

New records of picture-winged flies (Diptera: Ulidiidae) of Central America including the description of new taxa

[Neue Nachweise von Schmuckfliegen (Diptera: Ulidiidae) aus Mittelamerika
nebst der Beschreibung neuer Taxa]

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Abstract

New records of picture-winged flies from Guatemala, Belize, Honduras, El Salvador, Nicaragua, Costa Rica and Panama are represented. Altogether, 71 species of 23 genera are known to occur in the region. Five new species, *Paragorgopis euryale* spec. nov., *P. medusa* spec. nov., *P. stheno* spec. nov., *P. incus* spec. nov., *P. stapes* spec. nov., and one genus, *Terpnomyennis* gen. nov. (type species: *Myennis nigra* HENDEL) are described. *Euxesta punctipennis* (ENDERLEIN, 1937) previously known from a short description, is redescribed based on the type series and additional material from Belize. The following synonymies are established: *Zacompsia* COQUILLET, 1901 = *Metopocampta* ENDERLEIN, 1927 syn. nov.; *Dasymetopa* LOEW, 1868 = *Euxestina* CURRAN, 1934 syn. nov.; *Euxesta stigmatias* LOEW, 1868 = *Euxestina similis* ENDERLEIN, 1937: 438 syn. nov.; *Zacompsia planiceps* (ENDERLEIN, 1927) comb. nov. (= *Metopocampta planiceps* ENDERLEIN, 1927) = *Zacompsia metallica* CURRAN, 1934 syn. nov.; *Dasymetopa fumipennis* HENDEL, 1909 = *Dasymetopa fuscicosta* HENDEL, 1911 syn. nov. = *Ophthalmoptera innotata* ENDERLEIN, 1921 syn. nov. = *Euxestina fuscipennis* CURRAN, 1934 syn. nov.; *Pterocalla fenestrata* VAN DER WULP, 1899 = *Pterocalla ophthalmoptera* HENDEL, 1914 syn. nov. *Dasymetopa novempunctata* (HENDEL, 1909) comb. nov. and *Terpnomyennis nigra* (HENDEL, 1909) comb. nov. are transferred from *Rhyparella* HENDEL and *Neomyennis* HENDEL, respectively. Thirty-seven species and 10 genera are recorded from Central America for the first time.

Key words

Diptera, Ulidiidae, Central America, species list, new genus, new species

Zusammenfassung

Vorliegende Publikation enthält neue Nachweise von Schmuckfliegen aus Guatemala, Belize, Honduras, El Salvador, Nicaragua, Costa Rica und Panama. Insgesamt sind nunmehr 71 Arten aus 23 Gattungen aus der Region bekannt. Es werden 5 neue Arten, nämlich *Paragorgopis euryale* spec. nov., *P. medusa* spec. nov., *P. stheno* spec. nov., *P. incus* spec. nov. und *P. stapes* spec. nov. sowie mit *Terpnomyennis* gen. nov. (type species: *Myennis nigra* HENDEL) eine neue Gattung beschrieben. Die vormals nur durch eine kurze Beschreibung bekannte Spezies *Euxesta punctipennis* (ENDERLEIN, 1937) wird anhand der Typenserie und neuem Material aus Belize wiederbeschrieben. Folgende Synonymien wurden erkannt bzw. Neukombinationen vorgenommen: *Zacompsia* COQUILLET, 1901 = *Metopocampta* ENDERLEIN, 1927 syn. nov.; *Dasymetopa* LOEW, 1868 = *Euxestina* CURRAN, 1934 syn. nov.; *Euxesta stigmatias* LOEW, 1868 = *Euxestina similis* ENDERLEIN, 1937 syn. nov.; *Zacompsia planiceps* (ENDERLEIN, 1927) comb. nov. (= *Metopocampta planiceps* ENDERLEIN, 1927) = *Zacompsia metallica* CURRAN, 1934 syn. nov.; *Dasymetopa fumipennis* HENDEL, 1909 = *Dasymetopa fuscicosta* HENDEL, 1911 syn. nov. = *Ophthalmoptera innotata* ENDERLEIN, 1921 syn. nov. = *Euxestina fuscipennis* CURRAN, 1934 syn. nov.; *Pterocalla fenestrata* VAN DER WULP, 1899 = *Pterocalla ophthalmoptera* HENDEL, 1914 syn. nov. *Dasymetopa novempunctata* (HENDEL, 1909) comb. nov. und *Terpnomyennis nigra* (HENDEL, 1909) comb. nov. werden aus den Gattungen *Rhyparella* HENDEL und *Neomyennis* HENDEL transformiert. Insgesamt 37 Arten und 10 Gattungen werden erstmals aus Mittelamerika gemeldet.

Stichwörter

Diptera, Ulidiidae, Mittelamerika, Artenliste, neue Gattung, neue Arten

Introduction

The picture-winged flies Ulidiidae (= Otitidae) is the third largest, after Tephritidae and Platystomatidae, family of the superfamily Tephritoidea, with more than 560 species assigned to about 80 genera. They occur almost worldwide, but more than half of described species and about 75% of genera are known from the Neotropical Region, which is, undoubtedly, a center of diversity of the family. There is a few species in tropical Africa, Asia, Australia and Oceania, while the Holarctic Region possesses moderate richness and diversity of faunas (KAMENEVA 2000).

While preparing the Ulidiidae chapter for the Manual of Diptera of Central America (KAMENEVA & KORNEYEV, in prep.), the authors have examined vast undetermined material from that region, and type specimens from collections of 17 institutions in Austria, Canada, Costa Rica, Germany, Hungary, Israel, and the USA (see the list below). It has revealed at least 40 undescribed species, several new genera, numerous new records of known species and genera from Central American countries and new synonymies based upon the study of type specimens.

Most of these new data are represented below. Many new species belong to genera that need full taxonomic revision on a wider basis (*e. g.*, *Acrosticta* LOEW, *Aciuroides* HENDEL, *Euxesta* LOEW, *Megalaemyia* HENDEL, *Pterocalla* RONDANI and *Pterocerina* HENDEL) and they are to be described and keyed in separate future papers. This paper concerns mainly unpublished material, on which new records from Central America (exclusive of southern Mexico) are based, or descriptions of individual species of the genera recently revised or which need no revision. Wherever available, examined type material is also listed. Some rare species, which occur in Central America and previously were known from incomplete original descriptions only, are figured and redescribed.

The following paper presents a revised annotated checklist of picture-winged flies known from Guatemala, Belize, El Salvador, Honduras, Nicaragua, Costa Rica and Panama and adds 37 species recorded from Central America for the first time.

Materials and methods

Material examined. This study is based upon material deposited in the following collections:

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|-----------|---|---|
| AMNH | — | American Museum of Natural History, New York, USA; |
| ANSP | — | Academy of Natural Sciences of Philadelphia, Pa., USA; |
| CM | — | Carnegie Museum of Natural History, Pittsburgh, Pa., USA; |
| CNC | — | Canadian National Collections of Insects, Arachnids and Nematodes, Ottawa, Canada; |
| DIE | — | Deutsche Entomologisches Institut, Zentrum für Agrarlandschafts- und Landnutzungsforschung, (ZALF e.V.) Eberswalde, Germany; |
| HMNH | — | Hungarian Natural History Museum (Természettudományi Múzeum), Budapest, Hungary; |
| INBio | — | Instituto Nacional de Biodiversidad, Santo Domingo, Heredia, Costa Rica; |
| INBio OET | — | material possessed by the "OET" Project deposited in INBio, Costa Rica; |
| MCZ | — | Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA; |
| MSNT | — | Regional Museum of Natural Science, Turin (Museo Regionale di Scienze Naturali, Torino), Italy; |
| MTD | — | National Museum of Zoology (Staatliches Museum für Tierkunde), Dresden, Germany; |
| NHMLA | — | Natural History Museum of Los Angeles County, USA; |
| NHMW | — | Natural History Museum of Vienna (Naturhistorische Museum Wien), Austria; |
| SIZK | — | Schmalhausen Institute of Zoology, National Academy of Sciences of Ukraine, Kiev; |
| SMF | — | Forschungsinstitut und Naturmuseum Senckenberg, Frankfurt am Main, Germany; |
| TAU | — | Tel Aviv University, Israel; |
| UG | — | Department of Environmental Biology, University of Guelph, Canada; |
| USNM | — | United States National Museum of Natural History, Washington, D. C., USA; |
| ZMHB | — | Museum of Natural History of the Humboldt University in Berlin (Museum für Naturkunde der Humboldt-Universität zu Berlin), Germany; |
| ZMUC | — | Zoological Museum, University of Copenhagen (Zoologisk Museum, Universitets Copenhagen), Danmark.. |

Type material is arranged from holotype to paratypes, and from senior names to junior; number and sex of specimens are given before the label data cited literally in parentheses. The slash character (/) is used for separation of label lines; the backward slash (\) separates texts on the back side of a label.

Non-type material is arranged by countries and provinces from north to south and then by dates; number and sex of specimens is given after their dates of collecting and are followed by the name of collector and abbreviation of depositary. Additional collecting data cited indirectly from sources other than the label (e.g., from the original description of a species) are given in square brackets.

Morphological terminology used here generally follows McALPINE (1981).

Systematics. The subfamilies, tribes, genera and species are listed in alphabetic order. Nomenclature of the family was considerably controversial during all the history of its study. The family name Ortalidae was often used for this family, including Platystomatidae and Richardiidae, or for its part. Since *Ortalis* MEIGEN was found to be a preoccupied name, the name Otitidae was proposed instead (ALDRICH 1932). Both names Ulidiidae and Otitidae remained in use before the priority of the first was noted (KAMENEVA & KORNEYEV 1994). Detailed classification based upon phylogenetic analysis was proposed by KAMENEVA & KORNEYEV (in press). The family is divided into two subfamilies, Ulidiinae and Otitinae ALDRICH, 1932. The subfamily Ulidiinae includes four tribes, predominantly Neotropical Lipsanini ENDERLEIN, 1936 (= Euxestinae HENNIG, 1939, nom. preocc.) and Pterocallini LOEW, 1868, Holarctic Seiopterini KAMENEVA & KORNEYEV, 1994, and mostly Old World Ulidiini MACQUART, 1835. The subfamily Otitinae consists of three tribes: Cephaliini SCHINER, 1864, Otitini ALDRICH, 1932 and an undescribed tribe (KAMENEVA & KORNEYEV, in press); the majority of genera belonging to this subfamily occur in Holarctic Region.

Distribution. As a rule, each Central American country, in which the species occurs, is listed. New records are provided only for countries of Central America. If a species previously known in the USA or Peru is found to range in Central America and Mexico or Columbia, new records from the latter countries are also listed, wherever available, to avoid misinterpretation of its range as a disjunction. The general range summarized by STEYSKAL (1968) in the Neotropical catalogue, with a few most recent additions, is cited.

Subfamily OTITINAE

Tribe Otitini

Diacrita costalis GERSTAECKER, 1860

GERSTAECKER 1860: 195; STEYSKAL 1968: 54.4.

Material examined. **Type:** Syntypes 2 specimens (abdomens missing): MEXICO: "Oaxaca Deppe", "2324", "Type [red label]", "costalis Gerst.*" (ZMHB). **Non-type:** MEXICO: "Coll. Lichtwardt", 3 ♂♂, 3 ♀♀ (DEI); GUATEMALA: Escuintla, Palín, 14°24'N, 90°42'W, 1992, 1 ♂, 1 ♀ (LOPEZ) (USNM).

Distribution. Guatemala (new record for Central America). **General:** USA, Mexico (STEYSKAL 1968).

Undescribed Tribe

Pseudodyscrasis steyskali HERNÁNDEZ-ORTIS, 1988

HERNÁNDEZ ORTIS 1988: 183.

Material examined. **Non-type:** GUATEMALA: 6.04.1931, 1 ♂ (PIRA); Guatemala City, El. 5000 ft., 03.1932, 1 ♂ (AIUSLIE); Antigua, Sacatepequez, 12.1965, 1 ♂ (KRAUSS); Guatemala City, 29.05–13.06.1981, 2 ♂♂, 4 ♀♀ (BATES); HONDURAS: Tegucigalpa, 2.08.1952, 1 ♂; idem, 13.08.1971, 1 ♂ (GUTTIERREZ SAMPERIO) (USNM).

Distribution. Guatemala (KAMENEVA & KORNEYEV in press), Honduras (new record). **General:** Mexico, Venezuela (HERNÁNDEZ ORTIS 1988, KAMENEVA & KORNEYEV in press).

Remarks. This species actually belongs to a new genus (KAMENEVA & KORNEYEV in press).

Subfamily ULIDIINAE

Tribe Ulidiini

Physiphora aenea (FABRICIUS, 1794)

FABRICIUS 1794: 335 (*Musca*); STEYSKAL 1968: 54.14.

Material examined. Type: Syntypes 2 specimens on two pins (sex?): “aenea” (in poor condition: only 2 thoraces each with 1 damaged wing) (ZMUC: KIEL collection). **Non-type:** NICARAGUA: Matagalpa Selva Negra, 1400 m, 27.11.1992, 1 ♂, 1 ♀; Masaya Dist., Laguna de Apoyo, at banana bait, 10.12.1992, 2 ♀ ♀ (VAN DEN BERGHE) (CM); COSTA RICA: Prov. Heredia: S. Domingo, S. Rosa, Inst. Nac. de Biodiversidad, 1200 m, 3.08.1993, 5 ♂ ♂, 6 ♀ ♀; La Rivera de Belén, 960 m, 20.10.1996, 1 ♂ (ZUMBADO) (INBio).

Distribution. Nicaragua, Costa Rica (new record for Central America). **General:** Asia, Africa, Australia, Oceania, USA, Mexico, Brazil (STEYSKAL 1968).

Tribe Lipsanini

Acrosticta profunda HENDEL, 1909

HENDEL 1909d: 251; STEYSKAL 1968: 54.13.

Material examined. Type: Holotype ♂: BOLIVIA: Songo: “*Acrosticta / profunda* H. / det. F. Hendel”, “Coll. Hendel” [white labels], “Type” [red label] (HMNH). **Non-type:** BOLIVIA: Songo, 1 ♀: “*Acrosticta / profunda* H. / det. F. Hendel”, “Coll. Hendel” [white labels], “Type” [red label] (NHMW). COSTA RICA: Prov. Alajuela: Upala, Bijagua, Albergue Heliconias, Send. Heliconias, 700 m, in light, 6–9.04.2000, 1 ♀ (GUTIÉRREZ); Prov. Limón: R. B. Hitoy Cerere, 300 m, 7.06–8.08.1994, 1 ♀ (CARBALLO) (INBio).

Distribution. Costa Rica (new record for Central America). **General:** Guyana, Peru, Bolivia (STEYSKAL 1968).

Remarks. The topotypic ♀ (NHMW), despite bearing the red type label, was not originally included in the original type series and is not a type specimen.

Acrosticta ruficauda HENDEL, 1909

HENDEL 1909d: 250; 1910: pl. 3, fig. 66; STEYSKAL 1968: 54.13.

Material examined. Type: Syntype 1 ♂: PERU: Vilcanota: “*Acrosticta / ruficauda* H. / det. F. Hendel”, “Coll. Hendel”, “Paratype” [yellow label], “Syntype ♂ / *Acrosticta / ruficauda* H. “ (NHMW); Syntypes 2 ♂ ♂, 4 ♀ ♀: BOLIVIA: Mapiro: S. Carlos, 800 m, 6, 12, 20.01.03 (1 ♂, 2 ♀ ♀); Sarampioni: 700 m, 28.01.03 (2 ♀ ♀); Chimate: 650 m (1 ♂) (MTD). **Non-type:** COSTA RICA: Prov. Puntarenas: P. N. Manuel Antonio, Quepos, 80 m, 09.1991, 1 ♀ (VARELA); Est. San Miguel, Puesto Cabo Blanco, 1 m, 23.02.1994, 1 ♂ (ALVARADO) (INBio); Boca de Barranca, 19–22.06.1963, 1 ♂ (HOGUE) (NHMLA).

Distribution. Costa Rica (new record for Central America). **General:** Peru, Bolivia (STEYSKAL 1968).

Acrosticta rufiventris HENDEL, 1910

HENDEL 1910: 52, pl. 4, fig. 101; STEYSKAL 1968: 54.13.

Material examined. Type: Holotype ♀: USA: Texas: Galveston, 06. [19]00, “*Acrosticta / rufiventris* H. / det. F. Hendel”, “Coll. Hendel”, “Type” [red label], “Holotypus / *Acrosticta / rufiventris*” (NHMW). **Non-type:** COSTA RICA: Prov. Guanacaste: Sta Rosa, Playa Naranjo, 01.1991, 1 ♂ (ALCAZAR) (INBio).

Distribution. Honduras (STEYSKAL 1968); Costa Rica (new record). **General:** USA, Mexico, West Indies (STEYSKAL 1968).

Acrosticta scrobiculata LOEW, 1868

LOEW 1868: 293, pl. 2, fig. 5; STEYSKAL 1968: 54.13.

Material examined. Type: Syntypes 2 ♀ ♀: “Brasilien”; “*Acrosticta / scrobiculata* H. / det. F. Hendel” (NHMW). **Non-type:** COSTA RICA: Prov. Cartago: Turrialba, La Suiza, 09.1925, 1 ♀ (SCHILD) (USNM); Prov. Limón: A. C. Amistad, R. B. Hitoy Cerere, Valle de la Estrella, 140 m, 17.06–17.07.1999, 1 ♀ (UMAFIA); Prov. Puntarenas: Buenos

Aires, Est. Altamira, Sendero Los Gigantes, 1450 m, 4.01–3.02.2000, 1 ♀ (RUBI); Est. Pittier, Sendero Pittier, 1670 m, 1–4.07.1995, 1 ♀ (ALVARADO); Península de Osa: Rancho Quemado, 200 m, 06.1992, 1 ♀ (QUESADA, SEGURA); idem, 25.06–4.07.1995, 1 ♀ (ZUMBADO) (INBio).

Distribution. El Salvador (STEYSKAL 1968); Costa Rica (new record). **General:** Mexico, West Indies, Guyana, Brazil, Peru (STEYSKAL 1968).

Axiologina ferrumequinum HENDEL, 1909

HENDEL 1909d: 268; 1910: pl. 3, figs 76–79; STEYSKAL 1968: 54.14; 1973: 132.

Material examined. Type: Lectotype ♂: BRAZIL: São Paulo: “Iguape / Young”, “Bras. Exped. / Wettstein. [18]91”, “*Axiologina / ferrumequinum* H. / det. F. Hendel”, “Coll. Hendel”, “Lectotypus / Steyskal, / 1972” [red label] (NHMW). **Non-type:** GUATEMALA: Quirigua, 8.05.1926, 1 ♀ (ALDRICH) (USNM); BELIZE: 1 ♀ (JOHNSON) (NHMLA).

Distribution. Guatemala, Belize (new records), Costa Rica, Panama (STEYSKAL 1968). **General:** Guyana, Brazil, Peru (STEYSKAL 1968).

Chaetopsis major (VAN DER WULP, 1899)

VAN DER WULP 1899: 398, pl. 11, fig. 11 (*Euxesta*); STEYSKAL 1968: 54.14.

Material examined. Non-type: MEXICO: Veracruz, Orizaba, 04.1871, 1 ♀ (BILIMEK) (NHMW); GUATEMALA: Antigua, 27.08.1946, 2 ♂ ♂, 1 ♀ (HARRIS); HONDURAS: El Paraíso, Guinope, Sta Rosa, 3.05.1989, 1 ♂ (ROMERO); Dept. Francisco Morazan Zambrano, 40 km NW Tegucigalpa, 17.11.1987, 1 ♀ (KNUTSON); COSTA RICA: Prov. Cartago: Turrialba, La Suiza, 04.1922, 1 ♀, 22.09.1924, 1 ♂; 31.08.1924, 1 ♀; 28.12.1924, 1 specimen (without abdomen) (SCHILD) (USNM); Prov. Puntarenas: Golfito, 18.08.1957, 1 ♀ (MENKE) (NHMLA).

Distribution. Guatemala, Honduras, Costa Rica (new records); El Salvador (STEYSKAL 1968). **General:** USA, Mexico (STEYSKAL 1968).

Eumecosomyia hambletoni STEYSKAL, 1966

STEYSKAL 1966a: 100; 1968: 54.15.

Material examined. Type: Holotype ♂: “GUATEMALA, Esquintla Prov. Nov. 17 – 1964 F. J. Hambleton”; “Swept ex Cymbopogon sp. “, “Holotype Eumecosomyia hambletoni Steyskal” [white red-framed rectangle, STEYSKAL’s handwriting]; allotype ♀: labels as in holotype, “Allotype Eumecosomyia hambletoni Steyskal [white blue-framed rectangle, STEYSKAL’s handwriting]”; paratype 1 ♀: labels as in holotype, “Paratype Eumecosomyia hambletoni Steyskal [white blue-framed rectangle, STEYSKAL’s handwriting]” (USNM). **Non-type:** GUATEMALA, locality as in holotype, 10, 17.05.1965, 19 specimens (HAMBLETON) (USNM); COSTA RICA: Prov. Cartago: Turrialba, San Raphael de Sta Cruz, 23.10.1956, 1 ♂ (FERNANDEZ) (USNM); idem, La Suiza, 9°51.5’N, 83°37.5’W, 28.07.2001, 1 ♂ (FREIDBERG) (TAU); Prov. Limón: Río Reventazón, F. Hamburg, 1.07. [19]30, 1 ♀ (REIMOSER) (NHMW); Prov. San Jose: San Jose, 8 kil W, Farm La Caja, 1930, 1 ♀ (SCHMIDT) (DEI); idem, 28.04 – 6.05.1919, 3 ♂ ♂, 2 ♀ ♀ (SCHMIDT); PANAMA: Canal Zone, Corozal, 1.03.1912 (BUSCK) (USNM).

Distribution. Guatemala (STEYSKAL 1968); Costa Rica, Panama (new records).

Eumecosomyia nubila (WIEDEMANN, 1830)

WIEDEMANN 1830: 660 (*Ortalis*); STEYSKAL 1968: 54.15. — *gracilis* COQUILLETT 1900: 25 (*Epiplatea*).

Material examined. Type: Syntype *O. nubila* 1 ♀ [? — abdomen destroyed]: “Brasilia / Freireiss”, “216”, “Typus” [red framed label] (SMF). Holotype ♂ *E. gracilis*: MEXICO: “S. J. Allende / 11.28 Mex.”, “Epiplatea / gracilis / Coq.”, “Type / No. 4520 / U. S. N. M.”, “Eumecosoma nubila Wd. [TOWNSEND]”; paratype 1 ♀: “S. J. Allende / 11.28 Mex.”, “Epiplatea / gracilis / Coq.”, “Paratype / No. 4520 / U. S. N. M.”, “Eumecosoma nubila Wd. [TOWNSEND]” (USNM). **Non-type:** BELIZE: Corozal Dist.: Patchacan, 3 m, on corn, 13.03.1984, 1 ♂ (DUNN) (USNM).

Distribution. Belize (new record); Guatemala, Nicaragua, Costa Rica (STEYSKAL 1968). **General:** USA, West Indies, Trinidad, Mexico, Venezuela, Brazil, Peru, Paraguay (STEYSKAL 1968).

Euphara caerulea (MACQUART, 1848)

MACQUART 1848: 222 (62), pl. 7, fig. 6 (*Ceroxys*); STEYSKAL 1966: 101; 1968: 54.15.

Material examined. Non-type: [Country unknown]: “*caerulea*”, “Löw determ.”, “*Euphara / caerulea* M. / det. F. Hendel”, 1 ♀ (NHMW). COSTA RICA: Prov. Puntarenas: Río Coto Brus, Potrero Grande, 3.07.1993, 1 ♂, 1 ♀ (SHEPARD) (CM); Península de Osa, Bosque Esquinas, 200 m, 03.1994, 2 ♂ ♂ (QUESADA) (INBio); PANAMA: Canal Zone: Cristobal, 08.1946, 1 ♀ (KRAUSS) (USNM).

Distribution. Costa Rica, Panama (new record for Central America). **General:** Guyana, Venezuela, Brazil, Peru (STEYSKAL 1968).

***Euxesta abdominalis* LOEW, 1868**

LOEW 1868: 307, pl. 2, fig. 15; STEYSKAL 1968: 54.16.

Material examined. Non-type: CUBA: “Pöpp, 1843”, “*abdominalis* / Alte Sammlung”, 1 ♂, 3 ♀ (NHMW). BELIZE: 1 ♀ (JOHNSON) (NHMLA); HONDURAS: La Ceiba, 10.10.1966, 1 ♂ (DYER) (USNM).

Distribution. Belize, Honduras (new records); Costa Rica, Panama (STEYSKAL 1968). **General:** USA, Bermuda, West Indies (STEYSKAL 1968).

***Euxesta alternans* LOEW, 1868**

LOEW 1868: 308, pl. 2, fig. 16; STEYSKAL 1968: 54.16.

