Key to the Genera of Nearctic Syrphidae

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Abstract

Representatives of the conspicuous and diverse family Syrphidae are found worldwide, and adults of many species are of considerable economic importance as pollinators. Due to their relatively large size, frequently colourful appearance and conspicuous habits, most syrphid genera are readily identifiable in the field with the help of proper identification tools. We have developed an interactive photographic key that is intuitive to use yet comprehensive, covering all genera of Syrphidae in the Nearctic Region. Every page is fully illustrated, with accompanying text designed to highlight important characters. The key provides the most current classification for the family and adds 15 genera and subgenera not previously recorded or recognized for the region. Several species in the genera *Chrysotoxum* Meigen 1803, *Leucozona* Schiner 1860, *Platycheirus* Lepeletier & Serville 1828 and *Volucella* Geoffroy 1762 are resurrected from synonymy. Two new synonyms are proposed: *Ferdinandea dives* (Osten Sacken 1877) and *F. nigripes* (Osten Sacken 1877) are proposed as new synonyms of *F. buccata* (Loew 1863).

Introduction

The family Syrphidae (flower flies, hover flies), with almost 6,000 world species and 812 continental Canadian and US species (Tables 1, 2 and 3), is one of the largest fly families. Syrphids are among the most beneficial insects because of their enormous importance as pollinators (Kearns 1992; Kevan 2002; Larson *et al*. 2001; Ssymank 2008) and because of the major role of predaceous species in natural and biological control of pest aphids and other Sternorrhyncha (Belliure and Michaud 2001; Mengual and Thompson 2011; Rojo *et al*. 2003; Rotheray 1989). They also play an increasingly recognized role in other ecosystem services such as composting and environmental assessment (Larde 1989; Sommagio 1999; Thompson *et al*. 2010). Flower flies warrant attention not only because of their impressive diversity and economic importance, but also for their conspicuous habits and frequently eye-catching appearance. Many are astonishingly close mimics of aculeate Hymenoptera and, in general, syrphids are useful models for a variety of ecological research (e.g. Bartsch 2009a, 2009b; Gilbert 2005a, 2005b; Gittings *et al.* 2006; Marinoni et *al.* 2004; Montoya *et al.* 2012; Penney *et al.* 2012). It is for all of these reasons that there is currently a great deal of interest in Syrphidae amongst photographers, naturalists and professional biologists, all of whom share a common need to correctly and efficiently identify flower flies at least to the generic level. This need was previously met in the Nearctic region with the generic key of Vockeroth and Thompson (1987) (now freely available on line at http://www.esc-sec.ca/aafcmono.html). Vockeroth & Thompson (1987), however, were limited by the constraints of black and white publication in a printed form even though the taxa keyed are characterized by distinct and diverse colour and form. Those constraints are now lifted, in part thanks to new technology for capturing colour images in the lab and in the field, and in part thanks to new avenues for digital publication. The key presented here takes full advantage of these new opportunities to provide an easier, more accessible method for generic identification of Nearctic Syrphidae.

The work presented here is not simply a repackaging of Vockeroth and Thompson (1987) in a photographic,

digital format. Although many couplets do follow previous keys (Stubbs and Falk 1983; Thompson 1972; Vockeroth 1992; Vockeroth and Thompson 1987), there are many new couplets as well as some key components that would not have been possible without the colour/digital format. Furthermore, traditional key characters that have been widely considered difficult to interpret are newly "translated" with detailed, high-resolution photographs that render them easily understood.

Although the current key runs only to the generic level, it is hoped that this paper will be seen as a framework on which to add species reviews and keys in a modular fashion. Such species treatments, although independent papers, could be easily linked from the generic key, rendering the key an effective portal to further levels of information about Syrphidae. The generic pages are already linked to related web pages, such as the Encyclopedia of Life, as appropriate.

There have been some significant changes to our understanding of the Nearctic syrphid fauna since 1987, and these changes are incorporated in this key. Twenty-three of the 121 generic level taxa (Tables 1, 2 and 3) in the current key were not included in Vockeroth and Thompson (1987), and four of the genera included in Vockeroth and Thompson (1987) do not appear in this key since they are now treated as part of other genera or were never confirmed to be present in the Nearctic region (Table 4). We follow the syrphid classification and distribution in Systema Dipterorum (Thompson 2010) with a few exceptions. Because there is as yet no general agreement about the definitions and limits of many syrphid tribes, we refrain from adopting any tribal classification in our work (Tables 1, 2 and 3). These and other taxonomic and classification decisions are outlined in the 'Results and Discussion' section below.

Materials and methods

Specimens from all Nearctic genera and subgenera of Syrphidae recognized in the current literature (Vockeroth and Thompson 1987; Wirth *et al.* 1965) were used for illustrating the key. Specimens were obtained from the Canadian National Collection of Insects, Arachnids and Nematodes (CNC, Ottawa, Canada), the University of Guelph Insect Collection (DEBU, Guelph, Canada), and the National Museum of Natural History (USNM, Washington D.C., USA).

The key covers the Nearctic region, including Greenland, Canada, Continental USA and highland regions of Mexico. However, the distribution maps will reflect only North American records north of Mexico, since our nearctic Mexican specimen data is sparse and would be potentially misleading.

To generate the species lists for each genus, we obtained data from Systema Dipterorum (Thompson 2010) and supplemented this with specimen data from the CNC, DEBU and USNM. These collections were exhaustively searched for new material. Dozens of other syrphid collections were also examined but not as thoroughly (examined in parts over years of research or via loans). Several revisions of syrphid genera are under way and although we do not include undescribed species in our lists here, we feel that it is useful to include the most current nomenclature for species that will be split (i.e. resurrected from synonymy) with these anticipated publications.

Distribution maps were generated through Simplemappr (Shorthouse 2010) using the geocoded records from the combined specimen database of the CNC and DEBU collections. For *Eosalpingogaster*, the geocoded records of Mengual and Thompson (2011) were added to the database. Records from the database are marked as orange points in the maps. Blue points centered in a province/state represent non-geocoded records obtained from Systema Dipterorum (Thompson 2010), but which were not found in the combined specimen database. Maps were formatted using Adobe Illustrator CS4.

Character terminology generally follows Thompson (1999) with the exceptions of a few terms simplified (e.g. 'hair' instead of 'pile') to make the key accessible to a wide audience as possible. Characters were illustrated using high-magnification photographs of pinned specimens. A Canon EOS 1DS camera mounted on a computer-controlled focusing rail was used to take several photos of each specimen, from the most proximal to the most distal focus point at regular intervals. These raw images were later combined in one high depth of field image using Combine Z software. Wherever possible, the key was supplemented with live fly photos, the majority of which were taken by S. A. Marshall. J. H. Skevington and A. D. Young took other photographs of live specimens for the key, P. Alexander (*Polybiomyia townsendi* (Snow, 1895)), T. Bentley (*Sericomyia flagrans* (Osten Sacken, 1875), F. Geller-Grimm (*Myathropa florea* (Linnaeus, 1758)), R. Hemberger (*Scaeva* sp.), J. Klymko (*Leucozona* (*Leucozona*) *americana* Curran, 1923), S. McCann (*Ornidia obesa* (Fabricius, 1775)), G. McDonald (*Allograpta micrura* (Osten Sacken, 1877), *M. florea*), H. S. Parker (*Pseudoscaeva diversifasciata* (Knab, 1914)) and H. Wisch (*P. diversifasciata*) kindly allowed use of their images, most which were obtained after finding them on BugGuide.net (http://bugguide.net/node/view/15740).

The key was developed in Microsoft PowerPoint: Mac 2008 v.12.2.7 (.pptx format) on an iMac 2009 running Mac OS X 10.5.8, and converted to html using the PPTools PPT2HTML software.

There are two types of page formats in the key. One type (multi-option format) has clickable pictures or boxes with text describing diagnostic characters for

unique taxa or a group of taxa. The user is then directed to choose from one of the options displayed or to click a button to proceed to another slide with different options. The other type (dichotomous format) has two clickable buttons representing contrasting characters to select from. The picture/box (multi-option format) or button (dichotomous format) either links to a taxon page or to another multi-option or dichotomous page.

Taxa with particularly distinctive characters are displayed early in the key for quick identification. Superficially similar taxa are grouped together and linked to further pages detailing the character states necessary to properly distinguish between them.

The key includes all currently recognized subgenera. When the user reaches a subgeneric identification, the key is linked to a page that shows examples of all subgenera within that genus. This is done to allow for a quick comparison between the subgenera. Although the subgenus that was reached in the key is highlighted in green, all subgenera can be clicked on to explore their respective pages.

Each taxon with two or more species will have references to currently available species keys at the end of each taxon's species list.

Using the key

The key has been designed for identification of living and/or dead specimens. However, methods of preservation may alter dead specimen's appearance. For example, if specimens are air-dried straight from alcohol they will shrivel and often be virtually impossible to identify. When drying specimens from liquids, follow the protocols outlined by Martin (1977, p. 156-157) or Brown (1993). Specimens kept too long in humid environments will become greasy and dark, often obscuring colour patterns on their body. For example, we have seen *Ferdinandea* and even *Helophilus* specimens without thoracic striping when preserved in such environments. Our key makes no attempt to deal with such damaged specimens.

Results and Discussion

As stated above, we follow the syrphid classification and distribution in Systema Dipterorum (Thompson 2010) with a few exceptions. *Monoceromyia*, *Sphiximorpha* and *Polybiomyia* are considered subgenera of *Ceriana* in the Systema Dipterorum database but they are treated as full genera in the Manual of Central American Diptera (Thompson *et al.* 2010), which we follow here. We also follow the Manual of Central American Diptera with respect to our treatment of *Copestylum* and thus do not divide it into subgenera. Evidence for the monophyly of *Copestylum* subgenera has not been rigorously tested. *Ocyptamus* is divided into species groups following Miranda (2011) because we anticipate that these groups will be formally recognized (as genera) in the near future. *Eosalpingogaster* and *Salpingogaster* are treated as separate genera following Mengual *et al.* (2008), Mengual and Thompson (2011) and Miranda (2011). Also following Mengual *et al.* (2008), *Epistrophella*, *Fazia*, *Lapposyrphus* and *Meligramma* are given full generic status (split from *Epistrophe*, *Allograpta*, *Eupeodes* and *Melangyna* respectively). The taxa *Arctophila* and *Sericomyia* (*Conosyrphus*) have been synonimized under *Sericomyia* sensu stricto as proposed by Skevington and Thompson (2012). *Chamaesyrphus* is proposed as a subgenus of *Pelecocera* Meigen, 1822 due to the author's unpublished data that points out to a close affinity between the two taxa.

Chrysotoxum is currently under revision (Sommaggio and Skevington in prep). Many species currently considered synonyms will be resurrected in this study and are listed under this genus here. *Platycheirus* (Young 2012) and *Volucella* (Cheng 2011) are treated in a similar fashion. *Leucozona americana* is resurrected from synonymy from *L. lucorum* based on our unpublished morphological data. *Leucozona lucorum* (Linnaeus, 1758) is thus restricted to the Old World. Similarly, the New World *Temnostoma excentrica* (Harris, 1841) is resurrected from synonymy with the now Old World-restricted *T. vespiforme* (Linnaeus, 1758). This decision is based on work done in Asia (Krivosheina 2004) and on mtDNA we have analyzed (the two taxa are not sister species and are 4.8% different based on COI sequences). We have also examined variation within *Ferdinandea* species and are confident that *Ferdinandea dives* (Osten Sacken, 1877) and *F. nigripes* (Osten Sacken, 1877) are both synonyms of *F. buccata* (Loew, 1863) (**new synonyms**). There is considerable colour variation within each of these putative *Ferdinandea* taxa and mitochondrial COI data supports our hypothesis that these represent a single somewhat variable species (unpublished data).

Table 1. Genera and species recognized under Eristalinae.

Genus	Subgenus	Author, Year	# of NE species
Alipumilio		Shannon, 1927	1
Blera		Billberg, 1820	16
Brachyopa	*Brachyopa*	Meigen, 1822	12
Brachyopa	*Hammerschmidtia*	Schummel, 1834	1
Brachypalpus	*Brachypalpus*	Macquart, 1834	1
Brachypalpus	*Crioprora*	Osten-Sacken, 1878	5
Callicera		Panzer, 1809	3
Ceriana		Rafinesque, 1815	6
Chalcosyrphus	*Chalcosyrphus*	Curran, 1925	2
Chalcosyrphus	*Neplas*	Porter, 1927	1
Chalcosyrphus	*Xylotomina*	Shannon, 1926	19
Cheilosia		Meigen, 1822	81
Chrysogaster		Meigen, 1803	2
Chrysosyrphus		Sedman, 1965	5
Copestylum		Macquart, 1846	35
Criorhina		Meigen, 1822	14
Cynorhinella		Curran, 1922	2
Eristalinus	*Eristalodes*	Mik, 1897	1
Eristalinus	*Lathyrophthalmus*	Mik, 1897	1
Eristalis	*Eoseristalis*	Kanervo, 1938	19
Eristalis	*Eristalis*	Latreille, 1804	1
Eumerus		Meigen, 1822	3
Ferdinandea		Rondani, 1844	3
Hadromyia	*Chrysosomidia*	Curran, 1934	5
Hadromyia	*Hadromyia*	Williston, 1882	1
Helophilus		Meigen, 1822	9
Hiatomyia		Shannon, 1922	21
Lejops	*Anasimyia*	Schiner, 1864	6
Lejops	*Arctosyrphus*	Frey, 1918	1
Lejops	*Asemosyrphus*	Bigot, 1882	1
Lejops	*Eurimyia*	Bigot, 1883	1
Lejops	*Lunomyia*	Curran & Fluke, 1926	1
Lejops	*Polydontomyia*	Williston, 1896	1
Lejota		Rondani, 1857	2
Lepidomyia		Loew, 1864	1
Mallota		Meigen, 1822	5
Merapioidus		Bigot, 1879	1
Merodon		Meigen, 1803	1
Meromacrus		Rondani, 1848	5
Milesia		Latreille, 1804	3
Monoceromyia		Shannon, 1922	1
Myathropa		Rondani, 1845	1
Myolepta		Newman, 1838	7
Nausigaster		Williston, 1884	8
Neoascia	*Neoascia*	Williston, 1887	3

Table 1 continued. Genera and species recognized under Eristalinae.

Genus	Subgenus	Author, Year	# of NE species
Neoascia	*Neoasciella*	Stackelberg, 1965	4
Ornidia		Lepeltier & Serville, 1828	1
Orthonevra		Macquart, 1829	16
Palpada		Macquart, 1834	11
Parhelophilus		Girschner, 1897	10
Pelecocera	*Chamaesyrphus*	Mik, 1895	1
Pelecocera	*Pelecocera*	Meigen, 1822	2
Pocota		Lepeltier & Serville, 1828	1
Polybiomyia		Shannon, 1925	8
Psilota		Meigen, 1822	3
Pterallastes		Loew, 1863	1
Pyritis		Hunter, 1897	1
Rhingia		Scopoli, 1763	1
Sericomyia		Meigen, 1803	17
Somula		Macquart, 1847	2
Sphecomyia		Latreille, 1829	8
Sphegina	*Asiosphegina*	Stackelberg, 1974	5
Sphegina	*Sphegina*	Meigen, 1822	16
Sphiximorpha		Rondani, 1850	4
Spilomyia		Meigen, 1803	11
Syritta		Lepeltier & Serville, 1828	2
Temnostoma		Lepeltier & Serville, 1828	8
Teuchocnemis		Osten-Sacken, 1875	2
Tropidia		Meigen, 1822	8
Volucella		Geoffroy, 1762	3
Xylota	*Ameroxylota*	Hippa, 1978	1
Xylota	*Sterphoides*	Hippa, 1978	4
Xylota	*Xylota*	Meigen, 1822	20
Total generic taxa		73	
Total species			490

Table 2. Genera and species recognized under Microdontinae.

Genus	Subgenus	Author, Year	# of NE Species
Microdon	*Chymophila*	Gray, 1832	1
Microdon	*Microdon*	Meigen, 1803	25
Microdon	*Omegasyrphus*	Giglio-Tos, 1891	4
Mixogaster		Macquart, 1842	3
Rhopalosyrphus		Giglio-Tos, 1891	1
Total Generic Taxa		5	
Total Species			34

Table 3. Genera and species recognized under Syrphinae.

Genus	Subgenus	Author, Year	# of NE species
Allograpta		Osten-Sacken, 1877	3
Baccha		Fabricius, 1805	1
Chrysotoxum		Meigen, 1803	13
Dasysyrphus		Enderlein, 1938	13
Didea		Macquart, 1834	2
Dideomima		Vockeroth, 1969	1
Doros		Meigen, 1803	1
Eosalpingogaster		Hull, 1949	2
Epistrophella		Dusek & Laska, 1967	1
Epistrophe		Walker, 1852	6
Eupeodes	*Eupeodes*	Osten-Sacken, 1877	1
Eupeodes	*Metasyrphus*	Matsumura, 1917	20
Fazia		Shannon, 1927	1
Heringia	*Heringia*	Rondani, 1856	5
Heringia	*Neocnemodon*	Goffe, 1944	24
Hybobathus		Enderlein, 1938	1
Lapposyrphus		Dusek & Laska, 1967	2
Leucopodella		Hull, 1949	1
Leucozona	*Ischyrosyrphus*	Bigot, 1882	2
Leucozona	*Leucozona*	Schiner, 1860	1
Megasyrphus		Dusek & Laska, 1967	2
Melangyna		Verrall, 1901	7
Melanostoma		Schiner, 1860	1
Meligramma		Frey, 1946	4
Meliscaeva		Frey, 1946	1
Ocyptamus		Macquart, 1834	10
Orphnabaccha		Hull, 1949	2
Paragus	*Pandasyopthalmus*	Stuckenberg, 1954	1
Paragus	*Paragus*	Latreille, 1804	7
Parasyrphus		Matsumura, 1917	11
Pelecinobaccha		Shannon, 1927	1
Pipiza		Fallen, 1810	11
Platycheirus		Lepeltier & Serville, 1828	73
Pseudoscaeva		Vockeroth, 1969	1
Pseudodoros		Becker, 1903	1
Salpingogaster		Schiner, 1868	1
Scaeva		Fabricius, 1805	1
Sphaerophoria		Lepeltier & Serville, 1828	14
Syrphus		Fabricius, 1775	14
Toxomerus		Macquart, 1855	13
Trichopsomyia		Williston, 1888	9
Xanthandrus		Verrall, 1901	1
Xanthogramma		Schiner, 1860	1
Total generic taxa		43	
Total species			288

Table 4. Genera or subgenera added to or subtracted from the Nearctic syrphid fauna since Vockeroth and Thompson (1987).

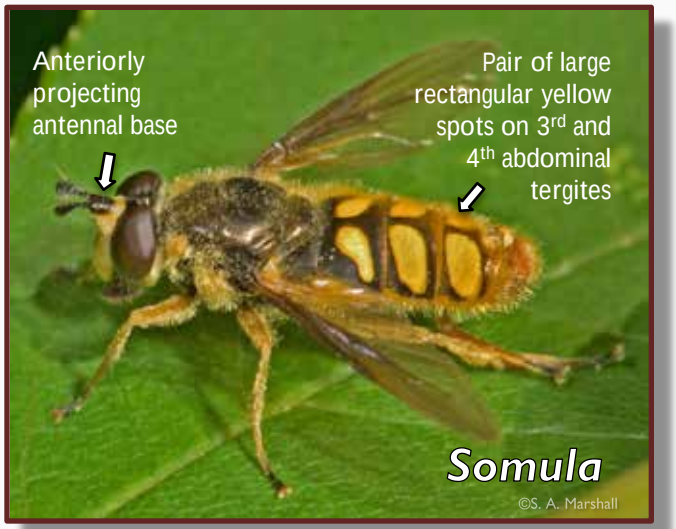
Additional taxa:

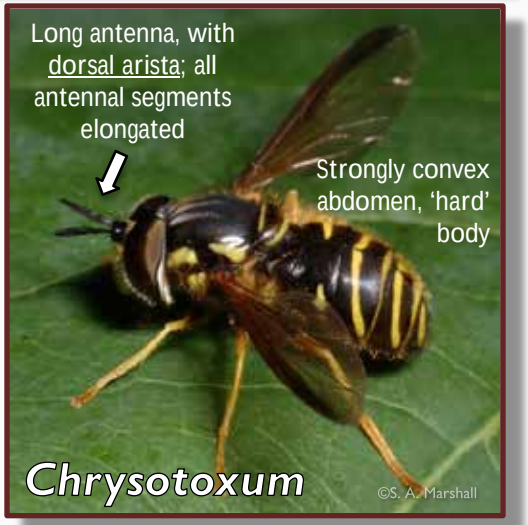
Alipumilio Shannon1927
Chrysosyrphus Sedman 1965
Eosalpingogaster Hull 1949 (previously a subgenus of *Salpingogaster* Schiner 1868)
Epistrophella Dusek & Laska 1967 (previously a subgenus of *Epistrophe* Walker 1852)
Eristalinus (*Eristalodes*) Mik 1897
Eristalinus (*Lathyrophthalmus*) Mik 1897 (previously considered as the subgenus *E*. (*Eristalinus*) Rondani 1845)
Eupeodes (*Metasyrphus*) Matsumura 1917
Fazia Shannon 1927
Heringia (*Neocnemodon*) Goffe 1944
Hybobathus Enderlein 1938 (previously treated as *Ocyptamus*)
Lapposyrphus Dusek & Laska 1967 (previously a subgenus of *Eupeodes* Osten-Sacken 1877)
Lejops (*Eurimyia*) Bigot 1883
Megasyrphus Dusek & Laska 1967 (previously a subgenus of *Eriozona* Schiner 1860)
Meligramma Frey 1946 (previously a subgenus of *Melangyna* Verall 1901)
Microdon (*Omegasyrphus*) Giglio-Tos 1891
Microdon (*Chymophila*) Macquart 1834
Myathropa Rondani 1845
Neoascia (*Neoasciella*) Stackelberg 1965
Orphnabaccha Hull 1949 (previously treated as *Ocyptamus*)
Pelecinobaccha Shannon 1927 (previously treated as *Ocyptamus*)
Pseudoscaeva Vockeroth 1969 (previously treated as *Ocyptamus*)
Xylota (*Ameroxylota*) Hippa 1978
Xylota (*Sterphoides*) Hippa 1978

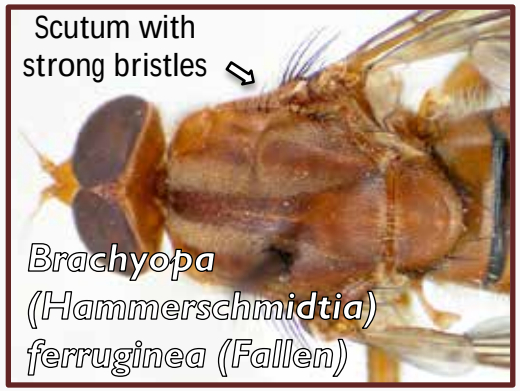
Synonomies, demotions in rank and removed taxa:

Arctophila Schiner 1860 (now part of *Sericomyia* (sensu stricto))
Chamaesyrphus Mik 1895 (now *Pelecocera* (*Chamaesyrphus*))
E. (*Eristalinus*) Rondani 1845 (the species *E. aeneus* (Scopoli 1763) is actually part of the subgenus *E*. (*Lathyrophthalmus*) Mik 1897)
Palumbia Rondani 1865 (never proven to be present in the Nearctic region)

KEY TO THE GENERA OF NEARCTIC SYRPHIDAE







1. Specimen similar to one of the flies illustrated above (click on respective box)

1'. Specimen not like any of the above pictures (click here) 2

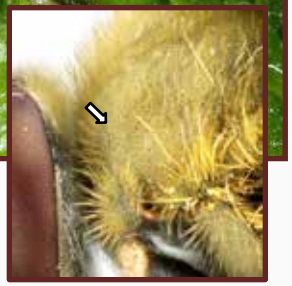
Abdomen shining metallic with dull black markings, with distinct yellow hair

Hadromyia (Chrysosomidia)

Scutum and abdomen with small yellow markings formed by short thick hairs; southern North America

Meromacrus

Pterallastes thoracicus Loew



Face with a weak medial tubercle only on male; eastern North America

2. Specimen similar to one of the flies illustrated above (click on respective box)

2'. Specimen not like any of the above pictures (click here) 3

Back to previous couplet

Very small flies (less than 0.4cm long)

Pelecocera (Chamaesyrphus)

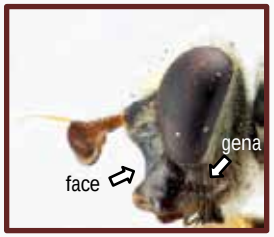
Shining metallic body; southern USA

Ornidia obesa (Fabricius)

Brachyopa (Brachyopa)

Mostly uniformly orange/light brown flies or scutum with four black stripes on a grey pollinose background

Black flies with yellow pile; face black and shiny; gena larger than posterior spiracle; face triangular in frontal view: **go to 141**



3. Specimen similar to one of the flies illustrated above (click on respective box)

3'. Specimen not like any of the above pictures (click here) 4

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doi:10.3752/cjai.2013.23

Several genera

Hairy bulky flies with long, black/brown/yellow hairs, similar to bumblebees and honeybees: **go to 10**

Scutum with central parallel yellow or grey stripes: **go to 22**

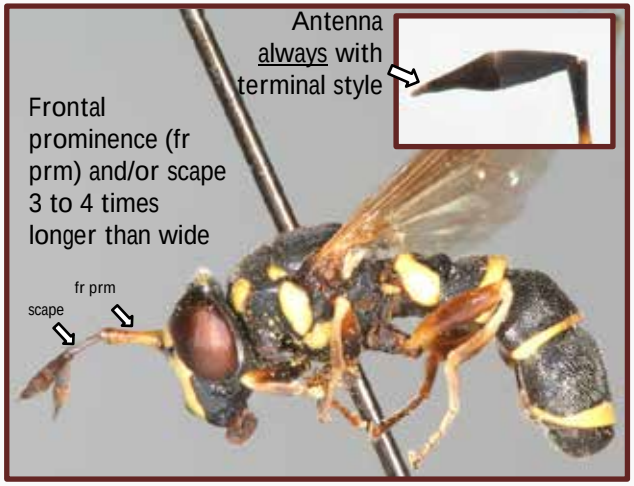
Several genera

4. Specimen similar to flies on one of the boxes above (click on respective box)

4'. Specimen not like any of the above pictures (click here) 5

Back to previous couplet

doi:10.3752/cjai.2013.23



Several genera: go to 27

Eye with color patterns

Eristalinus, Orthonevra and Spilomyia (in part): go to 30

5. Specimen similar to flies on one of the boxes above (click on respective box)

5'. Specimen not like any of the above pictures (click here) 6

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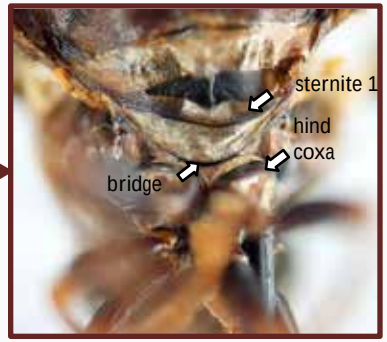
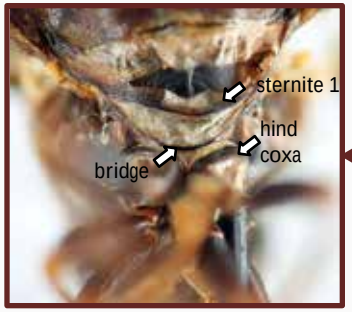
Vein R_{4+5} always with spur



Face usually straight to slightly convex without a tubercle

Postmetacoxal bridge complete

Microdon and Rhopalosyrphus: go to 33



Vein R_{4+5} never with spur

Postmetacoxal bridge complete

Face straight without a tubercle

Mixogaster

6. Specimen similar to flies on one of the boxes above (click on respective box)

6'. Specimen not like any of the above pictures (click here) 7

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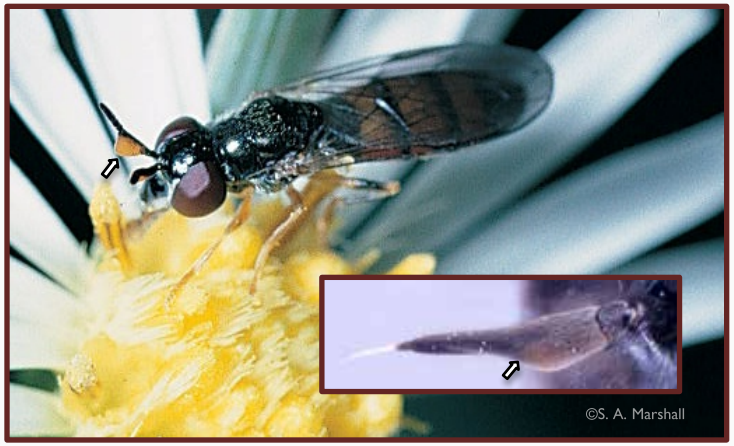
Face conical, without distinct tubercle; produced anteriorly and ventrally

Scape and pedicel never greatly elongate



Basoflagellomere slightly to greatly enlarged basally

Callicera, *Pelecocera* (*Pelecocera*) and *Merapioidus*: go to 40

7. Specimen similar to flies on one of the boxes above (click on respective box)

7'. Specimen not like any of the above pictures (click here) 8

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Flies with elongated / petiolate abdomen; antenna always shorter than face

Several genera: go to 42

Enlarged hind femur 3 to 4 times the width of the posterior tibia; abdomen never distinctly petiolate

Vein R_{4+5} never with distinct dip

Vein R_{4+5} conspicuously sinuous; abdominal segments never petiolate and never with banded markings, at most with posterior margin yellow

8. Specimen similar to flies on one of the boxes above (click on respective box)

8'. Specimen not like any of the above pictures (click here) 9

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Flies with pale markings at least on one abdominal tergite

Several genera: go to 69

Dark flies with no pale background abdominal markings

Several genera: go to 115

9. Specimen similar to flies on one of the boxes above (click on respective box)

9'. Return to start of the key (click here)

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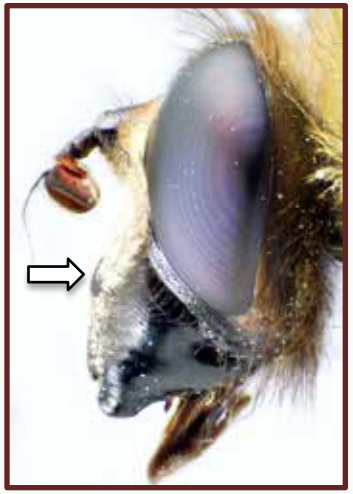

10. Face straight or slightly convex, without median tubercle (*Microdon* (*Microdon*), in part)

10'. Face either concave, or somewhat swollen, or with central tubercle 11

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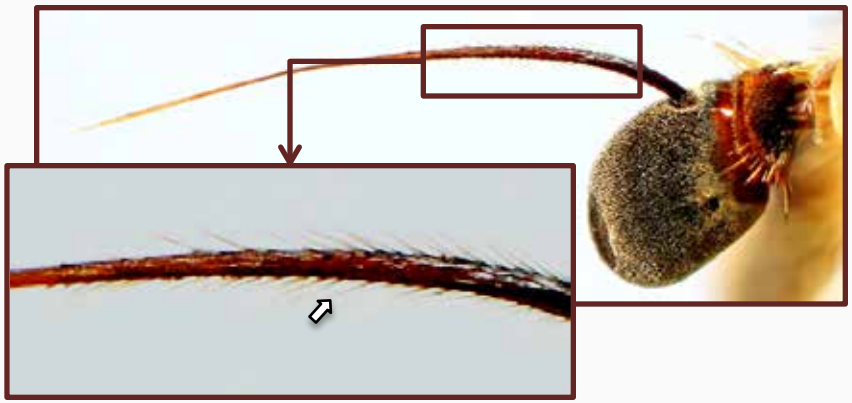

11. Arista plumose, hair distinctly longer than arista width 12

11'. Arista bare, or with inconspicuous hair (at most slightly longer than arista width) 14

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12. Basoflagellomere elongate; vein M_1 directed basally and thus conspicuously and abruptly bent; widespread (*Volucella*)

12'. Basoflagellomere rounded or quadrate; vein M_1 directed apically, not conspicuously bent; western 13

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13. Basoflagellomere quadrate; eye pilose (*Pyritis kincaidii* (Coquillett))

13'. Basoflagellomere rounded; eye bare (*Sericomyia*, in part)

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14. Vein R_{4+5} sinuous 15

14'. Vein R_{4+5} straight 19

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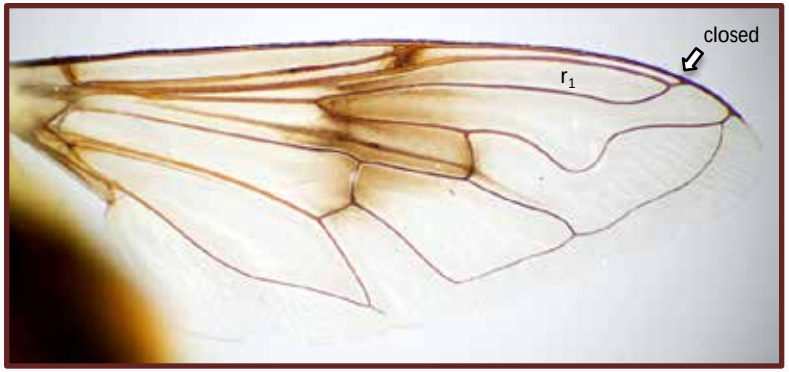

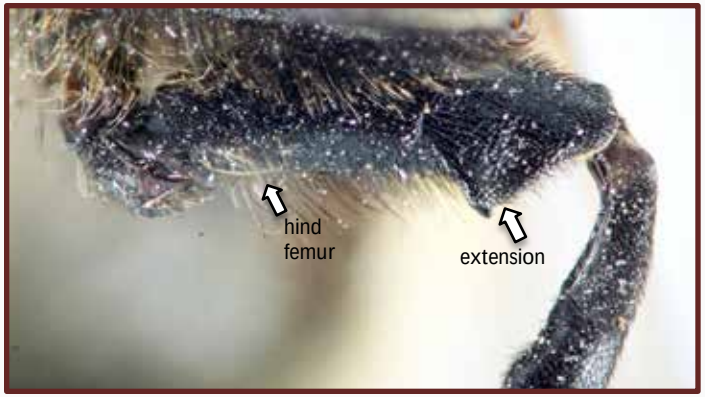

15. Cell r_1 closed before wing margin; hind femur neither enlarged nor with prominent lobes or extensions 17

15'. Cell r_1 open; hind femur usually enlarged and with distinct extensions or lobes 16

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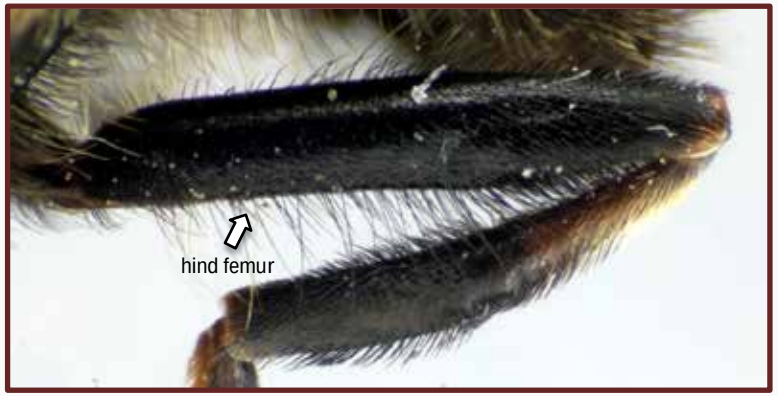

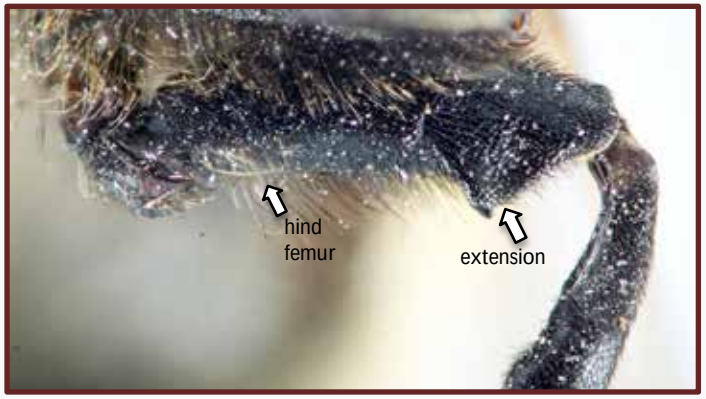

16. Hind femur neither enlarged nor with prominent lobes or extensions; abdominal tergites with yellow markings (*Myathropa florea* (Linnaeus))

16'. Hind femur enlarged and usually with distinct extensions or lobes; abdominal tergites without yellow markings 18

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17. Katepimeron bare (*Eristalis* (*Eoseristalis*), in part)

17'. Katepimeron haired (*Eristalis* (*Eristalis*) *tenax* (Linnaeus), in part)

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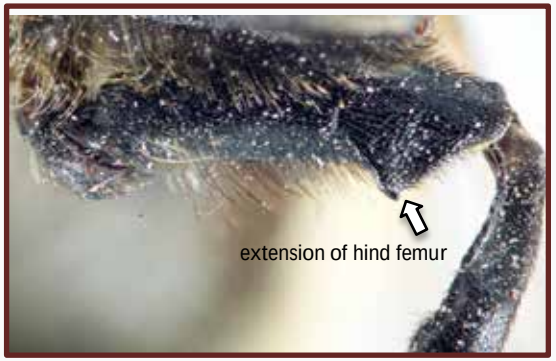

18. Hind femur with an anteroventral triangular extension; face swollen ventral to antennal base (*Merodon*)

18'. Hind femur without extension; face swollen on ventral ½, concave ventral to antennal base (*Mallota*)

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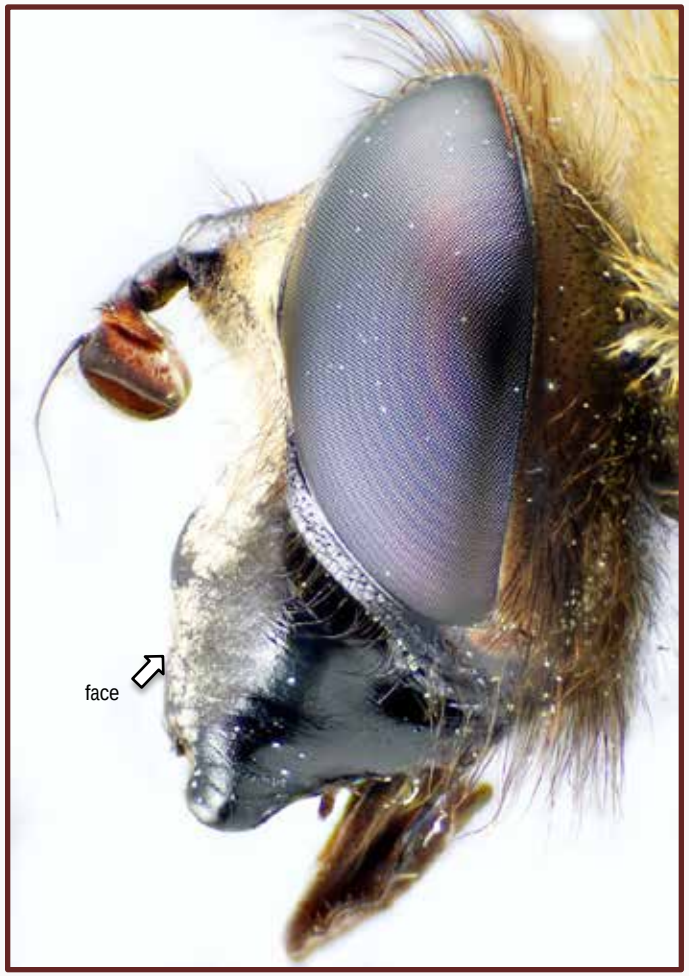

19. Face concave and only slightly extended anteriorly; western 20

19'. Face produced anteroventrally; widespread 21

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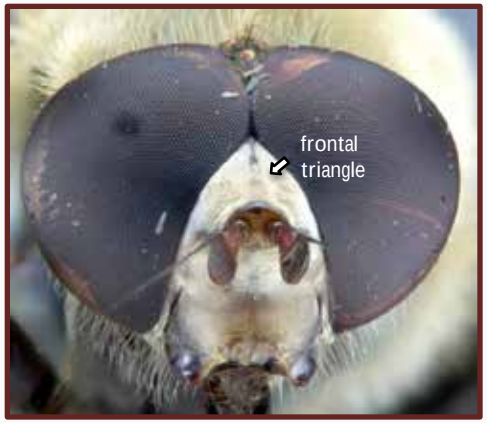

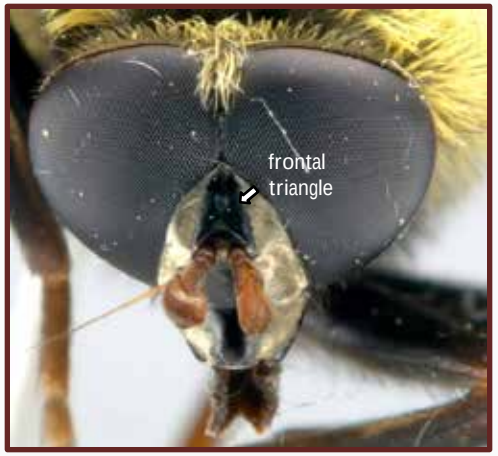

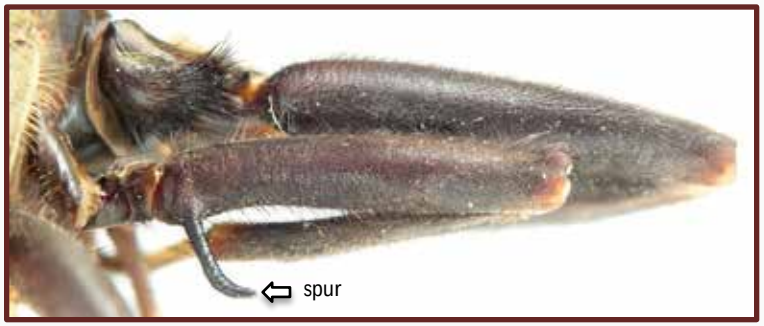

20. Frons/frontal triangle wholly yellow pollinose; face mainly yellow; male with a long spur on middle femur (*Hadromyia* (*Hadromyia*))

