 'Essai sur Myodaires,' p. 103.

Female, British Guiana; female, Kartabo, December 5, 1920 (No. 201263); female, Kartabo, November 23, 1920; female, Kartabo, 1921; male and female, May 30, 1924, Kartabo (Nos. 24771, 24772), hatched from pupa of sphinx caterpillar.

BELVOSIELLA, new genus

Superficially much like *Sturmia* Desvoidy but undoubtedly close to *Belvosia* Desvoidy. Eyes bare. Face carried downward to well below the vibrissae, the oral margin evenly produced, the length of the head below notably greater than at the base of the antennae; vibrissal angle not prominent, more than the length of the second antennal segment above the oral margin. Frontal bristles in two rows, strong below, extending to the middle of the second antennal segment, weaker above, the two upper pairs strong and reclinate; ocellars not strong; verticals reclinate, very strong, the outer verticals weak. Front of male moderately wide, widening anteriorly; parafacials wider than third antennal segment, slightly narrowed below, without hair. Cheeks scarcely one-fifth as wide as eye-height. Proboscis short, palpi hidden, evidently quite small or wanting. Antennae slender, reaching to the lowest third of the face, the third segment twice as long as the second; arista slender, a little thickened on the basal third, bare. Dorsocentrals, 3-4; sternopleurals, 3; four pairs of strong marginal scutellars. Middle tibiae with a very strong anterodorsal bristle at basal third, and weaker ones at basal fourth and near the middle; posterior tibiae not ciliate. Wings as in *Sturmia*. Abdomen one and one-half times as long as wide, somewhat flattened; first two segments without dorsal bristles, the third with an apical row but they are very short toward the middle, the fourth with a marginal row.

GENOTYPE.—*BelvosIELla funditor*, new species.

BelvosIELla funditor, new species

MALE.—Length, 11 mm. Parafrontals twice as wide as the brown median vitta, golden yellow, the head elsewhere silvery whitish with more or less distinct yellowish tinge, the ground color of the face pale yellow. Antennae reddish, the third segment apically, and the arista, brown.

Thorax black, gray pollinose, the four broad vittae moderately distinct, all narrowly interrupted at the suture, the inner pair widely separated.

Legs black. Wings cinereous hyaline, the third vein bristled halfway to the small cross-vein. Squamae milky white. Halteres luteous.

Abdomen black, gray pollinose, the broad apex of the second to fourth segments reddish-brown pollinose, this pollen expanding on either side of the middle so as to

broadly reach the basal fourth and give the appearance, in certain views, of three dark, shining rows of spots formed of the narrow median vitta and broader sublateral spots. The fourth segment bears on either side of the under surface a large, roundish sexual patch of fairly long, dense hair.

TYPE.—Male, Potaro Landing, February 21, 1921, captured by a species of *Asilus* (Wm. Beebe).

Originally, I had hesitated about proposing a new genus for this species, as I was not altogether certain that it did not belong in *Atacta*. However, after I prepared the description, the insect was relaxed and it was found that the palpi were small, oval and reddish.

ARCHYTAS Jaennecke

There are four species belonging to this genus in the collection, two of them undescribed when received, although I have both species from other regions.

TABLE OF SPECIES

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| 1.—Pleura wholly black-haired..... | 2. |
| Pleura almost wholly fine yellow pilose, the bristles black..... | 3. |
| 2.—Abdomen wholly shining black..... | <i>antillicolla</i> Curran. |
| Abdomen reddish on the basal two and one-half segments except in the middle. | <i>sibillans</i> Curran. |
| 3.—Fourth abdominal segment strongly whitish pollinose, at least laterally. | species. |
| Fourth abdominal segment shining black..... | <i>vernalis</i> Curran. |

Archytas antillicolla Curran

CURRAN, 1927, Amer. Mus. Novitates, No. 260, p. 2.

A single female, Kartabo, May 21, 1924.

Archytas species

A female from Kamakusa, September 1922 (H. Lang), and one from Bartica District, cannot be definitely determined. The species is closely related to *incasana* Townsend.

Archytas sibillans Curran

CURRAN, 1928, Can. Ent., LX, p. 225.

Black; head mostly yellowish; abdomen mostly reddish on the basal two-thirds. Length, 9 to 11 mm.

FEMALE.—Cheeks and face very pale yellowish, white pollinose; occiput and front blackish, pale ochreous pollinose, the parafrontals with thin pollen; frontal vitta rusty reddish, less than half as wide as either parafrontal. Front almost as wide as either eye, the upper three or four pairs of frontals reclinate; two pairs of proclinate orbitals and a reclinate one halfway between them but near the frontal row. Pile of occiput yellowish. Hair of cheeks coarse, mostly black; hair of face black. Palpi reddish. Antennae reddish, the third segment mostly brownish, not much longer than

the second, convex apically on upper surface; arista mostly ferrugineous, the basal segment almost one-half as long as the penultimate one.

