

**Myennidini, a New Tribe of the Subfamily Otitinae
(Diptera: Ulidiidae), with Discussion of the
Suprageneric Classification of the Family**

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ABSTRACT

The diagnoses of all six tribes of Ulidiidae are revised. The Myennidini, new tribe (subfamily Otitinae), is defined to include 14 genera: *Myennis* Robineau-Desvoidy, *Oedopa* Loew, *Stictomyia* Bigot, *Paroedopa* Coquillett, *Pseudotephritis* Johnson, *Callopistromyia* Hendel, *Stictoedopa* Brèthes, *Pseudotephritina* Malloch, *Dyscrasis* Aldrich, *Ulidiotites* Steyskal, *Pseudodyscrasis* Hernández, *Arborotites* Barraclough, *Namibotites* Barraclough, and *Neodyscrasis* Kameneva and Korneyev, n. gen. (type species: *Pseudodyscrasis steyskali* Hernández, 1988). These genera were previously erroneously assigned either to the Ulidiini or to the Pterocallini; the latter tribe is shown here to belong to the subfamily Ulidiinae. A phylogenetic analysis is provided for the tribes of Ulidiidae and the genera of Myennidini. Most genera are redescribed, and the distributions of all the species are discussed, including new records. The following synonymy is established: *Myennis tricolor* Hendel, 1909 = *Myennis nebulosa* Krivosheina and Krivosheina, 1997, n. syn. *Pterotaenia* Rondani, 1868 is resurrected from synonymy with *Ceroxys* Macquart.

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INTRODUCTION

The family Ulidiidae belongs to the Higher Tephritoidea, a monophyletic group also containing the Platystomatidae, Pyrgotidae and Tephritidae (Korneyev, 1999). Relationships among the higher taxa in this group were discussed by Hennig (1958), J.F. McAlpine (1977, 1989) and, recently, Korneyev (1999), who also summarized our recent studies of suprageneric taxa within the Ulidiidae.

Loew (1868a, 1868b) proposed the first detailed classification of the family (as Ortalidae). Within the Ortalidae he recognized seven family-group taxa: Pyrgotina, Ortalina, Cephalina, Platystomina, Pterocallina, Ulidiina and Richardiina. The groups derived from *Platystoma* Meigen (Platystomatidae, Platystomatinae), *Pyrgota* Wiedemann (Pyrgotidae, Pyrgotinae, Pyrgotini) and *Richardia* Robineau-Desvoidy (Richardiidae, Richardiinae) were later accorded family status. The family-group name Ortalidae (Ortalinae, Ortalini) based on *Ortalis* Fallén, 1810, a junior homonym of *Ortalis* Merrem, 1786 (Aves), is unavailable. The other three names are valid names of the family-group taxa in the family Ulidiidae (= Pterocallidae, = Otitidae).

Later, the Ulidiidae, Pterocallidae and Ortalidae were often considered as subfamilies of the “Muscariidae” or as separate families (Hendel, 1909a, 1909b, 1909c, 1910b, 1911, 1916). Since the Platystomatidae (as Platystomidae, including Cephalini), Pyrgotidae, Pterocallidae and Richardiidae were excluded from the family, a new family name, Otitidae, was proposed to replace Ortalidae (Aldrich, 1932), when the name Ortalidae was found to be unavailable. This nomenclatural change was accepted by Malloch (1932, 1940), Curran (1934b, 1938), and Hendel (1936b) and was also used by Hennig (1939, 1940), who treated the Otitidae (including the former Pterocallidae) and Ulidiidae (including the newly established subfamily Euxestinae) as separate families.

Thus, some authors, mainly American and Australian (Crampton, 1944; Steyskal, 1961, 1965, 1968, 1987; Colless and D.K. McAlpine, 1970, 1991; J.F. McAlpine, 1977, 1989; Cole, 1969), have traditionally recognized one family name, Otitidae, whereas most European dipterists (Richter, 1970a, 1970b; Soós, 1984; Zaitzev, 1984; Greve, 1998) used two separate family names, Ulidiidae and Otitidae, following Hennig’s earlier opinion.

Kameneva and Korneyev (1994) emphasized that the senior valid name for the family that unites both Ulidiidae and Otitidae *sensu* Hennig (1939, 1940) is Ulidiidae Macquart, 1835 rather than Otitidae Aldrich, 1932. Some dipterists working with the family (Merz, 1996, 1998; Clements and Merz, 1997, 1998; Clements, 1998; Barraclough, 2000) accepted this point of view, while others (D.K. McAlpine, F.C. Thompson, personal communication) insist that conservation of the name Otitidae *versus* Ulidiidae by the plenary power of the International Commission of Zoological Nomenclature is preferable.

The main objection to the latter point of view is that Ulidiidae is certainly not an unused name; and, moreover, it has been in use for more than 50 years along with Otitidae. When the priority of the name Ulidiidae over Otitidae was demonstrated (Kameneva and Korneyev, 1994), application of the former name met the requirements of Article 23 of the third edition of the International Code of Zoological Nomenclature (International Commission on Zoological Nomenclature, 1985), and the principle of priority was applied explicitly to stabilize the situation caused by the prolonged coexistence of two competing names. In our opinion, further changes to the family name would destabilize nomenclature, and contradict Article 23.2 of the fourth edition of the Code (International Commission on Zoological Nomenclature, 1999).

The name Tetanopina Loew, 1862, based upon *Tetanops* Fallén (closely related to *Otites*

Latreille), is another name that has priority over Otitidae Aldrich, 1932 (Otitinae, Otitini). However, it has never been used since it was proposed and therefore cannot be accepted as a valid family-group name. Furthermore, the family-group names Cephalinae [sic] Schiner, 1864 and Pterocallina Loew, 1868 also have priority over Otitidae and derived names, although none of them has ever been applied to the family as a whole or to one of the two subfamilies.

The suprageneric classification of the Ulidiidae is not well established. Steyskal (1961, 1965, 1982, 1987) divided the family (as Otitidae) into two subfamilies, Ulidiinae and Otitinae, but he did not further subdivide them into tribes.

Kameneva and Korneyev (1994) proposed a tribal classification and provided a preliminary analysis of phylogenetic relationships among the suprageneric taxa in Ulidiidae. However, certain statements made in that paper were erroneous. First of all, they considered the genus *Myennis* Robineau-Desvoidy as a member of the tribe Pterocallini, and included the latter tribe in the subfamily Otitinae. Our recent studies of the genera assigned to Pterocallini have shown most of the Neotropical representatives of that tribe to be closely related to the genus *Pterocalla* Rondani, 1848, sharing several genitalic characters with the predominantly Neotropical groups of genera related to *Euxesta* Loew, 1868. At the same time, *Myennis*, *Pseudotephritis* Johnson, 1902 and related genera were found to possess characters that indicate their relationship to Otitini rather than to Pterocallini. Based on our preliminary results, we stated that the Ulidiidae should be subdivided into two subfamilies: Ulidiinae (with tribes Seiopterini, Ulidiini, Lipsanini (= Euxestini), and Pterocallini), and Otitinae (with tribes Cephalini, Otitini, and an unnamed tribe that corresponds to the group of genera related to *Myennis*) (Kameneva and Korneyev in Korneyev, 1999).

In the current paper, the latter group of genera is described as a new tribe, Myennidini, and its relationships with the other tribes of the family are discussed.

MATERIALS AND METHODS

The examined material of myennidine species is listed in Appendix 1. Detailed label data of other taxa are not included, because they are both irrelevant and too numerous.

The following abbreviations refer to institutions where the examined specimens are deposited:

AMNH — American Museum of Natural History, New York, USA

ANSP — Academy of Natural Sciences of Philadelphia, Pennsylvania, USA

CMP — Carnegie Museum of Natural History, Pittsburgh, Pennsylvania, USA

CNC — Canadian National Collections of Insects, Arachnids and Nematodes, Ottawa, Canada

INBio — INBio, Santo Domingo, Heredia, Costa Rica

MCZ — Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA

MSNT — Museo Regionale Scienze Naturale, Torino, Italy

NHMW — Natural History Museum of Vienna (Naturhistorische Museum Wien), Austria

SIZK — Schmalhausen Institute of Zoology, National Academy of Sciences of Ukraine, Kiev, Ukraine

TAUI — Tel Aviv University, Israel

HNHM — Hungarian Natural History Museum (Természettudományi Múzeum), Budapest, Hungary

USNM — 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

ZMUM — Zoological Museum of Moscow University, Russia

Preparation techniques and terminology

External characters were examined and pencil drawings or photographs were produced using a Wild M10 dissecting binocular microscope with a drawing tube or a digital camera attached to it (courtesy of Muséum d'histoire naturelle, Genève and SEL ARS USDA, c/o USNM). Figures of terminalia (macerated in 10% potassium hydroxide and washed in distilled water) were made from temporary slides in glycerol under a Wild M11-36976 compound binocular microscope, with a camera lucida. Photographs of wings were made from dry slides with detached softened wings. After examination the detached parts were placed in gelatin capsules or plastic tubes with glycerol, closed with a stopper, and pinned beneath the respective specimens.

Series of digital images of three-dimensional structures were combined to produce sharper pictures of whole bodies and heads. Pencil drafts were redrawn using Genius NewSketch 1812D drawing pad, and compound computer image processing and drawing techniques in Adobe® Photoshop® 6.0.

Morphological terminology was generally adopted from White et al. (1999).

Cladistic analysis

The program TreeGardener 2.2 (Ramos, 1997) was used to prepare the character matrix containing thirty-two characters and 26 taxa, including 25 species of Myennidini plus the outgroup, which was scored with what we believe to be the plesiomorphic state for each character (or for characters of uncertain polarity, as unknown (?)). The matrix was prepared in HENNIG86 format (Table 1), and was then converted to NEXUS format and edited using NEXUS Data Editor (Page, 2001a). These morphological data were then analyzed using the programs HENNIG86 (Farris, 1988) and PAUP 4.0 beta 4a version for Windows (Swofford, 1998). Further details regarding the options used in the analysis are explained below, in the 'Discussion of the phylogenetic analysis'. The resulting trees were saved and imported into the program TreeView (Win32) 1.6.5 (Page, 2001b) to produce vector tree plots. This program was also used to save tree files in a format compatible with PAUP. Trees obtained from HENNIG86 were also imported into PAUP 4.0 to trace their character state changes.

The first co-author (EPK) is responsible for the results and conclusions of this work in general. The second co-author (VAK) prepared the digital illustrations and provided computer phylogenetic analysis.

1. CLASSIFICATION OF ULIDIIDAE

Family Ulidiidae

Ulidini Macquart, 1835: 498. Ulidioidae Agassiz, 1846: 383. Ulididae Bigot, 1852: 488. Ulidiinae Bezzi, 1894: 332. Ulidiidae Sharp, 1899: 504; Hendel, 1936a: 77; 1936b: 1947; Hennig, 1940: 1; 1952: 221; 1973: 54; Brues et al., 1954: 369; Zуска, 1967: 201; Richter, 1970b: 130; Mamaev et al., 1977: 247; Zaitzev, 1982: 422; 1984: 59; Krivosheina and Krivosheina, 1995a : 49, 1995b: 109, 1997a: 460, 1997 d: 1179; Merz, 1996b: 405; 1998: 242; Clements and Merz, 1997: 65; 1998: 55; Clements, 1998: 122; Greve, 1998: 187;

Korneyev, 1999: 12; Barraclough, 2000: 77. For other spellings see synonymy of the tribe Ulidiini below.

Ortalidae: Curran, 1934a: 420.

Otitidae Aldrich, 1932: 7; Malloch, 1932: 205, 1933: 247, 1940: 205; Curran, 1934b: 271; Hendel, 1936b: 1947; Harriot, 1942a: 23; 1942b: 195; Hennig, 1952: 220; 1958: 578; 1973: 16, 18, 55; Brues et al., 1954: 371; Steyskal, 1961: 401, 403; 1965: 643; 1968: 54.1; 1977: 165; 1980: 575; Richter, 1970a: 123; Mamaev et al., 1977: 247; Soós, 1984: 45; Evenhuis, 1989: 479; Thompson and Pont, 1994: 163; Krivosheina and Kovalev, 1972: 81; Merz, 1996a: 329; Krivosheina and Krivosheina, 1997b: 628, 1997c: 671; Greve, 1998: 185, 187. Pterocallidae: Hendel, 1916: 297; 1936b: 1946; Brues et al., 1954: 370.

Diagnosis

Diversely colored, usually picture-winged, acalyptate flies possessing most characters of the superfamily Tephritoidea: 1) tibiae without dorsal row of setae; 2) surstylus with prensisetae (= thickened setae) mesally; 3) phallus long and coiled; 4) well-developed telescopic ovipositor consisting of oviscape (= fused tergosternum 7), eversible membrane bearing 2 pairs of taenia impregnated by chitin, and aculeus consisting of 4 longitudinal sclerites, paired derivatives of tergite and sternite 8, and apical cap-like cercal unit with sensory setae. The Ulidiidae differ from other families of Tephritoidea by the following combination of characters: fronto-orbital plates not developed and not bearing strong setae (except in *Chaetopsis* Loew and allied genera); presutural supra-alar (except in *Dyscrasis* Hendel and some species of *Otitis* Latreille) and katepimeral setae lacking (presutural supra-alar present in the ground plan of most other families; katepimeral setae or setulae present in Platystomatidae, Ctenostylidae, Pyrgotidae and Tephritidae); vein Sc entire and slightly bowed, neither bent anteriorly at right angle, nor constricted before apex (bent anteriorly at right angle in Pyrgotidae Toxurini and most Tephritidae, and constricted or broken before apex in Ctenostylidae, most Tephritidae and some Pyrgotidae); vein R₁ usually setulose only on apical portion (except in all Ulidiini and most Lipsanini bare, and certain species of other tribes sometimes either bare or entirely setulose) (bare in most or all Piophilidae, Pallopteridae, Lonchaeidae and Richardiidae, and entirely setulose in Platystomatidae, Ctenostylidae, Pyrgotidae and Tephritidae); cell bcu with triangular posterodistal lobe, except in *Homalocephala* Zetterstedt and a few Pterocallini (absent in lower Tephritoidea, all Platystomatidae and Ctenostylidae and a few genera of Pyrgotidae and Tephritidae); male tergite 6 lacking (rudimentary in a few Lonchaeidae and Pallopteridae); male sternite 6 bare (setulose in lower Tephritoidea); abdominal spiracles 6 and 7 lacking in males (present in many lower Tephritoidea); phallus, when at rest, stored in pouch on ventral aspect of abdomen; phallus apex not forming separated glans (stored on dorsal side underneath tergite 6 and bearing glans in other higher Tephritoidea); taeniae of eversible membrane bare, bearing no trichoid sensilla (bearing trichoid sensilla along whole length in most Piophilidae, Pallopteridae and Lonchaeidae) and having 2 ducts of spermathecae, one of them apically bifurcated and bearing 2 spermathecae, except Lipsanini, which have 2 spermathecae on 2 ducts (3 spermathecal ducts in ground plan of Pyrgotidae and Tephritidae; 2 of them bifurcated close to vagina).

Ground plan set of setae: 2 orbital (anterior seta shorter and usually in front of margin of vertical plate); medial and lateral vertical well-developed; 1 postpronotal; 1 anepisternal (at ventral margin), setulae in dorsal half of anepisternum weak; 1 acrostichal; 2 postsutural dorsocentral setae, anterior aligned with, or slightly posterior to, postsutural supra-alar setae,

posterior aligned with intra-alar setae, lateral to anterior dorsocentral seta; 1 postsutural supra-alar, 1 intra-alar and 1 postalar; 2 pairs of scutellars; 1 or 2 postphragmal anepisternal and 1 katepisternal.

Included subfamilies

Ulidiinae and Otitinae.

Subfamily Ulidiinae Macquart, 1835

Ulidini Macquart, 1835: 498. Ulidiinae Bezzi, 1894: 332; Becker, 1905: 105; Hendel, 1909d: 151; 1910b: 1, 1912: 5; Hennig, 1940: 10; 1952: 222; 1958: 578; 1973: 16; 54; Steyskal, 1952: 277; 1961: 403; 1965: 650; 1968: 54.13; 1977: 166; 1980: 575; Brues et al., 1954: 369; Evenhuis, 1989: 480. For other spellings see synonymy of the tribe Ulidiini below.

Diagnosis

Flies of diverse appearance, variously colored, from yellow to black and from dull gray to shiny green, with vein R_1 setulose or bare, and phallus bare (rarely trichose or spinulose); female abdominal sternites 4–6 lacking anterior apodemes.

Discussion

Hennig (1940, 1958, 1973) and Steyskal (1961, 1965, 1968, 1987) restricted the concept of Ulidiinae to include only genera with vein R_1 and phallus bare. Based on other characters, we found that some genera with phallus and vein R_1 setulose are closely related to other genera that have them bare (Kameneva and Korneyev, 1994, Kameneva and Korneyev in Korneyev, 1999, and unpublished data). The setulae on both vein R_1 and the phallus are now considered as characters highly subject to homoplasy and correlated. So far, the only hypothesized apomorphy of the subfamily is the absence of the anterior apodemes on the female sternites 4–6. The subfamily contains the following four tribes, Seiopterini (predominantly Holarctic), Ulidiini (Old World) and Pterocallini and Lipsanini (predominantly Neotropical tribes).

Tribe Ulidiini Macquart, 1835

Ulidini Macquart, 1835: 498. Ulidiina Hendel, 1910a: 104. Ulidiini Kameneva and Korneyev, 1994: 68. Other spellings: Ulidiai Desmarest, 1849: 753; Uliditae Desmarest, 1860: 67; Uliditi Lioy, 1864: 1092; Ulidina Loew, 1868a: 283, 1873: 64; Ulidiides Rye, 1873: 395; Ulidi Bigot, 1886: 289; Ulidia Bigot, 1892: 227. Type genus: *Ulidia* Meigen, 1826: 385. Type species: *Ulidia erythrophthalma* Meigen, 1826 (designated by Hennig, 1940: 13).

Diagnosis

Black or reddish-yellow flies, sometimes with metallic green or blue sheen (in *Physiphora* Fallén and some species of *Timia* Wiedemann), with moderately or very robust body and predominantly hyaline wings, often with subbasal and apical dark spots. Vein R_1 bare, cell r_{4+5} more or less narrowed towards apex; chaetotaxy unmodified relative to family ground plan (see above). Male terminalia: surstylus usually with several prenisetae, phallus guide (longitudinal depression of hypandrium anterior of basiphallus, between gonites) shallow and unmodified (plesiomorphies); phallus large, thick and mostly bare, with apical area bearing several sclerotised hook-like appendages, similar to glans of Tephritidae (apomorphy). Female terminalia: tergite and sternite 6 strongly narrowed and partially fused forming a narrow ring tightly constricting the base of oviscape (see: Kameneva, 1996) (apomorphy); aculeus unmodified relative to family ground plan, in a few species of *Timia* Wiedemann with apical

unit acute and fused to tergite 8; 3 round spermathecae, smooth or covered (in *Physiphora*) by acutely pointed papillae.