20'. Frons/frontal triangle shining black medially; face shining black medially; male without such spur (*Pocota*)

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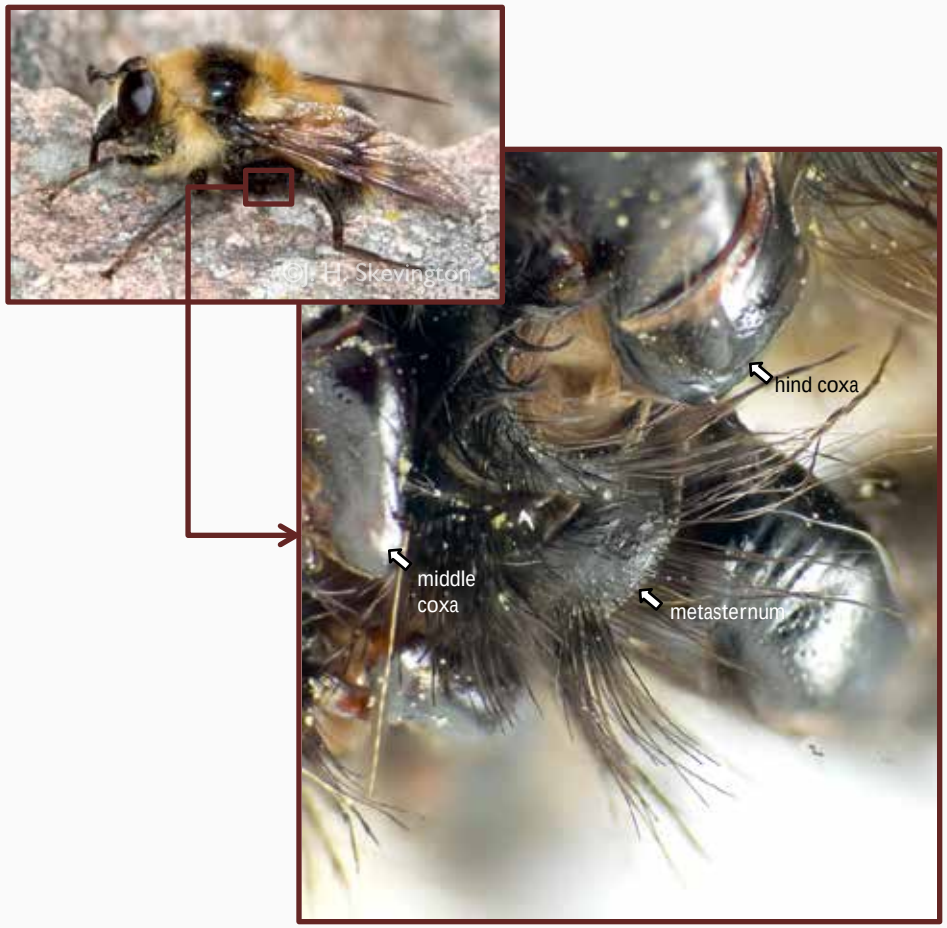

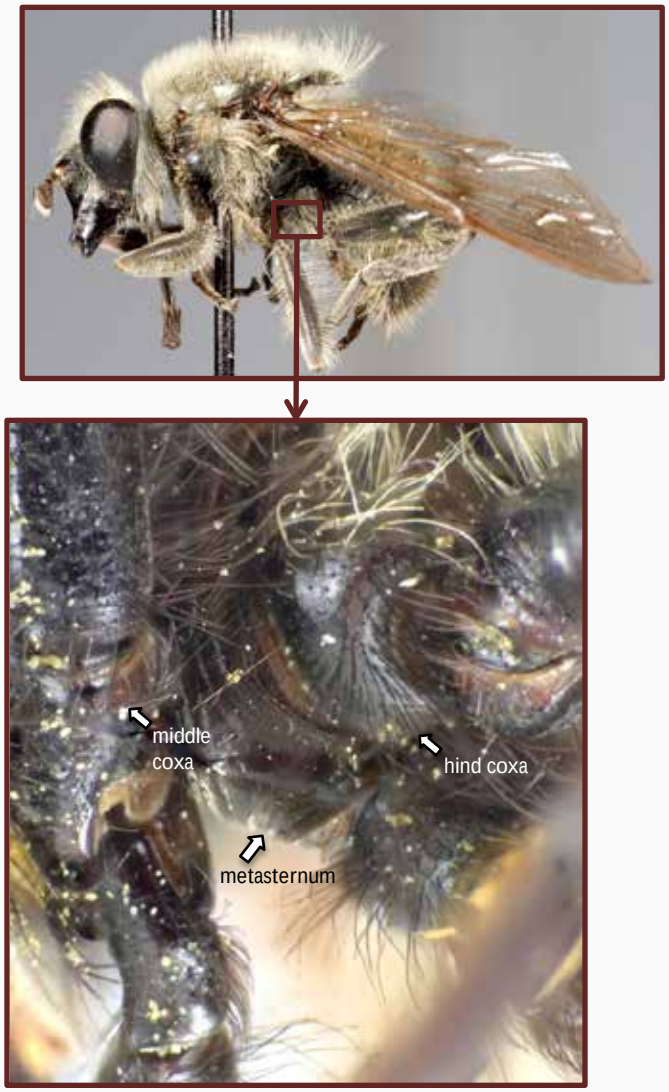

21. Metasternum haired (*Criorhina*)

21'. Metasternum bare (*Brachypalpus* (*Crioprora*))

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22. Strong bristles present on scutum and scutellum (*Ferdinandea*)

22'. Never with bristles; often with yellow markings on abdomen 23

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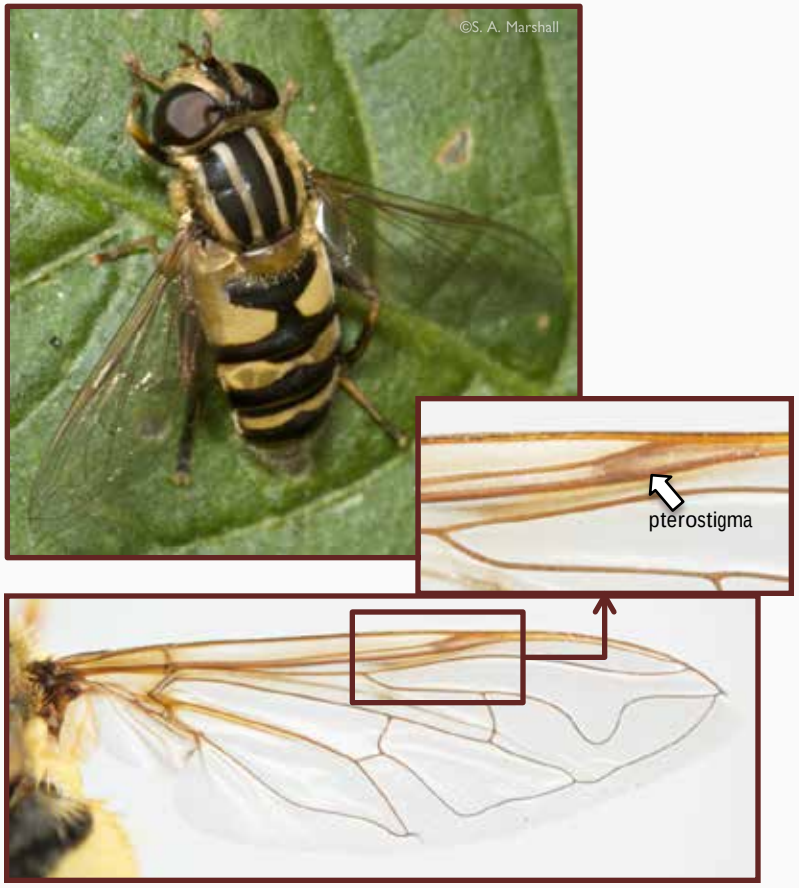

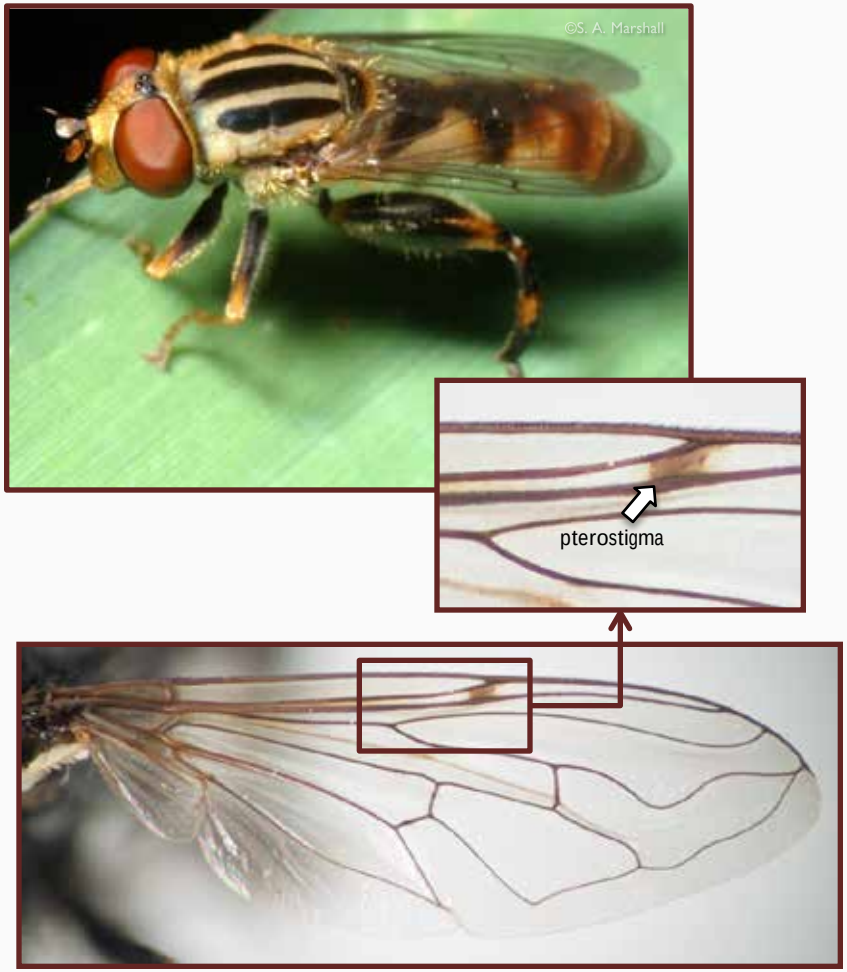

23. Pterostigma elongate and usually indistinct; large flies with oval abdomen (*Helophilus*, in part)

23'. Pterostigma short and usually distinct, simulating a crossvein; abdomen parallel-sided to oval 24

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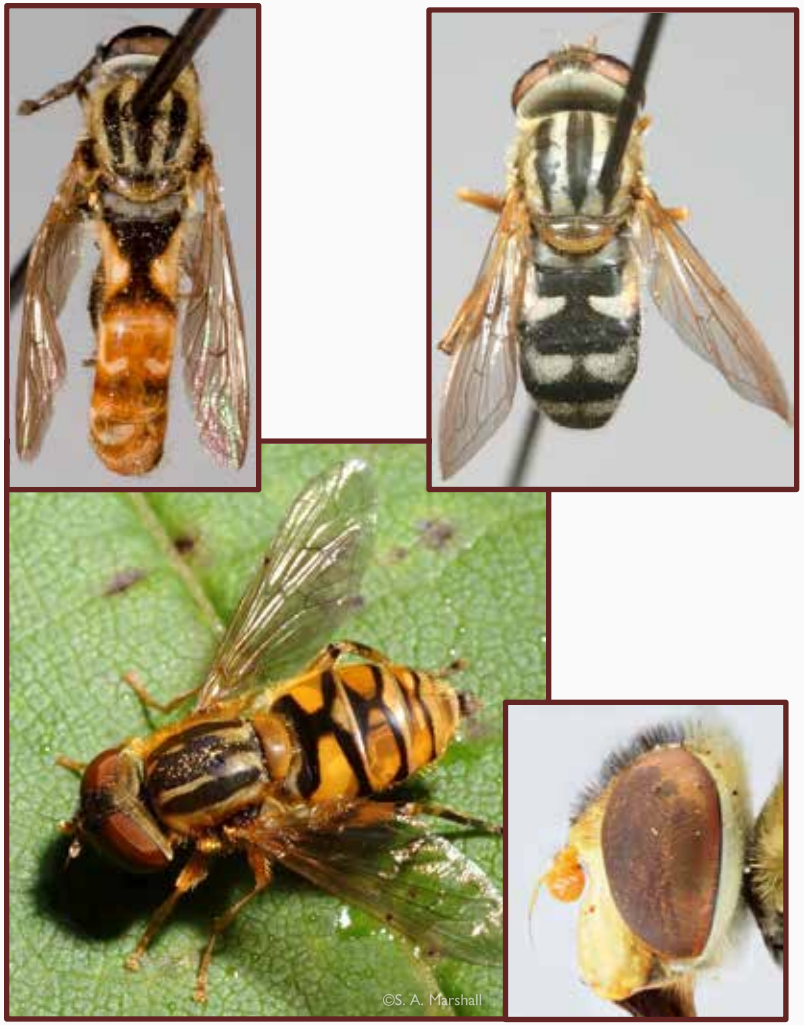

24. Background colour of face entirely dark, abdomen dark without pale or pollinose markings (*Lejops (Lunomyia) cooleyi* (Seamans), in part)

24'. Background colour of face at least partly pale, abdomen dark with pale or pollinose markings 25

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25. Face produced anteroventrally into a cone (*Lejops* (*Eurimyia*) *lineatus* (Fabricius))

25'. Face not produced anteroventrally into a cone 26

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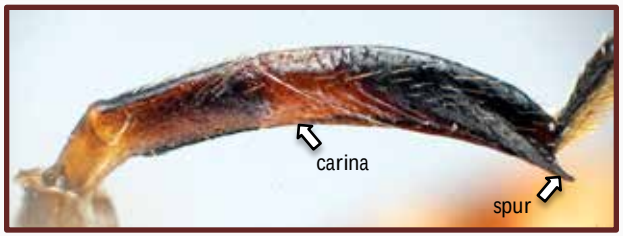
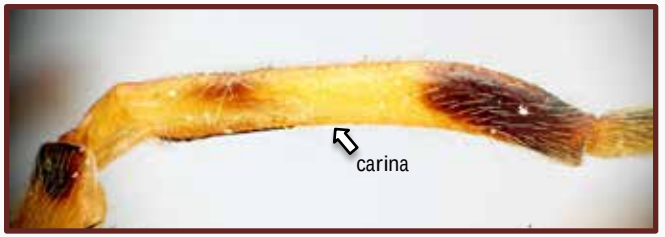
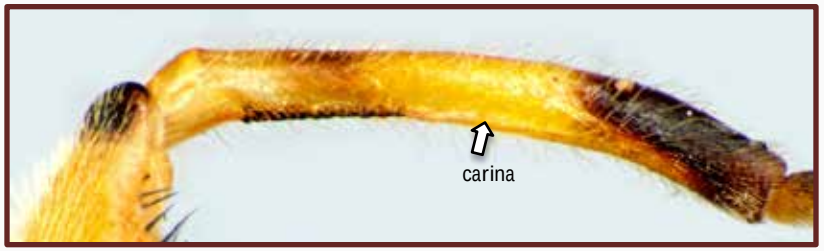


26. Hind tibia produced apicoventrally as a rounded or acute spur, with ventral knife-edged carina continuing almost to apex, and abdomen usually parallel-sided (*Lejops* (*Anasimyia*), in part)





26'. Hind tibia with apex truncate, not produced as a spur, and with carina on basal half only, abdomen usually oval (*Parhelophilus*)

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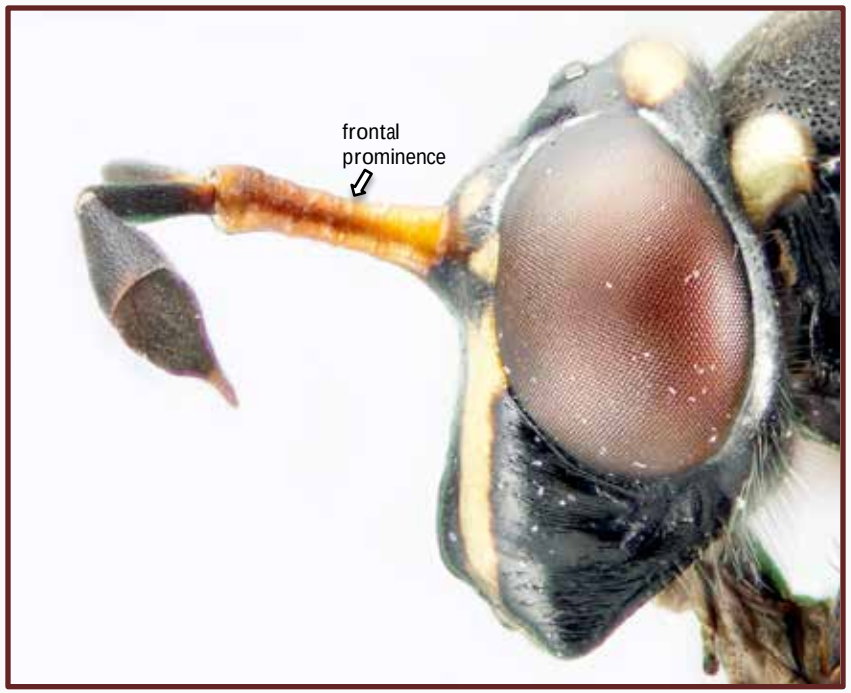

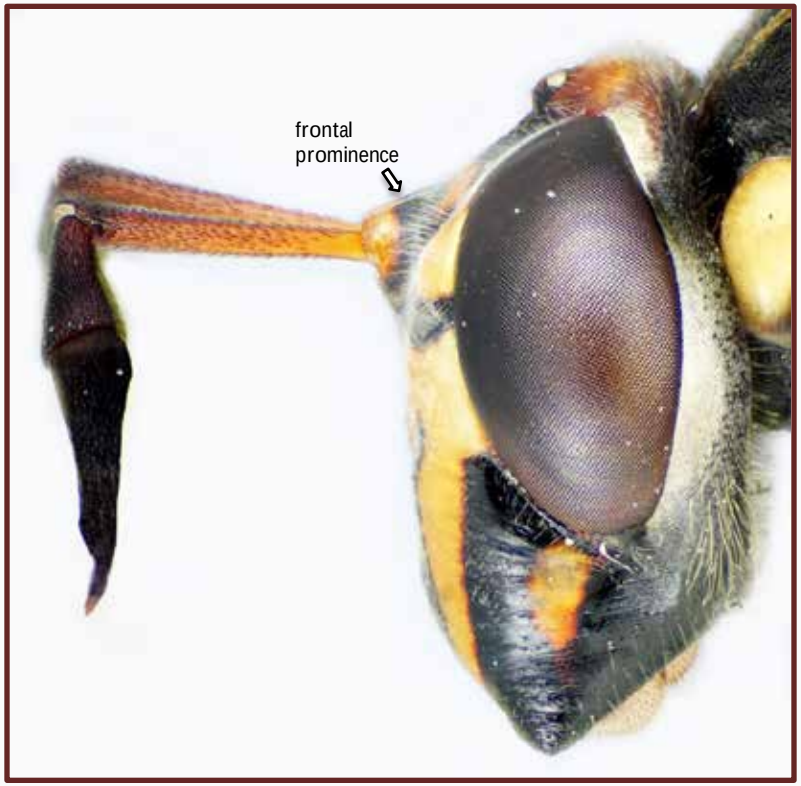

27. Frontal prominence much longer than broad 28

27'. Frontal prominence at most as long as broad, usually broader than long 29

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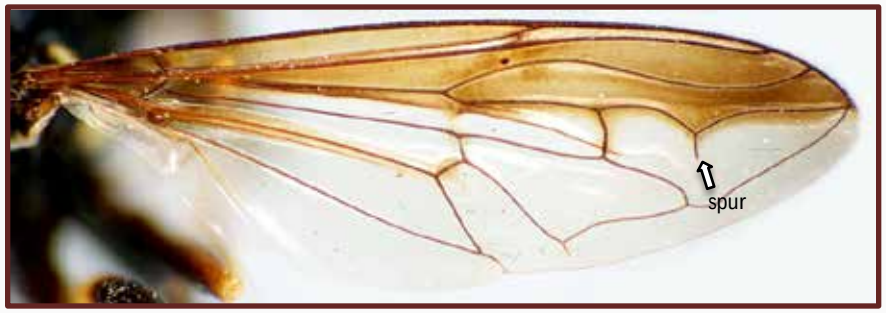

28. Vein R_{4+5} usually with spur; 2nd abdominal segment at least as wide as 1st segment; widespread (*Ceriana*)

28'. Vein R_{4+5} without spur; abdomen petiolate, middle of 2nd segment narrower than 1st segment; Florida (USA) (*Monoceromyia*)

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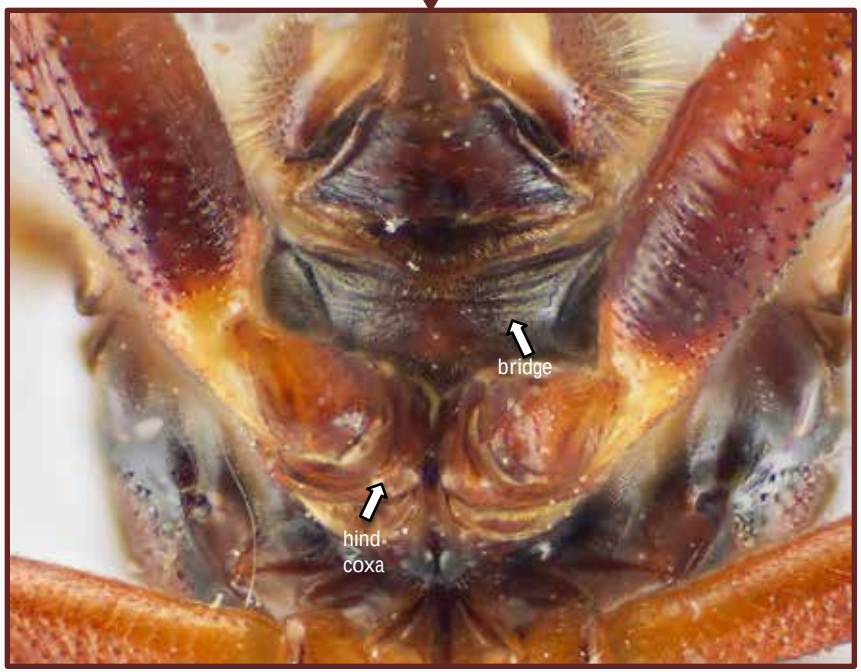

29. Postmetacoxal bridge complete, with a sclerotized band above hind coxa; southern USA (*Polybiomyia*)

29'. Postmetacoxal bridge incomplete, with membranous area medially above hind coxa; widespread (*Sphiximorpha*)

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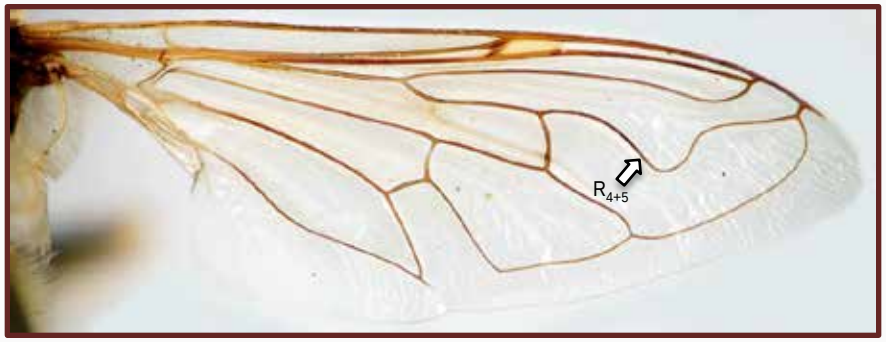

30. Vein R_{4+5} conspicuously sinuous, with a distinct dip into cell r_{4+5} 31

30'. Vein R_{4+5} almost straight 32

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31. Eye spotted (*Eristalinus* (*Lathyrophthalmus*))

31'. Eye striped and spotted (*Eristalinus* (*Eristalodes*))

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32. Large black and yellow flies; wasp mimics (*Spilomyia*, in part)

32'. Small black/metallic flies (*Orthonevra*, in part)

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33. Katepimeron haired; abdomen petiolate; southeastern (*Rhopalosyrphus*)

33'. Katepimeron bare; abdomen usually parallel-sided or oval 34

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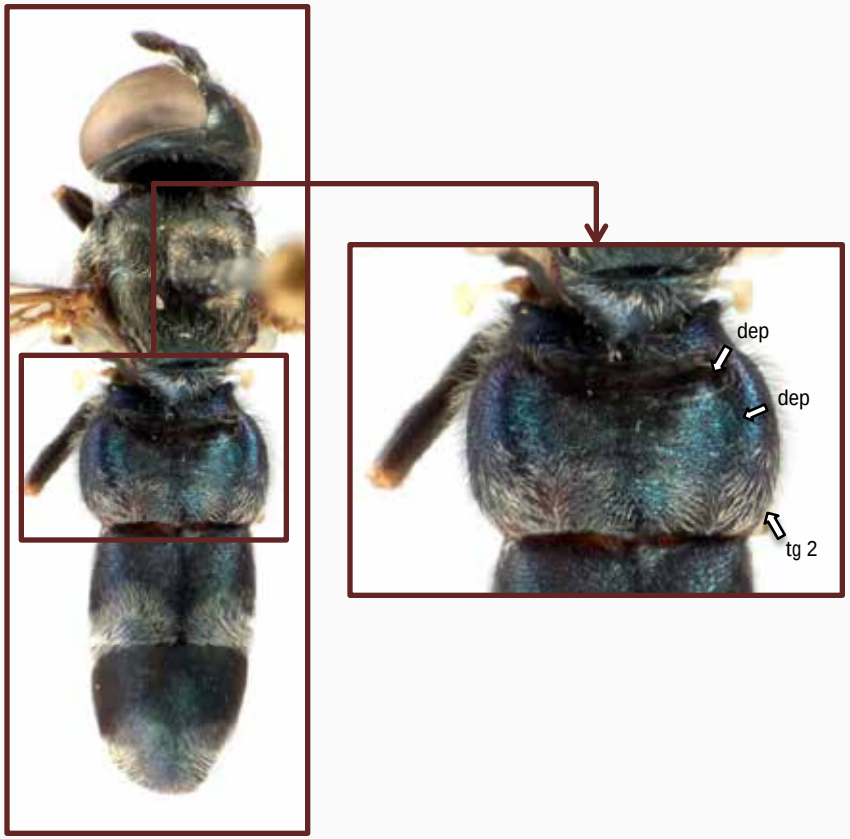

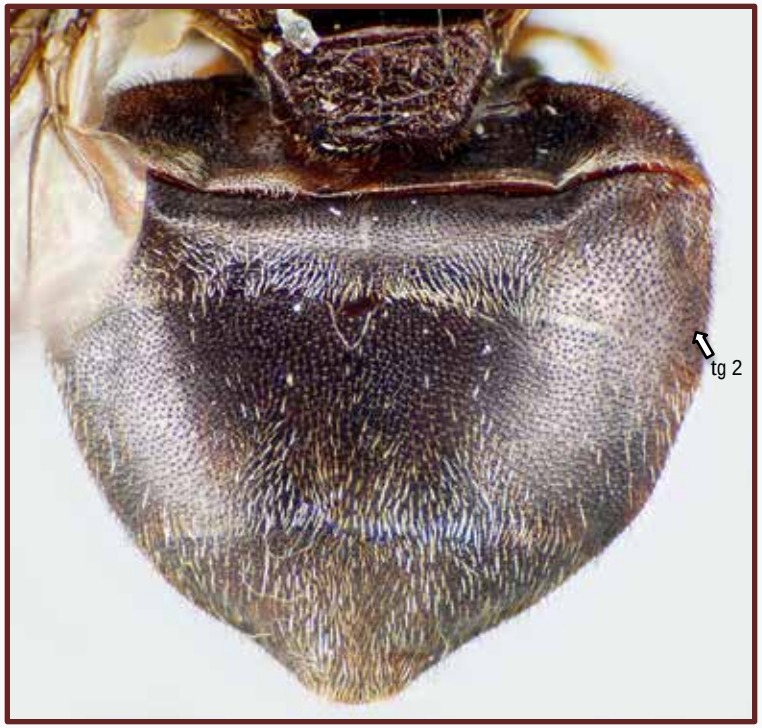

34. Abdomen little or no wider than thorax; 2nd abdominal tergite (tg 2) similar in length to 3rd and with basal and sub-lateral depressions (dep) (*Microdon* (*Omegasyrphus*))

34'. Abdomen usually broad, never with such depressions on 2nd abdominal tergite (tg 2) 35

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35. Vein M_2 present; vein M bends anteriorly before branching of M_2 (*Microdon* (*Chymophila*))

35'. Vein M_2 absent <u>or</u> if vein M_2 present, then vein M straight before branching of M_2 (*Microdon* (*Microdon*), in part)

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36. Vein M_1 with strong angle (apical portion curves towards base of wing) (*Copestylum*)

36'. Vein M_1 without angle (apical portion directed towards apex of wing) 37

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37. Arista haired; abdomen with pairs of narrow yellow bands; Alaska (USA) and Northwest Territories (Canada) (*Sericomyia tolli* (Frey))

37'. Arista bare; abdomen differently marked 38

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38. Scape and pedicel slightly long and of similar length (*Sphecomyia fusca* Weisman)

38'. Scape and pedicel short, scape shorter than pedicel 39

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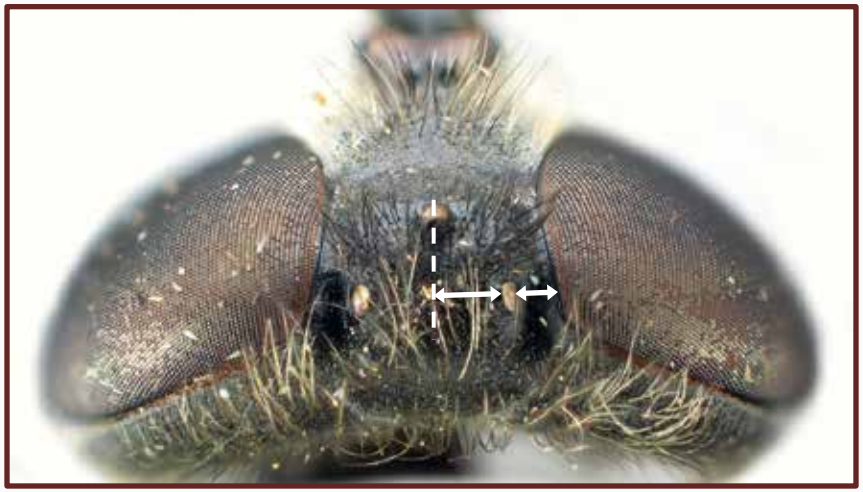

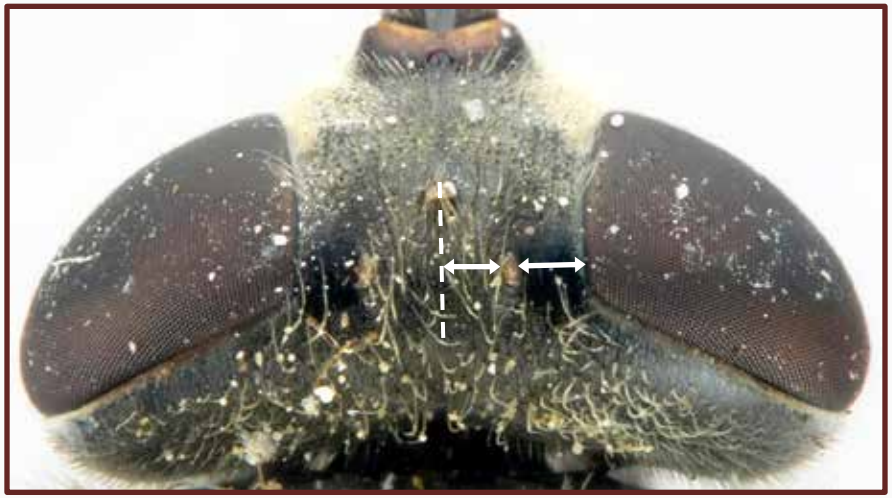

39. Posterior ocelli closer to eye margin than to midpoint between them (*Lejops* (*Asemosyrphus*))

39'. Posterior ocelli closer to midpoint between them or at similar distance from eye margin (*Lejops* (*Arctosyrphus*) *willingii* (Smith))

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40. Basoflagellomere only slightly enlarged basally; eye haired (*Callicera*)

40'. Basoflagellomere greatly enlarged; eye bare 41

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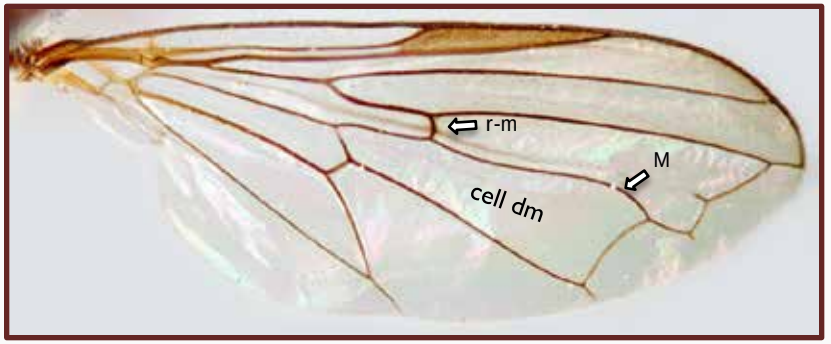

41. Crossvein r-m joining vein M beyond middle of cell dm; medium sized flies (~10mm) (*Merapioidus villosus* Bigot)

41'. Crossvein r-m joining vein M before middle of cell dm; small flies (~6mm) (*Pelecocera* (*Pelecocera*))

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42. Face with a distinct tubercle 43

42'. Face without tubercle; either straight, concave, or with a projected lower margin 51

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43.Anterior anepisternum haired 44

43'.Anterior anepisternum bare 48

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44. Yellow/orange flies; either wing with dark apical spot or abdominal tergites with medial yellow stripes 45

44'. Black/dark brown flies. If yellow abdominal markings present, never as medial yellow stripes 46

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45. Abdomen orange; abdominal tergites homogeneously coloured (*Ocyptamus parvicornis* species group)

45'. Abdomen light brown; abdominal tergites with yellow stripes (*Hybobathus lineatus* (Macquart))

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46. Wing with only anterior margin dark; female 6th segment as a single conical sclerite (*Pelecinobaccha costata* (Say))

46'. Wing mostly dark or with medial dark triangular marking; female 6th segment divided into a dorsal and ventral sclerite 47

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47.Wing with medial dark triangular marking (*Ocyptamus fascipennis* species group)

47'. Wing extensively dark (*Ocyptamus cylindricus* species group)

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48. Hind femur with rows of black spines 49

48'. Hind femur never with rows of black spines 50

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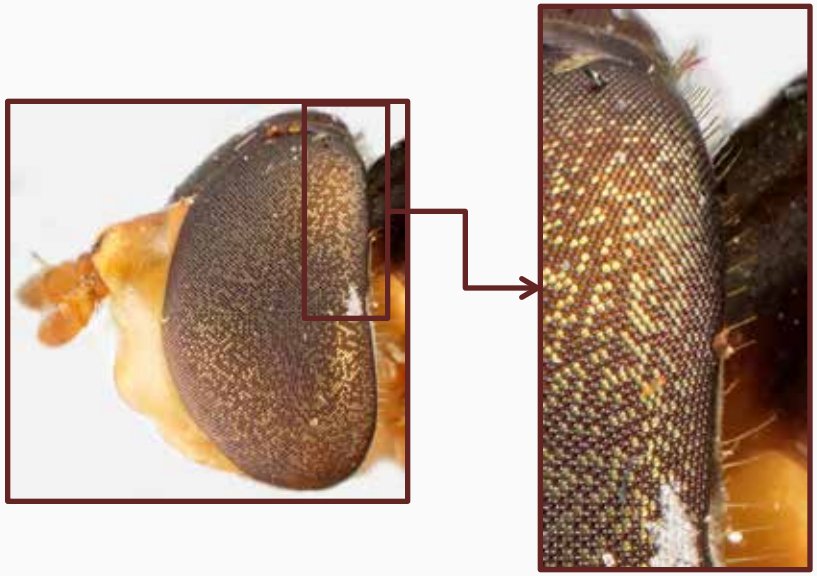

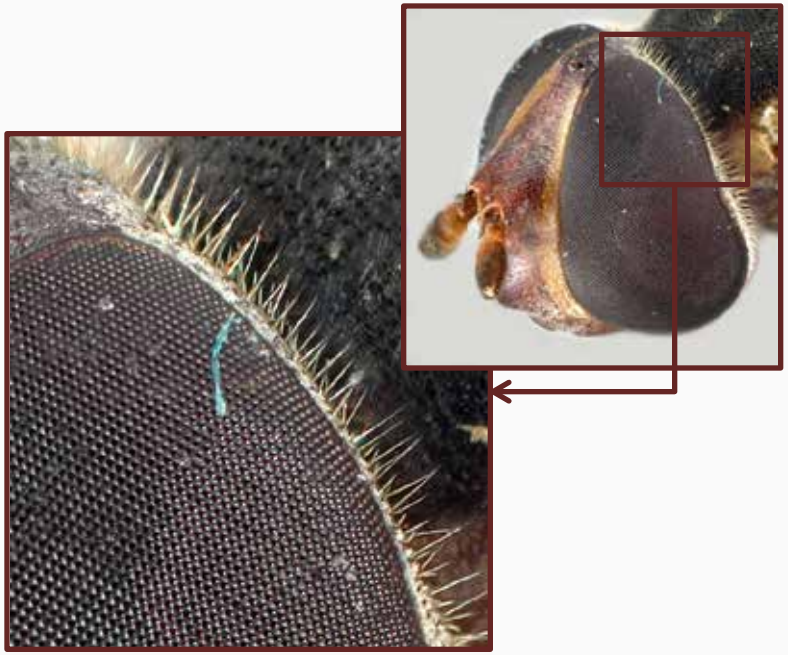

49. Vein R_{4+5} deeply sinuous; dorsal half of occiput with one row of hairs; Florida (*Salpingogaster punctifrons* Curran)

49'. Vein R_{4+5} slightly sinuous; dorsal half of occiput with 3 to 4 rows of hairs; Florida and Texas (*Eosalpingogaster*)

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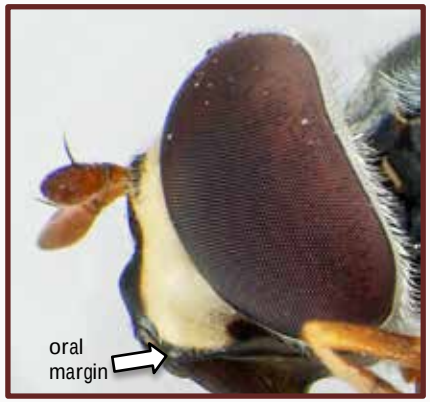

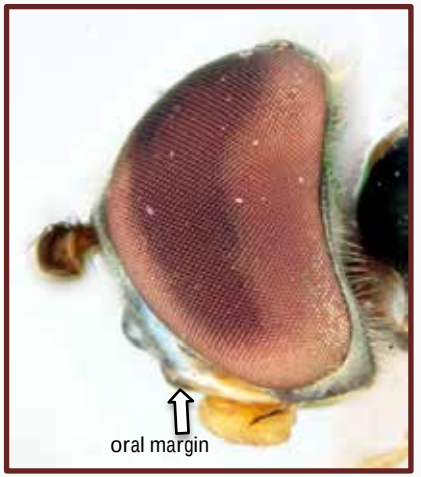

50. Scutellum yellow basally and apically; 2nd to 4th abdominal segments with paired pale basolateral markings, oral margin projected forward, face pale with a dark stripe (*Pseudodoros clavatus* (Fabricius))

50'. Scutellum wholly dark; abdominal segments with solid pale baso-lateral stripes; oral margin not projected forward; face unicolourous (*Baccha elongata* (Fabricius))

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51. Face straight, never concave or with an extended oral margin; USA (SW Colorado and Arizona) (*Leucopodella marmorata* (Bigot))

51'. Face never straight, either concave or with an extended oral margin; widespread 52

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52. Face concave 53

52'. Face oblique, with an extended oral margin 54

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53. First sternite (st 1) well sclerotized, quadrate (*Sphegina* (*Sphegina*))

53'. First sternite (st 1) reduced or absent (*Sphegina* (*Asiosphegina*))

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54. Postmetacoxal bridge complete, with a sclerotized band above hind coxa (*Neoascia* (*Neoascia*), in part)

54'. Postmetacoxal bridge incomplete, the sclerotized band separated medially (*Neoascia* (*Neoasciella*), in part)