Thorax blue-black, thickly cinereous pollinose, only lightly so behind the suture. Four pairs of posterior dorsocentrals; three sternopleurals; three pairs of marginal scutellars and a weaker, cruciate apical pair.

Legs black; pulvilli yellowish.

Wings cinereous hyaline, narrowly brownish-tinged along the veins, the costal border conspicuously brownish on the basal half or more.

Abdomen with the first three segments reddish, the first mostly black dorsally, the second with a broad median vitta, the third with the apical half and median vitta which narrows slightly anteriorly to join that of the second segment, black; apex of fourth segment reddish. Abdomen without pollen. Second segment with a pair of marginals, the third and fourth each with a row, the latter with an irregular row of discals.

MALE.—Pulvilli moderately elongate; third abdominal segment only narrowly black apically toward the sides.

Female, Kartabo, June 30, 1924, from calyx of *Posoqueria*, (No. 24998); male, Puerto Bermudez, Peru, July 12-19, 1920.

Archytas vernalis Curran

CURRAN, 1928, Can. Ent., LX, p. 208.

Blackish or castaneous, the abdomen without pollen. Length, 14 to 15.5 mm.

MALE.—Cheeks, lateral third of parafacials, sides and lower third of facial depression and the parafrontals above, reddish, the head elsewhere black, cinereous pollinose, yellow-haired, the front black-haired on the upper third and with some coarse black hairs below; somewhat wider at the vertex than either eye. Frontal vitta brownish; seven to nine pairs of frontals, the upper two reclinate; three to five bristles in a second frontal row, the upper one proclinate, simulating an orbital; outer verticals long. The black occipital cilia extend to the lowest sixth of the eyes; cheeks with a few black bristly hairs, their width slightly greater than one-half of the eye-height. Hair of parafacials rather fine. Palpi reddish, spatulate. Antennae reddish, the third segment mostly brown, slightly longer than the second, almost straight below, gently convex above, narrowed from the arista to the rounded apex; arista brown, the penultimate segment not twice as long as wide.

Thorax brownish, the mesonotum with metallic-blue reflections, the humeri, lateral margins and scutellum reddish, the whole grayish pollinose, appearing thinly so above from dorsal view, the vittae fairly distinct. Pleura wholly pale-haired, including the hair on the propleura.

Legs black; pulvilli yellow, moderately long.

Wings pale grayish, luteous basally; fourth vein bent at almost a right angle, with a conspicuous short fold. Squamae distinctly infuscated, somewhat yellowish.

Abdomen shining castaneous, except for the basal sternites, wholly black-haired. Second segment with one pair of strong marginals, the third and fourth each with a row, the latter with two rows of discals on the apical half. Lobes of the fifth sternite separated by a broad V-shaped incision; posterior forceps without lateral ridges, the apex not upturned, the arms divided by a deep, rather wide incision; outer forceps composed of a single, tapering, inwardly curved arm.

FEMALE.—Front a little wider, with only a single bristle below, outside the frontal row; with two pairs of strong proclinate orbitals.

Male, Kartabo, and a male and two females, Savonilla, Colombia, July 25, 1902 (Capt. W. Robinson), ex *Megalopyga lanata*.

According to a label on one of the Colombian specimens this is *Archytas seminigra* Wiedemann, of Coquillett, but it cannot be the species described by Wiedemann, since it is very much larger and lacks pale pollen on the sides of the fourth abdominal segment.

CUPHOCERA Macquart

Cuphocera pretiosa, new species

Rusty reddish; upper half of occiput, disc of mesonotum, and the fourth abdominal segment, black; head and thorax yellow pollinose; legs reddish, the tarsi brown. Length, 12 mm.

FEMALE.—Face and cheeks pale yellow and pale yellow pollinose; parafrontals shining; frontal vitta luteous, narrow above; two strong orbitals on either side; front wider than either eye. The black occipital cilia do not extend to the lower border of the eyes; pile of the occiput and hair of cheeks and parafacials, yellow, the parafacials with one long black bristle below. Antennae reddish, the third segment black on its outer surface; arista blackish, its penultimate segment four times as long as wide.

Mesonotum bronze-black except laterally and posteriorly, the vittae moderately distinct; hair wholly black. Three posterior dorsocentrals, three sternopleurals; two pairs of marginal scutellars, and a very weak apical pair; no discals.

Wings cinereous hyaline, brownish or luteous along the veins, quite brownish in front of the third vein on the apical half; a short appendage at the bend of the fourth vein; third vein bristled halfway to the small cross-vein. Squamae and halteres yellow.

First abdominal segment wholly pale; fourth shining black except the narrow base. Second and third segments each with a pair of discals, the fourth with two rows; second segment with pair of marginals, the third and fourth each with a row. Hair wholly black.