Genera included

The tribe comprises 3 Old World genera. *Physiphora* is predominantly African, with a few endemic species in the Oriental Region and Solomon Islands, and some synanthropic species introduced into the New World and Australasia, whereas *Ulidia* Meigen and *Timia* are most abundant in all semiarid and arid areas of the Palearctic Region.

Discussion

The monophyly of the tribe is well supported by the shape of the phallus tip (see Hennig, 1940: Textfig. 2–3) in combination with a bare or short spinulose distiphallus, and modified female tergite and sternite 6.

Certain problems relevant to nomenclature of the tribe still need to be resolved:

1. The current concept of the type genus of the tribe, which was broadly accepted in common use during the 20th century, is based upon an erroneous Hendel's (1910a) statement that *Ulidia* Meigen, 1826 was established as a separate genus rather than a replacement name for *Chrysomyza* Fallén, 1817 (= *Physiphora* Fallén, 1817).

Coquillett (1911) was the first to note that: "Hendel is in error in stating that *Ulidia* is not a synonym of *Physiphora*. When treating of this genus, Meigen expressly states that Fallén named it *Chrysomyza* (a change of name for *Physiphora* under the mistaken impression that it was preoccupied) and that he (Fallén) knew only one species. But as this name was not appropriate for the two new species that Meigen added, he tells us that he changed the name to *Ulidia* (Syst. Besch. vol. V, p. 386). Thus Meigen was not justified in changing the name previously given to this genus by Fallén, and it follows that *Ulidia* must be a synonym of *Physiphora*".

This important comment was ignored, and the subsequent use of the name *Ulidia* sensu Hendel was maintained and came into common use. Hennig (1940: 45) designated *Ulidia erythrophthalma* Meigen, 1826 as the type species of *Ulidia* Meigen, 1826, and this designation was accepted as valid (e.g., Zaitzev, 1984). The name *Ulidia*, prevalent during the 1800s and 1900s, was *sensu* Hendel and Hennig.

Sabrosky (1999) noted in his discussion of the family-group name Ulidiidae: "I agree with Coquillett (1910: 618), who stated that *Ulidia* was a change of name for *Chrysomyza* Fallén, 1817 "on the ground that the latter name is not applicable to all the species" (Meigen: "auf die andern nicht passt"). As a change of name, the type would be *Chrysomyza demandata* (Fabricius), automatically [*demandata* was included in *Ulidia* Meigen]. If it were a new proposal for part of the species, it would require its own type species, the view taken by Hennig (1940). If the name *Ulidia* had fallen as a synonym of *Physiphora*, q.v. (synonym *Chrysomyza*, q.v.), the species of *Ulidia* would have been left without a generic name, there being no synonyms. Recognition of *Ulidia* would in my opinion require action by the Commission." Following Sabrosky's opinion, we maintain Hennig's designation of *Ulidia erythrophthalma* Meigen, 1826. According to Articles 65.2 and 70.2 (ICZN, 1999), this case should be referred to the Commission for a ruling, as the universality of use of the name *Ulidia* is threatened.

2. Nomenclatural stability is threatened also by the fact that *Timia* Wiedemann, 1824 and *Ulidia* Meigen, 1826 are two closely-related genera, and if the forthcoming revision of these genera (Kameneva, in prep.) shows that there is no way to recognize them as separate genera, then *Ulidia*, the family-name bearer, could become a junior subjective synonym.

However, neither such a nomenclatural action, nor the possible synonymy with *Physiphora*

discussed above, would affect the validity of the family group names Ulidiini, Ulidiinae and Ulidiidae (ICZN, 1999: Art. 40.1).

Tribe Seiopterini Kameneva and Korneyev, 1994

Myodinae Robineau-Desvoidy, 1826: 17 (unavailable; prior to available generic name; in a suppressed work).

Myodinae Robineau-Desvoidy, 1830: 704; corrected spelling: Myodininae (invalid name based on a junior synonym and never widely accepted); other spellings: Myiodinae Agassiz, 1846: 242. Type genus: *Myodina* Robineau-Desvoidy, 1830: 727. Type species: *Musca urticae* Fabricius, 1794 (by monotypy; type species misidentified, *teste* Macquart, 1835: 437) = *Musca vibrans* Linnaeus, 1758 (now in *Seioptera*).

Ortalides Fallén, 1810: 15. Ortalidae Swainson, 1840: 378. Ortalididae Harris, 1841: 416. Ortalidiformes Frey, 1921: 216, 217. Other spellings: Ortalideae Macquart, 1835: 429; Ortalida Heer, 1849: 252; Ortalidina Rondani, 1856: 24, 108; Ortaliditae Desmarest, 1860: 45; Ortaliti Lioy, 1864: 1017; Ortalidae Loew, 1866: 238; Orthalidinae Anonymous, 1876: 180; Orthalidae Osten Sacken, 1881a, 1881b: xcix; Ortalidi Bigot, 1886: 289; Orthalididae Beschovski, 1972: 10. Type genus: *Ortalis* Fallén, 1810: 17 (preoccupied: Merrem, 1786 in Aves) [stem Ortalid-]. Type species: *Musca vibrans* Linnaeus, 1758 (designated by Westwood, 1840b: 149) (now in *Seioptera*). Valid name: *Seioptera* Kirby, 1817. Junior synonym: *Ortaliscus* Ghesquière, 1947: 691.

Ortaliscidae Ghesquière, 1947: 691 (invalid name based on a junior synonym and never widely accepted). Type genus: *Ortaliscus* Ghesquière, 1947: 691 (new name for *Ortalis* Fallén). Type species: *Musca vibrans* Linnaeus, 1758 (automatic) (now in *Seioptera*). Valid name: *Seioptera* Kirby, 1817.

Seiopteridae Sabrosky, 1946: 170 [unavailable; suggested in discussion of a family-name problem, but not adopted]. Seiopterini Kameneva and Korneyev, 1994: 68, 69. Type genus: *Seioptera* Kirby, 1817: 305. Type species: *Musca vibrans* Linnaeus, 1758 (by monotypy, cited as “*Tephritis vibrans*, Latr.”). Preoccupied senior synonym: *Ortalis* Fallén, 1810. Junior synonym: *Myodina* Robineau-Desvoidy, 1830.

Diagnosis

Shiny black flies with 2 katepisternal setae, 4 spherical spermathecae, and anepisternal setae lacking (synapomorphies of the tribe). Vein R_1 entirely setulose (*Pseudoseioptera* Stackelberg and *Homalocephala angustata* Wahlberg) or bare, phallus either bare or short setulose.

Genera included

The tribe is comprised of 3 holarctic genera. *Homalocephala* Zetterstedt, 1839 and *Pseudoseioptera* Stackelberg, 1955 are both associated with pine and mixed forests; their larvae live under the bark of fallen trees (Krivosheina and Kovalev, 1973; Krivosheina and Krivosheina, 1995 b). The third genus, *Seioptera* Kirby, 1817, includes a synanthropic species *Seioptera vibrans* (Linnaeus) whose larvae live in decomposing plant matter and dung.

Discussion

The monophyly and concept of this tribe were delimited by Kameneva and Korneyev (1994), and later Kameneva and Korneyev in Korneyev (1999) showed that it belongs to the Ulidiinae because of the absence of the sternal apodemes in females.

Tribe Pterocallini Loew, 1868

Pterocallina Loew, 1868b: 1, 8; 1873: 61; Becker, 1905: 104. Pterocallinae Snow, 1896: 115, 117; Hendel, 1909a: 6, 1909b: 1; Aldrich, 1932: 7; Aczél, 1951: 397; Hennig, 1952: 221, 1958: 578; 1973: 55. Pterocallidae Hendel, 1916: 297, 1936b: 1946; Brues et al., 1954: 370. Pterocallini Kameneva and Korneyev, 1994: 68. — Pterocall.[-inae] Hendel, 1914b: 172 [error]. Type genus: *Pterocalla* Rondani, 1848: 83. Type species: *Dictya ocellata* Fabricius, 1805 (by monotypy).

Diagnosis

Dull brown or gray flies. Vein R_1 setulose or bare. Most members sexually dimorphic: in males, pterostigma usually strongly enlarged (as long as, or even longer than costal cell) and vein R_{2+3} usually sinuous (if sometimes straight, then vein R_{4+5} setulose) (apomorphies). Male terminalia: the part of the ejaculatory apodeme adjoining the sperm sac elongate, more than twice as long as wide (synapomorphy with Lipsanini?); phallus bare or short sparsely setulose. Female terminalia: 3 spherical spermathecae, with smooth surface.

Genera included

The tribe contains 23 neotropical genera: *Aciuroides* Hendel, 1914b, *Bothrometopa* Hendel, 1909a, *Chondrometopum* Hendel, 1909a, *Coscinum* Hendel, 1909a, *Cymatozus* Enderlein, 1912b, *Cyrtomostoma* Hendel, 1909a, *Dasymetopa* Loew, 1868 (= *Euxestina* Curran, 1934a), *Elapata* Hendel, 1909a, *Goniaeola* Hendel, 1909a, *Idanophana* Hering, 1938, *Megalaemyia* Hendel, 1909a, *Micropterocerus* Hendel, 1914, *Neomyennis* Hendel, 1914c, *Ophthalmoptera* Hendel, 1909a, *Paragorgopsis* Giglio-Tos, 1893, *Plagiocephalus* Wiedemann, 1830, *Pterocalla* Rondani, 1848 (including *Pseudopterocalla* Hendel, 1909a), *Pterocerina* Hendel, 1909a, *Rhyparella* Hendel, 1909a, *Sympaectria* Hendel, 1909a, *Terpnomyennis* Kameneva, 2004, *Terpnomyia* Hendel, 1909a, *Tetrapleura* Schiner, 1868 and *Xanthacrona* Wulp, 1899. The genus *Schnusimyia* Hendel, 1914a should be transferred to Richardiidae based upon the presence of well-developed spiracles 6 and 7 and setulose abdominal sternite 6 in the male (Norrbom, unpublished data; Korneyev, unpublished data). *Neomyennis* and *Xanthacrona*, often associated with the *Myennis* group of Otitinae (Steyskal, 1982, 1987) do not have the unpaired lobe between surstyli ("metaphallic plate") that characterizes the latter group, but absence of female sternal apodemes, possession of 3 round spermathecae and male terminalia similar to those in *Pterocalla* clearly puts them here, in Ulidiinae, not Otitinae.

Discussion

Monophyly of the tribe is supported by the extremely elongate part of the ejaculatory apodeme adjoining the sperm sac; this part usually exceeds the length of the fan-like part, and by the sinuous vein R_{2+3} , a character that may be highly subject to homoplasy. Male genital characters appear rather uniform in each group of genera, similar to *Pterocalla*, *Dasymetopa* and *Pterocerina*, but they still need to be thoroughly examined in most genera of Pterocallini in order to clarify the limits of the genera and the relationships among them.

Tribe Lipsanini Enderlein, 1938

Lipsaninae Enderlein, 1938: 676; Evenhuis, 1989: 481; Sabrosky, 1999: 179. Lipsanini: Kameneva and Korneyev, 1994: 68. Type genus: *Lipsana* Enderlein, 1938: 676. Type species: *L. insulaepaschalis* Enderlein, 1938 (orig. des.).
Euxestinae Hennig, 1940: 3, 4; 1952: 222; 1958: 578; 1973: 16, 54; Zaitzev, 1984: 64;

Kameneva, 1992: 24. Euxestidae Frey, 1964: 3; Sabrosky, 1999: 137 (preoccupied by Euxestinae Grouvelle, 1908 in Coleoptera). Type genus: *Euxesta* Loew, 1868a: 297. Type species: *Ortalis notata* Wiedemann, 1830 (designated by Coquillett, 1910: 543).
Chaetopsidae Crampton, 1944: 153. Type genus: *Chaetopsis* Loew, 1868a: 315. Type species: *Ortalis aenea* Wiedemann, 1830 (designated by Coquillett, 1910: 521).

Diagnosis

Usually metallic green or bluish, often sparsely microtrichose, occasionally shiny or dull black, or completely gray to brown microtrichose flies. Vein R_1 bare or, in a few species of *Pareuxesta* Coquillett and *Chaetopsis* Loew, setulose along extreme apex. Wing venation not sexually dimorphic; pterostigma not enlarged (shorter than costal cell) and vein R_{2+3} usually straight. Male terminalia different in two main groups. In *Euxesta notata* (the type species), margins of phallic guide (fovea of hypandrium anterior to basiphallus) not strongly produced; surstylus bearing 2-4 prensisetae. In most other examined genera, including some species currently placed in *Euxesta*, phallic guide deep, with highly projected lateral lobes; epandrium very short, without trace of medial surstylus and prensisetae. Part of ejaculatory apodeme adjoining sperm sac usually elongate, about twice as long as wide (synapomorphy with Pterocallini?). Phallus bare or, rarely, setulose (in *Notogramma* Loew, 1868a) (see Steyskal, 1963a) or even spinulose (in *Euacaina* Steyskal, 1963). Female terminalia: 2 spherical spermathecae (synapomorphy), usually with smooth surface or, in some genera, covered by acute papillae. Female tergite 6 well developed (plesiomorphy) at least in *Eumetopiella* Hendel, and a few allied genera, shortened and narrowed in the majority of genera.

Genera included

Acrosticta Loew, 1868; *Acrostictomyia* Blanchard, 1938; *Aspistomella* Hendel, 1909; *Axiologina* Hendel, 1909; *Cenchrometopa* Hendel, 1909; *Chaetopsis* Loew, 1868; *Euacaina* Steyskal, 1963; *Eumecosomyia* Hendel, 1909; *Eumetopiella* Hendel, 1907; *Euphara* Loew, 1868; *Euxesta* Loew, 1868a (= *Amethysa* Macquart, 1835: see discussion below; *Aloceuxesta* Hendel, 1936; *Euxestina* Enderlein, 1937, nec Curran, 1934a); *Heterodoxa* Malloch, 1932; *Hypoecta* Loew, 1868a; *Lipsana* Enderlein, 1938; *Notogramma* Loew, 1868; *Paraphyola* Hendel, 1909; *Pareuxesta* Coquillett, 1901; *Perissoneura* Malloch, 1932; *Polyteloptera* Hendel, 1909; *Pseudeuxesta* Hendel, 1910; *Siopa* Hendel, 1909; *Stenomyia* Loew, 1868; *Ulivellia* Speiser, 1929; *Vladolinia* Kameneva, 2005; *Zacompsia* Coquillett, 1901 (= *Metopocampta* Enderlein, 1927).

Discussion

The synapomorphy of the genera examined (*Hypoecta*, *Polyteloptera*, *Lipsana* and *Acrostictomyia* species were not dissected), which substantiates the monophyly of the tribe, is apparently the presence of two spermathecae. The relationships among the genera are not well understood. The largest genus of the tribe, *Euxesta*, which was defined mainly by the absence of characters of the other genera, is heterogeneous and probably not monophyletic. A revision of that genus, including phylogenetic analysis, may clarify its limits. Barraclough (1999) recently redescribed the type species of *Amethysa* Macquart — *A. fasciata* Macquart, 1835 from Cuba — which seems to be very close to, or identical with, *E. annonae* (Fabricius). To prevent nomenclatural instability, it is strongly recommended not to use the name *Amethysa* rather than the widely-used name *Euxesta*, at least until a revision of the latter has been carried out.

The tribal name Lipanini has priority over both Euxestini Hennig, 1940 and Chaetopsini

Crampton, 1944. However *Lipsana* Enderlein, 1938 is close to, and may eventually become a junior synonym of either *Euxesta* Loew, *Neoeuxesta* Malloch or *Heterodoxa* Malloch, although the type specimens of *Lipsana insulaepaschalis* Enderlein, 1938 have not been located, and this synonymy is still uncertain.

According to Sabrosky (1999), the tribal name Euxestini is unavailable. The family-group name based on *Euxesta* is preoccupied by Euxestinae Grouvelle, 1908, based on *Euxestus* Wollaston, 1848 (Coleoptera: Cerylonidae). The name Euxestidae was cited in the synonymy of Cerylonidae (Lawrence, 1982; as cited by Sabrosky, 1999).

The third name, Chaetopsini, is based on a valid genus name and is available. It might be validated by the suppression of Lipsanini.

Subfamily Otitinae Aldrich, 1932

Aldrich, 1932: 7; Hennig, 1952: 222; 1958: 578; Steyskal, 1961: 401, 403; 1965: 643; 1968: 54.1; 1977: 165; 1980: 575; Evenhuis, 1989: 479.

Diagnosis

Mostly dull gray to shiny brown or black flies with vein R_1 setulose or, rarely, bare, and a spinulose (rarely bare) phallus, and with the female abdominal sternites 4–6 with anterior apodemes.

Discussion

The concept of the Otitinae adopted by Hennig (1939, 1958; as Otitidae) and Steyskal (1961, 1965, 1968, 1987) was much broader, including most Ulidiidae genera with setulose vein R_1 and phallus. After reassigning the holarctic Seiopterini and neotropical Pterocallini (both including genera with bare and setulose R_1) to the Ulidiinae, the subfamily is now restricted to genera with a spinulose phallus (synapomorphy?) and the female sternal apodemes present (symplesiomorphy?). It can be subdivided into the following three tribes: Cephalini, Otitini and Myennidini, new tribus.

Tribe Cephalini Schiner, 1864

Cephalinae Schiner, 1864: 63. Cephalinae Snow, 1896: 115, 116; Sabrosky, 1999: 77. Cephalidae Sturtevant, 1926: 213. Other spellings: Cephalina Loew, 1868b: 1, 7; Cephalini Kameneva and Korneyev, 1994: 65, 68. Type genus: *Cephalia* Meigen, 1826: 293. Type species: *C. nigripes* Meigen, 1826 (by subsequent designation of E. Blanchard, 1846: pl. 181) = *C. rufipes* Meigen, 1826. Junior synonym: *Myrmecomya* Robineau-Desvoidy, 1830. *Myrmecomyiinae* Hendel, 1910c: 310; 1914: 158; 1936b: 1945; Sabrosky, 1999: 208. Other spellings: *Myrmecomyinae* Hendel, 1912: 2. Type genus: *Myrmecomya* Robineau-Desvoidy, 1830: 721. Type species: *Myrmecomya formicaria* Robineau-Desvoidy, 1830 (designated by Coquillett, 1910: 573) = *Cephalia rufipes* Meigen, 1826.

Diagnosis

Palpus large, broad, subtriangular; clypeus often large, straight in profile; ventral facial margin often strongly produced; arista short pubescent or bare. Proepisternal seta often minute or lacking; scutal setulae often divided by 2–5 bare, finely microtrichose stripes (synapomorphies?).