Material examined. Non-type: GUATEMALA: Coban, Alta Vera Paz, 20.05.1926, 1 ♀ (ALDRICH); Antigua, 10.1965, 1 ♀ (KRAUSS); EL SALVADOR: 26.12.1953, 1 ♂, 1 ♀ (SAHAZAR) (USNM); COSTA RICA: Prov. Alajuela: Upala, Bijagua, Albergue Heliconias, Send. Heliconias, 700 m, 17.06.2000, 2 ♂ ♂, 1 ♀ (HERNÁNDEZ); Prov. Cartago: Turrialba: Monumento Nacional Guayabo, 1100 m, 06.1994, 1 ♂ (FONSECA) (INBio); La Suiza, 1921, 5 ♂ ♂, 1 ♀ (HMNH); idem, 04.1922, 09.1924, 03.1926, 8 ♂ ♂, 7 ♀ ♀ (SCHILD); 11.1965, 1 ♀ (KRAUSS); Pejibaye, 24–25.03.1987, 3 ♂ ♂, 4 ♀ ♀ (STEINER) (USNM); Prov. Heredia: Santo Domingo, Parque INBio, 9°59'N, 85°05'W, 23.07.2001, 1 ♂ (FREIDBERG) (TAU); idem, 1100 m, 28.04–25.05.2000, 1 ♀ (ZÚNIGA); La Rivera de Belén, 960 m, 9.10.1994, 1 ♀ (ZUMBADO); P. N. Braulio Carrillo, Est. Magsasay, 200 m, 05.1991, 1 ♂ (FERNÁNDEZ) (INBio); Est. Biol. La Selva, 50–150 m, 10 26 N, 84 01 W, 12.1992, 2 ♂ ♂; 17.01.1993, 1 ♂; 1.10.1993, 1 ♀ (INBio OET); idem, 01.1993, 1 ♂, 6 ♀ ♀ (HANSON); Luko Hilje-Quiros, 1200 m, ex *Aristolochia* sp., 1 ♂ (USNM); Prov. Guanacaste: 9 km S Santa Cecilia, Est. Pitilla, 700 m, 2–9.03.1992, 1 ♀ (MORAGA), 03.1994, 01.1995, 04.1995, 5 ♀ ♀ (RIOS); Fca Pasmompa Est. Pitilla, 5 km SO Sta Cecilia, 400 m, 19.1989, 1 ♀ (PNG Inventario de Biodiversidad); Tierras Morenas, 685 m, 07.1994, 1 ♂ (RODRIGUES); P. N. Guanacaste, Lado SO Volcan Cacao, Est. Cacao, II curso Parataxonomos, 1000–1400 m, 06.1990, 1 ♀; Prov. Limón: R. B. Hitoy Cerere, 300 m, 13.05–15.06.1994, 1 ♂, 3 ♀ ♀ (CARBALLO); idem, 100 m, 7–26.01.1992, 1 ♀ (CARBALLO); idem, 160 m, 08.1998, 1 ♂ (ROJAS); Valle de la Estrella, 140 m, 17.06–17.07.1999, 4 ♀ ♀ (UMAFIA); idem, 100 m, 07.1994, 1 ♀ (CARBALLO); idem, 07.1994, 1 ♀ (QUESADA); Valle del Selencio, Sendero Toma de Agua, 100–140 m, 05–06.2000, 1 ♀ (UMAFIA); Sector Cerro Cocori, 100 m, 11.1990, 1 ♂ (ROJAS); idem, 30 km N de Cariari, 100 m, 01–02.1994, 1 ♀ (ROJAS) (INBio); Westfalia, 4 km S, 9°54.5'N, 82°59'W, beach, 27.07.2001, 2 ♂ ♂, 3 ♀ ♀ (FREIDBERG) (TAU); Prov. Puntarenas: Coto Brus, Sabalito, Est. Mellizas, Frontera con Panamá, 1400–1500 m, 20–26.10.1996, 1 ♂ (NAVARRO); 50 m R. B. Carara, Est. Quebrada Bonita, 02.1991, 1 ♀ (MORAGA); 5,6 km NW del Cerro Rincón, Cerro de Oro, Sendero La Tarde, 200 m, 2–13.01.1996, 1 ♀ (FLETES); Pittier, Unión Rios Congo Canasta, 2,5 km SW de Cerro Pittier, 1500 m, 25.03.1998, 1 ♂ (MORAGA); Río Agujas, Est. Agujas, Sendero Ajo, 300 m, 24–26.09.1996, 2 ♂ ♂ (AZOFEIFA); idem, Sendero Homo, 300 m, 4–8.08.1997, 1 ♀ (LOBO); 16–20.03.1998, 1 ♂ (LOBO); idem, Alrededor de la Est., 300 m, 16–20.02.1998, 1 ♂ (LOBO); Golfito, P. N. Corcovado, Est. Agujas, 250–350 m, 15.10–15.11.1999, 1 ♀ (AZOFEIFA); Buenos Aires, Est. Altamira, Sendero Los Gigantes, 1450 m, 13–26.03.1999, 1 ♂, 1 ♀ (JIMÉNEZ, AZOFEIFA); idem, 4.01–3.02.2000, 8 ♀ ♀ (RUBI); Est. Altamira, 1 km SO de Cerro Biolley, PILA-ACLA, 1450 m, 26.02–10.03.1995, 1 ♀ (SEGURA); idem, 1300 m, 2–20.04.1995, 1 ♀ (ANGULO); Embalse, 800 m NO de Tigra, Finca Cafrosa, 1280 m, 19.08.1997, 2 ♂ ♂ (NAVARRO); San Luis Monteverde, Buen Amigo, 1000–1350 m, 02.1994, 1 ♀, 05.1994, 1 ♂, 08.1994, 2 ♂ ♂, 1 ♀ (FUENTES); Est. Las Alturas, Send. a Cerro Echandi, 1500 m, 17–18.11.1997, 1 ♂ (GAMBOA); Res. Biol. Monteverde: A. C. Arenal, 1520 m, 1–29.08.1993, 1 ♀ (TAYLOR); idem, Est. La Casona, 1520 m, 12.1993, 01.1994, 2 ♀ ♀ (OBANDO); Peninsula de Osa, Rancho Quemado, 200 m, 12.1991, 1 ♀, 07.1992, 3 ♂ ♂ (QUESADA), 07.1992, 1 ♂ (SEGURA) (INBio); Golfito, 18.07.1957, 1 ♀ (TRUXAL, MENKE) (NHMLA); Rincón, 3 km SW, 9°55'N, 84°13'W, 10 m, 11–12.1990, 2 ♂ ♂, 2 ♀ ♀ (HANSON) (USNM); Prov. San Jose: Res. Biol. Carara, Estac. Bijagual, 500 m, 11.1989, 1 ♂, 1 ♀ (ZÚNIGA); idem, 09.1990, 1 ♂ (VARELA) (INBio); BRAZIL: “Brasilía / Alte Sammlung”, 1 ♀ (mentioned in original description but not included in type series) (NHMW).

Distribution. Guatemala, El Salvador, Costa Rica (new records); Panama (STEYSKAL 1968). **General:** Bermuda, West Indies, Mexico, Venezuela, Brazil, Argentina (STEYSKAL 1968).

***Euxesta annonae* (FABRICIUS, 1794)**FABRICIUS 1794: 358 (*Musca*); STEYSKAL 1968: 54.16.

Material examined. Type: Syntype 1 specimen (sex?): “annonae” (in poor condition: only remainders of head, thorax and 1 wing) (ZMUC: KIEL collection). **Non-type:** COSTA RICA: Prov. Alajuela: R. N. V. S., Caño Negro, Puesto Playuelas, 20 m, 6–13.04.1994, 1 ♂ (Flores); idem, 3–23.04.1995, 1 ♂ (Villalobos) (INBio); Prov. Cartago: Turrialba, La Suiza, 1921, 1 ♀ (HMNH); Pejibaye, 24–25.03.1987, 1 ♂ (Steiner) (USNM); Prov. Heredia: Viejo Sarapiquí, Finca La Selva Pto, 02.1990, 1 ♂ (Chaves, Aguilar) (INBio); Est. Biol. La Selva, 50–150 m, 10°26'N, 84°01'W, 15–30.08.1992, 1 ♂, 1 ♀ (Huertos) (INBio OET); idem, 01.1993, 2 ♂ ♂ (Hanson) (USNM); Prov. Guanacaste: P. N. Palo Verde, Extremo E del Campo de Aterrizaje, 0–50 m, 6.04–12.05.2000, 1 ♂ (Jiménez); Est. Palo Verde, 10 m, 06.1991, 1 ♂, 1 ♀ (Gutiérrez); Bagaces, P. N. Palo Verde, Sector Catalina, Fila Catalina, 250 m, 8.02–9.03.2000, 1 ♂ (Jiménez); P. N. Guanacaste, Est. Los Almendros, 300 m, 1–22.07.1992, 1 ♀; 3–22.08.1993, 1 ♂; 8–20.11.1993,

1 ♂ (López); idem, 13.10–3.11.1993, 2 ♂♂ (Martínez); 9 km S Santa Cecilia, Est. Pitilla, 700 m, 06.1991, 1 ♀; 10–17.06.1992, 2 ♂♂; 22.10–2.11.1992, 1 ♀; 22.08.1993, 1 ♀; 6–17.09.1993, 1 ♀; 07.1994, 1 ♂ (MORAGA); idem, 18–23.07.1993, 1 ♀; 06.1994, 1 ♀; 07.1994, 1 ♂, 2 ♀♀; 08.1994, 2 ♀♀; 09.1994, 1 ♂, 1 ♀ (Ríos); Prov. Puntarenas: Quepos, P. N. Manuel Antonio, 80 m, 11.1992, 1 ♀ (VARELA) (INBio).

Distribution. Costa Rica (new record for Central America). **General:** USA, West Indies, Guyana, Brazil, Bolivia; also immigrant in Oceania and Philippine Islands (STEYSKAL 1968).

Euxesta avala (WALKER, 1849)

WALKER 1849: 1020 (*Trypeta*); STEYSKAL 1968: 54.16.

= *latifascia* SCHINER 1868: 283 (*Amethysa*).

Material examined. Type: Syntypes *Amethysa latifascia*, 2 ♀♀: VENEZUELA: “Lindig, 1864”, “*latifascia* / Alte Sammlung”: “*Amethysa / latifascia* / Schin.”; “*latifascia* S. / det. F. Hendel” (NHMW). **Non-type:** NICARAGUA: Chinandega, 1 ♂ (BAKER); COSTA RICA: Prov. Alajuela: San Mateo, Higuito, 3 ♂♂, 3 ♀♀ (SCHILD) (USNM); R. N. V. S., Caño Negro, 20 m, 13–20.02.1994, 1 ♀ (MARTÍNEZ); San Ramón, Est. San Ramón Oeste, 620 m, 3–19.04.1994, 1 ♀ (QUESADA); San Carlos, Reserva P. N. Arenal, Sendero Pilón, 600 m, 1–18.05.1999, 1 ♀ (CARBALLO); idem, 650 m, 1–18.05.1999, 1 ♀ (CARBALLO); Prov. Cartago: Turrialba, Monumento Nacional Guayabo, 1100 m, 07.1994, 1 ♂ (FONSECA); A. C. Amistad, Madreselva, Finca los Lagos, 2600 m, 12.1993, 1 ♂ (CHAVARRIA); P. N. Barbilla, Send. Río Dantas, 200–300 m, 09.2000, 2 ♀♀ (ROJAS); idem, 2 km SE de Estación, 500–600 m, 2–21.07.2000, 1 ♀ (ROJAS) (INBio); Pejibay, 24–25.03.1987, 1 ♀ (STEINER); La Suiza, 1922–1926, 8 ♂♂, 9 ♀♀ (SCHILD) (USNM); idem, 1921, 9 ♂♂, 2 ♀♀ (HMNH); Prov. Heredia: Est. Biol. La Selva, 50–150 m, 10 26 N, 84 01 W, 15–30.08.1992, 1 ♀, 12.1992, 2 ♀♀ (HUERTOS) (INBio OET); idem, 40 m, 17–23.05.1988, 2 ♀♀ (BROWN) (CM); idem, 01.1993, 3 ♀♀ (HANSON); Luko Hilje-Quiros, 1200 m, ex *Aristolochia* sp., 5 ♂♂, 2 ♀♀ (USNM); Santo Domingo, Parque INBio, 9°59'N, 85°05'W, 23.07.2001, 1 ♀ (FREIDBERG) (TAU); Prov. Guanacaste: P. N. Guanacaste, Lado SO Volcan Cacao, Est. Cacao, II curso Parataxonomos, 1000–1400 m, 06.1990, 1 ♀; P. N. Rincón de la Vieja, Est. Las Pailas, 800 m, 10–13.03.1994, 2 ♀♀ (TAYLOR) (INBio); Prov. Limón: Finca La Lola, 22–23.07.1963, 1 ♀ (HOGUE) (NHMLA); A. C. Amistad, Amubri, 70 m, 8.03–3.03.1994, 1 ♂ (GALLARDO); R. B. Hitoy Cerere, Valle de la Estrella, 140 m, 17.06–17.07.1999, 2 ♂♂, 14 ♀♀ (UMAFIA); Sendero Bobócará, 300 m, 17.06–17.07.1999, 2 ♀♀ (UMAFIA); Est. Hitoy Cerere, 100 m, 10.1991, 1 ♀, 6–25.11.1991, 4 ♀♀, 4–20.12.1991, 1 ♀ (CARBALLO); idem, 160 m, 08.1998, 1 ♀ (ROJAS); idem, 300 m, 13.05–15.06.1994, 3 ♀♀ (CARBALLO); Valle del Selencio, Sendero Toma de Agua, 100–140 m, 17.01–17.02.2000, 2 ♀♀ (UMAFIA); Prov. Puntarenas: Embalse, 800 m NO de Tigra, Finca Cafrosa, 1280 m, 20.08–4.09.1989, 1 ♂ (RAMÍREZ, MORA); idem, 03.1991, 1 ♀ (RAMÍREZ); Coto Brus, 1.3 km NO de Embalse, 17.06–18.08.1996, 1 ♂, 2 ♀♀ (NAVARRO); Sabalito, 700 m SE de Mellizas, Frontera con Panamá, 1400–1500 m, 20–26.10.1996, 1 ♀ (NAVARRO); 2.1 km al NE de Mellizas, Finca Santa Marta, 1620 m, 20.08.1997, 1 ♂ (NAVARRO); P. N. Manuel Antonio, Quepos, 80 m, 11–12.1991, 2 ♀♀ (VARELA); Garabito, P. N. Carara, Sector Laguna Meandrica, Est. Quebrada Mona, 100 m, 06.1990, 1 ♂ (ZÚNIGA); Res. Biol. Monteverde, A. C. Arenal, 1520 m, 1–29.08.1993, 1 ♀ (TAYLOR); idem, Est. La Casona, 11.1990, 1 ♀ (BELLO); idem, 04.1992, 1 ♀, 10–12.1993, 2 ♂♂, 4 ♀♀ (OBANDO); Est. Pittier, Sendero Pittier, 1670 m, 1–4.07.1995, 1 ♂ (ALVARADO); idem, 4–22.01.1996, 1 ♀ (NAVARRO); Albergue Cerro de Oro, 200 m, 5–9.05.1995, 1 ♂ (GAMBOA); Río Agujas, Est. Agujas, Sendero Ajo, 300 m, 24–26.09.1996, 2 ♂♂ (AZOFEIFA); idem, Sendero Homo, 300 m, 16–20.03.1998, 1 ♂ (LOBO); idem, Res. Ftal Golfo Dulce, 250–350 m, 20.02.2000, 1 ♂ (CABALLERO); Est. San Miguel, Send. Maven, 100 m, 20.03.1997, 1 ♂ (ALVARADO); San Luis Monteverde, Buen Amigo, 1000–1350 m, 07.1994, 1 ♂, 08.1994, 3 ♂♂ (FUENTES); idem, 4 km S de la Reserva, 1000–1350 m, 11–12.02.1996, 1 ♂ (FUENTES); Buenos Aires, Sector Altamira, 1 km SO del Cerro Billey, 1150–1350 m, 10.1994, 1 ♂, 1 ♀ (FUENTES); idem, 1400 m, 10.1994, 3 ♀♀ (SEGURA); idem, PILA-ACLA, 1450 m, 01.1995, 1 ♂ (SEGURA); idem, 1300 m, 2–20.04.1995, 1 ♂, 2 ♀♀ (ANGULO); Est. Altamira, 1450 m, 20–23.11.1995, 1 ♀ (MORAGA); idem, 5–9.03.1996, 1 ♀ (VILLALOBOS); idem, Sendero Los Gigantes, 1450 m, 4.01–3.02.2000, 1 ♀, 8–22.03, 1 ♂, 5 ♀♀ (RUBI); idem, 13–26.03.1999, 5 ♂♂, 7 ♀♀ (JIMÉNEZ, AZOFEIFA); idem, 1460, 7.04.1999, 1 ♀ (ALFARO); A. C. Osa, P. N. Corcovado, Est. Sirena, 1–100 m, 12.1994, 1 ♀ (FONSECA); idem, 0–100 m, 04.1992, 1 ♂ (RODRIGUEZ) (INBio); Puerto Jiménez, 5 km N, 10 13 N, 83 43 W, 11–12.1990, 1 ♀; Rincón, 3 km SW, 9°55'N, 84°13'W, 10 m, 11–12.1990, 1 ♂, 4 ♀♀ (HANSON); Finca Las Cruces, 6 km S San Vito, 21–25.08.1976, 1 ♂ (FISHER) (NHMLA); Monteverde, 1700 m, 1–5.05.1988, 1 ♀ (BROWN) (CM); Esparta, 1 ♂ (KNAB); Prov. San Jose: Pedregoso, 1 ♂, 1 ♀ (ROUNDS); San Jose, 03.1915, 1 ♂, 3 ♀♀ (SCHMIDT) (USNM); Res. Biol. Carara, Estac. Bijagual, 500 m, 01.1990, 1 ♀ (ZÚNIGA); Est. Las Nubes de Santa Elena, Finca El Gringo, 1300 m, 29.09.1995, 1 ♀ (PICADO) (INBio).

Distribution. Nicaragua, Costa Rica (new records); Panama (STEYSKAL 1968). **General:** West Indies, Venezuela (STEYSKAL 1968).

Euxesta eluta LOEW, 1868

LOEW 1868: 312, pl. 2, fig. 19; STEYSKAL 1968: 54.17.

Material examined. Type: Syntypes 3 ♂♂, 2 ♀♀, with silver paper squares and label “Loew coll.”; double-mounted ♂ & ♀ on same pin with Loew's handwritten label “eluta / m.” and a red label “Type 1 / 13266”, double-mounted ♂ with a label “99 / 153”, “Type 2...”; directly pinned ♂ and ♀ with labels “Type 3...” and “Type 4 / 13266” (MCZ).

Non-type: GUATEMALA: Lake Atitlan, 20.08.1965, 1 ♂ (SPANGLER) (USNM); COSTA RICA: Prov. Guanacaste: 9 km S Santa Cecilia, Est. Pitilla, 700 m, 06.1991, 1 ♂, 07.1994, 2 ♀ ♀ (RIOS); Prov. Puntarenas: San Luis Monteverde, Buen Amigo, 1000–1350 m, 08.1994, 1 ♀ (FUENTES); Peninsula de Osa, Bosque Esquinas, 200 m, 03.1994, 1 ♀ (QUESADA) (INBio); Prov. San Jose: Monteverde, Hdwts., Rio Guacimal, 23–27.07.1964, 1 ♀ (HOGUE) (NHMLA).

Distribution. Guatemala, Costa Rica (new record for Central America). **General:** USA, Mexico, West Indies, Brazil, Peru, Bolivia, Paraguay, Chile, Argentina (STEYSKAL 1968).

Euxesta guianica CURRAN, 1934

CURRAN 1934: 431; STEYSKAL 1968: 54.17.

Material examined. Non-type: NICARAGUA: Masaya Dist.: Laguna de Apoyo, banana bait, 29.09.1991, 2 ♂ ♂, 3 ♀ ♀ (VAN DEN BERGHE) (CM).

Distribution. Nicaragua (new record for Central America). **General:** Guiana (STEYSKAL 1968).

Euxesta juncta COQUILLET, 1904

COQUILLET 1904: 95; STEYSKAL 1968: 54.17.

Material examined. Type: Holotype ♂: NICARAGUA: Granada (Baker), “*Euxesta juncta* Coq.”, “Type No. 7802 U.S.N.M.” (USNM). **Non-type:** BELIZE: Manatee, ♀ (DEI); idem: ♀ (ROLLE) (ZMHB).

Distribution. Belize (new record), Nicaragua, Costa Rica. **General:** USA, West Indies (STEYSKAL 1968).

Euxesta maculata HENDEL, 1909

HENDEL 1909c: 169; STEYSKAL 1968: 54.18.

Material examined. Type: Syntypes: 1 ♀: “Peru — Meshagua / 11.10.03 / Urubambafl.”, “*Euxesta / maculata* H. / det. F. Hendel”; 1 ♀: “Bolivia — Mapiri / 31.12.02 / S. Carlos 800 m”, “*Euxesta / maculata* H. / det. F. Hendel”; 1 ♀: “Bolivia — Mapiri / 4.01.03 / S. Carlos 800 m”, “*Euxesta / maculata* H. / det. F. Hendel” (MTD). **Non-type:** GUATEMALA: Quirigua, 6.05.1926, 1 ♂ (ALDRICH); Matías de Galvez, 14–15.08.1965, 1 ♀ (SPANGLER) (USNM); BELIZE, 1 ♀ (JOHNSON) (NHMLA); COSTA RICA: Prov. Alajuela: R. N. V. S., Caño Negro, 20 m, 13–20.02.1994, 1 ♂ (MARTINEZ) (INBio); San Mateo, Higuito, 3 ♂ ♂, 2 ♀ ♀ (SCHILD); Prov. Cartago: Pejibaye, 24–25.03.1987, 2 ♀ ♀ (STEINER) (USNM); La Suiza, Turrialba, 9°51.5'N, 83°37.5'W, 28.07.2001, 2 ♂ ♂ (FREIDBERG) (TAU); Prov. Heredia: Est. Biol. La Selva, 50–150 m, 10 26 N, 84 01 W, 15–30.08.1992, 3 ♂ ♂, 3 ♀ ♀ (HUERTOS) (INBio OET); idem, 01.1993, 2 ♀ ♀ (HANSON); Prov. Guanacaste: 5 km N Canas, 45 m, 13.02.1968, 1 ♀ (CORNBABY) (USNM); Paloverde, dry forest, 6–12.07.1988, 1 ♀ (BROWN) (CM); A. C. T., Est. Lomas Barbudal, 30 m, 07.1991, 1 ♀ (ACEVEDO); P. N. Barra Honda, 3 km NO de Nacaome, 3–30.05.1993, 07.1993, 09.1995, 3 ♀ ♀ (REYES); P. N. Guanacaste, Est. Santa Rosa, 300 m, 28.07.1995, 1 ♂, 1 ♀ (ZUMBADO); P. N. Rincón de la Vieja, Est. Las Pailas, 800 m, 17–23.07.1993, 1 ♂ (TAYLOR); Tierras Morenas, 685 m, 03.1994, 1 ♂ (RODRIGUEZ); Bagaces, P. N. Palo Verde, Sect. Palo Verde, 0,25 km NNE de Estacion, 60 m, 4.06–6.07.1999, 2 ♀ ♀ (JIMÉNEZ); 0,5 km NW de Estacion, 40 m, 4.06–6.07.1999, 5 ♀ ♀ (JIMÉNEZ); Est. Palo Verde, 10 m, 06.1991, 1 ♀ (CHAVARRIA); Prov. Limón, R. B. Hitoy Cerere, Est. Hitoy Cerere, 100–300 m, 11.1992, 1 ♀, 13.05–15.06.1994, 2 ♀ ♀ (CARBALLO); Prov. Puntarenas: P. N. Manuel Antonio, Quepos, 80 m, 04.1991, 1 ♀ (VARELA); Garabito, P. N. Carara, Sector Laguna Meandrica, Est. Quebrada Mona, 100 m, 05–06.1990, 2 ♀ ♀ (ZÚNIGA); R. B. Carara, Est. Quebrada Bonita, 50 m, 03.1994, 1 ♀ (GUZMÁN); Buenos Aires, Est. Altamira, Sendero Los Gigantes, 1450 m, 13–26.03.1999, 1 ♀ (JIMÉNEZ, AZOFEIFA); Peninsula de Osa: Rancho Quemado, 200 m, 01.1991, 1 ♀ (QUESADA); Bosque Esquinas, 200 m, 05.1994, 1 ♀ (SEGURA) (INBio); Golfito, 18.07.1957, 1 ♀ (TRUXAL, MENKE) (NHMLA).

Distribution. Guatemala, Belize, Costa Rica (new records), Panama (STEYSKAL 1968). **General:** Guyana, Peru, Bolivia (STEYSKAL 1968).

Euxesta panamena CURRAN, 1935

CURRAN 1935: 20; STEYSKAL 1968: 54.19.

Material examined. Non-type: BELIZE, 2 ♀ ♀ (JOHNSON) (NHMLA).

Distribution. Belize (new record); Guatemala, Costa Rica, Panama (STEYSKAL 1968). **General:** Colombia (STEYSKAL 1968).

Euxesta punctipennis (ENDERLEIN, 1937)

(Figs 1–4)

ENDERLEIN 1937: 438 (*Euxestina*); STEYSKAL 1968: 54.19.

Material examined. Type: Lectotype ♀ [here designated]: BELIZE: “Februar / Br. [itish] Honduras / Manatee / Rolle V”, “*Euxestina / punctipennis* / Type Enderl. ♀ / Dr. Enderlein det. 1936”, “Typus” [red label], “Lectotypus /

Euxestina / punctipennis / Enderlein / Kameneva des. / 2002" (ZMHB); paralectotypes: 1 ♂, 1 ♀: same geographical label, with determination labels: "Holotypus / *Euxestina* ♂ / enderleini Kriv. " and "Paratypus / *Euxestina* ♀ / enderleini Kriv. ", respectively, "*Euxestina* / enderleini / sp. n. / det. N. Krivosheina", "*Euxesta* / *punctipennis* / End. / det. Kameneva 2002", and 1 ♂, 2 ♀♀, with determination labels "*Euxesta* / *punctipennis* / End. / det. Kameneva 2002"; another paralectotype ♂ belongs to *Acrosticta apicalis* Williston. **Non-type:** Belize, 1 ♀ (JOHNSON) (NHMLA); idem, Orange Walk Dist.: Pine Ridge, carrion trap, oak / pine / palmetto savanna, 13.09.1995, 1 ♀ (KOVARIK) (CM).

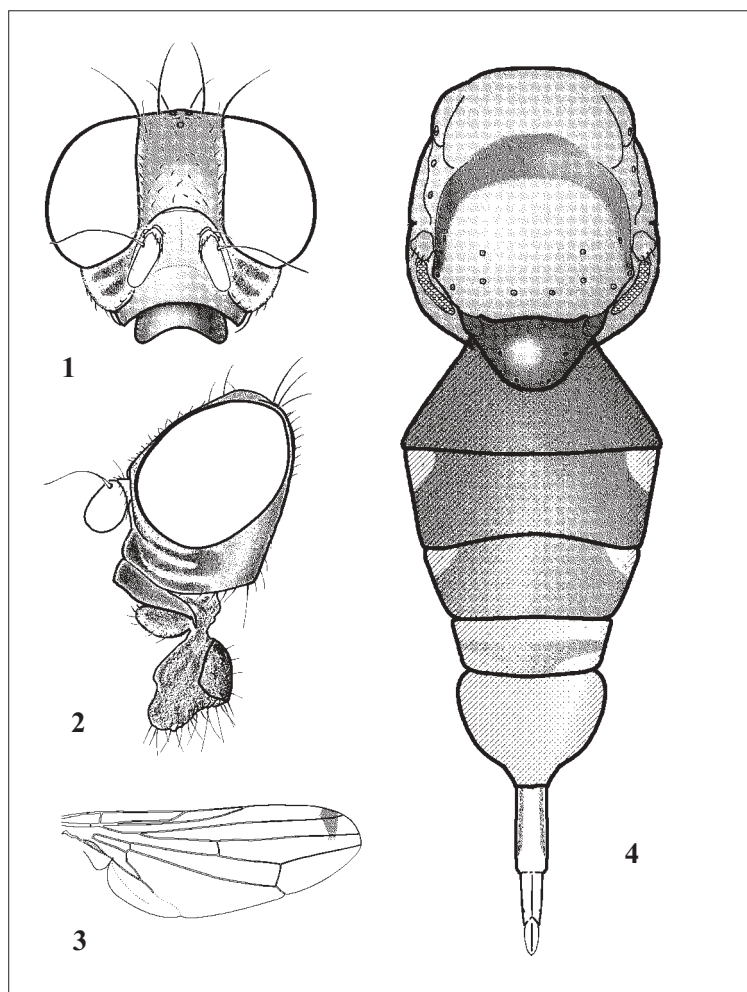
Redescription

Head (Figs 1–2): Length: height: width ratio = 1 : 1.33 : 1.78. Ocellar triangle and vertical plate black with bluish metallic sheen, sparsely microtrichose. Posterior orbital and ocellar setae subequal, 0.8 as long as width of 1st flagellomere and 1.6 times as long as anterior orbital seta. Lunula without velvety-black spot. Frons reddish-brown, slightly concave and shining in middle, white microtrichose along ocular margins, 1.6 times as long as wide at posterior ocelli, conspicuously narrowed anteriorly, and as wide as eye dorsally; 15–18 very short, slightly proclinate black setulae on frontal vitta and one row of 3–5 slightly longer laterocline setulae on orbits in front of orbital setae. Face on dorsal half brown to black, gray microtrichose; its ventral half and clypeus very sparsely whitish microtrichose, black with bluish sheen. Eye 1.1 times as long as high. Facial ridge and parafacialium along eye margin each with narrow strip of microtrichia separated by bare margins of ptilinal suture. Gena 0.33 times as high as eye, genal groove reddish brown, bare, except three narrow strips microtrichose: at eye margin, at ventral margin of gena and in genal groove between them. Gena with row of 4–6 proclinate or upwardly curved brown or black subvibrissal setulae. Subgena 0.4 as high as gena itself, shining black, with white microtrichose at ventral margin. Genal seta as long as or slightly longer than posterior orbital seta. Occiput black, with bluish or violet sheen, sparsely microtrichose except postgena conspicuously gray microtrichose. Medial (inner) and lateral (outer) vertical setae equal, as long as flagellomere 1; postocellar seta 0.65 times as long as vertical setae. Postocular setulae forming one row, short, at most 0.25 times as long as vertical setae. Antenna brownish yellow, scape and pedicel short, black setulose; flagellomere 1 short oval, 1.5 times as long as wide, yellow, slightly darkened at apex, white microtrichose; arista bare, yellow in basal 0.2. Palpus dark brown, moderately broadened at middle, black setulose and whitish microtrichose, with apical seta as long as palpus width, and 4–5 shorter setae on ventral margin. Proboscis dark brown, prementum convex, wide, with 16–20 black setulae; labrum fine white setulose.