TYPE.—Female, Kartabo, May 17, 1924.

This species agrees well with the description of *Tropidopsis pyr-rhaspis* Wiedemann but the third antennal segment is only a little longer than the second, is broadened apically, and has the apex somewhat oblique.

STREBLIDAE

There are a dozen representatives of this peculiar family, all of which are parasitic on bats. The twelve specimens are referable to four genera, one of which is now described for the first time. Kessel has given an excellent review of this family in the Transactions of the New York Entomological Society, XXXIII, pp. 11–33, 1925.

TABLE OF GENERA

- 1.—Head without ctenidium beneath; wings fully developed, with six longitudinal veins. 2.
 Head with ctenidium; wings fully developed; posterior legs not nearly twice as long as the front ones. EUCTENODES Waterhouse.
- 2.—Posterior legs not nearly twice as long as the anterior pair. 3.
 Posterior legs elongate, their tibiae widening slightly apically; almost twice as long as the middle pair; anterior femora without stout spines; thorax without teeth anteriorly. SPEISSERIA Kessel.
- 3.—Wings with cross-veins. TRICHOBIUS Gervais.
 Wings without cross-veins. KESSELIA, new genus.

KESSELIA, new genus

Related to *Trichobius*. Head spherical, a little higher than wide; palpi free, oval, narrowed basally, not contiguous; eyes round, gently convex, composed of five or six facets; antennae mostly hidden in the large anterior, vertically open, rectangular cavity occupying most of the front of the head, the anterior margin of the front with an almost V-shaped excision; from above, the thorax appears spherical, but it is higher than wide and slightly flattened below. Hair of the head and thorax as in *Trichobius*, long on the mesonotum, the scutellum with four bristly hairs. Wings normal, without cross-veins, the veins strong, haired, all reaching the wing margin, or the posterior one or two very slightly separated from it, the first vein with two longish bristles near the base. Legs robust, the femora all equally strong, without unusual ornamentation; tibiae slightly compressed, widest near the middle. Disc of the abdomen bare on almost the basal half, the hairs becoming stronger apically, very weak in front, on the sides of the sub-basal fourth of the abdomen, long; a large chitinized plate occupies almost the basal half of the venter which bears short hair. Genitalia small. Halteres long.

GENOTYPE.—*Kesselia pallida*, new species.

Kesselia pallida, new species

Pale yellowish, the knees and tarsi darker, claws black. In the male I can make out no abdominal segmentation, but this is, however, distinct in the female. The thoracal suture is gently undulate, carried a little forward in the middle; the longitudinal suture reaches almost halfway to the transverse suture and emits on either side a gently curved suture which extends to the sides of the thorax where it curves somewhat forward, thus separating the humeral region from the main part of the dorsum, the suture continuing to the anterior coxae, indicating that the space before it constitutes the pronotum which is therefore divided. The sternum is divided by a median suture and the usual oblique ones which terminate at the posterior ends of the middle coxal cavities; the anterior and posterior margins of the sternum are rounded, although inclined to form an obtuse angle.

TYPES.—Holotype, male, and two male paratypes, Kartabo, April 16, 1922 (No. 22195), from the bat *Furipterus horrens*: allotype, female, Kartabo, June 8, 1924 (No. 24834), from the same species of bat.

TRICHOBIUS Gervais**Trichobius phyllostomae** Kessel

KESSEL, 1925, Journ. N. Y. Ent. Soc., XXXIII, p. 16.

Two specimens, Kartabo, March 12, 1922 (No. 2280), from the bat *Phyllostomus h. hastatus*, in alcohol; one pinned specimen, Kartabo, June, 12, 1924 (No. 24923), from a colony of the bat, *Molossus obscurus*.

EUCTENODES Waterhouse**Euctenodes mirabilis** Waterhouse

WATERHOUSE, 1879, Trans. Ent. Soc. London, p. 310.

Two specimens, Kartabo, August 30, 1922 (No. 221065); two specimens, Kartabo, August 30, 1922 (No. 221063). All from the bat *Tonacia bidens* (Spix).

SPEISSERIA Kessel**Speisseria ambigua** Kessel

KESSEL, 1925, Journ. N. Y. Ent. Soc., XXXIII, p. 20.

One specimen, Kartabo, August 30, 1922 (No. 221063), taken together with two specimens of *Euctenodes mirabilis* Waterhouse. Taken from the bat *Tonacia bidens*.

The specimen agrees with Kessel's description, but seems to trace to *Pseudostrebla* in the key.