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55. Small, compact flies (length ~ 0.4 cm) covered with small pits; vein M_1 recessive; Mexico (*Alipumilio nigrocoeruleus* Vockeroth, in part)

55'. Larger flies (length > 0.75 cm) without pits; vein M_1 processive 56

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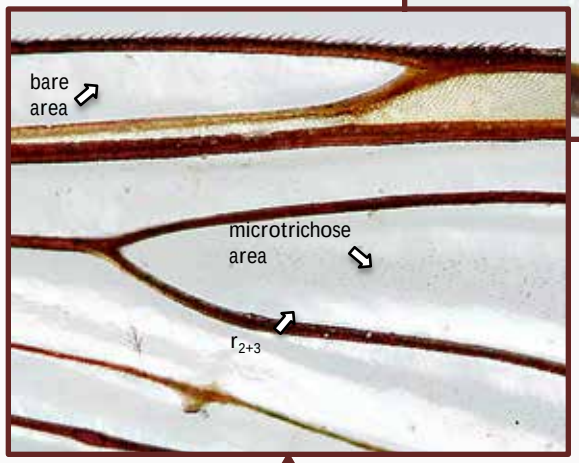
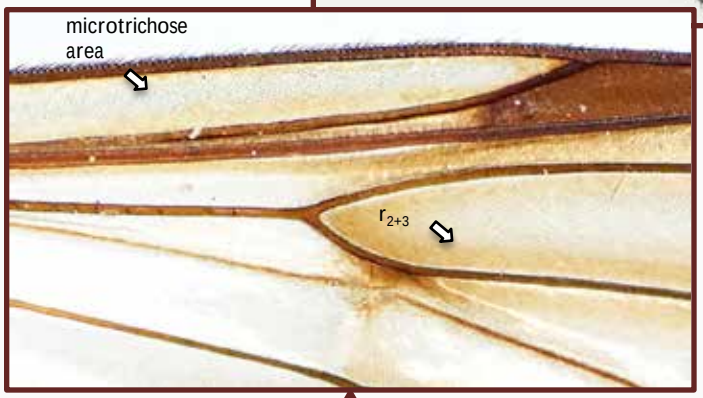


56. Hind femur with anteroventral spinose ridge on apical 1/3, and never with a triangular plate; basal 2/3 of wing bare, base of r_{2+3} mostly bare (*Syritta*)



56'. Posterior femur without anteroventral spinose ridge, sometimes with a triangular plate apically; wing mostly microtrichose, cell r_{2+3} wholly microtrichose 57

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57. Hind femur with triangular spinose plate 58

57'. Hind femur without such plate 59

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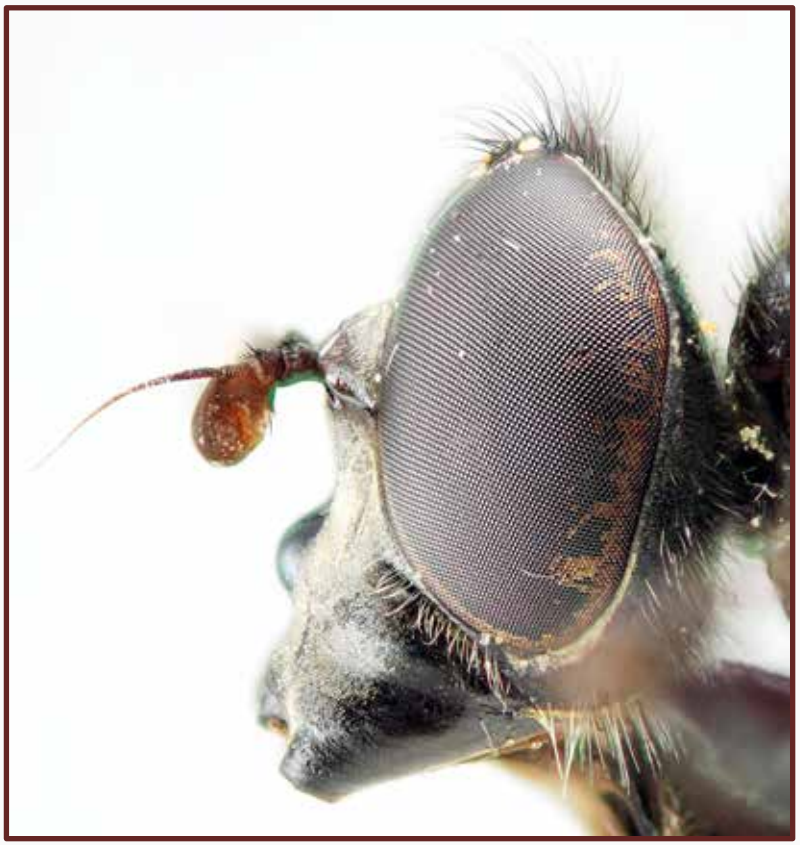

58. Face carinate, without a tubercle, oral margin extended below (*Tropidia,* in part)

58'. Face not carinate, with a tubercle, oral margin extended below (*Cynorhinella,* in part)

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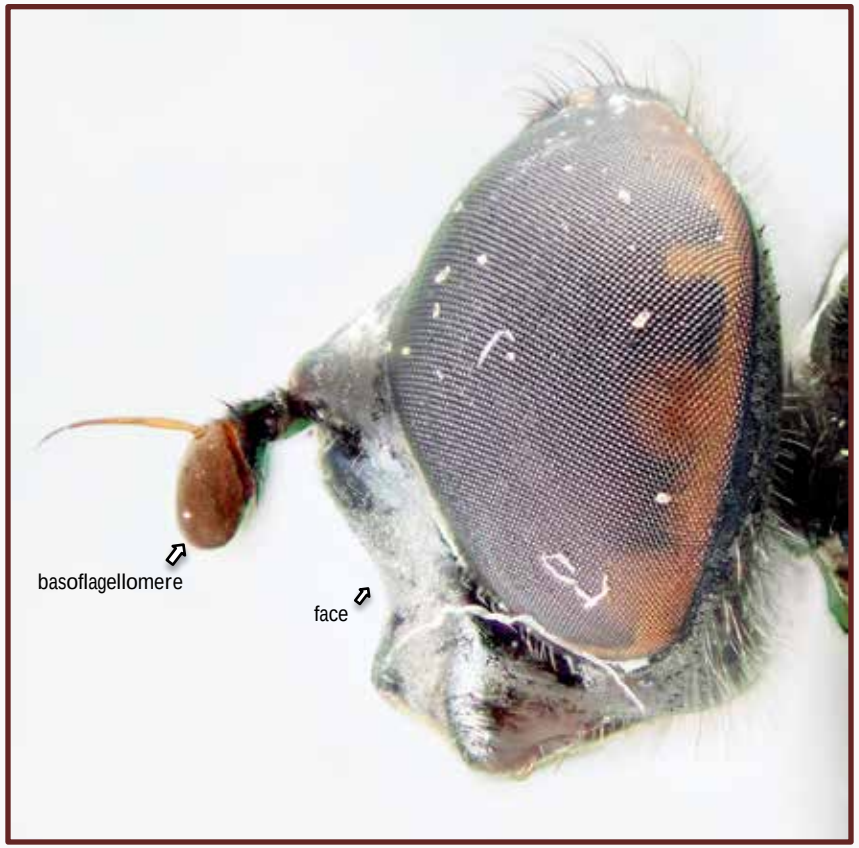

59. Basoflagellomere elongate, at least 2 times longer than wide; face forming a medial crest, almost straight; southern Arizona (USA) (*Chalcosyrphus* (*Neplas*) *pauxilla* (Williston))

59'. Basoflagellomere more rounded, slightly longer than wide; face not forming a crest, concave; widespread 60

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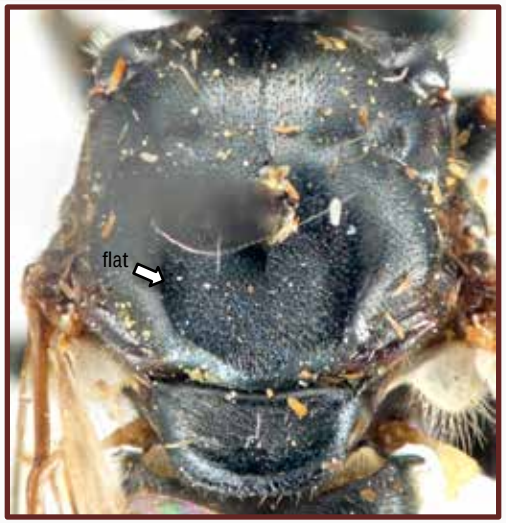

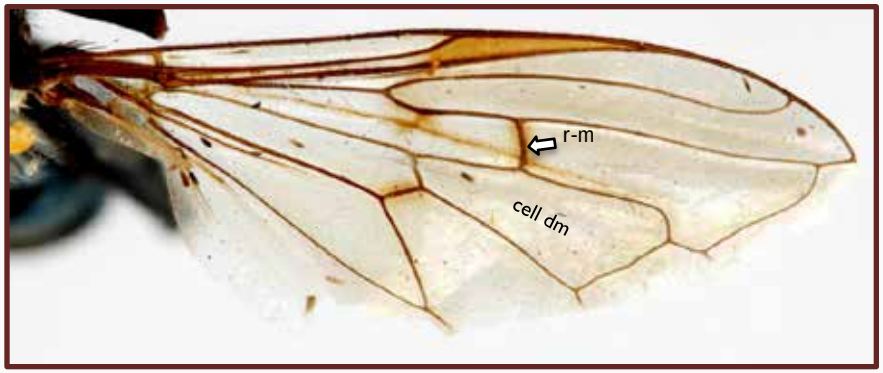

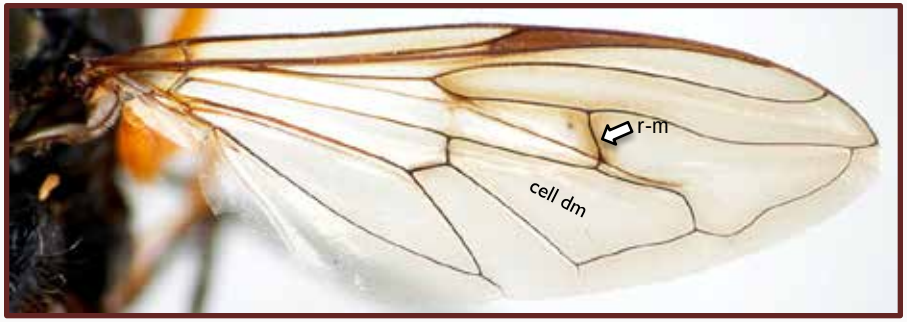

60. Scutum flattened (flat) anterior to scutellum; crossvein r-m situated basal to middle of cell dm (*Chalcosyrphus* (*Chalcosyrphus*))

60'. Scutum smoothly convex; crossvein r-m situated at or apical to middle of cell dm (*Chalcosyrphus* (*Xylotomima*), in part)

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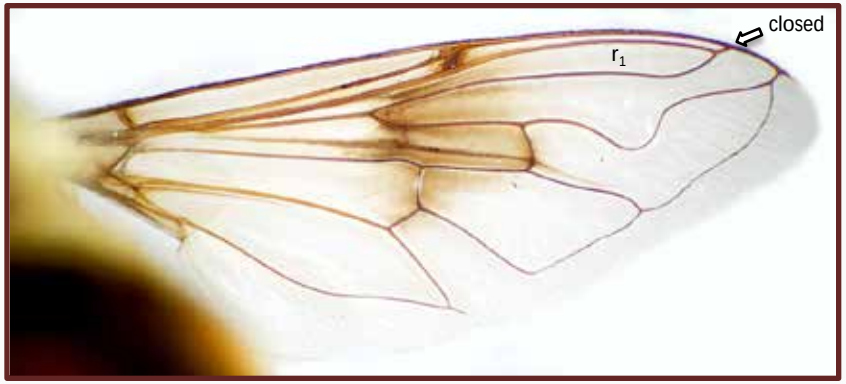

61. Cell r_1 closed before wing margin 62

61'. Cell r_1 open to wing margin 64

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62. Katepimeron, half of anepimeron, meron and metepisternum bare (*Eristalis* (*Eoseristalis*), in part)

62'. Katepimeron haired, other sclerites frequently haired 63

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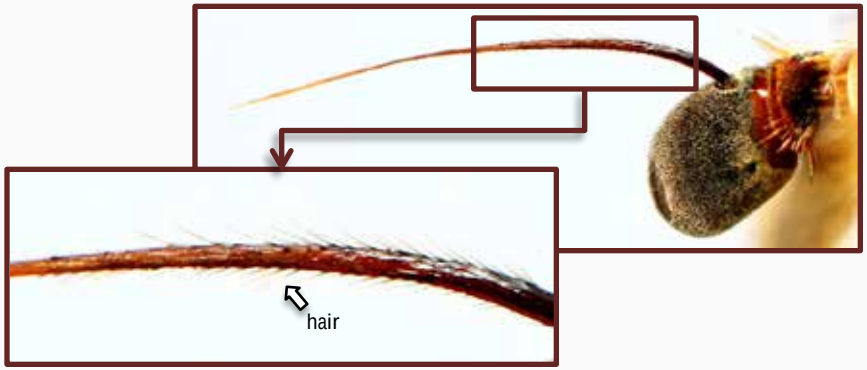

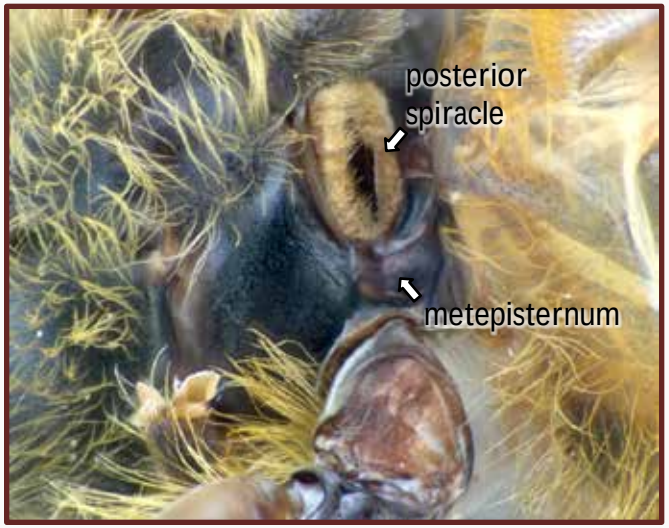

63. Metepisternum bare; arista with very short hair on basal half (*Eristalis* (*Eristalis*) *tenax* (Linnaeus), in part)

63'. Metepisternum haired ventral to posterior spiracle; arista bare (*Palpada*)

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64. Hind femur with triangular spinose plate (*Tropidia*, in part)

64'. Hind femur without such plate 65

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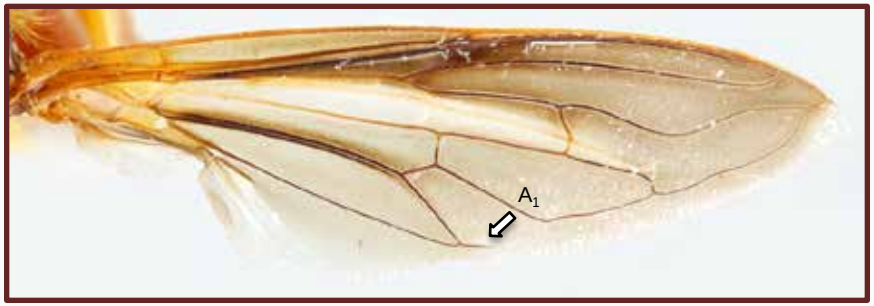

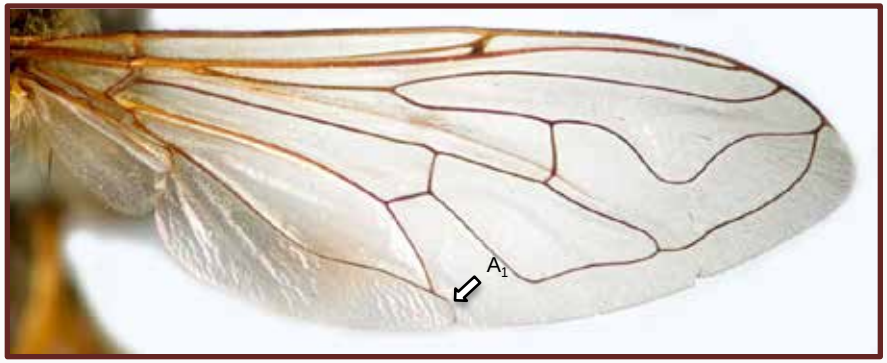

65. Apical section of vein A_1 straight and not reaching wing margin; hind femur without anterior basoventral patch of black spines (*Teuchocnemis*)

65'. Apical section of vein A_1 curved towards wing margin, forming a small dent on the margin; hind femur with anterior basoventral patch of black spines 66

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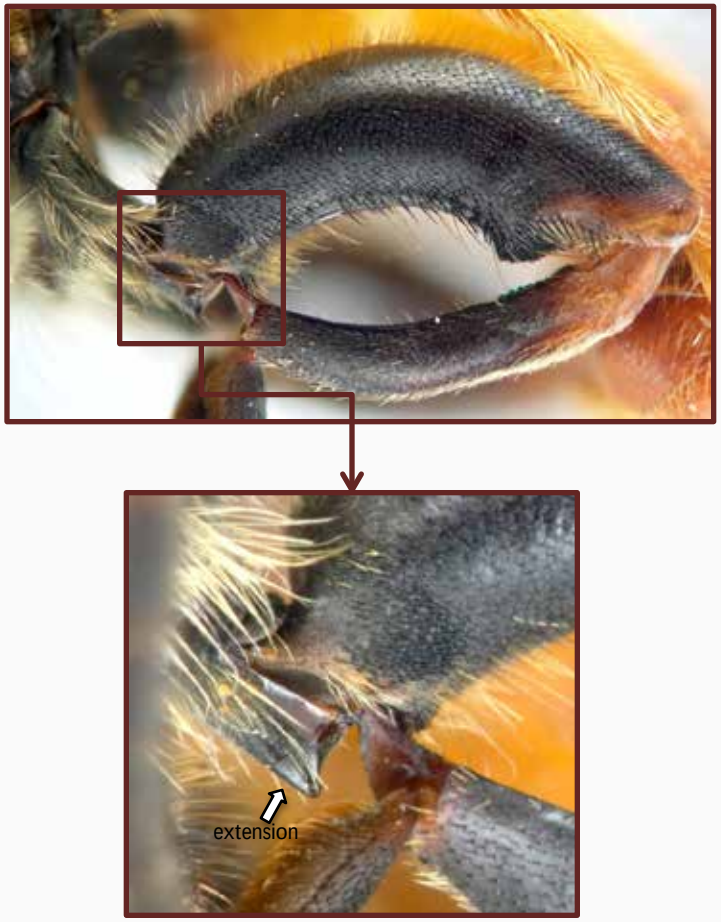

66. Hind trochanter with acute extension ventrally; male hind femur and hind tibia strongly curved (*Lejops* (*Polydontomyia*))

66'. Hind trochanter rounded ventrally; male hind femur not arched 67

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67. Pterostigma elongate and usually indistinct; large flies with an oval abdomen (*Helophilus*, in part)

67'. Pterostigma short and usually distinct, simulating a crossvein; abdomen parallel-sided to oval 68

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68. Face pale, completely yellow-pollinose (*Lejops* (*Anasimyia*), in part)

68'. Face mostly black, pale-pollinose laterally but shining black medially (*Lejops* (*Lunomyia*) *cooleyi* (Seamans), in part)

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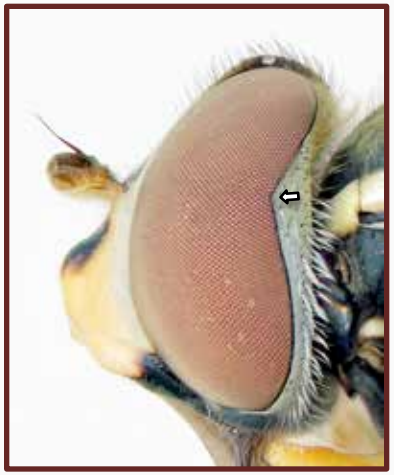

69. 3rd abdominal tergite (tg 3) and onward with pair of medial black stripes that may extend to the lateral sides, or mostly yellow with faded black medial stripes. Eye with distinct triangular emargination on posterior margin (*Toxomerus*, in part)

69'. Abdominal tergites variously patterned, never with a pair of medial black stripes on tergite 3. Eye never with a distinct triangular emargination on posterior margin 70

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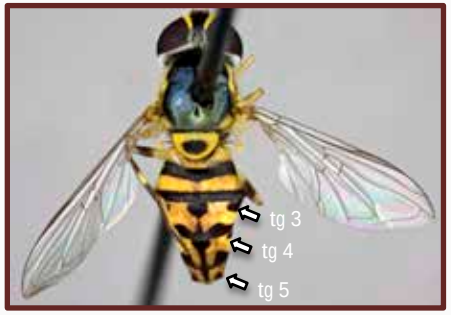
Allograpta

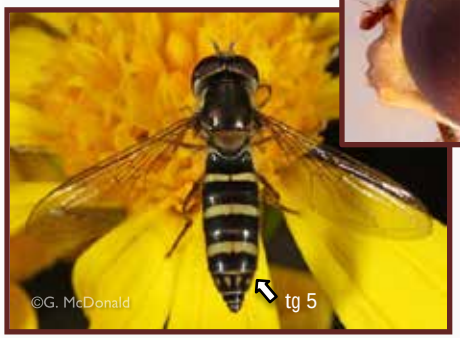


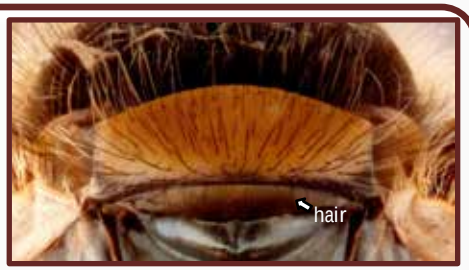
4th (tg 4) and 5th abdominal tergites (tg 5) with central pair of yellow stripes and lateral oblique oval yellow markings, or with distinctive abdominal markings seen in bottom photo. Face not produced forward.

Sphaerophoria, in part

3rd and 4th tergites usually each with a regular yellow band; occasionally with divided bands, entirely yellow, or entirely black. Never with the abdominal patterning described in *Allograpta* and *Fazia*. Male genitalia (gnt) large and globose. Scutellum with only sparse ventral hair.

Fazia micrura (Osten Sacken)





Fifth abdominal tergite (tg 5) with four small yellow stripes. Face produced forward. Scutellum with complete row of ventral hair.

70. Similar to pictures in one of the boxes above (click on respective box)

70'. Specimen not like any of the above pictures (click here) 71

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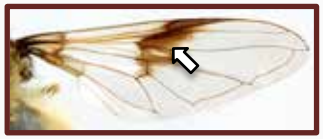
2nd abdominal tergite and base of 3rd yellow; wing with medial black stripe



Wasp mimic; yellow pollinosity covering most of the abdominal tergites; antenna never elongate; face never strongly produced ventrally

Temnostoma, in part

Abdominal tergites mostly yellow with 3 (1 on 2nd) stripes of black coming from apex

Ocyptamus lepidus species group

Scutum without yellow markings; arista distinctly haired

Sericomyia

Sphecomyia, in part

Wasp mimic; face strongly produced ventrally; antenna short or elongate; never with preapical spur on hind femur

71. Specimen similar to flies on one of the boxes above (click on respective box)

71'. Specimen not like any of the above pictures (click here) 72

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Abdominal tergites dark with sublateral pale spots

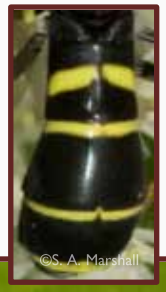
Ocyptamus cylindricus species group

Abdominal tergites mostly black, but with yellow lateral margin

Toxomerus marginatus (Say) ⇒ Dark morph

Most of abdomen red; eye bare; western North America

Xylota (Sterphoides)



Doros, *Spilomyia* and *Temnostoma*: go to 73

Abdomen parallel-sided with pale-banded markings; abdominal tergites strongly convex dorsally

3rd to apical abdominal segments orange/red; face slightly produced anteriorly; eye pilose

Paragus

72. Specimen similar to flies on one of the boxes above (click on respective box)

72'. Specimen without a strongly convex parallel-sided abdomen or abdomen differently marked (click here) 76

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73. Entire lateral margins of scutum yellow (*Doros aequalis* Loew)

73'. Sides of scutum differently marked 74

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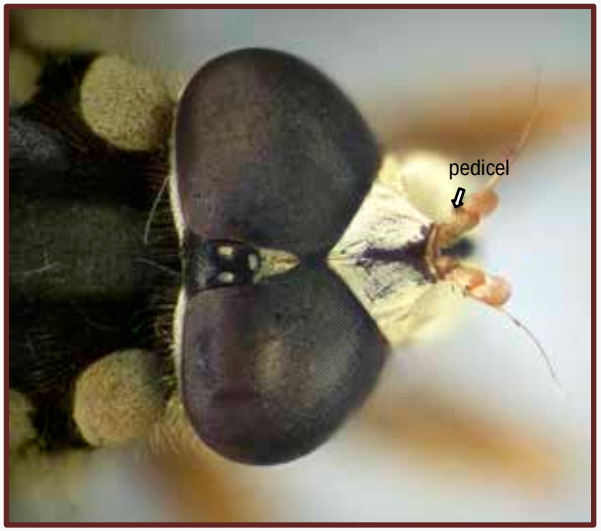

74. Pedicel short; face concave below antennal base (*Temnostoma*, in part)

74'. Pedicel longer than other antennal segments; face straight below antennal base (*Spilomyia*, in part)

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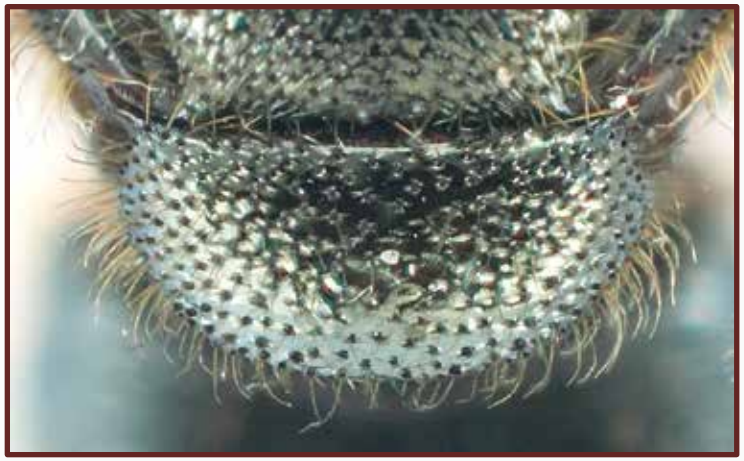

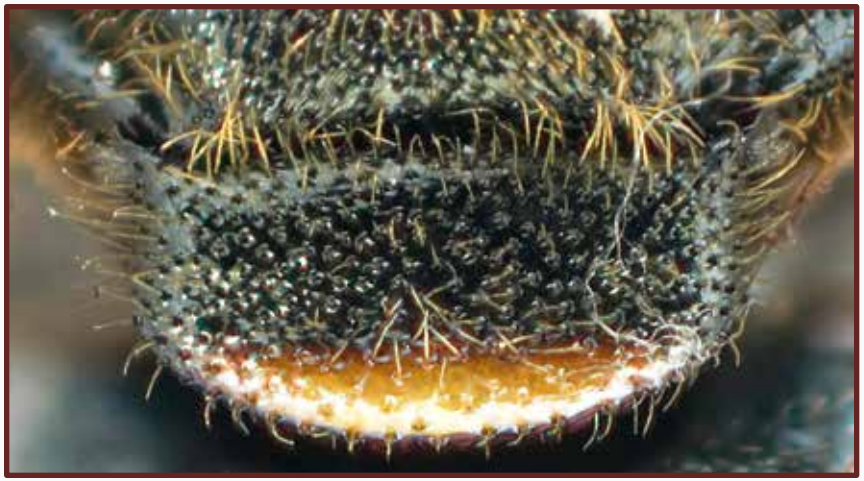

75. Eye hair homogenously colored; scutellum wholly black (*Paragus* (*Pandasyophthalmus*) *haemorrhous* Meigen, in part)

75'. Eye with stripe of different colored hair; scutellum yellow apically (*Paragus* (*Paragus*), in part)

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Several genera: go to 77

Black abdomen with partial or complete transverse yellow bands; if band partial, then markings narrow; vein R_{4+5} sinuous in a few taxa

Markings might be restricted to 2nd and 3rd tergites

Several genera: go to 107

Flies with quadrangular or triangular abdominal markings; if markings quadrangular, then they are wide

Either with medial yellow markings only on 2nd abdominal tergite, and sometimes 3rd tergite with yellow lateral margins, or apical segments yellow

Blera, *Pipiza* and *Xylota*: go to 113

76. Specimen similar to one of the flies illustrated above (click on respective box)

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77. Postpronotum pilose (*Blera*, in part)

77'. Postpronotum bare 78

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78. Abdominal tergites with black velvet bands, 3rd and 4th tergites also with yellow bands; western (*Pseudoscaeva diversifasciata* (Knab))

78'. Abdominal tergites with no black velvet bands, only black and yellow/white patterns 79

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79. Face wholly black 81

79'. Face mostly yellow 80

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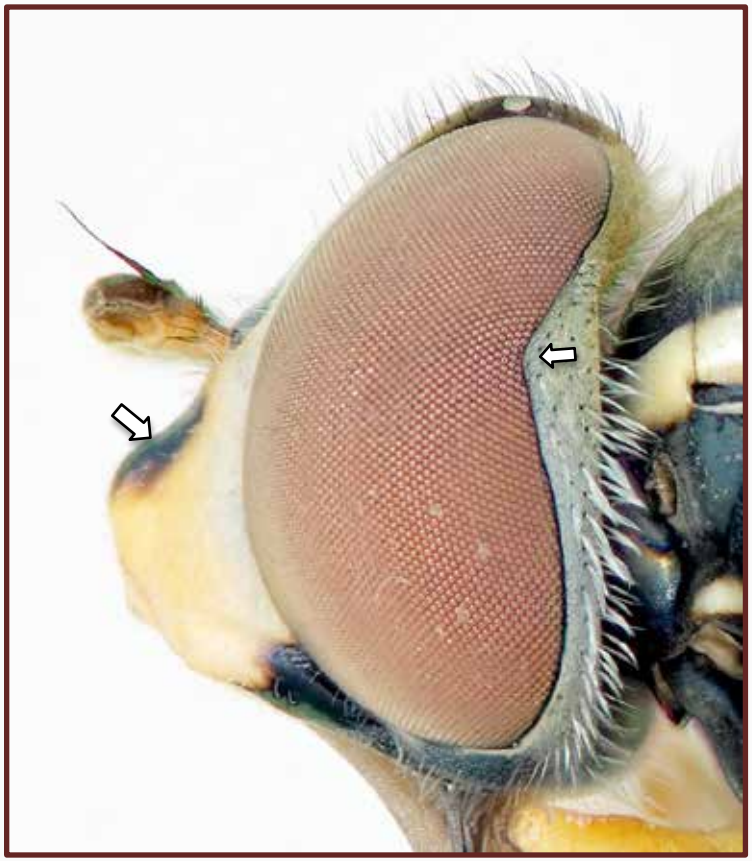

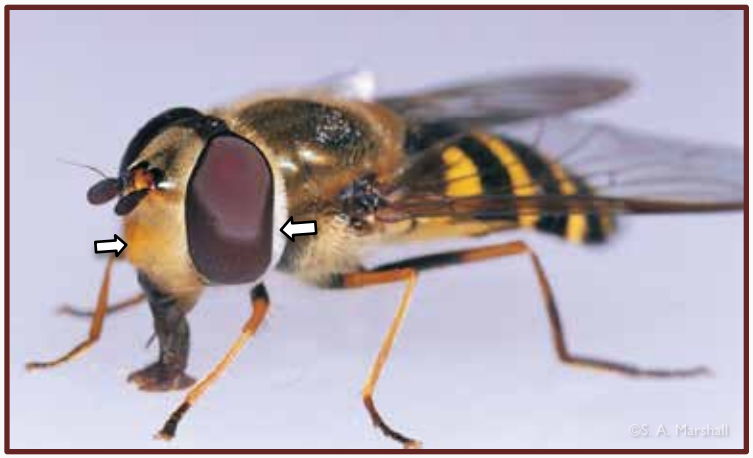

80. Face black medially above tubercle; eye with triangular emargination on posterior margin (*Toxomerus*, in part)

80'. Face mostly yellow or with complete middle black stripe; eye with rounded emargination on posterior margin 83

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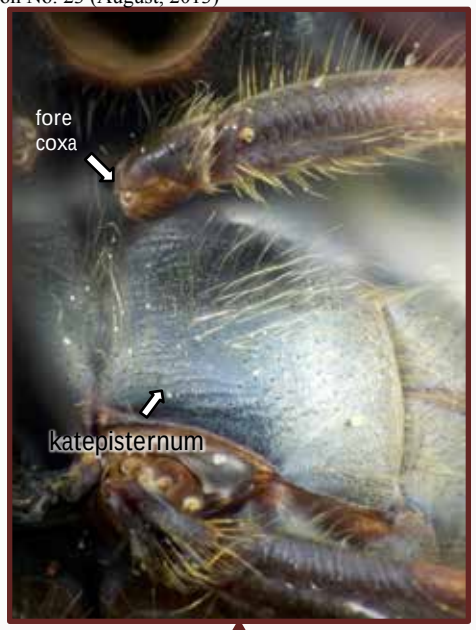

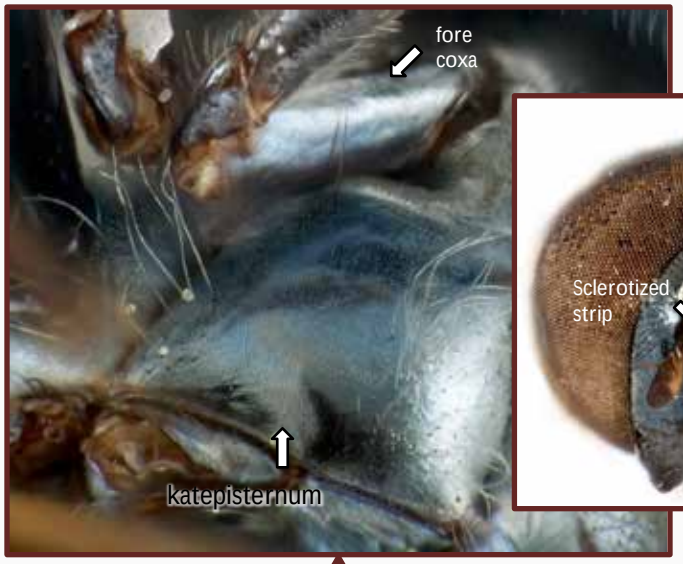

81. Antennal pits confluent; dorsal and ventral patches of hair on katepisternum almost meeting anteriorly; metepisternum haired (*Xanthandrus*, in part)

81'. Antennal pits separated by sclerotized strip; katepisternum with dorsal and ventral patches of hair broadly separated anteriorly; metepisternum bare 82

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82. Abdominal markings usually quadrate; face frequently produced anteroventrally; metasternum well developed (*Platycheirus*, in part)

82'. Usually with triangular-shaped markings on abdomen; metasternum reduced, diamond-shaped (*Melanostoma mellinum* (Linneaus), in part)

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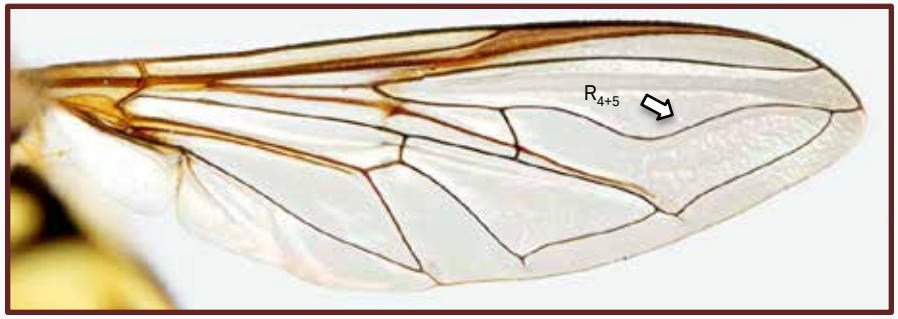

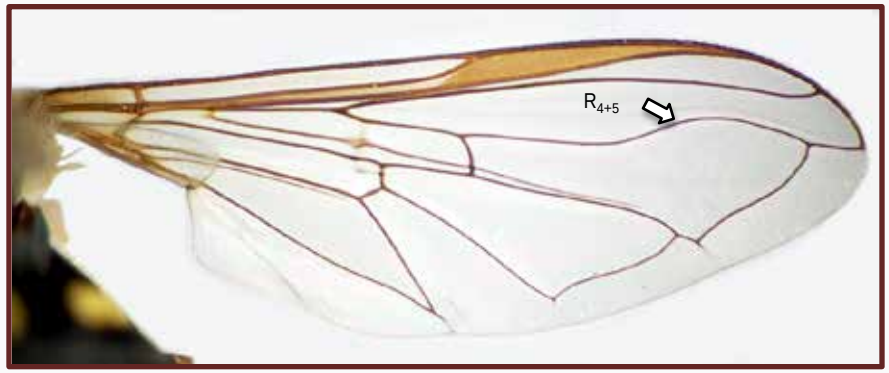

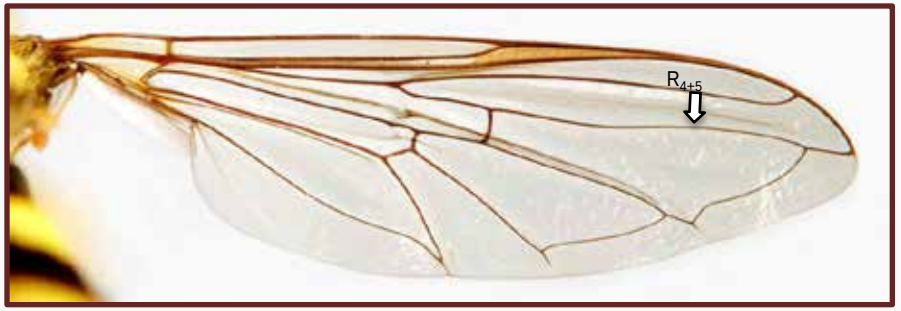

83. R_{4+5} vein conspicuously curved 84

83'. R_{4+5} vein more or less straight 88

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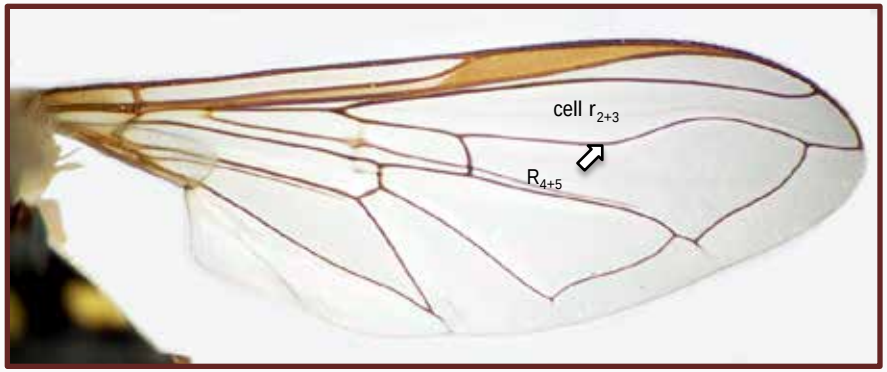

84. Vein R_{4+5} curving into cell r_{2+3} 85

84'. Vein R_{4+5} distinctly curving into cell r_{4+5}; tracheal system visible through abdominal wall on live specimens, not so conspicuous on pinned specimens 86

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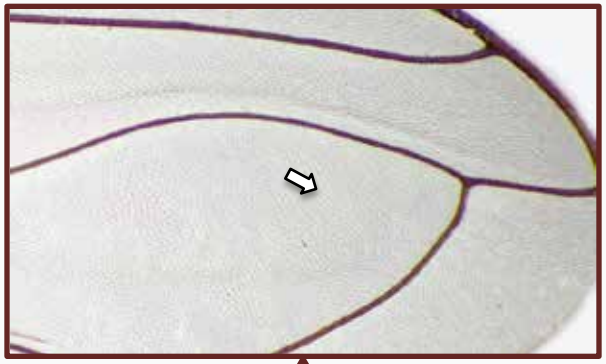

85. Eye haired; abdomen black with narrow, yellow/white, curved bands on tergites 3 and 4 that never touch (markings are uniform in width); wings almost wholly bare, glossy (very few microtrichia); male head is disproportionately large (*Scaeva pyrastri* (Linnaeus))

85'. Eye bare; abdomen black with yellow, broad, curved bands on tergites 3 and 4 that sometimes touch; wings densely microtrichose at least on apical 1/3 (*Lapposyrphus*)

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86. Face entirely yellow; R_{4+5} deeply curved into cell r_{4+5}, almost 'V'-shaped; southern Arizona (USA) (*Dideomima coquilletti* (Williston))

86'. Face yellow with black medial spot or stripe; R_{4+5} shallowly curved into cell r_{4+5} 87