Thorax (Fig. 4): Black with bluish metallic sheen, except transverse suture, postsutural supraalar area, scutellum, subscutellum and mediotergite subshining black without such sheen. Two pairs of dorsocentral and one prescutellar acrostichal setae; acrostichal setulae posterior of transverse suture forming 6 irregular rows between dorsocentral setulae. **Wing** (Fig. 3): Three times as long as wide, hyaline, with whitish or yellowish veins, yellow stigma and small brown subapical spot at apex of cell r_1 and in cell r_{2+3} , reaching vein R_{4+5} or slightly exceeding it, in cell r_{2+3} well separated from costal vein. Stigma slightly shorter than costal cell. Discal cell 1.6 times as long as ultimate (apical) section of vein M. Vein Cu_2 closing cell bcu , with extension along vein A_1 1.6 times as long as section between fork of Cu and elbow of Cu_2 . Triangular posteroapical lobe of cell bcu as long as subapical section of A_1+Cu_2 vein; apical two-thirds of A_1+Cu_2 vein faintly expressed as fold. Halter creamy. **Legs:** Brown to black, except fore coxa, mid and hind tarsi yellow, and mid and hind tibiae yellowish brown; all setae and setulae black. Fore tarsus slightly thickened, with 2 basal tarsomeres conspicuously flattened sagittally in both sexes.

Abdomen: Shining black in male; shining black (or brown) with yellow corners of tergites 3–5, oviscape and sternites, and microtrichose patches on sides of tergites 3–4 in female (Fig. 4). Tergites 4 and 5 of female well-developed; tergite 6 reduced, hidden. Pleural membrane strongly wrinkled, microtrichose, without setulae, black in male, yellow in female. **Male terminalia:** Not dissected. Sternite 8 with 2 longer, but without short thickened setulae. **Female terminalia:** Cercal unit of aculeus (exposed) short, only 2 times as long as wide. Spermathecae not examined.

Remarks. STEYSKAL (1968) omitted that this species was originally described in the genus *Euxestina* ENDERLEIN, not in *Euxesta* LOEW. The original description is very short, and the species was not included in any key to *Euxesta* species, including the manuscript key compiled by G. STEYSKAL. It is herein redescribed and illustrated. Several syntypes were in the ZMHB collection under a bottom label "*Euxestina* / enderleini N. Krivosheina", but the latter name has never been published. Apparently these specimens were compared with the syntype that actually belongs to *Acrosticta apicalis* and separated



from the latter specimen retained under the name "*E. punctipennis*". As the original series of syntypes is found to consist of two species, and in order to fix the concept of *E. punctipennis*, I designate here one female specimen that fits the original description of the species as the lectotype.

Distribution. Belize.

Figs 1–4: *Euxesta punctipennis* ENDERLEIN (lectotype ♀). – 1: Head, frontal view; – 2: Head, lateral view; – 3: Wing; – 4: Thorax and abdomen, dorsal view. Yellow areas are shown by oblique strokes.

Euxesta schineri HENDEL, 1909

basalis SCHINER 1868: 284 (*Amethysa*); preoccupied name, non *Euxesta basalis* WALKER 1852.

schineri HENDEL 1909c: 160 (replacement name for *Amethysa basalis*); 1910: pl. 1, fig. 20; STEYSKAL 1968: 54.19.

Material examined. Type: Syntypes *Amethysa basalis*, 2♂♂: VENEZUELA: "Lindig, 1864", "*basalis* / Alte Sammlung": "*Amethysa* / *basalis* / Schin.", "*Euxesta* / *basalis* S. / det. F. Hendel" (NHMW). **Non-type:** HONDURAS: Tegucigalpa, 25.07.1917, 1♂ (DYER); COSTA RICA: Prov. Alajuela: San Mateo, Higuito, 1♂, 1♀ (SCHILD) (USNM); R. N. V. S., Caño Negro, 20 m, 13–20.02.1994, 1♀ (MARTINEZ); Prov. Cartago: Turrialba: Monumento Nacional Guayabo, 1100 m, 09.1994, 1♂ (FONSECA) (INBio); Turrialba, 15–19.07.1965, 1♀ (SPANGLER); La Suiza, 04.1922, 1♀ (SCHILD); Pejibaye, 24–25.03.1987, 1♀ (STEINER); Prov. Guanacaste: 5 km N Canas, 45 m, 13.02.1968, 1♀ (CORNBABY) (USNM); Prov. Heredia: Est. Biol. La Selva, 50–150 m, 10°26'N, 84°01'W, 14.01.1993, 1♂ (INBio OET); idem, 01.1993, 2♂♂, 2♀♀ (HANSON) (USNM); Prov. Limón: R. B. Hitoy Cerere, Est. Hitoy Cerere: 100 m, 09.1991, 1♀, 11.1992, 1♂, 1♀; 300 m, 05–07.1994, 1♂, 8♀♀ (CARBALLO); idem, 100 m, 07.1994, 1♂, 2♀♀ (QUESADA); Valle la Estrella, 100 m, 06.1994, 1♂ (CARBALLO); P. N. Tortuguero, Est. Cuatro Esquinas, 0 m, 06.1991, 1♂ (SOLANO); Est. Aguas Frias, 10–20 m, 10.1997, 1♀ (ROJAS); Sector Cerro Cocori, Fca de E. Rojas, 150 m, 04.1993, 1♀ (ROJAS); Prov. Puntarenas: Albergue Cerro de Oro, 150 m, 12.04.1996, 1♀ (ANGULO); idem, 150 m, 24–28.09.1995, 1♀ (FLETES); Peninsula de Osa: Rancho Quemado, 200 m, 10–11.1990, 05.1991, 12.1991, 1♂, 2♀♀ (APU, SABORIO, QUESADA); Bosque Esquinas, 200 m, 03.1994, 1♂ (SEGURA) (INBio); Puerto Jiménez, 5 km N, 10°13'N, 83°43'W, 11–12.1990, 2♂♂, 4♀♀; Rincón, 3 km SW, 9°55'N, 84°13'W, 10 m, 10–12.1990, 4♂♂, 1♀ (HANSON)

(USNM); 2 km S Montezuma, 9°38.7'N, 85°4.4'W, 20.07.2001, 1 ♂ (FREIDBERG) (TAU); PANAMA: Canal Zone: Ancon, 1 ♂ (JENNINGS) (USNM).

Distribution. Honduras, Costa Rica, Panama (new record for Central America). **General:** Venezuela, Peru, Bolivia (STEYSKAL 1968).

Euxesta schnusei HENDEL, 1909

HENDEL 1909c: 161; STEYSKAL 1968: 54.19.

Material examined. Type: Syntypes: 2 ♀ ♀: “Peru — Meshagua / 1.10.03 / Urubambafl.”, “Euxesta / schnusei H. / det. F. Hendel”; 1 ♀: “Peru — Meshagua / 4.10.03 / Urubambafl.”, “Euxesta / schnusei H. / det. F. Hendel”; 1 specimen (abdomen missing): “Peru — Meshagua / 2.10.03 / Urubambafl.”, “Euxesta / schnusei H. / det. F. Hendel” (MTD). **Non-type:** COSTA RICA: Prov. Limón: R. B. Hitoy Cerere, Est. Hitoy Cerere, 100 m, 07.1993, 1 ♀ (Carballo); idem, 300 m, 13.05–15.06.1994, 2 ♀ ♀ (Carballo); Valle de la Estrella, 140 m, 17.06–17.07.1999, 1 ♀ (Umafia); Prov. Puntarenas: Península de Osa: Rancho Quemado, 200 m, 04.1991, 1 ♀ (Quesada); idem, 07.1992, 1 ♂ (Segura); P. N. Corcovado, Est. Sirena, 0–100 m, 04.1992, 1 ♂ (Rodriguez) (INBio); PANAMA: Alhajuelo, 17.04.1911, 1 ♂, 1 ♀ (Busck) (USNM); PERU: Meshagua, Urubamba fl., 09–10. [19]03, 4 specimens (topotypic; non-type) (DEI).

Distribution. Costa Rica, Panama (new record for Central America). **General:** Peru (STEYSKAL 1968).

Euxesta sororcula (WIEDEMANN, 1830)

WIEDEMANN 1830: 463 (*Ortalis*); STEYSKAL 1968: 54.19.

Material examined. Type: Syntype *O. sororcula*: 1 ♂ “Ortalis / sororcula W / Amer. mer.”, “Type” [red rectangle, printed] (ZMUC). **Non-type:** BRAZIL: ♀: “Brasilia / Coll. Winthem”, “*sororcula* / det. Löw”; 2 ♂ ♂: “Brasilien”, “*sororcula* / Alte Sammlung” (NHMW). GUATEMALA: Antigua, 1.09.1951, 2 ♀ ♀ (Painter); Lake Atitlan, 20.08.1965, 1 ♂ (Spangler); HONDURAS: Dept. Francisco Morazan Zambrano, 40 km NW Tegucigalpa, 17.11.1987, 1 ♀ (KNUTSON); idem, 24.12.1965, 1 ♂, 1 ♀ (Freitag) (USNM); COSTA RICA: Prov. Alajuela: E San Gerardo, S San Cristobal, S Palo Seco, 600 m, 24–28.04.2000, 1 ♀ (Bricefio) (INBio); Prov. Cartago: Turrialba, La Suiza, 31.08.1924, 1 ♀ (Schild) (USNM); Prov. Guanacaste: 9 km S Santa Cecilia, Est. Pitilla, 700 m, 31.03–15.04.1992, 1 ♀ (Rios); Prov. Puntarenas: Península de Osa, Rancho Quemado, 200 m, 02.1992, 2 ♂ ♂ (Quesada) (INBio).

Distribution. Guatemala, Honduras, Costa Rica (new record for Central America). **General:** Mexico, Brazil, Peru, Bolivia, Argentina (STEYSKAL 1968).

Euxesta spoliata LOEW, 1868

LOEW 1868: 298, pl. 2, fig. 7; STEYSKAL 1968: 54.19.

Material examined. Non-type: GUATEMALA: Alta Vera Paz, Cacao, Trece Aguas, 14.04, 1 ♂ (BARBER); EL SALVADOR: Usuluton, Sta Elena, 1.08.1966, 1 ♂, 1 ♀ (MATTÁ); NICARAGUA: Puerto Cabezas, 07.1971, 1 ♂ (MALDONADO); COSTA RICA: Prov. Alajuela: San Mateo, Higuito, 1 ♀ (SCHILD) (USNM); Prov. Cartago: La Suiza, Turrialba, 9°51.5'N, 83°37.5'W, 28.07.2001, 1 ♀ (FREIDBERG) (TAU); Prov. Guanacaste: P. N. Guanacaste, 300 m: 30 km N de Liberia, Finca Jenny, 03.1991, 1 ♀ (ESPINOZA); Est. Los Almendros, 8–26.06.1994, 1 ♂ (LÓPEZ); Prov. Puntarenas: P. N. Manuel Antonio, Quepos, 80 m, 04.1992, 1 ♀ (CANO) (INBio).

Distribution. Guatemala, El Salvador, Nicaragua, Costa Rica (new records), Panama (STEYSKAL 1968). **General:** USA, Mexico, West Indies, Brazil, Bolivia, Paraguay, Argentina (STEYSKAL 1968).

Euxesta stigmatias LOEW, 1868

LOEW 1868: 310, pl. 2, fig. 18; STEYSKAL 1968: 54.19.

= *Euxestina similis* ENDERLEIN 1937: 438, **syn. nov.**

Material examined. Type: Syntypes of *E. stigmatias*: 2 ♀ ♀: “stigmatias / m. [Loew's handwriting]”, “Loew / Coll.”, silver paper square and red label “Type / 13272” (MCZ). Holotype of *E. similis*: ♀: “COSTA RICA / Heyne V. “, “*Euxestina / similis* / Type Enderl. ♀ / Dr. Enderlein det. 1936”, “Typus” [red label] (ZMHB). **Non-type:** COSTA RICA: Prov. Limón: Río Reventazón, F. Hamburg, 30.04–8.05, 1 ♀ (REIMOSER); Prov. San Jose: San Jose, Farm La Caja, 1 ♀ (SCHMIDT) (NHMW).

Distribution. Central America. **General:** USA, Mexico, West Indies, Trinidad, Guyana, Venezuela, Brazil, Peru, Bolivia (STEYSKAL 1968).

Euxesta wettsteini HENDEL, 1909

HENDEL 1909c: 165; 1910: pl. 1, fig. 21; STEYSKAL 1968: 54.20.

Material examined. Type: Syntypes 2 ♀ ♀: BRAZIL: São Paulo: “Iguape / Young”, “Bras. Exped. / Wettstein. [18]91”, “*Euxesta / wettsteini* H. / det. F. Hendel”, “Type” [red label] (NHMW). **Non-type:** COSTA RICA: Prov.

Guanacaste: A. C. T., Est. Lomas Barbudal, 30 m, 07.1991, 1 ♀ (ACEVEDO) (INBio); 2 km E Hacienda Palo Verde, 07.1973, 1 ♀ (KEELER) (USNM); Prov. Puntarenas: Coto [Brus], finca 47, 25.07.1957, 1 ♀ (MENKE) (NHMLA).

Distribution. Costa Rica (new record for Central America). **General:** Trinidad, Venezuela, Brazil, Paraguay (STEYSKAL 1968).

Notogramma purpuratum COLE, 1923

COLE 1923: 474, fig. 12; STEYSKAL 1968: 54.6.

Material examined. Non-type: GUATEMALA: San Marcos, 17.3 km SE Talisman, Rio Cabuz at Hwy CA 2, 14°51'N, 92°04'W, 200 m, 23.05.1973, 1 ♂, 1 ♀ (ERWIN, HEVEL) (USNM).

Distribution. Guatemala (new record for Central America). **General:** USA, Mexico (STEYSKAL 1968).

Siopa longicornis HENDEL, 1909

HENDEL 1909d: 254; 1910: pl. 3, figs 67–69; STEYSKAL 1968: 54.22.

Material examined. Type: Syntypes 2 ♂, 1 ♀: PERU: Meshagua, Urubamba fl., 7.10. [19]03, “*Siopa / longicornis* H. / det. F. Hendel” (NHMW); Syntypes 3 ♂: PERU: “Meshagua / 1.X(or 5.X, 12.X, respectively).03 / Urubambafl.”, “*Siopa / longicornis* / Hendel det.” (MTD). **Non-type:** EL SALVADOR: Bosque El Imposible, 600 m, 2.06.1978, 1 specimen (without abdomen) (BORGER) (USNM); NICARAGUA: Masaya Dist., Laguna de Apoyo, at banana bait, 29.09.1993, 1 ♂ (VAN DEN BERGHE) (CM).

Distribution. El Salvador, Nicaragua (new records); Costa Rica, Panama (STEYSKAL 1968). **General:** Peru (STEYSKAL 1968).

Zacompsia COQUILLETT, 1901

COQUILLETT 1901: 15; HENDEL 1909d: 29; STEYSKAL 1968: 54.22.

Type species: *Zacompsia fulva* COQUILLETT 1901: 15 (by original designation).

= *Metopocampta* Enderlein 1927: 104; STEYSKAL 1968: 54.20, **syn. n.**

Type species: *Metopocampta planiceps* ENDERLEIN 1927: 104 (by original designation).

Zacompsia colorata STEYSKAL, 1971

STEYSKAL 1971: 247.

Material examined. Type: Holotype ♂: “EL SALVADOR, Cerro Verde / 18-vi-58”, “coll. L. J. / Bottimer” (USNM). **Non-type:** “MEXICO, 1883”, 1 ♂ (head missing) (BILIMEK) (NHMW). EL SALVADOR: Cerro Verde, 18.06.1958, 1 ♂ (BOTTIMER); COSTA RICA: Prov. Alajuela: San Mateo, Higuito, 4 ♂ (SCHILD) (USNM); idem, 1914, 1 ♂, 1 ♀ (HMNH); Prov. Guanacaste: P. N. Guanacaste, Est. Los Almendros, 300 m, 3–22.08.1993, 3 ♂; 3–25.10.1993, 1 ♂; 8–20.11.1993, 1 ♂; 8–26.06.1994, 2 ♂ (LÓPEZ); 13.10–8.11.1993, 1 ♂ (MARTINEZ); 8.12.1993, 1 ♂ (TAYLOR); 9 km S Santa Cecilia, Est. Pitilla, 21.03–21.04.1989, 1 ♂ (GNP Biod. Sur.); Prov. San Jose: Res. Biol. Carara, Estac. Bijagual, 500 m, 12.1989, 2 ♀ (ZÚNIGA) (INBio); Santiago de Puriscal, Hill above, 3.07.1963, 1 ♂ (HOGUE) (NHMLA).

Distribution. Mexico; Costa Rica (new records); El Salvador (STEYSKAL 1971).

Zacompsia fulva COQUILLETT, 1901

COQUILLETT 1901: 15; STEYSKAL 1965: 454; 1971: 248.

Material examined. Type: Syntypes 1 ♂, 1 ♀: USA: “Opelousas / March 97. La.” and 1 syntype of undetermined sex (abdomen missing): “Texas”, “Belfrage”, “*Zacompsia / fulva* / Coq.”, “Type / No. 5199 / U. S. N. M.” [red label]. **Non-type:** MEXICO: Est. Veracruz, Ixtla, h = 400–600 m, 23.02.1998, 5 ♂, 2 ♀ (Korneyev) (SIZK). EL SALVADOR: San Salvador, 9.06.1958, 1 ♂ (Cartwright); HONDURAS: Dept. Cortes between El Progreso and Lago Yojoa, 17.11.1987, 1 ♂ (Knutson) (USNM); COSTA RICA: Prov. Puntarenas: Peninsula Osa, Puerto Jimenez, 10 m, 01.1991, 1 ♀ (Hanson) (UG); Prov. San Jose: San Jose, Farm La Caja, 07.1919, 2 ♀ (Schmidt) (USNM).

Distribution. El Salvador, Honduras, Costa Rica (new record for Central America). **General:** USA (STEYSKAL 1971), Mexico (new record).

Zacompsia planiceps (ENDERLEIN, 1927), **comb. n.**

planiceps ENDERLEIN 1927: 104; STEYSKAL 1968: 54.22 (*Metopocampta*).

= *metallica* CURRAN 1934: 430; STEYSKAL 1968: 54.22; 1971: 248 (*Zacompsia*), **syn. nov.**

Material examined. Type: Holotype *Metopocampta planiceps* ♀: BRAZIL: “Brasilien / St. Cath[arina] / Joinville / Schmalz S. V.”, “Type” [red label], “*Metopocampta / planiceps* / Type Enderl. ♀ / Dr. Enderlein det. 1927” (ZMHB). Holotype *Zacompsia metallica* ♀ (head and half thorax missing): GUYANA: “Trop. Research Station / New York Zool. Society / No. 2073”, “Kartabo / Bartica District / British Guiana / 3-VIII. 1920”, “Type / *Zacompsia / metallica* / Curran / No. “ [red paper rectangle], “*Zacompsia / metallica* / Curran / dt. C. H. Curran” (AMNH). **Non-type:** COSTA

RICA: Prov. Limón: Finca La Lola, 22–23.07.1963, 1 ♂ (HOGUE) (NHMLA); Prov. Puntarenas: Peninsula de Osa, Bosque Esquinas, 200 m, 03.1994, 1 ♂ (QUESADA) (INBio); Prov. San Jose: Pedregoso, 1 ♂, 1 ♀ (ROUNDS) (USNM).

Distribution. Costa Rica (new record for Central America). **General:** Guyana (CURRAN 1934); Brazil (ENDERLEIN 1927).

Tribe Pterocallini

Chondrometopum HENDEL, 1909

HENDEL 1909a: 2; 1909b: 9; 1914: 29; KERTÉSZ 1913: 382; STEYSKAL 1968: 54.3.

Type species: *Chondrometopum arcuatum* HENDEL, 1909 (by monotypy).

Diagnosis. Head normal (in *C. leve* HENDEL) or transverse (in other species). Mesonotum densely gray microtrichose, if subshining (in female of *C. leve*), second section of costa between veins H and Sc thickened and bowed anteriorly; pterostigma in males very large, dipping downwards (Figs 7, 10), in females shorter, but clearly dipping downwards (Figs 8, 11), vein R_{2+3} conspicuously bowed anteriorly. Cell bcu with very short postero-lateral extension; in males, vein $A_1 + CuA_2$ shorter than cell bcu, not reaching wing margin, in females, almost reaching wing margin. Acrostichal setae lacking, and if present (in females of *C. arcuatum* HENDEL), then close to level of anterior dc. Abdominal tergites 4 and 5 very short in male, less than half as long as tergite 3; epandrium (in *C. bifenestratum* KERTÉSZ) similar to that in *Dasymetopa* LOEW (see below); tergites 3–5 in female subequally long, tergite 6 very short, hidden under tergite 5, with row of marginal setulae. Aculeus long and narrow; cercal unit elongate oval, with long setulae. Spermathecae not examined.

Remarks. This genus has never been redescribed or keyed since it was briefly diagnosed and described by HENDEL (1909a, 1909b). *Chondrometopum* is believed to be a monophyletic genus, where all the species have the second section of the costal cell thickened and bowed (Figs 7–8, 10–11). It shares the shortened male abdominal tergites 4 and 5 and shape of the epandrium with species of *Dasymetopa*. *Dasymetopa stigma* HENDEL has a very similar wing pattern and is closely related to *Chondrometopum*, differing in the straight second section of the costal vein.

Determination. The genus includes three species (the type species is known only from Peru), which can be determined with the following key.

1. Head as wide as thorax or narrower. Thorax subshining brown. Acrostichal setae absent in both sexes. Wing (Figs 10–11) length less than 3.5 mm (2.0–3.0) *C. leve*
- Head wider than thorax. Thorax gray microtrichose. Acrostichal setae often present in females, absent in males. Wing length more than 3.5 mm (4.0–5.0) 2
2. Abdominal tergites shining black, rough, with smoothed papillae at bases of setulae. Female: preapical crossband separated from basal dark pattern by complete hyaline crossband; cell br completely dark brown. Male unknown *C. arcuatum*
- Abdominal tergites gray microtrichose, smooth, with shining black or brown spots at bases of setulae. Female: preapical crossband joined with basal dark pattern along vein R_{2+3} ; cell br completely with large hyaline spot (Fig. 8). Male: gena with horn-like process (Fig. 5), wing pattern as on Fig. 7 *C. bifenestratum*

Chondrometopum bifenestratum KERTÉSZ, 1913

(Figs 5–8)

KERTÉSZ 1913: 382; STEYSKAL 1968: 54.3.

Material examined. Type: Holotype ♀: COLOMBIA: “Columbia / Ujhelyi”, “Aracataca / 1912.11”, “*bifenestratum* Kertész”, “Typus” [red label] (HMNH). **Non-type:** COSTA RICA: Prov. Heredia: La Selva, 01.1993, 1 ♀ (Hanson)

(USNM); Prov. Limón: Est. Aguas Frias, 10–20 m, in light, 08.1997, 1 ♀ (Rojas) (INBio); Estrella Valley, Pandora, 28.03.1984, 2 ♂♂, 19 ♀♀ (Manley) (UG); PANAMA: Almirante, 1.05.1953, 1 ♂ (Torres); Alhajuelo, 19.04.1911, 2 ♀♀ (Busck) (USNM).

Remarks. The male (hitherto unknown) is similar to the female in its very broad head (Fig. 5); the mesonotum is densely gray microtrichose, and the abdomen is smooth, gray microtrichose, with bare, shining round spots at the bases of setulae; the acrostichal setae are absent, in the male, while in females they are often present closer to the level of the anterior dorsocentral seta. Males differ from females in having horn-like process at the lateral corners of the gena, which is whitish on the anterior side and black on the posterior side; the wing pattern and venation is also different (Figs 7–8); the pterostigma is enlarged and vein A_1+Cu_2 very short, not reaching posterior wing margin.

Distribution. Costa Rica; Panama (new record for Central America). **General:** Colombia (STEYSKAL 1968).

[*Chondrometopum leve* HENDEL, 1914]

(Figs 9–11)

HENDEL 1914: 382; STEYSKAL 1968: 54.3.

Material examined. **Type:** Holotype ♀: BOLIVIA: “Mapiri / 2.1.03 / S. Carlos 800 m”, “92”, “*Chondrometopum* / *leve* H. / det. Hendel” (MTD). **Non-type:** COLOMBIA: “Tol. Armero / malaise trap”, 26–30.01.1977, 1 ♂ (Peyton & Suarez) (USNM).

Remarks. The male (hitherto unknown) is similar to the female in that its head is not widened (Fig. 9); the mesonotum is subshining brown, the acrostichal setae are absent, and the abdomen is shining. The male is even smaller (wing length 2.3 mm) than the holotype female and has different wing pattern and venation (Figs 10–11); as in the males of *C. bifenestratum*, the pterostigma is enlarged and vein A_1+Cu_2 does not reach the posterior wing margin.

Distribution. **General:** Bolivia (STEYSKAL 1968); Colombia (new record).

Dasymetopa LOEW, 1868

LOEW 1868: 285; HENDEL 1909a: 2; 1909b: 31; 1911: 29; STEYSKAL 1968: 54.3.