Wing. Vein R_1 setulose (completely or on apical portion only); vein R_{4+5} bare, except setulose dorsally in *Acrostictella* Hendel.

Male terminalia. 2-12 prenisetae well developed; phallus spinulose.

Female terminalia. cercal unit unmodified; 3 bare or sparsely papillose, spherical or subglobose spermathecae (plesiomorphies?). Flies of several genera of this tribe have a very characteristic ant-like appearance.

Discussion

The tribe comprises mostly American genera, with a few representatives in the Palaearctic Region.

Genera included

Acrostictella Hendel, 1914; *Cephalia* Meigen, 1826; *Delphinia* Robineau-Desvoidy, 1830; *Myiomyrmica* Steyskal, 1961; *Myrmecothea* Hendel, 1910; *Proterpnomia* Blanchard, 1967; *Proteseia* Korneyev and Hernández, 1999; *Pterotaenia* Rondani, 1868, genus resurrected from synonymy; *Tritoxa* Loew, 1873.

The species of the genus *Pterotaenia* were reexamined and found to be members of the Cephalini rather than *Ceroxys* Macquart (Otitini). These two genera have an acute first flagellomere and a banded wing pattern, but are otherwise different.

Further, most of the species assigned to the genus *Terpnomia* Hendel, 1909, except its type species (which belongs in Ulidiinae Pterocallini), should actually be transferred to the *Proterpnomia*.

The monophyly of the tribe is supported by a single synapomorphy (palpus extremely broad), plus possibly by the presence of bare mesonotal stripes (synapomorphy? shared with the following group) in combination with some plesiomorphic characters (apodemes of abdominal sternites 4-6 well developed; spherical spermathecae). However, a more detailed study of the genera discussed above is beyond the scope of this paper.

Genera incertae sedis, possibly related to Cephalini

A group of genera, which have microtrichose non-setulose vittae on the mesonotum but do not possess broad subtriangular palpus, and are possibly related to the Cephalini rather than the Otitini, includes the North American *Diacrita* Gerstäcker, 1860, *Idana* Loew, 1868, and the Andean *Pseudomeligeria* Brèthes, 1921. The nearctic genus *Psaeropterella* Hendel, 1914 and its relatives, *Curranops* Harriot, 1942; *Haigia* Steyskal, 1961 and *Tujungia* Steyskal, 1961, may also be related to the Cephalini, sharing similar epandrial characters with *Cephalia*, *Diacrita* and *Idana*.

Tribe Otitini Aldrich, 1932

Otitides Westwood, 1840: 146 (unavailable, not adopted).

Tetanopina Loew, 1862: 40. Type genus: *Tetanops* Fallén, 1820. Type species: *T. myopina* Fallén, 1820 (by monotypy) = *T. myopinus* Fallén.

Otitidae Aldrich, 1932: 7. Otitiformes and Otitoidea Crampton, 1944: 153. Otidimorpha Brues et al., 1954: 22. Other spellings: Otididae Hardy, 1959: 229; Otitidae Rohdendorf, 1964: 17. Type genus: *Otites* Latreille, 1804. Type species: *O. porca* Latreille, 1804 (by monotypy; as "*Musca porcus* Bosc," a manuscript name validated there by Latreille).

Ceroxydidae Steyskal, 1946: 168 (*nomen nudum*; not diagnosed and not adopted). Type genus. *Ceroxys* Macquart, 1835. Type species: *Musca urticae* Linnaeus, 1758 (designated by Westwood, 1840: 149).

Diagnosis

Palpus usually moderately broad or linear, but not extremely broad; nor subtriangular (except in *Herina oscillans* Meigen); clypeus low, slightly convex in profile; face usually with carina and antennal grooves; ventral facial margin not strongly produced; arista short or long pubescent; proepisternal seta well developed. Scutal setulae irregular or arranged in rows, not separated by microtrichose or bare vittae. Male terminalia: prenisetae well developed, mediadorsal (paracercal) preniseta either present or absent; paired sclerites of epiphallus usually developed posterior of basiphallus (except in *Herina*); unpaired metaphallic lobe not developed between bases of surstyli (see description of this structure under Myennidini); phallus spinulose. Female terminalia: cercal unit usually unmodified; 3 elongate, wrinkled or papillose spermathecae, very rarely smooth and spherical or subglobose.

Genera included

The tribe is distributed in the Old World and North America, and is absent in South America and the temperate part of the Australasian Region. It includes the widespread genera *Herina* Robineau-Desvoidy (predominantly palaearctic, with some nearctic and caribbean, oriental and australasian species assigned to it) and *Melieria* Robineau-Desvoidy (predominantly holarctic, with at least one species in Africa), and the holarctic genera *Otites* Latreille, *Tetanops* Fallén, and *Ceroxys* Macquart. The tribe also includes the nearctic genus *Hiatus* Cresson and the strictly palaearctic genera *Dorycera* Meigen and *Ulidiopsis* Hennig.

Discussion

Recently, all species assigned to the palaearctic genera *Hypochra* Loew and *Phaeosoma* Becker were placed in *Melieria* (Kameneva, 1997a), and the Palaearctic species of *Systata* Loew were transferred to *Otites* (Kameneva, 1997b). *Dorycera* Meigen and *Ulidiopsis* Hennig include species that are very closely related to the genera *Otites* and *Herina* Robineau-Desvoidy, respectively, and could be considered aberrant members of them. However, the concepts of the two latter genera also need further revision (Kameneva, pers. observation; Merz, pers. comm.).

Some American genera previously assigned to the Otitinae (Steyskal, 1961, 1965, 1968) are tentatively associated here with the Cephalini (see above). However, the characters that differentiate Otitini from Cephalini are not sufficiently reliable. The concept of the tribe Otitini and its composition therefore need special reconsideration.

Tribe Myennidini Kameneva and Korneyev, new tribe

Type genus: *Myennis* Robineau-Desvoidy, 1830: 717. Type species: *Scatophaga fasciata* Fabricius, 1805 (by monotypy) = *Musca octopunctata* Coquebert, 1798.

Diagnosis

Face flattened, without or with low (in *Pseudodyscrasis* and *Namibotites*) medial carina; antennal groove indistinct, except in *Namibotites*; clypeus moderately developed, convex in profile (in *Pseudotephritis*, *Callopietromyia*, *Pseudotephritina* and *Myennis*) or small, but not high and straight in profile; ventral facial margin not strongly produced. Arista bare. Palpus not

subtriangular, usually moderately large or, in *Dyscrasis* and *Pseudodyscrasis*, very large. Prosternum non-setulose and microtrichose, in one species setulose. Vein R_1 setulose, except in *Oedopa*, *Paroedopa*, *Stictomyia* and *Ulidiotites*. Proepisternal seta moderately developed or minute; scutal setulae usually irregular, except well-expressed dorsocentral row.

Male terminalia. paired sclerites of epiphallus posterior to basiphallus absent; unpaired metaphallic lobe developed between bases of surstyli (apomorphy); phallus spinulose, setulose or bare.

Female terminalia. tergosternum 8 (aculeus basal portion) well-sclerotized, long and narrow (apomorphy?), cercal unit unmodified; 3 smooth, spherical or subglobose spermathecae (plesiomorphies?), except in *Namibotites*.

Genera included

This tribe is predominantly holarctic (Appendix 3). It comprises the palaearctic genus *Myennis* Robineau-Desvoidy, 1830, the nearctic, or predominantly nearctic genera *Oedopa* Loew, 1868, *Stictomyia* Bigot, 1885, *Paroedopa* Coquillett, 1900, *Callopistromyia* Hendel, 1907 (= *Callopistria* Loew, 1873 (preoccupied by *Callopistria* Hübner, 1816)), *Pseudotephritina* Malloch, 1931, *Dyscrasis* Aldrich, 1932, *Ulidiotites* Steyskal, 1961, the holarctic *Pseudotephritis* Johnson, 1902 (= *Stictocephala* Loew, 1873 (preoccupied by *Stictocephala* Stål, 1869)), the mainly Mesoamerican *Pseudodyscrasis* Hernández, 1988, *Neodyscrasis* Kameneva and Korneyev, n. gen., South American *Stictoedopa* Brèthes, 1926, and the South African *Arborotites* Barraclough, 2000 and *Namibotites* Barraclough, 2000.

Discussion

The genera placed here were previously assigned to the “Pterocallidae” (Hendel, 1909b; Hennig, 1939) because of their dull grayish, often brown spotted, appearance and lack of a facial carina and antennal grooves. *Callopistromyia strigula* (Loew, 1873) was classified in the genus *Pterocalla* Rondani (Pterocallini) because of its elongate wing shape and the spotted pattern characteristic of the latter genus. The terminalia characters in both tribes, however, are very distinctive (Steyskal, 1979), and they belong to different subfamilies.

The monophyly of the new tribe is supported by at least one unique synapomorphy not known elsewhere in the Tephritoidea: an area posterior to the basiphallus forms a flattened two-walled metaphallic lobe often bearing a few sparse and small setulae (e.g., Figs. 12, 16, 26, 27, 36). From its position, this structure is probably associated with the proctiger, rather than with the basiphallus; in *Ulidiotites* it appears to be an anterior flap of the proctiger. Various genera, such as *Myennis*, *Dyscrasis* and *Oedopa*, share this character in combination with the presence of anterior apodemes of female sternites (3-)4-6. In contrast to other Myennidini, *Oedopa*, *Paroedopa*, *Stictomyia*, *Ulidiotites* and *Namibotites* have vein R_1 bare and the phallus non-spinulose, both characters previously believed to be characteristic of the Ulidiinae (Hennig, 1958, 1973; Steyskal, 1961, 1987). The current study shows that both these characters are inconsistent and are subject to homoplastic changes in three different lineages of Ulidiinae (see above), as well as in this tribe (see the phylogenetic analysis below).

2. REVIEW OF MYENNIDINI GENERA

Key to genera of *Myennidini*

1. Vein R_1 entirely bare 2
 - Vein R_1 dorsally setulose at least apically 8
2. First flagellomere more than 3 times as long as wide. Wings dark brown to gray, with reticulate pattern of hyaline spots (Figs. 50, 56). North America ***Stictomyia* Bigot**
 - First flagellomere short oval, at most twice as long as wide. Wings predominantly hyaline, sometimes with few brown spots on apical half..... 3
3. Face between antennae and frons with dark brown or black spots or transverse bar (Figs. 32, 40, 45). Wing always with pattern of dark spots anteroapically; apical section of vein M almost straight, ending at wing apex (Figs. 35, 46)..... 4
 - Face and frons uniformly yellowish gray without dark spots (Figs. 62, 68). Wing hyaline with darkened veins (Fig. 60), or if with dark spots at wing apex and on crossveins, then apical section of vein M strongly bent anteriorly, ending before wing apex (Fig. 49) 5
4. Both face between antennae, and frons with dark brown or black transverse bars (Figs. 32, 40). Crossvein DM-Cu sinuous (Figs. 35, 42). North America ***Oedopa* Loew**
 - Face between antennae with single round spot. Frons with two black spots laterally (Figs. 44, 45). Crossvein DM-Cu straight (if DM-Cu sinuous, see “*Oedopa*” *elegans*, couplet 6). North America ***Paroedopa* Coquillett**
5. Wing hyaline. Vertex forming ridge, which is almost straight or slightly convex 7
 - Wing with dark spots at least at wing apex and on crossveins. Vertical ridge often concave. Central or South America 6
6. Wing with numerous dark spots, more intensive towards base. Crossvein DM-Cu sinuous. Frons with 2 black spots. Vertex shape not examined. Central America
 - Wing with 5–6 dark spots at wing apex and on crossveins. Crossvein DM-Cu straight. Vertical ridge conspicuously concave between eyes (as in Ropalomeridae species). South America ***Stictoedopa* Brèthes**
7. Extension of cell bcu short, not exceeding level of crossvein BM-Cu (Fig. 60). Antennal groove inconspicuous. Ocellar seta developed. Phallus trichose, coiled, 3–4 times as long as epandrium (Fig. 63). Three round, smooth spermathecae. North America ***Ulidiotites* Steyskal**
 - Extension of cell bcu far exceeding level of crossvein BM-Cu (Fig. 69). Antennal groove deep and short. Ocellar seta completely reduced. Phallus bare, not coiled, 1.5–2 times as long as epandrium (Fig. 70). Two oval, papillose spermathecae (Fig. 73). Southern Africa ***Namibotites* Barraclough**
8. Scutellum shiny brown or black, at least with two shiny spots (Figs. 99, 102, 108, 119) .. 9
 - Scutellum gray and black microtrichose, without shiny areas (Figs. 23, 76) 13
9. Five dorsocentral, five acrostichal and three supra-alar setae, one of each presutural (Fig. 119). Extension of cell bcu conspicuously longer than vein A_1+Cu_2 . North America ***Dyscrasis* Aldrich**

- No presutural dorsocentral, acrostichal or supra-alar setae (Figs. 108, 113). Extension of cell bcu shorter or, at most, as long as vein A_1+Cu_2 **10**
- 10. Three or four dorsocentral setae; intra-alar seta strong, in both sexes without cluster of fine long setulae around it (Fig. 108, 113). Two equal orbital setae (Fig. 111) **11**
- Two or one dorsocentral setae; in females intra-alar seta weak with cluster of fine long setulae around it (Fig. 102). Anterior orbital seta shorter than posterior, or absent **12**
- 11. Scutum without large shiny areas; 1 supra-alar seta. Wing with uniformly darkened basal cells (Fig. 107). North America (Mexico) ***Pseudodyscrasis* Hernández**
- Scutum with large shiny supra-alar areas; 2 supra-alar setae. Wing basal cells with isolated black dots and streaks and hyaline borders (Fig. 112) ***Neodyscrasis* Kameneva and Korneyev, n. gen.**
- 12. Supra-alar area and lateral portion of tergite 4 shiny black to brown. Middle of wing with 2 oblique crossbands: first crossing from base of costal cell through radial fork to middle of discal cell; second from pterostigma through approximated crossveins R-M and DM-Cu (Fig. 87, 90). Silvery microtrichose areas without round spots at bases of setulae. Palaearctic ***Myennis* Robineau-Desvoidy**
- Supra-alar area and lateral portion of tergite 4 without shiny black spots. Middle of wing with 2 straight crossbands: first crossing from apex of costal cell distad of radial fork to middle of discal cell; second from apex of pterostigma to crossveins R-M and DM-Cu (Fig. 101), often broken between crossveins (Fig. 97). Silvery microtrichose areas broken by numerous round bare spots at bases of setulae. Nearctic species ***Pseudotephritina* Malloch**
- 13. Discal cell with numerous small dark and hyaline spots; its anteroapical angle acute. Wing pattern reticulate or spotted, without crossbands (Figs. 24, 25). Abdominal pleura setulose. Nearctic species ***Callopistromyia* Hendel**
- Discal cell with extensive areas of solid color, without small spots. Wing pattern consisting of broad, partially broken or confluent crossbands (Figs. 6-9, 77), or if reticulate, then anteroapical angle of discal cell about 90° (Figs. 10-11). Abdominal pleura bare **14**
- 14. Extension of cell bcu shorter than or, at most, as long as vein A_1+Cu_2 (Fig. 6-11). Intra-alar seta strong, in both sexes without cluster of fine long setulae around it; 2 dorsocentral setae (Fig. 3). Nearctic or Palaearctic species ***Pseudotephritis* Johnson**
- Extension of cell bcu longer than vein A_1+Cu_2 (Fig. 77). Intra-alar seta weak, in female almost indistinguishable from cluster of fine setulae around it; 1 dorsocentral seta (Fig. 76). South African species ***Arborotites* Barraclough**

***Pseudotephritis* Johnson, 1902**

(Figs. 1-21, 125-127)

Stictocephala Loew, 1873: 61, 134 (preoccupied by *Stictocephala* Stål, 1816, Homoptera).

Type species: *Ortalis vau* Say, 1830 (by original designation of Loew, 1873: 61).

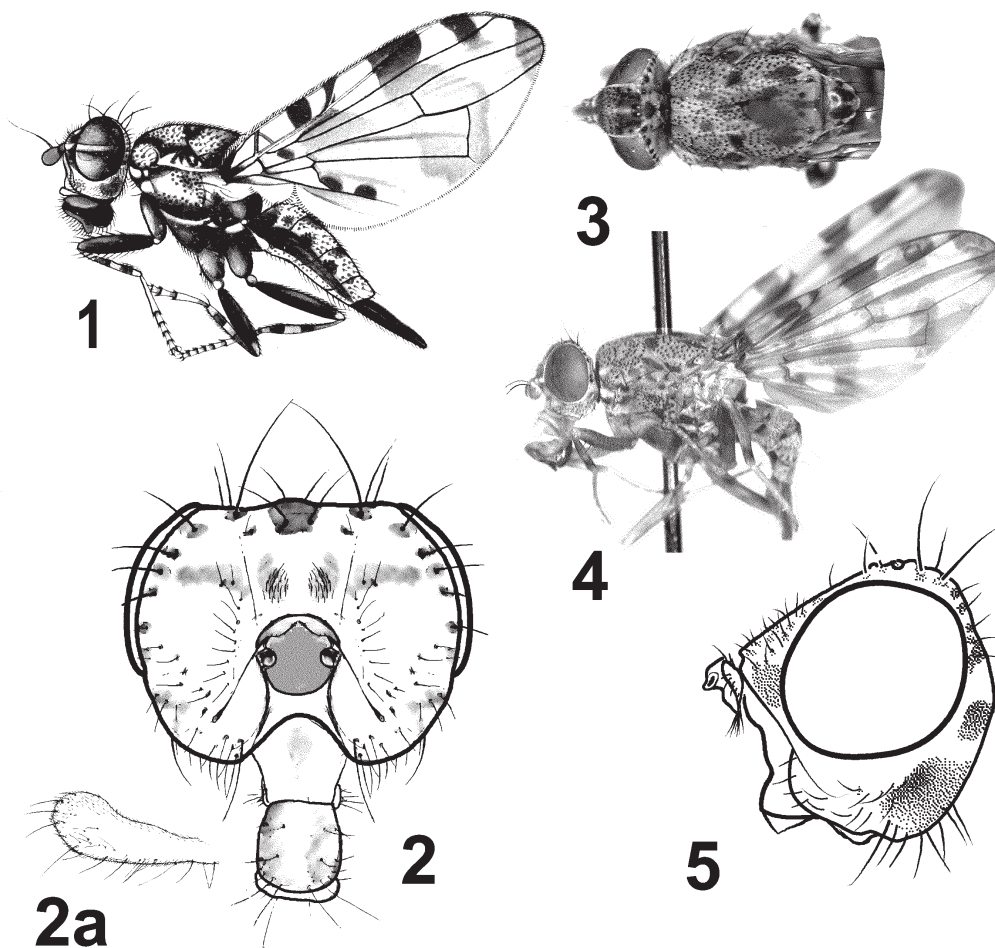
Pseudotephritis Johnson, 1902: 144 (new name for *Stictocephala* Loew). Type species: *Ortalis vau* Say, 1830 (automatic); Aldrich, 1905: 594; Cresson, 1906: 284; Williston, 1908: 272, 277; Hendel, 1909a: 40; 1909b: 22; Banks, 1914: 138; Malloch, 1931: 1; Curran, 1934b: 279; Aczél, 1951: 411; Steyskal, 1962: 254; 1965: 647; 1975: 148; 1987: 807; Soós, 1984: 58; Krivosheina and Krivosheina, 1997c: 671; Kameneva, 2001: 160.