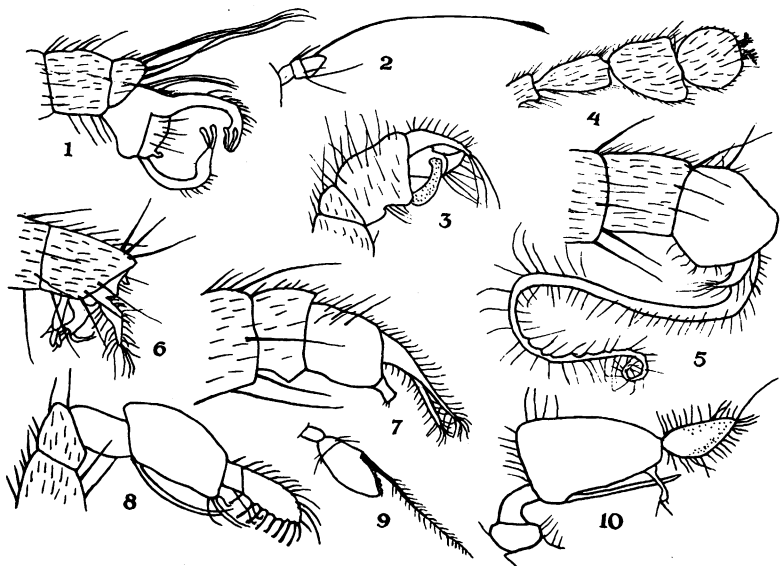


Fig. 1.—*Condyllostylus cancer*, new species; hypopygium of male. Fig. 2.—*Condyllostylus barbipes*, new species; antenna of male. Fig. 3.—Hypopygium of same. Fig. 4.—Last three joints of the hind tarsi of same. Fig. 5.—*Condyllostylus fuscipennis*, new species; hypopygium of male. Fig. 6.—*Condyllostylus latifacies*, new species; hypopygium of male. Fig. 7.—*Condyllostylus cinctiventris*, new species; hypopygium of male. Fig. 8.—*Sarcionus pectinicauda*, new species; hypopygium of male. Fig. 9.—*Sarcionus maculipennis*, new species; antenna of male. Fig. 10.—Hypopygium of male of same.

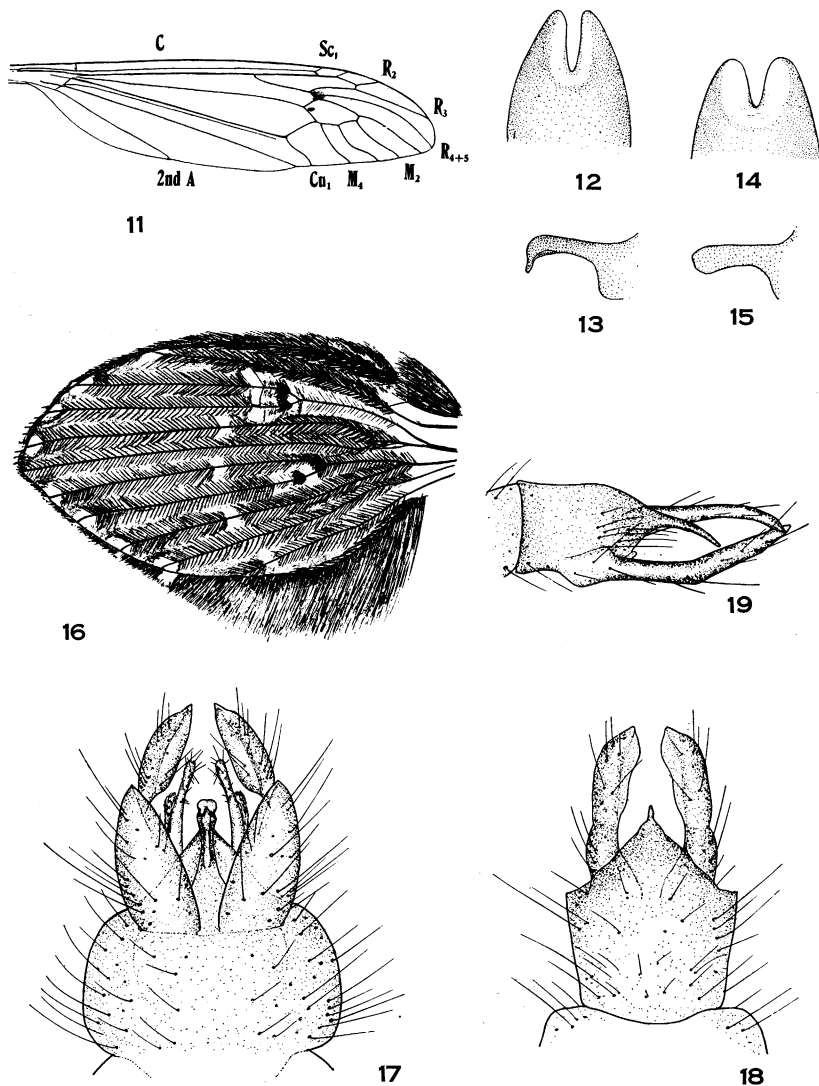


Fig. 11. Wing of *Ozodicerca (Dihexaclonus) guianensis*, new species.