Type species: *Dasymetopa lutulenta* LOEW 1868 (by monotypy)

= *Euxestina* CURRAN 1934: 429; Steyskal 1968: 54.17, **syn. nov.**

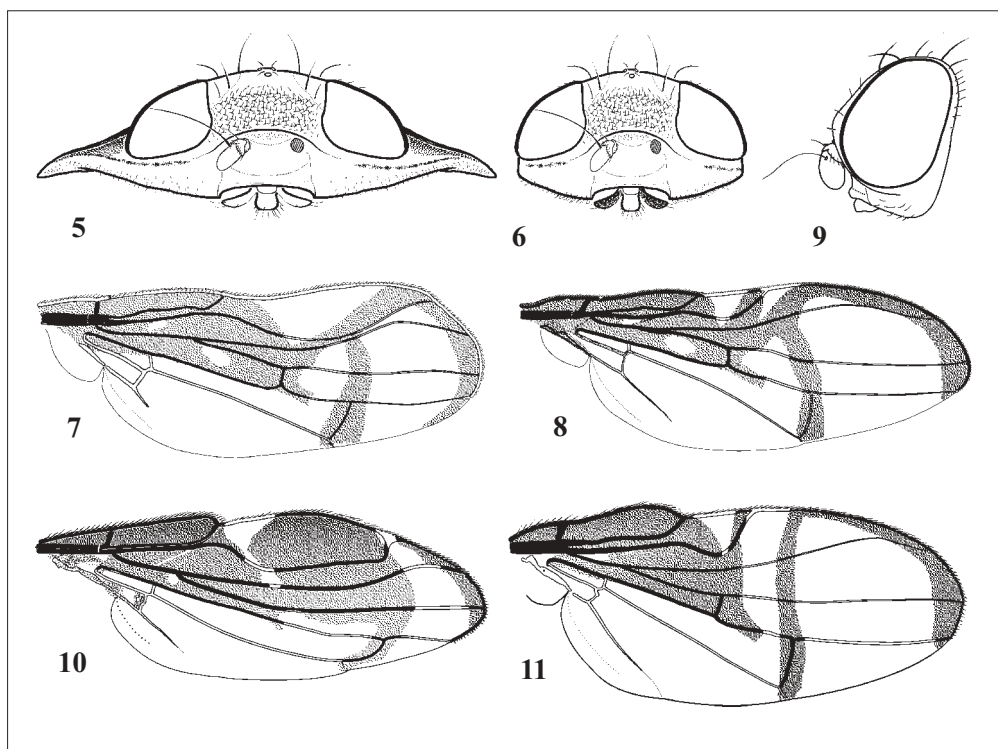
Type species: *Euxestina fuscipennis* CURRAN: 429 (by original designation).

Remarks. The genus was reviewed and keyed by HENDEL (1909a, 1909b, 1911) who provided rather detailed descriptions. Presently, its concept includes pterocallines with a bare arista and R_{4+5} vein bare at least in males, uniformly greyish or brownish microtrichose, neither speckled, nor metallic thorax, and moderately developed postero-apical lobe of the cell *bcu*.

Most of these characters are plesiomorphic comparing to other Pterocallini and define *Dasymetopa* very loosely, as apparently a non-monophyletic group. The apomorphic characters (vein R_{4+5} ending at wing apex, vein M ending far posteriorly of wing apex, cell *dm* narrow, with blunt posteroapical angle, sexually dimorphic wing venation and wing pattern), are shared with species of numerous other genera, including *Pterocalla* RONDANI, *Goniaeola* HENDEL, *Ophthalmoptera* HENDEL, *Terpnomyia* HENDEL, *Chondrometopum* HENDEL and *Rhyparella* HENDEL.

Examination of the holotype of *Rhyparella novempunctata* HENDEL shows that it lacks all diagnostic characters of the latter genus and must be transferred in *Dasymetopa*, which includes 10 or 11 nominal morphospecies. Of them, only *D. lutulenta* LOEW was known from both sexes; *D. fumipennis* HENDEL and its synonyms were also described from both sexes but under different names. Females of *D. sordida* HENDEL and *D. stigma* HENDEL are described here for the first time. *Dasymetopa luteipennis* HENDEL, *D. ochracea* HENDEL and *D. quinquepunctata* HENDEL are known from males only, whereas only females of *D. fenestrata* HENDEL, *D. nigropunctata* HENDEL and *D. septempunctata* HENDEL have been described so far. It is rather probable that some nominal species described from different sexes, are synonyms, and that the actual number of *Dasymetopa* species is seven or eight.

STEYSKAL (1968) erroneously synonymized the name *Euxestina* CURRAN (nec ENDERLEIN) with *Euxesta* LOEW. The type species of *Euxestina* CURRAN was found to be a junior synonym of *D. fumipennis* based on a female specimen (see below), and this genus name is transferred into synonymy of *Dasymetopa*.



Figs 5–11: *Chondrometopum bifenestratum* KERTÉSZ. – 5: Head of ♂, frontal view; – 6: Head of ♀, frontal view; – 7: Wing of ♂; – 8: Wing of ♀. *C. leve* HENDEL: – 9: Head of ♂, lateral view; – 10: Wing of ♂; – 11: Wing of ♀.

Some species of *Dasymetopa* can be easily recognized by their broadened and antero-dorsally flattened head (Figs 30–32), more than twice as wide as long, especially in males. In other species (*D. septempunctata*, *D. sordida*, *D. luteipennis*, *D. fenestrata* and especially *D. fumipennis*), the head is widened very slightly. The bare vein R_1 occurs in all males and apparently in females of most species of the genus, except the female of *D. lutulenta*.

The epandrium is conspicuously elongated dorso-ventrally and the medial surstylus bears 2 equal sub-apical prensisetae in *D. lutulenta*, the type species of the genus (Fig. 35), and in *D. fumipennis* (Fig. 36). Similar male genitalia occur in *Terpnomyia*, *Chondrometopum* and *Rhyparella*, though in the latter they are conspicuously wider and more oval. In these genera, only non-dissected males with exposed genitalia were examined.

Dasymetopa, *Chondrometopum* and *Rhyparella* share a very long 3rd (penultimate) section of the M vein, which is more than 0.8 length of the 2nd section (synapomorphy). *Terpnomyia*, which shares with *Dasymetopa* the blunt postero-apical margin of the discal cell and similar dimorphism in the wing pattern and venation, as well as similar shape of male genitalia, differs by the short 3rd section of vein M. Phylogenetic relationships among the species now assigned to *Dasymetopa*, *Terpnomyia*, *Chondrometopum* and *Rhyparella* need further analysis, based on detailed study of numerous species that occur beyond Central America, and are therefore beyond the scope of the present paper.

Determination. Species of *Dasymetopa* can be determined with the following key. *Rhyparella decempunctata* HENDEL, which looks similar to some *Dasymetopa* species, is included to avoid misidentification of specimens in a poor condition.

1. Wing hyaline with narrow brown apical band, complete crossband from apex of R_1 vein through DM-Cu crossvein and longitudinal bars from wing base through cells c and br (Fig. 12–13) ***D. stigma***
- Wing yellow to brown with or without pattern of darker or paler spots, sometimes reticulate, but not clearly banded (Figs 14–28) **2**
2. Wing widely brown, without hyaline or yellow spots or bands, paler only along posterior margin (Figs 14–15) ***D. fumipennis***
- Wing with darker or paler spots, sometimes reticulate (Figs 16–28) **3**
3. Lunula with velvety-black spot (Fig. 33); wing pattern grayish brown, reticulate, with large dark spots in costal cell and stigma (Fig. 23); frons 1.4–1.5 times as wide as eye; male unknown ***D. nigropunctata***
- Lunula uniformly gray to yellow; wing pattern and frons width variable **4**
4. Frons more than 1.5 times as wide as eye **5**
- Frons less than 1.3 times as wide as eye **8**
5. Males; wing yellow with brown marks (male of *D. septempunctata* unknown) **6**
- Females; wing hyaline or grayish with extensive brown marks (female of *D. ochracea* unknown) **7**
6. Stigma broadly yellow, in apical 1/6 with brown spot isolated from dark pattern posterior to it by large yellow areas in cells r_{2+3} , r_{4+5} and m (Fig. 16) ***D. lutulenta***
- Stigma with large brown spot in apical 1/3 or 1/2; cells r_{2+3} , r_{4+5} and m posterior of this spot also brown (Fig. 18) ***D. ochracea***
7. Apical half of wing with 2 more or less conspicuous hyaline crossbands formed by confluent spots in cells r_1 , r_{2+3} , r_{4+5} , dm and m (Fig. 17) ***D. lutulenta***
- Apical half of wing with 6–7 widely isolated spots in cells r_1 , r_{2+3} , r_{4+5} , dm and m, not forming crossbands (Fig. 19) ***D. septempunctata***
8. Males (unknown for *D. fenestrata* and *D. novempunctata*) **9**
- Females; wing hyaline or grayish with extensive brown marks (unknown for *D. luteipennis* and *D. quinquepunctata*) **13**
9. Wing predominantly yellow with a few isolated brown marks in apical half (Fig. 26) ..
..... ***D. luteipennis***
- Wing with pattern of brown and gray areas and partially confluent hyaline spots; at most basal half yellowish (Figs 20, 22, 24) **10**
10. Wing predominantly pale gray with hyaline spots and slightly darker marks in apical half of stigma and wing apex (Fig. 20) ***D. sordida***
- Wing with pattern of more intensive brown and gray areas and hyaline spots (Figs 22, 24, 28) **11**
11. Stigma dark brown at most in apical 1/4; crossband joining R_1 vein apex with DM-Cu crossvein completely brown without hyaline spots, except one spot in subapical portion of cell r_{2+3} twice as long as hyaline spot posterior to it in cell r_{4+5} (Fig. 24)
..... ***D. quinquepunctata***
- Stigma dark brown at least in apical 1/2; cell r_{2+3} with 2 hyaline spots between R_1 apex and DM-Cu; subapical hyaline spot in cell r_{2+3} not larger than hyaline spot posterior to it (Figs 22, 28) **12**
12. Vein R_1 bare; wing pattern pale brown; cell dm with large hyaline spot in basal half (Fig. 22). Setulae on vibrissal corner not longer than setulae more posterior (Fig. 34)
..... ***D. spec. near nigropunctata***

- Vein R_1 setulose in apical half; wing pattern brownish black; cell dm with small quadrate hyaline spot in basal 1/4 (Fig. 28). Vibrissa well-developed (See HENDEL 1909b: Fig. 33) *R. decempunctata*
- 13. Wing with 4 hyaline spots forming one row in apical half (Fig. 21) *D. sordida*
- Wing with 7–10 hyaline spots forming two rows in apical half (Figs 25, 27, 28) 14
- 14. Cell r_1 with 2 and cell r_{4+5} with 3 hyaline spots; basal half of cell r_{2+3} yellow (Fig. 27) .
..... *D. fenestrata*
- Cell r_1 with 1, cell r_{4+5} with 2 hyaline spots; basal half of cell r_{2+3} dark brown (Figs 25, 28)
..... 15
- 15. Vein R_1 bare; costal cell brown; base of dm cell uniformly brown; setulae on vibrissal corner not longer than setulae more posterior (Fig. 25) *D. novempunctata*
- Vein R_1 setulose in apical half; middle of costal cell and base of dm cell each with hyaline spot; vibrissa well-developed (Fig. 28) *R. decempunctata*

[*Dasymetopa stigma* HENDEL, 1909]

(Fig. 12, 13)

HENDEL 1909a: 25; STEYSKAL 1968: 54.3.

Material examined. Type: Holotype ♂: BOLIVIA: “Mapiri / 23.02. [19]03 / S. Antonio 1000 [m] [Schnuse]”, “Rhyparella \ stigma / det. F. Hendel”, “Typus” [red label] (MTD). Non-type: Idem, S. Carlos 800 m, 04. [19]03, 2 ♀ [Schnuse] (MTD).

Remarks. The female (hitherto unknown) is similar to male, except the wing venation and pattern as in Fig. 13.

Dasymetopa fumipennis HENDEL, 1909

(Figs 14, 15, 29)

HENDEL 1909a: 22; STEYSKAL 1968: 54.3.

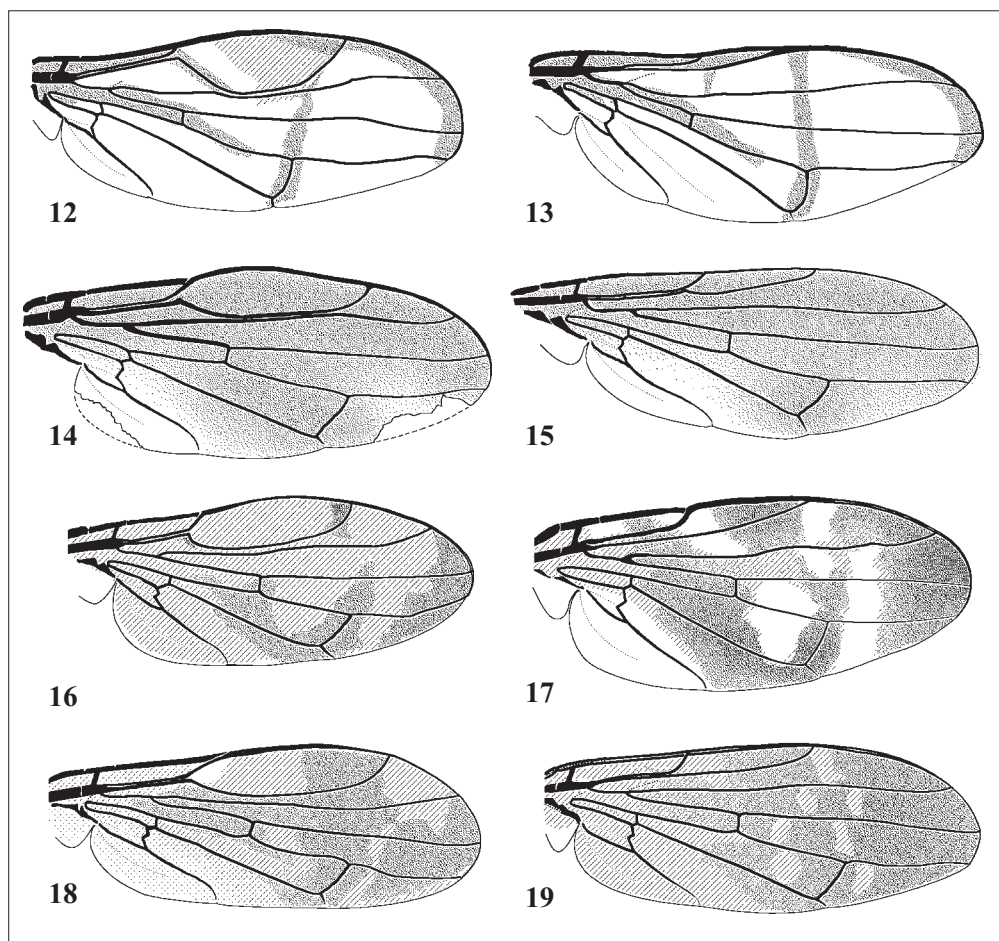
= *Dasymetopa fuscicosta* HENDEL 1911: 29; STEYSKAL 1968: 54.3, **syn. nov.**

= *Ophthalmoptera innotata* ENDERLEIN 1921: 213; STEYSKAL 1968: 54.6, **syn. nov.**

= *Euxestina fuscipennis* CURRAN 1934: 429; *Euxesta fuscipennis* (CURRAN): STEYSKAL 1968: 54.17, **syn. nov.**

Material examined. Type: Holotype *D. fumipennis* ♂: PERU: Pichis, P[or]to. Yessup, 01. [19]04, “*Dasymetopa fumipennis* / det. F. Hendel”, “Typus” [red label] (MTD). Holotype *D. fuscicosta* ♂: [no geographical label] “*Dasymetopa / fuscicosta* H. / det. F. Hendel”, “Coll. Hendel” (NHMW). Holotype *O. innotata* ♀: [COLUMBIA:] “Cordilleren / Columbien / terra caliente / Thieme S.”, “Type” [red label] “*Ophthalmoptera / innotata* / Type Enderl. ♀ / Dr. Enderlein det. 1920” (ZMHB). Holotype *E. fuscipennis* ♀: GUYANA: “Kartabo / Bartica District / British Guiana / 17-VIII. 1922”, “Type / Euxestina / fuscipennis / Curran / No. [red paper rectangle]” (AMNH). Non-type: GUATEMALA: S. Antonio Such., 6.07.1965, 1 ♂, 1 ♀ (SPANGLER); COSTA RICA: Prov. Alajuela: San Mateo, Higuato, 1 ♂, 2 ♀ (SCHILD) (USNM); Prov. Guanacaste: Lado oeste del Volcan Orosi, Est. Maritza, 600 m, II curso Parataxonomos, 08.1990, 1 ♀; P. N. Guanacaste, Est. Los Almendros, 300 m, 7–20.07.1994, 1 ♀ (LÓPEZ); Est. Santa Rosa, 300 m, 25.02–02.03.1995, 1 ♀ (ALFARO) (INBio); idem, 10.1998, 1 ♀ (SULIVAN) (USNM); Bagaces, P. N. Palo Verde, Sect. Palo Verde, 10 m, 4–10.04.1995, 1 ♂, 1 ♀ (NAVARRO); Sect. Palo Verde, 0,5 km NW de Estacion, 40 m, 4.06–6.07.1999, 1 ♀ (JIMÉNEZ); P. N. Rincón de la Vieja, Est. Las Pailas, 800 m, 17–23.07.1993, 1 ♂ (TAYLOR); Prov. Limón: R. B. Hitoy Cerere, Est. Hitoy Cerere, 100 m, 06.1991, 1 ♀ (CARBALLO); Prov. Puntarenas, Coto Brus, Sabalito, Est. Mellizas, Frontera con Panamá, 1400–1500 m, 28.12.1995, 1 ♀ (NAVARRO) (INBio); PANAMA: Canal Zone, Barro Colorado Isl., 2.07.1978, 2 ♀ ♀ (WOODLEY) (USNM); COLOMBIA: Tel. Armero, Malaise trap, 26–30.01.1977, 1 ♂, 2 ♀ ♀ (PEYTON & SUAREZ) (USNM); PARAGUAY: S. Bernardino, 1 ♀ (FIEBRIG) (NHMW).

Remarks. Comparison of the types of *D. fumipennis*, *D. fuscicosta* (♂♂), *O. innotata*, *E. fuscipennis* (♀♀) and non-type specimens shows no differences among them, except the size of the stigma between males and females and variability of stigma length in each sex and the pale posterior margin width is also variable. These specimens are clearly conspecific. Detailed descriptions are given by HENDEL (1909a; 1911) (♂) and CURRAN (1934) (♀). Male and female genitalia examined in specimens from Colombia, are shown in Figs 36–37.



Figs 12–19: Wings of *Dasymetopa* spp. – *D. stigma* HENDEL: – 12: ♂; – 13: ♀; *D. fumipennis* HENDEL: – 14: ♂ (holotype of *D. fuscicosta* HENDEL); – 15: ♀ (holotype of *O. innotata* ENDERLEIN); *D. lutulenta* LOEW: – 16: ♂; – 17: ♀; — 18: *D. ochracea* HENDEL, ♂; – 19: *D. septempunctata* HENDEL, ♀. Yellow areas are shown by oblique strokes.

Distribution. Guatemala, Costa Rica, Panama (new record for Central America). **General:** “South America” (HENDEL 1911); Colombia (ENDERLEIN 1921); Guyana (CURRAN 1934); Peru (HENDEL 1909a); Paraguay (new record).

Dasymetopa lutulenta LOEW, 1868

(Figs 16, 17, 30–32)

LOEW 1868: 285, pl. 2, fig. 1; STEYSKAL 1968: 54.3.

Material examined. Non-type: GUATEMALA: Escuintla, Palín, 14°24'N, 90°42'W, 1992, 1 ♂, 2 ♀ (LOPEZ) (USNM); COSTA RICA: Prov. Alajuela: San Mateo, Higuito, 1 ♂, 2 ♀ (SCHILD) (USNM); San Ramón, Angeles, R. B. San Ramón, 1100 m, 23.01–23.02.1995, 1 ♀ (CARBALLO) (INBio); Prov. Heredia: Est. Biol. La Selva, 50–150 m, 10 26 N, 84 01 W, 1.07.1993, 1 ♀ (INBio OET); Prov. Guanacaste: Santa Rosa N. P., 10°95'N, 85°62'W, 6–27.09.1987, 1 ♀ (JANZEN, GAULD) (NHMLA); P. N. Guanacaste, 8 km SO de Cuajiniqual, Est. Murciélagos, 100 m, 6–24.01.1990, 1 ♂ (CANO); Tierras Morenas, 685 m, 7–9.02.1994, 1 ♂ (OBANDO); Bagaces, P. N. Palo Verde, Sect. E Campo de Aterrizaje, 50 m, 05–10.1999, 2 ♂, 3 ♀ (JIMÉNEZ); Cerro Guayacán, 212 m, 15.07–18.08.1999, 1 ♀; 150 m NE de Estacion, 0–50 m, 17.08–13.09.1999, 2 ♀; 250 m NNE de Estacion, 60 m, 4.06–6.07.1999, 1 ♀ (JIMÉNEZ); Sect. Palo Verde, 200 m NE de Est., 6.04–12.05.2000, 2 ♀; Sta Cruz, B. M. Diríá, Petallano, Alred. Torre Ctról Incendio,

640 m, 12(14). 07.1999, 2 ♀♀ (CARDENAS); 9 km S Santa Cecilia, Est. Pitilla, 700 m, 09.1994, 1 ♀ (RIOS); Prov. Limón: A. C. Amistad, R. B. Hitoy Cerere, Valle de la Estrella, 100–300 m, 05–09.1994, 4 ♀♀ (CARBALLO); Sendero Bobócará, 300 m, 06–07.1999, 2 ♀♀ (UMAFIA) (INBio); Estrella Valley, Pandora, 28.03.1984, 1 ♂, 1 ♀ (MANLEY) (UG); Prov. Puntarenas: Avenida El Pizote, 1.4 km NE de la Tigra, 1300 m, 10–26.08.1996, 1 ♂ (NAVARRO); P. N. Manuel Antonio, Quepos, 80 m, 12.1991, 1 ♀ (VARELA); Península de Osa: Est. Esquinas, 0 m, 1.1993, 1 ♀ (QUESADA); Rancho Quemado, 200 m, 08.1991, 1 ♀ (QUESADA) (INBio); Rincón, 3 km SW, 9°55'N, 84°13'W, 10 m, 11–12.1990, 2 ♀♀ (HANSON); PANAMA: Canal Zone, Barro Colorado Isl., 1.07.1923, 1 ♀ (SHANNON); idem, 04–05.1937, 1 ♀ (ZETEK) (USNM).

Remarks. The male of this species was briefly described by HENDEL (1909a), but not illustrated. The morphological details given in Figs. 16, 17, 30–32 are based on specimens from Costa Rica (Est. Murciélago and Valle de la Estrella). The head of the male is transverse, very short, conspicuously wider than thorax, frons almost vertical, 1.5 times wider than long and twice wider than eye; ocellar triangle on vertical ridge; ocellar setae reclinate; lateral vertical seta almost as long as medial vertical, less than twice longer than the longest, medialmost postocular seta and postvertical (postocellar) seta; gena almost completely on anterior surface of head, with 2–7 rows of setulae between lower eye margin and ventro-lateral margin of head. Thorax dark brown, with yellowish postpronotal lobe, notopleural triangle and scutellum, like in female, densely ochreous microtrichose; abdominal tergites subshining ochreous to brown, sparsely microtomentose. Tergite 4 shorter than tergite 3, and tergite 5 almost half as long as tergite 4. Abdominal membrane bare, velvety-gray; spiracles close to tergal margins. Male genitalia as in Fig. 35.

Distribution. Guatemala, Costa Rica, Panama (new record for Central America). **General:** Guyana, Surinam, Peru (STEYSKAL 1968).

[*Dasymetopa sordida* HENDEL, 1909]

(Figs 20–21)

HENDEL 1909a: 23; STEYSKAL 1968: 54.4.

Material examined. **Type:** Holotype ♂: BOLIVIA: “Mapiri / 8. I. 03 / S. Carlos 800 m [Schnuse]”, “Rhyparella \ sordida / det. F. Hendel”, “Typus” [red label] (MTD). **Non-type:** Idem, S. Carlos 800 m, 04. [19]03, 1 ♀ [SCHNUSE] (MTD).

Remarks. Female (new) is similar to male, except wing venation and pattern as in Fig. 21.

***Dasymetopa nigropunctata* HENDEL, 1909**

(Figs 23, 33)

HENDEL 1909a: 24; STEYSKAL 1968: 54.3.

Material examined. **Type:** Syntypes: 1 ♀: PERU: Vilcanota, “*Dasymetopa / nigropunctata* H. / det. F. Hendel”, “Typus” [red label] (HMNH); 1 ♀: BOLIVIA: “Mapiri, Sarampioni 700 m, 10.02.03 [SCHNUSE]”, “Rhyparella \ nigropunctata / det. F. Hendel”, “Cotypus” [red label] (MTD). **Non-type:** COSTA RICA: Prov. Guanacaste: P. N. Palo Verde, Extremo E del Campo de Aterrizaje, 0–50 m, 17.08–13.09.1999, 1 ♀ (JIMÉNEZ) (INBio); Prov. Limón: Estrella Valley, Pandora, 28.03.1984, ♀ (MANLEY) (UG).

Distribution. Costa Rica (new record for Central America). **General:** Peru, Bolivia (STEYSKAL 1968).

Remarks. The female of this species was briefly described by HENDEL (1909a), but not illustrated. The morphological details given in Figs 23 & 33 are based on a specimen from Costa Rica (Palo Verde).