No detailed descriptions of this genus in its strict sense have appeared since it was briefly diagnosed by Loew (1873, as *Stictocephala*), subdivided into two subgenera (Malloch, 1931), partially revised (Steyskal, 1962), and the subgenus *Pseudotephritina* Malloch removed and elevated to full generic status (Steyskal, 1975, 1987). Hendel (1909b) gave the most detailed description of this genus, but including both *Pseudotephritis* and *Pseudotephritina*. Consequently, this genus is redescribed below. Most head measurements given in the redescription for *P. vau* have same or similar condition in *P. approximata* and *P. millepunctata* Hennig.

Redescription

Medium-sized (3.5–5.5 mm) flies with gray microtrichose body having speckled pattern of brown tomentum without shiny areas or bare dots at bases of setae, and non-setulose abdominal pleura.

Head. As wide as thorax, slightly higher than long (1.1 : 1) or as high as long (in *P. corticalis* Loew), and 1.3 times as wide as high (1.6 in *P. corticalis*). Eyes very slightly higher than long (1.1 : 1 in *P. vau*) or longer than high (1.1 : 1 in *P. corticalis*). Frons more or less protruding anteriorly, in profile forming right or slightly acute angle with dorsal portion of face. Lateral margins almost parallel or slightly convergent anteriorly. Frons white microtrichose, with brown spots and small bare dots at bases of setulae; densely microtrichose median vitta distinct, narrowed anteriorly but not broken by darker spots; posterior third rather uniformly microtrichose, usually without brown spots. One moderately developed laterocline and slightly procline ocellar seta. Two well developed posterolaterally directed orbital setae; posterior slightly longer than anterior. Frontal setulae black, moderately stout, about 0.25 times as long as orbital setae. Face uniformly white microtrichose, conspicuously concave in profile, with transverse furrow in ventral third and without facial carina or distinct antennal grooves. Clypeus convex, moderately low (in profile about 0.5 as high as first flagellomere width), horse-shoe shaped, in profile as long as palpus and 4–5 times as long as high. Parafacial bare on dorsal 0.16, otherwise microtrichose, broadened on ventral half. Facial ridge bare in *P. vau*, and with 4–5 setulae in *P. corticalis*. Anterior part of gena with row of 6–8 upwardly curved setulae not exceeding ventral end of ptilinal suture in *P. vau*, or 8–10 setae reaching vibrissal edge and facial ridge in *P. corticalis*. Gena 0.25 (in *P. vau*) to 0.45 times as high as eye (in *P. corticalis*). Genal seta well developed. Eye as long as high (in *P. vau*) or longer than high (in *P. corticalis*), in live specimens horizontally banded. Vertex rounded, without ridge; postocellar seta divergent, as long as ocellars; medial vertical seta almost twice as long as postocellar; lateral vertical seta 0.7–0.8 times as long as medial seta. Occiput on dorsal portion (= median occipital sclerite, cerebrale) not concave, and slightly swollen on ventral portion (= postgena), with transverse dark mark from dorsal margin of occipital foramen to posterior margin of eye, and more or less distinct brown dots at bases of postocular and occipital setulae. One paraverticular setula on each side of median occipital sclerite; 4–7 setulae in single postocular row; occipital setulae forming one oblique row of 3–4 setulae laterally of suture and 4–9 setulae in dorsoventral row along occipital foramen. Anterodorsally curved supracervical setulae in two groups of 5–8 on each side, separated by bare area. Postgena moderately setulose. Hypostomal bridge short and bare. Antennae well separated, distance between their bases 1.7–2.0 times as wide as antennal socket. Scape short. Pedicel wider than long, with blunt triangular medial lobe and shallow dorsal incision; lateral surface with one row of marginal setulae, with 2 or 3 longest



Figs. 1–5. *Pseudotephritis*. 1–2. *P. vau*. 1. Habitus (from Hendel, 1909b). 2. Occiput. 2a. Palpus, lateral view. 3–4. *P. metzi*, holotype. 3. Head and mesonotum, dorsal view. 4. Habitus, lateral view. 5. *P. corticalis*, syntype, head, lateral view (first flagellomere lost).

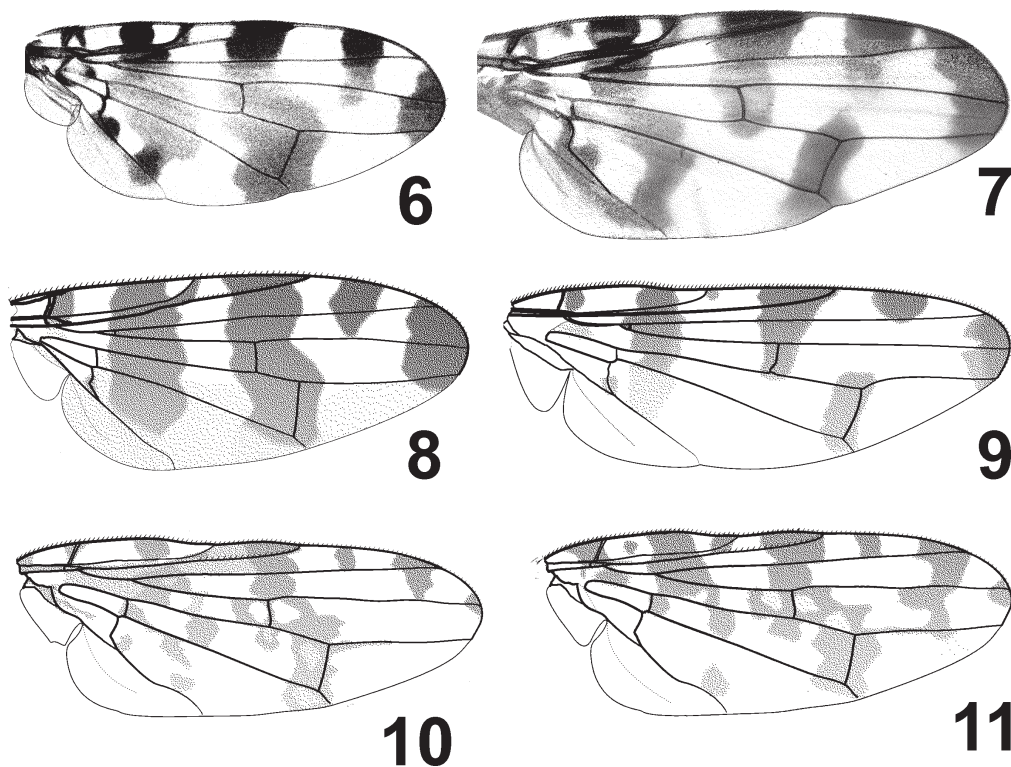
at ventral margin; 12–16 marginal setulae on medial surface forming 1–2 irregular rows; dorsal pedicellar seta almost as long as pedicel. First flagellomere 1.1–1.2 as long as wide, short microtrichose. Two visible basal aristomeres. Terminal aristomere short pubescent. Proboscis stout, with large, rounded prementum that bears 10–12 setae on each side (Fig. 2). Labellum fleshy, large. Palpus (Fig. 2a) rather wide, broadened towards apex, with 12–15 setulae at ventral margin and 5–8 shorter setulae on lateral and medial surfaces.

Thorax. Longer than wide, almost completely microtrichose, except anteprenotum and anterior margin of scutum. Postpronotal lobe with 1 seta and 2 groups of setulae: anteroventral group containing 7–9 rather stout and long setulae, and 6–7 appressed setulae around seta. Proepisternum with group of 6–7 long posterodorsally directed setulae on dorsal portion and 1 weak proepisternal seta on ventral portion. Prosternum consisting of very small subquadrate presternum and bare, microtrichose, transverse basisternum, which is twice as wide as high.

Lateral cervical sclerite button-like, microtrichose. Mesonotum in profile slightly convex, scapular area abruptly bent. Scutum with numerous setulae not forming conspicuous rows except dorsocentral row; 8–10 setulae between dorsocentral lines. One acrostichal, 2 dorsocentral, 1 intra-alar, 1 postalar setae, 1 supra-alar seta midway between postalar seta and transverse suture. Spots of brown microtrichia at bases of setulae small and round; confluent spots forming larger spots anterior to suture (1–2 pairs, in *P. corticalis* often forming brown vittae), in area between branches of transverse suture, on postsutural portion along dorsocentral rows, and around prescutellar acrostichal seta. Scutellum conspicuously convex, with 2 pairs of scutellar setae and without any setulae, with pair of brown spots on disc and dots at bases of setae. Subscutellum in lateral view 0.33 times as long as scutellum. Subscutellum and mediotergite gray microtrichose, often with brown spots. Notopleural triangle mostly brown at transverse suture, usually with gray parts; 2 subequally long notopleural setae. Anepisternum gray microtrichose, with brown spots at bases of setulae; these spots more or less confluent, especially at ventral margin; anepimeron gray, at ventral margin brown. Katepisternum, meron, katatergite and anatergite almost completely brown. Numerous setulae of anepisternum rather dense and half as long as each of 2 anepisternal setae at posterior margin. Katepisternum with 1 seta at posterodorsal margin and 2–3 setae at ventral margin.

Wing. Moderately broad. Tegula unmodified, with 6–7 setulae and 2–3 longer marginal setae. Costagial section of costa dorsoventrally widened, with dense irregular setulae and 1 ventroapical and 1 dorsoapical seta. Humeral section of costa with 5–6 irregular rows of moderately long and thin setulae. Section of costa between humeral break and apex of vein R_{2+3} with two rows of setulae: fine at anteroventral margin, thickened at anterodorsal margin to midway between apices of veins R_1 and R_{2+3} ; remaining portions of costa microtrichose. Subcostal vein at apex moderately bent towards anterior margin. Vein R_s bare. Vein R_1 straight, bare on proximal half, with 18–24 setulae dorsally distal to subcosta apex. Vein R_{2+3} straight or inconspicuously sinuous. Vein R_{4+5} bare, ending at wing apex. Crossvein R-M almost perpendicular to vein R_{4+5} , situated at level of middle of pterostigma. Vein M almost straight; its second (discal) section without stump vein posteriorly; its penultimate section of various lengths, being conspicuously variable in *P. millepunctata*, in which it varies from 1.2 to 2.7 times as long as crossvein R-M; distal section of vein M straight, not bent anteriorly. Crossvein BM-Cu perpendicular to vein M. Crossvein DM-Cu straight. Vein Cu_2 sharply bent outwards, its section between bend and vein A_1 as long as or longer than section between fork of vein Cu and elbow; vein A_1+Cu_2 reaching posterior wing margin. Triangular posterodistal lobe of cell bcu shorter than apical section of vein A_1+Cu_2 . Vein A_2 well developed as fold. Alula moderately developed. Dorsal calypter with long marginal fringe, 1.5–2 times as long as ventral calypter. Halter unmodified, with rounded and short knob; knob surface with very short setulae.

Legs. Neither thickened nor having unusual vestiture. Forecoxa with conspicuously flattened anterior surface and 4–5 long ventromarginal setae about twice as long as numerous setulae on anterior surface; foretrochanter unmodified, short and sparsely setulose; forefemur mostly dark, microtrichose, with sparse appressed setulae, 2 posterodorsal and one posteroventral rows of setae; basal 0.33 of foretibia brown, at apical third with dark ring. Midcoxa with row of 9–10 setae on eucoxa (anterior sclerite) and 2 setae on disticoxa (posterolateral sclerite); midcoxal prong well developed, rather stout and chitinized; midtrochanter rather elongate, moderately setulose, unmodified; midfemur short setulose, with anterior row of 6–10 short setae 0.4–0.5



Figs. 6–11. *Pseudotephritis*, wings. 6. *P. vau*. 7. *P. approximata*. 8–9. *P. millepunctata*. 8. China: “Hantao-he-tzu” (CM). 9. *P. ussurica*, type (from Krivosheina & Krivosheina, 1997c). 10–11. *P. corticalis*, syntypes, variations of wing pattern.

times as long as width of femur and posteroventral row of 9–15 setae 0.8–0.9 times as long as width of femur; midtibia more or less darkened on basal half and with single dark ring on apical third; ventroapical seta twice as long as other thickened setae at apex of midtibia. Hindcoxa unmodified, with 9–12 setulae on eucoxa and 2–3 lateromarginal stronger setae, which are 1.5–2 times as long as setulae. Hindtrochanter unmodified, setulose on ventral surface. Hindfemur unmodified, moderately setulose, with 2 subapical setae on dorsal surface. Hindtibia 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; tarsomeres 1 and 2 of hindleg with yellowish setulae forming short brushes on posteroventral surfaces; otherwise setulae of tarsomeres more or less symmetrical. Claws simple; pulvilli small; empodium bare, shorter than longest setae of tarsomere 5.

Abdomen. With broad, microtrichose, setulose tergites, well-developed microtrichose pleural membrane without any setulae and moderately narrow, microtrichose and setulose sternites. Tergites wider than long, with speckled brown-gray pattern; sternites 2–4 of male and 2–5 of female as long as wide, other preabdominal sternites wider than long. Well-developed spiracles situated on ventral aspect of abdomen, on pleural membrane close to tergite margins. Female

tergite 6 short and narrowed, microtrichose with brown spots and setulose, partially hidden underneath margin of tergite 5. Sternites 3–6 of female with very long and narrow anteromedial apodemes (Figs. 18, 19). Oviscape gray microtrichose or matt, with brown-gray pattern.

Male terminalia. Segments 6–8 clearly microtrichose. Epandrium with long, slightly mesally curved surstylus with short mesal lobe, with 4–5 prensisetae and numerous setulae in *P. vau*, *P. approximata*, and *P. millepunctata* (Figs. 12, 13, 15), in *P. corticalis* surstylus short, with mesal lobe subequal to its basal portion, with 2–3 prensisetae. Proctiger large in *P. vau*, *P. approximata*, and *P. millepunctata*, and smaller in *P. corticalis* (Figs. 16, 17). Metaphallic plate narrow and long in *P. vau*, *P. approximata*, and *P. millepunctata* (Figs. 12–15), wide and short in *P. corticalis* (Fig. 17). Phallus long spinulose (Fig. 12).

Female terminalia. Eversible membrane without visible scales. Aculeus long and narrow; cercal unit elongate oval, with long setulae. Three spherical spermathecae with short inverted necks (Figs. 20, 21).

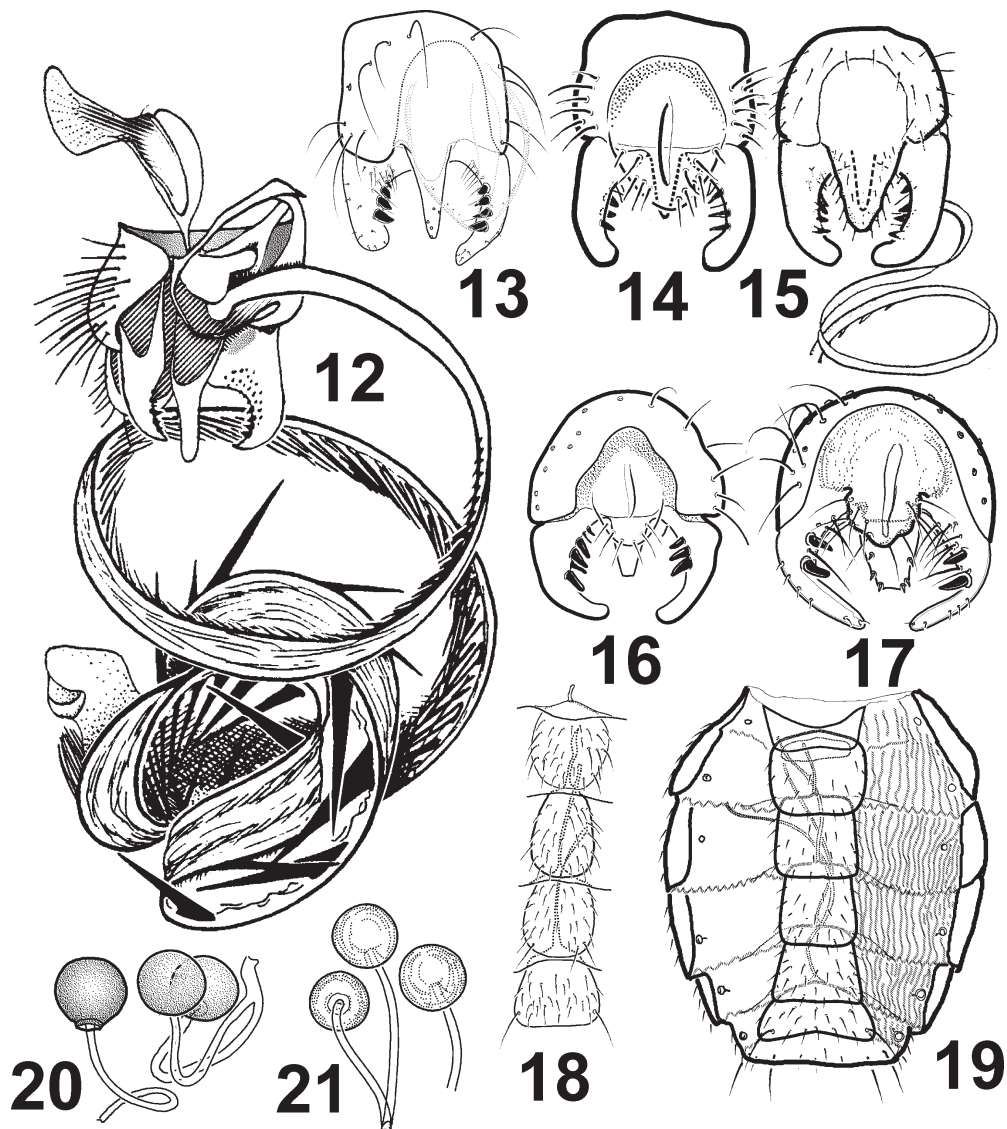
Included species and distribution (Appendix 3, Figs. 125–127)

Eight available names have been proposed for species now assigned to this genus, as follows:

Pseudotephritis vau (Say), 1830 (*Ortalis*) (Canada: Alberta; British Columbia; Northwest Territories (new record); Nova Scotia (new record); Quebec; USA: Alabama (new record); Arkansas; California; Connecticut (new record); D.C.; Florida (new record); Idaho; Indiana; Iowa (new record); Kansas (new record); Louisiana (new record); Maine; Maryland; Massachusetts; Michigan; Minnesota; Mississippi; Missouri; New Hampshire; New Jersey; New York; Ohio; Oklahoma (new record); Oregon (new record), Pennsylvania; Rhode Island; Texas; Virginia; Washington; West Virginia (new record)) (Fig. 125). *P. corticalis* (Loew), 1873 (*Stictocephala*) (Canada: Alberta; British Columbia (new record); Manitoba (new record); Ontario (new record); Quebec (new record); Saskatchewan (new record); USA: Connecticut; D.C.; Maryland; New Jersey; New York; Ohio; Pennsylvania; Utah (new record); Virginia; Norway; Russia: NW European Territory; N Caucasus; Far East (Figs. 126–127). *P. approximata* Banks, 1914 (as “*P. approximata*”) (SE Canada, NE USA, Kansas (new record)) (Fig. 126). *P. metzi* Johnson, 1915 (NE USA). *P. conjuncta* Johnson, 1921 (as *P. vau* var. *conjuncta*) (NE USA). *P. millepunctata* (Hennig), 1939 (*Myennis*) (NE China (new record); E Russia) (Fig. 127). *P. trypetoptera* (Hennig), 1939 (*Myennis*) (NW and E Russia, Mongolia). *P. ussurica* Krivosheina and Krivosheina, 1997 (as “*P. ussuruca*” on p. 675, inadvertent error; as *P. ussurica* on pp. 677–678) (E Russia).