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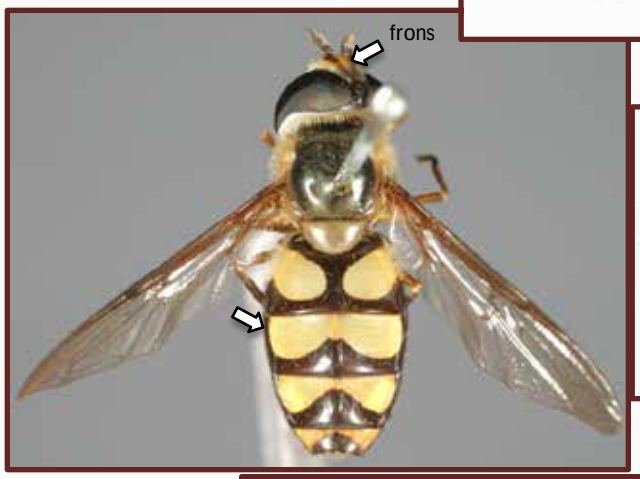

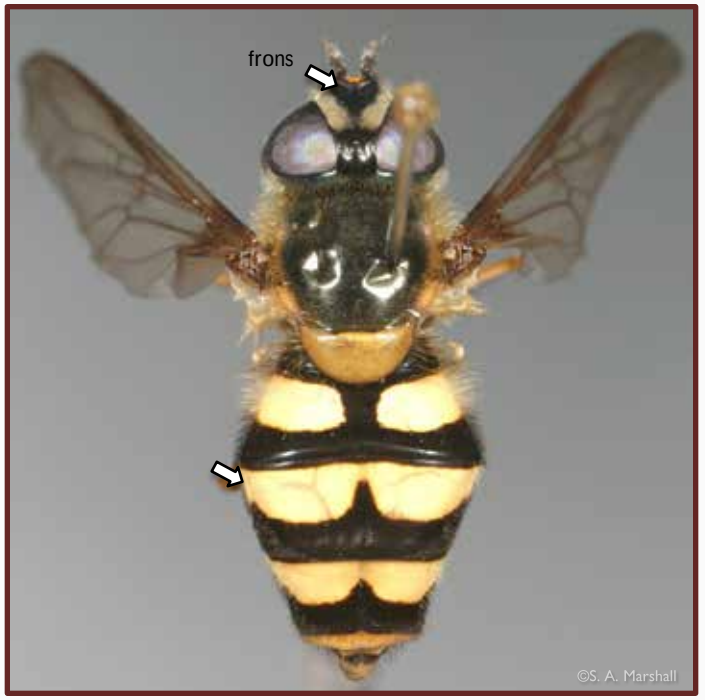

87. Frons/frontal triangle pale anteriorly; eye bare; 3rd and 4th abdominal tergites with black margin; basoflagellomere longer than wide and tapering apically (*Didea*)

87'. Frons/frontal triangle wholly black; eye with sparse hairs; 3rd and 4th abdominal tergites with yellow margin; basoflagellomere oval (*Megasyrphus*)

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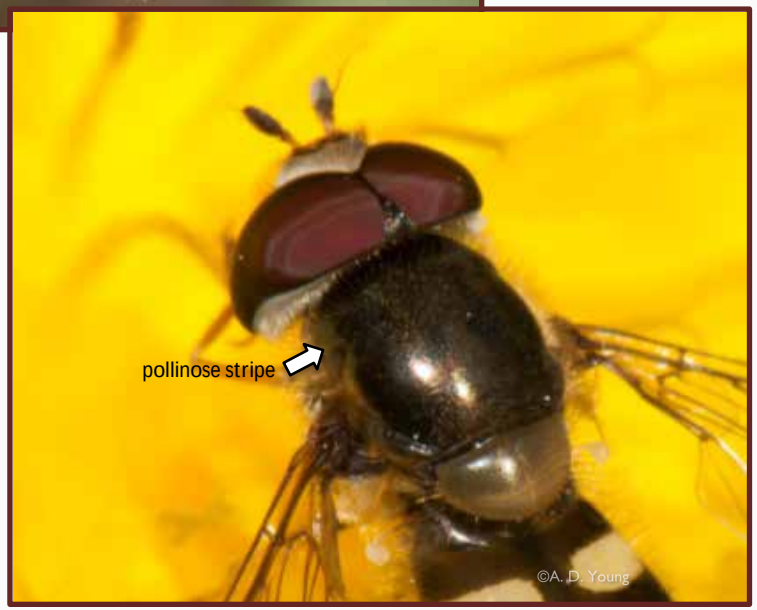

88. Scutum with yellow/white lateral pigmented stripes, extending from at least the postpronotum to the transverse suture 89

88'. Scutum without lateral stripes. Occasionally with faint pollinose stripe extending from at least the postpronotum to transverse suture 93

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89. Scutellum black with distinct yellow posterior margin (*Xanthogramma flavipes* (Loew))

89'. Scutellum entirely pale, without a distinct black base and yellow apex 90

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90. Anterior anepisternum haired (*Meliscaeva cinctella* (Zetterstedt), in part)

90'. Anterior anepisternum bare 91

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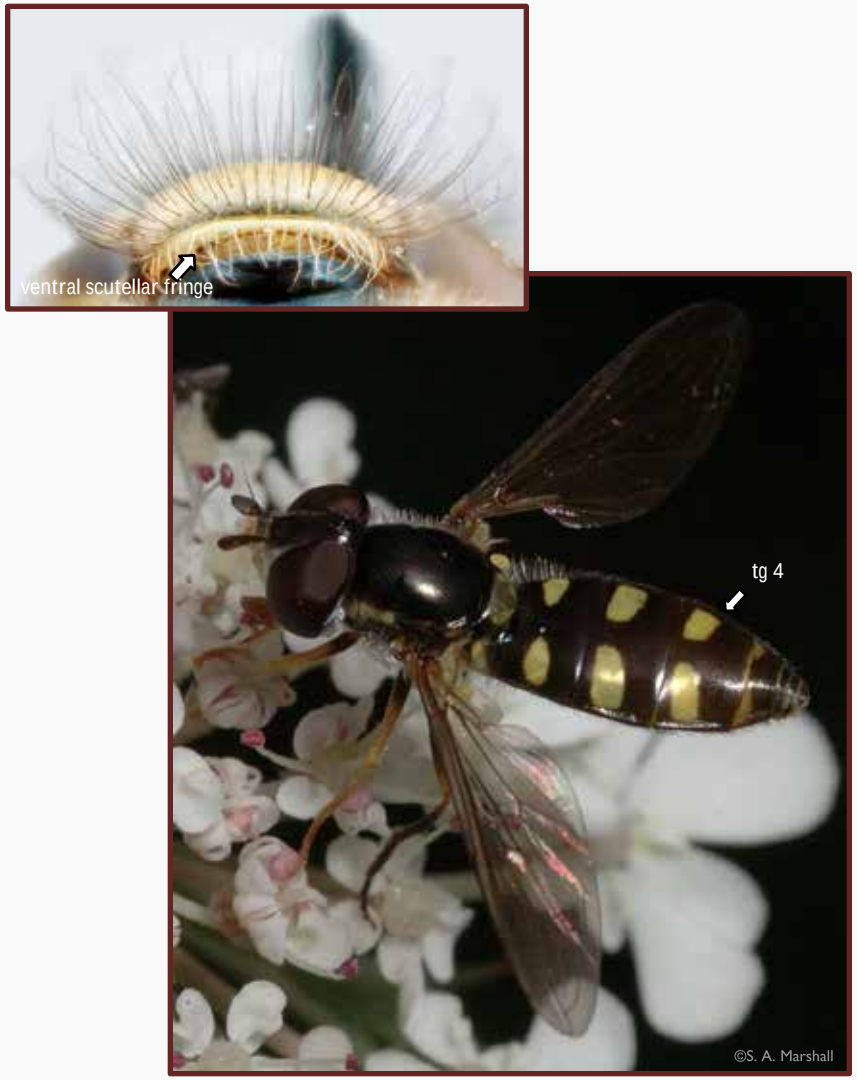

91. Ventral scutellar fringe absent or nearly so; female abdomen parallel-sided, 4th abdominal tergite (tg 4) rectangular (*Sphaerophoria*, in part)

91'. Ventral scutellar fringe well developed; female abdomen oval, 4th abdominal tergite (tg 4) trapezoidal, narrowing towards apex 92

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92. Basoflagellomere longer than wide; 2nd abdominal tergite rectangular with large oval markings; female scutum completely black anterior to scutellum (*Epistrophella emarginata* (Say), in part)

92'. Basoflagellomere almost equal in length and width; 2nd abdominal tergite subquadrate, longer than wide, with small triangular markings; female scutum usually with yellow spot anterior to scutellum (*Meligramma*, in part)

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93. Eye haired 94

93'. Eye bare 97

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94. Dorsal surface of lower calypter with long yellow/white hairs (*Syrphus*, in part)

94'. Dorsal surface of lower calypter with at most microscopic hair or a few pale hairs 95

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95. Anterior anepisternum with hairs (*Parasyrphus*, in part)

95'. Anterior anepisternum without hairs 96

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96. Abdomen with lateral groove (grv); abdominal markings on tergites 3 and 4 usually curved and constricted medially; anterior margin of markings never parallel to tergite's anterior margin (*Dasysyrphus*)

96'. Abdomen without lateral groove; abdominal markings on tergites 3 and 4 always straight; anterior margin of markings always parallel to tergite anterior margin; markings never meet medially (*Melangyna*, in part)

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97. Anterior anepisternum with hairs 98

97'. Anterior anepisternum without hairs 99

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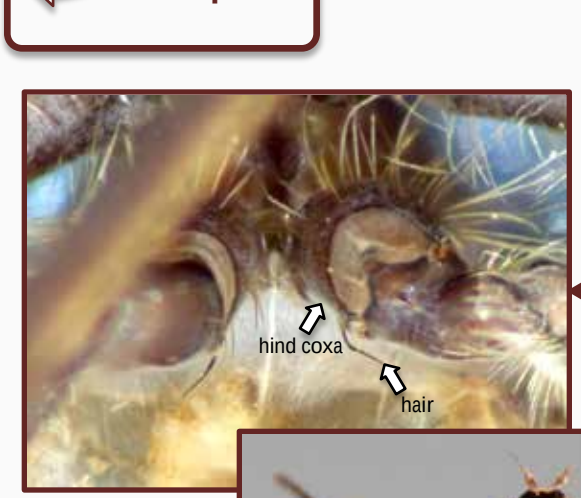

98. Hind coxa with hair on posterior corner; abdomen oval (*Parasyrphus*, in part)

98'. Hind coxa without hair on posterior corner; abdomen more parallel-sided, at most narrowly oval (*Meliscaeva cinctella* (Zetterstedt), in part)

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99. Abdomen parallel-sided 100

99'. Abdomen oval 101

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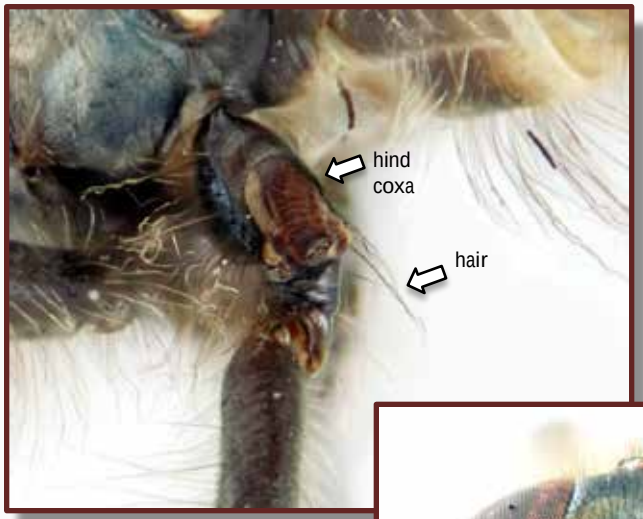

100. Hind coxa with tuft of hairs at posteromedial apical angle; yellow markings on tergites 2-4 always separated; face distinctly broader than eye (from an anterior view); head oval or triangular in shape in anterior view (*Melangyna*, in part)

100'. Hind coxa without tuft of posteromedial apical hairs; abdominal markings variable; face distinctly narrower than eye (from an anterior view); head circular in anterior view (*Meligramma*, in part)

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101. Comma-shaped markings on tergites 3 and 4 102

101'. Abdominal markings not comma-shaped 103

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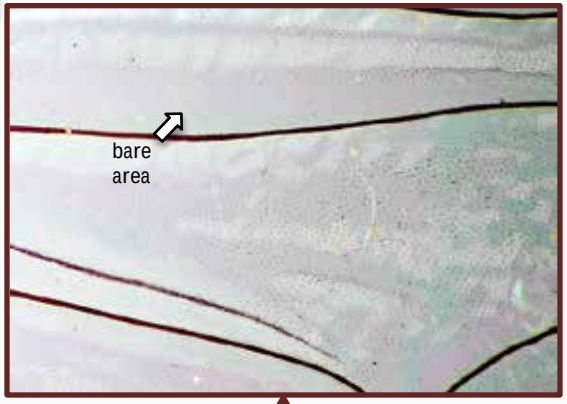

102. Wing very sparsely microtrichose, with extensive bare areas on apical 1/3; male genitalia very large, projecting as a blunt cylinder beyond remainder of abdomen, visible in dorsal view; (*Eupeodes* (*Eupeodes*) *volucris* Osten Sacken)

102'. Wing usually densely and uniformly microtrichose at least on apical 1/3, without bare areas along veins apically; male genitalia small, retracted under apex of abdomen, scarcely visible in dorsal view (*Eupeodes* (*Metasyrphus*), in part)

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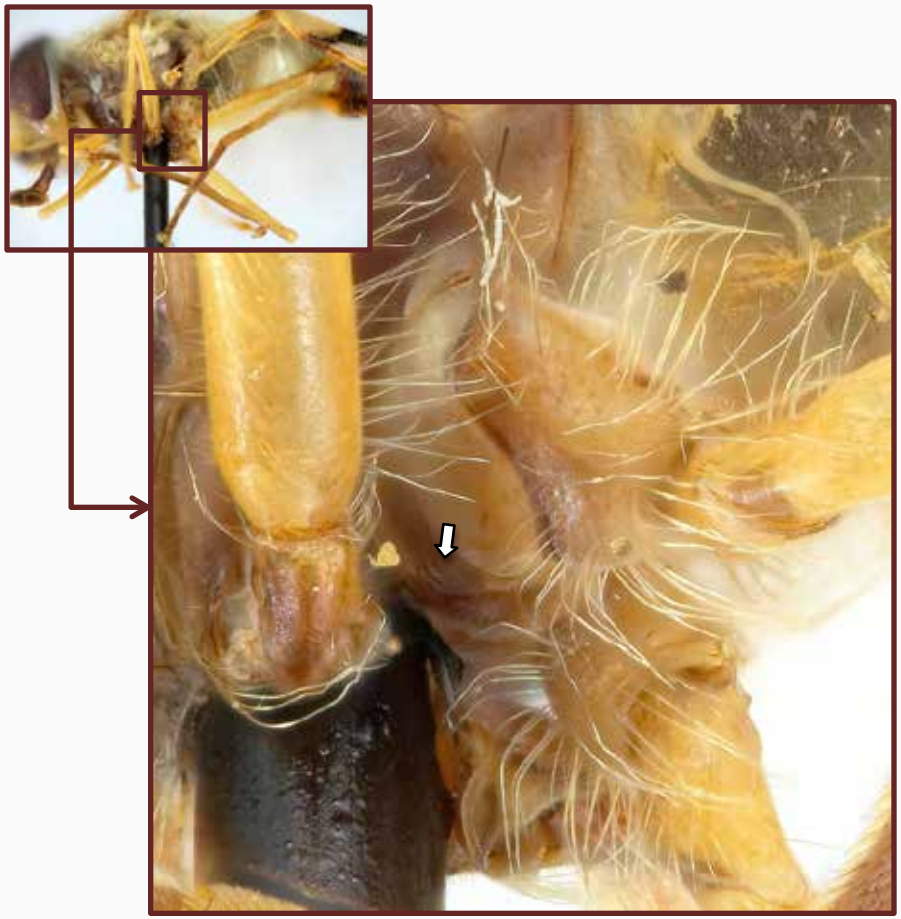

103. Metasternum bare 104

103'. Metasternum haired 106

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104. Dorsal surface of lower calypter with long yellow/white hairs (*Syrphus*, in part)

104'. Dorsal surface of lower calypter at most with microscopic hair or a few pale hairs 105

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105. 4th tergite with a yellow band (*Epistrophe*, in part)

105'. 4th tergite with two yellow spots (*Epistrophella emarginata* (Say), in part)

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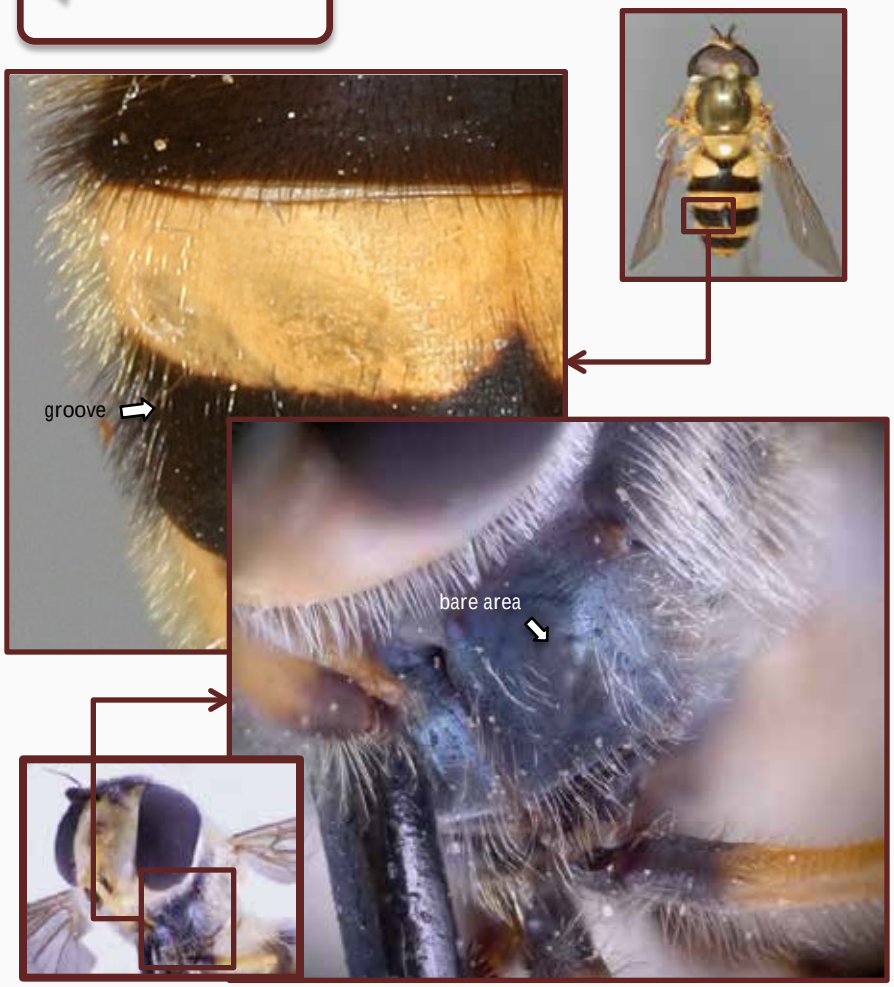

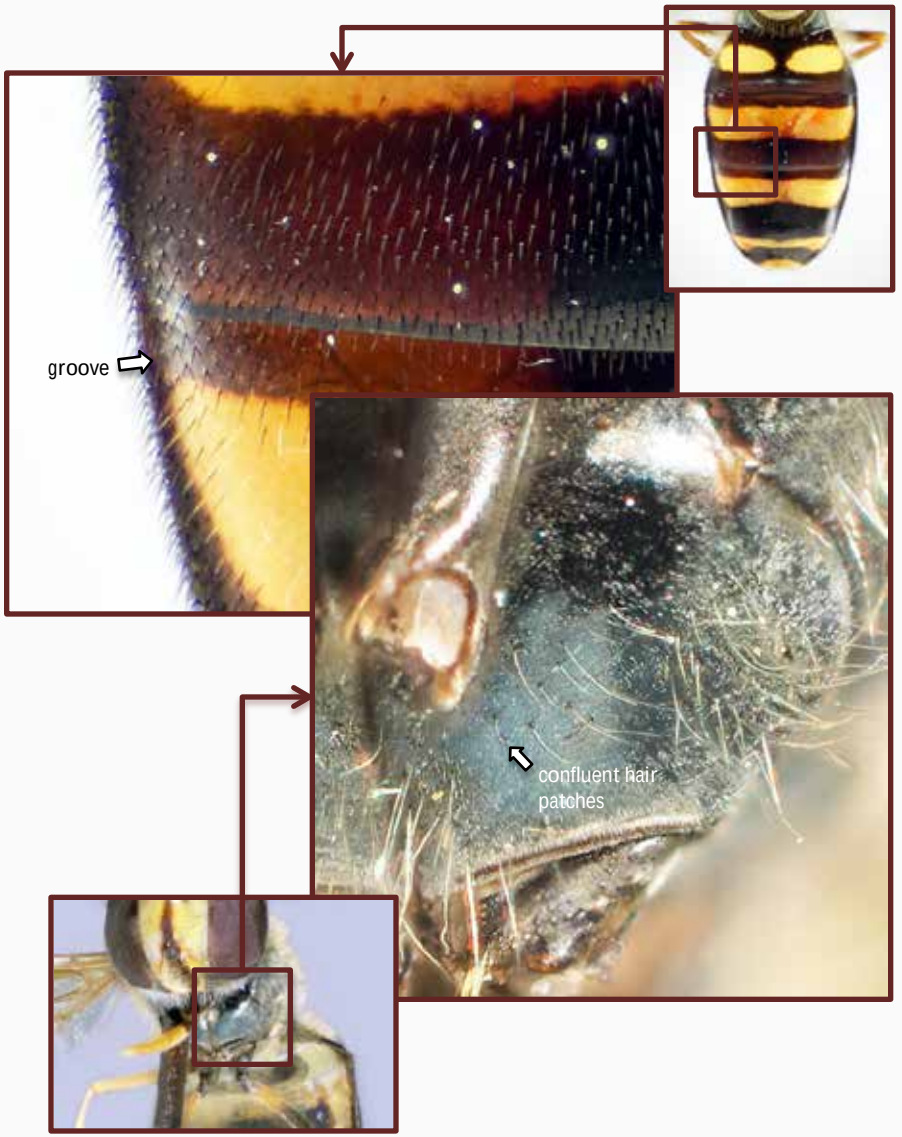

106. Abdomen with very weak and indistinct marginal groove on 3rd-5th tergites; katepisternum with hair patches broadly separated anteriorly (*Epistrophe*, in part)

106'. Abdomen with strong and distinct marginal groove extending clearly from 2nd-5th tergites; katepisternum with dorsal and ventral hair patches nearly confluent anteriorly (*Eupeodes* (*Metasyrphus*), in part)

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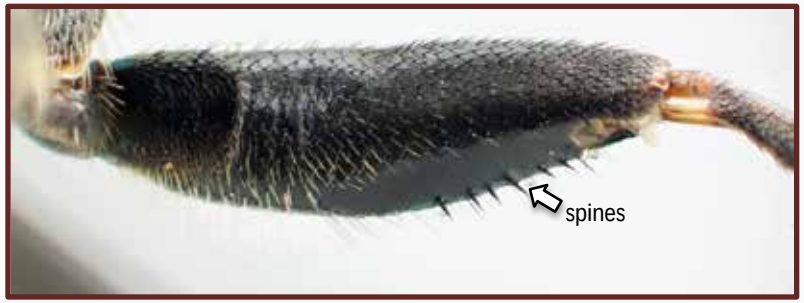

107. Fore and middle femur with apicoventral spines (*Myolepta*, in part)

107'. Fore and middle femur without such spines 108

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108. Face yellow; 2nd abdominal tergite with large basal yellow-grey markings, remaining tergites with smaller markings (*Leucozona* (*Ischyrosyrphus*))

108'. Face black; abdominal markings either restricted to 2nd and 3rd tergites or 2nd tergite markings smaller or of similar size to other markings 109

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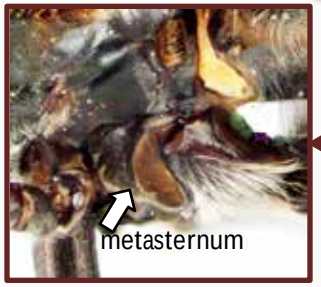

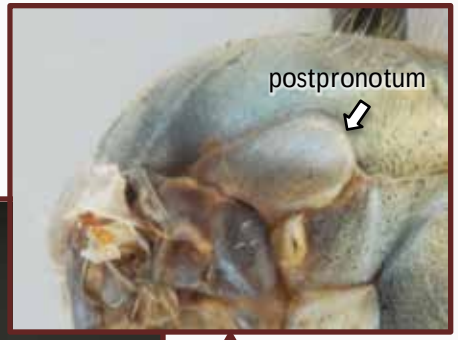

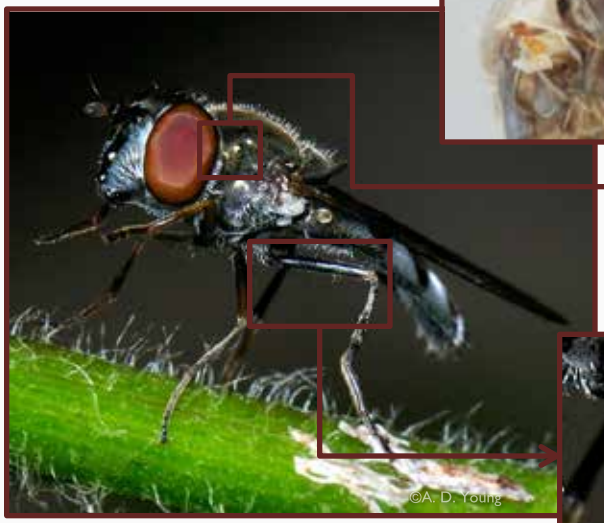

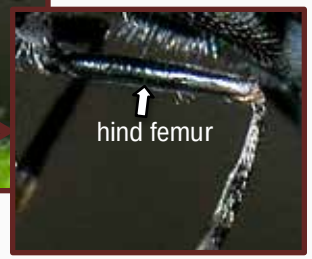

109. Face concave; postpronotum haired; metasternum enlarged; hind femur enlarged 110

109'. Face tuberculate; postpronotum bare; metasternum normal; hind femur slender 111

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110. 2nd abdominal tergite with yellow markings confluent with anterior margin; scutellum without ventral fringe (*Xylota* (*Ameroxylota*) *flukei* (Curran))

110'. 2nd abdominal tergite completely dark, if with yellow markings, these are separated from anterior margin; scutellum with ventral fringe (*Xylota* (*Xylota*), in part)

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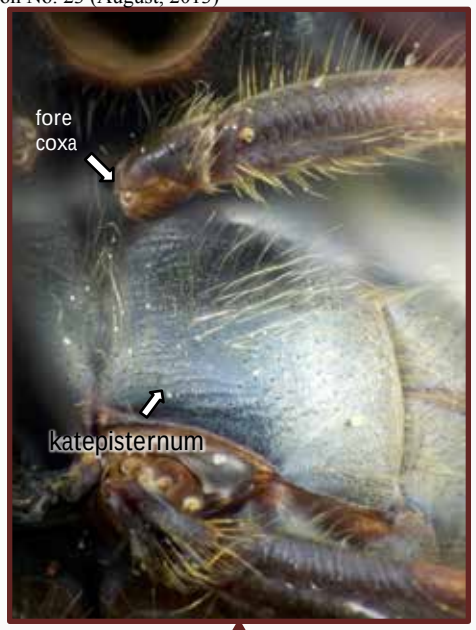

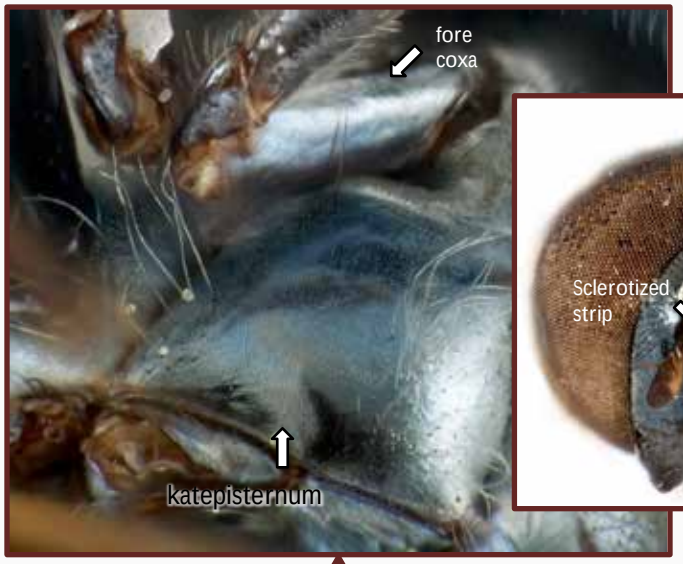

111. Antennal pits confluent; dorsal and ventral patches of hair on katepisternum almost meeting anteriorly; metepisternum haired (*Xanthandrus*, in part)

111'. Antennal pits separated by sclerotized strip; katepisternum with dorsal and ventral patches of hair broadly separated anteriorly; metepisternum bare 112

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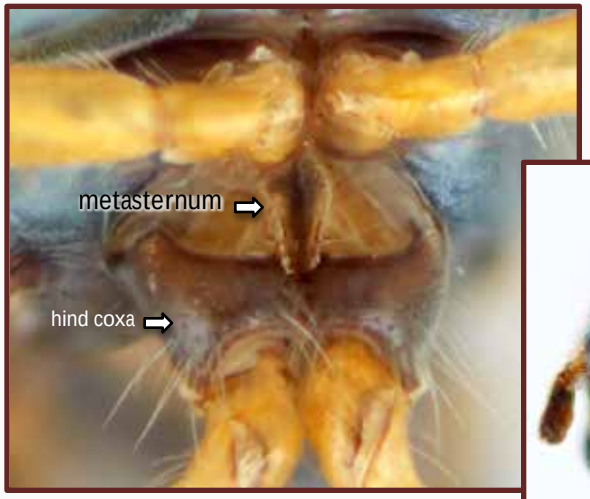

112. Metasternum well developed; abdominal markings usually quadrate; face frequently produced anteroventrally (*Platycheirus*, in part)

112'. Metasternum reduced, diamond-shaped; abdomen usually with triangular shaped markings; face straight and not produced (*Melanostoma mellinum* (Linneaus), in part)

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113. Either 2nd abdominal tergite with triangular yellow lateral markings, or apical segments yellow; face mostly yellow (*Blera*, in part)

113'. 2nd tergite with band-like or rectangular markings; face black 114

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114. Face concave (*Xylota* (*Xylota*), in part)

114'. Face straight (*Pipiza*, in part)

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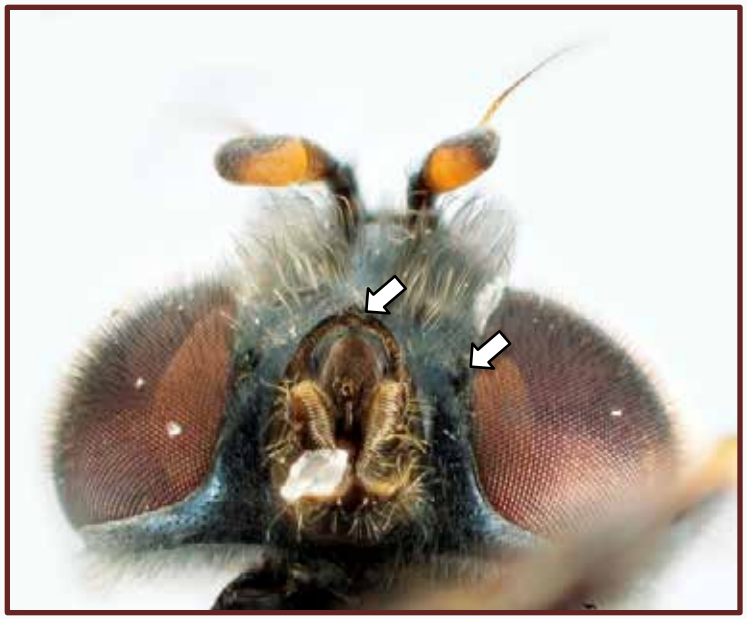

115. Oral margin evenly rounded, not notched anteromedially; facial groove reduced to a pit; eye and face densely haired 116

115'. Oral margin notched anteromedially; facial groove elongate, not forming a small round pit; eye and face haired or bare 119

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116. Anterior anepisternum with long erect hairs. (*Trichopsomyia*)

116'. Anterior anepisternum bare 117

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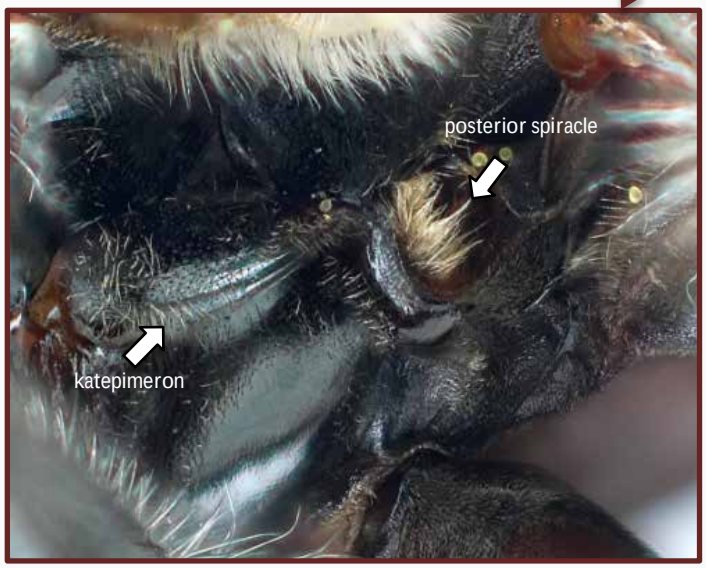

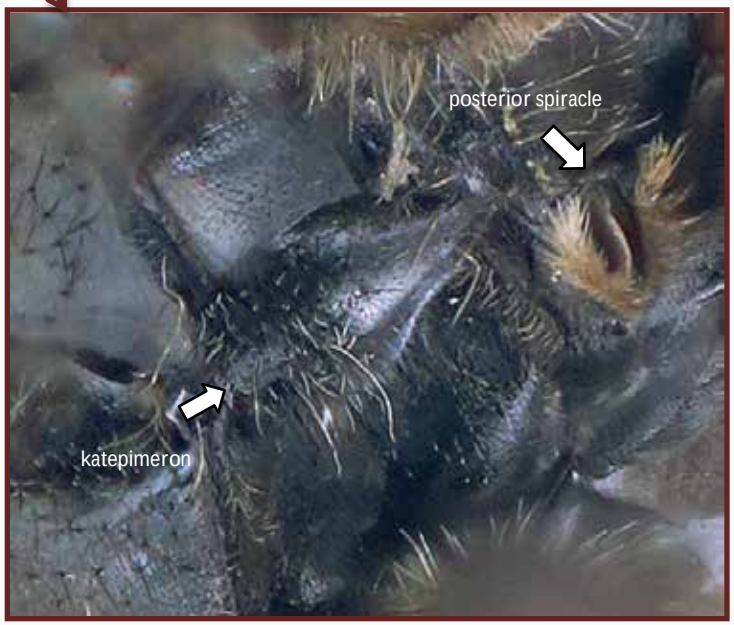

117. Katepimeron bare. Hind trochanter of male simple (*Pipiza*, in part)

117'. Katepimeron haired at least anteriorly. Hind trochanter of male often with spur 118

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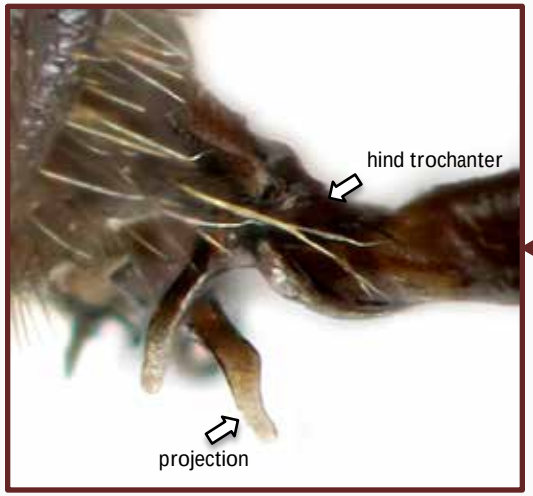

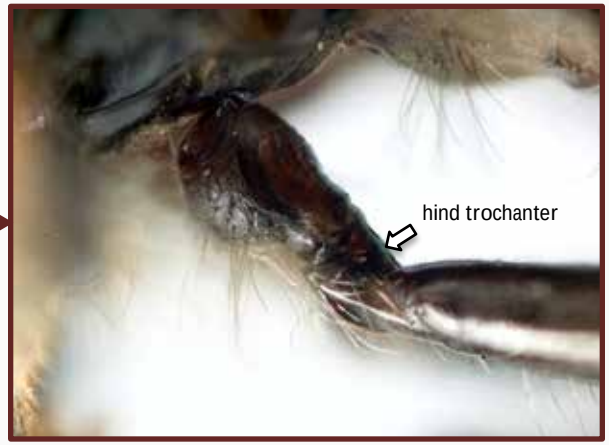

118. Basoflagellomere oval, slightly longer than wide; male hind coxa and hind trochanter usually with narrow projections (*Heringia* (*Neocnemodon*))

118'. Basoflagellomere oval and long, twice as long as wide; male hind coxa and trochanter without projections (*Heringia* (*Heringia*))

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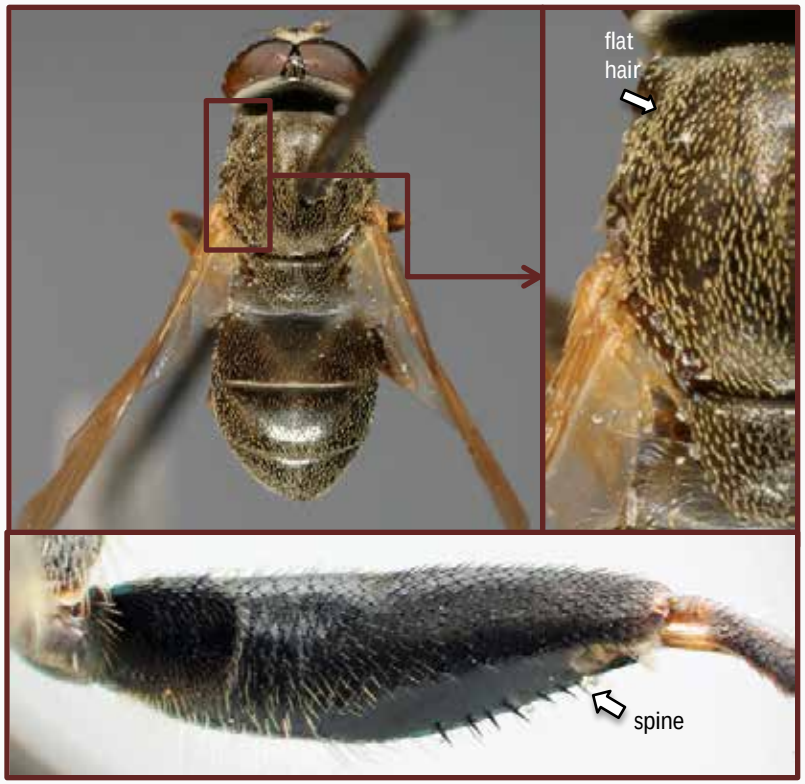

119. Fore and middle femora with apicoventral spines; body sometimes covered by flattened yellow hair 120

119'. Fore and middle femora never with apicoventral spines; body never covered by flattened yellow hair 121

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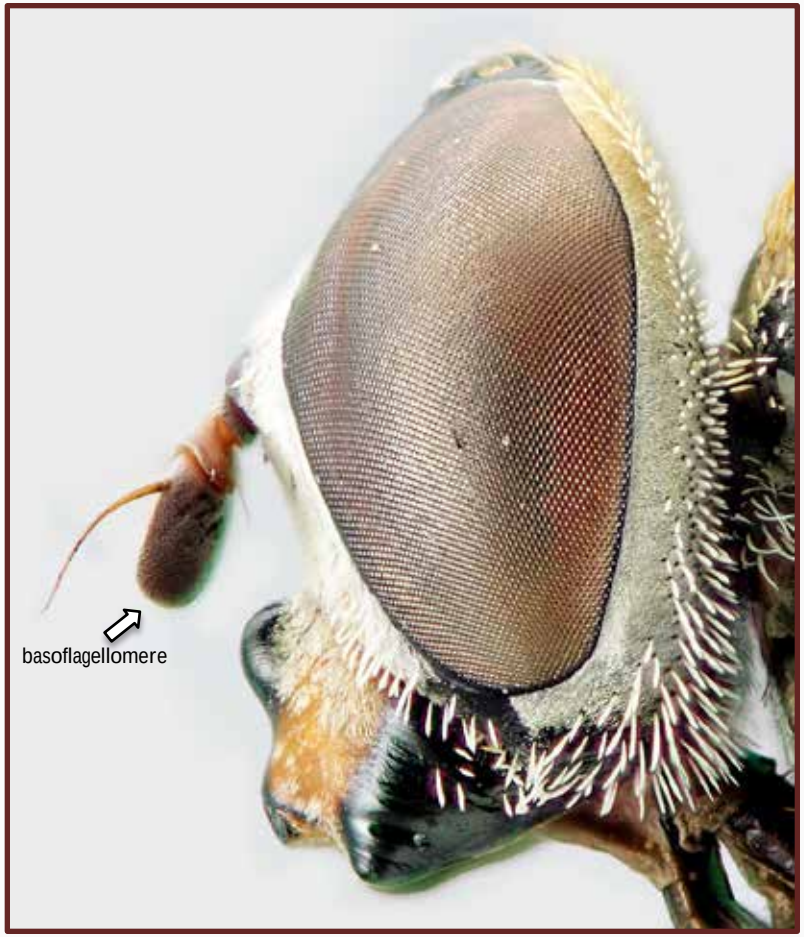