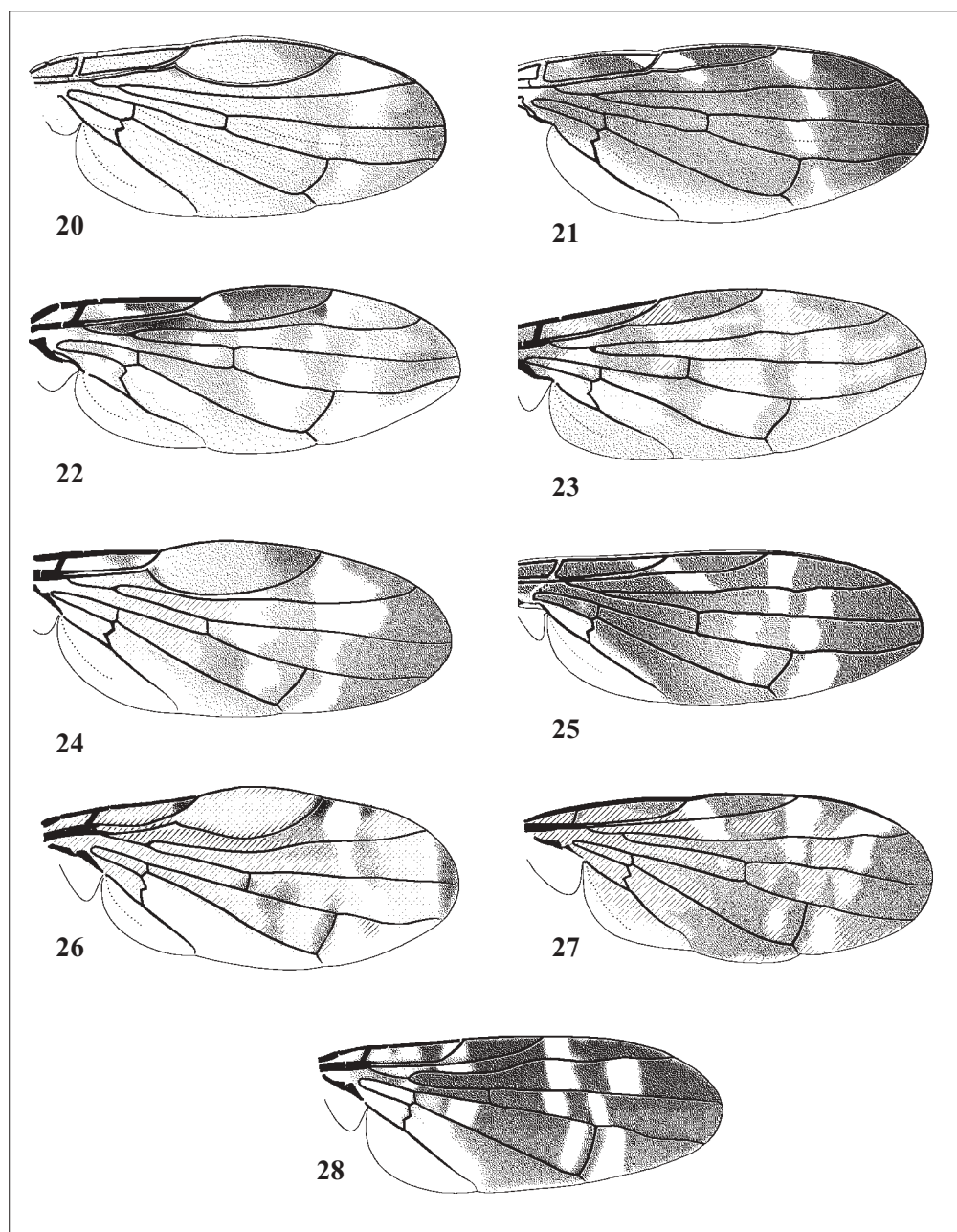
Dasymetopa spec. near nigropunctata

(Figs 22, 34)

Material examined. COSTA RICA: Prov. Puntarenas: 50 m R. B. Barara, Est. Quebrada Bonita, 05.1990, 1 ♂ (ZÚNIGA) (INBio); BOLIVIA: Mapiri, Sarampioni, 700 [m], 3 ♂♂, 02, 9.03, 13.03. [19]03 [SCHNUSE] (MTD).

Distribution. Costa Rica; Bolivia.

Remarks. Two males have similar head shape, wing pattern, body coloration and vestiture as specimens of *D. nigropunctata*, however the lunula is uniformly yellow. The morphological details given in Figs 22 & 34 are based on a specimen from Costa Rica (Quebrada Bonita). Material is not sufficient to interpret their significance and the absence of the black spot on the lunula may actually be a sexually



Figs 20–28: Wings of *Dasymetopa* spp. and *Rhyparella* spp. – *D. sordida* HENDEL: – 20: ♂; – 21: topotypic ♀; – 22: *D. spec. near nigropunctata* HENDEL, ♂; – 23: *D. nigropunctata* HENDEL, ♀; – 24: *D. quinquepunctata* HENDEL, ♂; – 25: *D. novempunctata* LOEW, ♀; – 26: *D. luteipennis* HENDEL, holotype ♂; – 27: *D. fenestrata* HENDEL, holotype ♀; – 28: *R. decempunctata* HENDEL, ♂. Yellow areas are shown by oblique strokes.

dimorphic character. Therefore I prefer neither to identify it as *Dasymetopa nigropunctata*, nor to describe it as a distinct species until additional material is available.

[*Dasymetopa novempunctata* (HENDEL, 1909), comb. nov.]

(Fig. 25)

HENDEL 1909a: 79; STEYSKAL 1968: 54.10 (*Rhyparella*).

Material examined. Type: Holotype ♀: BOLIVIA: “Mapiri / 12.I.[19]03 / S. Carlos 800 m [SCHNUSE]”, “*Rhyparella* / det. F. Hendel / 9-punctata”, “Typus” [red label] (MTD). **Non-type:** Idem: I.[19]03, ♀; IV.03, 2 ♀ ♀; S. Antonio, 1000 [m], 19.II.[19]03, ♀ [SCHNUSE] (MTD).

Remarks. When studying the material, this species was found to have no characters of the genus *Rhyparella* HENDEL. The vein R_1 is bare, like in most species of *Dasymetopa*, and the subvibrissal setulae are almost equal, without a prominent vibrissa. I therefore consider it a species of the genus *Dasymetopa*.

***Dasymetopa ochracea* HENDEL, 1909**

(Fig. 18)

HENDEL 1909a: 21; 1909b: pl. 2, fig. 35, 36; STEYSKAL 1968: 54.3.

Material examined. Type: Syntypes: 1 ♂: BOLIVIA: Mapiri, S. Carlos, 800 m, 23.02.1903 [SCHNUSE], “*Dasymetopa* \ *ochracea* / det. F. Hendel”, “*Cotypus*” [red label]; 1 ♂: PERU: Meshagua, Urubamba fl., 1.10.1903 [SCHNUSE], “*Dasymetopa* \ *ochracea* / det. F. Hendel”, “*Cotypus*” [red label] (MTD). **Non-type:** PANAMA: Canal Zone, Barro Colorado Isl., 1–9.05.1964, 1 ♂ (DUCKWORTH) (USNM); PERU: Vilcanota, 1 ♂, “*Rhyparella* / *ochracea* H. / det. F. Hendel” (HMNH).

Distribution. Panama (new record for Central America). **General:** Peru, Bolivia (STEYSKAL 1968).

***Dasymetopa septempunctata* HENDEL, 1909**

(Fig. 19)

HENDEL 1909a: 22; STEYSKAL 1968: 54.4.

Material examined. Type: Syntypes 5 ♀ ♀: PERU: Meshagua, Urubamba fl., 26.09. [19]03; idem, 27.09. [19]03; idem, 7.10. [19]03 [without determination labels]; idem, 4.10. [19]03, “*Dasymetopa* \ *septempunctata* / det. F. Hendel”, “*Cotypus*” [red label], idem, 11.10.1903, “*Dasymetopa* \ *septempunctata* / det. F. Hendel”, “*Cotypus*” [red label], (MTD); syntype (?) 1 ♀: PERU: Meshagua, Urubamba fl., 8.10. [19]03, “*Dasymetopa* / 7-punctata H. / det. F. Hendel”, “Coll. Hendel”, “Paratype” [yellow label] (NHMW). **Non-type:** COSTA RICA: Prov. Alajuela: San Carlos, Reserva P. N. Arenal, Sendero Pilón, 600 m, 17–18.05.1999, 3 ♀ ♀ (CARBALLO) (INBio); Prov. Cartago: Turrialba, La Suiza, 2 ♀ ♀ (Schild) (USNM); Prov. Heredia: Est. Biol. La Selva, 50–150 m, 10 26 N, 84 01 W, 2.03.1993, 4 ♀ ♀ (INBio OET); Prov. Guanacaste: Fca Pasmompa Est. Pitilla, 5 km SO Sta Cecilia, 400 m, 12.1990, 1 ♀ (Rios, Moraga); Prov. Limón: R. B. Hitoy Cerere, 100–300 m, 06.1992, 11.1993, 05–06.1994, 06–07.1999, 4 ♀ ♀ (CARBALLO); Valle del Selencio, Sendero Toma de Agua, 100–140 m, 05–06.2000, 2 ♀ ♀ (UMAFIA); Prov. Puntarenas: Est. Agujas, Sendero Zamia, 300 m, 20–24.06.1996, 1 ♀ (AZOFEIFA); P. N. Manuel Antonio, Quepos, 80 m, 12.1991, 1 ♀ (VARELA); Peninsula de Osa: Rancho Quemado, 200 m, 08.1991, 1 ♀ (QUESADA) (INBio). PERU: Vilcanota, 1 ♀, “*Rhyparella* / 7-punctata H. / det. F. Hendel”, “Coll. Hendel”, “Typus” [red label] (HMNH).

Remarks. HENDEL (loc. cit.) described this species from six females from “Peru-Meshagua, Coll. SCHNUSE” and “Bolivia. Ungar. National-Museum”. I have not found the specimen from Bolivia in the HMNH collection, instead another female from “Peru, Vilcanota” was found to bear a red “Typus” label; it is certainly not a syntype specimen. The other six female specimens from “Meshagua”, with their collecting data coinciding with those in the original publication (“October–November”) are in MTD and NHMW collections, but at least one of them is not a syntype, and very probably also those from the MTD collection that do not bear determination labels. Males are unknown, and quite probably were determined as *D. ochracea* (see above); they have similar head shape, intensive yellow wing base and dark brown wing pattern; however, conspecificity of specimens assigned to both nominal morphospecies must be proven more rigorously.

Distribution. Costa Rica (new record for Central America). **General:** Peru, Bolivia (STEYSKAL 1968).

***Megalaemyia punctulata* HENDEL, 1909**

HENDEL 1909a: 5; 1909b: pl. 1, fig. 3; STEYSKAL 1968: 54.5.

Material examined. Type: Syntypes 2 ♀ ♀: BOLIVIA: Mapiri, S. Carlos, 800 m, 6.01 and 14.01. [19]03, “*Megalaemyia* \ *punctulata* det. F. Hendel”, “*Cotypus*” [red label] (MTD). **Non-type:** COSTA RICA: Prov. Alajuela: Upala, Bijagua, Albergue Heliconias, Send. Heliconias, 700 m, in light, 6–9.04.2000, 1 ♂, 2 ♀ ♀ (GUTIÉRREZ); San Carlos, Reserva P. N. Arenal: Sendero Pilón, 600 m, 1–18.05.1999, 1 ♀ (CARBALLO); Sector Cerro Chato, 1100 m,

25.09–22.10.1999, 1 ♀ (CARBALLO); San Ramón, Est. San Ramón, Sendero La Argentina, 620 m, 23.08–27.09.1994, 1 ♀ (HURTADO); Prov. Guanacaste: 9 km S Santa Cecilia, Est. Pitilla, 700 m, 12.1994, 1 ♂ (Rios); idem, 02.1995, 1 ♂ (MORAGA); Río San Lorenzo, Tierras Morenas, 1000 m, 12.1994, 1 ♂ (RODRIGUEZ); P. N. Guanacaste, Lado SO Volcan Cacao, Est. Cacao, 1000–1400 m, 10.1989, 1 ♀ (BLANCO, CHAVES); idem, 800–1600 m, 12–17.07.1993, 1 ♀ (GARCÍA) (INBio); Prov. Limón: Estrella Valley, Pandora, 28.03.1984, 2 ♀ ♀ (MANLEY) (UG); Prov. Puntarenas: Est. Pittier, Sendero Pittier, 1670 m, 25.06–4.07.1995, 1 ♀ (ZUMBADO); Est. La Casona, 1520 m, 24.02–7.03.1995, 1 ♀ (MARTINEZ) (INBio); Jardín, Las Cruces, 6 km S San Vito on Rt. 16, 29–31.05.1987, 2 ♀ ♀ (NORRBOM, CONDON, MEXZON) (USNM); Prov. San Jose: fila Altos de Carara, 1000 m, 1 ♀ (ZUMBADO) (INBio); PANAMA: Pan. C'ro Campana, 60 km SW Balboa, 14.02.1969, 16 ♂ ♂ (ADAMS) (USNM). BOLIVIA: Songo: “*Megalaemyia / punctulata* H. / det. F. Hendel”, 1 ♀ [non-type] (HMNH).

Distribution. Costa Rica, Panama (new record for Central America). **General:** Brazil, Bolivia (STEYSKAL 1968).

Ophthalmoptera undulata HENDEL, 1914

(Figs 38–40)

HENDEL 1914: 166 (*Ophthalmoptera*); STEYSKAL 1968: 54.6.

Material examined. **Type:** Holotype ♀: BOLIVIA, Yungas von Coroico 1700 m, 28.10. [19]06, “106” [SCHNUSE], “*Ophthalmoptera / undulata* H. / det. F. Hendel” (MTD). **Non-type:** COSTA RICA: Prov. Puntarenas: Res. Biol. Monteverde: Est. La Casona, 1520 m, 10–11.1993, 1 ♀ (head missing) (OBANDO) (INBio).

Distribution. Costa Rica (new record for Central America). **General:** Bolivia (STEYSKAL 1968).

Remarks. This species was described briefly, without illustrations, and I herein provide pictures of the holotype head and wing. They are important for recognition of *O. undulata*, because at least one more unnamed species fitting the original description exists in collections from Costa Rica.

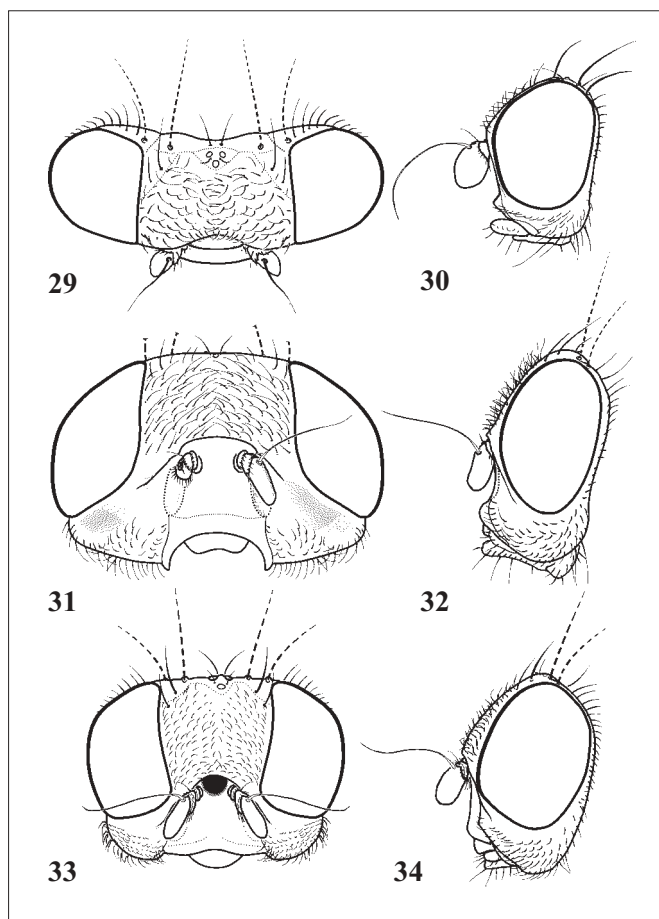
Paragorgopsis GIGLIO-TOS, 1893

GIGLIO-TOS 1893: 12; 1895: 41; STEYSKAL 1968: 54.7 (*Paragorgopsis*).

= *Paragorgopsis*: HENDEL 1909a: 57; 1909b: 7, 26; ACZÉL 1951: 420 (emendation).

Type species: *Paragorgopsis maculata* GIGLIO-TOS 1893 (by monotypy).

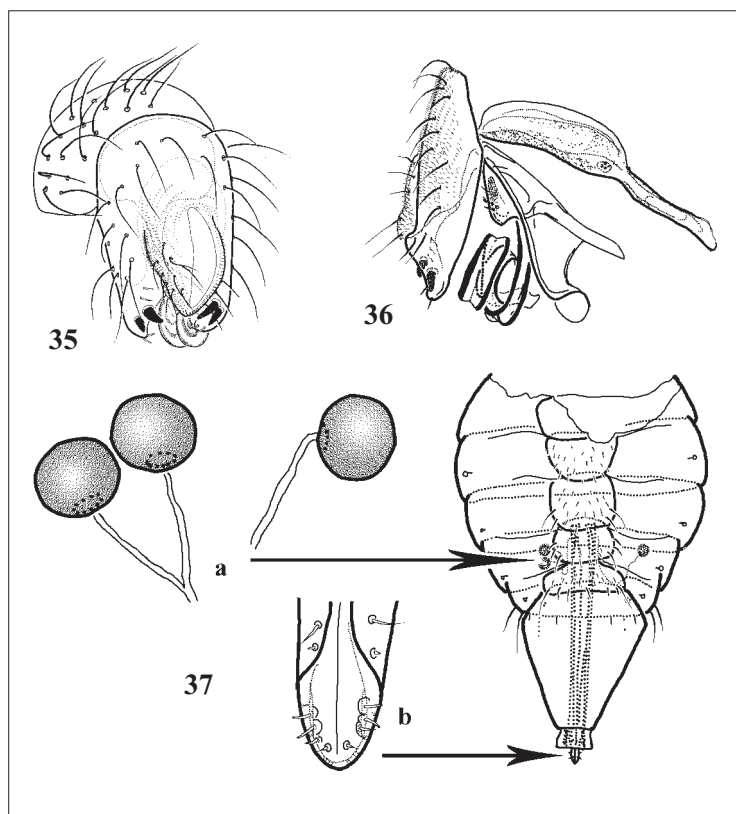
Redescription. **Head:** as wide as thorax, slightly transverse; in males of *P. mallea* HENDEL (see HENDEL 1909b: Figs 58–59), *P. clathrata* HENDEL and some other species often wider than thorax. Frons 1.2–3.0 times as wide as long, in profile meeting upper portion of face at obtuse or at almost right angle, microtrichose, usually denser in posterior half and on sides, often with areas covered with yellowish-white and brown microtrichia; lateral margins parallel, arcuate or narrowed anteriorly. One pair of laterooclinar ocellar setae. 2 orbital setae of various length, anterior always shorter. Frontal setulae all black, short, species of *maculata* group anterolaterally and above lunula with 2–4 setae, subequal to shortest orbital setae and 2–3 times as long as other frontal setulae. Face slightly (in *P. discrepans*) or clearly (especially in *P. cancellata* HENDEL) concave in profile, often with transverse furrow at lower 1/3–1/6 and shallow antennal grooves. Clypeus slightly convex in profile, 0.3–1.0 as high as 1st flagellomere width, completely microtrichose. Parafacialium and gena microtrichose, sometimes with brown microtrichose areas. Lower portion of facial ridge (vibrissal angle) with 3–7 supravibrissal setulae. Gena 0.2–0.6 as high as eye. Genal seta well developed at posteroventral margin of gena. Vertex without ridge; postocellar seta divergent, usually as long as ocellar seta; vertical setae moderately long, medial seta twice as long as ocellar seta and 1.1–1.3 times than lateral vertical seta; in males of *P. mallea* both twice as long as seta-like ocellar seta, but slightly shorter than postocellar seta. Occiput microtrichose; 0–1 paraverticlar setula; 8–15 setulae in single postocular row; 4–6 occipital setulae laterally of lower portion of suture and numerous setulae on high and convex postgena higher than level of occipital foramen. Supracervical setulae not examined in intact specimens. Gula short and wide, poorly separated from gena, with well developed gular seta and 3–6 shorter setulae at each ventrolateral



corner. Antennae: Distance between their bases 1–8 times width of antennal socket. Flagellomere 1 1.5–2.2 times as long as wide, microtrichose. 2 basal aristomeres. Terminal aristomere short pubescent. Proboscis stout, with large, rounded prementum bearing 10–15 setulae on each side. Labellum fleshy, large. Palpus elongate triangular, widest at middle, slightly longer and almost as wide as flagellomere 1, with 12–15 rather short setulae on each lateral and medial surfaces, and 2 longer setulae at apex and ventrally to it.

Figs 29–34: Heads of *Dasympetopa* spp. – **29:** *D. fumipennis* HENDEL, ♀ (holotype of *O. innotata* ENDERLEIN); *D. lutulenta* LOEW: – **30:** dorsal view; – **31:** frontal view; – **32:** lateral view; – **33:** *D. nigropunctata* HENDEL, ♀ (Palo Verde, Costa Rica), frontal view; – **34:** *D. spec. near nigropunctata* HENDEL, ♂, lateral view.

Thorax: Longer than wide, sparsely gray and brown microtrichose, except for scutellum and mediotergite sometimes subshining; thorax with microtrichose speckled appearance, except in *P. discrepans*; the latter species with vittae of sparse gray and brown microtrichia on mesonotum. Postpronotal lobe with 1 postpronotal seta and 15–25 setulae. Proepisternum with group of 5–6 (*maculata* group) to 10–20 (*mallea* group) short setulae on dorsal portion, and proepisternal seta on ventral portion slightly longer than proepisternal setulae (*maculata* group) or with tiny setula on ventral portion instead of proepisternal seta (*mallea* group). Prosternum slightly wider than high, microtrichose, without setulae (*mallea* group) or with 1–2 setulae at each side (*maculata* group). Scutum with row of dorsocentral setulae gradually becoming longer posteriorly; on each side, irregular rows of 2–5 (3) acrostichal setulae; 2–3 intraalar setulae; 1 acrostichal, 2 dorsocentral, 1 intraalar, 1 postalar and 1 supraalar setae, all postsutural. Bases of setulae with darker spots, except in *P. discrepans*. Scutellum grayish and brown microtrichose to subshining. Subscutellum subshining. Notopleural triangle gray and brown microtrichose. Pleural sclerites thick gray microtrichose, anepisternum sometimes with brown round spots at bases of setulae, in *P. discrepans* uniformly sparsely microtrichose. **Wing:** With extensive dark, usually reticulate, pattern, as in Figs 40, 54, 56 and 58. Tegula unmodified, small with 2–4 marginal setae and setulae. Costagial section of costa slightly widened dorsoventrally, with irregular setulae and 1 ventroapical and 1 dorsoapical seta. Humeral sec-



Figs 35–37a, b: *Dasymetopa* spp. – **35:** *D. lutulenta* LOEW, ♂ genitalia, posterior view; – **36:** *D. fumipennis* HENDEL, ♂ genitalia, lateral view; – **37:** ♀, abdomen, ventral view (**a** – spermathecae, enlarged; **b** – cercal joint of aculeus, enlarged).

tion of costa with 2–3 irregular rows of moderately long and thin setulae. Section of costa between humeral break and R_1 apex smoothly bowed, with two rows of setulae in males of *P. clathrata* HENDEL, *P. euryale* sp. n. and *P. schnusei* HENDEL distinctively bowed and thickened, with short, slightly thickened setulae and microtrichia on anterior vein surface between two rows; remaining portions of costa finely setulose. Subcostal vein at apex moderately bowed towards anterior margin. Radius stem vein bare. Vein R_1 straight and bare on proximal half, distally of subcosta apex bowed posteriorly (especially in males), with 18–24 fine and moderately long setulae on dorsal side and sometimes with 3–7 setulae on ventral side; in *P. discrepans* R_1 setulose from humeral vein to apex. R_{2+3} strongly bisinuate. R_{4+5} ending at wing apex, with 5–7 setulae on dorsal side from node to R-M level, and 0–3 setulae distally of R-M and with 0–3 setulae on ventral side from node to R-M level; in *P. discrepans*, R_{4+5} bare. Crossvein R-M perpendicular or slightly oblique to vein R_{4+5} , situated proximally of R_1 apex, or at level of R_1 apex (in *P. discrepans*). Vein M almost straight; its penultimate section slightly shorter than, or as long as crossvein DM-Cu; in *P. discrepans*, slightly longer than crossvein DM-Cu; distal section of M in all species slightly bowed anteriorly. Vein BM-Cu perpendicular to M. Crossvein DM-Cu straight or very slightly sinuate or arcuate. Vein Cu_2 almost arcuate, or inconspicuously bisinuate, without, or with inconspicuous posteroapical lobe of cell bcu at $A_1 + Cu_2$ vein. Vein $A_1 + Cu_2$ reaching posterior wing margin. Vein A_2 well developed as fold. Alula moderately developed. Upper calypter with long marginal fringe, 1.5–2 times as long as lower calypter. Halter unmodified, with rounded and short knob; knob surface with very short setulae. **Legs:** Neither thickened, nor having unusual vestiture. Fore coxa with conspicuously

flattened anterior surface and 5-7 long ventromarginal setae 1.5–2.5 times as long as numerous setulae on anterior surface; fore trochanter unmodified, short and sparsely setulose; fore femur mostly dark, microtrichose, with sparse but moderately long suberect setulae, 2 posterodorsal and one posteroventral rows of setae, including single long subbasal posteroventral seta; basal 1/3 of fore tibia brown, at apical third with dark ring. Mid coxa with row of 8–10 setae on eucoxite (anterior sclerite) and 2 setae on disticoxite (posterolateral sclerite); mid-coxal prong well developed, rather stout and chitinized; mid trochanter rather elongate, short setulose, unmodified; mid femur short setulose, with anterior row of 7–10 short anteroventrally directed setae 0.3–0.4 as long as femur width and posteroventral row of 8–15 setae almost as long as femur width; mid tibia covered by numerous appressed setulae and dorsal row of erect setulae; ventroapical seta 1.4–1.5 times as long as tibia wide. Hind coxa unmodified, with 8-10 setulae on eucoxite and 2 lateromarginal stronger setae, which are 2–4 times as long as setulae. Hind trochanter unmodified, setulose on ventral surface. Hind femur without modifications, moderately setulose, with 2 subapical setae on dorsal surface. Hind tibia very slightly curved, otherwise unmodified, without erect setulae, setulae of ventroapical row short and very slightly thickened; basal half darkened without pale ring dividing it, apical third with wide dark ring. Tarsi of all legs without modifications; hind tarsomeres 1 and 2 with yellowish setulae forming short brushes on posteroventral surfaces; otherwise setulae of tarsomeres more or less symmetrical. Claws simple; pulvillae small; empodium bare, shorter than longest setae of tarsomere 5.

Abdomen: Tergites brown or yellow, sparsely brown and gray microtrichose and uniformly black setulose, pleural membrane microtrichose without setulae; sternites microtrichose and setulose. Male tergite 5 shorter than tergite 4. Female tergite 6 hidden underneath margin of preceding tergite. Sternites 4–6 of female without anteromedial apodemes. Oviscape sparsely microtrichose, as long as 3 preceding tergites. **Male genitalia:** Epandrium rounded (in *maculata* group) or elongate oval (in *mallea* group); surstylus shorter than width of epandrium, slightly curved mesally, with 2 prenisetae and one long and 2–3 shorter setulae; phallus bare; hypandrium with well-developed gonite with 4-5 setulae and button-like paramere; sperm pump with very long sclerite supporting ejaculator sac, like in other genera of Pterocallini.

Remarks. Two groups of species are recognized in *Paragorgopis*. Species related to the type species, *P. maculata*, have large and dipping downwards (in both sexes) pterostigma, strongly sinuate vein R_{2+3} , clearly setulose R_{4+5} and tibiae with 2–3 yellow and 1-2 dark brown rings (synapomorphies), but hyaline spots without dark dots inside. Species related to *P. mallea* have hyaline spots with round or oval dark dots inside (synapomorphy), but rather narrow (in both sexes) pterostigma, slightly sinuate vein R_{2+3} , almost bare R_{4+5} and tibiae uniformly brown (symplesiomorphies). *Paragorgopis discrepans* HENDEL from Peru was provisory placed here by HENDEL (1914: 164), who noted that it is rather close to species of *Apterocerina*. Indeed, it fits near *Apterocerina amoena* ENDERLEIN from Peru, in wing venation and pattern, and in the completely setulose vein R_1 . As the latter species does not occur in Central America, their taxonomic position is beyond the scope of this paper, and must be considered elsewhere (KAMENEVA, in prep.).

Determination. The genus includes 11 species, which can be determined with the following key.