P. vau var. *californica* Steyskal, 1962 and *P. vau* var. *idahoana* Steyskal, 1962 from western USA are unavailable names.

The validity of some of these names needs further clarification. Johnson (1921) considered *approximata*, *metzi* and *conjuncta* as morphological varieties of *P. vau*. Malloch (1931) reassigned full species status to them and noted that these three species are close to each other, but not to *P. vau*. Steyskal (1961, 1965) contended that *metzi* and *conjuncta* are synonyms of *P. vau*, but left *P. approximata* as a valid species, based on its conspicuously larger size, having an additional dark spot in the costal cell, and a wider metaphallic plate. Indeed, there is a full range of intermediate forms of *P. vau* depending on the distance between crossveins R-M and DM-Cu and wing pattern intensity. We have no additional evidence either supporting the status of *P. approximata* as a valid species or for its identity with *P. vau*, and maintain the concept of



Figs. 12–21. *Pseudotephritis*, terminalia. 12. *P. approximata*, male terminalia, anterior view (from Steyskal, 1962). 13. *P. vau*, epandrium, posterior view (proctiger removed). 14–15. *P. millepunctata*, epandrium, posterior view (proctiger removed) (modified from Krivosheina & Krivosheina, 1997c). 14. Specimen with approximated crossveins. 15. Type of *P. ussurica*. 16–17. *P. corticalis*, epandrium, posterior view. 16. Specimen from Far East Russia (modified from Krivosheina & Krivosheina, 1997c). 17. Specimen from northwestern USA. 18. *P. vau*, abdominal sternites 3–6 of female. 19. *P. corticalis*, abdomen, ventral view (oviscap removed). 20. *P. vau*, spermathecae. 21. *P. corticalis*, spermathecae.

this species proposed by Steyskal (1962).

Hennig (1939) was unaware that the species he described as *Myennis millepunctata* and *M. trypetoptera* actually belong to a genus described from North America. Steyskal (1962) synonymized the nearctic *P. corticalis* (Loew, 1873) with the palaearctic *P. trypetoptera* (Hennig, 1939) and accompanied this action with the following comment: “Hennig (personal communication) confirms the above synonymy from comparison of American material sent him; his type was from Luga, Tolmatchevo, Russia (near Leningrad)”. This synonymy was accepted in both the nearctic (Steyskal, 1965) and palaearctic (Soós, 1984) catalogs. Later, Krivosheina and Krivosheina (1997c) resurrected the name *P. trypetoptera* (Hennig) based on the fact that “...Steyskal (1962) gives the only difference of *P. corticalis* (Loew) — surstylus with 2 clear denticles [= prensisetae] only. *P. trypetoptera* (Hennig) is characterized by a different type of surstylus morphology.” Indeed, the specimen figured by Krivosheina and Krivosheina (1997c: Fig. 1,4 and 1,7) differs from that figured by Steyskal (1962: Fig. 4). In fact, most nearctic specimens differ from palaearctic specimens in having a somewhat reduced wing pattern. Nevertheless, a study of a large series of North American specimens shows that both the wing pattern and number of prensisetae overlap: some specimens from the U.S.A. possess 3 prensisetae at least on one surstylus, as in specimens from Far East Russia (Krivosheina and Krivosheina, loc. cit. Fig. 1,7); the surstylus, proctiger and metaphallic plate shape differences between male terminalia figured by Steyskal and Krivosheina and Krivosheina are due to different angles and minor inaccuracies in drawing, and were found to be almost identical in our study. About 15% of the North American specimens have a wing patterns typical of palaearctic specimens (Fig. 11). We, therefore, again treat *P. trypetoptera* a synonym of *P. corticalis*.

Finally, Krivosheina and Krivosheina (1997c) described *P. ussurica* based upon specimens differing from *P. millepunctata* in having more distantly spaced crossveins R-M and DM-Cu and widely separated dark spots lying on the crossveins. The material that we studied showed transitional forms between them (similar to series of variation in *P. vau*). The differences between forms of the epandrium resulted from different angles of view. Finally, the holotype of *P. ussurica* was from a series of typical *P. millepunctata* reared from under the bark of oak. Kameneva (2001) recently synonymized these two names.

Determination. The four species recognized by us are included in the following key.

Key to species of *Pseudotephritis*

1. Wing tip hyaline from apex of vein R_{2+3} to apex of vein M except small dark spot at apex of vein R_{4+5} ; dark area over crossvein R-M with hyaline spots on either side of crossvein (Fig. 10–11). Eye as long as high or longer than high (Fig. 5) ***P. corticalis* (Loew)**
- Wing tip with complete brown band extending from apex of vein R_{2+3} to, or beyond, apex of vein M; dark area over crossvein R-M without hyaline spots (Figs. 6–9). Eye higher than long. **2**
2. Extension of cell bcu without dark brown spot (Fig. 9). Subbasal crossband dark brown, in cell dm narrower or, at most, as broad as in cell bm. Palaearctic species ***P. millepunctata* (Hennig)**
- Extension of cell bcu with dark brown spot which is conspicuously darker than subbasal crossband, which is yellow to yellow-brown (Figs. 6–7); width of latter in cell dm 1.5–2 times more than in cell bm. Nearctic species **3**

3. Costal cell with round brown spot between basal streak and larger dark subapical spot (Fig. 7). Apical crossband extending over vein R_{2+3} into cell r_1 . Wing length more than 5.2 mm.
..... ***P. approximata* Banks**
- Costal cell between basal streak and larger subapical spot completely hyaline (Fig. 6). Apical crossband at most touching apex of vein R_{2+3} . Wing length less than 5.1 mm ***P. vau* (Say)**

Discussion

The diagnostic characters of *Pseudotephritis* are either plesiomorphic or of uncertain polarity, although the presence of rather narrow and long metaphallic plate is a probable, but not proved synapomorphy of *P. vau* + *P. approximata* + *P. millepunctata*. The genus is rather heterogeneous because of the inclusion of *P. corticalis* that shares numerous characters with *Callopiromyia*. None of these characters is clearly a synapomorphy, but *P. corticalis* is a likely sister group of the whole *Oedopa* group of genera. We retain *corticalis* in *Pseudotephritis* (which is well-defined by plesiomorphies) provisionally, to avoid establishing one more monotypic genus based on uncertain relationships.

Callopiromyia Hendel, 1907

(Figs. 22-30, 128)

Callopiromyia Loew, 1873: 62, 140. Type species: *Platystoma annulipes* Macquart, 1855 (by monotypy). Aldrich, 1905: 593; Williston, 1908: 277 (preoccupied name, non *Callopiromyia* Hübner, 1816, Lepidoptera).

Callopiromyia Hendel, 1907: 98 (new name for *Callopiromyia* Loew); 1909a: 41; 1909b: 20; Curran, 1934b: 279; Aczél, 1951: 410; Steyskal, 1961: 405; 1965: 643; 1975: 147; 1979: 450; 1987: 807.

The genus was established as monotypic and briefly diagnosed by Loew (1873, as *Callopiromyia*). Hendel (1909b) gave the most detailed description of this genus, based on the type species only. Steyskal (1975) transferred *Pterocalla strigula* Loew to *Callopiromyia*, which altered the concept of this genus, which has not been subsequently redescribed.

Redescription

Medium-sized (3.5–5.5 mm) flies with gray microtrichose body having speckled pattern of brown tomentum without shiny areas or bare dots at bases of setae (Fig. 23) and with setulose abdominal pleura (Fig. 28).

Head. As wide as thorax, slightly higher than long (1.10–1.25; 1.00 in *C. annulipes*) or as high as long (*C. strigula*) and 1.4–1.6 times as wide as high. Lateral margins of frons converge anteriorly. Facial ridge with 4–6 setulae. Anterior part of gena with row of 6–8 dorsoclinete setulae reaching vibrissal edge and facial ridge. Gena 0.3–0.5 times as high as eye, densely setulose on posterior part. Eye slightly higher than long (1.1 : 1) (*C. annulipes*) or as high as long (*C. strigula*). One paraverticlar setula on each side of median occipital sclerite; 4–6 setulae in single postocular row; chaetotaxy otherwise similar to *Pseudotephritis*. Antennae well-separated, distance between their bases 2.0–2.2 times as wide as antennal socket. First flagellomere 1.0–1.1 times as long as wide. Proboscis and palpus similar to those of *Pseudotephritis*.

Thorax. Generally as described for *Pseudotephritis*. Scutum with numerous irregularly

arranged setulae except more or less distinct dorsocentral row; 4–8 setulae between dorsocentral lines. Chaetotaxy similar to that of *Pseudotephritis*; 1 supra-alar seta closer to postalar seta than to transverse suture; intra-alar area without long setulae. Pattern of brown microtrichia as in Fig. 23. Subscutellum half as long as scutellum. Katepisternum almost completely brown, meron, katatergite and anatergite at least partially gray.

Wings. Broad in *C. annulipes* (2.1 times as long as wide), narrow in *C. strigula* (2.8–3.0 times as long as wide). Crossvein R-M almost perpendicular to vein R_{4+5} , situated slightly proximad (in *C. annulipes*) or slightly distad (in *C. strigula*) of vein R_1 apex. Vein M almost straight; its second section without stump vein; its penultimate section 1.7–3 times as long as crossvein R-M; ultimate section straight (Fig. 25) or slightly bent anteriorly (Fig. 24). Crossvein DM-Cu oblique, sinuous in *C. annulipes*, straight in *C. strigula*. Extension of vein Cu_2 along vein A_1 1.5–4.5 times as long as section between fork of vein Cu and elbow of vein Cu_2 . Posterodistal lobe of cell bcu triangular, longer than (in *C. annulipes*) or shorter than apical section of vein A_1+C_{u2} (in *C. strigula*).

Legs. Neither thickened, nor having unusual vestiture. All tibiae yellow at base and apex, with 3 dark rings. Midtibia with ventroapical seta more than twice as long as most other thickened setae at apex, and 2 shorter setae, about 0.7 and 0.6 times as long as longer seta, respectively. Tarsi of all legs without modifications.

Abdomen. With well developed microtrichose pleural membrane bearing numerous setulae. Sternites 3–6 of female with very long and narrow anteromedial apodemes (Fig. 28). Oviscape gray microtrichose or matt, with brown gray pattern.

Male terminalia. Surstylus short with mesal lobe almost equal to its basal portion, with 2–3 prenisetae; proctiger small; metaphallic plate moderately narrow, elongate (Figs. 26, 27). Phallus long spinulose.

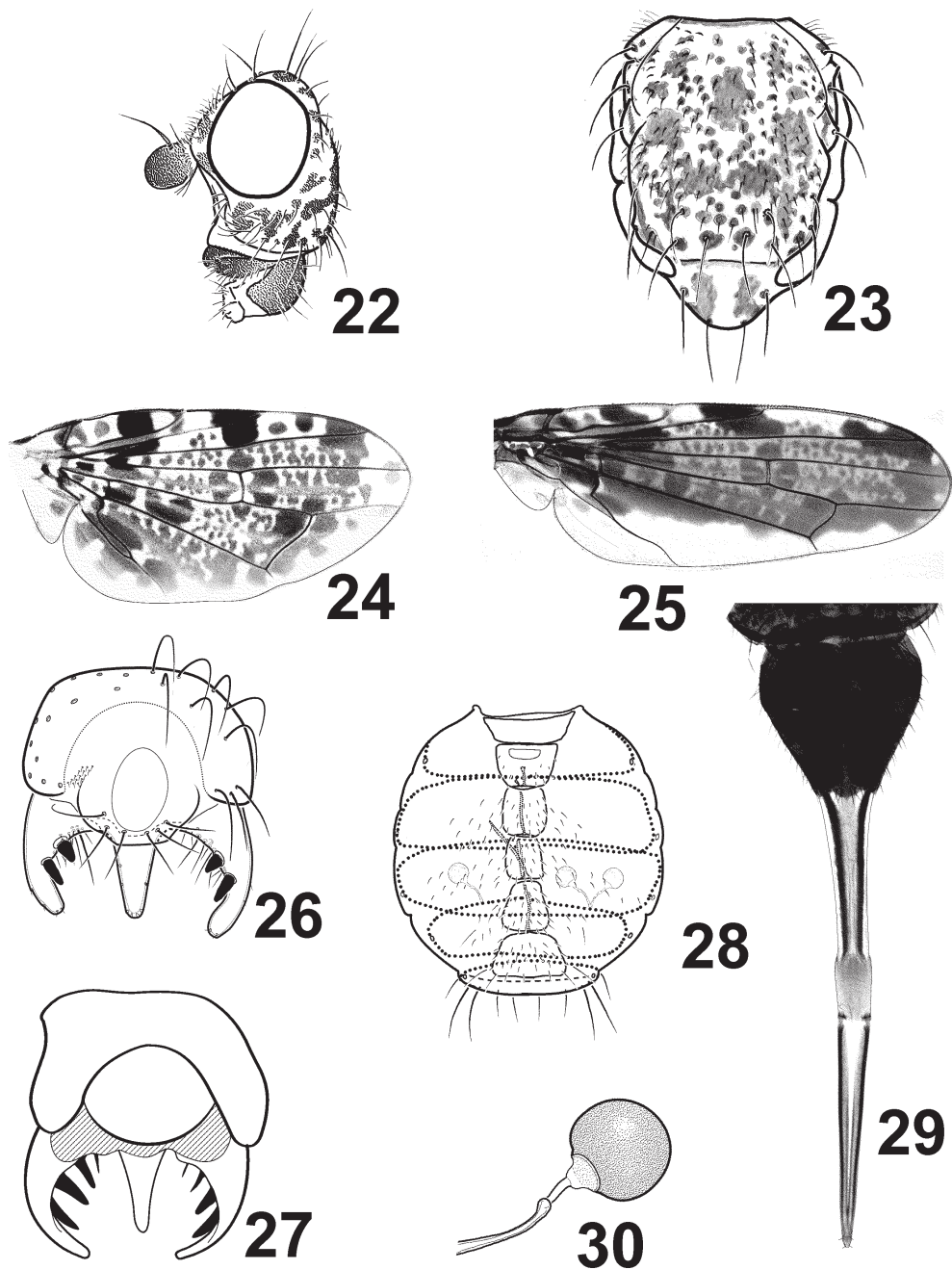
Female terminalia. Eversible membrane without scales. Aculeus long and narrow; cercal unit elongate oval, with long setulae (Fig. 29). Three spherical spermathecae with short inverted necks (Fig. 30).

Included species and distribution (Appendix 3, Fig. 128)

Callopietromyia annulipes (Macquart, 1855) (Canada: Alberta (new record); British Columbia; Ontario; United States: Alabama (new record); Arizona (new record); Connecticut; D.C.; Georgia; Idaho; Illinois; Indiana; Iowa (new record); Kansas; Kentucky; Louisiana (new record); Maine; Maryland; Massachusetts; Michigan; Mississippi; Montana; New Hampshire; New Jersey; New York; North Carolina; Ohio; Pennsylvania; Rhode Island; Tennessee; Utah; Vermont; Virginia; Washington; West Virginia; Wisconsin). *C. strigula* (Loew, 1873) (Canada: Manitoba, Ontario, Saskatchewan; United States: Colorado; D.C.; Columbia; Georgia; Illinois; Kansas; Maine; Maryland; Michigan; Minnesota; Nebraska; New Mexico; North Carolina; North Dakota; Pennsylvania (new record); South Dakota; Tennessee; Utah) (Fig. 128).

Biology

Steyskal (1979) collected puparia of *C. annulipes* and *C. strigula* in decaying cambium of a dead tree of boxelder (*Acer negundo* Linnaeus) and noted abundant adults of the first species on the bark of dying trees of *Populus deltoides* Barr. ex Marsh, ovipositing on dead trees of *Robinia pseudacacia* Linnaeus, and feeding on frass of wood borers in live trees of the latter



Figs. 22–30. *Callopistromyia*. 22–24. *C. annulipes*. 22. Head, lateral view. 23. Mesonotum, dorsal view. 24. Wing. 25. *C. strigula*, wing. 26. *C. annulipes*, epandrium, posterior view. 27. *C. strigula*, epandrium, posterior view (from Steyskal, 1979). 28–30. *C. annulipes*. 28. Abdomen, ventral view (oviscape removed). 29. Female terminalia. 30. Spermatheca (1 of the 3).

species. Specimens from CNC have labels “dead poplar bark” on *C. annulipes* and “bleeding elm” and “wound on *Acer negundo*” on *C. strigula* specimens.

Discussion

The monophyly of the genus is supported by a single synapomorphy: the obtuse anterodistal angle of cell *bcu*. The two included species differ in wing shape and venation. *Callopietromyia* shares setulose abdominal pleura with other genera of the *Oedopa* group. It is the most generalized member of this group, and retains a speckled body pattern and head shape similar to *Pseudotephritis corticalis*, the possible sister-taxon to the entire *Oedopa* group. It is associated with dead wood of deciduous trees (similar to *Pseudotephritis* and genera of the *Myennis* group).

Determination.

Species can be determined with the following key.