120. Antenna elongate, basoflagellomere two or more times longer than wide (*Lepidomyia micheneri* (Fluke))

120'. Antenna short, basoflagellomere about as wide as long (*Myolepta*, in part)

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121. Vein M_1 directed towards base of wing, preceded by two spurs; abdomen with obliquely angled pollinose grey markings (*Eumerus*)

121'. Vein M_1 usually directed towards apex of wing, if directed towards base of wing then with only 1 spur. Abdomen usually without oblique pollinose grey markings

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122. Hind femur greatly enlarged, vein M_1 strongly regressive, head closely appressed to thorax; Mexico (*Alipumilio nigrocoeruleus* Vockeroth, in part)

122'. Hind femur never greatly enlarged, vein M_1 usually progressive, head usually well separated from thorax 123

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123. Anepisternum not differentiated into anterior and posterior regions; notopleuron anterolaterally projecting as a "wing shield"; body deeply punctate; southwestern (*Nausigaster*)

123'. Anepisternum with distinct anterior and posterior regions; notopleuron simple, without "wing shield"; body slightly punctate or smooth 124

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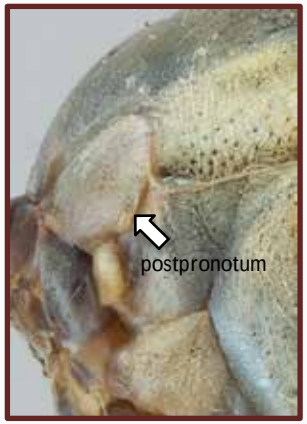

124. Postpronotum bare; abdominal tergites usually with silver or dull black pollinose markings 125

124'. Postpronotum pilose; abdominal tergites never with silver or dull black pollinose markings 129

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125. Tergite 1 well developed, approximately half as long as tergite 2. Body minutely punctate (*Paragus*, in part) 126

125'. Tergite 1 greatly reduced, never half as long as tergite 2. Body usually without punctures 127

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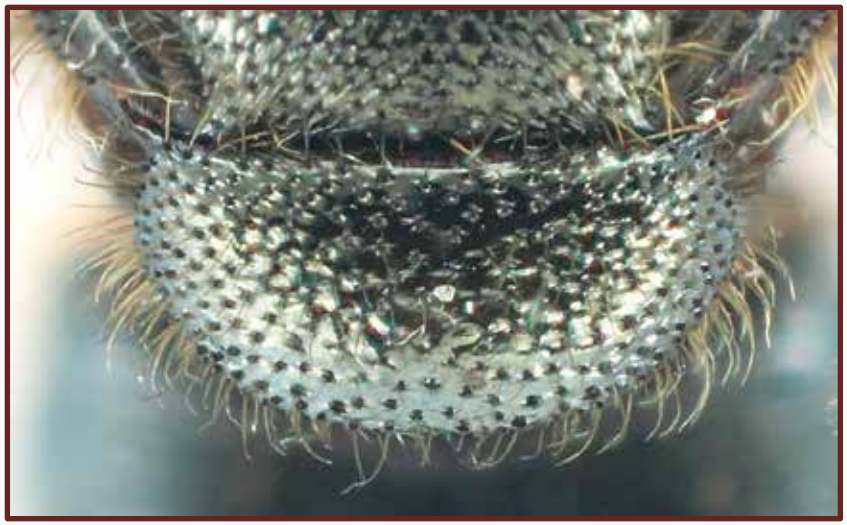

126. Scutellum yellow apically (*Paragus* (*Paragus*), in part)

126'. Scutellum wholly black (*Paragus* (*Pandasyophthalmus*) *haemorrhous* Meigen, in part)

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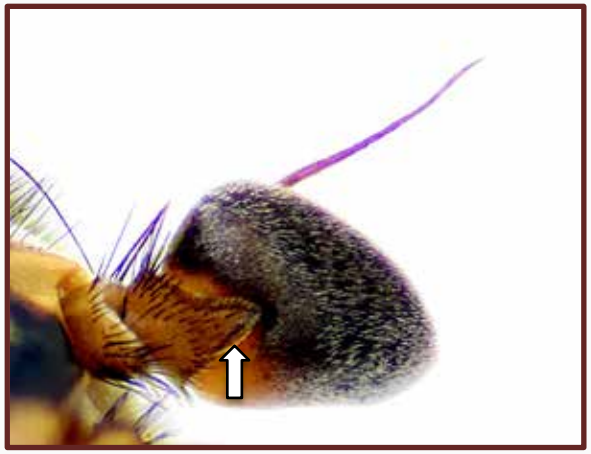

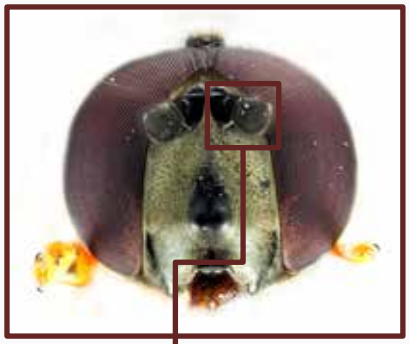

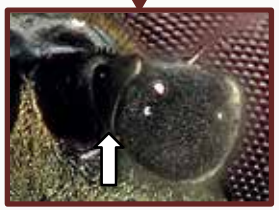

127. Abdomen without dull black pollinose markings; medial surface of pedicel with triangular extension over basoflagellomere (*Ocyptamus cylindricus* species group)

127'. Abdomen with dull black pollinose markings; pedicel without extension over basoflagellomere 128

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128. Abdomen with silver pollinose markings; metasternum bare; widespread (*Platycheirus*, in part)

128'. Abdomen without silver pollinose markings; metasternum pilose; southern USA (*Orphnabaccha*)

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129. Antenna elongate, basoflagellomere at least twice as long as wide, and porrect, directed anteriorly 130

129'. Antenna short, basoflagellomere of similar length and width, and usually deflexed 131

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130. Eye bare (*Orthonevra*, in part)

130'. Eye haired (*Psilota*)

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131. Abdomen narrow, tergite 2 slightly narrower than tergite 3 132

131'. Abdomen broad, tergite 2 as broad as tergite 3 133

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132. Postmetacoxal bridge complete, with a sclerotized band above hind coxa (*Neoascia* (*Neoascia*), in part)

132'. Postmetacoxal bridge incomplete, the sclerotized band separated medially (*Neoascia* (*Neoasciella*), in part)

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133. Last section of R_{4+5} at least slightly shorter than crossvein h 134

133'. Last section of R_{4+5} longer than crossvein h 136

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134. Facial tubercle distinct. Face always entirely dark (*Cynorhinella*, in part)

134'. Usually without a facial tubercle, if facial tubercle present than face pale on at least dorsal half 135

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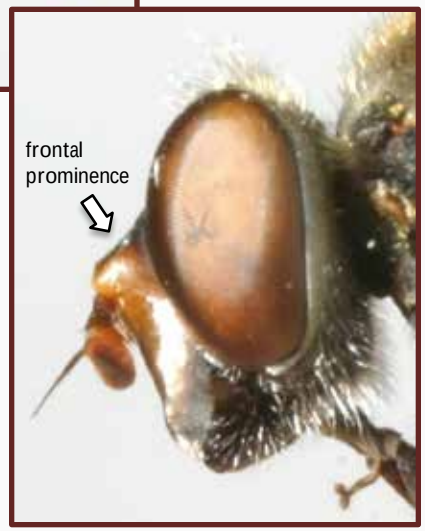

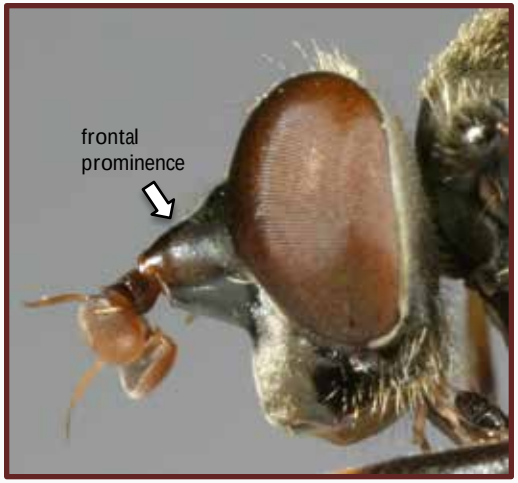

135. Face pale at least dorsally; frontal prominence usually weak (*Blera*, in part)

135'. Face wholly black; frontal prominence strongly produced (*Lejota*)

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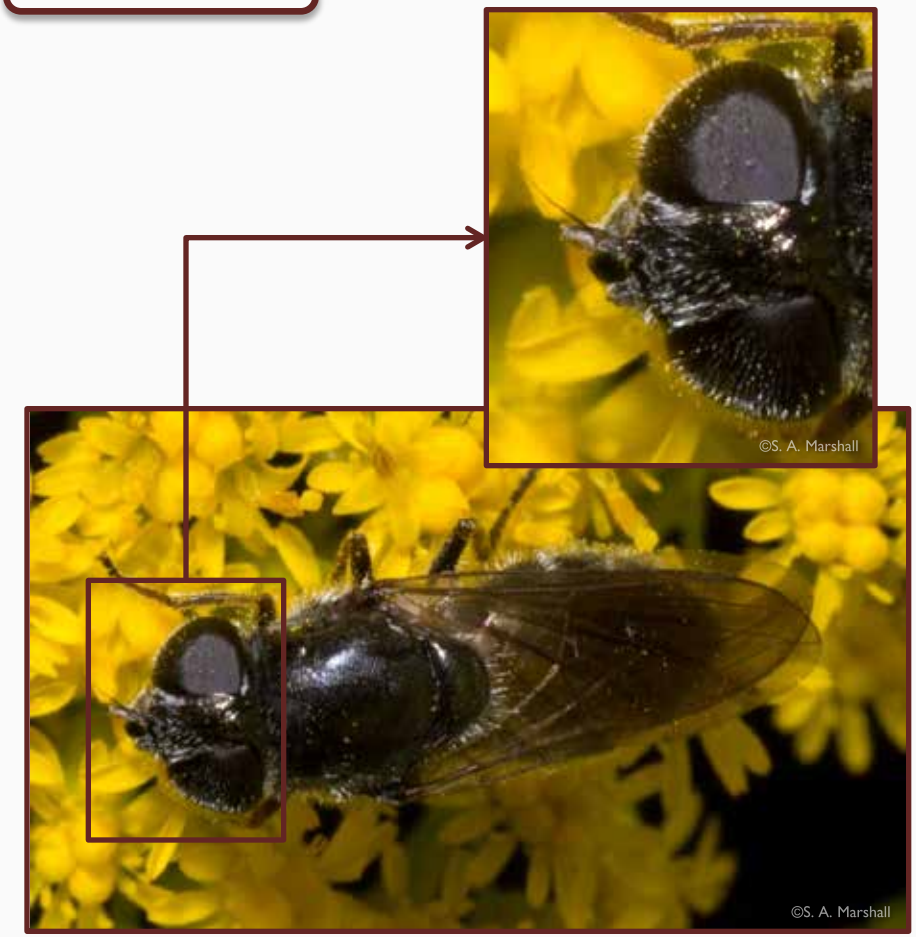

136. Eye densely haired (*Cheilosia*, in part)

136'. Eye bare 137

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137. Arista plumose, hair much longer than arista diameter; shiny black flies (*Hiatomyia*)

137'. Arista bare 138

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138. Strong facial tubercle present; scutellum usually with bristles (*Cheilosia*, in part)

138'. Facial tubercle weak or absent, if weak then frons/frontal triangle rugose; scutellum never with bristles 139

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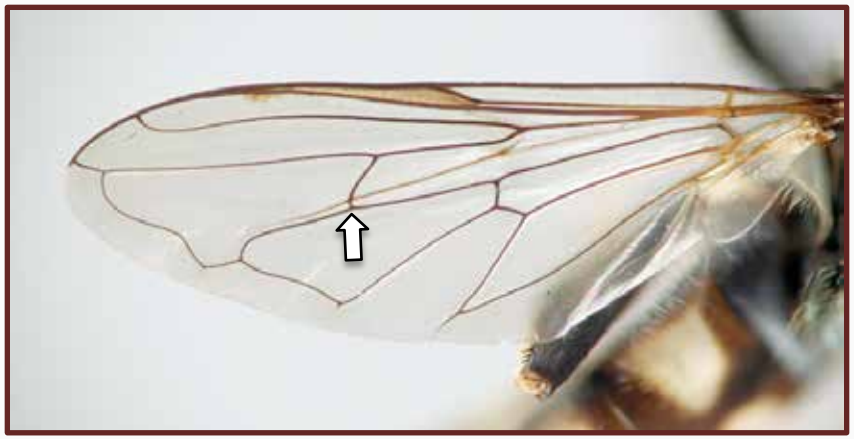

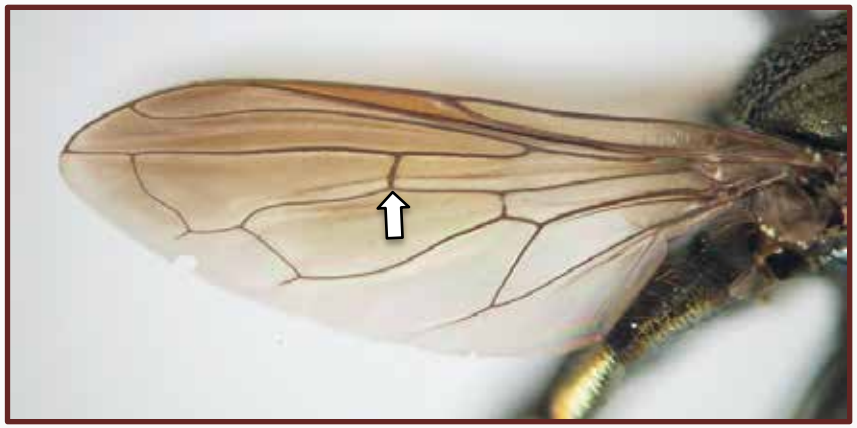

139. Crossvein r-m oblique, ending beyond the middle of cell dm. Head distinctly oval in frontal view (*Xylota* (*Xylota*), in part)

139'. Crossvein r-m perpendicular, ending before the middle of cell dm. Head almost round in frontal view 140

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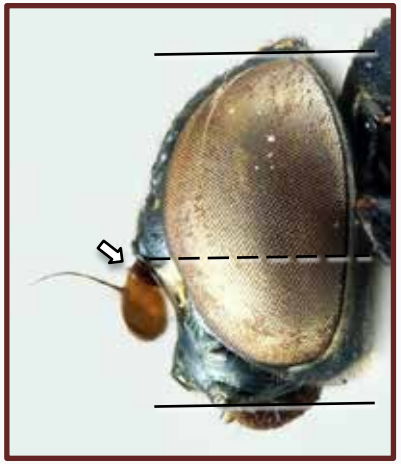

140. Antenna inserted at mid to lower 1/3 of head; pedicel without outstanding hair; female facial pollinosity (top image) usually concentrated below antennal insertions and extending to the edge of the eye (*Chrysogaster*)

140'. Antenna inserted on upper 1/3 of head; pedicel with long distinct hair; female facial pollinosity (top image) weak, forming an inverted triangle widely separated from eye (*Chrysosyrphus*)

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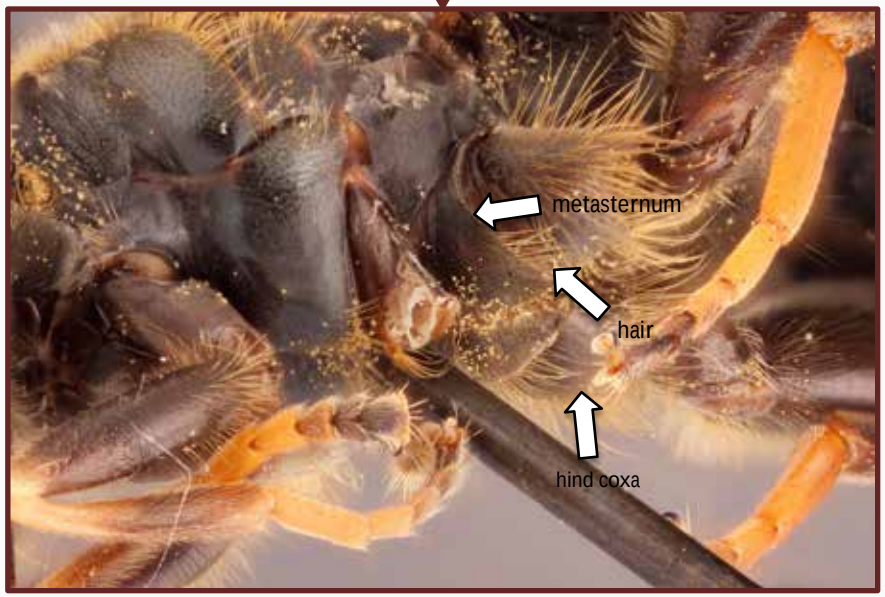


141. Metasternum hairy, with hair as long as hair on hind coxa (*Chalcosyrphus* (*Xylotomima*) *inarmatus* (Hunter))

141'. Metasternum without hairs (*Brachypalpus* (*Brachypalpus*) *oarus* (*Walker*))

doi:10.3752/cjai.2013.23

Taxon on eol

Alipumilio Shannon, 1927

Alipumilio species are small, stout flies (Fig. 1), with an enlarged hind femur (arrow on Fig. 2) and distinct wing venation (Fig. 3). One species of this distinctive, mostly Neotropical genus, potentially occurs in the southwest, although it is currently recorded only from Mexico.

Fig. 3. *A. pullatus*, neotropical, wing

Species checklist (1)

- *A. nigrocoeruleus* Vockeroth, 1964

Fig. 1. *A. pullatus*, neotropical, lateral

Fig. 2. *A. pullatus*, neotropical, hind leg

Distribution

doi:10.3752/cjai.2013.23

Taxon on eol

Allograpta
Osten Sacken, 1877

This genus is easily recognized due to the distinct longitudinal striped patterning of the apical abdominal tergite(s). *A. obliqua* has two central parallel yellow stripes bordered by a pair of oblique yellow maculae on both the 4th and 5th tergites (arrows on Fig. 1). In *A. radiata* the stripes join basally and the 3rd tergite has a distinct pattern (arrow on Fig. 2).

Fig. 1. *A. obliqua*

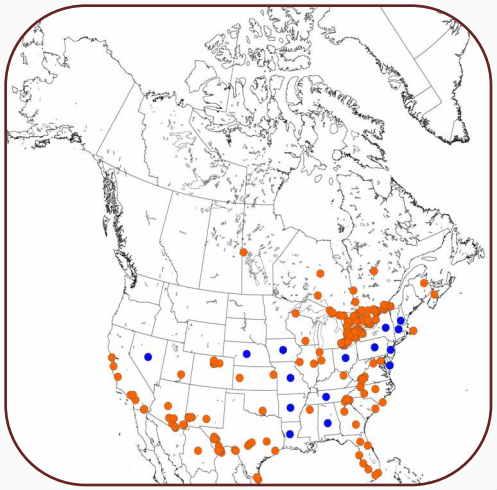
Fig. 2. *A. radiata*, dorsal

Species checklist (3)

- *A. exotica* (Wiedemann, 1830)
- *A. obliqua* (Say, 1823)
- *A. radiata* (Bigot, 1857)

Species key: Curran (1932), Fluke (1942)

Distribution



doi:10.3752/cjai.2013.23

Baccha
Fabricius, 1805

Taxon on eol

The only North American *Baccha, B. elongata,* is an extremely slender fly with a long abdomen (Fig. 1). Unlike the superficially similar *Leucopodella*, which has an entirely flat face, *Baccha,* has a median facial tubercle (arrow on Figs. 2 and 3).

Fig. 3. *B. elongata*, head, lateral

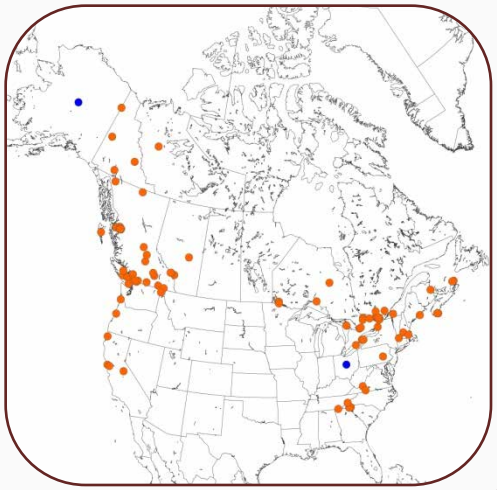
Species checklist (1)

- *B. elongata* (Fabricius, 1775)

Fig. 1. *B. elongata*

Fig. 2. *B. elongata*

Distribution



doi:10.3752/cjai.2013.23

Blera Billberg, 1820

Picture Gallery

Click here

Taxon on eol

Most species in this genus have a distinct frontal prominence (arrow on Figs. 1 and 2), and many have basal yellow markings or apical yellow/red segments on the abdomen (Figs. 1 and 2). *Blera* is easily confused with *Lejota,* but *Blera* species always have pale markings on the abdomen and/or at least dorsally on the face (arrow on Fig. 3).

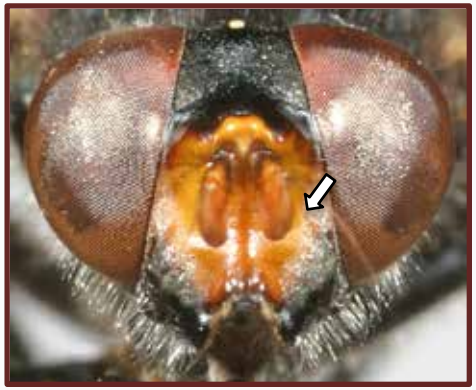


Fig. 3. *B. nigra*, head, anterior

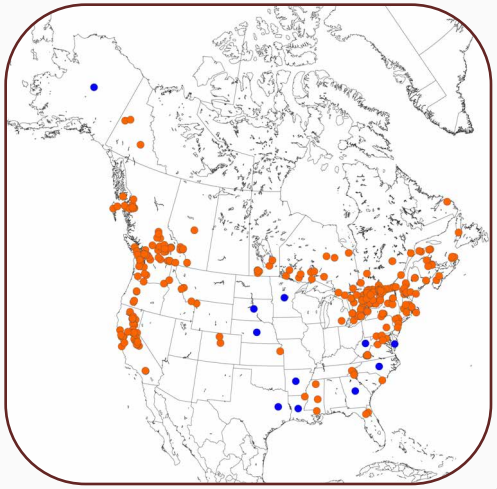
Species checklist (16)

Click here

Fig. 1. *B. analis*

Fig. 2. *B. badia*

Distribution



doi:10.3752/cjai.2013.23

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Blera Billberg, 1820

Species checklist (16)

- *B. analis* (Macquart, 1842)
- *B. armillata* (Osten Sacken, 1875)
- *B. badia* (Walker, 1849)
- *B. confusa* Johnson, 1913
- *B. flukei* (Curran, 1953)
- *B. garretti* (Curran, 1924)
- *B. humeralis* (Williston, 1882)
- *B. johnsoni* (Coquillett, 1894)
- *B. metcalfi* (Curran, 1925)
- *B. nigra* (Williston, 1887)
- *B. nigripes* (Curran, 1925)
- *B. notata* (Wiedemann, 1830)
- *B. pictipes* (Bigot, 1884)
- *B. robusta* (Curran, 1922)
- *B. scitula* (Williston, 1882)
- *B. umbratilis* (Williston, 1887)

Species key: Curran (1953)

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Blera Billberg, 1820

Fig. 1. *B. umbratilis*

Fig. 2. *B. scitula*

Fig. 3. *B. nigra*

Fig. 4. *B. armillata*

doi:10.3752/cjai.2013.23

Taxon on eol

Brachyopa
Meigen, 1822

***B.* (*Brachyopa*)**

Click on the subgenus identified

***B.* (*Hammerschmidtia*)**

doi:10.3752/cjai.2013.23

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Brachyopa (*Brachyopa*) Meigen, 1822

Taxon on eol

Brachyopa are usually light brown to orange (Figs. 1 and 3) at least on the face and pleuron. Darker species with black abdomens have black and grey stripes on their scutum (Fig. 2).

Fig. 1. *B.* (*Brachyopa*) cf. *flavescens*

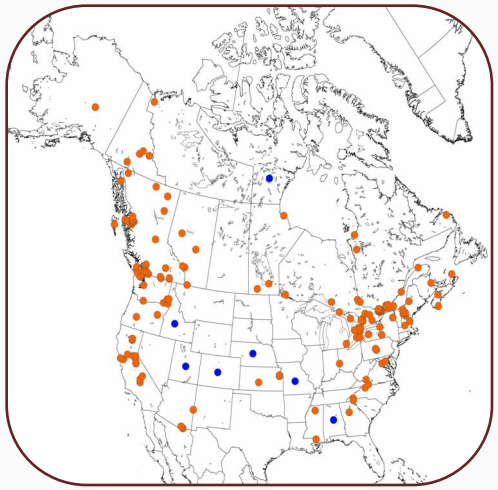
Fig. 2. *B.* (*Brachyopa*) *daeckei*, dorsal

Fig. 3. *B.* (*Brachyopa*) *notata*, dorsal

Species checklist (12)

Click here

Distribution



doi:10.3752/cjai.2013.23

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Brachyopa (*Brachyopa*) Meigen, 1822

Species checklist (12)

- *B.* (*Brachyopa*) *cinereovittata* Bigot, 1884
- *B.* (*Brachyopa*) *cynops* Snow, 1892
- *B.* (*Brachyopa*) *daeckei* Johnson, 1917
- *B.* (*Brachyopa*) *diversa* Johnson, 1917
- *B.* (*Brachyopa*) *flavescens* Shannon, 1915
- *B.* (*Brachyopa*) *gigas* Lovett, 1919
- *B.* (*Brachyopa*) *media* Williston, 1882
- *B.* (*Brachyopa*) *notata* Osten Sacken, 1875
- *B.* (*Brachyopa*) *perplexa* Curran, 1922
- *B.* (*Brachyopa*) *punctipennis* Curran, 1925
- *B.* (*Brachyopa*) *rufiabdominalis* Jones, 1917
- *B.* (*Brachyopa*) *vacua* Osten Sacken, 1875

Species key: Curran (1922)

doi:10.3752/cjai.2013.23

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Brachyopa (*Hammerschmidtia*) Schummel, 1834

Taxon on eol

The subgenus *Hammerschmidtia* (Fig. 1) can be distinguished from *Brachyopa* by the strong black bristles on the scutum, scutellum, and upper half of the pleuron (arrows on Fig. 2), and by the apical section of R_{4+5} which is distinctly longer than crossvein h (Fig. 3).

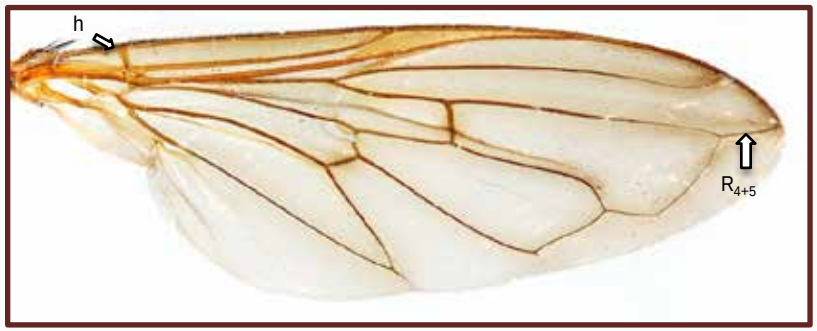


Fig. 3. *B.* (*Hammerschmidtia*) *ferruginea*, wing

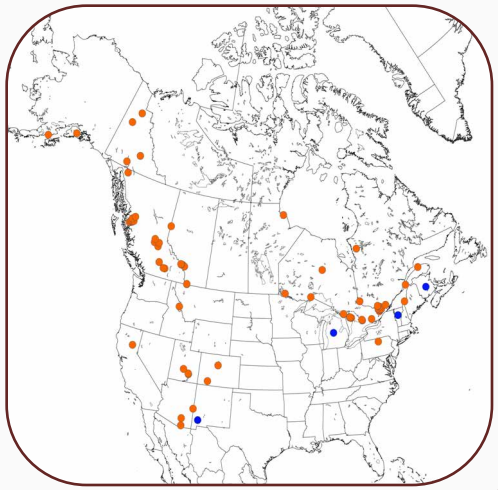
Species checklist (1)

- *B.* (*Hammerschmidtia*) *ferruginea* (Fallen, 1817)

Fig. 1. *B.* (*Hammerschmidtia*) *ferruginea*

Fig. 2. *B.* (*Hammerschmidtia*) *ferruginea*, thorax, lateral

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Brachypalpus Macquart, 1834

***B.* (*Brachypalpus*)**

Click on the subgenus identified

***B.* (*Crioprora*)**

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Brachypalpus (*Brachypalpus*) Macquart, 1834

Taxon on eol

Brachypalpus (*Brachypalpus*) is represented in North America by a single species, *B.* (*Brachypalpus*) *oarus* (Fig. 1), easily recognized by its strongly triangular head (when viewed from an anterior angle; Fig. 2), broad gena and broader than long basoflagellomere (Fig. 3).

Fig. 1. *B.* (*Brachypalpus*) *oarus*

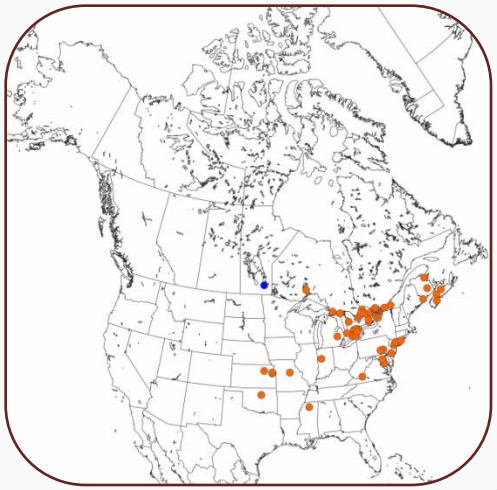
Fig. 2. *B.* (*Brachypalpus*) *oarus*, head, anterior

Fig. 3. (*Brachypalpus*) *oarus*, head, lateral

Species checklist (1)

- *B.* (*Brachypalpus*) *oarus* (Walker, 1849)

Distribution



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Brachypalpus (*Crioprora*) Osten Sacken, 1878

Taxon on eol

The subgenus *Crioprora* (Fig. 1) has a strongly projecting oral margin (arrow in Fig. 2) and looks slightly like a bumblebee.

Species checklist (5)

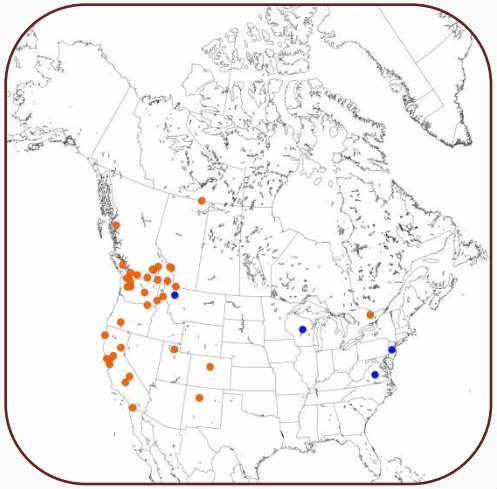
- *B.* (*Crioprora*) *alopex* (Osten Sacken, 1877)
- *B.* (*Crioprora*) *amithaon* (Walker, 1849)
- *B.* (*Crioprora*) *cyanella* Osten Sacken, 1877
- *B.* (*Crioprora*) *cyanogaster* Loew, 1872
- *B.* (*Crioprora*) *femorata* (Williston, 1882)

Species key: Williston (1887)

Fig. 1. *B.* (*Crioprora*) *cyanogaster*, lateral

Fig. 2. *B.* (*Crioprora*) *cyanogaster*, head, lateral

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Callicera Panzer, 1809

This genus is distinctive for densely haired eyes and face (Figs. 1 and 2), and the basoflagellomere with a style instead of an arista (arrow on Figs. 1 and 3). While *Callicera* has a distinctly enlarged basoflagellomere (Fig. 3), it is not as enlarged as in *Pelecocera* (*Pelecocera*) and *Merapioidus*.

Fig. 3. *C. montensis*, basoflagellomere

Species checklist (3)

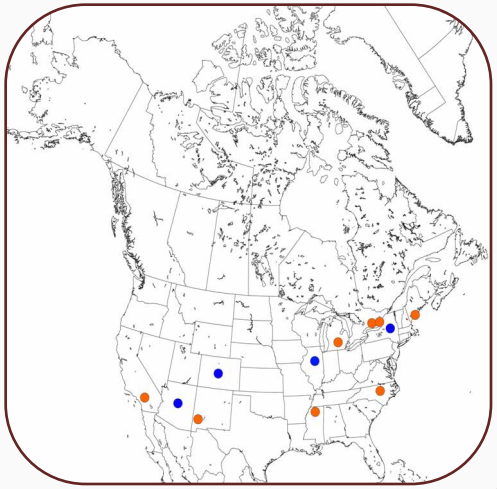
- *C. duncani* Curran, 1935
- *C. erratica* (Walker, 1849)
- *C. montensis* Snow, 1892

Species key: Curran, 1935

Fig. 1. *C. montensis*, head, lateral

Fig. 2. *C. erratica*, lateral

Distribution



doi:10.3752/cjai.2013.23

Ceriana Rafinesque, 1815

Taxon on eol

Species of this wasp-mimicking genus have antennae that end in a terminal style (arrow on Fig. 1), wings with a dark anterior margin and the abdomen parallel-sided (Fig. 2).

Species checklist (6)

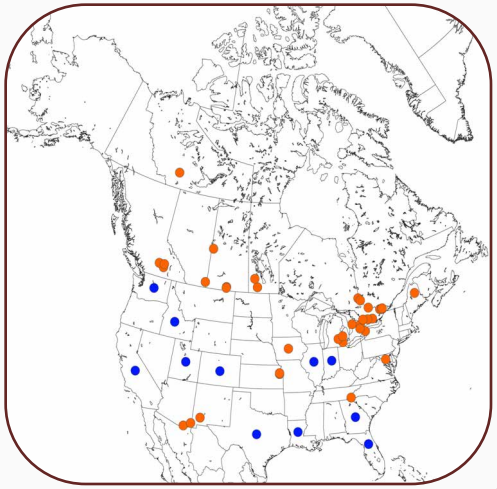
- *C. abbreviata* Loew, 1864
- *C. ancoralis* (Coquillett, 1902)
- *C. mime* (Hull, 1935)
- *C. pictula* (Loew, 1853)
- *C. snowi* (Adams, 1904)
- *C. tridens* (Loew, 1872)

Species key: Shannon (1925) as *Tenthredomyia*

Fig. 1. *C. abbreviata*, head lateral

Fig. 2. *C. tridens*

Distribution



Taxon on eol

Chalcosyrphus Curran, 1925

C. (Chalcosyrphus)

Click on the subgenus identified

C. (Neplas)

C. (Xylotomima)

doi:10.3752/cjai.2013.23

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Chalcosyrphus (*Chalcosyrphus*) Curran, 1925

Taxon on eol

All *Chalcosyrphus* species are dark flies with a mostly black, concave, non-tuberculate face. *C.* (*Chalcosyrphus*), is distinguished from species of the subgenus *Xylotomima* by the flattened portion of the scutum (Fig. 1).

Fig. 2. *C.* (*Chalcosyrphus*) *depressus*,wing

Species checklist (2)

- *C.* (*Chalcosyrphus*) *aristatus* (Johnson, 1929)
- *C.* (*Chalcosyrphus*) *depressus* (Shannon, 1925)

Species key: No key available

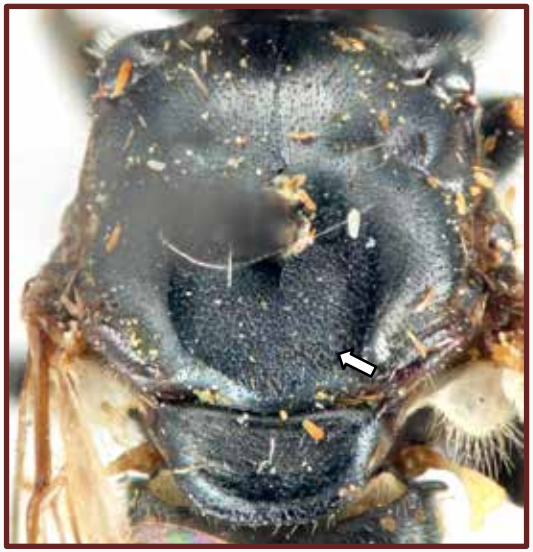
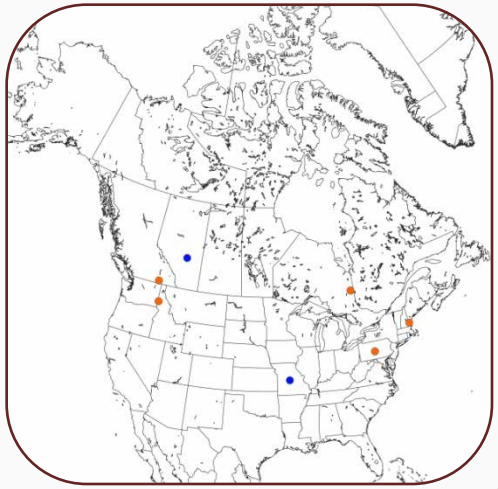


Fig. 1. *C.* (*Chalcosyrphus*) *depressus*, scutum, dorsal

Fig. 3. *C.* (*Chalcosyrphus*) *aristatus*, dorsal habitus

Distribution



doi:10.3752/cjai.2013.23

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Chalcosyrphus (*Neplas*) Porter, 1927

Taxon on eol

The facial crest on *C.* (*Neplas*) (arrow on Figs. 1 and 2) separates this subgenus from the other two subgenera of *Chalcosyrphus*.

Fig. 1. *C. (Neplas) pauxilla*, head, oblique anterior

Fig. 2. *C. (Neplas) pauxilla*, head, lateral

Fig. 3. *C. (Neplas) pauxilla*, habitus

Species checklist (1)

- *C.* (*Neplas*) *pauxilla* (Williston, 1892)

Distribution

doi:10.3752/cjai.2013.23

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Chalcosyrphus (*Xylotomima*) Shannon, 1926

Taxon on eol

Picture Gallery

Click here

All *Chalcosyrphus* species are dark flies (Fig. 1) with a mostly black, concave, non-tuberculate face. This genus is easily confused with *Xylota* because of the similar habitus and swollen hind femora, but *Xylota* species have a bare metasternum while *Chalcosyrphus* species have this sclerite haired (Fig. 2).

Fig. 1. *C. (Xylotomima) chalybeus*

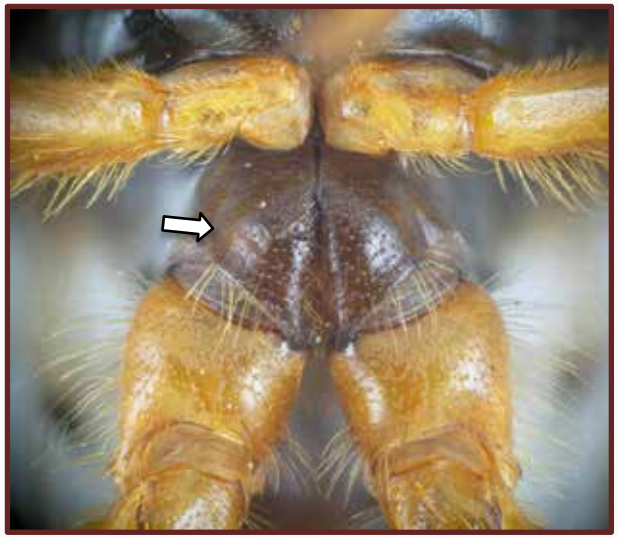
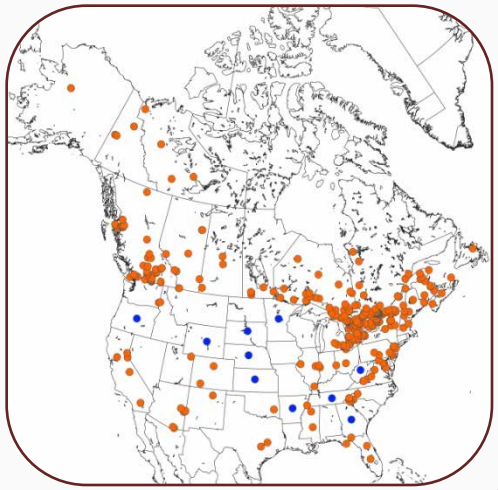


Fig. 2. *C. (Xylotomima) curvaria*, metasternum

Species checklist (19)

Click here

Distribution



doi:10.3752/cjai.2013.23

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Chalcosyrphus (*Xylotomima*) Shannon, 1926

Species checklist (19)

- *C.* (*Xylotomima*) *anomalus* (Shannon, 1925)
- *C.* (*Xylotomima*) *anthreas* (Walker, 1849)
- *C.* (*Xylotomima*) *chalybeus* (Wiedemann, 1830)
- *C.* (*Xylotomima*) *curvaria* (Curran, 1941)
- *C.* (*Xylotomima*) *dubius* (Shannon, 1926)
- *C.* (*Xylotomima*) *flexus* (Curran, 1941)
- *C.* (*Xylotomima*) *inarmatus* (Hunter, 1897)
- *C.* (*Xylotomima*) *libo* (Walker, 1849)
- *C.* (*Xylotomima*) *metallicus* (Wiedemann, 1830)
- *C.* (*Xylotomima*) *metallifer* (Bigot, 1884)
- *C.* (*Xylotomima*) *nemorum* (Fabricius, 1805)
- *C.* (*Xylotomima*) *nigromaculatus* (Jones, 1917)
- *C.* (*Xylotomima*) *ontario* (Curran, 1941)
- *C.* (*Xylotomima*) *parvus* (Williston, 1887)
- *C.* (*Xylotomima*) *piger* (Fabricius, 1794)
- *C.* (*Xylotomima*) *plesia* (Curran, 1925)
- *C.* (*Xylotomima*) *sacawajeae* (Shannon, 1926)
- *C.* (*Xylotomima*) *satanica* (Bigot, 1884)
- *C.* (*Xylotomima*) *vecors* (Osten Sacken, 1875)

Species keys: Shannon (1926b) as *Xylotomima* and *Xylotodes*, Curran (1941) as part of *Helophilus*

doi:10.3752/cjai.2013.23

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Chalcosyrphus (*Xylotomima*) Shannon, 1926

Fig. 1. *C. (Xylotomima) piger*

Fig. 2. *C. (Xylotomima) vecors*

Fig. 3. *C. (Xylotomima)* sp.

doi:10.3752/cjai.2013.23

Cheilosia Meigen, 1822

Picture Gallery

Click here

Taxon on eol

Cheilosia species are dark flies with an anteriorly notched oral margin (arrow on Fig. 1), a strong facial tubercle (arrow on Fig. 2), and (usually) thoracic bristles on the scutellum and pleuron (arrows on Fig. 3).