1. Vein R_1 setulose in basal half. Mesonotum gray microtrichose with more or less conspicuous brown microtrichose vittae, but without round brown dots at bases of setulae. Wing mostly brown, with hyaline base and 3 transverse bands (see HENDEL 1914: fig. 12) *P. discrepans*

- Vein R_1 bare in basal half. Mesonotum gray microtrichose with round brown dots at bases of setulae. Wing brown, with reticulate pattern of hyaline spots (Figs 40, 54, 56, 58) 2
- 2. Hyaline spots on wing without isolated dark brown dot in its middle (Figs 54, 56, 58) 3
- At least a few of hyaline spots on wing with isolated dark brown dot in its middle (Fig. 40) 7
- 3. Discomedial cell dark brown with 2 hyaline spots: at base and proximally of R-M cross-vein (Fig. 54, 56, 58). ...**maculata group** (males only; *P. maculata* and females of other three species indistinguishable) 4
- Discomedial cell dark brown with more than 2 hyaline spots (see HENDEL 1914: Fig. 13) 6
- 4. Head strongly transverse: frons 1.8–2 times as wide as eye (Fig. 55); if frons about 1.8 as wide as eye, then costal vein neither conspicuously bowed nor strongly widened at pterostigma ***P. medusa spec. nov.***
- Frons 1.2–1.8 times as wide as eye (Figs 53, 57); if frons about 1.8 as wide as eye, then costal vein widened 5
- 5. Costal vein widened and bowed at pterostigma (Fig. 54) ***P. euryale spec. nov.***
- Costal vein neither widened nor conspicuously bowed at pterostigma (Fig. 58) ***P. stheno spec. nov.***
- 6. Medial cell with single hyaline spot. Male: frons 2.2 times as wide as eye; costal vein not widened at pterostigma ***P. clathrata***
- Medial cell with 2–3 hyaline spots. Male: frons 1.5–1.8 times as wide as eye; costal vein conspicuously widened at pterostigma ***P. schnusei***
- 7. Pterostigma hyaline at base and yellow at apex, with brownish anterior margin (Fig. 40) 8
- Pterostigma brown at base and apex, with hyaline spot at middle 10
- 8. Anepimeron with numerous brown spots at bases of setulae (Fig. 48). Fore femur broadly dark brown (Fig. 49) ***P. incus spec. nov.***
- Anepimeron uniformly gray microtrichose or with wide brown area in anterior portion, but without spots at bases of setulae (Figs 45, 51). Fore femur yellow, at most with brown ring in apical half (Figs 43, 46, 52) 9
- 9. Fore femur with brown ring in apical half and yellow knee. Face with two vertical strikes on antennal grooves and usually with dark brown spot between bases of antennae and brown stripe ventrally to it. Anterior portion of anepisternum broadly dark brown. Male: head moderately to strongly transverse: frons 1.6–3.5 times as wide as eye, vertical setae shortened, half as long as flagellomere 1 (Figs 41, 44) ***P. mallea***
- Fore femur completely yellow. Face yellow, except two round brown spots medially of antennal grooves. Anepisternum mostly gray microtrichose. Male: head not transverse: frons 1.2–1.5 times as wide as eye, vertical setae as long as flagellomere 1 (Fig. 50) ... ***P. stapes spec. nov.***
- 10. Antero-basal portion of cell cua with single hyaline area neither mottled nor broken into smaller spots ***P. argyrata***
- Antero-basal portion of cell cua with numerous hyaline spots separated by brown bars, sometimes fused in a few spots mottled with brown dots ***P. cancellata***

Paragorgopsis argyrata HENDEL, 1914

HENDEL 1914: 165, fig. 13 (*Paragorgopsis*); STEYSKAL 1968: 54.7.

Material examined. Type: Holotype ♂: PERU, Pichis, P[or]to Yessup, 01. [19]07, "Paragorgopsis / argyrata H. / det. Hendel" [SCHNUSE] (MTD). **Non-type:** GUATEMALA: Patén, Sayaxcha, Rancho Alegre, 16°37.12'N, 90°10.52'W, 3.07.1995, 1 ♀ (LÓPEZ) (USNM); COSTA RICA: Prov. Alajuela: Upala, Bijagua, Albergue Heliconias, Send. Heliconias, 700 m, in light, 6–9.04.2000, 1 ♂ (GUTIÉRREZ); San Ramón, R. B. Alberto Brenes, Est. San Lorencito, 900 m, 22.02–16.04.1995, 1 ♀ (CARBALLO); Prov. Guanacaste: 5 km SO Sta Cecilia, Est. Pitilla, Fca Pasmompa, 400 m, 08.1991, 6–19.09.1993, 2 ♂ ♂ (RIOS), 6–17.09.1993, 1 ♂, 1 ♀ (MORAGA), 07.1997, 1 ♀ (RIOS, MORAGA); Prov. Heredia: P. N. Braulio Carrillo: Est. El Ceibo, 400–600 m, 10.1989, 1 ♀ (AGUILAR, ZUMBADO); Est. Magsasay, 200 m, 08.1990, 1 ♀ (ZUMBADO); Prov. Limón: Sector Cerro Cocorí, Fca de E. Rojas, 150 m, 11.1994, 1 ♀ (ROJAS); Valle del Silencio, R. B. Hitoy Cerere, Send. Bobócara, 640 m, 10–11.1999, 1 ♀ (UMAFIA) (INBio); Prov. Puntarenas: Las Alturas Biological Stn., 8°57'N, 82°50'W, 1600 m, 14–16.08.1995, 1 ♂ (CALOREN) (UG); Est Las Alturas, Send. a Cerro Echandi, 1500 m, 17–18.11.1997, 1 ♂ (GAMBOA); Golfito, P. N. Corcovado, Est. Agujas, Cerro Rincón, 745 m, 17.04–16.05.1999, 1 ♀ (AZOFEIFA); Peninsula de Osa, Rancho Quemado, 200 m, 11.1991, 3 ♂ ♂ (QUESADO); Est. Pittier, Sendero Pittier, 1760 m, 8–22.03.1996, 1 ♀ (MAROTO); Send. a Cerro Pittier, 600 m N de la Estacion, 1750 m, 1–14.10.1997, 1 ♀ (MORAGA) (INBio); Jardin, Las Cruces, 6 km S San Vito on Rt. 16, 29–31.05.1987, 1 ♀ (NORRBOM, CONDON, MEXZON) (USNM).

Distribution. Guatemala, Costa Rica (new record for Central America). **General:** Peru (STEYSKAL 1968).

Paragorgopsis mallea group of species*[Paragorgopsis mallea* HENDEL, 1909]

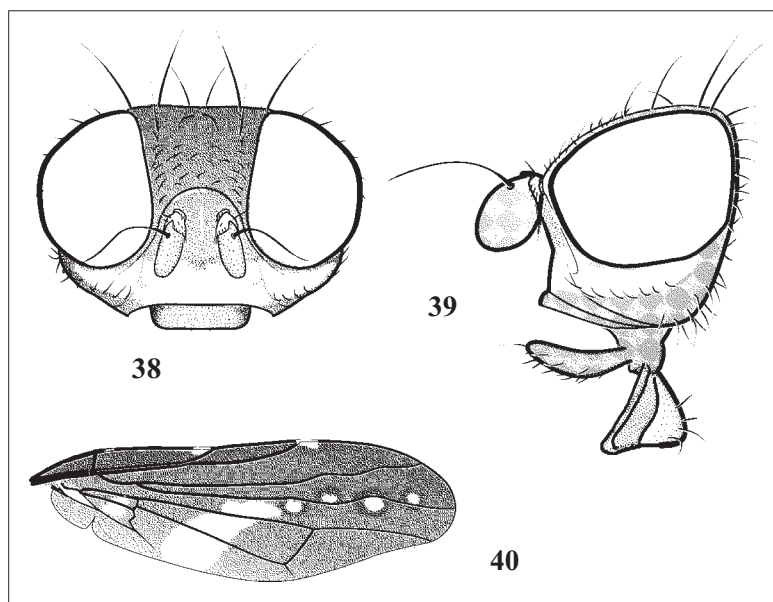
(Figs 41–46)

HENDEL 1909a: 61; 1909b: pl. 3, figs 57–60 (*Paragorgopsis*); STEYSKAL 1968: 54.7.

Material examined. Type: Lectotype ♂ [here designated]: "Peru — Meshagua / 26.9.03 / Urubambafl. ", "Paragorgopsis \ mallea ♂ / det. F. Hendel", "Typus" [red label], "Lectotypus ♂ Paragorgopsis mallea Hendel Kamenewa des. '03" (MTD). Paralectotypes: 1 ♀: idem, 4.10. [19]03; 1 ♂: Bolivia: Mapiri: S. Carlos, 800 m, 01. [19]03 (MTD). For other paralectotypes of *P. mallea*, see the type material listed under *P. incus* and *P. stapes*. **Non-type:** BOLIVIA: Mapiri: S. Carlos, 800 m, 04. [19]03, "Paragorgopsis / mallea / Hendel ♀ / Dr. End. det. 1934", 1 ♀ (ZMHB); idem, 04. [19]03, 2 ♀ ♀; S. Antonio, 1000 m, 25.02. [19]03, 1 ♀ (MTD); Sarampioni, 700 m, 10.03. [19]03, ♂ (DEI).

Redescription. Male. Head: widened, in lectotype strongly transverse (Figs 41–42), mostly reddish-yellow, with dorsolateral portions of occiput, posterior portion of frons and ocellar triangle brown to black. Frons 0.3–0.8 as long as wide and 1.8–4.0 as wide as eye. Frontal vitta black setulose and white microtrichose, with 2 partially fused C-shaped brown microtrichose marks (Fig. 44). Vertical, postocellar, ocellar and orbital setae shorter than in females, at most as long as first flagellomere wide; frontal setae not expressed. Face white microtrichose, with dark brown microtrichose spot between bases of antennae and 2 vertical elongate shining brown spots on antennal grooves.

Thorax (Figs 43, 45): Brownish black, densely yellowish-gray microtrichose, with antepnotum, postpronotal lobes, scutellum, subscutellum and mediotergite mostly subshining brown. Mesonotum with brown microtrichose pattern, consisting of numerous dots at bases of setulae, crossband from anterior part of notopleuron through transverse suture and two vittae along dorsocentral row of setulae, usually reaching transverse suture. Scutellum sparsely gray microtrichose medially, darker on sides. Anteroventral portion of anepisternum and medial part of katepisternum with wide dark brown oblique band. Posterior portion of anepisternum uniformly yellowish-gray microtrichose, without dark spots at bases of setulae. **Wing** (Fig. 43): Costal vein between Sc and R₁ apices unmodified, almost straight. Basicostal cell brown, costal cell brown in basal 1/3, with narrow brown shadow along antero-apical margin. Pterostigma 5–7 times as long as wide, hyaline to yellow, slightly brownish at antero-apical margin. R₁ vein setulose only on apical half. R₂₊₃ vein sinuate. R₄₊₅ vein with 3–4 short, usually inconspicuous setulae on dorsal side. Wing pattern reticulate, cells br, dm and cua with widely hyaline base and oblique brown band crossing wing from RS bifurcation almost to posterior margin of wing. Large hyaline spots with round or diamond-like dark brown dot in middle, in darker specimens fused with borders forming cruciate marking. Upper calypter slightly longer than lower calypter, white, with white fringe. Halter yellow, in one specimen dark brown with brown knob. **Legs:** Coxae yellow; fore femur (Fig. 46)



Figs 38–40: *Ophthalmoptera undulata* HENDEL (holotype ♀). –
 38: Head, frontal view;
 39: Head, lateral view;
 40: Wing.

yellow with brown area in apical half and yellow knee; fore tibia and tarsus brown. Mid and hind femora yellow, sometimes infuscated, fore and hind tibiae brown; mid and hind tarsi brownish yellow.

Abdomen: Dark brown; tergite 2 gray microtrichose except laterally, tergites 3 and 4 with narrow gray microtrichose areas at anterior and posterior margins; tergite 5 widely gray microtrichose, shorter than tergite 4. Male genitalia not examined.

Body length: 3.2–5.2 mm (Lectotype: 5.0 mm). Wing length: 3.5–5.5 mm. Head width of lectotype: 3.8 mm.

Female: Similar to male, except head unmodified. Abdominal tergite 5 with wide triangular spot of gray microtrichia, and shining brown postero-lateral margins; 1.5 times shorter than tergite 4. Tergite 6 small, exposed, gray microtrichose, with 4–5 short marginal setulae.

Etymology. The specific name is assumed to be derived from the Latin “malleus” (hammer), referring to the wide, transverse head.

Diagnosis. *Paragorgopis mallea* can be distinguished from other described species of *Paragorgopis* based on male characters: transverse head with well-developed frontal setae, straight and only slightly thickened costal vein, and wing pattern as figured by HENDEL (1909b: Fig. 57). Other species that have transverse male heads (*P. clathrata* HENDEL, *P. medusa* HENDEL), differ by wing pattern: more numerous hyaline spots in cell dm (1 at base and 2–4 at apex) and no distinct frontal setae; *P. mallea* also differs by the pterostigma not darkened in the middle.

Remarks. Current revision shows that the series of *P. mallea* syntypes is heterogeneous and consists of several species. To fix the concept of *P. mallea*, the specimen illustrated by HENDEL (1909b) is designated lectotype. It has an extremely wide head, while two other known males have rather normal heads similar to those of females. From the similar head, body and leg coloration, I suggest that they are conspecific, but additional material is needed to prove it rigorously. Females can be recognized with certainty by the head, fore leg and anepisternum coloration.

HENDEL (1909a) recognized “typical form and variations α and β ” of *P. mallea*, which have different head shapes, body coloration and pattern of microtrichia. The “typical form” corresponds to the lectotype, with its extremely wide head. He noted that the head shape shows gradual changes among specimens and therefore cannot be used for separation of “narrow-headed” specimens from the “typical” form. However, he did not recognize the following new species.

Distribution. Peru, Bolivia.

Paragorgopsis incus spec. nov.

(Figs 47–49)

Material examined. Type: Holotype ♂: “Peru — Urubambafl. / 13.9. 03 / Umahuankilia” (paralectotype ♂ of *P. mallea*, with labels: “Paragorgopsis \ mallea H. / det. F. Hendel”) (MTD). Paratypes 9 ♀ ♀: PERU: “Peru — Meshagua / 8.10.03 / Urubambafl.” (paralectotypes ♀ ♀ of *P. mallea*, with labels: “Paragorgopsis \ mallea H. / det. F. Hendel”), 1 ♀; idem, 26, 30.09 & 7, 8.10. [19]03, 4 ♀ ♀; “Peru: Madre de Dios / O. Garlepp C. “, 1 ♀; BOLIVIA: Mapiro: Sarampioni, 700 m, 02. [19]03, 1 ♀; Chimate 650 m, 10.01. [19]03, 1 ♀ (MTD); COSTA RICA: Prov. Limón: R. B. Hitoy Cerere, Est. Hitoy Cerere, 100 m, 09.1991, 1 ♀ (CARBALLO) (INBio).

Description

Male. Head: Slightly widened (Fig. 47), mostly reddish-yellow, with dorsolateral portions of occiput, posterior portion of frons and ocellar triangle brown. Frons 0.9–1.1 as long as wide and 1.3–1.6 as wide as eye. Frontal vitta black setulose and white microtrichose, with 2 separate C-shaped brown microtrichose marks, usually separated by sparsely white microtrichose medial vitta. Vertical, postocellar, ocellar and orbital setae slightly longer than width of flagellomere 1; frontal setae not developed. Face white microtrichose, without dark spot between antennae, but with 2 vertical elongate shining brown spots on antennal grooves.

Thorax (Fig. 48): As in *P. mallea*, except posterior portion of anepisternum yellowish-gray microtrichose with dark spots at bases of setulae. **Wing:** As described for *P. mallea*. Halter yellow, with white knob. **Legs:** As described for *P. mallea*; fore femur (Fig. 49) uniformly brown, sometimes with yellow knee; mid and hind femora brownish yellow to brown.

Abdomen: As described for *P. mallea*. Male genitalia not examined.

Body length: 3.4–5.2 mm (Holotype: 3.4 mm). Wing length: 3.5–5.5 mm.

Female: Similar to male, except head unmodified. Abdominal tergite 5 with wide triangular spot of gray microtrichia, and shining brown postero-lateral margins; 1.5 times shorter than tergite 4. Tergite 6 small, exposed, gray microtrichose, with 4–5 short marginal setulae.

Etymology. The specific name is a noun in apposition and is from the Latin for “anvil.”

Diagnosis. The new species can be distinguished from other described species of *Paragorgopsis* from the combination of the wing pattern (as figured by HENDEL 1909b: Fig. 57 for *P. mallea*), brown spotted anepisternum and brown fore femur.

Remarks. The holotype and most paratypes of *P. incus* spec. nov. were selected from the paralectotypes of *P. mallea*, which are not conspecific with the lectotype of the latter species. Females can be recognized with certainty by the head, fore leg and anepisternum coloration.

Distribution. Costa Rica, Peru, Bolivia.

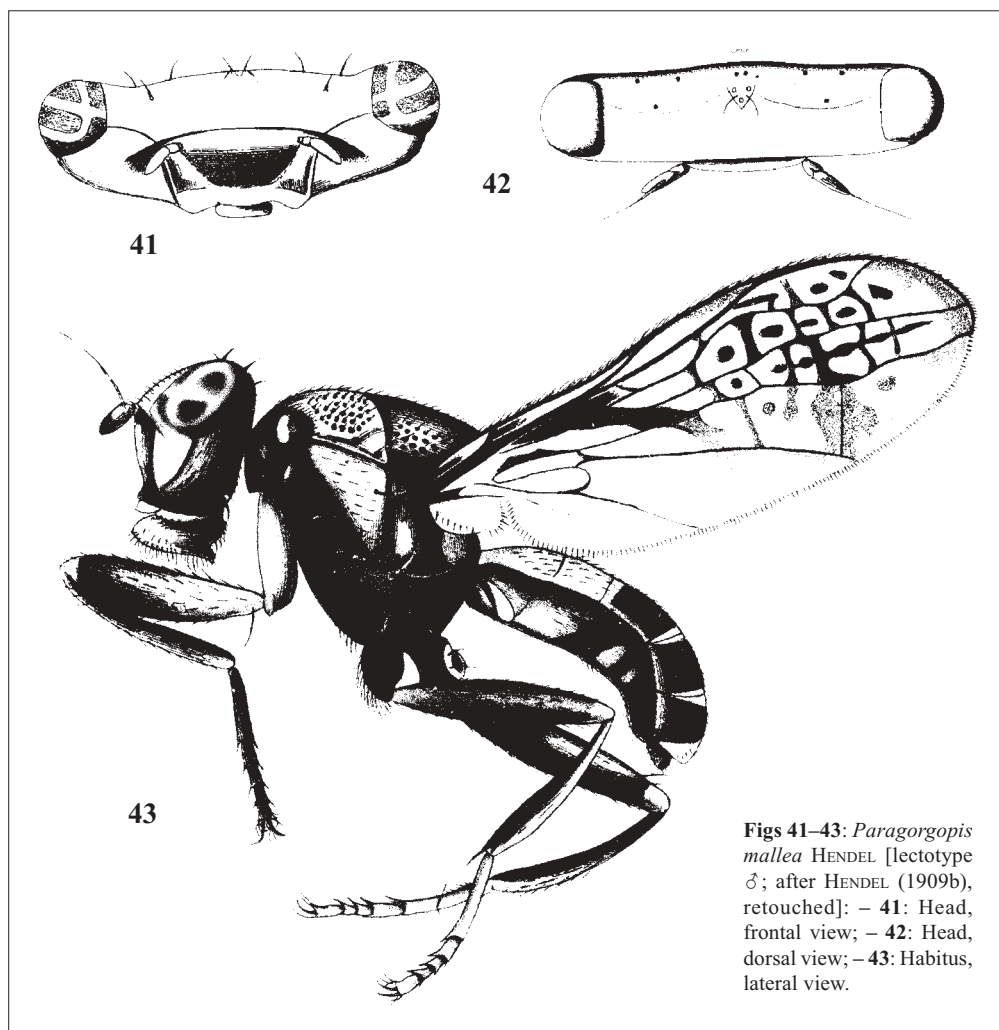
[Paragorgopsis stapes spec. nov.]

(Figs 50–52)

Material examined. Type: Holotype ♂: “Peru — Meshagua / 1.10.03 / Urubambafl.” (paralectotype ♂ of *P. mallea*: “Paragorgopsis \ mallea H. / det. F. Hendel”) (MTD). Paratypes (altogether 61 specimens): PERU: Meshagua, Urubambafl., 9, 12.10. [19]03, 2 ♀ ♀ (MTD); BOLIVIA: Mapiro: S. Carlos, 800 m, 14, 19.01.[19]03, (paralectotypes 2 ♀ ♀ of *P. mallea*: “Paragorgopsis \ mallea H. / det. F. Hendel”), 2 ♀ ♀; idem, 01. [19]03, 3 ♂ ♂, 10 ♀ ♀; 04. [19]03, 3 ♂ ♂, 14 ♀ ♀; S. Antonio, 1000 m, 18–25.02. [19]03, 1 ♂, 16 ♀; Sarampioni, 700 m, 01, 02, 03. [19]03, 4 ♀ ♀; S. Ernesto, 800 m, 24.03. [19]03, ♀; Yungas von Coroico, 1000–1800 m, 7, 29.10. [19]06, 2.02. [19]07, 3 ♀ ♀ [SCHNUSE] (MTD); Mapiro: S. Antonio 1000, 21.02.[19]03, 2 ♂ ♂ (ZMHB); S. Carlos, 800 m, 5, 6.01.[19]03, “*mallea*, var. B / det. F. Hendel”, “Paratype” [yellow label], “Coll. Hendel”, 1 ♂, 1 ♀ (NHMW).

Description

Male. Head: Slightly widened (Fig. 50), mostly reddish-yellow, with dorsolateral portions of occiput and postero-lateral portions of frons brown, and ocellar triangle black. Frons 1.0–1.1 as long as wide and 1.2–1.8 as wide as eye. Frontal vitta reddish-yellow, black setulose with 2 brown separate C-shaped areas not hidden by silvery microtrichia of vertical plates, usually separated by bare reddish area with sparsely white microtrichose medial stripe and narrow white microtrichose margins of eyes. Vertical, postocellar, ocellar and orbital setae slightly longer than width of flagellomere 1; frontal setae not developed. Face white microtrichose, without dark spot between antennae, but with 2 round brown spots medially of antennal grooves.



Figs 41–43: *Paragorgopis mallea* HENDEL [lectotype ♂; after HENDEL (1909b), retouched]: – 41: Head, frontal view; – 42: Head, dorsal view; – 43: Habitus, lateral view.

Thorax: As in *P. mallea*, except dark vittae and crossband on mesonotum narrow and anepisternum completely yellowish-gray microtrichose without dark spots at bases of setulae (Fig. 51). **Wing:** as described for *P. mallea*. Halter yellow, with white knob. **Legs:** As described for *P. mallea*; fore femur (Fig. 52) uniformly yellow, sometimes infuscated at base; mid and hind femora yellow to brownish yellow.

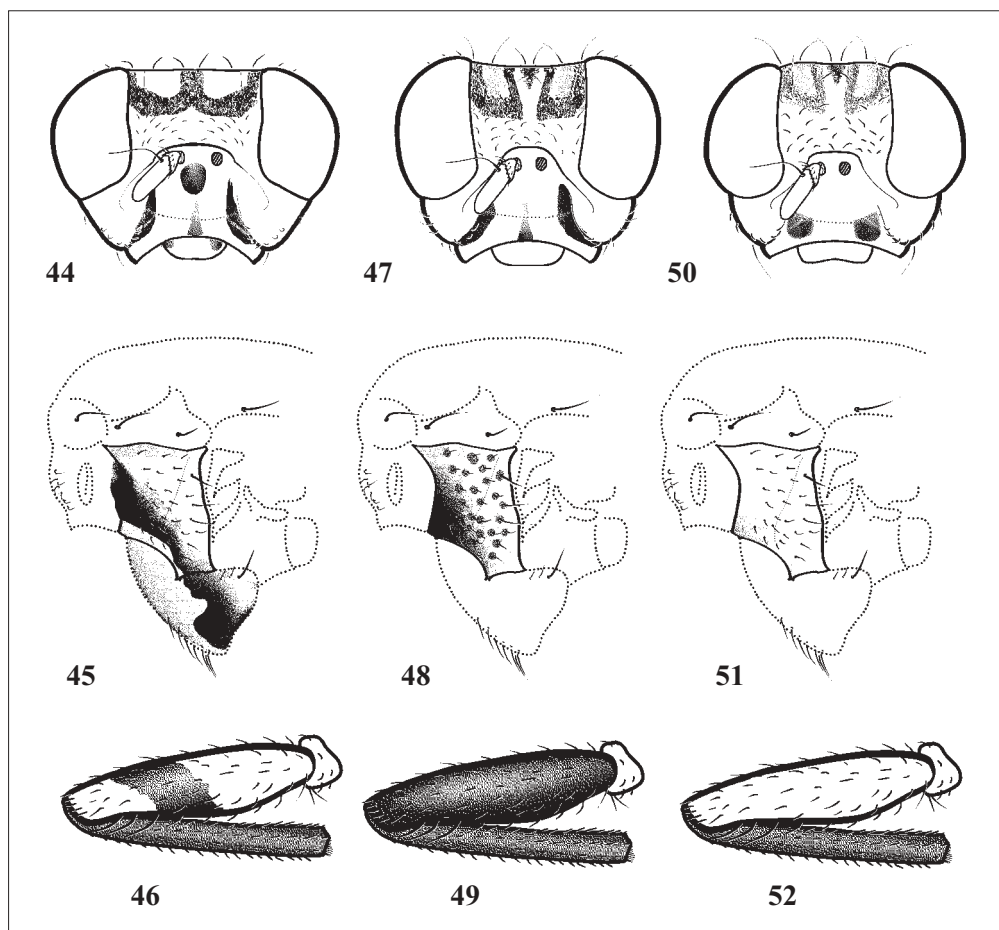
Abdomen: As described for *P. mallea*. Male genitalia not examined.

Body length: 3.4–5.5 mm. Wing length: 3.3–5.5 mm.

Female: Similar to male. Abdominal tergite 5 with wide triangular spot of gray microtrichia, and shining brown postero-lateral margins; 1.5 times shorter than tergite 4. Tergite 6 small, exposed, gray microtrichose, with 4–5 short marginal setulae.

Etymology. The specific name is a noun in apposition and is from the Latin for “stirrup.”

Diagnosis. The new species can be distinguished from other described species of *Paragorgopis* from the combination of the wing pattern (as figured by HENDEL 1909b: Fig. 57 for *P. mallea*), brown spotted anepisternum and brown fore femur.



Figs 44–52: *Paragorgopis mallea* group: *P. mallea* HENDEL (paralectotype ♂): – 44: Head, frontal view; – 45: Pleuron (pattern shown on anepisternum and katepisternum only); – 46: Fore femur and tibia. *P. incus* KAMENEVA, spec. nov.: – 47: Head, frontal view; – 48: Pleuron (pattern shown on anepisternum only); – 49: Fore femur and tibia. *P. stapes* KAMENEVA, spec. nov.: – 50: Head, frontal view; – 51: Pleuron (pattern shown on anepisternum only); – 52: Fore femur and tibia.