Key to species of *Callopietromyia*

1. Wing less than 2.5 times as long as wide, oval. Crossvein R-M proximal of R_1 apex (Fig. 24). *C. annulipes* (Macquart)
- Wing more than 2.5 times as long as wide, with subparallel anterior and posterior margins. Crossvein R-M distal of R_1 apex (Fig. 25). *C. strigula* (Loew)

Oedopa Loew, 1873

(Figs. 31-42, 129)

Oedopa Loew, 1868a: 287. Type species: *Oedopa capito* Loew, 1868 (by monotypy). Loew, 1873: 65, 146; Giglio-Tos, 1893: 12; 1895: 43; Cresson, 1906: 284; Hendel, 1910b: 63; Steyskal, 1961: 404; 1965: 653; 1974: 163; 1987: 806.

Description

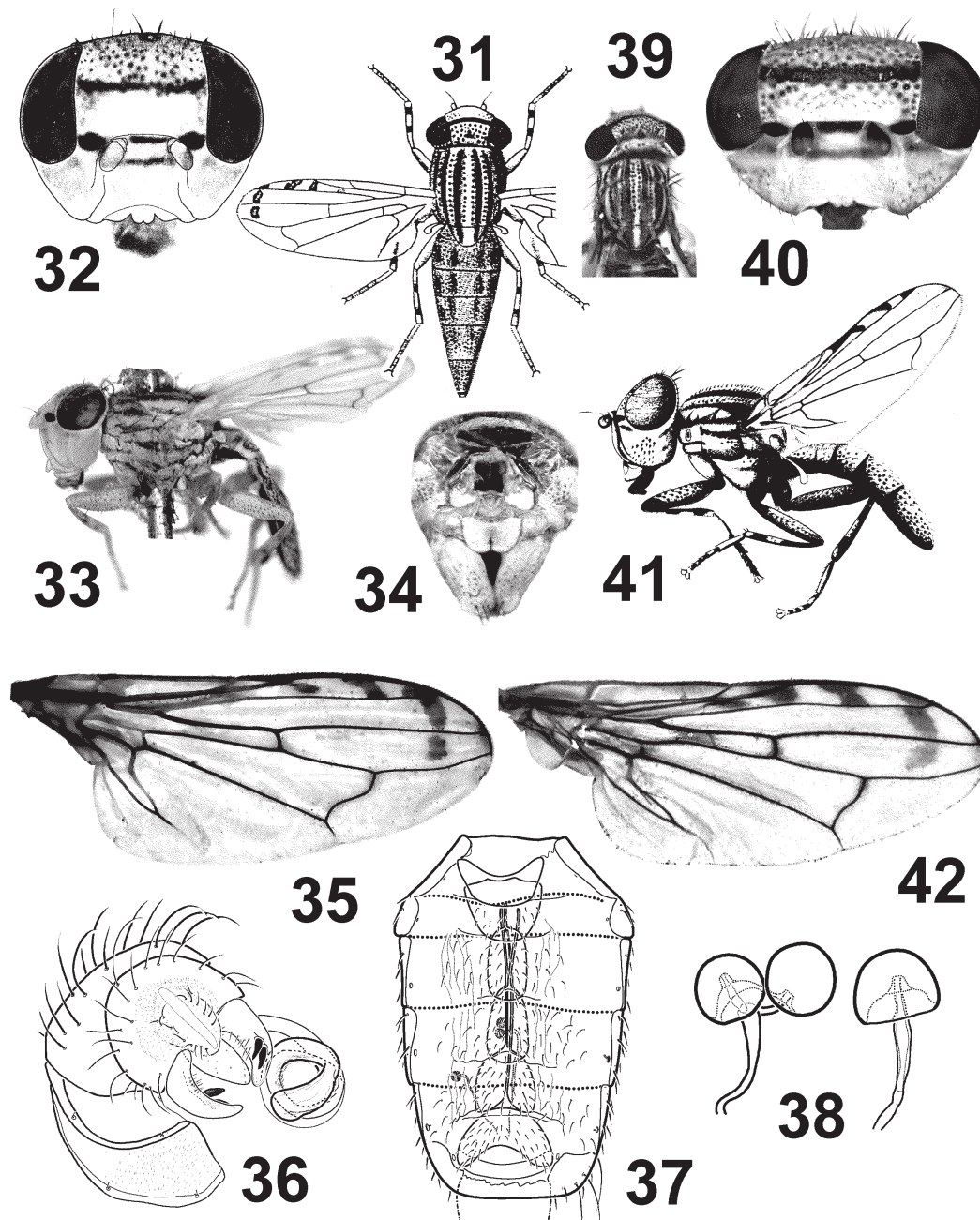
Generic description has been given by Hendel (1910b: 63–65), to which we add the following.

Medium-sized (3.5–7.5 mm) flies with large head wider than long, bare vein R_1 , densely gray microtrichose body with sparsely microtrichose blackish areas or dots at bases of setae and setulose abdominal pleura.

Head. Conspicuously wider than thorax, 1.5–1.7 times as high as long, wider than long, 3 times as wide as long. Frons wider than long, not protruding, in profile forming very obtuse angle with dorsal portion of face; lateral margins slightly convergent anteriorly. Frons white microtrichose, densely setulose, with small bare dots at bases of setulae to level of posterior ocelli, with unclear, narrow, white microtrichose median vitta broken by 3–4 bare spots. One laterocline and slightly reclinate ocellar seta and 3–5 smaller setulae on ocellar triangle. Two posterolaterally directed, approximated orbital setae; posterior seta slightly longer than anterior seta, additional mesocline seta often in line with anterior orbital seta. Frontal setulae all black, moderately stout, about 0.25–0.3 times as long as orbital setae. Face uniformly white microtrichose, slightly convex in profile in epistomal portion, without transverse furrow and with shallow and short antennal grooves. Clypeus low, with bulging, inverted horseshoe-shaped or tongue-like medial portion, and two sclerotized, flat lateral branches separated from it by folds, with paired swellings between them and peristomal margins. Parafacial very broad, 2–3 times as high as wide, with bare velvety black spot on dorsal 0.2, otherwise microtrichose, broadened on ventral half. Facial ridge with 2–3 setulae above vibrissal edge. Anterior part of

gena with row of 4–8 lateroventrally directed setulae reaching ventral end of ptilinal suture, vibrissal edge and facial ridge. Gena 0.6–0.7 times as high as eye. Genal seta well developed. Eye as high as or very slightly higher than long, in live specimens horizontally banded. Vertex rounded, without ridge; postocellar seta divergent, slightly shorter than ocellar seta; medial vertical seta twice as long as postocellar seta; lateral vertical seta 0.7–0.9 times as long as medial seta. Occiput conspicuously concave dorsally, with very broad transverse brown or black mark, and slightly swollen ventrolaterally. No paravertic setula; 10–12 setulae in single postocular row; 3–4 long brown occipital setulae lateral to ventral portion of dorsal occipital suture and 3–4 setulae at level of occipital foramen. Anterodorsally curved supracervical setulae in two groups of 5–8 on each side separated by bare area. Postgena moderately white (in *O. capito*) or black (in *O. ascriptiva*) setulose. Hypostomal bridge (area between tentorial pits) twice as wide as high, bare, except lateroventral corners fine white setulose. Antennae well-separated, distance between their bases 2.5–2.9 times as wide as antennal socket. Scape very short. Pedicel wider than long, with inconspicuous medial lobe and dorsal incision; lateral surface with one row of marginal setulae, with 4 or 5 longest at ventral margin; 8–10 marginal setulae on medial surface forming 1–2 irregular rows; dorsal pedicellar seta almost as long as pedicel. First flagellomere 1.1–1.2 times as long as wide, short microtrichose. Two visible basal aristomeres. Terminal aristomere short pubescent. Proboscis stout, with rather small prementum 0.5 times as high as gena, bearing 4–6 setae on either side. Labellum fleshy. Palpus moderately narrow, sausage-shaped, curved dorsally, not broadened towards apex, with 6–8 setulae (as long as palpus width) at ventral margin and 5–8 shorter setulae on lateral and medial surfaces.

Thorax. Robust, slightly longer than wide, microtrichose, except antepnotum and anterior margin of scutum, and subshiny dots at bases of setulae. Postpronotal lobe with 1 seta and 6–7 anteroventral setulae. Proepisternum with group of 6–10 fine long posterodorsally directed white and brown setulae on dorsal portion and 1 proepisternal seta on ventral portion subequal to dorsal setulae, but black and stouter. Prosternum consisting of very small presternum and bare, thickly microtrichose, trapezoidal basisternum, which is 1.5 times as wide as high. Lateral cervicalium microtrichose. Mesonotum in profile almost flat, scapular area abruptly curved. Scutum densely yellowish-white microtrichose, with 4 blackish, more sparsely microtrichose vittae and with numerous setulae forming one acrostichal row and one dorsocentral row on either side; 2–3 irregular rows of setulae between them; single supra-alar row well defined anterior and posterior to suture; between it and dorsocentral row 2–3 intra-alar rows of setulae separated by bare, microtrichose stripes from both dorsocentral and supra-alar row. One acrostichal, 1 dorsocentral, 1 intra-alar, 1 postalar and 1 supra-alar setae, latter inserted posterior to midpoint between postalar seta to transverse suture. Scutellum flattened, triangular, with 4 scutellar setae and without any setulae, with pair of large dark gray spots on disc and with thick microtrichia in middle and along margins. Subscutellum short, 0.2 times as long as scutellum. Subscutellum and mediotergite gray microtrichose. Notopleural triangle mostly dark gray, short and sparsely microtrichose at transverse suture, otherwise longer densely gray microtrichose; 2 subequal notopleural setae. Anepisternum gray microtrichose, with 2 dark gray longitudinal stripes of shorter microtrichia. Katepisternum microtrichose, sparser in middle; bases of setulae and setae with almost bare dots. Katepisternum with 1 seta at posterodorsal margin and 3–5 at ventral margin. Meron, katatergite and anatergite densely microtrichose, but at margins almost bare. Numerous setulae of anepisternum rather sparse and 0.33 times as long as 2 anepisternal setae at posterior margin.



Figs. 31–42. *Oedopa*. 31–38. *O. capito*. 31. Habitus, dorsal view (from Loew, 1873). 32. Head, anterior view. 33. Habitus of syntype, lateral view. 34. Prothorax and forecoxae of syntype, anterior view. 35. Wing. 36. Male terminalia, posterior view. 37. Female preabdomen, ventral view (oviscape removed). 38. Spermathecae. 39–42. *O. ascriptiva*. 39. Head and mesonotum, dorsal view. 40. Head, anterior view. 41. Habitus, lateral view (from Hendel, 1910b). 42. Wing.

Wing. Tegula unmodified, with 4–5 setulae and 2–3 strong marginal setae. Costagial section of costa dorsoventrally widened, with rather sparse irregular setulae and 1 ventroapical seta. Humeral section of costa with 2–3 almost regular rows of moderately long and thin setulae. Section of costa between humeral break and apex of vein R_{2+3} with two rows of subequal short and slightly thickened setulae to about apex of vein R_{2+3} (dorsal row slightly beyond apex of vein R_{2+3}). Subcostal vein at apex slightly bent towards anterior margin. Vein R_1 straight, bare. Vein R_{2+3} slightly undulate. Vein R_{4+5} bare, ending at wing apex. Costal cell 2.8–3.0 times as long as pterostigma. Crossvein R-M almost perpendicular to vein R_{4+5} , situated at level of middle of pterostigma. Vein M almost straight; its second section without stump vein; its penultimate section 5–6 times as long as crossvein R-M and 1.2–1.5 times as long as crossvein DM-Cu; ultimate section of vein M bent anteriorly. Crossvein BM-Cu perpendicular to vein M, clearly broken at anterior end. Crossvein DM-Cu sinuous, often with stump vein into cell dm. Crossvein Cu_2 with posterodistal lobe of cell bcu 2.2–2.7 times as long as section between fork of vein Cu and elbow of vein Cu_2 ; vein A_1+Cu_2 reaching posterior wing margin. Posterodistal lobe of cell bcu triangular, as long as or slightly longer than apical section of vein A_1+Cu_2 . Vein A_2 well developed as fold. Alula moderately developed. Dorsal calypter with long marginal fringe, 1.5–2 times as long as ventral calypter. Halter unmodified.

Legs. Slightly thickened, white microtrichose. Forecoxa robust, with anterior surface flattened towards apex and 3–4 ventromarginal setae longer than setulae on anterior surface; foretrochanter unmodified; forefemur slightly swollen posterodorsally, and flattened at anteroventral surface, with slightly erect setulae and bare round spots at their bases, 2 posterodorsal and 1 posteroventral rows of setae; foretibia covered by short and appressed setulae, with brown ring at apex of basal third, another dark ring at base of apical third, both often inconspicuous in pale specimens. Midcoxa with row of 6–7 setae on elongate eucoxa and 3–4 setae on disticoxa; midcoxal prong well developed; midtrochanter unmodified; midfemur short setulose, with anterior row of 6–8 quite short setae 0.3–0.4 times as long as width of femur and with posterior row of 9–12 setae 0.5–0.6 times as long as width of femur; midtibia more or less darkened on basal half and with single dark ring on apical third; 2–3 ventroapical setae twice as long as other thickened setae at apex of midtibia, anterodorsal preapical seta developed and erect, but not much longer than surrounding setulae. Hindcoxa unmodified, with 4–5 anteroventral setae and 4–5 setulae on eucoxa and 2–3 stronger lateromarginal setae, 1.5–2 times as long as setulae. Hindtrochanter unmodified. Hindfemur without modifications, moderately setulose, with 2 subapical setae on dorsal surface. Hindtibia slightly curved, otherwise unmodified, with anterodorsal and posterodorsal rows of erect setulae, more conspicuous in *O. ascriptiva*, setulae of ventroapical row short and thickened; coloration like in foretibia and midtibia. Apical portion of foretibia, posteroventral surface of tarsomere 1 (and often 2) of foretarsus and anteroventral surface of tarsomeres 1–2 (–3) of hindtarsus with brushes of thick yellowish setulae; all tarsomeres with 2 rows of thickened setulae and 4 apical, elongate and thickened setulae on ventral surface, except 1 anteroventral row on foretarsomeres 1 and 2 and 1 posteroventral row on hindtarsomere 1; otherwise setulae of tarsomeres more or less symmetrical. Claws simple; pulvilli moderately developed; empodium bare or inconspicuously microtrichose, shorter than longest setae of tarsomere 5.

Abdomen. Narrow oval, with broad, microtrichose, setulose tergites, well-developed microtrichose pleural membrane without any setulae, and moderately narrow, microtrichose

and setulose sternites. Tergites wider than long (except male tergite 5 almost as long as wide), with more or less distinct pattern of 4 rows of dark gray spots and dots at bases of setulae; sternites 3–4 of both male and female longer than wide, other sternites wider than long or subquadrate. Well-developed spiracles situated on ventral aspect of abdomen close to tergite margins. Female tergite 6 short and narrowed, microtrichose with brown spots and setulose, completely hidden underneath margin of tergite 5. Sternites 3–6 of female with very long and narrow anteromedial apodemes (Fig. 37). Oviscape gray microtrichose, with dots at bases of setulae.

Male terminalia. Segments 6–8 microtrichose. Epandrium elongate oval, with large, slightly mesally curved surstylus, bearing 2 prensisetae and numerous setulae; proctiger short. Metaphallic plate large and long oval. Phallus short trichose (Fig. 36), without long spines.

Female terminalia. Eversible membrane without visible scales. Aculeus long and narrow; cercal unit elongate oval, with moderately long setulae. Three mushroom-shaped spermathecae with inverted necks (Fig. 38).

Included species and distribution (Appendix 3, Fig. 129)

The genus includes 3 described species occurring in North and Central America: *Oedopa capito* Loew, 1868 (type-locality: Nebraska; Steyskal (1974) reported it from Arizona, California, Colorado, Idaho, Nebraska, New Mexico, South Carolina, Texas, Utah, Washington and Wyoming); *O. ascriptiva* Hendel, 1909 (Colorado) (Fig. 129) and *O. elegans* Giglio-Tos, 1893 (Mexico: Oaxaca). The latter species was originally briefly described in the key and redescribed in detail by Giglio-Tos (1895), but never redescribed or rediscovered since then. Its type specimens have not been located in MSNT (M. Daccordi, personal communication), and its placement in *Oedopa* remains provisional. Its redescription, with translation to English, is cited below.

Oedopa ascriptiva is known with certainty only from Colorado, USA. The characters distinguishing it from *O. capito* given by Hendel (1909c) and Steyskal (1974) are not reliable, especially considering that both Hendel's and Steyskal's material from Colorado determined as *O. capito* contains darker specimens. These latter possess black and stout genal setulae as in typical *O. ascriptiva* (they are fine and short, yellow-brown in *O. capito*), but lack dark coloration of the scape and pedicel, and have dark spots in the pterostigma and posterior to it in cell r_1 , which is intermediate between most *O. capito* and *O. ascriptiva*. We assume that the form with stout black genal setulae belongs to *O. ascriptiva*, too, if the latter is not merely a morph of *O. capito*. Based on the examined material, the "typical" specimens of *O. capito* (with yellow genal setulae) are known from Canada: Alberta (new record) and USA: Arizona; California; Missouri (new record); Nebraska; Nevada (new record) and Washington. The form with black genal setulae and yellow pedicel and scape (*O. sp. near ascriptiva*) is known now from Canada: Alberta; British Columbia (new record of the genus); Saskatchewan (new record of the genus), and USA: Colorado and Utah. Other distributional records need to be rechecked; they are shown with white circles on the distribution map (Fig. 129).

Biology

Not known. The only association with biotopes that can be hypothesized from labels are prairies, dry places, or sand dunes in plains or low and middle altitude mountains. A label record "On *Chilopsis*" [shrub of the family Boraginaceae] apparently does not refer to a host plant.

Discussion

The concept of this genus and its included species needs further revision. Monophyly of at least *O. capito* and *O. ascriptiva* is substantiated by the shape of the clypeus, which is unique in Ulidiidae, but it is not described for *O. elegans*. Relationships with the other genera of the *Oedopa* group have not yet been resolved. *O. elegans* is known from its very brief diagnosis and the more detailed redescription cited below. Its generic position, based on having a sinuous crossvein DM-Cu, is dubious, as the species has 2 black frontal spots as in *Paroedopa punctigera*.

Determination

Steyskal (1974) compiled the only complete key to species, which has been modified in the following key.

Key to species of *Oedopa*

1. Wing with numerous brown dots dispersed over whole disc. Frons with two round black spots ***O. elegans* Giglio-Tos**
- Wing with brown spots at anterior margin and apex only. Frons with black transverse bar **2**
2. Gena with inconspicuous yellow or brownish setulae ***O. capito* Loew**
- Gena with strong black setulae **3**
3. Pedicel and scape black ***O. ascriptiva* Hendel**
- Pedicel and scape yellow ***O. sp. near ascriptiva* Hendel**

Redescription of *Oedopa elegans* (after Giglio-Tos, 1895: 42, with translation into English)

“... *Oedopa elegans*.