Fig. 12. Male hypopygium of *O. (D.) guianensis*: ninth tergite, dorsal aspect.

Fig. 13. Male hypopygium of *O. (D.) guianensis*: apex of sternite-basistyle; lateral aspect.

Fig. 14. Male hypopygium of *O. (D.) triguttata* Alexander: ninth tergite, dorsal aspect.

Fig. 15. Male hypopygium of *O. (D.) triguttata*: apex of sternite-basistyle; lateral aspect.

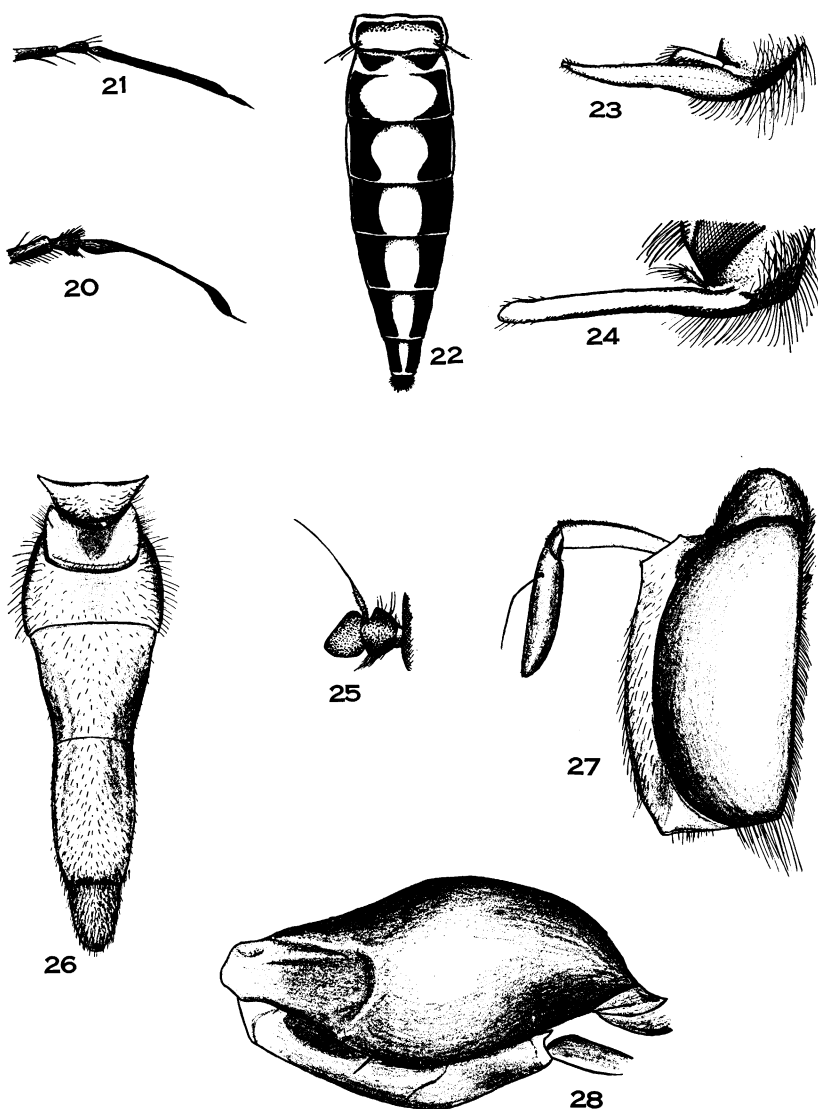
Fig. 16. *Psychoda albopunctata* Williston. Wing.

Fig. 17. *Chironomus ochros* Walley (n. sp.). Male genitalia.

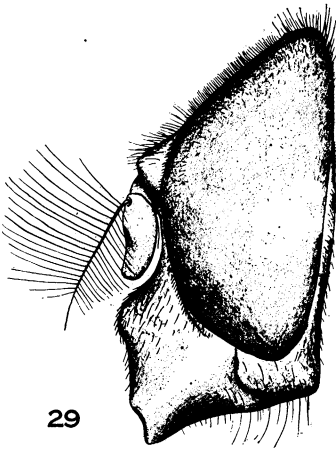
Fig. 18. *Chironomus fumeus* Walley (n. sp.). Male genitalia.

Fig. 19. *Chironomus daktylos* Walley (n. sp.). Male genitalia.

Venation: C = Costa; Sc = Subcosta; R = Radius; M = Media; Cu = Cubitus; A = Anal Vein.