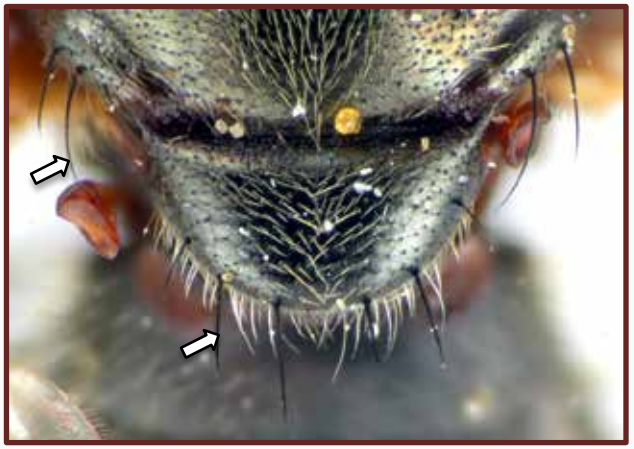

Fig. 3. *Cheilosia* sp., scutellum

Species checklist (81)

Click here

Fig. 1. *Cheilosia* sp., oral margin

Fig. 2. *Cheilosia* sp., head, lateral

Distribution

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Cheilosia Meigen, 1822

Species checklist (81)

- *C. alaskensis* (Hunter, 1897)
- *C. aldrichi* (Hunter, 1896)
- *C. atrocapilla* Hull & Fluke, 1950
- *C. bardus* (Harris, 1922)
- *C. baroni* (Williston, 1887)
- *C. bicolorata* (Shannon, 1922)
- *C. bigelowi* (Curran, 1926)
- *C. borealis* (Coquillett, 1900)
- *C. browni* Curran, 1931
- *C. burkei* (Shannon, 1922)
- *C. caltha* (Shannon, 1922)
- *C. canada* Hull & Fluke, 1950
- *C. capillata* (Loew, 1863)
- *C. catalina* (Shannon, 1922)
- *C. chalybescens* (Williston, 1893)
- *C. chintimini* (Lovett, 1921)
- *C. chrysochlamys* (Williston, 1891)
- *C. coerulea* Fluke & Hull, 1946
- *C. columbiae* (Curran, 1922)
- *C. comosa* (Loew, 1863)
- *C. consentiens* (Curran, 1926)
- *C. cottrelli* Telford, 1939
- *C. cratorhina* Hull & Fluke, 1950
- *C. cynoprosopa* Hull & Fluke, 1950
- *C. ferruginea* (Lovett, 1919)
- *C. flavosericea* Hull & Fluke, 1950
- *C. florella* (Shannon, 1922)
- *C. hermiona* Hull & Fluke, 1950
- *C. hesperia* (Shannon, 1922)
- *C. hiantha* Hull & Fluke, 1950
- *C. hoodiana* (Bigot, 1884)
- *C.hunteri* (Curran, 1922)
- *C. julietta* (Shannon, 1922)
- *C. laevis* (Bigot, 1884)
- *C. lasiophthalmus* Williston, 1882
- *C. latrans* (Walker, 1849)
- *C. leucoparea* (Loew, 1863)
- *C. livida* (Wehr, 1924)
- *C. lucta* (Snow, 1895)
- *C. luna* Hull & Fluke, 1950
- *C. margarita* Hull & Fluke, 1950
- *C. meganosa* Hull & Fluke, 1950
- *C. megatarsa* Fluke & Hull, 1947
- *C. montanipes* Hull & Fluke, 1950
- *C. nannomorpha* Hull & Fluke, 1950
- *C. nasica* Hull & Fluke, 1950
- *C. nigresens* Hull & Fluke, 1950
- *C. nigroapicata* (Curran, 1926)
- *C. nigrobarba* Hull & Fluke, 1950
- *C. nigrofasciata* (Curran, 1926)
- *C. nigrovittata* (Lovett, 1919)
- *C. obesa* Hull & Fluke, 1950
- *C. occidentalis* Williston, 1882
- *C. orilliaenis* (Curran, 1922)
- *C. pacifica* Hunter, 1897
- *C. pagana* (Meigen, 1822)
- *C. pallipes* (Loew, 1863)
- *C. pikei* (Shannon, 1922)
- *C. pilosipes* Hull & Fluke, 1950
- *C. pluto* Hull & Fluke, 1950
- *C. pontiaca* (Shannon, 1922)
- *C. porcina* Hull & Fluke, 1950
- *C. prima* (Hunter, 1896)
- *C. primoveris* (Shannon, 1915)
- *C. promethea* Hull & Fluke, 1950
- *C. punctulata* (Hunter, 1897)
- *C. rhinoprosopa* Hull & Fluke, 1950
- *C. rita* (Curran, 1922)
- *C. robusta* (Hine, 1922)
- *C. scilla* Hull & Fluke, 1950
- *C. sensua* (Curran, 1922)
- *C. seripila* Hull & Fluke, 1950
- *C. shannoni* (Curran, 1916)
- *C. sonoriana* (Shannon, 1922)
- *C. sorrorcula* (Williston, 1891)
- *C. speculum* Hull & Fluke, 1950
- *C. subchalybea* (Curran, 1923)
- *C. swannanoa* Brimley, 1925
- *C. tantalus* Hull & Fluke, 1950
- *C. wisconsinensis* Fluke & Hull, 1947
- *C. yukonensis* (Shannon, 1922)

Species keys: Fluke and Hull (1946) in part as *Cartosyrphus*, Hull and Fluke (1950) in part as *Cheilosia* and *Chilomyia*

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Cheilosia Meigen, 1822

Fig. 1. *C. nigroapicata*

Fig. 2. *Cheilosia sp.*

Fig. 3. *Cheilosia sp.*

doi:10.3752/cjai.2013.23

Chrysogaster Meigen, 1803

Taxon on eol

Chrysogaster are small, dark, metallic flies, often with a rugose frons. The shape of the face is sexually dimorphic: males have a weak tubercle while females have a straight face. This genus is most easily confused with *Chrysosyrphus*, from which it can be distinguished by the height at which the antennae insert on the head. *Chrysogaster* antennae are inserted at the midpoint of the head or below (Figs. 1 and 2), while *Chrysosyrphus* antennae insert on the upper 1/3 of the head.

Fig. 3. *C. antitheus*

Species checklist (2)

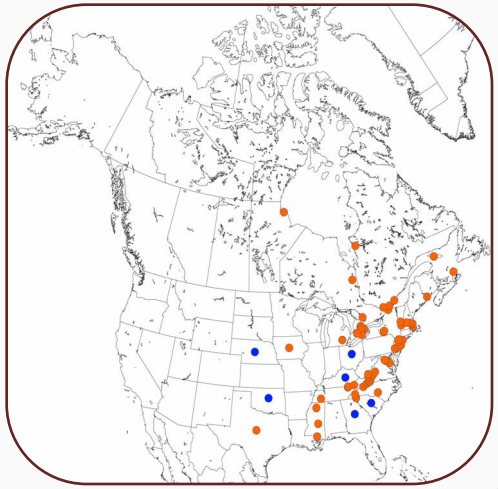
- *C. antitheus* Walker, 1849
- *C. inflatifrons* Shannon, 1916

Species key: Fluke (1949)

Fig. 1. *C. antitheus*, male, head, lateral

Fig. 2. *C. antitheus*, female, head, lateral

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Chrysosyrphus Sedman, 1965

Chrysosyrphus species differ from similar *Chrysogaster* in having antennae inserted above the midpoint (usually on the upper 1/3) of the head (Figs. 1 and 2).

Fig. 1. *C. frontosus*, male, head, lateral

Fig. 2. *C. frontosus*, female, head, lateral

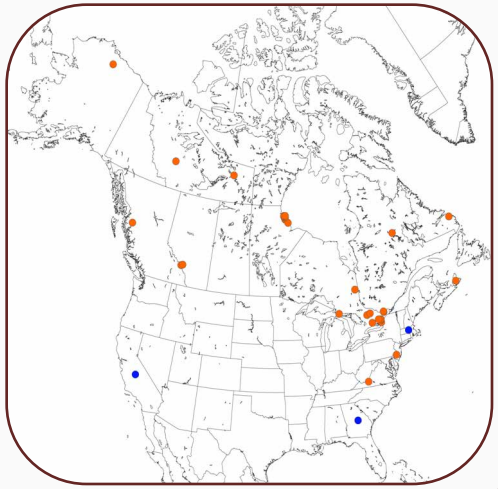
Fig. 3. *C. frontosus*, female, lateral

Species checklist (5)

- *C. alaskensis* (Shannon, 1922)
- *C. frontosus* (Bigot, 1884)
- *C. latus* (Loew, 1863)
- *C. nasuta* (Zetterstedt, 1838)
- *C. nigripennis* (Williston, 1882)

Species key: Fluke (1949) as *Chrysogaster*

Distribution



doi:10.3752/cjai.2013.23

Chrysotoxum Meigen, 1803

Taxon on eol

Chrysotoxum species are wasp mimics with a broad, convex abdomen and characteristically elongated antennae (Figs. 1 and 2).

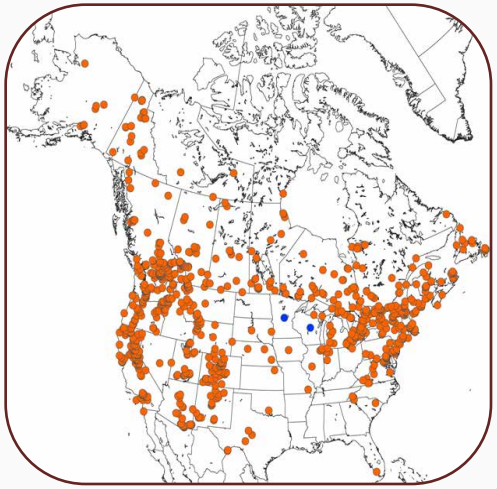
Fig. 1. *Chrysotoxum* sp.

Fig. 2. *Chrysotoxum* sp.

Species checklist (13)

Click here

Distribution



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Chrysotoxum Meigen, 1803

Species checklist (13)

- *C. aztec* Shannon, 1926
- *C. chinook* Shannon, 1926
- *C. derivatum* Walker, 1849
- *C. fasciatum* (Muller, 1764)
- *C. fasciolatum* (De Geer, 1776)
- *C. flavifrons* Macquart, 1842
- *C. laterale* Loew, 1864
- *C. perplexum* Johnson, 1924
- *C. pubescens* Loew, 1864
- *C. radiosum* Shannon, 1926
- *C. villosulum* Bigot, 1884
- *C. willistoni* Curran, 1924
- *C. ypsilon* Williston, 1887

Species keys: Curran (1924), Shannon (1926a), Vockeroth (1992)

doi:10.3752/cjai.2013.23

Copestylum Macquart, 1846

Picture Gallery

Click here

Taxon on eol

Copestylum species have a plumose arista, an anteroventrally produced oral margin, and a strongly curved M_1 vein (arrow on Fig. 1). Some are superficially similar to bumblebee mimics in the genus *Volucella*, but lack the long pile covering the thorax and abdomen of *Volucella*. Metallic *Copestylum* species might be mistaken for *Ornidia*, but the former have a wholly microtrichose wing.

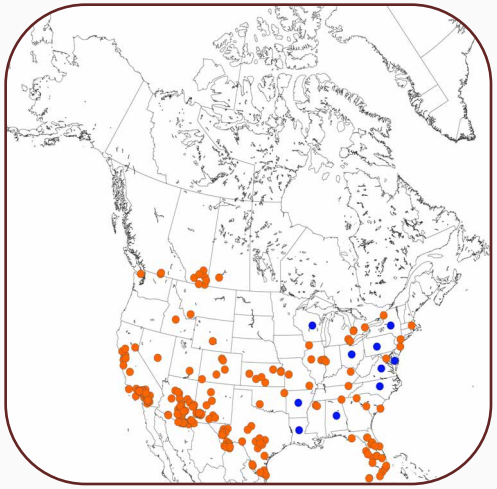
Fig. 2. *Copestylum* sp.

Fig. 1. *C. avidum*, wing

Species checklist (35)

Click here

Distribution



doi:10.3752/cjai.2013.23

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Copestylum Macquart, 1846

Species checklist (35)

- *C. abdominale* (Wiedemann, 1830)
- *C. anastasia* (Hull, 1946)
- *C. anna* (Williston, 1887)
- *C. apicale* (Loew, 1866)
- *C. apiciferum* (Townsend, 1895)
- *C. avidum* (Osten Sacken, 1877)
- *C. barei* (Curran, 1925)
- *C. caudatum* Curran, 1927
- *C. comstocki* (Williston, 1887)
- *C. eugenia* (Williston, 1887)
- *C. florida* (Hull, 1941)
- *C. fornax* (Townsend, 1895)
- *C. fraudulentum* (Williston, 1891)
- *C. haagii* (Jaennicke, 1867)
- *C. isabellina* (Williston, 1887)
- *C. lentum* Williston, 1887
- *C. limbipenne* Williston, 1887
- *C. macrocephalum* (Giglio-Tos, 1892)
- *C. marginatum* Say, 1892
- *C. megacephalum* (Loew, 1863)
- *C. mexicanum* (Macquart, 1842)
- *C. opalescens* (Townsend, 1901)
- *C. posticum* (Say, 1892)
- *C. quadratum* (Williston, 1891)
- *C. satur* (Osten Sacken, 1877)
- *C. sexmaculatum* (Palisot de Beauvois, 1819)
- *C. simile* Giglio-Tos, 1892
- *C. sternale* (Curran, 1930)
- *C. tamaulipanum* (Townsend, 1926)
- *C. tricinctum* (Bigot, 1875)
- *C. vesicularium* (Curran, 1947)
- *C. victoria* (Williston, 1887)
- *C. violaceum* (Say, 1829)
- *C. vittatum* (Thompson, 1964)
- *C. volucre* (Gigli-Tos, 1892)

Species keys: Curran (1930b, 1935, 1939b)

doi:10.3752/cjai.2013.23

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Copestylum Macquart, 1846

Fig. 1. *C. sexmaculatum*

Fig. 2. *C. apiciferum*

Fig. 3. *C. mexicanum*

Fig. 4. *Copestylum* sp.

doi:10.3752/cjai.2013.23

Criorhina Meigen, 1822

Criorhina species are very large, hairy flies resembling bumblebees (Fig. 1). They have an anteroventrally produced face (arrow on Fig. 2), bare arista, and a haired metasternum (Fig. 3).

Fig. 3. *C. nigriventris*, metasternum, lateral

Taxon on eol

Species checklist (14)

Click here

Distribution

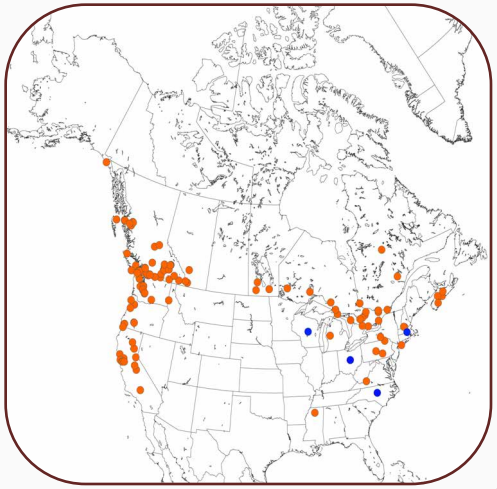

Fig. 1. *C. nigriventris*

Fig. 2. *C. nigriventris*, head, lateral

doi:10.3752/cjai.2013.23

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Criorhina Meigen, 1822

Species checklist (14)

- *C. aurea* Lovett, 1919
- *C. bubulcus* (Walker, 1849)
- *C. caudata* Curran, 1925
- *C. coquilletti* Williston, 1892
- *C. grandis* Lovett, 1921
- *C. kincaidi* Coquillett, 1901
- *C. latipilosa* Curran, 1925
- *C. lupina* (Williston, 1882)
- *C. mystaceae* Curran, 1925
- *C. nigripes* (Williston, 1882)
- *C. nigriventris* Walton, 1911
- *C. quadriboscis* Lovett, 1919
- *C. tricolor* Coquillett, 1900
- *C. verbosa* (Walker, 1849)

Species key: Curran (1925b)

doi:10.3752/cjai.2013.23

Taxon on eol

Cynorhinella
Curran, 1922

Species in the genus *Cynorhinella* are dark flies with a slightly extended oral margin and a distinct facial tubercle (Figs. 1 and 2). They have a triangular plate on the hind femur similar to *Tropidia*, but *Cynorhinella* have a facial tubercle and non-continuous veins dm-cu and M_1 unlike *Tropidia* (Fig. 3).

Fig. 3. *C. bella*., wing

Species checklist (2)

- *C. bella* (Williston, 1882)
- *C. longinasus* Shannon, 1924

Species key: Shannon (1924)

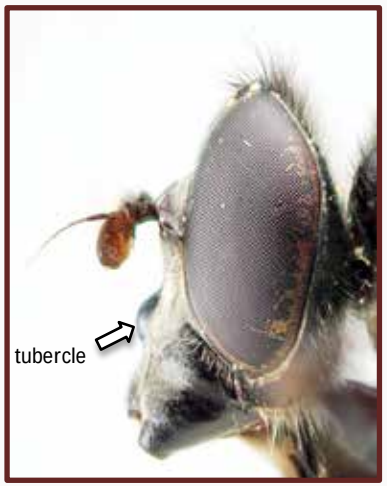
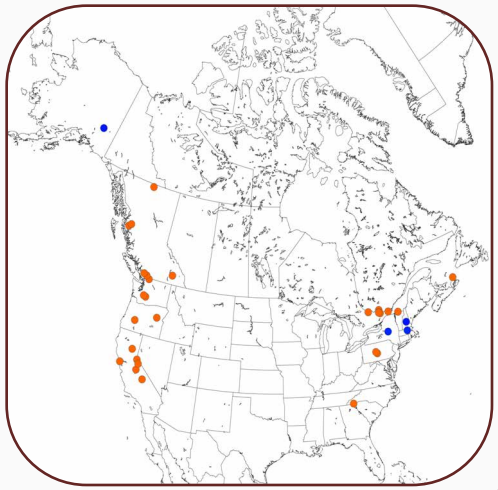


Fig. 1. *C. bella*, face, lateral

Fig. 2. *C. bella*

Distribution



doi:10.3752/cjai.2013.23

Dasysyrphus Enderlein, 1938

Taxon on eol

Fig. 1. *D. intrudens* complex, abdomen, dorsal

Picture Gallery

Click here

Species checklist (13)

Click here

Medium-sized black and yellow flies, distinguished from other genera by the marginal abdominal groove (Fig. 1), haired eye (Fig. 2), densely microtrichose wing and bare metasternum. The abdominal segments have pairs of curved to straight half-bands, sometimes strongly constricted and sometimes meeting in the middle (Fig. 1).

Fig. 2. *D. intrudens* complex, head, lateral

Distribution

doi:10.3752/cjai.2013.23

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Dasysyrphus Enderlein, 1938

Species checklist (13)

- *D. amalopis* (Osten Sacken, 1875)
- *D. creper* (Snow, 1895)
- *D. intrudens* (Osten Sacken, 1877)
- *D. laticaudus* (Curran, 1925)
- *D. limatus* (Hine, 1922)
- *D. lotus* (Williston, 1887)
- *D. nigricornis* (Verrall, 1873)
- *D. occidualis* Locke and Skevington, 2013
- *D. pacificus* (Lovett, 1919)
- *D. pauxillus* (Williston, 1887)
- *D. pinastri* (De Geer, 1776)
- *D. richardi* Locke and Skevington, 2013
- *D. venustus* (Meigen, 1822)

Species key: Locke and Skevington (2013)

doi:10.3752/cjai.2013.23

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Dasysyrphus Enderlein, 1938

Fig. 1. *D. occidualis*

Fig. 2. *D. creper*

Fig. 3. *D. intrudens* complex

Fig. 4. *D. pacificus*

doi:10.3752/cjai.2013.23

Didea Macquart, 1834

Taxon on eol

Didea species have a distinct abdominal pattern (Figs. 1 and 3) similar to *Megasyrphus* or *Dideomima*, from which they can be distinguished by the black stripe on the face (arrow on Fig. 2), black margin on the 3rd and 4th abdominal tergites, and a shallowly dipped R_{4+5} vein (Fig. 4). *Megasyrphus* species have a partially yellow margin and *Dideomima* have an entirely yellow face and a strongly dipped R_{4+5} vein.

Fig. 3. *D. fuscipes*

Fig. 4. *D. fuscipes*, wing

Fig. 1. *D. alneti*, dorsal

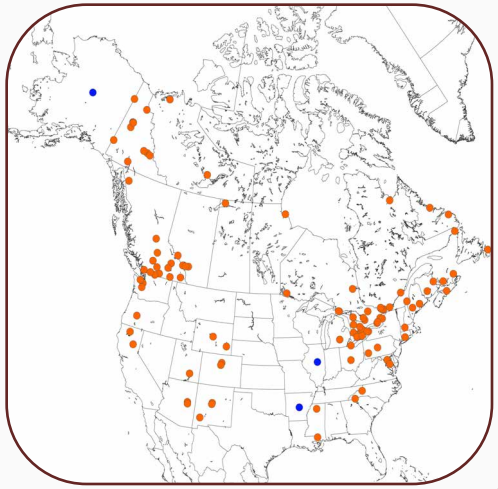
Fig. 2. *D. alneti*, head, anterior

Species checklist (2)

- *D. alneti* (Fallen, 1817)
- *D. fuscipes* Loew, 1863

Species key: Vockeroth (1983), Vockeroth (1992)

Distribution



doi:10.3752/cjai.2013.23

Dideomima Vockeroth, 1969

Taxon on eol

Dideomima is a genus of black and yellow flies (Fig. 1) with complete yellow bands on the abdomen and a solid yellow face (Fig. 2). Vein R_{4+5} curves deeply into cell r_{4+5} (Fig. 3). This genus is similar to *Didea* but the yellow abdominal markings extend to the margin of the abdomen and are straighter on the posterior margin.

Fig. 1. *D. coquilletti*, dorsal

Species checklist (1)

- *D. coquilletti* (Williston, 1891)

Fig. 2. *D. coquilletti*, head, anterior

Distribution

Fig. 3. *D. coquilleti*, wing

doi:10.3752/cjai.2013.23

Taxon on eol

Doros Meigen, 1803

Doros species are bright yellow and black wasp mimics with a parallel-sided abdomen (Fig. 1), distinguished from similar genera (*Spilomyia* and *Temnostoma*) by the scutum with wholly yellow lateral margins (arrow on Fig. 2).

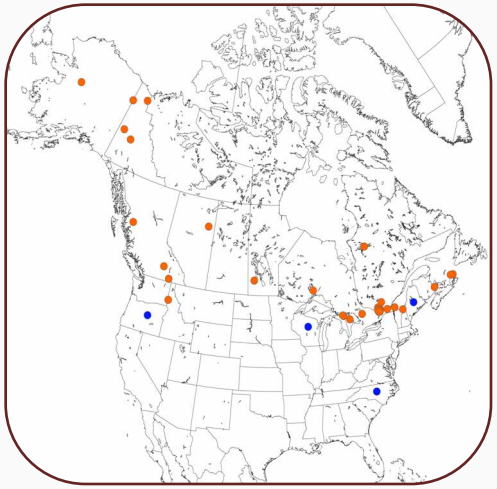
Species checklist (1)

- *D. aequalis* Loew, 1863

Fig. 1. *D. aequalis*

Fig. 2. *D. aequalis*

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Eosalpingogaster Hull, 1949

Eosalpingogaster species are petiolate flies (narrow basal abdominal segments, and expanded apical segments) with an elongate second abdominal segment (arrow on Fig. 1), ventral spines on the hind femur, a facial tubercle and a sinuous R_{4+5} vein. *Eosalpingogaster* is similar to *Salpingogaster*, but has more rows of hairs on the dorsal occiput and a less sinuous R_{4+5} vein (arrow on Fig. 2).

Fig. 2. *E. cochenillivora*, wing

Species checklist (2)

- *E. cochenillivora* (Guerin-Meneville, 1848)
- *E. nepenthe* (Hull, 1943)

Species key: Mengual and Thompson (2011)

Distribution

Picture Gallery

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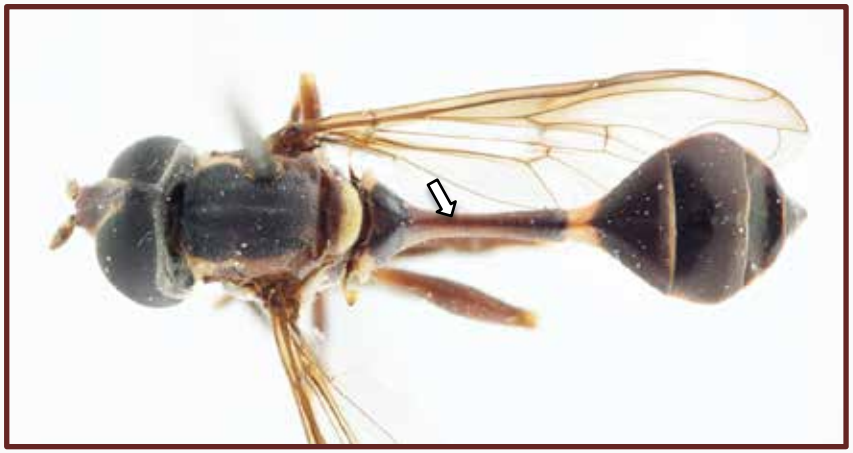

Fig. 1. *E. cochenillivora*

doi:10.3752/cjai.2013.23

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Eosalpingogaster Hull, 1949

Fig. 1. *E. cochenillivora*, metafemur, lateral

Fig. 2. *E. cochenillivora*, head, lateral

doi:10.3752/cjai.2013.23

Epistrophella
Dusek & Laska, 1967

Taxon on eol

Epistrophella contains only one Nearctic species (Figs. 1 and 2), a slender black and yellow species usually with lateral yellow markings on the scutum and the basoflagellomere longer than wide (Fig. 3). The 3rd tergite has two yellow spots that are either separated (Fig. 2) or medially joined; the spots on the 4th tergite are separated.

Fig. 3. *E. emarginata*, basoflagellomere

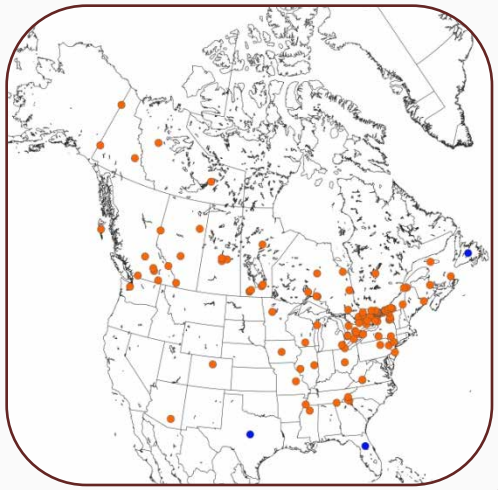
Fig. 1. *E. emarginata*, male, dorsal

Fig. 2. *E. emarginata*, male, dorsal

Species checklist (1)

- *E. emarginata* (Say, 1823)

Distribution



doi:10.3752/cjai.2013.23

Epistrophe Walker, 1852

Picture Gallery

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Taxon on eol

Epistrophe species typically have a yellow-banded abdomen with a weak margin (Fig. 1), although these bands may be broken in some species. Pile on the pleuron is variable, but the upper and lower katepisternal pile patches are always narrowly joined posteriorly (Fig. 2).

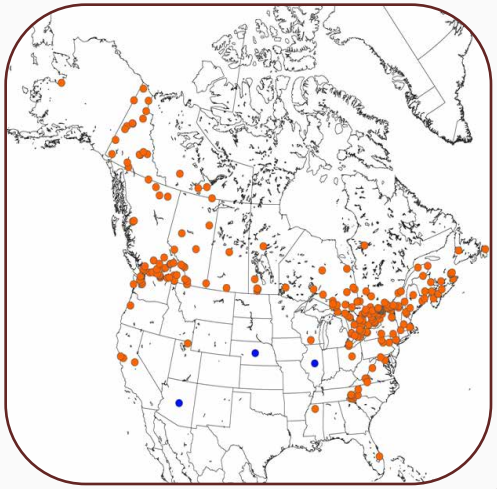
Fig. 1. *E. grossulariae*, dorsal

Fig. 2. *E. grossulariae*, thorax, oblique ventral

Species checklist (6)

Click here

Distribution



doi:10.3752/cjai.2013.23

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Epistrophe Walker, 1852

Species checklist (6)

- *E. grossulariae* (Meigen, 1822)
- *E. metcalfi* (Fluke, 1933)
- *E. nitidicollis* (Meigen, 1822)
- *E. ochrostoma* (Zetterstedt, 1849)
- *E. terminalis* (Curran, 1925)
- *E. xanthostoma* (Williston, 1887)

Species key: Vockeroth (1983), Vockeroth (1992)

doi:10.3752/cjai.2013.23

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Epistrophe Walker, 1852

Fig. 1. *E. nitidicollis*

Fig. 2. *E. xanthostoma*

Fig. 3. *E. terminalis*

Fig. 4. *E. metcalfi*

doi:10.3752/cjai.2013.23

Taxon on eol

Eristalinus
Rondani, 1845

***E.* (*Eristalodes*)**

Click on the subgenus identified

***E.* (*Lathyrophthalmus*)**

Back to previous couplet

Eristalinus (*Eristalodes*) Mik, 1897

Taxon on eol

E. (*Eristalodes*) *taeniops* (introduced) is distinctive for its striped eyes (Fig. 1). Some *Orthonevra* species have somewhat similar eye pigmentation, but lack the sinuous vein R_{4+5} of *Eristalinus* (arrow on Fig. 2).

Fig. 3. *E.* (*Eristalodes*) *taeniops*, habitus

Fig. 1. *E.* (*Eristalodes*) *taeniops*, head, lateral

Fig. 2. *E.* (*Eristalodes*) *taeniops*, wing

Species checklist (1)

- *E.* (*Eristalodes*) *taeniops* (Weidemann, 1818)

Distribution

doi:10.3752/cjai.2013.23

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Eristalinus (*Lathyrophthalmus*) Mik, 1897

Taxon on eol

Eristalinus (*Lathyrophthalmus*) *aeneus* (introduced species) are distinctive for their spotted eyes (Fig. 1). Some *Orthonevra* species have somewhat similar eye pigmentation, but lack the sinuous vein R_{4+5} of *Eristalinus* (arrow on Fig. 2).

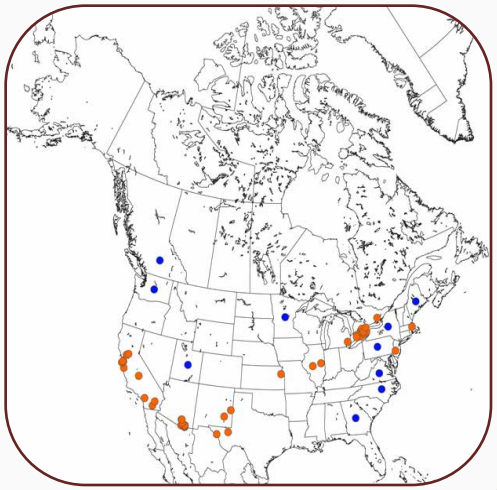
Fig. 1. *E.* (*Lathyrophthalmus*) *aeneus*, habitus

Species checklist (1)

- *E.* (*Lathyrophthalmus*) *aeneus* (Scopoli, 1763)

Fig. 2. *E.* (*Lathyrophthalmus*) *aeneus*, wing

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Eristalis
Latreille, 1804

***E.* (*Eoseristalis*)**

Click on the subgenus identified

***E.* (*Eristalis*)**

doi:10.3752/cjai.2013.23

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Eristalis (*Eoseristalis*) Kanervo, 1938

Taxon on eol

Members of this large genus of relatively robust flies range from slightly bee-like to striking mimics of bumblebees or honeybees (Fig. 1). They are similar to *Palpada*, but *Eristalis* species do not have hairs below the posterior spiracle (arrow on Fig. 2).

Fig. 1. *E.* (*Eoseristalis*) *flavipes*

Fig. 2. *E.* (*Eoseristalis*) *anthophorina*, metepisternum

Species checklist (19)

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Picture Gallery

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Distribution

doi:10.3752/cjai.2013.23

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Eristalis (*Eoseristalis*) Kanervo, 1938

Species checklist (19)

- *E.* (*Eoseristalis*) *anthophorina* (Fallen, 1817)
- *E.* (*Eoseristalis*) *arbustorum* (Linnaeus, 1758)
- *E.* (*Eoseristalis*) *basilaris* Macquart, 1834
- *E.* (*Eoseristalis*) *bellardii* Jaennicke, 1867
- *E.* (*Eoseristalis*) *brousii* Williston, 1882
- *E.* (*Eoseristalis*) *cryptarum* (Fabricius, 1794)
- *E.* (*Eoseristalis*) *dimidiata* Wiedemann, 1830
- *E.* (*Eoseristalis*) *flavipes* Walker, 1849
- *E.* (*Eoseristalis*) *fraterculus* (Zetterstedt, 1838)
- *E.* (*Eoseristalis*) *gomojunovae* Violovitsh, 1977
- *E.* (*Eoseristalis*) *hirta* Loew, 1866
- *E.* (*Eoseristalis*) *interrupta* (Poda, 1761)
- *E.* (*Eoseristalis*) *obscura* Loew, 1866
- *E.* (*Eoseristalis*) *oestracea* (Linnaeus, 1758)
- *E.* (*Eoseristalis*) *parens* Bigot, 1880
- *E.* (*Eoseristalis*) *rupium* Fabricius, 1805
- *E.* (*Eoseristalis*) *saxorum* Wiedemann, 1830
- *E.* (*Eoseristalis*) *stipator* Osten Sacken, 1877
- *E.* (*Eoseristalis*) *transversa* Wiedemann, 1830

Species key: Curran (1930c), Telford (1970)

doi:10.3752/cjai.2013.23

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Eristalis (*Eoseristalis*) Kanervo, 1938

Fig. 1. *E.* (*Eoseristalis*) *transversa*

Fig. 2. *E.* (*Eoseristalis*) *dimidiata*

Fig. 3. *E.* (*Eoseristalis*) *stipator*

Fig. 4. *E.* (*Eoseristalis*) *arbustorum*

doi:10.3752/cjai.2013.23

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Eristalis (*Eristalis*) Latreille, 1804

Taxon on eol

The Drone Fly, *E.* (*Eristalis*) *tenax* (Fig. 1), a honeybee mimic, is the only species of this subgenus present in North America. They are similar to *Palpada*, but *Eristalis* species do not have hairs below the posterior spiracle (arrow on Fig. 2).

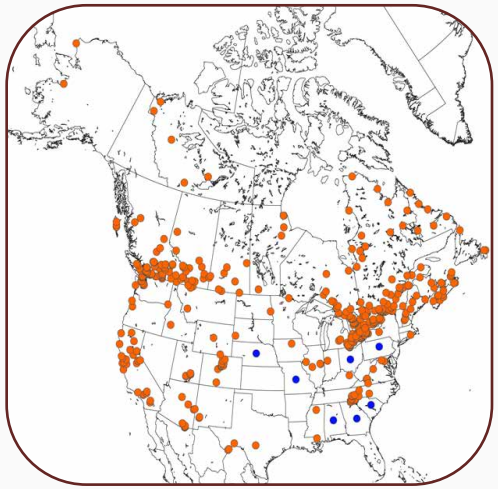
Fig. 2. *E.* (*Eristalis*) *tenax*, metepisternum

Fig. 1. *E.* (*Eristalis*) *tenax*

Species checklist (1)

- *E.* (*Eristalis*) *tenax* (Linnaeus, 1758)

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Eumerus Meigen, 1822

These small flies (Fig. 1) have an angulated vein M_1 (arrow on Fig. 3) and usually have oblique, slightly indented, slate-grey markings on the abdominal tergites (Fig. 2).

Fig. 3. *E. funeralis*, wing

Species checklist (3)

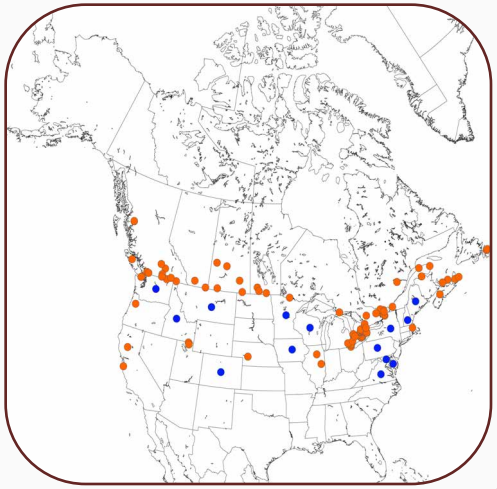
- *E. funeralis* Meigen, 1822
- *E. narcissi* Smith, 1928
- *E. strigatus* (Fallen, 1817)

Species key: Latta and Cole (1933)

Fig. 1. *Eumerus* sp.

Fig. 2. *E. strigatus*, dorsal

Distribution



doi:10.3752/cjai.2013.23

Eupeodes
Osten Sacken, 1877

***E.* (*Eupeodes*)**

Click on the subgenus identified

***E.* (*Metasyrphus*)**

Back to previous couplet

Eupeodes (*Eupeodes*)
Osten Sacken, 1877

Taxon on eol

Eupeodes (Eupeodes) volucris is the only Nearctic species of this subgenus. These flies have curved, yellow markings that show no constriction in the middle (Figs. 1 and 4) like some other genera. The wings are sparsely microtrichose (Fig. 3), causing them to appear glossy. Males of this subgenus are easily distinguished by the protruding genitalia at the end of the abdomen (arrow on Figs. 2 and 4).

Fig. 4. *E. (Eupeodes) volucris*, male

Fig. 1. *E. (Eupeodes) volucris*, female, dorsal

Fig. 2. *E. (Eupeodes) volucris*, male, lateral

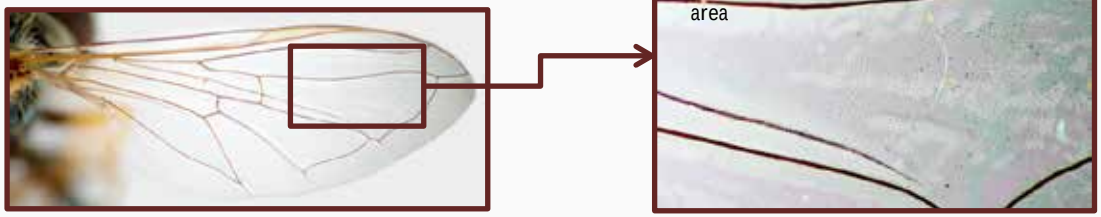
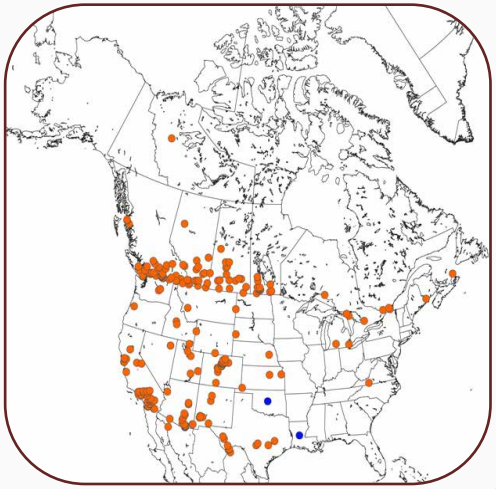


Fig. 3. *E. (Eupeodes) volucris*, wing

Species checklist (1)

- *E. (Eupeodes) volucris* Osten Sacken, 1877

Distribution



doi:10.3752/cjai.2013.23

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Eupeodes (*Metasyrphus*) Matsumura, 1917

Taxon on eol

Abdominal patterns of *Eupeodes (Metasyrphus)* are highly variable, some species with two distinctly separated curved spots (Fig. 1), some with markings that meet in the centre (Fig. 2) and others with single yellow bands across the tergites (Fig. 3). All species have a strongly marginated abdomen and dense microtrichia on the wings.

Fig. 1. *E. (Metasyrphus)* sp.