Oedopa elegans Giglio-Tos (19), p. 12.

Femmina. — Faccia cenerino-bruniccia; guancie larghe sparse di piccoli peli. — Proboscide nera; palpi bruno-giallicci. — Antenne gialle. — Fronte cenerino-bruniccia, leggermente ocracea in basso; due macchie nere rotonde laterali prima del vertice. — Torace bruno-cenerino, finissimamente punteggiato di bruno sul dorso. — Scudetto cenerino, appena ocraceo all’apice, munito di quattro setole, e con due macchie nere, piccole, rotonde nel mezzo. — Addome alquanto piatto, quasi conico, coi segmenti ben distinti, nero e tutto cosparso di pollinosità cenerina, con macchie irregolari, bruniccie; ovopositore largo, un po’ fulvo. — Piedi robusti, neri; le tibie giallo-fulve, colla base e due anelli l’uno verso il mezzo e l’altro presso l’apice, neri; tarsi gialli; uncini grandi, neri; ultimo articolo dei tarsi posteriori molto dilatato. — Ali ialine, macchiettate di moltissime macchie bruniccie, più intense verso la base; vene trasverse distanti, la posteriore bisinuosa. — Bilancieri gialli. — Lunghezza mm. 7.

Una sola femmina.

[**Female.** — Face grayish-brown; genae wide, with sparse small setulae. — Proboscis black; palpi brownish yellow. — Antennae yellow. — Frons grayish brown, slightly ochraceous at base; two black round spots laterally before vertex. — Thorax brownish gray, very finely brown dotted on dorsum. — Scutellum gray, very slightly ochraceous apically, bearing 4 setae, and with 2 black spots, in average small, round. — Abdomen quite flat, almost conical, with segments well distinct, black and completely gray microtrichose, with irregular brown spots; ovipositor wide, yellow. — Legs robust, black; tibiae creamy yellow, with two black rings, one

at middle, and the other at apex; tarsi yellowish; claws large, black; last joint of hindtarsi very dilated. — Wings hyaline, maculated with numerous brown spots, more intensively towards base; transverse vein distant, the posterior bisinuous. — Halter creamy. — Length 7 mm.

One single female.]

Hab. — Oaxaca (Sallé).”

***Paroedopa* Coquillett, 1900**

(Figs. 43–48, 130)

Paroedopa Coquillett, 1900: 22. Type species: *Paroedopa punctigera* Coquillett, 1900 (by original designation). Cresson, 1906: 284; Hendel, 1910b: 66; Curran, 1934b: 277; Steyskal, 1961: 404; 1965: 653; 1987: 806.

Description

See Hendel (1910b: 66). Principal differences from *Oedopa* are as follows.

Head. Conspicuously wider than thorax, 1.7–1.8 times as high as long, 2.2–2.3 times as wide as long. Lateral margins of frons conspicuously divergent anteriorly. Frons matt, microtrichose only on posterior half. One reclinate ocellar seta and no setulae on ocellar triangle. Two reclinate orbital setae; posterior seta twice as long as anterior seta. Clypeus low, without separated anteromedial portion. Parafacial uniformly microtrichose. Anterior part of gena with row of 3–4 lateroventrally directed peristomal setulae and 2–3 setulae at vibrissal edge. Gena 0.25–0.3 times as high as eye. Eye 1.5 times as high as long. Vertex: postocellar seta slightly longer than ocellar seta. Occiput broadly darkened, microtrichose on dorsal portion, slightly produced posteriorly at eye margin and postgena, yellow on ventrolateral portion. No paraverticlar setula; 8–9 setulae in single postocular row; 0–1 long black occipital setulae lateral to ventral portion of suture. Supracervical setulae not examined. Postgena moderately black setulose. Antennae well-separated, distance between their bases twice as wide as antennal socket. Scape short. First flagellomere very short microtrichose. Terminal arista bare. Proboscis stout, with prementum as long as gena height. Palpus spoon-shaped, widened towards apex, with 4–5 setulae (conspicuously shorter than palpus width) at ventral margin and 4–5 at apex on lateral surface; 4–5 apicomedial setulae, twice as long as other setulae.

Thorax. Coloration and vestiture similar to *Oedopa*. Postpronotal lobe with 1 seta and 3–4 anteroventral setulae. Proepisternum with group of 7–10 fine brown setulae on dorsal portion and 1 proepisternal seta on ventral portion, which is subequal to setulae, but stouter.

Wing. Vein R_1 straight, bare. Vein R_{2+3} straight. Vein R_{4+5} ending slightly anterior to wing apex. Costal cell 1.5 times as long as pterostigma. Second section of vein M without stump vein; penultimate section of vein M 4–5 times as long as crossvein R-M and 1.5 times as long as crossvein DM-Cu. Crossvein BM-Cu oblique to vein M, constricted at anterior end. Crossvein DM-Cu straight. Vein Cu_2 with posterodistal lobe of cell bcu 3 times as long as section between fork of vein Cu and elbow of vein Cu_2 ; vein A_1+C_{u2} reaching posterior wing margin. Posterodistal lobe of cell bcu triangular, as long or slightly shorter than Vein A_1+C_{u2} .

Legs. Foretibia covered by short and appressed setulae and with posterodorsal row of longer erect setulae, with brown ring at apex of basal third, and another dark ring on apical third, both wide. Midcoxa with row of 6–7 setae on elongate eucoxa; disticoxa not examined; midcoxal

prong well developed; midfemur as in *Oedopa*; midtibia banded like foretibia; 3–4 ventroapical setae twice as long as other 2–3 thickened setae at apex of midtibia and 1 anterodorsal preapical seta. Hindtibia slightly curved, otherwise unmodified, with anterodorsal and dorsal rows of erect setulae, setulae of ventro-apical row short and thickened; coloration like in fore and midtibia. Vestiture of tarsi like in *Oedopa*; apical 0.2 of tarsomere 1 and whole tarsomeres 2–5 dark brown.

Abdomen. As in *Oedopa*.

Male terminalia. Epandrium elongate oval, with large, mesally curved surstylus, bearing 2 long dentate prensisetae and numerous setulae; proctiger short. Metaphallic plate very large, long oval. Phallus trichose, without long spines.

Female terminalia. Oviscape gray microtrichose, with dots around bases of setulae. Three mushroom-shaped spermathecae with inverted necks.

Included species and distribution (Appendix 3, Fig. 130)

Paroedopa punctigera Coquillett, 1900: 23 (USA: Arizona, New Mexico, Texas) (Fig. 130).

Biology

Unknown.

Discussion

Paroedopa and *Oedopa* share at least one synapomorphy, i.e., elongate abdominal sternite 4, plus several symplesiomorphies, which differentiate them from other Myennidini genera. Compared to *Oedopa*, the clypeus is unmodified (plesiomorphy) in *Paroedopa*, whereas the palpus is spoon-shaped and crossvein DM-Cu is straight (autapomorphies). The sister-group relationship between these genera is therefore quite probable, but see discussion of *Stictomyia* relationships below.

Stictoedopa Brèthes, 1926

(Figs. 49, 133)

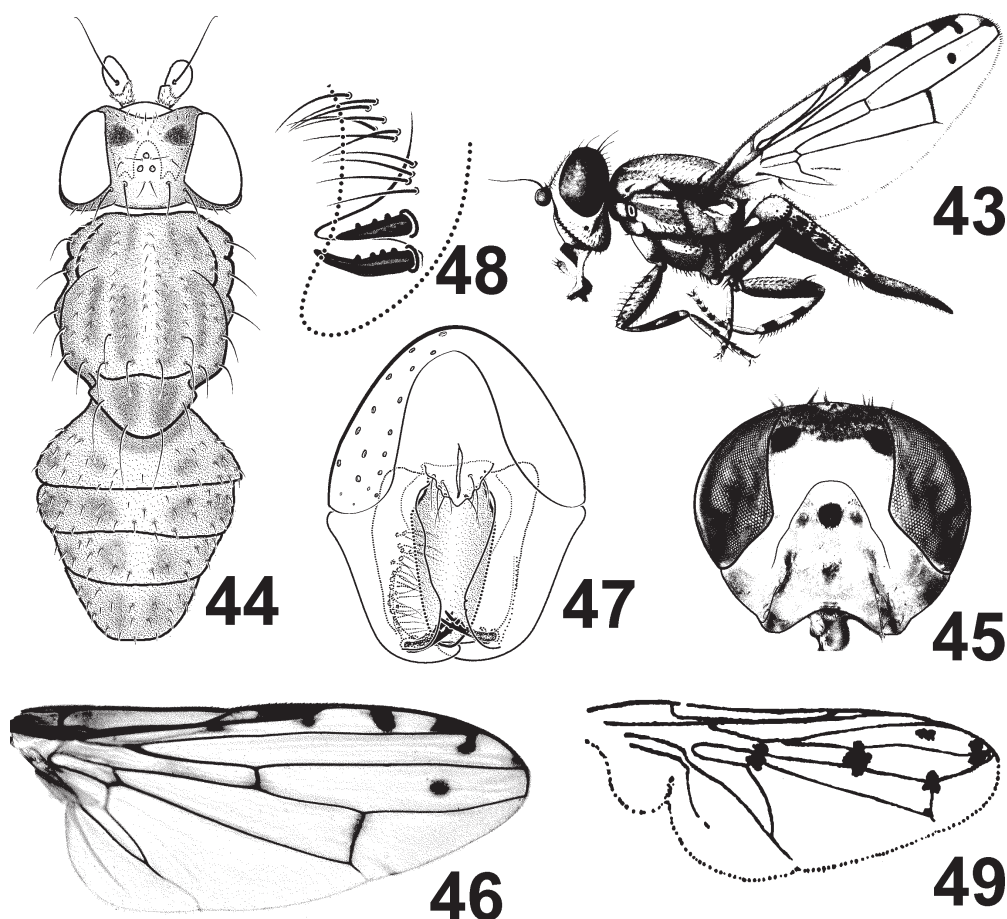
Stictoedopa Brèthes, 1926: 187. Type species: *Stictoedopa ruizi* Brèthes, 1926 (by monotypy).

Description

Known from the original French generic diagnosis and Latin description only, which are cited below (our English translation follows):

“... *Stictoedopa*.

Ce genre correspond presque aux genres *Oedopa* Loew et *Paroedopa* Coq., ayant avec le premier plus d'affinités qu'avec le second: les première et troisième veines longitudinales sont nues, la première cellule postérieure bien rétrécie vers le bord alaire, la cellule anale formant un angle aigu vers l'arrière, les joues avec un profil subcarré qui ont une hauteur presque égale à la hauteur verticale des yeux; il se rapproche de *Paroedopa* par les yeux plutôt elliptiques-verticaux, et par la veine transversale externe droite. Mais il diffère des deux genres cités par l'occiput légèrement surbaissé par rapport au niveau supérieur des yeux (comme dans les Rhopalomeridae), etc surtout par la trompe qui est filiforme, la partie basale pratiquement cachée dans l'ouverture buccale, avec les palpes presque rudimentaires à son extrémité et dont la partie externe est longue, un peu plus longue que la hauteur de la tête et terminée par deux



Figs 43–49. *Paroedopa* and *Stictoedopa*. 43–48. *P. punctigera*. 43. Female, habitus, lateral view (from Hendel, 1910b). 44. Male, habitus, dorsal view. 45. Head, anterior view. 46. Wing. 47. Epandrium, posterior view. 48. Apex of surstylus, enlarged. 49. *S. ruizi*, wing (from Brèthes, 1926).

labelles qui sont deux fois plus longues qu'épaisses. De plus, la veine médiastine atteint le bord costal après le milieu de l'aile et sans que la veine costale apparaisse brisée à sa jonction.

[This genus almost corresponds to genera *Oedopa* Loew and *Paroedopa* Coq., being more closely related to the first than to the second genus: the first and the third longitudinal veins are bare, the first posterior cell well narrowed towards wing margin, the anal cell forming an acute angle towards posterior [end], the cheeks in profile subquadrate, almost equal to vertical diameter of the eye; it is close to *Paroedopa* in the eye being rather vertical-elliptic, and in the external transverse vein being straight, but differs from these two genera in the occiput being slightly lowered compared to dorsal level of eyes (as in Rhopalomeridae), etc., but mostly in the proboscis filiform, its basal part practically hidden in the peristomal cavity, with the palpi almost rudimentary, to its [proboscis] apex whose external part is long, slightly longer than head height and ending in two lips that are twice as long as wide. Moreover, the mediastine vein reaches the costal margin after the

middle of the wing and without appearing broken at junction.]”

“*Stictoedopa Ruiz* Brèthes, n. sp.

Oculis (*post mortem*), triangulo ocellari et haustelle nigris; fronte testacea verticem versus rubescente; facie genisque albidis; antennis rubellis, pilis, seta et articulo 3.0 apice nigris; thorace griseo, lineis 2 parallelis anterioribus et linea transversa alas versus nigris: scutello? Abdomine griseo, segmenta 2.0 macula antero-laterali et duabus ad marginem apicalem, segmenta 3.0 lineis duabus mediis apice extrorsum euntibus; segmenta 4.0 maculis 2 apice (et punctis nonnullis) nigris. Femoribus plus minus ferrugineis, uni-vel bi-annulato-fuscis; tibiis griseis biannulato-fuscis: tarsi plus minus ferrugineis, pilis nigris; unguibus longis, divaricatis, tenuibus, basi ferrugineis, apice nigris; pulvillis sut magnis, testaceis; alis subhyalinis, ad costam tantum fuscis, nigro sexplagiatis. Long.: 7 mm. Alae: 5 mm.

[Eyes (*post mortem*), ocellar triangle and haustellum black; frons yellowish, towards vertex reddish; face and genae whitish; antennae pinkish, microtrichose, seta and apex of 3rd joint black; thorax gray, 2 parallel anterior lines and transverse line against wings black; scutellum? Abdomen gray, 2nd segment with anterolateral spot and two at apical margin, 3rd segment with double medial lines going towards external apices; 4th segment apex spot (and small dots) black. Femora more or less reddish, with one or two brown rings; tibiae with two brown rings: tarsi more or less reddish, setulae black; claws long, divergent, narrow, bases reddish, apices black; pulvilli large, yellowish; wings subhyaline, to costa brownish, with six black spots. Length: 7 mm. Wing: 5 mm.]”

Included species and distribution (Appendix 3, Fig. 133)

Stictoedopa ruizi Brèthes, 1926: 188 (Chile). Its type locality (“Hacienda ‘Las Mercedes’, près Camarico”) is not precisely located (each of three sites named Camarico in Chile are shown by a question mark in Fig. 133).

Biology

Unknown.

Discussion

Close to *Paroedopa*, differing mostly in details of venation (apical section of vein M curved anteriorly and ending before wing apex; triangular lobe of cell bcu twice as long as vein A_1+Cu_2 ; and proboscis very narrow and long. This species is the only known representative of the *Oedopa* group in South America.

***Stictomyia* Bigot, 1885**

(Figs. 50-59, 130)

Stictomyia Bigot, 1885: clxvi [166]. Type species: *Stictomyia longicornis* Bigot, 1885 (by monotypy). Wulp, 1898: 377; Coquillett, 1900: 23; Aldrich, 1905: 594; Cresson, 1906: 284; Williston, 1908: 277; Hendel, 1910b: 60; Steyskal, 1961: 404; 1965: 654; 1987: 805.

Description

The generic description was given by Hendel (1910b: 61–63), and can be supplemented as follows.

Medium-sized (4.0–5.0 mm) flies superficially resembling small beetles, with acute vertical ridge, concave occiput, round spotted wings, bare vein R_1 , slightly flattened and densely

microtrichose body with reticulate pattern of broadly confluent shiny black dots at bases of setulae, and setulose abdominal pleura.

Head. Conspicuously wider than thorax, 1.5–1.8 times as high as long, 2–2.5 times as wide as long. Frons lateral margins slightly divergent anteriorly. Frons white microtrichose, densely setulose, with large bare dots at bases of setulae to level of posterior ocelli, median vitta nonsetulose. One reclinate and somewhat laterocline ocellar seta, without any additional setulae on ocellar triangle. Two posterolaterally directed orbital setae; posterior seta twice as long as anterior seta. Face convex in profile in epistomal portion, with velvety black medial spot between antennae and two shiny black swellings ventral to antennal bases, in *S. longicornis* with 2 callosities with violet sheen and transverse furrow below them (Figs. 50, 51). Clypeus moderately swollen, shiny black. Parafacial with shiny black callosity at frons border and bare matt black spot at middle (in *S. longicornis*) or with smaller shiny black spot on dorsal 0.2 and round shiny dots at setulae bases on ventral half (in *S. punctata*). Facial ridge with 2 setulae above vibrissal edge; 3 long peristomal setulae reaching ventral end of ptilinal suture. Gena 0.4–0.5 as high as eye. Genal seta well developed. Eye 1.4–1.5 times as high as long, in live specimens horizontally banded. Vertex with rather acute ridge; postocellar seta divergent, shorter than ocellar seta; medial vertical seta twice as long as postocellar; lateral vertical seta 0.8 as long as medial one. Occiput on dorsal portion deeply concave, wholly dark with microtrichia along eye margins only, and slightly swollen and yellow on ventral portion. Short paravertical setula between lateral vertical seta and suture, in line with vertical setae; 6–7 setulae in single postocular row. Other occipital setulae not examined. Postgena long but rather sparsely setulose, deeply excavated, gula wide and low. Antennae well-separated, distance between their bases twice as wide as antennal socket. Scape short in *S. punctata*, but as long as wide in *S. longicornis*; black setulose. Pedicel longer than wide, with inconspicuous medial lobe and dorsal incision in *S. punctata*, and with deep pedicellar notch in *S. longicornis*. First flagellomere three times as long as wide in *S. punctata* and 6 times longer in *S. longicornis*. Terminal aristomere bare. Proboscis with prementum almost as long as gena height, bearing 6–7 setae on each side. Palpus spoon-shaped apically, with 4–5 setulae (slightly shorter than average palpus width) at ventral margin and 4–6 longer subapical setulae on lateral and medial surfaces.

Thorax. Robust, very slightly longer than wide, with reticulate pattern of microtrichia separated by shiny black confluent dots at bases of setulae and larger spots on antepronotum, postpronotum, notopleura and scutum. Postpronotal lobe with 1 seta and 7–10 setulae on anterolateral surface. Proepisternum with group of 4–7 long brown setulae on dorsal portion; proepisternal seta absent in *S. longicornis*; not examined in *S. punctata*. Scutum microtrichose, with pattern of partially confluent shiny black dots at bases of setulae; acrostichal and dorsocentral rows not differentiated from other setulae. 1–2 acrostichal, 1–2 dorsocentral, 1–2 intra-alar, 1 postalar, and 1 (rarely duplicated) supra-alar seta posterior to midpoint from postalar seta to transverse suture. Scutellum flat, rounded in dorsal view, subshiny black on disc, microtrichose in middle (in *S. punctata*) and along margins. Subscutellum very short, 0.2–0.16 times as long as scutellum. Subscutellum and mediotergite sparsely microtrichose. Anepistenum gray microtrichose, without longitudinal bare stripes, but with isolated or partially fused bare dots at bases of setulae.