- Fig. 20. *Pachychaeta genitalis*. Antenna.
 Fig. 21. *Senoprosopis tenuis* Wiedemann. Antenna.
 Fig. 22. *Deromyia lineola*, n. sp. Abdomen, dorsal aspect.
 Fig. 23. *Andrenosoma cyaniventris*. Proboscis.
 Fig. 24. *Lampria clavipes* Fabricius. Proboscis.
 Fig. 25. *Pipunculus rex*, new species. Antenna.
 Fig. 26. *Microdon tenuicauda* Curran. Abdomen, cf. *guianica* and *inarmatus*.
 Fig. 27. *Microdon tenuicauda* Curran. Head in profile.
 Fig. 28. *Planes grandifemoralis*, new species. Posterior femur and tibia.



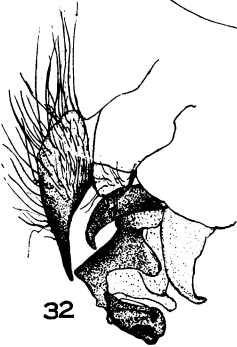
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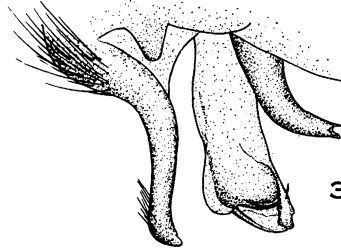
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- Fig. 29. *Volucella brevifacies*, new species. Head of male.
 Fig. 30. *Adiscochaeta abnormis* Enderlein. Lateral view of male genitalia.
 Fig. 31. *Pterocerina americana*, new species. Wing.
 Fig. 32. *Harpagopyga divergens*, new species. Lateral view of male genitalia.
 Fig. 33. *Helicobia guianica*, new species. Lateral view of male genitalia.

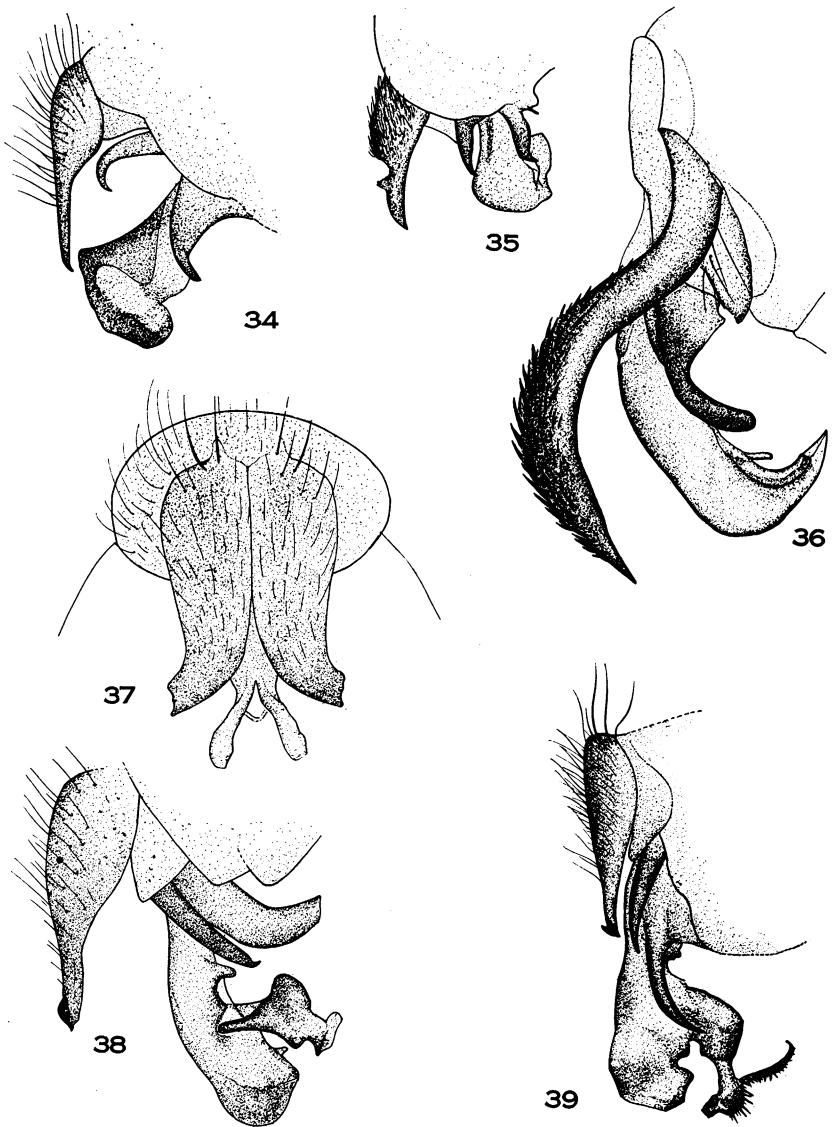


Fig. 34. *Harpagopyga angustiventris*, new species. Lateral view of male genitalia.