Remarks. The holotype and 2 paratypes of *P. stapes* spec. nov. were selected from the paralectotypes of *P. mallea*, which are not conspecific with the lectotype. Females can be recognized with certainty by the head, fore leg and anepisternum coloration.

HENDEL (1909a) recognized “variation β” which has different body coloration, pattern of microtrichia and details of the wing pattern, which corresponds *P. stapes*. He suggested that this “variation” may actually represent a valid species. Indeed, its differences are constant and shows no intermediate states neither in males, nor in females, and consequently I consider them to be separate species, which were described above, based mainly on paralectotype specimens of *P. mallea*.

Distribution. Peru, Bolivia.

Paragorgopis maculata group of species

Diagnosis. Head. Frons anterolaterally with 2–4 frontal setae at anterior margin, subequal to shortest orbital setae and 2–3 times as long as other frontal setulae. Face yellow, more or less conspicuously

white microtrichose, without dark markings. Clypeus low, at most as high as flagellomere 1 wide. **Wing** with strongly sinuate vein $R_{2+3,4}$; pterostigma 3.1–3.3 times as long as wide; hyaline spots without dark brown dots inside; dm cell dark brown with 2 hyaline spots: at base and at behind R-M crossvein; cell M with 2 hyaline spots. Halteres yellow. Mesonotum gray tomentose, with brown dots at bases of setulae and setae. Scutellum black, often with yellow apex, gray and brown microtrichose. Postpronotal lobe and notopleural triangle usually broadly yellow. Anepisternum mainly dark brown, with gray microtrichia and small brown dots at bases of setulae and brown microtrichose spots of irregular shape. Remaining parts of pleuron gray microtrichose. Mediotergite sparsely microtrichose on sides, shining black in middle. **Legs** yellow and brown; hind femur largely brown; hind tibia with yellow base, apex and ring at middle (between 2 black rings).

Abdomen dark brown; syntergite 1+2 yellow, partially gray microtrichose, with 1–2 brown spots laterally; tergite 3 usually with yellow anterolateral crossband, sometimes broken medially into 2 spots; tergites 4 and 5 of male with gray microtrichose crossbands at anterior margin, sometimes broken medially into 2 spots. **Male genitalia**: Epandrium oval, lateral surstylus moderately long and curved, with 2 prensisetae and one long and 2–3 shorter setulae; phallus, hypandrium and sperm pump as described for genus. Female tergite 6 well-developed, short, with 6–8 pairs of short marginal setulae and long seta at each corner, and 2 short submedial apodemes at anterior margin. Sternites brown to yellow; sternites 4–6 with long marginal seta at each posterolateral corner and soft, short, and curled rudimentary antero-medial apodeme. Oviscape brown to black, almost as long as tergites 3–6 together. Aculeus long and narrow; cercal unit elongate oval, with short setulae. Three spherical spermathecae.

Paragorgopsis maculata GIGLIO-TOS, 1893, nomen dubium

GIGLIO-TOS 1893: 12; 1895: 41, pl., 12; STEYSKAL 1968: 54.7.

This species was originally briefly described and then redescribed and illustrated from a single female (type locality: Mexico, Tuxpango; leg. “Sumichr.”) (GIGLIO-TOS 1895: 41); its type has not yet been located in MSNT (M. DACCORDI, pers. comm.). Our recent study shows that the specimens previously determined as “*P. maculata*” actually belong to three species, differing by sexually dimorphic characters (width of head and costal vein at pterostigma). They can be recognized from males, whereas females are unrecognizable; and even if a holotype female is located, it could not be assigned to any of these species with certainty. I therefore describe three new species and consider *P. maculata* as a nomen dubium.

Paragorgopsis euryale spec. nov.

(Figs 53–54)

Material examined. Holotype ♂: Costa Rica: Prov. Limón: Sector Cerro Cocori, Fca de E. Rojas, 150 m, 07.1991 (Rojas) (INBio). Paratypes: Costa Rica: Prov. Limón: Sector Cerro Cocori, Fca de E. Rojas, 150 m, 07.1991, 2 ♀ ♀, 09.1993, 1 ♂ (ROJAS); Prov. Puntarenas: Quepos, P. N. Manuel Antonio, 80 m, 08.1992, 1 ♂, 1 ♀ (VARELA); 50 m R. B. Carara, Est. Quebrada Bonita, 09.1989, 1 ♂ (ZÚNIGA) (INBio). Panama: Canal Zone: Barro Colorado Isl., 1.07.1923, 5 ♂ ♂, ♀ (SHANNON); La Compañía, 09.1937, 4 ♂ ♂, 3 ♀ ♀ (ZETEK) (USNM). Bolivia: 1 ♂ (CZERNY), “*Paragorgopsis / maculata* / Giglio-Tos”; 2 ♂ ♂, 1 ♀ (GARLEPP) (ZMHB); Mapi, Sarampioni, 700 m, 26.01.1910 [green label], “*Paragorgopsis / maculata* Gigl. Tos / det. F. Hendel”, “Coll. Hendel” [white labels], 1 ♂; Brazil: “Brasília / Coll. Winthem”, “macrostigma / det. Löw”, “*Paragorgopsis / maculata* Gigl. Tos / det. F. Hendel”, 1 ♂, 1 ♀ (NHMW); Peru: Meshagua, Urubamba fl., Umahuankilia, 17.09.1910, 1 ♂ (DEI).

Description

Male. Head (Fig. 53): mostly reddish-yellow, with dorsolateral portions of occiput and ocellar triangle black. Frons 0.8–1.1 as long as wide and 1.2–1.8 as wide as eye. 1 laterocline and 2–3 inclinate frontal setae. **Wing** (Fig. 54) with strongly thickened (anterior view) and bowed (dorsal view) costal vein between Sc and R_1 apices; two rows of setulae on costal vein at this dilation widely separated, shortened and directed dorso- and ventro-apically. **Legs**. Coxae brown to yellow; femora yellow or mostly brown with yellow knees; tibiae with two brown rings separated from each other by yellow ring; base and apex of each tibia yellow. Body length: 4.5–5.2 mm (Holotype: 4.8 mm). **Wing** length: 4.5–5.1 mm.

Female: similar to male, except costa at pterostigma non-modified.

Etymology. The specific name is a noun in apposition and is the name Euryale, one of the three Gorgons sisters (Greek mythology).

Diagnosis. *Paragorgopis euryale* can be distinguished from other described species of *Paragorgopis* based on male characters: non-widened head, with well-developed frontal setae, anteriorly bowed and thickened costal vein, and wing pattern without dark dots inside hyaline spots, and with only two hyaline spots in cell dm. Other species that have the costa bowed at the pterostigma in males (*P. clathrata* HENDEL, *P. schnusei* HENDEL), differ by more numerous hyaline spots in cell dm (1 at base and 2–4 at apex) and no distinct frontal setae.

Remarks. Only females collected together with males are considered and assigned to this species with some certainty. They are indistinguishable morphologically from females of other species of the *maculata* group.

Distribution. Costa Rica, Panama, Peru, Bolivia, Brazil.

Paragorgopis medusa spec. nov.

(Figs 55–56)

Material examined. Holotype ♂: Prov. Puntarenas: A. C. Osa, P. N. Corcovado, Estación Sirena, 1–100 m, 10.1993, #2380 (FONSECA) (INBio). Paratypes: COSTA RICA: Prov. Limón: R. B. Hitoy Cerere, 300 m, 13.05–15.06.1994, 1 ♂, 8 ♀ (CARBALLO); Prov. Puntarenas: A. C. Osa, P. N. Corcovado, Est. Sirena, 1–100 m, 12.1993, 1 ♂ (FONSECA) (INBio).

Description

Male. Head (Fig. 55): mostly reddish-yellow, with dorsolateral portions of occiput brown and ocellar triangle black. Frons 0.6–0.8 as long as wide and 1.8–2.0 as wide as eye. Frontal setae as in *P. euryale*.

Wing (Fig. 56) with slightly thickened (anterior view), but not conspicuously bowed (dorsal view) costal vein between Sc and R₁ apices. **Legs.** Coxae yellow; femora mostly yellow, sometimes with brown spots at apices; tibiae with two narrow brown rings separated from each other by yellow ring; base and apex of each tibia yellow. **Body length:** 3.4–4.4 mm (Holotype: 4.2 mm). **Wing length:** 3.5–4.5 mm.

Female: similar to male, except head unmodified.

Etymology. The specific name is a noun in apposition and is the name Medusa, one of the three Gorgons sisters (Greek mythology).

Diagnosis. *Paragorgopis medusa* can be distinguished from other described species of *Paragorgopis* based on male characters: transverse head with well-developed frontal setae, straight and only slightly thickened costal vein, and wing pattern as indicated for *P. euryale*. Other species that have a transverse male head (*P. clathrata* HENDEL, *P. mallea* HENDEL), differ by wing pattern: more numerous hyaline spots in cell dm (1 at base and 2–4 at apex) and no distinct frontal setae; *P. mallea* also differs by the pterostigma not darkened in the middle.

Remarks. Only females collected together with males are considered and assigned to this species with some certainty. They are indistinguishable morphologically from females of other species of the *maculata* group.

Distribution. Costa Rica.

Paragorgopis stheno spec. nov.

(Figs 57–58)

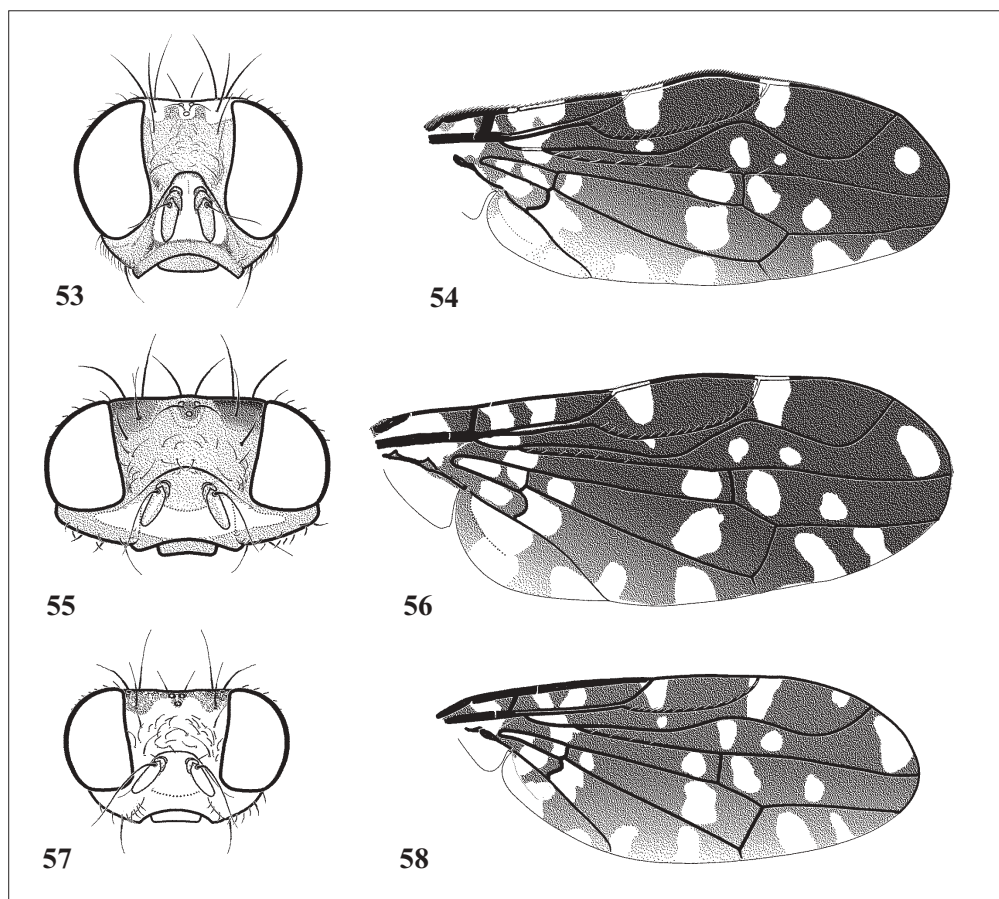
Material examined. Holotype ♂: COSTA RICA: Prov. Heredia: Viejo Sarapiquí, Finca La Selva Pto, 02.1990, (CHAVES & AGUILAR) (INBio). Paratypes: COSTA RICA: Prov. Heredia: Viejo Sarapiquí, Finca La Selva Pto, 02.1990, 1 ♂, 1 ♀ (CHAVES & AGUILAR); P. N. Braulio Carrillo, Est. Magsasay, 200 m, 08.1990, 1 ♂, 1 ♀ (AGUILAR) (INBio).

Description

Male. Head (Fig. 57): mostly reddish-yellow, with dorsolateral portions of occiput brown and ocellar triangle black. Frons 0.8 as long as wide and 1.4–1.8 as wide as eye. Frontal setae as in *P. euryale*. **Wing** (Fig. 58) with neither conspicuously thickened (anterior view), nor bowed (dorsal view) costal vein between Sc and R₁ apices. Coxae yellow; femora mostly yellow, sometimes with brown spots at apices; tibiae with two narrow brown rings separated from each other by yellow ring; base and apex of each tibia yellow. **Body length:** 3.2–4.2 mm (Holotype: 3.3 mm). **Wing length:** 3.3–4.1 mm.

Female: similar to male, except head unmodified.

Etymology. The specific name is a noun in apposition and is the name Stheno, one of the three Gorgons sisters (Greek mythology).



Figs 53–58: *Paragorgopsis maculata* group (males). – *P. euryale* KAMENEVA, spec. nov.: – 53: Head, frontal view; – 54: wing. – *P. medusa* KAMENEVA, spec. nov.: – 55: Head, frontal view; – 56: Wing. – *P. stheno* KAMENEVA, spec. nov.: – 57: Head, frontal view; – 58: Wing.

Diagnosis. *Paragorgopsis stheno* can be distinguished from other described species of *Paragorgopsis* based on male characters: head non-transverse, but with well-developed frontal setae, straight and only slightly thickened costal vein, and wing pattern as indicated for *P. euryale*. Other species that have a narrow male head (*P. argyrata* HENDEL, *P. incus* spec. nov., *P. stapes* spec. nov., and possibly *P. cancellata* HENDEL), differ by wing pattern: more numerous hyaline spots in cell dm (1 at base and 2–4 at apex), some hyaline spots with dark brown spots inside, and frons without distinct frontal setae; *P. incus* and *P. stapes* also differ by the pterostigma not darkened in the middle.

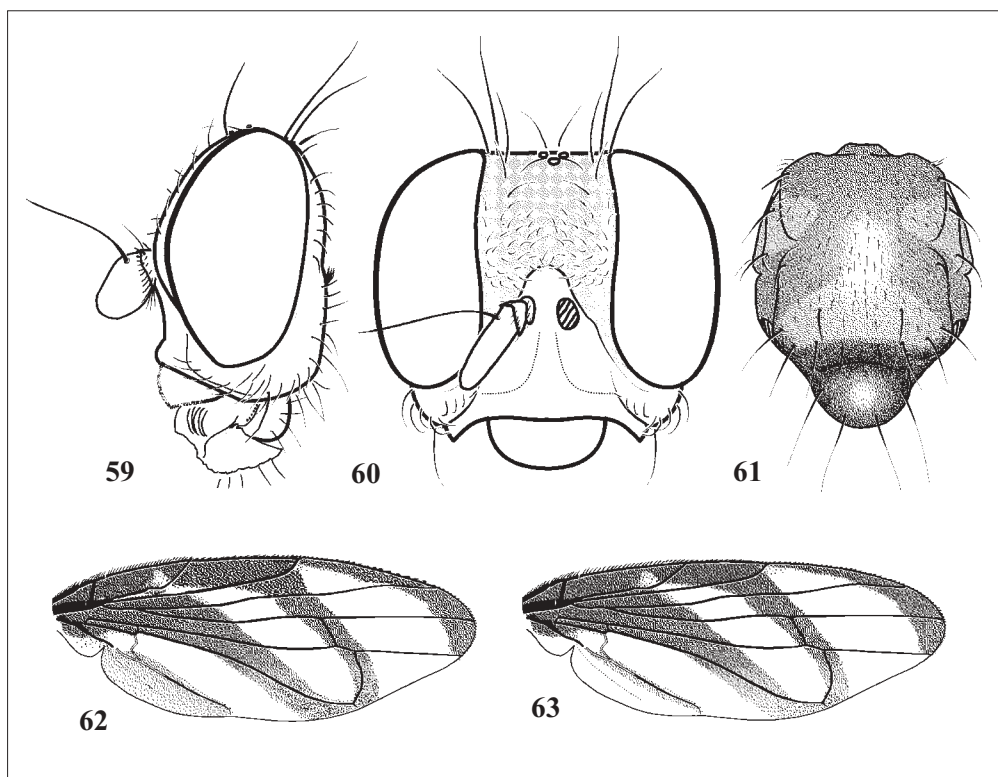
Remarks. Only females collected together with males are considered and assigned to this species with some certainty. They are indistinguishable morphologically from females of other species of the *maculata* group.

Distribution. Costa Rica.

Paragorgopsis schnusei HENDEL, 1909

HENDEL 1909a: 60 (*Paragorgopsis*); STEYSKAL 1968: 54.7.

Material examined. Type: Syntypes: 1 ♀: BOLIVIA: Mapiri: S. Carlos, 800 m, 11.01. [19]03, “*Paragorgopsis / schnusei* H. / det. F. Hendel”, “Coll. Hendel”, “Cotypus” [red label]; 1 ♂, 2 ♀ ♀: Sarampioni, 700 m, 14.03, 30.01, 5.02. [19]03, “*Paragorgopsis / schnusei* H. / det. F. Hendel”, “Coll. Hendel”, “Cotypus” [red label] (MTD); 2 ♀ ♀: S.



Figs 59–63: *Terpnomyennis nigra* (HENDEL): – 59: Head, lateral view; – 60: Head, frontal view; – 61: Mesonotum, dorsal view; – 62: Male wing; – 63: Female wing.

Carlos, 800 m, 1.01. [19]03, “*Paragorgopsis / schnusei* H. / det. F. Hendel”, “Coll. Hendel”, “Paratype” [yellow label]; 1 ♀: Sarampioni, 700 m, 23.02. [19]03, “*Paragorgopsis / schnusei* H. / det. F. Hendel”, “Coll. Hendel”, “Paratype” [yellow label] (NHMW). **Non-type:** COSTA RICA: Prov. Alajuela, San Carlos, P. N. Arenal, Sector Cerro Chato, 1100 m, 25.09–22.10.1999, 1 ♀ (CARBALLO); Prov. Cartago: A. C. Amistad, P. N. Tapanti, 1150 m, 01.1991, 1 ♂, 09.1994, 1 ♀ (MORA); Prov. Heredia: P. N. Braulio Carrillo, Est. El Ceibo, 400–600 m, 02.1990, 2 ♂ ♂ (CHAVES, AGUILAR) (INBio); Est. Biol. La Selva, 50–150 m, 10 26 N, 84 01 W, 13.04.1993, 1 ♀ (INBio OET); Prov. Puntarenas: San Luis Monteverde, Buen Amigo, 1000–1350 m, 08.1994, 1 ♂ (FUENTES); idem, 1040 m, 11.1993, 2 ♂ ♂ (FUENTES); Res. Biol. Monteverde: Est. G. Brenes, 1300 m, 07.1991, 1 ♀ (BELLO); Est. La Casona, 1520 m, 12.1990, 1 ♀ (BELLO); idem, 04.1992, 1 ♂, 2 ♀ ♀, 27.08–11.09.1995, 1 ♀ (FLORES); Est. Pittier, Sendero Pittier, 1760 m, 8–22.03.1996, 1 ♂, 2 ♀ ♀ (MAROTO); idem, 1670 m, 4–22.01.1996, 1 ♀ (NAVARRO) (INBio).

Distribution. Costa Rica (new record for Central America). **General:** Bolivia (STEYSKAL 1968).

Pseudopteroecalla obscura (WIEDEMANN, 1830)

WIEDEMANN 1830: 499 (*Trypeta*); SCHINER 1868: 286; LOEW 1873: 60; GIGLIO-TOS 1895: 41; CURRAN 1934: 427 (*Pterocalla*); HENDEL 1909a: 28; 1909b: 20 (*Pterocalla* (*Pseudopteroecalla*)); ACZÉL 1951: 410; STEYSKAL 1968: 54.7.

Material examined. Type: Syntype 1 specimen [sex? — head and abdomen destroyed]: “Brasília / Freireiss”, “Dipt. 272a”, “Paratypoid” [red-framed latest label] (SMF). **Non-type:** NICARAGUA: Masaya Dist., Laguna de Apoyo, at banana bait, 10–15.01.1992, 2 ♂ ♂, 2 ♀ ♀; idem, 29.09.1993, 1 ♂, 1 ♀ (VAN DEN BERGHE) (CM).

Distribution. Nicaragua (new record); Costa Rica (STEYSKAL 1968). **General:** Guyana, Brazil, Bolivia (STEYSKAL 1968).

Remarks. Of the 2 specimens in the Senckenberg Museum, Frankfurt, only the specimen with the latest label “Paratypoid” fits the original WIEDEMANN’s description and is the syntype.

***Pseudopterocalla scutellata* (SCHINER, 1868)**

SCHINER 1868: 286 (*Pterocalla*); STEYSKAL 1968: 54.7.

Material examined. Type: Holotype ♀: VENEZUELA: “Lindig, 1864”, “*scutellata* / Alte Sammlung” (NHMW). **Non-type:** GUATEMALA: Cayuga, 08.1915, 1 ♀ (SCHAUS, BARNES); Alta Vera Paz, Cacao, Trece Aguas, 14.04, 1 ♂ (BARBER, SCHWARZ) (USNM).

Distribution. Guatemala (new record); Costa Rica, Panama (STEYSKAL 1968). **General:** Brazil, Peru, Bolivia (STEYSKAL 1968).

***Pterocalla costalis* VAN DER WULP, 1899**

VAN DER WULP 1899: 396, pl. 11, figs 5–6; STEYSKAL 1968: 54.8.

Material examined. **Non-type:** GUATEMALA: Antigua, 10.1965, 2 ♀ ♀ (KRAUSS) (USNM).

Distribution. Guatemala (new record for Central America). **General:** Mexico (STEYSKAL 1968).

***Pterocalla fenestrata* VAN DER WULP, 1899**

VAN DER WULP 1899: 394, pl. 11, fig. 30 (*Pterocalla*); HENDEL 1909a: 27; 1909b: 20 (*Pterocalla* (*Pseudopterocalla*)); ACZÉL 1951: 410; STEYSKAL 1968: 54.8 (*Pseudopterocalla*).

= *ophthalmoptera* HENDEL 1914: 161, fig. 10; STEYSKAL 1968: 54.8 (*Pterocalla*), **syn. nov.**

Material examined. Type: Syntype *P. ophthalmoptera* 1 ♀: PERU: Pichís, Pto Yessup, 1. [19]04, “*Pterocalla* / *ophthalmoptera* H. / det. F. Hendel”, “Coll. Hendel”, “Paratype” [yellow label] (NHMW). **Non-type:** GUATEMALA: Matías de Galvez, 14–15.08.1965, 1 ♂ (SPANGLER); BELIZE: Stann Creek, Valley, 11.11.1979, 3 ♂ ♂, 7 ♀ ♀ (BOWEYS) (USNM).

Remarks. Material from Guatemala fits very well the original description of *P. fenestrata* (VAN DER WULP 1899). I have not found any essential distinctions from the syntype ♀ of *P. ophthalmoptera* and consider the two names to be synonyms. *Pterocalla fenestrata* and *P. ophthalmoptera* have never been compared, and even were assigned to different subgenera or genera since HENDEL (1909 a, 1909b). The original lithograph of the wing of *P. fenestrata* clearly shows the long posteroapical extension of cell bcu, the distinguishing character for the genus *Pterocalla* RONDANI.

Distribution. Guatemala, Belize (new records), Honduras, Costa Rica, Panama (STEYSKAL 1968). **General:** Mexico; Peru (STEYSKAL 1968).

***Pterocalla ocellata* (FABRICIUS, 1805)**

FABRICIUS 1805: 330 (*Dictya*); WIEDEMANN 1830: 495 (*Trypeta*); RONDANI 1848: 24; SCHINER 1868: 296; LOEW 1873: 60; GIGLIO-TOS 1895: 40; VAN DER WULP 1899: 395; HENDEL 1909a: 31; 1909b: 19; ENDERLEIN 1921: 214; CURRAN 1934: 427; ACZÉL 1951: 406; STEYSKAL 1968: 54.8 (*Pterocalla*).

Material examined. Type: Syntypes *D. ocellata*: 1 ♂ “*D. ocellata* / ex Amer. mer. Schmid[t]”, “Type” [red rectangle, printed], 2 ♀ ♀ “var: ex Am. mer.” (ZMUC: SEHESTEDT & LUND collection), 1 specimen (sex?) “ocella / ta” [head, legs and abdomen lost] (ZMUC: Kiel collection). **Non-type:** COSTA RICA: Prov. Alajuela: San Carlos, P. N. Volcán Arenal, La Fortuna, Sector Catarata, 500 m, 06–07.1998, 1 ♀ (CARBALLO); Prov. Cartago: Turrialba, Chirripo, Grano de Oro, 1120 m, 09.1992, 1 ♂ (CAMPOS) (INBio); Prov. Heredia: Est. Biol. La Selva, 50–150 m, 10 26 N, 84 01 W, 1.03.1994, 1 ♀ (INBio OET); Prov. Guanacaste: 9 km S Santa Cecilia, Est. Pitilla, 700 m, 8–30.07.1991, 1 ♂ (QUESADA); idem, 6–17.09.1993, 1 ♀ (MORAGA); P. N. Guanacaste, Est. Los Almendros, 300 m, 4–16.09.1994, 1 ♀ (LÓPEZ); Prov. Heredia: P. N. Braulio Carrillo, Est. Magsasay, 200 m, 08.1990, 1 ♂, 1 ♀ (AGUILAR); Prov. Limón: Sector Cerro Cocori, Fca de E. Rojas, 150 m, 11.1990, 1 ♂, 12.1990, 1 ♂, 1 ♀, 11.1991, 1 ♀, 02.1993, 1 ♂ (ROJAS); idem, 30 km N de Cariari, 100 m, 11.1994, 2 ♀ ♀ (ROJAS); R. B. Hitoy Cerere, 100–300 m, 28.03–12.04.1992, 1 ♀ (LOPEZ), 13.05–15.06.1994, 1 ♀ (CARBALLO); Valle del Selencio, Sendero Toma de Agua, 100 m, 05–06.1999, 1 ♀ (UMAFIA); Sendero Bobócará, 640 m, 17.06–17.07.1999, 2 ♀ ♀ (UMAFIA); Sendero Espavel, 220 m, 17.09–10.10.1999, 4 ♀ ♀ (UMAFIA); Prov. Puntarenas: Rio Agujas, Est. Agujas, Sendero Ajo, 300 m, 1–3.06.1997, 1 ♀ (AZOFEIFA); idem, Res. Ftal Golfo Dulce, 250–350 m, 22.02.2000, 1 ♀ (CABALLERO); idem, Sendero Leyba, 300–375 m, 1–12.10.1998, 1 ♀ (LOBO); Golfito, P. N. Corcovado: Rio Rincón, Jiménez, 100 m, 5–7.05.1995, 1 ♀ (GAMBOA, FLETES, PICADO); Quepos, P. N. Manuel Antonio, 80 m, 11.1991, 1 ♂ (VARELA); idem, 17–20.08.1993, 1 ♂ (CARBALLO); Albergue Cerro de Oro, 200 m, 4–14.05.1995, 1 ♀ (MORAGA); idem, 150 m, 24–28.09.1995, 1 ♀ (FLETES); Peninsula de Osa, Rancho Quemado, 200 m, 04.1992, 1 ♂ (FLORES), 06.1992, 1 ♀ (QUESADA), 07.1992, 1 ♀ (SEGURA) (INBio); Piedras Blancas, 24 km W, 20 m, 8°47'N, 83°15'W, 11.1990, 3 ♀ ♀ (HANSON); PANAMA: Canal Zone: Barro Colorado Isl., 17.06.1978, 2 ♂ ♂ (SILBERGLIED, AIELLO) (USNM).