Species checklist (20)

Click here

Distribution

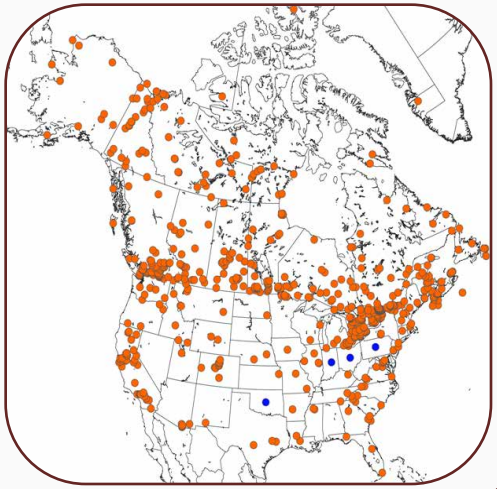

Fig. 2. *E. (Metasyrphus) fumipennis*, male, dorsal

Fig. 3. *E. (Metasyrphus) americanus*, female, dorsal

doi:10.3752/cjai.2013.23

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Eupeodes (*Metasyrphus*) Matsumura, 1917

Species checklist (20)

- *E. (Metasyrphus) americanus* (Wiedemann, 1830)
- *E. (Metasyrphus) confertus* (Fluke, 1952)
- *E. (Metasyrphus) curtus* (Hine, 1922)
- *E. (Metasyrphus) flukei* (Jones, 1917)
- *E. (Metasyrphus) fumipennis* (Thomson, 1869)
- *E. (Metasyrphus) gentneri* (Fluke, 1952)
- *E. (Metasyrphus) latifasciatus* (Macquart, 1829)
- *E. (Metasyrphus) luniger* (Meigen, 1822)
- *E. (Metasyrphus) montanus* (Curran, 1925)
- *E. (Metasyrphus) montivagus* (Snow, 1895)
- *E. (Metasyrphus) neoperplexus* (Curran, 1925)
- *E. (Metasyrphus) nigroventris* (Fluke, 1933)
- *E. (Metasyrphus) perplexus* (Osburn, 1910)
- *E. (Metasyrphus) pingreensis* (Fluke, 1930)
- *E. (Metasyrphus) pomus* (Curran, *1921*)
- *E. (Metasyrphus) rufipunctatus* (Curran, 1925)
- *E. (Metasyrphus) sculleni* (Fluke, 1952)
- *E. (Metasyrphus) snowi* (Wehr, 1924)
- *E. (Metasyrphus) subsimus* (Fluke, 1952)
- *E. (Metasyrphus) talus* (Fluke, 1933)

Species key: Fluke (1952), Vockeroth (1992)

doi:10.3752/cjai.2013.23

Taxon on eol

Fazia Shannon, 1927

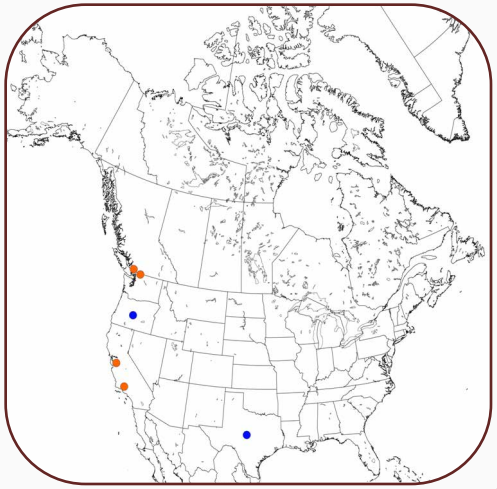
The only Nearctic species, *F. micrura,* has four diamond-shaped yellow maculae on the 5th tergite (arrow on Fig. 1).

Species checklist (1)

- *F. micrura* (Osten Sacken, 1877)

Fig. 1. *A.* (*Fazia*) *micrura*

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Ferdinandea Rondani, 1844

Besides having distinct parallel stripes on the scutum (Fig. 1), *Ferdinandea* species have strong black bristles on the scutum and scutellum (arrows on Fig. 2), and lack yellow markings on the abdomen.

Fig. 1. *F. buccata*

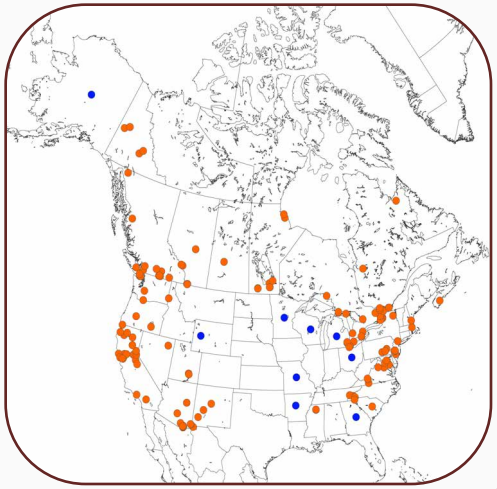
Fig. 2. *F. buccata*, scutum and scutellum, oblique dorsal

Species checklist (3)

- *F. aenicolor* Shannon, 1924
- *F. buccata* (Loew, 1863)
- *F. croesus* (Osten Sacken, 1877)

Species key: Hull (1942a)

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Hadromyia
Williston, 1882

***H.* (*Chrysosomidia*)**

Click on the subgenus identified

***H.* (*Hadromyia*)**

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Hadromyia (*Chrysosomidia*) Curran, 1934

Taxon on eol

Hadromyia (*Chrysosomidia*) species are yellow-haired flies with distinctive shiny metallic patches on the abdomen (Fig. 1).

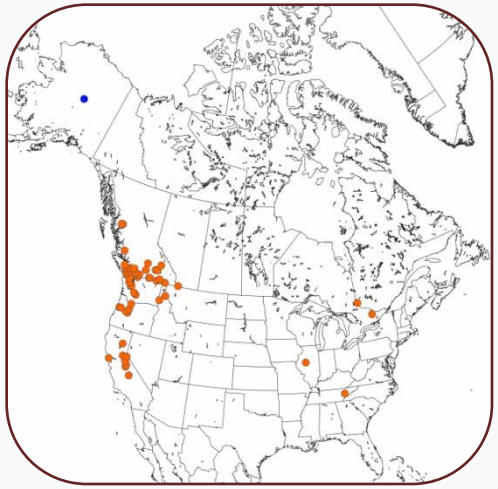
Fig. 1. *H. (Chrysosomidia) pulchra*, dorsal

Species checklist (5)

- *H.* (*Chrysosomidia*) *aepalius* (Walker, 1849)
- *H.* (*Chrysosomidia*) *aldrichi* (Shannon, 1916)
- *H.* (*Chrysosomidia*) *crawfordi* (Shannon, 1916)
- *H.* (*Chrysosomidia*) *opaca* (Shannon, 1916)
- *H.* (*Chrysosomidia*) *pulchra* (Williston, 1882)

Species key: Shannon (1916)

Distribution



doi:10.3752/cjai.2013.23

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Hadromyia (*Hadromyia*) Williston, 1882

Taxon on eol

Hadromyia (*Hadromyia*) *grandis* (Figs. 1 and 2), the only species of the subgenus, is a bumblebee mimic with a wholly pollinose frontal triangle (arrow on Fig. 3). The male mid femur has a distinct long spur basally (arrow on Fig. 4).

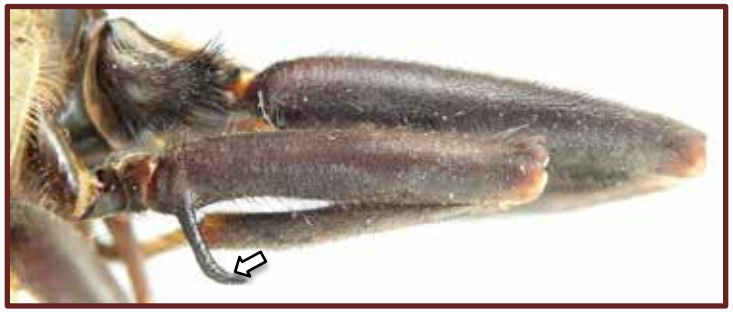


Fig. 4. *H. (Hadromyia) grandis*, male, mid femur, oblique lateral

Fig. 1. *H. (Hadromyia) grandis*, lateral

Fig. 2. *H. (Hadromyia) grandis*, dorsal

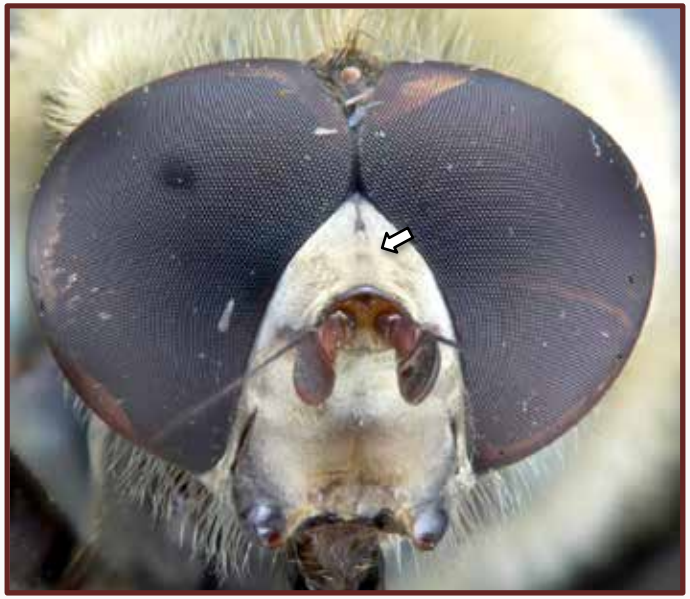


Fig. 3. *H. (Hadromyia) grandis*, male, head, anterior

Species checklist (1)

- *H.* (*Hadromyia*) *grandis* Williston, 1882

Distribution

doi:10.3752/cjai.2013.23

Helophilus Meigen, 1822

Taxon on eol

Helophilus species are robust flies, usually with a boldly striped scutum (Figs. 1 and 2). The smaller, more elongate genera *Parhelophilus* and *Lejops* have similar scutal stripes, but their pterostigma clearly resembles a crossvein while in *Helophilus* this area is a diffuse infuscated patch (arrow on Fig. 3).

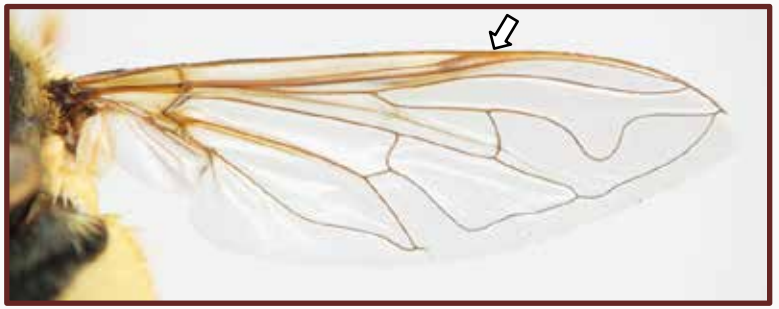


Fig. 3. *H. fasciatus*, wing

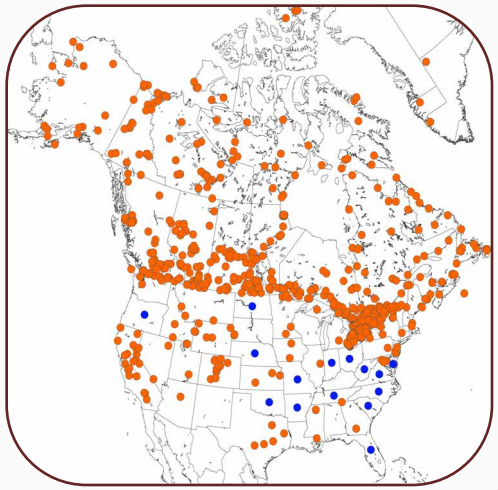
Species checklist (9)

Click here

Fig. 1. *H. fasciatus*

Fig. 2. *H. fasciatus*

Distribution



doi:10.3752/cjai.2013.23

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Helophilus Meigen, 1822

Species checklist (9)

- *H. bottnicus* Wahlberg, 1844
- *H. fasciatus* Walker, 1849
- *H. groenlandicus* (Fabricius, 1780)
- *H. hybridus* Loew, 1846
- *H. intentus* Curran & Fluke, 1926
- *H. lapponicus* Wahlberg, 1844
- *H. latifrons* Loew, 1863
- *H. neoaffinis* Fluke, 1949
- *H. obscurus* Loew, 1863

Species key: Curran and Fluke (1926)

doi:10.3752/cjai.2013.23

Taxon on eol

Heringia
Rondani, 1856

***H.* (*Heringia*)**

Click on the subgenus identified

***H.* (*Neocnemodon*)**

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Heringia (*Heringia*) Rondani, 1856

Taxon on eol

Heringia (*Heringia*) species are small black flies (Fig. 1) with simple hind femora, straight face and evenly rounded oral margin (arrow on Fig. 3). *Heringia* (*Heringia*) is distinguished from *H.* (*Neocnemodon*) by its longer basoflagellomere (arrow on Fig. 2). *Pipiza*, *Heringia* and *Trichopsomyia* are extremely similar morphologically and identifications should be checked carefully.

Fig. 1. *H.* (*Heringia*) *salax*, dorsal

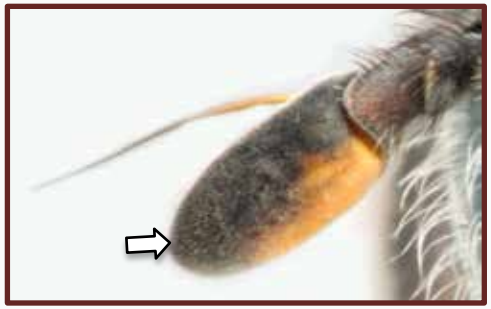


Fig. 2. *H.* (*Heringia*) *salax*, antenna, lateral

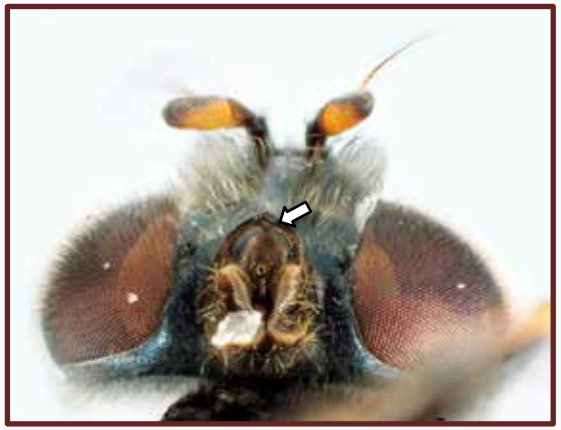


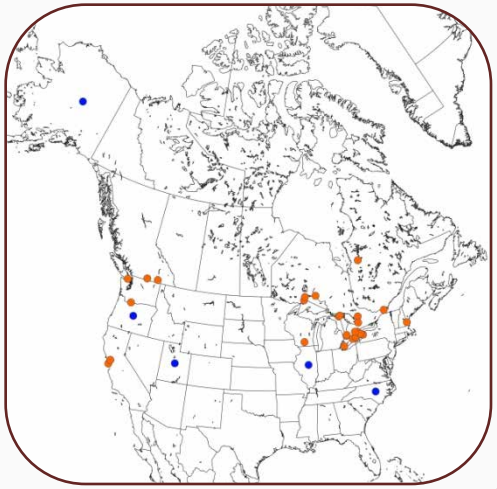
Fig. 3. *H.* (*Heringia*) *salax*, head, ventral

Species checklist (5)

- *H.* (*Heringia*) *californica* (Davidson, 1917)
- *H.* (*Heringia*) *canadensis* Curran, 1921
- *H.* (*Heringia*) *comutata* Curran, 1921
- *H.* (*Heringia*) *intensica* Curran, 1921
- *H.* (*Heringia*) *salax* (Loew, 1866)

Species key: Curran (1921)

Distribution



doi:10.3752/cjai.2013.23

Anterior anepisternum haired

Trichopsomyia

Fig. 1. *T. apisaon*, haired anterior anepisternum, lateral

Anterior anepisternum bare

Heringia sensu lato, Pipiza

Fig. 2. *Pipiza* sp., bare anterior anepisternum, lateral

H. (*Heringia*)

Fig. 5. *H.* (*Heringia*) *salax*, basoflagellomere, lateral

Fig. 6. *H.* (*Heringia*) *salax*, male, hind coxa

H. (*Neocnemodon*)

Fig. 7. *H.* (*Neocnemodon*) *coxalis*, basoflagellomere, lateral

Fig. 8. *H.* (*Neocnemodon*) *coxalis*, Male, hind coxa, lateral

Katepimeron haired

Heringia

Fig. 3. *Heringia* sp., haired katepimeron, lateral

Katepimeron bare

Pipiza

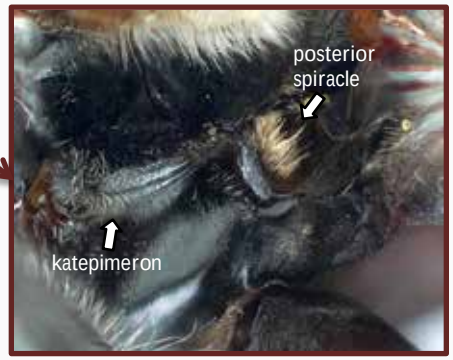
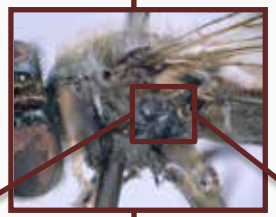


Fig. 4. *P. femoralis*, bare katepimeron, lateral



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Heringia (*Neocnemodon*)
Goffe, 1944

Taxon on eol

Heringia (*Neocnemodon*) are similar to *H.* (*Heringia*) but the former has a shorter basoflagellomere (Fig. 1) and males have a distinct projection on their hind coxae (arrow on Fig. 2). *Pipiza*, *Heringia* and *Trichopsomyia* are extremely similar morphologically and identifications should be checked carefully.

Fig. 3. *H.* (*Neocnemodon*) *calcarata*, habitus

Species checklist (24)

Click here

Distribution

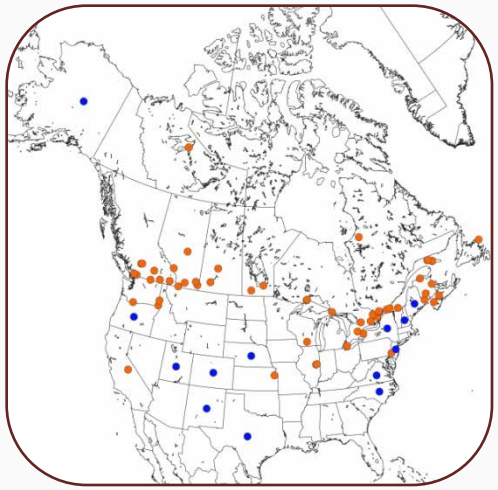

Fig. 1. *H.* (*Neocnemodon*) *coxalis*, basoflagellomere, lateral

Fig. 2. *H.* (*Neocnemodon*) *coxalis*, male, hind coxa and trochanter, lateral

doi:10.3752/cjai.2013.23

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Heringia (*Neocnemodon*) Goffe, 1944

Species checklist (24)

- *H.* (*Neocnemodon*) *auripleura* (Curran, 1921)
- *H.* (*Neocnemodon*) *calcarata* (Loew, 1866)
- *H.* (*Neocnemodon*) *carinata* (Curran, 1921)
- *H.* (*Neocnemodon*) *cevelata* (Curran, 1921)
- *H.* (*Neocnemodon*) *corvallis* (Curran, 1921)
- *H.* (*Neocnemodon*) *coxalis* (Curran, 1921)
- *H.* (*Neocnemodon*) *elongata* (Curran, 1921)
- *H.* (*Neocnemodon*) *intermedia* (Curran, 1921)
- *H.* (*Neocnemodon*) *latitarsis* (Egger, 1865)
- *H.* (*Neocnemodon*) *longiseta* (Curran, 1921)
- *H.* (*Neocnemodon*) *lovetti* (Curran, 1921)
- *H.* (*Neocnemodon*) *myerma* (Curran, 1921)
- *H.* (*Neocnemodon*) *nigricornis* (Curran, 1922)
- *H.* (*Neocnemodon*) *nudifrons* (Curran, 1921)
- *H.* (*Neocnemodon*) *ontarioensis* (Curran, 1921)
- *H.* (*Neocnemodon*) *pisticoides* (Williston, 1887)
- *H.* (*Neocnemodon*) *placida* (Curran, 1921)
- *H.* (*Neocnemodon*) *pubescens* (Delucchi & Pschorn, 1955)
- *H.* (*Neocnemodon*) *rita* (Curran, 1921)
- *H.* (*Neocnemodon*) *sinousa* (Curran, 1921)
- *H.* (*Neocnemodon*) *squamulae* (Curran, 1921)
- *H.* (*Neocnemodon*) *trochanterata* (Malloch, 1918)
- *H.* (*Neocnemodon*) *unicolor* (Curran, 1921)
- *H.* (*Neocnemodon*) *venteris* (Curran, 1921)

Species key: Curran (1921)

doi:10.3752/cjai.2013.23

Taxon on eol

Hiatomyia
Shannon, 1922

Hiatomyia species are small, black, polished flies (Figs. 2 and 3), distinguished from similar flies by a plumose arista (Fig. 1).

Fig. 1. *Hiatomyia* sp., arista

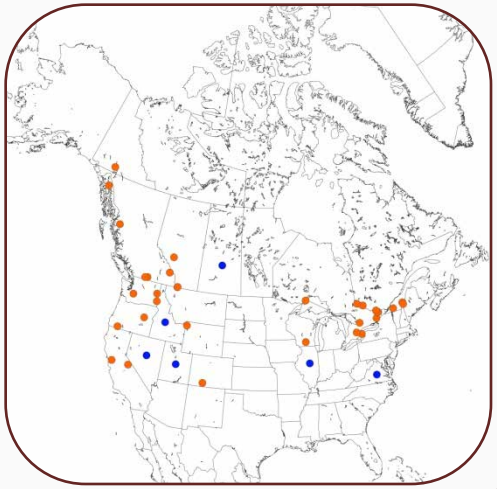
Fig. 2. *H. cyanescens*

Fig. 3. *H. cyanescens*

Species checklist (21)

Click here

Distribution



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Hiatomyia Shannon, 1922

Species checklist (21)

- *H. canadensis* (Shannon, 1922)
- *H. chionthrix* Hull & Fluke, 1950
- *H. chrysothrix* Hull & Fluke, 1950
- *H. coriacea* Hull & Fluke, 1950
- *H. cyanea* (Hunter, 1896)
- *H. cyanescens* (Loew, 1863)
- *H. gemini* (Shannon, 1922)
- *H. hecate* Hull & Fluke, 1950
- *H. hyacintha* Hull & Fluke, 1950
- *H. idahoa* (Shannon, 1922)
- *H. nigrocyanea* Hull & Fluke, 1950
- *H. niveifrons* Hull & Fluke, 1950
- *H. nyctichroma* Hull & Fluke, 1950
- *H. olivia* Hull & Fluke, 1950
- *H. plumosa* (Coquillett, 1904)
- *H. plutonia* (Hunter, 1897)
- *H. rubroflava* Hull & Fluke, 1950
- *H. signatiseta* (Hunter, 1896)
- *H. tessa* Hull & Fluke, 1950
- *H. townsendi* (Hunter, 1896)
- *H. willistoni* (Snow, 1895)

Species key: Hull and Fluke (1950)

doi:10.3752/cjai.2013.23

Taxon on eol

Hybobathus Enderlein, 1938

Fig. 1. *H. lineatus*, abdomen, dorsal

The only North American species of *Hybobathus* has a light brown abdomen with medial yellow stripes on its tergites (Fig. 1).

Species checklist (1)

- *H. lineatus* (Macquart, 1846)

Distribution

doi:10.3752/cjai.2013.23

Taxon on eol

Lapposyrphus
Dusek & Laska, 1967

Lapposyrphus (Figs. 1 and 3) can be distinguished from similar syrphines by the following characters: vein R_{4+5} curving into cell r_{2+3} (Fig. 2), eyes bare and wings with dense microtrichia (arrow on Fig. 2 inset). The curved yellow abdominal markings sometimes meet in the centre (Fig. 3). These flies are most easily confused with *Dasysyrphus*, but *Lapposyrphus* have bare eyes.

Fig. 1. *L. lapponicus*

Species checklist (2)

- *L. aberrantis* (Curran, 1925)
- *L. lapponicus* (Zetterstedt, 1838)

Species key: Fluke (1952), Vockeroth (1992)

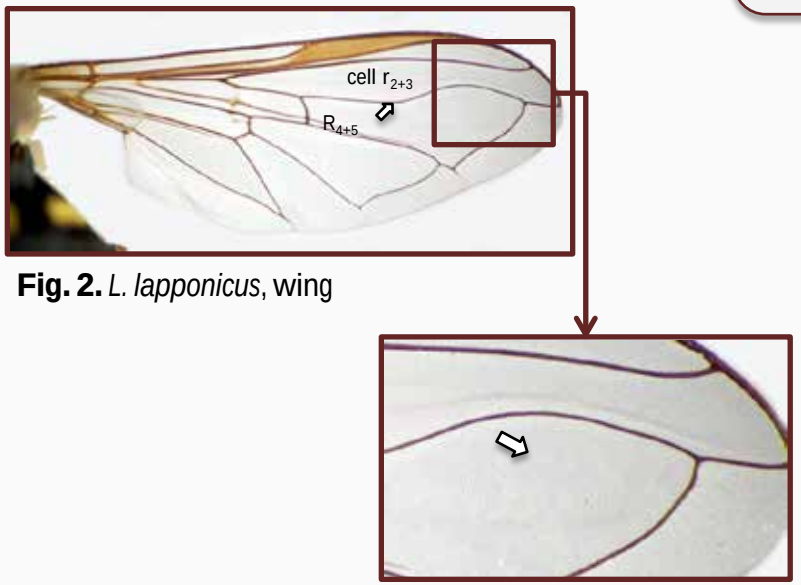
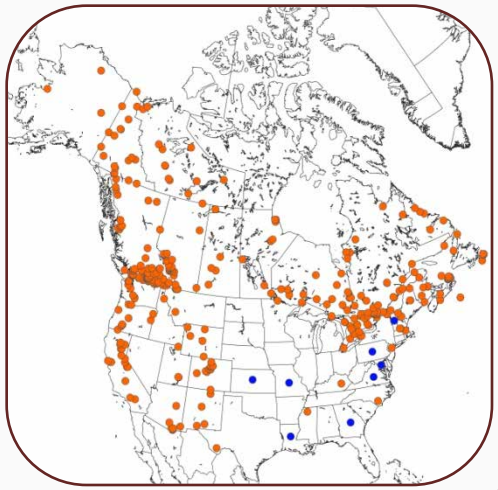


Fig. 2. *L. lapponicus*, wing

Fig. 3. *L. aberrantis*

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Lejops Rondani, 1857

L. (*Anasimyia*)

L. (*Arctosyrphus*)

L. (*Asemosyrphus*)

Click on the subgenus identified

L. (*Lunomyia*)

L. (*Eurimyia*)

L. (*Polydontomyia*)

Back to previous couplet

Taxon on eol

Lejops (*Anasimyia*) Schiner, 1864

All *Lejops* have bare eyes, vein A_1 curving towards the wing margin after cell cup, and a patch of black spines anteriorly on the hind femur. *L.* (*Anasimyia*) (Figs. 1 and 2) can be distinguished from other *Lejops* groups by the yellow, non-conical face. *L.* (*Eurimyia*) also has a yellow face but it is strongly produced and conical.

Fig. 2. *L.* (*Anasimyia*) *chrysostomus*

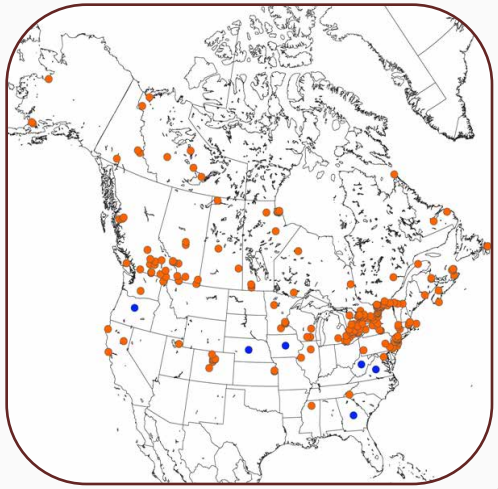
Fig. 1. *L.* (*Anasimyia*) *bilinearis*, dorsal

Species checklist (6)

- *L.* (*Anasimyia*) *bilinearis* (Williston, 1887)
- *L.* (*Anasimyia*) *chrysostomus* (Wiedemann, 1830)
- *L.* (*Anasimyia*) *distinctus* (Williston, 1887)
- *L.* (*Anasimyia*) *grisescens* Hull, 1943
- *L.* (*Anasimyia*) *lunulatus* (Meigen, 1822)
- *L.* (*Anasimyia*) *perfidiosus* (Hunter, 1897)

Species key: Curran and Fluke (1926)

Distribution



doi:10.3752/cjai.2013.23

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Lejops (*Arctosyrphus*) Frey, 1918

Taxon on eol

Lejops (*Arctosyrphus*) *willingii* has an antero-ventrally produced face (arrows on Figs. 1 and 2) and an overall dark body covered by pale hairs (Figs. 1 and 2).

Fig. 2. *L.* (*Arctosyrphus*) *willingii*

Fig. 1. *L.* (*Arctosyrphus*) *willingii*

Species checklist (1)

- *L.* (*Arctosyrphus*) *willingii* (Smith, 1912)

Distribution

doi:10.3752/cjai.2013.23

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Lejops (*Asemosyrphus*) Bigot, 1882

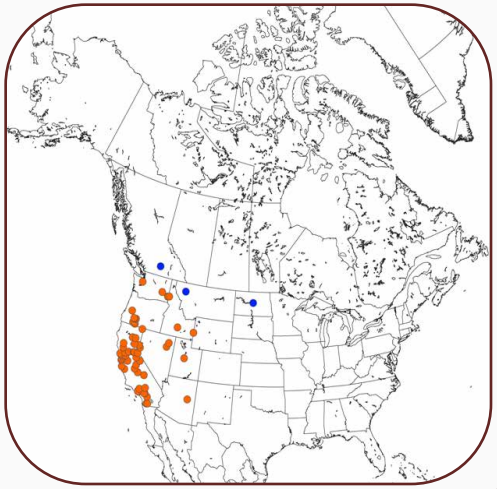
Taxon on eol

Unlike other *Lejops*, *L.* (*Asemosyrphus*) (Fig. 1) has lateral ocelli closer to the eye margin than to the mid-point between them (Fig. 2).

Fig. 2. *L.* (*Asemosyrphus*) *polygrammus*, head, dorsal

Fig. 1. *L.* (*Asemosyrphus*) *polygrammus*, lateral

Distribution



Species checklist (1)

- *L.* (*Asemosyrphus*) *polygrammus* (Loew, 1872)

doi:10.3752/cjai.2013.23

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Lejops (*Eurimyia*) Bigot, 1883

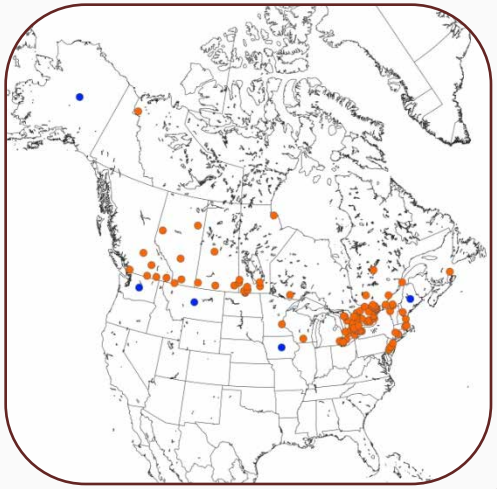
Taxon on eol

Lejops (*Eurimyia*) *lineatus* (Figs. 1 and 2) has a conically projected face that distinguishes it immediately from other *Lejops* as well as superficially similar *Parhelophilus*.

Fig. 2. *L.* (*Eurimyia*) *lineatus*, in copula

Fig. 1. *L.* (*Eurimyia*) *lineatus*

Distribution



Species checklist (1)

- *L.* (*Eurimyia*) *lineatus* (Fabricius, 1787)

doi:10.3752/cjai.2013.23

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Lejops (*Lunomyia*) Curran & Fluke, 1926

Taxon on eol

Lejops (*Lunomyia*) *cooleyi* (Fig. 1) can be distinguished from other *Lejops* by the very sparse facial pollinosity (arrow on Fig. 2).

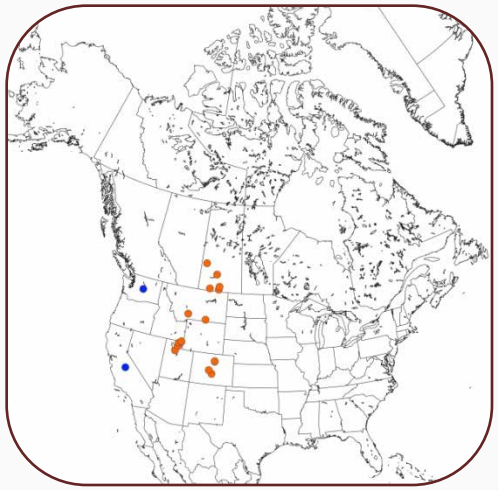
Fig. 1. *L.* (*Lunomyia*) *cooleyi*, lateral

Fig. 2. *L.* (*Lunomyia*) *cooleyi*, head, lateral

Species checklist (1)

- *L.* (*Lunomyia*) *cooleyi* (Seamans, 1917)

Distribution



doi:10.3752/cjai.2013.23

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Lejops (*Polydontomyia*) Williston, 1896

Taxon on eol

Lejops (*Polydontomyia*) *curvipes* (Figs. 1 and 3) should be easily recognized by its large and curved hind femora (arrow on Fig. 2). Females have swollen abdominal sternites (arrow on Fig. 4).

Fig. 1. *L.* (*Polydontomyia*) *curvipes*, male, dorsal

Fig. 2. *L.* (*Polydontomyia*) *curvipes*, male, hind leg

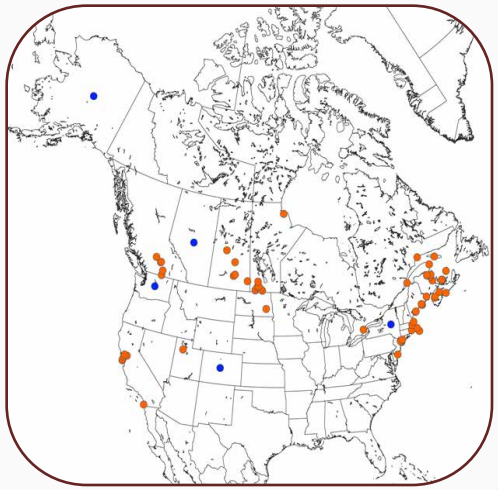
Species checklist (1)

- *L.* (*Polydontomyia*) *curvipes* (Wiedemann, 1830)

Fig. 3. *L.* (*Polydontomyia*) *curvipes*, female, dorsal

Fig. 4. *L.* (*Polydontomyia*) *curvipes*, female, lateral

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Lejota
Rondani, 1857

Lejota species are dark flies with a projecting frontal prominence (arrow on Fig. 1) and the last section of vein R_{4+5} shorter than, or of similar length to, crossvein h (Fig. 2). They are distinct from *Blera* in lacking pale markings on the face and abdomen.

Fig. 2. *L. cyanea*, wing

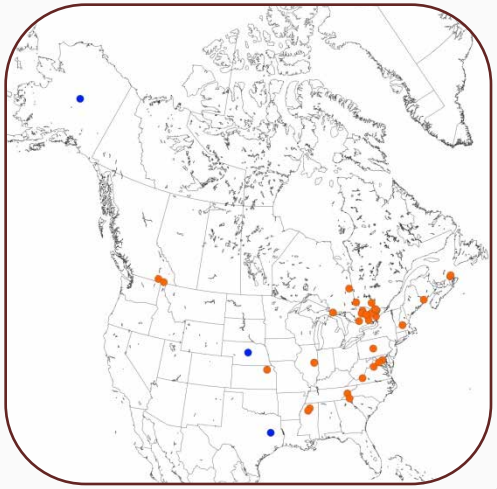
Species checklist (2)

- *L. aerea* (Rondani, 1872)
- *L. cyanea* (Smith, 1912)

Species key: Fluke and Weems (1956)

Fig. 1. *L. aerea*

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Lepidomyia
Loew, 1864

Lepidomyia is one of two genera with spines on the fore femur (the other one, *Myolepta*, has a much shorter basoflagellomere). *Lepidomyia* species usually have distinct, flattened, yellow body pile (Figs. 1 and 2).

Fig. 1. *L. micheneri*, lateral

Fig. 2. *L. micheneri*, dorsal

Species checklist (1)

- *L. micheneri* (Fluke, 1953)

Distribution

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Fig. 1. *L.epidomyia micheneri*, head, lateral

Fig. 2. *Myolepta strigilata*, head, lateral

doi:10.3752/cjai.2013.23

Taxon on eol

Leucopodella Hull, 1949

Like *Baccha*, *Leucopodella marmorata* is a delicate-looking fly with a very long abdomen (Fig. 1), but *Leucopodella* is immediately distinguished by its straight face (arrow on Fig. 2).

Fig. 2. *L. marmorata*, head, lateral

Species checklist (1)

- *L. marmorata* (Bigot, 1884)

Fig. 1. *L. marmorata*

Distribution

doi:10.3752/cjai.2013.23

Leucozona
Schiner, 1860

***L.* (*Ischyrosyrphus*)**

Click on the subgenus identified

***L.* (*Leucozona*)**

Back to previous couplet

Leucozona (*Ischyrosyrphus*) Bigot, 1882

Taxon on eol

Leucozona (*Ischyrosyrphus*) is similar to *L.* (*Leucozona*), but lacks the distinct black marking on the wings (Figs. 1 and 2) of the latter.

Species checklist (2)

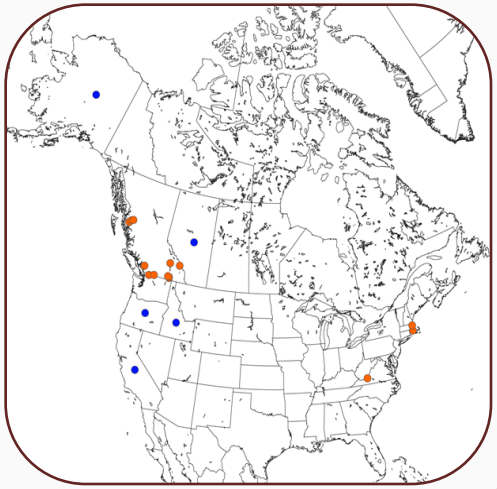
- *L. (Ischyrosyrphus) velutina* (Williston, 1882)
- *L. (Ischyrosyrphus) xylotoides* (Johnson, 1916)

Species key: Fluke (1935), Vockeroth (1992)

Fig. 1. *L. (Ischyrosyrphus) velutina*, dorsal

Fig. 2. *L. (Ischyrosyrphus) xylotoides*, dorsal

Distribution



doi:10.3752/cjai.2013.23

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Leucozona (*Leucozona*)
Schiner, 1860

Taxon on eol

Leucozona have haired eyes and an almost straight R_{4+5} vein (arrow on Fig. 2). The clear base of the abdomen of *L.* (*Leucozona*) *americana* stands out from the overall dark appearance (Fig. 1) and distinguishes it from any other Nearctic syrphid. The distinct black marking on the wing (Fig. 2) distinguishes it from *L.* (*Ischyrosyrphus*).

Fig. 1. *L.* (*Leucozona*) *americana*

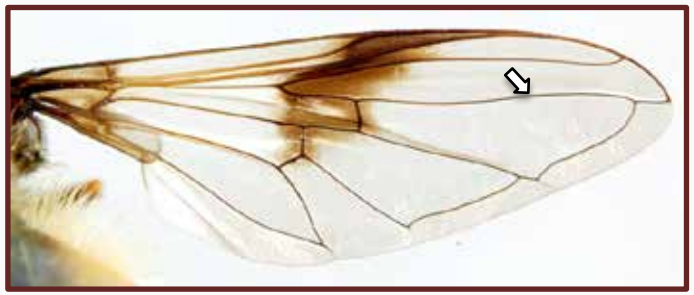
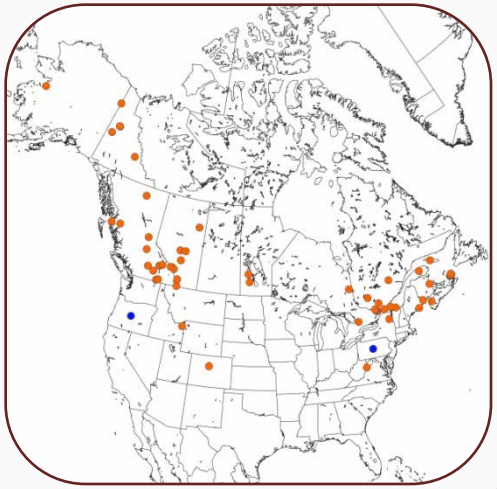


Fig. 2. *L. (Leucozona) americana*, wing

Species checklist (1)

- *L. (Leucozona) americana* (Curran, 1923)

Distribution



doi:10.3752/cjai.2013.23

Mallota Meigen, 1822

Taxon on eol

Mallota is one of several commonly collected genera that mimics bumblebees (Fig. 1). Although similar to other taxa with a sinuous vein R_{4+5}, *Mallota* is distinguished by its open r_1 cell (arrow on Fig. 2), strong facial tubercle (arrow on Fig. 3), and greatly enlarged hind femora (arrow on Fig. 4).