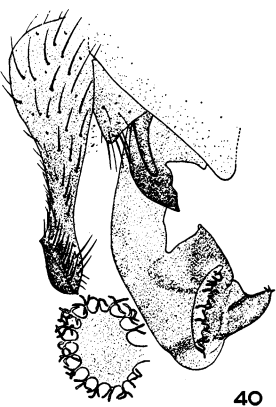
Fig. 35. *Sarcophagula orbitalis*, new species. Lateral view of male genitalia.

Fig. 36. *Sarcophaga anguilla*, new species. Lateral view of male genitalia.

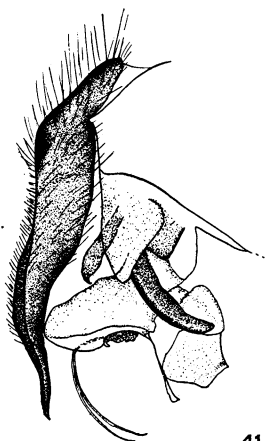
Fig. 37. *Sarcophaga sternodontis* Townsend. Ventral view of male genitalia.

Fig. 38. *Sarcophaga molitor*, new species. Lateral view of male genitalia.

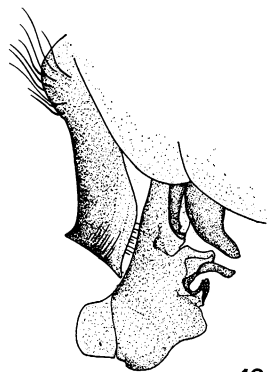
Fig. 39. *Sarcophaga xanthosoma* Aldrich. Lateral view of male genitalia.



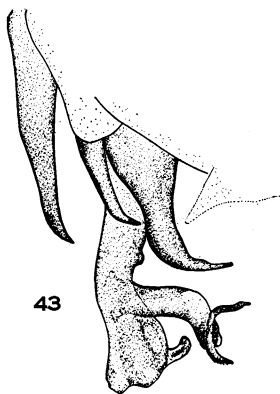
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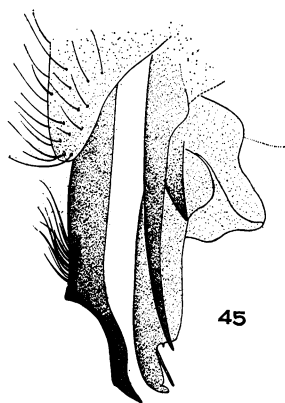
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Fig. 40. *Sarcophaga fringidea*, new species. Lateral view of male genitalia.

Fig. 41. *Sarcophaga clotho*, new species. Lateral view of male genitalia.

Fig. 42. *Sarcophaga intona*, new species. Lateral view of male genitalia.

Fig. 43. *Sarcophaga kartabo*, new species. Lateral view of male genitalia.

Fig. 44. *Sarcophaga excilians*, new species. Lateral view of male genitalia.

Fig. 45. *Sarcophaga collusor*, new species. Lateral view of male genitalia.