Distribution. Costa Rica, Panama (new record for Central America). **General:** Mexico, Guyana, Brazil, Bolivia (STEYSKAL 1968).

Pterocalla pantherina (WALKER, 1852)WALKER 1852: 386 (*Trypeta*); STEYSKAL 1968: 54.8.= *tarsata* SCHINER 1868: 287; STEYSKAL 1968: 54.8.= *rondanii* SCHINER 1868: 287; STEYSKAL 1968: 54.8.

Material examined. Type: Holotype *P. tarsata* ♂: VENEZUELA: "Lindig, 1864", "*tarsata* / Alte Sammlung", "*Pterocalla / tarsata* Schin. ", "Typus" [red label] (NHMW). Syntypes *P. rondanii*: 4 ♀ ♀: VENEZUELA: "Lindig, 1864", "*Rondanii* / Alte Sammlung", "*Pterocalla / Rondanii* Schin." (NHMW). **Non-type:** GUATEMALA: Escuintla, Palín, 14°24'N, 90°42'W, 1992, 1 ♂, 1 ♀ (LOPEZ); COSTA RICA: Prov. Alajuela: San Mateo, Higuito, 1 ♀ (SCHILD); Prov. Cartago: 09.1965, 1 ♀ (KRAUSS); Tres Rios, 04.1956, 2 ♂ ♂, 3 ♀ ♀ (SALAS, KINTERT); La Suiza, 1923(24), 1 ♂, 1 ♀ (SCHILD) (USNM); Prov. Heredia: Santo Domingo, INBio Pk., on logs, 13.10.1999, 1 ♀ (BUCK) (UG); Est. Biol. La Selva, 50–150 m, 10°26'N, 84°01'W, 15–30.08.1992, 2 ♀ ♀ (INBio OET); P. N. Braulio Carrillo, Est. Magsasay, 200 m, 08.1990, 1 ♀ (AGUILAR); Prov. Limón: R. B. Hitoy Cerere: 300 m, 13.05–15.06.1994, 2 ♀ ♀, 100 m, 8.08–14.09.1994, 1 ♀ (CARBALLO) (INBio); Estrella Valley, Pandora, 28.03.1984, 1 ♀ (MANLEY) (UG); Prov. Puntarenas: Golfito, P. N. Corcovado: Río Rincón, Jiménez, 100 m, 5–7.05.1995, 1 ♀ (GAMBOA, FLETES, PICADO); Península de Osa, Est. Esquinas, 0 m, 06.1993, 1 ♂ (QUESADA); Prov. San José: Escazú, Río Ayres, 1440 m, 17.05.1997, 1 ♀ (ZUMBADO) (INBio); San José, 1 ♂, 1 ♀ (ZSSM); 10 km N San José, 9.08.1972, 1 ♀ (MALDONADO) (USNM).

Distribution. Guatemala, Costa Rica (new records), Panama (STEYSKAL 1968). **General:** Mexico, Trinidad, Colombia, Peru, Bolivia (STEYSKAL 1968).

Pterocalla proxima HENDEL, 1914

HENDEL 1914: 163; STEYSKAL 1968: 54.8.

Material examined. Type: Syntypes 3 ♀ ♀: PERU: Meshagua, Urubamba fl., 27.09. [19]03 [green-red label], "*Pterocalla / proxima* H. / det. F. Hendel", "Coll. Hendel" [white labels], "Paratype" [yellow label] (NHMW); "Peru — Meshagua / 29.09.03 / Urubambaf.", "*Pterocalla / proxima* H. det. F. Hendel"; "Peru — Urubambaf. / 13.09.03 / Umahuankilia", "79." (MTD). **Non-type:** COSTA RICA: Prov. San José: Alto Tigra, 750 m., 15.05.1997, 1 ♂ (Quesada) (INBio).

Distribution. Costa Rica (new record for Central America). **General:** Peru (STEYSKAL 1968).

Pterocalla punctata HENDEL, 1909

HENDEL 1909a: 76; STEYSKAL 1968: 54.8.

Material examined. Type: Syntypes: 1 ♂, 1 ♀: "BOLIVIA / Songo"; 1 ♂: "PARAGUAY / Fiebrig" (HMNH); ♂: PARAGUAY: Gonzales, 31.12. [19]07 [green-red label], "*Pterocalla / punctata* H. / det. F. Hendel", "Coll. Hendel" [white labels], "Paratype" [yellow label] (NHMW). **Non-type:** PANAMA: Taboga I., 12.1946, 1 ♂ (Krauss); La Campana, 10–11.1937, 1 ♀ (Zetek); Canal Zone: Ft Kobbe, Camaron, 20.07.1952, 1 ♂ (Blanton) (USNM).

Distribution. Panama (new record for Central America). **General:** Colombia, Brazil, Bolivia, Paraguay (STEYSKAL 1968).

Pterocalla quadrata VAN DER WULP, 1899

VAN DER WULP 1899: 394, pl. 11, fig. 1; STEYSKAL 1968: 54.8.

Material examined. Non-type: GUATEMALA: Cayuga, 08.1915, 1 ♀ (SCHAUS); BELIZE: Stann Creek, Valley, 12.12.1979, 2 ♀ ♀ (BOWEYS); El Cayo, 09.1959, 1 ♂ (KRAUSS) (USNM); COSTA RICA: Prov. Alajuela: San Mateo, Higuito, 2 ♀ ♀ (SCHILD) (USNM); San Cristobal, 600–620 m, 27.09–30.10.1997, 1 ♂ (QUESADA); Sector Colonia Palmarena, 700 m, 11.1995, 1 ♂ (CARBALLO); Sector San Ramón, 620 m, 15–28.03.1994, 1 ♀ (GARCIA); Upala, Bijagua, Albergue Heliconias, Send. Heliconias, 700 m, 17.07.2000, 1 ♀ (ALFARO); idem, 6–9.04.2000, 1 ♀ (GUTIÉRREZ); idem, Send. a la Laguna, 1000 m, 18–19.07.2000, 1 ♀ (HERNÁNDEZ, ROJAS) (INBio); Volcán Tenorio, Bijagua Biol. Sta., 700 m, 16–20.06.2000, 3 ♂ ♂, 43 ♀ ♀ (BUCK) (UG); Prov. Cartago: Turrialba, La Suiza, 09.1923, 2 ♂ ♂ (SCHILD) (USNM); Prov. Heredia: Est. Biol. La Selva, 50–150 m, 10°26' N, 84°01' W, 15–30.08.1992, 1 ♀ (INBio OET); Prov. Guanacaste: Tilarán, 5.12.1979, 1 ♂, 2 ♀ ♀ (FISCHEL) (USNM); Tierras Morenas, 685 m, 02.1994, 1 ♂ (RODRIGUES); idem, 8–10.02.1994, 1 ♀ (ZUMBADO); Res. Biol. Monteverde, Est. Laguna Pocosol, 850 m, 07.1991, 1 ♀ (BELLO); 9 km S Santa Cecilia, Est. Pitilla, 700 m, 07.1991, 1 ♂, 10–17.07.1992, 1 ♀ (MORAGA) (INBio); Prov. Limón: Estrella Valley, Pandora, 28.03.1984, 2 ♂ ♂, 4 ♀ ♀ (MANLEY) (UG); Prov. Puntarenas: San Luis Monteverde, Buen Amigo, 1000–1350 m, 02.1994, 1 ♀, 05.1994, 1 ♂, 2 ♀ ♀, 08.1994, 4 ♂ ♂, 11.1994, 1 ♂ (FUENTES); Buenos Aires, Est. Altamira, Sendero Los Gigantes, 1450 m, 4.01–3.02.2000, 1 ♀ (RUBI); Golfito, P. N. Corcovado: Río Rincón, Jiménez, 100 m, 5–7.05.1995, 1 ♀ (GAMBOA, FLETES, PICADO); idem, Est. Aguas, Charcos, 600 m, 17.04–16.05.1999, 1 ♀ (AZOFEIFA); Albergue Cerro de Oro, 200 m, 4–14.05.1995, 1 ♂ (ALFARO); Península de Osa, Rancho Quemado, 200 m, 05.1991, 2 ♀ ♀, 07.1991, 1 ♂, 09.1991, 1 ♀, 12.1991, 3 ♀ ♀, 07.1992, 3 ♂ ♂, 4 ♀ ♀ (QUESADA) (INBio); Prov. San Jose: San Jose, Farm La Caja, 28.06.1919, 1 ♀, 30.08.1919, 1 ♂ (SCHMIDT); PANAMA: Canal Zone: Barro Colorado Isl., 31.05.1939, 1 ♀ (KOMP); Ft. Kobbe, Camaron, 23.06.1952, 1 ♂ (BLANTON) (USNM).

Distribution. Guatemala, Belize, Costa Rica, Panama (new record for Central America). **General:** Mexico, Peru, Bolivia (STEYSKAL 1968).

***Pterocalla striata* HENDEL, 1909**

HENDEL 1909a: 37; STEYSKAL 1968: 54.8.

Material examined. Type: Holotype ♀: PERU: Vilcanota, “*Pterocalla / striata* H. / det. F. Hendel”, “Typus” [red label] (HMNH). **Non-type:** COSTA RICA: Prov. Heredia: Est. Biol. La Selva, 50–150 m, 10°26' N, 84°01' W, 17.10.1993, 1 ♂ (ARBOLEDA) (INBio OET); PANAMA: Canal Zone: Ft. Sherman, Mojinga Swamp, 30.06.1952, 1 ♂ (BLANTON) (USNM).

Distribution. Costa Rica, Panama (new record for Central America). **General:** Peru (STEYSKAL 1968).

***Pterocerina psidii* CAPOOR, 1954**

CAPOOR 1954: 208, figs 3–6; STEYSKAL 1968: 54.10.

Material examined. Non-type: PANAMA: Canal Zone: Barro Colorado Isl., 01–03.1944, 1 ♂ (ZETEK) (USNM).

Distribution. Panama (new record for Central America). **General:** Brazil (STEYSKAL 1968).

***Pterocerina ruficauda* HENDEL, 1914**

HENDEL 1914: 168; STEYSKAL 1968: 54.10.

Material examined. Type: ♀: holotype (?) or topotypic specimen: MEXICO: Jalapa, with labels: “*Pterocerina / ruficauda* H. / det. F. Hendel”, “Coll. Hendel”, “Paratype” [yellow label] (Crawford) (NHMW). **Non-type:** GUATEMALA: Yepocapa, 10.1948, 1 ♀ (Dalmat); S. Antonio Such., 6.07.1965, 1 ♀ (SPANGLER); COSTA RICA: Prov. San Jose: San Jose, Farm La Caja, 8.08.1919, 1 ♀ (SCHMIDT) (USNM).

Remarks. The female from Jalapa, marked as the paratype, has the same labels as the holotype, and either is the holotype marked by accident as “Paratype” or a topotypic specimen which has never been included in the type series and is not a type specimen at all. The holotype female from Jalapa (leg. CRAWFORD) is said to be in the collection of Bezzi (HENDEL 1914: 168), which has not yet been revised.

Distribution. Guatemala, Costa Rica (new record for Central America). **General:** Mexico (STEYSKAL 1968).

***Rhyparella decempunctata* HENDEL, 1909**

(Fig. 28)

HENDEL 1909a: 26; 1909b: 6, 35, pl. 2, figs 32–34; STEYSKAL 1968: 54.10.

Material examined. Type: Syntypes: ♂: BOLIVIA: Mapiri, S. Carlos, 800 m, 10.01. [19]03 [green label], “*Rhyparella / 10-punctata* H. / det. F. Hendel”, “Coll. Hendel” [white labels], “Paratype” [yellow label] (NHMW); 4 ♂ ♂: idem, 01. [19]03 “, “*Rhyparella / det. F. Hendel / 10-punctata*”, “Cotypus” (MTD). **Non-type:** COSTA RICA: Prov. Alajuela: San Carlos, Reserva P. N. Arenal, Sendero Pilón, 650 m, 1–18.05.1999, 1 ♂ (CARBALLO); Prov. Limón: P. Bratsi, Cerro Apri, 3320 m, 19.08–19.09.2000, 2 ♂ ♂ (ALFARO) (INBio).

Distribution. Costa Rica (new record for Central America). **General:** Brazil, Bolivia (STEYSKAL 1968).

***Terpnomyennis* KAMENEVA, gen. nov.**

Type species: *Myennis nigra* HENDEL 1909.

Description

Head: Narrower than thorax, clearly vertical, more than 1.5 times as high as long (Figs 59–60). Frons 1.7 times as long as wide, in profile meeting upper portion of face at very obtuse angle, opaque and non-microtrichose. One pair of almost proclinate ocellar setae. 2 orbital setae of various length, anterior always shorter. Frontal setulae all black, long, 2–3 laterocline setulae anterior of orbital setae, remaining setulae inclinate or slightly proclinate. Face almost straight in profile, with wide and smoothed carina and shallow antennal grooves. Clypeus slightly convex in profile, 0.8–1.0 as high as width of 1st flagellomere, completely microtrichose. Parafacialium and gena narrow, microtrichose, sometimes with brown microtrichose areas. Lower portion of facial ridge (vibrissal angle) with 1–2 supravibrissal setulae. Gena 0.12–0.15 as high as eye. Genal seta well developed at posteroventral margin of gena. Vertex rounded; postocellar seta divergent, as long as ocellar seta; vertical setae

moderately long, medial seta 1.8 times as long as flagellomere 1 and ocellar seta, and 1.2 times as long as lateral vertical seta. Occiput microtrichose; 0 paraverticlar setula; 12–15 setulae in single postocular row; 3–4 occipital setulae laterally of lower portion of suture. Supracervical setulae not examined in intact specimens. Postgena slightly convex, almost half as high as occiput above occipital foramen. Gula short and wide, poorly separated from gena, with well developed gular seta and 8–12 shorter setulae at each ventrolateral corner. Antennae: distance between bases equal to width of antennal socket. Flagellomere 1 1.1–1.2 longer than wide, short microtrichose. 2 basal aristomeres. Terminal aristomere short pubescent. Proboscis stout, with large, rounded prementum bearing 15–20 setulae on each side. Labellum fleshy, large. Palpus elongate triangular, widest at middle, with 12–15 rather short setulae on each lateral and medial surfaces, and 7–10 setulae at ventral edge 2–3 times as long as lateral setulae, about as long as palpus width.

Thorax: Longer than wide, sparsely gray and brown microtrichose, except for scutellum and mediotergite sometimes subshining (Fig. 61). Postpronotal lobe with 1 postpronotal seta and 5–6 setulae. Proepisternum with group of 6–7 short setulae on dorsal portion, and 1–2 proepisternal seta on ventral portion as long as than upper proepisternal setulae. Prosternum wider than high, microtrichose, with 2 setulae at sides. Scutum sparsely white and brown microtrichose, sometimes with rather distinct white and brown pattern and with numerous, long setulae, with 9–11 setulae between more or less regular dorsocentral rows; 1 acrostichal close to posterior margin, 2 dorsocentral (usually plus 3rd seta half as long as 2 other dc, in front of them), 1 intraalar, 1 postalar and 1 supraalar setae, all postsutural. Scutellum grayish microtrichose to subshining, slightly convex, with 4 long setae and no setulae. Subscutellum subshining. Notopleural triangle gray and brown microtrichose. Pleural sclerites sparsely microtrichose. Anepisternum with 2 subequal setae and numerous long pre- and postsquamal setulae. Mediotergite shining. **Wing:** With brown banded pattern, as in Figs 62 and 63. Tegula unmodified, small with 2 marginal setae and 3–4 setulae. Costagial section of costa slightly widened dorsoventrally, with irregular setulae and 1 ventroapical seta. Humeral section of costa with 2 irregular rows of moderately long and thin setulae. Section of costa between humeral break and R_1 apex straight, with two rows of setulae; remaining portions of costa fine setulose. Other veins bare. Subcostal vein at apex moderately bowed towards anterior margin. Vein R_1 straight in proximal half, distal of subcosta apex bowed posteriorly. Cell r_1 without additional crossvein between pterostigma and vein R_{2+3} ; latter almost straight. R_{4+5} ending before wing apex. Crossvein R-M oblique to vein R_{4+5} , situated slightly distally of, or at level of R_1 apex. Vein M almost straight; its penultimate section shorter than crossvein R-M. Vein BM-Cu perpendicular to M. Crossvein DM-Cu slightly arcuate. Vein Cu_2 bisinuate, with short posteroapical lobe of cell bcu at A_1+C_{u2} vein. Vein A_1+C_{u2} reaching posterior wing margin. Vein A_2 clearly visible as fold. Alula moderately developed. Upper calypter with long marginal fringe, slightly longer than lower calypter. Halter unmodified, with rounded and short knob; knob surface with very short setulae. **Legs:** Neither thickened, nor having unusual vestiture. Fore coxa with conspicuously flattened anterior surface and 3–4 long ventrolateromarginal setae 3–5 times as long as numerous setulae on anterior surface; fore trochanter unmodified, short and sparsely setulose; fore femur mostly dark, microtrichose, with sparse but moderately long suberect setulae, 2 posterodorsal and one posteroventral rows of long setae, including single long subbasal posteroventral seta; fore tibia uniformly dark brown, densely black setulose, without erect subapical setulae. Mid coxa and mid trochanter unmodified; mid femur short setulose, with anterior row of 12–15 short suberect setae 0.6 as long as femur wide and posteroventral row of 13–15 setae as long as femur wide; mid tibia covered by numerous appressed setulae and dorsal row of suberect

setulae; ventroapical seta twice as long as tibia wide. Hind coxa unmodified, with 10–12 setulae on eucoxite and 2 lateromarginal stronger setae, 3–4 times as long as setulae. Hind trochanter unmodified, setulose on ventral surface. Hind femur without modifications, moderately setulose, with 2 subapical setae on dorsal surface. Hind tibia very slightly thickened, otherwise unmodified, without erect setulae, uniformly dark brown. Tarsi of all legs without modifications; hind tarsomere 1 with yellowish setulae forming short brushes on posteroventral surfaces; otherwise setulae of tarsomeres more or less symmetrical and black. Claws simple; pulvillae small; empodium bare, shorter than longest setae of tarsomere 5.

Abdomen: Tergites uniformly black, very sparsely gray microtrichose and uniformly black setulose, pleural membrane microtrichose without setulae; sternites almost shining, setulose. Male tergite 5 slightly shorter than tergite 4. **Male** terminalia not examined.

Female. Female tergite 6 short but visible, with row of marginal setulae and setae; 2–3 setae at lateral corners longer than tergite. Sternites 4–6 of female without anteromedial apodemes. Oviscape setulose, as long as 4 preceding tergites. Aculeus very long and narrow, half as long as abdomen; cercal unit elongate oval, with short setulae. 3 spherical spermathecae without necks.

Diagnosis. The genus *Terpnomyennis* superficially looks similar to *Neomyennis* HENDEL in having a high and narrow head, black body with sparsely whitish and brownish microtrichose thorax, shining abdomen and wing with vein R_1 bare, short lobe of cell bcu and banded wing pattern. It can be readily differentiated by having two pairs of dorsocentral setae, proepisternum with two pairs of setae, only one postsutural supraalar seta, vein R_{2+3} without a spur vein towards pterostigma and by long and densely setulose presquamal part of anepisternum (1 pair of dorsocentral setae, proepisternum bare, 2 additional postsutural supraalar setae half as long as the longer supraalar seta, vein R_{2+3} with a spur vein between R_{2+3} and R_1 , presquamal part of anepisternum very short setulose in *Neomyennis*). *Terpnomyennis* fits near *Terpnomyia* HENDEL in almost identical head shape (especially in high dorsal portion of occiput) and vestiture (including 2–3 laterocline setulae in front of anterior orbital seta), thorax black, sparsely white microtrichose with more or less conspicuous pattern of brownish microtomentum, 2 dorsocentral setae and 1 supraalar seta, similarly banded wing and subshining abdomen. The former differs from the latter genus in subcostal vein bare, 3rd section of medial vein shorter than vein R-M, proepisternum setulose, anepisternum long setulose, male tergite 5 longer and female tergite 6 with strong marginal setulae (in *Terpnomyia*, subcostal vein setulose in distal portion, 3rd section of medial vein as long as vein DM-Cu, proepisternum bare, anepisternum short setulose, male tergite 5 less than 0.3 times as long as tergite 4 and female tergite 6 very short, hidden underneath previous tergite and bare).

Remarks. The new genus resembles both *Neomyennis* and *Terpnomyia*, but its true relationships among pterocallines remain uncertain until the male terminalia are examined. At least the female setulose tergite 6 and unmodified states of most characters compared to the groundplan of the tribe, indicate its basal position in the phylogenetic tree of the Pterocallini.

Terpnomyennis nigra (HENDEL, 1909), comb. nov.

(Figs 59–63)

HENDEL 1909a: 12 (*Myennis*); ACZÉL 1951: 403; STEYSKAL 1968: 54.6 (*Neomyennis*).

Material examined. Type: Holotype ♂: PERU, Meshagua, Urubamba fl., 29.09. [19]03, “*Myennis / nigra* H. / det. F. Hendel”, “*Typus*”. **Non-type:** COSTA RICA: Prov. Guanacaste: 9 km S Sta Cecilia, Est. Pitilla, 700 m, 12.1989, 1 ♀ (MORAGA, RIOS); Prov. Heredia: P. N. Braulio Carrillo: Est. Magsasay, 200 m, 11.1990, 1 ♀ (FERNANDEZ) (INBio); Est. Biol. La Selva, 50–150 m, 10 26 N, 84 01 W, 2.03.1993, 1 ♀ (INBio OET). PERU: Pichis, P[or]to Bermudes, 12. [19]03, 1 ♀ [SCHNUSE] (MTD).

Distribution. Costa Rica (new record for Central America). General: Peru (STEYSKAL 1968).

Remarks. The original description of *Myennis nigra* is quite complete, and needs mostly female characters to be added. Female is similar to males in coloration and shape of head and body, as well as wing venation and pattern. In females, the pterostigma is slightly shorter than the costal cell (in males the pterostigma is longer than the costal cell); the brown band along A1+CuA2 vein is narrower and paler than in males (Fig. 63), and in some females it is indistinct. Abdominal tergite 5 is subequal to tergite 4, and tergite 6 is exposed, but very narrow, with one row of well-developed marginal setae and setulae. The oviscapae is black, shorter than the four preceding tergites together. The aculeus is long and narrow and the cercal unit elongate oval, with moderately long setulae. Spermathecae was not dissected for this study.

Terpnomyia angustifrons HENDEL, 1909

HENDEL 1909a: 3, 17; 1909b: 7, 29; STEYSKAL 1968: 54.11.

Material examined. Type: Syntypes 1 ♂, 1 ♀: BOLIVIA: Mapiri, S. Carlos, 800 m, 13.19.01. [19]03 [green label], "*Terpnomyia / angustifrons* H. / det. F. Hendel", "Coll. Hendel" [white labels], "Paratype" [yellow label] (NHMW); 3 ♀ ♀: idem, 01.1903, "*Terpnomyia / angustifrons* / det. F. Hendel", "Cotypus"; 2 ♂ ♂: PERU: "Pichis / 12.03–01.04 / Pto. Yessup", "*Terpnomyia / angustifrons* / det. F. Hendel", "Cotypus" (MTD). **Non-type:** COSTA RICA: Prov. Alajuela: Upala, Bijagua, Albergue Heliconias, Send. Heliconias, 700 m, in light, 6–9.04.2000, 1 ♂ (GUTIÉRREZ) (INBio); Prov. Heredia: Est. Biol. La Selva, 50–150 m, 10 26 N, 84 01 W, 11.08.1993, 1 ♀ (INBio OET); Prov. Limón: Estrella Valley, Pandora, 28.03.1984, 1 ♀ (MANLEY) (UG); Prov. Puntarenas: Golfito, P. N. Corcovado, La Bonanza, 500 m, 15.06–15.08.2000, 1 ♀ (AZOFEIFA); Peninsula de Osa, Rancho Quemado, 200 m, 08.1991, 2 ♂ ♂ (QUESADO) (INBio).

Distribution. Costa Rica (new record for Central America). **General:** Peru, Bolivia (STEYSKAL 1968).

Xanthacrona tuberosa CRESSON, 1908

CRESSON 1908: 97, pl. 6, figs 2–3; STEYSKAL 1968: 54.12.

Material examined. Non-type: COSTA RICA: Prov. Alajuela: San Carlos, P. N. Volcán Arenal, La Fortuna, 28.07.1998, 1 ♀ (ZUMBADO); Prov. Limón: A. C. Amistad, Amubri, 70 m, 2–31.05.1994, 1 ♂, 1 ♀ (GALLÁRDO) (INBio); Prov. Puntarenas: Rio Coto Brus, Potrero Grande, 3.07.1993, 2 ♂ ♂ (SHEPARD) (CM); Prov. San Jose: 500 m Res. Biol. Carara, 11–12.1989–01.1990, 3 ♂ ♂, 1 ♀ (ZÚNIGA) (INBio).

Distribution. Costa Rica (new record for Central America). **General:** Trinidad, French Guiana, Surinam, Bolivia (STEYSKAL 1968); Mexico (HERNÁNDEZ 1986).

Xanthacrona ypsilon ENDERLEIN, 1921

ENDERLEIN 1921: 212 (*bipustulata* var. *ypsilon*); STEYSKAL 1966b: 269; 1968: 54.12.

Material examined. Type: Syntypes 1 ♂, 1 ♀: PARAGUAY: Paraguay / San Bernardino / K. Fiebrig S. V.", "*Xanth. / bipustulata / van der Wulp* (♂, ♀, respectively) / Dr. End. det. 1920" (ZMHB). **Non-type:** PARAGUAY: S. Bernardino, 1 ♂, 2 ♀ ♀ (FIEBRIG) (NHMW). COSTA RICA: Prov. Puntarenas: Peninsula de Osa, Rancho Quemado, 200 m, 12.1991, 1 ♀ (QUESADO) (INBio).

Distribution. Honduras (STEYSKAL 1968), Costa Rica (new record). **General:** Trinidad, French Guiana, Ecuador, Peru, Brazil, Paraguay (STEYSKAL 1968).

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