Wing. Broad, with darkened disc and pattern consisting of darker spots at anterior margin similar to those in *Oedopa* and *Paroedopa*, and hyaline spots, smaller, more numerous and

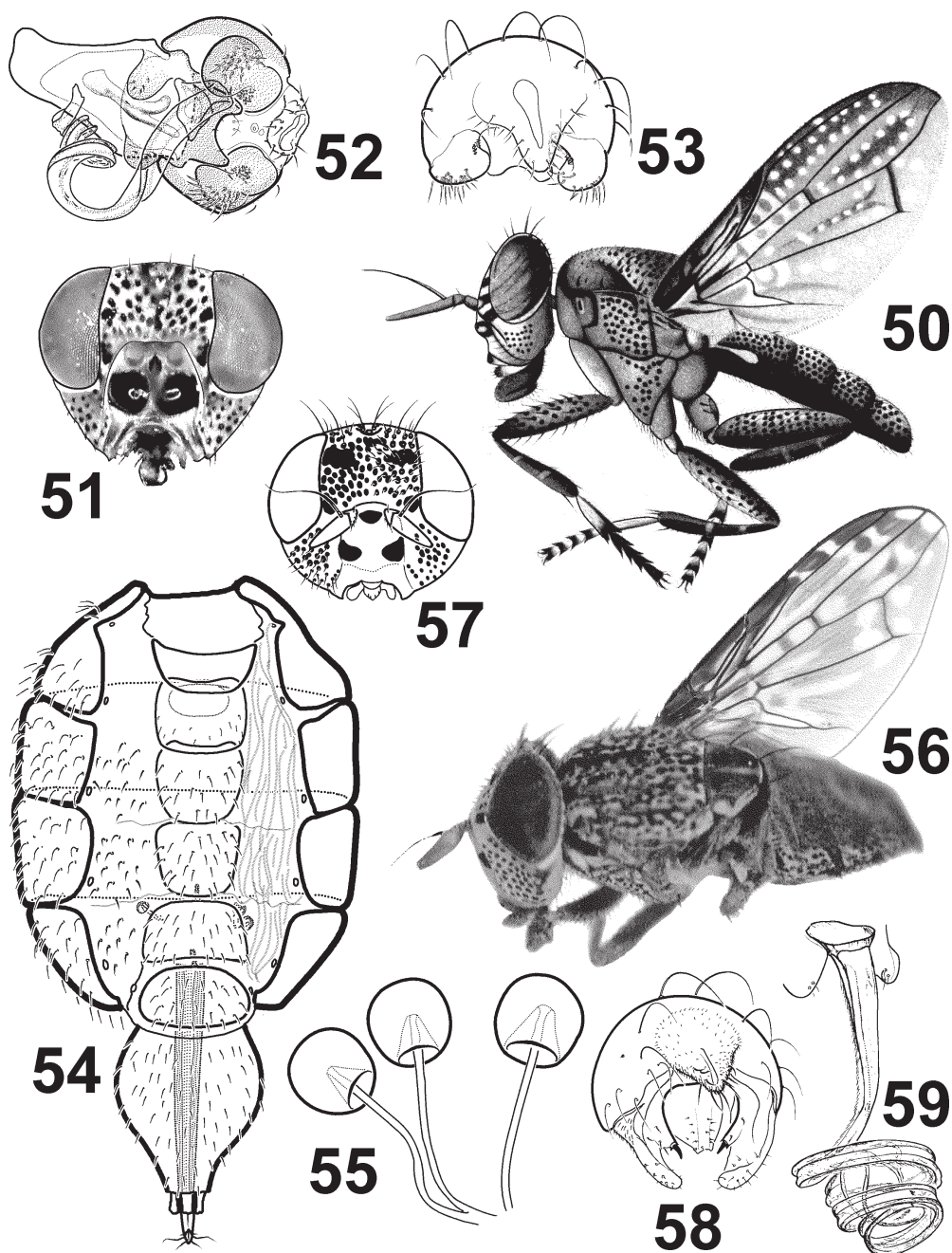
isolated in *S. longicornis* and larger, partially confluent and less numerous in *S. punctata*. Costagial section of costa with 3 rows of setulae and 1 ventroapical and often 1 dorsoapical seta 0.7–0.9 times as long as costagial section itself. Section of costa between humeral break and apex of vein R_{2+3} with two rows of thin setulae; remaining portions of costa microtrichose. Subcostal vein at apex sharply bent at obtuse angle towards anterior margin. Costal cell 1.4–2 times as long as pterostigma. Vein M with penultimate section 3–5 times as long as crossvein R-M and 1.7–1.9 times as long as crossvein DM-Cu; distal section of vein M bent anteriorly, almost as long as penultimate section in *S. longicornis* and 1.3 times as long as penultimate section in *S. punctata*. Crossvein DM-Cu slightly sinuous. Vein Cu_2 with posterodistal lobe of cell bcu 1.5–3.0 times as long as section between fork of vein Cu and elbow of vein Cu_2 . Posterodistal lobe of cell bcu triangular, slightly shorter (in *S. longicornis*) or slightly longer (in *S. punctata*) than Vein $A_1 + Cu_2$. Alula well developed.

Legs. Somewhat thickened, with white microtrichose pattern on coxae and femora. Forecoxa narrower and less flattened than in *Oedopa* and *Paroedopa*; 1 lateral preapical and 1–2 ventral preapical setae longer than 12–16 moderately long setulae on anterior surface; forefemur with slightly erect setulae and bare round spots at bases; foretibia apically widened, black with yellow ring beyond middle in *S. longicornis* or yellow with 3 dark rings, similar to *Paroedopa*, in *S. punctata*; preapical dorsal seta well developed in *S. longicornis*, not examined in *S. punctata*. Midcoxa with row of 6–7 stout setae on elongate eucoxa and 3–4 weaker setae on disticoxa; midfemur without rows of outstanding setae; midtibia yellow with 3 dark rings; 1 strong ventro-apical seta 1.5 times as long as 2 other long setae and twice as long as 3–4 shorter thickened setae at apex of midtibia; preapical dorsal seta well developed, equal to ventro-apical seta. Hindcoxa and hindtrochanter unmodified. Hindfemur without modifications, with 2 subapical setae on dorsal surface. Hindtibia like in *Oedopa* and *Paroedopa*, 3 dark rings well expressed. Short and thickened setulae of ventro-apical row (comb) whitish. Apicoventral portion of foretibia, posteroventral surface of tarsomere 1(-2) of foretarsus and anteroventral surface of tarsomeres 1–2 (-3) of hindtarsus with brushes of thick yellowish setulae blackish on distalmost tarsomeres; all tarsomeres with almost equal setulae, not forming conspicuous rows, and with 4 apical elongate and thickened setulae on ventral surface, except foretarsomere 1 with two apical setulae, midtarsomere 1 with two well-defined ventral rows of thickened setulae, and hindtarsomere 1 with one posteroventral row. Apices of tarsomeres 1 and 2, and almost entire tarsomeres 3–5 darkened.

Abdomen. Wide oval, microtrichose with pattern of fused black spots on tergites, pleura, and sternites. Sternites 2–4 subquadrate, other sternites wider than long. Female tergite 6 almost hidden underneath margin of tergite 5. Sternites 5–6 of female with short anteromedial apodemes (Fig. 54).

Male terminalia. Epandrium wide oval, with thick mesally curved surstylus, bearing 1 preniseta in *S. punctata* and no prenisetae in *S. longicornis*; in the latter, mesal surface with numerous short thickened setulae; proctiger short. Metaphallic plate as long as, or slightly shorter than, proctiger, truncate in *S. punctata* and almost quadrangular, medially concave. Phallus trichose (Fig. 59).

Female terminalia. Similar to those in *Oedopa*. Oviscape with silver microtrichia and large spots at bases of setulae. Three spherical spermathecae with long inverted necks (Fig. 55).



Figs. 50–59. *Stictomyia*. 50–55. *S. longicornis*. 50. Habitus, lateral view (from Hendel, 1910 b). 51. Head, anterior view. 52. Male terminalia, ventral view. 53. Male terminalia, posterior view. 54. Female abdomen, ventral view. 55. Spermathecae. 56–59. *S. punctata*. 56. Habitus, dorsolateral view. 57. Head, holotype, anterior view. 58. Epandrium, posterior view. 59. Phallus.

Included species and distribution (Appendix 3, Fig. 130)

Stictomyia longicornis Bigot, 1885: [166] (USA: California; Arizona; New Mexico; Texas; Mexico), *S. punctata* Coquillett, 1900: 23 (USA: Arizona (new record); Idaho (new record); New Mexico; Texas) (Fig. 130).

Biology

Hunter *et al.* (1913) reported of a rearing record of *S. longicornis* from rotting cacti.

Discussion

Despite its appearance, which deviates from the general morphological plan of the Myennidini, *Stictomyia* clearly belongs in this tribe and specifically in the *Oedopa* group of genera based on the following characters: presence of a metaphallic plate, setulae on the abdominal pleura, and more than one ventro-apical seta on the midtibia.

Within the Myennidini, *Stictomyia* is probably the sister-group of *Paroedopa*: they both possess a preapical dorsal seta on the foretibia and a round black spot between the antennal bases, which are believed to be synapomorphies. *Stictomyia* differs from *Paroedopa* in having a subquadrate sternite 4, which is a plesiomorphic state in the Myennidini; if *Stictomyia* and *Paroedopa* are sister-groups, the broad sternite 4 in *Stictomyia* is hypothesized to be a reversal.

The male terminalia are different from the Myennidini ground plan and even among the two included species; however, the monophyly of *Stictomyia* is well-supported by having an elongate first flagellomere, dark wing pattern with hyaline spots, and an apically truncate metaphallic plate.

Determination

The species can be determined using the following key.

Key to species of *Stictomyia*

1. First flagellomere less than 4 times as long as wide. Black spots ventral to antennal bases flat. Cells r_1 , r_{2+3} and dm with 3–5 hyaline spots each (Fig. 56). Wing tip with hyaline spots. Male terminalia: one acute preniseta developed; metaphallic plate truncate apically, but not bilobate (Fig. 58) ***S. punctata* Coquillett**
- First flagellomere more than 4 times as long as wide. Black spots ventral to antennal bases on raised calluses. Cells r_1 , r_{2+3} and dm with series of 6–15 small hyaline spots each. Wing tip wholly dark (Fig. 50). Male terminalia: no prenisetae; metaphallic plate slightly bilobate at apex (Fig. 52–53) ***S. longicornis* Bigot**

***Ulidiotites* Steyskal, 1961**

(Figs. 60–66, 129)

Ulidiotites Steyskal, 1961: 406; Type species: *Ulidiotites dakotana* Steyskal, 1961 (by original designation). Steyskal, 1965: 649; 1987: 806.

Redescription

Rather small or medium-sized (wing length 2.8–4.2 mm, female body length 4.0–6.1 mm) flies with large rounded head, bare vein R_1 , gray, densely microtrichose body without sharp blackish areas or dots, and with setulose abdominal pleura. Steyskal (1961) gave an adequate original description, to which the following details can be added.

Head. Lateral margins slightly divergent anteriorly. Frons matt, setulose, without small bare

dots. One short laterocliniate ocellar seta and no setulae on ocellar triangle. 1, rarely 2 posterolaterally directed orbital setae. Frontal setulae all black and thin, about 0.5 times as long as orbital setae. Face conspicuously protuberant anteriorly, matt and sparsely microtrichose, without transverse furrow and with shallow and short, but conspicuous antennal grooves. Clypeus low, receding and weakly sclerotized, without outstanding medial portion, with paired swellings between its posterolateral branches and margins of genae. Parafacial broad, with spots in posteroventral portion. Facial ridge with 4–6 setulae above vibrissal angle. Anterior part of gena with row of 4–6 laterocliniate setulae reaching ventral end of ptilinal suture, vibrissal edge and facial ridge. Gena 0.4–0.5 as high as eye. Genal seta barely differentiated from neighboring genal setulae. Eye very slightly higher than long, in dry specimens with slight pearly sheen. Vertex rounded, without ridge; postocellar seta divergent, almost twice as long as ocellars; both vertical setae twice as long as postocellar. Occiput on dorsal portion conspicuously concave, slightly swollen on lateroventral portion, without dark mark. No paravertic setula; 12–16 setulae in two postocular rows on each side. Supracervical setulae whitish. Postgena brown-black setulose. Antennae well-separated, distance between bases 2.2–2.5 times as wide as antennal socket. Scape and pedicel short, with sparse and short brown to black setulae, dorsal seta twice as long as other setulae. First flagellomere 1.0–1.1 as long as wide, short microtrichose. Two visible basal aristomeres. Terminal aristomere almost bare. Proboscis short, with small prementum much shorter than gena height, bearing 4–6 setae on each side. Palpus narrow, not broadened towards apex, with 4–6 setulae (2–2.5 times as long as palpus width) on ventral margin and 2–4 at apex.

Thorax. Robust, slightly longer than wide, uniformly microtrichose, except anteprepronotum. Postpronotal lobe with 1 seta and 5–6 anteroventral setulae. Proepisternum with group of 5–6 long brown setulae on dorsal portion and 1 proepisternal seta on ventral portion, which is 0.7 times as long as these setulae. Prosternum bare, thickly microtrichose. Lateral cervical sclerite microtrichose. Scutum densely yellowish-white microtrichose, often with 4–6 darker or sparser microtrichose vittae; setulae rather sparse, forming 1–2 acrostichal rows, and row of 2–4 presutural and 4–6 postsutural dorsocentral setulae on each side; single supra-alar rows of 4–5 setulae each anterior and posterior of suture; between supra-alar and dorsocentral row 1–2 irregular intra-alar rows of setulae. 1–2 acrostichal, 1 dorsocentral, 1 intra-alar, 1 postalar, all in line, close to scutellum, postsutural supra-alar seta not differentiated from setulae. Scutellum flattened, short triangular, with 4 scutellar setae, setulae lacking. Subscutellum comparatively large, 1/4 as long as scutellum. Two notopleural setae subequal in length. Pleura without dark stripes or bare dots, with sparse, black, moderately long setulae. Two anepisternal and 1 katepisternal seta.

Wing. Tegula unmodified, with 2–3 setulae and 1–2 stronger marginal setae. Costagial section of costa with sparse irregular setulae and 1 ventro-apical seta. Humeral section with 2 almost regular rows of short thin setulae. Section of costa between subcostal break and apex of vein R_{2+3} with two rows of setulae to apex of vein R_{2+3} (setulae of ventral row 1.5 times as long as setulae of dorsal row). Subcostal vein at apex slightly bent towards anterior margin. Vein R_{4+5} bare, ending anterior to wing apex. Costal cell twice as long as pterostigma. Crossvein R-M almost perpendicular to R_{4+5} vein, situated at middle of pterostigma. Vein M almost straight; its second section without stump vein; its penultimate section 4–6 times as long as crossvein R-M and 1.5–2.1 times as long as crossvein DM-Cu. Crossvein DM-Cu straight. Vein Cu_2 with

posterodistal lobe of cell bcu as long as section between fork of vein Cu and elbow of vein Cu_2 ; vein A_1+Cu_2 reaching posterior wing margin at least as fold. Posterodistal lobe of cell bcu triangular, 3–4 times shorter than apical section of vein A_1+Cu_2 .

Legs. Completely yellow without dark pattern, fine microtrichose, with long, sparse, erect and thickened setulae on tibiae, especially in female. Forecoxa with 1–2 ventromarginal setae longer than setulae on anterior surface; forefemur slightly swollen posterodorsally, with 5 rows of setae and long erect setulae almost equal in length; foretibia with rows of moderately sparse, slightly thickened, erect setulae. Midcoxa with row of 5–6 setae on eucoxa and 2–3 setae on disticoxa; midfemur short setulose, with anterior row of 3–4 setae and posterior row of 6–7 setae 0.4–0.6 times as long as width of femur, ventral surface bare; midtibia with 2 ventroapical setae 1.3–1.5 times as long as other 4 thickened setae at apex of midtibia, anterodorsal preapical seta barely different from other erect setulae of dorsal rows. Hindcoxa unmodified, with 8–10 long setulae and almost equal setae. Hindfemur conspicuously swollen dorsally, long and sparsely setulose, with 3 subapical setae on dorsal surface and row of 4–5 anteroapical setae longer than width of femur. Hindtibia slightly curved, with anterior and anterodorsal rows of thickened erect setulae, 0.6–0.8 times as long as tibia width and 2–3 thickened apical anterodorsal setae almost as long as tibial width. Brushes of thick yellowish setulae present on posteroventral surface of foretibia (apical portion), tarsomere 1 of foretarsus, and anteroventral surface of tarsomeres 1–2 of hindtarsus; tarsomeres 1–3 of all legs with erect long setulae on dorsal surface; midtarsomere 1 with thickened setulae forming 4–5 rows on ventral surface, tarsomeres 2–4 with 2–4 rows of much shorter but also thickened setulae on ventral surface, 1 anteroventral row on foretarsomeres 1 and 2, and 1 posteroventral row on hindtarsomere 1.

Abdomen. Narrow oval, with broad microtrichose, setulose tergites, well-developed microtrichose pleural membrane with numerous long setulae and moderately narrow, microtrichose and setulose sternites. Female tergite 6 exposed and moderately large (Figs. 64–65). Sternite 4 of female longer than wide, other preabdominal sternites wider than long or subquadrate; sternites 4–6 of female with anteromedial apodemes (Fig. 66).

Male terminalia. Segments 6–8 microtrichose. Epandrium elongate oval, with slightly mesally curved surstylus, bearing numerous long and rather thick setulae with prenisetae barely differentiated among them; proctiger short. Metaphallic plate short and small. Phallus long trichose (Fig. 63).

Female terminalia. Oviscape microtrichose; aculeus long and narrow; cercal unit laterally flattened, acute in dorsal view, with long setulae. Three round spermathecae.

Included species and distribution (Appendix 3, Fig. 129)

Ulidiotites dakotana Steyskal, 1961 (USA: Kansas (new record); Mississippi (new record); Nebraska; Nevada (new record); South Dakota; Utah (new record); Wyoming (new record) (Fig. 129).

Biology

Unknown.

Discussion

This genus possesses both setulose abdominal pleura and more than one apicoventral thickened setae on the midtibia. It belongs to the lineage within the *Oedopa* group, which also