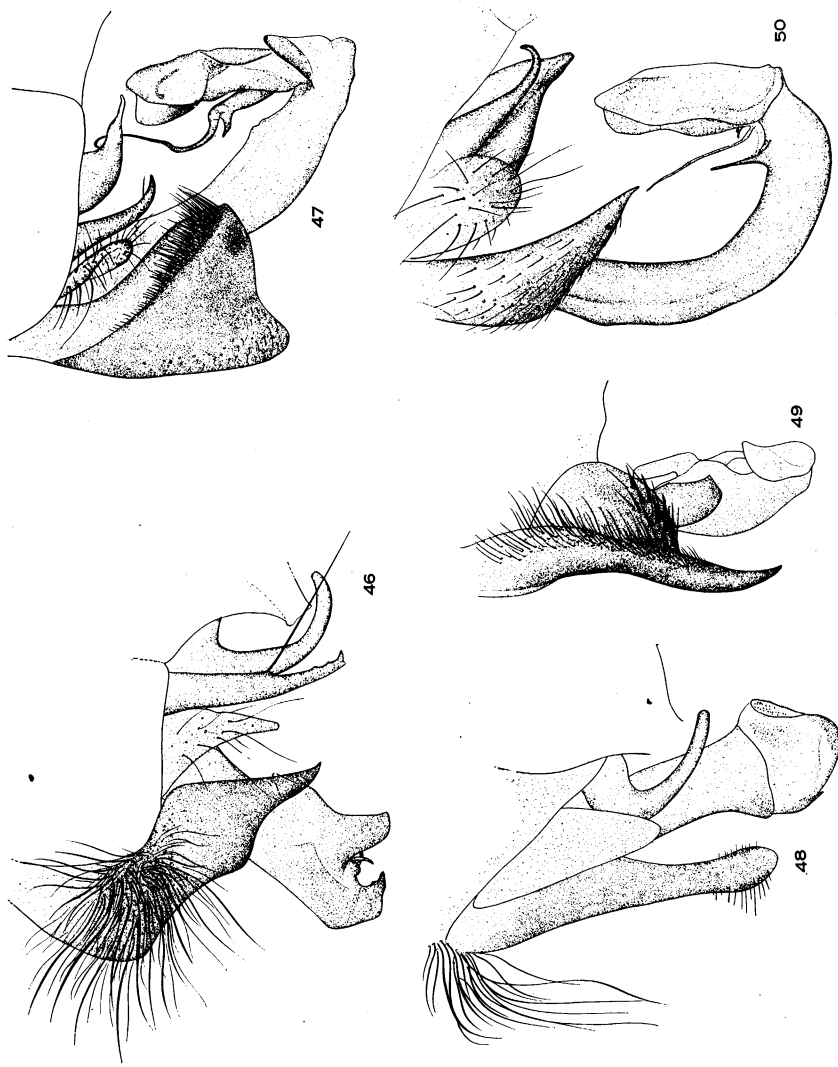


Fig. 46. *Sarcophaga mentor*, new species. Lateral view of male genitalia.
 Fig. 47. *Sarcophaga pallidipilosa*, new species. Lateral view of male genitalia.
 Fig. 48. *Sarcophaga barica*, new species. Lateral view of male genitalia.
 Fig. 49. *Sarcophaga lithogaster*, new species. Lateral view of male genitalia.
 Fig. 50. *Sarcophaga occipitalis* Thomson. Lateral view of male genitalia.

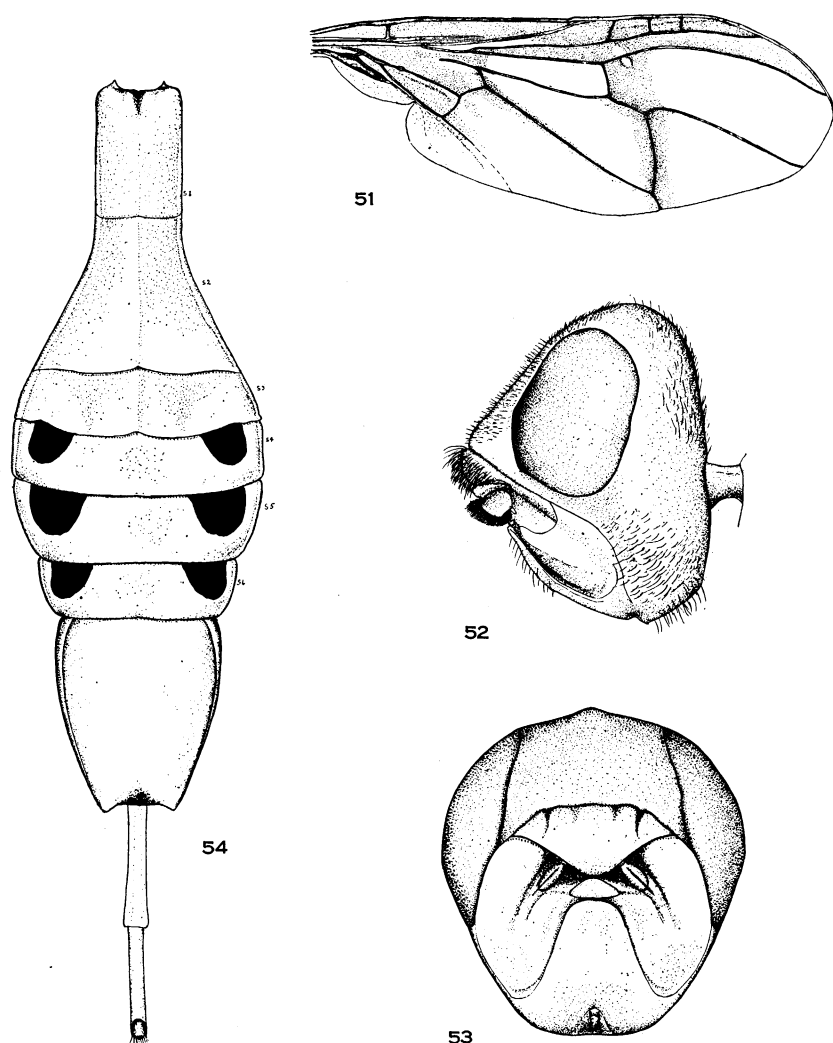


Fig. 51. *Tauroscypson guiana*, new species. Wing, showing venation and color pattern.

Fig. 52. *Tauroscypson guiana*, new species. Lateral view of head.

Fig. 53. *Tauroscypson guiana*, new species. Anterior view of head.

Fig. 54. *Tauroscypson guiana*, new species. Abdomen from above.

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