Fig. 2. *M. posticata*, wing

Fig. 3. *M. bautius*, head

Fig. 4. *M. bautius*, hind leg, lateral

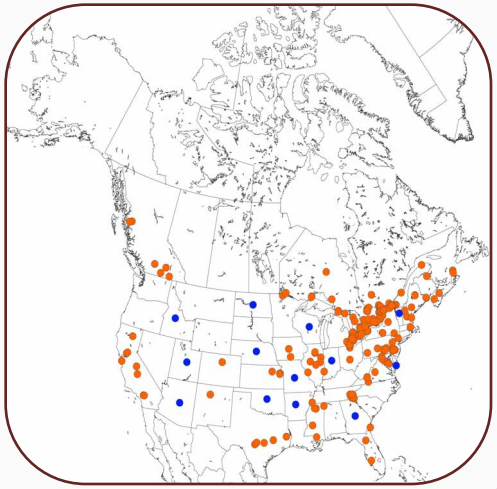
Fig. 1. *M. posticata*

Species checklist (5)

- *M. albipilis* Snow, 1895
- *M. bautias* (Walker, 1849)
- *M. bequaerti* Hull, 1956
- *M. posticata* (Fabricius, 1805)
- *M. sackeni* Williston, 1882

Species key: Curran (1940)

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Megasyrphus
Dusek & Laska, 1967

Megasyrphus are robust black and yellow flies (Fig. 1) similar to *Didea* and *Dideomima*. *Megasyrphus* species have yellow abdominal markings that extend to the abdominal margin and an R_{4+5} vein that only dips shallowly into cell r_{4+5} (Fig. 2). This combination of features sets them apart from the two aforementioned genera.

Fig. 1. *Megasyrphus* sp.

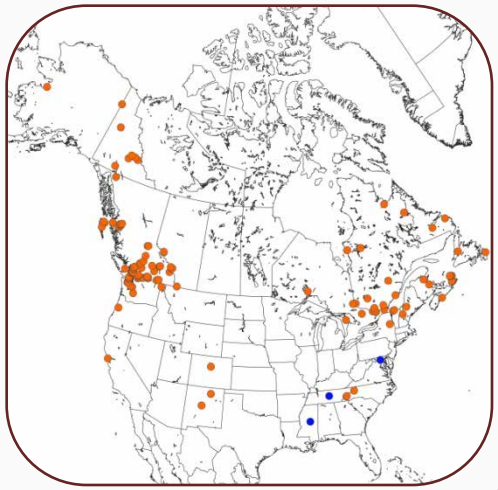
Fig. 2. *M. laxus*, wing

Species checklist (2)

- *M. catalina* (Curran, 1930)
- *M. laxus* (Osten Sacken, 1875)

Species key: Dusek and Laska (1967)

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Meligramma Frey, 1946

The species of *Meligramma* are variable in appearance (Figs. 1 and 2), with either pairs of yellow abdominal spots (Fig. 1) or bands (Fig. 2). The face in anterior view is narrower than the eye (Fig. 3).

Species checklist (4)

- *M. cincta* (Fallen, 1817)
- *M. guttata* (Fallen, 1817)
- *M. triangulifera* (Zetterstedt, 1843)
- *M. vespertina* Vockeroth, 1980

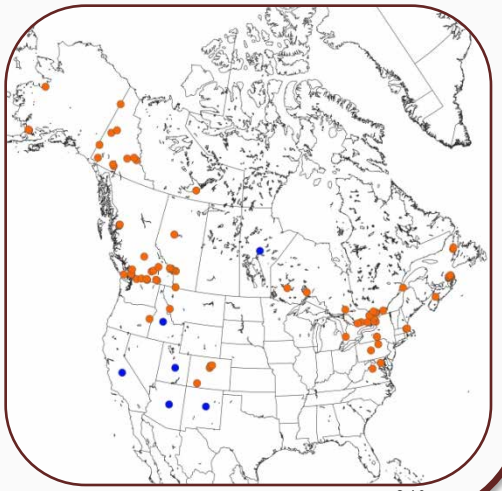
Species key: Vockeroth (1980), Vockeroth (1992)

Fig. 1. *M. guttata*

Fig. 2. *M. triangulifera*

Fig. 3. *M. guttata*, head, anterior

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Melangyna Verrall, 1901

The abdominal markings of *Melangyna* are typically straight and slender and there is no margin on the edge of the abdomen (Fig. 1). These flies have a broad face that in anterior view is broader than the eye (Fig. 2).

Fig. 1. *M. fisherii*

Image Gallery

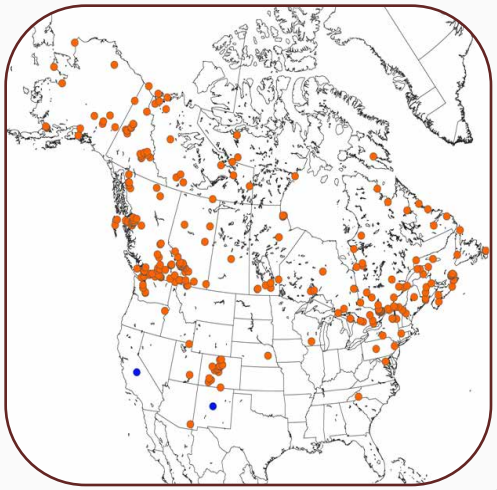
Click here

Fig. 2. *M. lasiophthalma*, head, anterior

Species checklist (7)

Click here

Distribution



doi:10.3752/cjai.2013.23

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Melangyna Verrall, 1901

Species checklist (7)

- *M. arctica* (Zetterstedt, 1838)
- *M. coei* Nielsen, 1971
- *M. fisherii* (Walton, 1911)
- *M. labiatarum* (Verrall, 1901)
- *M. lasiophthalma* (Zetterstedt, 1843)
- *M. subfasciata* (Curran, 1925)
- *M. umbellatarum* (Fabricius, 1794)

Species key: Fluke (1935) as part of *Epistrophe*, Vockeroth (1992)

doi:10.3752/cjai.2013.23

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Melangyna Verrall, 1901

Fig. 1. *M. lasiophthalma*

Fig. 2. *M. labiatarum*

Fig. 3. *M. umbellatarum*

Fig. 4. *Melangyna sp.*

doi:10.3752/cjai.2013.23

Melanostoma
Schiner, 1860

Taxon on eol

Melanostoma mellinum resembles some *Platycheirus*, from which it is distinguished by its strongly excavated metasternum (arrow on Fig. 1). Although variable in appearance, female *Melanostoma* generally possess a somewhat oval abdomen with triangular yellow maculae on the 2nd-4thtergites (Fig. 2), whereas males have a parallel-sided abdomen with subquadrate maculae (Fig. 3).

Fig. 1. *M. mellinum*, metasternum, ventral

Fig. 2. *M. mellinum*, female, dorsal

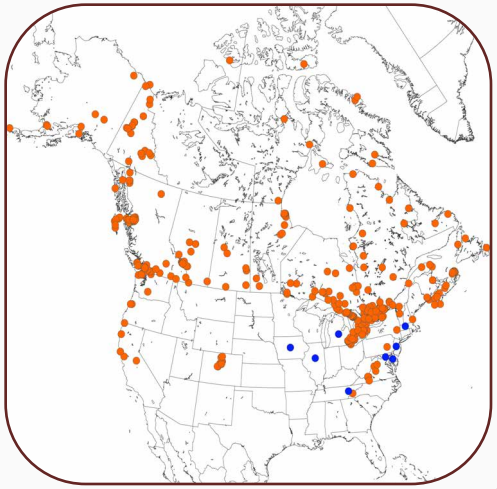
Fig. 3. *M. mellinum*, male, dorsal

Fig. 4. *M. mellinum*, male, dorsal

Species checklist (1)

- *M. mellinum* (Linneaus, 1758)

Distribution



doi:10.3752/cjai.2013.23

Meliscaeva Frey, 1946

Taxon on eol

Meliscaeva are slender, black and yellow flies (Fig. 1). They have pile on the anterior anepisternum (Fig. 2), unlike most other genera. Abdominal markings are typically as in Fig. 1; some individuals have lateral yellow markings on the scutum.

Fig. 1. *M. cinctella*

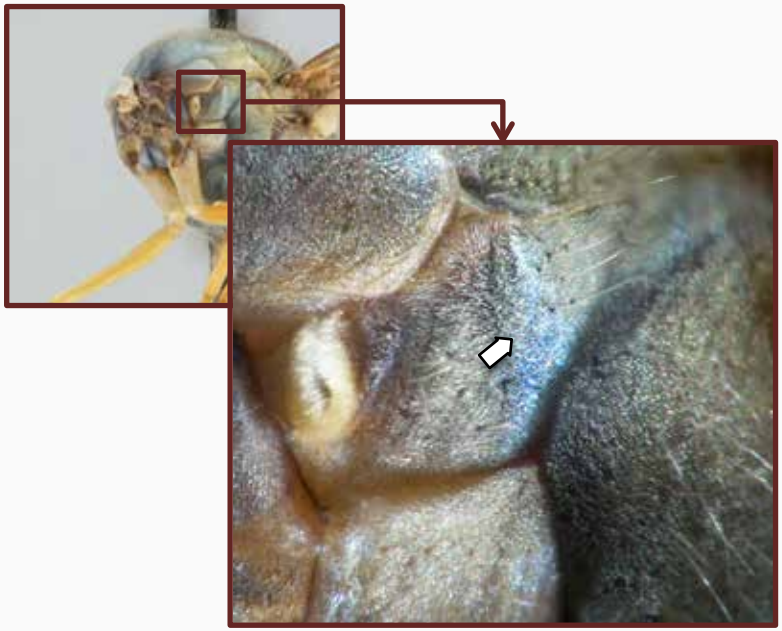
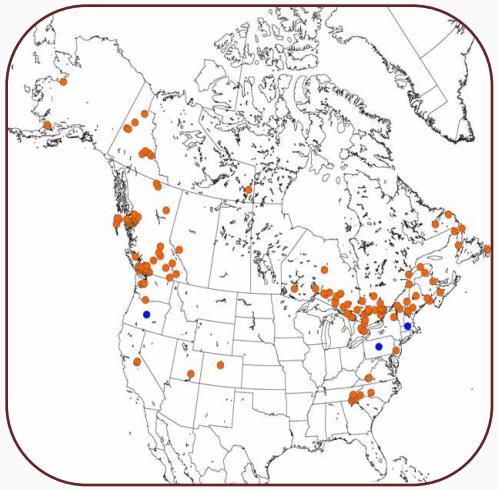


Fig. 2. *M. cinctella*, anterior anepisternum, oblique anterior

Species checklist (1)

- *M. cinctella* (Zetterstedt, 1843)

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Merapioidus Bigot, 1879

Merapioidus villosus (Fig. 3), our only species in this genus, has a basally enlarged basoflagellomere (arrow on Fig. 1) similar to *Pelecocera* (*Pelecocera*), from which it differs in having a distinctly apically displaced r-m crossvein (arrow on Fig. 2).

Fig. 1. *M. villosus*, head

Fig. 2. *M. villosus*, wing

Fig. 3. *M. villosus*, lateral

Species checklist (1)

- *M. villosus* Bigot, 1879

Distribution

doi:10.3752/cjai.2013.23

Merodon Meigen, 1803

Taxon on eol

The only Nearctic species in this genus is the introduced pest *Merodon equestris* (the Bulb Fly), a bumblebee mimic with an apicolateral triangular plate ventrally on the hind femur (arrow on Fig. 1), a recessive M_1 vein, and a concave face with a slight swelling directly below the antenna (arrow on Fig. 2). *Merodon equestris* occurs in different colour morphs (Figs. 3 and 4).

Fig. 3. *M. equestris*

Fig. 4. *M. equestris*

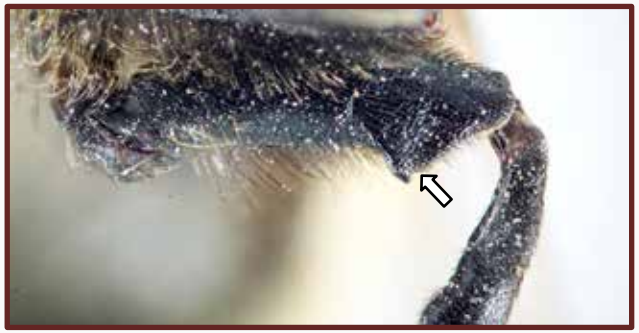


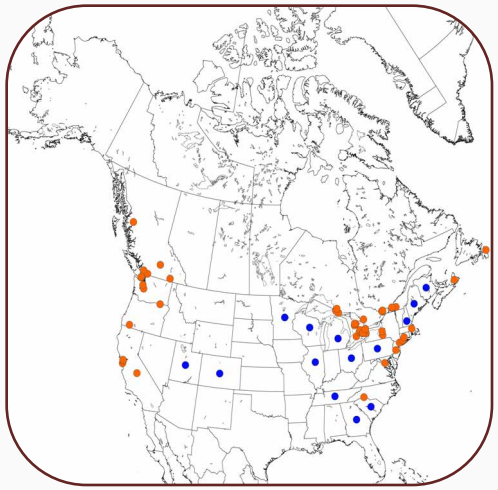
Fig. 1. *M. equestris*, hind femur

Fig. 2. *M. equestris*, head, lateral

Species checklist (1)

- *M. equestris* (Fabricius, 1794)

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Meromacrus Rondani, 1848

Meromacrus species are large, dark flies with bright yellow markings consisting of patches of short, flattened hairs (Fig. 1). As in other wasp mimics, the wings have a darkened anterior margin (Fig. 2).

Fig. 2. *M. acutus*,wing

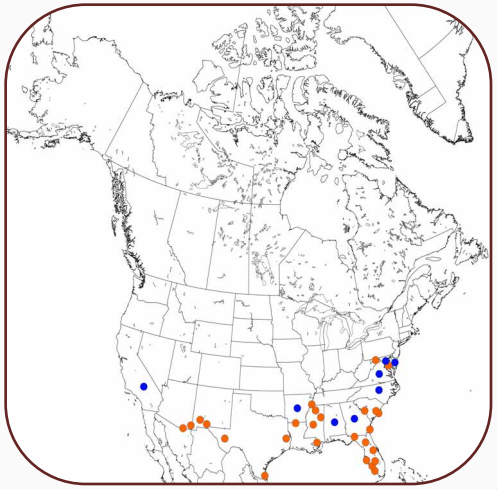
Fig. 1. *Meromacrus* sp.

Species checklist (5)

- *M. acutus* (Fabricius, 1805)
- *M. croceatus* Hull, 1960
- *M. draco* Hull, 1942
- *M. gloriosus* Hull, 1941
- *M. panamensis* Curran, 1930

Species key: Hull (1942b)

Distribution



doi:10.3752/cjai.2013.23

Microdon
Meigen, 1803

***M*. (*Omegasyrphus*)**

Click on the subgenus identified

***M*. (*Chymophila*)**

***M*. (*Microdon*)**

doi:10.3752/cjai.2013.23

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Microdon (*Chymophila*) Gray, 1832

Taxon on eol

All *Microdon* are characterized by a spur on vein R_{4+5} (Fig. 1), a slightly convex face without a tubercle, and a complete postmetacoxal bridge (Fig. 3). *Microdon* (*Chymophila*) *fulgens* (Fig. 2) is distinct from other *Microdon* in having the M_2 vein anteriorly displaced on the wing (Fig. 1).

Fig. 1. *M.* (*Chymophila*) *fulgens*, wing

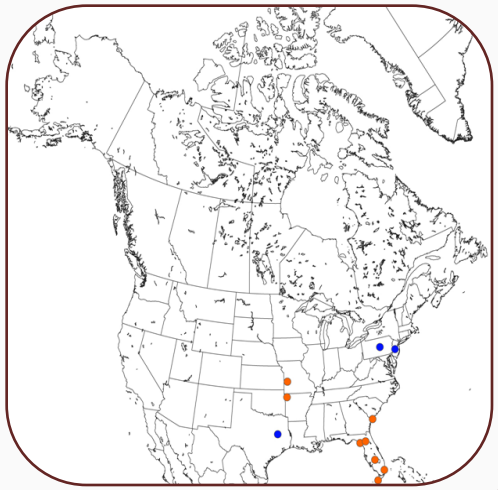
Species checklist (1)

- *M.* (*Chymophila*) *fulgens* (Wiedemann, 1830)

Fig. 2. *M.* (*Chymophila*) *fulgens*, lateral

Fig. 3. *M.* (*microdon*) *cothurnatus*, complete postmetacoxal bridge

Distribution



doi:10.3752/cjai.2013.23

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Microdon (*Microdon*)
Meigen, 1803

Taxon on eol

Most *Microdon* are broad-bodied with distinctive elongate antennae (Fig. 2). All *Microdon* are characterized by a spur on vein R_{4+5} (arrow on Fig. 1), a slightly convex face without a tubercle, an elongated antenna (Fig. 3) and a complete postmetacoxal bridge.

Fig. 1. *M.* (*Microdon*) *globosus*, wing

Image Gallery

Click here

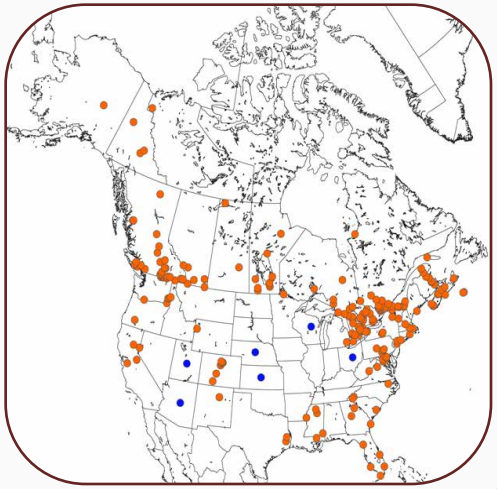
Species checklist (25)

Click here

Fig. 2. *M.* (*Microdon*) *manitobensis*, in copula

Fig. 3. *M.* (*Microdon*) sp.

Distribution



doi:10.3752/cjai.2013.23

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Microdon (*Microdon*)
Meigen, 1803

Fig. 1. *M.* (*Microdon*) *abditus*, dorsal

Fig. 2. *M.* (*Microdon*) *craigheadi*, dorsal

Fig. 3. *M.* (*Microdon*) *laetus*, dorsal

Fig. 4. *M.* (*Microdon*) *aurulentus*, dorsal

Fig. 5. *M.* (*Microdon*) *albicomatus*, dorsal

doi:10.3752/cjai.2013.23

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Microdon (*Microdon*)
Meigen, 1803

Species checklist (25)

- *M.* (*Microdon*) *abditus* Thompson, 1981
- *M.* (*Microdon*) *abstrusus* Thompson, 1981
- *M.* (*Microdon*) *adventitius* Thompson, 1981
- *M.* (*Microdon*) *albicomatus* Novak, 1977
- *M.* (*Microdon*) *aurulentus* (Fabricius, 1805)
- *M.* (*Microdon*) *cothurnatus* Bigot, 1884
- *M.* (*Microdon*) *craigheadii* Walton, 1912
- *M.* (*Microdon*) *diversipilosus* Curran, 1925
- *M.* (*Microdon*) *fuscipennis* (Macquart, 1834)
- *M.* (*Microdon*) *globosus* (Fabricius, 1805)
- *M.* (*Microdon*) *laetoides* Curran, 1935
- *M.* (*Microdon*) *laetus* Loew, 1864
- *M.* (*Microdon*) *lanceolatus* Adams, 1903
- *M.* (*Microdon*) *manitobensis* Curran, 1924
- *M.* (*Microdon*) *marmoratum* Bigot, 1884
- *M.* (*Microdon*) *megalogaster* Snow, 1892
- *M.* (*Microdon*) *newcomeri* Mann, 1924
- *M.* (*Microdon*) *ocellaris* Curran, 1924
- *M.* (*Microdon*) *piperi* Knab, 1917
- *M.* (*Microdon*) *ruficrus* Williston, 1887
- *M.* (*Microdon*) *rufipes* (Macquart, 1842)
- *M.* (*Microdon*) *scutifer* Knab, 1917
- *M.* (*Microdon*) *tristis* Loew, 1864
- *M.* (*Microdon*) *viridis* Townsend, 1895
- *M.* (*Microdon*) *xanthopilis* Towsend, 1895

Species key: Thompson (1981)

doi:10.3752/cjai.2013.23

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Microdon (*Omegasyrphus*)

Giglio-Tos, 1891

Taxon on eol

Fig. 1. *M.* (*Omegasyrphus*) *coarctatus*, dorsal

The subgenus *M.* (*Omegasyrphus*) has a parallel-sided abdomen and short antennae (Figs. 1 and 2). All *Microdon* are characterized by a spur on vein R_{4+5} (Fig. 3), a slightly convex face without a tubercle, and a complete postmetacoxal bridge.

Fig. 2. *M.* (*Omegasyrphus*) *coarctatus*, lateral

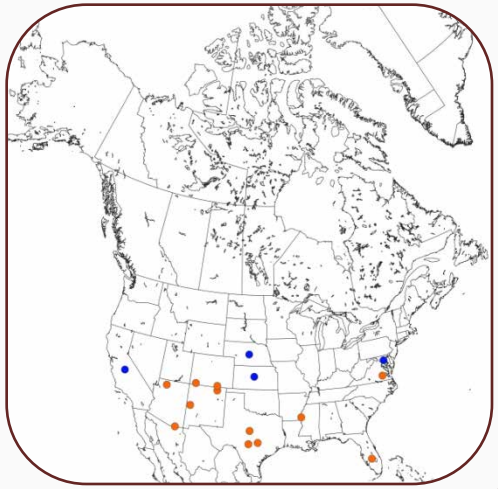
Fig. 3. *M.* (*Omegasyrphus*) *coarctatus*, wing

Species checklist (4)

- *M.* (*Omegasyrphus*) *baliopterus* (Loew, 1872)
- *M.* (*Omegasyrphus*) *coarctatus* (Loew, 1864)
- *M.* (*Omegasyrphus*) *painteri* (Hull, 1922)
- *M.* (*Omegasyrphus*) *pallipennis* (Curran, 1925)

Species key: Thompson (1981)

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Milesia
Latreille, 1804

Milesia is a genus of very large (20-25mm), conspicuous mimics of yellowjacket wasps (Vespinae). They can be distinguished from similar wasp-mimicking genera by the distinct yellow markings on the scutum (arrow on Fig. 1), the large size and the closed r_1 cell (arrow on Fig. 2).

Fig. 1. *M. virginiensis*

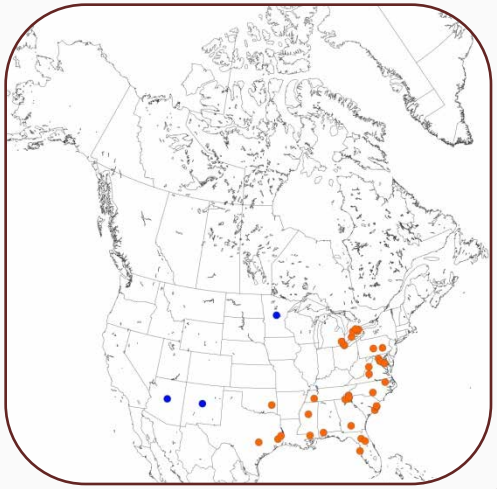
Fig. 2. *M. virginiensis*, wing

Species checklist (3)

- *M. bella* Townsend, 1897
- *M. scutellata* Hull, 1924
- *M. virginiensis* (Drury), 1773

Species key: Hull (1924)

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Mixogaster Macquart, 1842

Mixogaster species are petiolate flies that differ from similarly shaped *Ceriana* in having a dorsal arista (arrow on Fig. 1) and a straight M_1 vein that joins R_{4+5} perpendicularly (arrow on Fig. 2).

Fig. 2. *M. breviventris*, wing

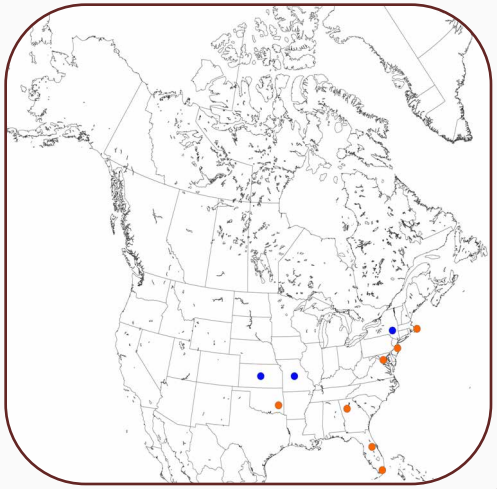
Fig. 1. *M. breviventris*, antennae

Species checklist (3)

- *M. breviventris* Kahl, 1897
- *M. delongi* Johnson, 1926
- *M. johnsoni* Hull, 1941

Species key: Hull (1954)

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Monoceromyia Shannon, 1922

Similar to *Ceriana*, with produced antennal bases, but with a petiolate abdomen (Fig. 1).

Fig. 1. *M. floridensis*, dorsal

Species checklist (1)

- *M. floridensis* (Shannon, 1922)

Fig. 2. *M. floridensis*, wing

Distribution

doi:10.3752/cjai.2013.23

Taxon on eol

Myathropa Rondani, 1845

Myathropa florea (Fig. 1) is similar to *Eristalis* species, but can be immediately distinguished by the open r_1 cell (arrow on Fig. 2).

Fig. 1. *M. florea*

Fig. 2. *M. florea*

Fig. 3. *M. florea*

Species checklist (1)

- *M. florea* (Linnaeus, 1785)

Distribution

doi:10.3752/cjai.2013.23

Myolepta Newman, 1838

Taxon on eol

Myolepta (Fig. 1) species have ventral spines on the fore femur (arrow on Fig. 2) and are similar to *Lepidomyia*, but the basoflagellomere is not as long (arrow on Fig. 3).

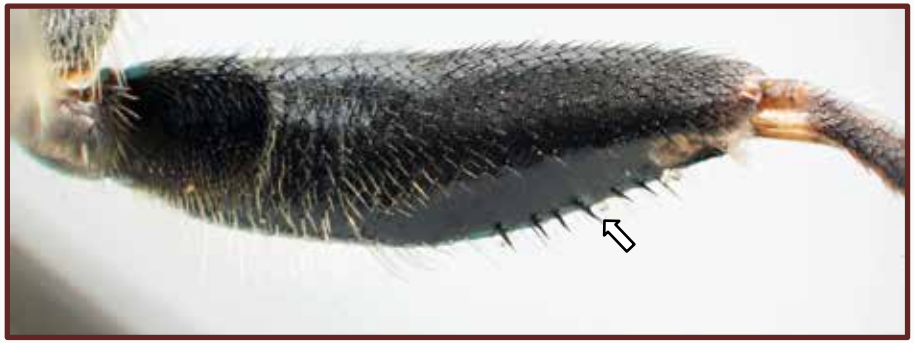


Fig. 2. *M. strigilata*, fore femur, ventrolateral

Species checklist (7)

Click here

Distribution

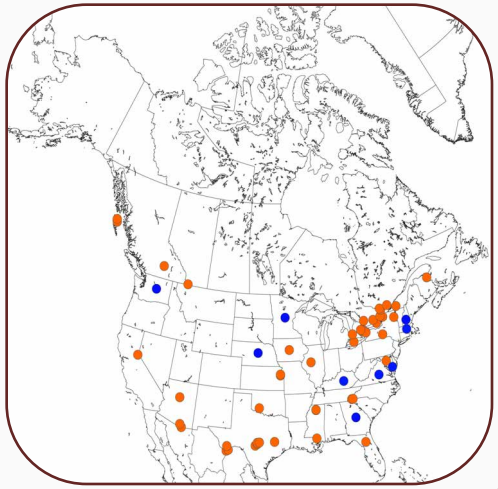


Fig. 1. *M. nigra*, lateral

Fig. 3. *M. strigilata*, head, lateral

doi:10.3752/cjai.2013.23

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Fig. 1. *L.epidomyia micheneri*, head, lateral

Fig. 2. *Myolepta strigilata*, head, lateral

doi:10.3752/cjai.2013.23

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Myolepta Newman, 1838

Species checklist (7)

- *M. auricaudata* (Williston, 1891)
- *M. aurinota* Hine, 1903
- *M. camillae* Weems, 1956
- *M. lunulata* Bigot, 1884
- *M. nigra* (Loew, 1872)
- *M. strigilata* (Loew, 1872)
- *M. varipes* (Loew, 1870)

Species key: Fluke and Weems (1956)

doi:10.3752/cjai.2013.23

Taxon on eol

Nausigaster Williston, 1884

Nausigaster species are small metallic flies with the body covered by small distinct pits (Fig. 1), and without differentiation between the anterior and posterior portions of the anepisternum (arrow on Fig. 2).

Fig. 2. *N. geminata*, thorax, oblique dorsal

Fig. 1. *Nausigaster* sp.

Species checklist (8)

- *N. clara* Curran, 1941
- *N. curvinervis* Curran, 1941
- *N. geminata* Townsend, 1897
- *N. nova* Curran, 1941
- *N. punctulata* Williston, 1883
- *N. scutellaris* Adams, 1904
- *N. texana* Curran, 1941
- *N. unimaculata* Townsend, 1897

Species key: Curran (1941)

Distribution

doi:10.3752/cjai.2013.23

Neoascia
Williston, 1887

***N.* (*Neoascia*)**

Click on the subgenus identified

***N.* (*Neoasciella*)**

Back to previous couplet

Neoascia (*Neoascia*) Williston, 1887

Taxon on eol

These slightly petiolate flies (Fig. 1) with enlarged hind femora are most similar to *Sphegina*, but have a straight to oblique face (arrow on Fig. 2) and are metallic blue/black, whereas *Sphegina* have a concave face and are light to dark brown.

Species checklist (3)

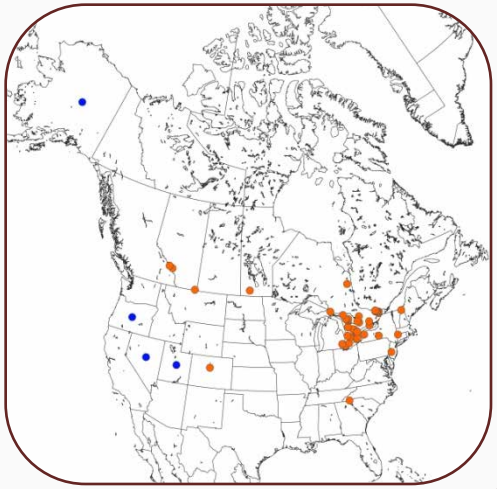
- *N.* (*Neoascia*) *distincta* Williston, 1887
- *N.* (*Neoascia*) *globosa* (Walker, 1849)
- *N.* (*Neoascia*) *metallica* (Williston, 1882)

Species key: Curran (1925a)

Fig. 2. *N.* (*Neoascia*) *globosa*, male, dorsal

Fig. 1. *N.* (*Neoascia*) *globosa*, male, lateral

Distribution



doi:10.3752/cjai.2013.23

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Neoascia (*Neoasciella*) Stackelberg, 1965

Taxon on eol

Similar to *N.* (*Neoascia*), but *N.* (*Neoasciella*) (Fig. 2) has an incomplete postmetacoxal bridge (arrow on Fig. 1).

Species checklist (4)

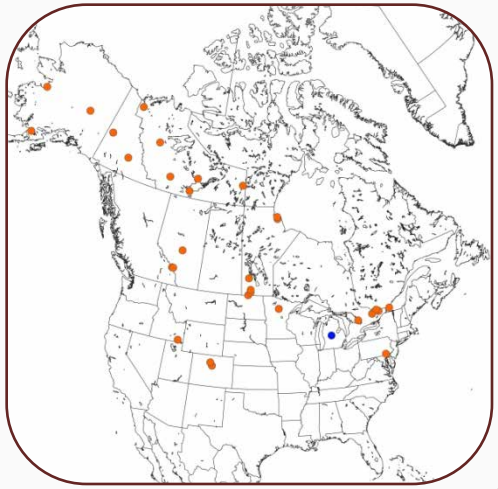
- *N.* (*Neoasciella*) *geniculata* (Meigen, 1822)
- *N.* (*Neoasciella*) *meticulosa* (Scopoli, 1763)
- *N.* (*Neoasciella*) *sphaerophoria* Curran, 1925
- *N.* (*Neoasciella*) *subchalybea* Curran, 1925

Species key: Curran (1925a)

Fig. 1. *N.* (*Neoasciella*) sp., male, postero ventral

Fig. 2. *N.* (*Neoasciella*) *meticulosa*, male, lateral

Distribution



doi:10.3752/cjai.2013.23

Ocyptamus Macquart, 1834

O. cylindricus species group

Taxon on eol

Species in the *Ocyptamus cylindricus* species group are recognized by the elongate abdomen and darkly marked wings (Figs. 1, 2 and 4). All species from this group have a projected apical margin on the antennal scape (arrow on Fig. 3).

Fig. 2. *O. fuscipennis*, teneral

Fig. 3. *O. antiphates*, antenna, lateral

Fig. 4. *O. gastrostactus*, male abdomen, dorsal

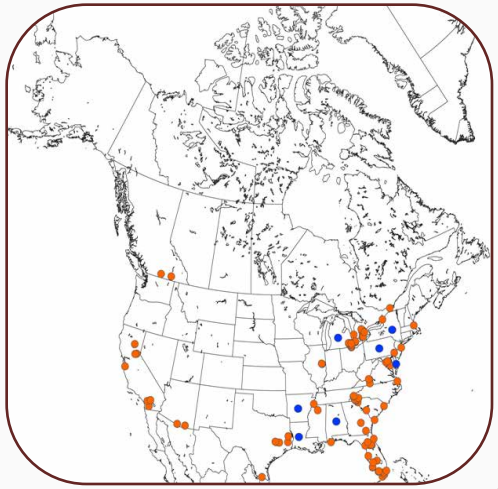
Fig. 1. *O. fuscipennis*

Species checklist (6)

- *O. antiphates* (Walker, 1849)
- *O. cylindricus* (Fabricius, 1781)
- *O. dimidiatus* (Fabricius, 1781)
- *O. funebris* Macquart, 1834
- *O. fuscipennis* (Say, 1823)
- *O. gastrostactus* (Wiedemann, 1830)

Species key: Hull (1949) as part of *Baccha*

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Ocyptamus Macquart, 1834

O. fascipennis species group

The *Ocyptamus fascipennis* species group can be distinguished from other *Ocyptamus* species by the single medial dark triangular marking on the wing (Figs. 1 and 2).

Fig. 1. *O. fascipennis*

Fig. 2. *O. fascipennis*

Species checklist (2)

- *O. fascipennis* (Wiedemann, 1830)
- *O. lemur* (Osten Sacken, 1877)

Species key: Vockeroth (1992)

Distribution

doi:10.3752/cjai.2013.23

Taxon on eol

Ocyptamus

Macquart, 1834

O. lepidus species group

The only North American species of the *Ocyptamus lepidus* species group., *O. cubanus,* has mainly yellow abdominal tergites with stripes of dark brown extending from the apex (Fig. 1).

Fig. 1. *O. cubanus*, dorsal

Species checklist (1)

- *O. cubanus* (Hull, 1943)

Distribution

doi:10.3752/cjai.2013.23

Taxon on eol

Ocyptamus Macquart, 1834

O. parvicornis species group

Fig. 1. *O. parvicornis*, dorsal

The *Ocyptamus parvicornis* species group (Fig. 1) is compromised of slender orange flies with a dark apical spot on the wing.

Species checklist (1)

- *O. parvicornis* (Loew, 1861)

Distribution

doi:10.3752/cjai.2013.23

Ornidia
Lepeltier & Serville, 1828

Taxon on eol

Ornidia species are robust, metallic flies with a bare wing membrane (Fig. 1). *Ornidia* can be distinguished from superficially similar metallic species of *Copestylum* by a pair of lateral facial tubercles flanking the medial one (arrow on Fig. 2) and by an enlarged notopleuron (arrow on Fig. 3).

Fig. 3. *O. obesa*, head and thorax, oblique dorsal

Species checklist (1)

- *O. obesa* (Fabricius, 1775)

Fig. 1. *O. obesa*

Fig. 2. *O. obesa*

Distribution

doi:10.3752/cjai.2013.23

Orphnabaccha Hull, 1949

Taxon on eol

Orphnabaccha (Fig. 1) has two species in North America and both have a pilose metasternum (arrow on Fig. 2).

Fig. 1. *O. coeruleus*, dorsal

Species checklist (2)

- *O. coeruleus* (Williston, 1891)
- *O. jactator* (Loew, 1861)

Species key: Hull (1949)

Fig. 2. *O. coeruleus*, metasternum, lateral

Distribution

doi:10.3752/cjai.2013.23

Orthonevra Macquart, 1829

Taxon on eol

These small dark metallic flies (Figs. 1 and 2) have the basoflagellomere elongated (arrow on Fig. 1), patterned eyes (Figs. 1 and 2), and vein M_1 straight or curved towards the wing base (arrow on Fig. 3).

Fig. 3. *O. nitidula*, wing

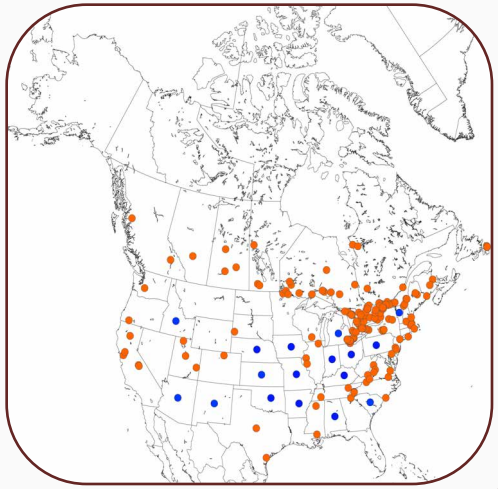
Species checklist (16)

Click here

Fig. 1. *Orthonevra* sp.

Fig. 2. *O. nitida*

Distribution



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Orthonevra Macquart, 1829

Species checklist (16)

- *O. anniae* (Sedman, 1966)
- *O. bellula* (Williston, 1882)
- *O. flukei* (Sedman, 1964)
- *O. minuta* (Hull, 1945)
- *O. nigrovittata* (Loew, 1876)
- *O. nitida* (Wiedemann, 1830)
- *O. nitidula* (Curran, 1925)
- *O. parva* (Shannon, 1916)
- *O. pictipennis* (Loew, 1863)
- *O. pulchella* (Williston, 1887)
- *O. robusta* (Shannon, 1916)
- *O. sinuosa* (Bigot, 1884)
- *O. sonorensis* (Sedman, 1964)
- *O. stigmata* (Williston, 1882)
- *O. unicolor* (Shannon, 1916)
- *O. weemsi* (Sedman, 1966)

Species keys: Shannon (1916), Sedman (1964, 1966)

doi:10.3752/cjai.2013.23

Palpada
Macquart, 1834

Taxon on eol

Palpada (Fig. 1) species are similar to *Eristalis*, but have a patch of hairs on the metepisternum, below the posterior spiracle (arrow on Fig. 2), and can usually be recognized by the characteristic markings on the scutum (arrow on Fig. 1).

Fig. 2. *P. vinetorum*, metepisternum, lateral

Fig. 1. *P. vinetorum*

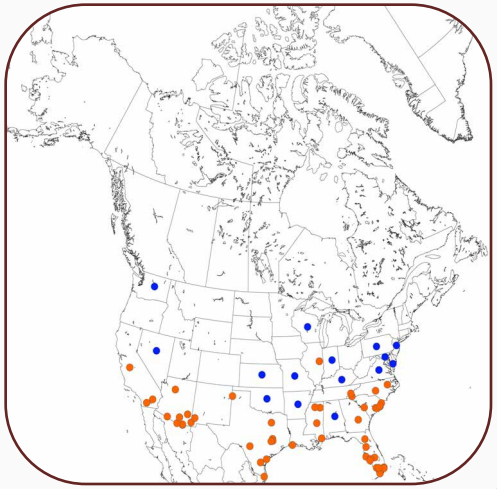
Picture Gallery

Click here

Species checklist (11)

Click here

Distribution



doi:10.3752/cjai.2013.23

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Palpada Macquart, 1834

Species checklist (11)

- *P. agrorum* (Fabricius, 1787)
- *P. albifrons* (Wiedemann, 1830)
- *P. alhambra* (Hull, 1925)
- *P. furcata* (Wiedemann, 1819)
- *P. mexicana* (Macquart, 1847)
- *P. minutalis* (Williston, 1891)
- *P. pusilla* (Macquart, 1842)
- *P. rufiventris* (Macquart, 1846)
- *P. scutellaris* (Fabricius, 1805)
- *P. texana* (Hull, 1925)
- *P. vinetorum* (Fabricius, 1799)

Species key: Curran (1930c), Telford (1970) as *Eristalis*

doi:10.3752/cjai.2013.23

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Palpada Macquart, 1834

Fig. 1. *P. albifrons*, dorsal

Fig. 2. *P. alhambra*, dorsal

Fig. 3. *P. rufiventris*, dorsal

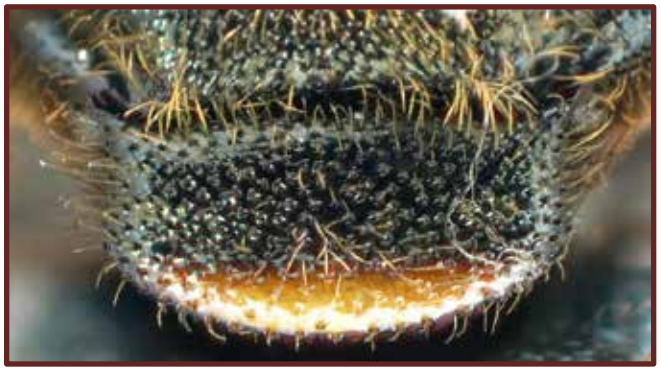
Fig. 4. *P. mexicanus*, dorsal

doi:10.3752/cjai.2013.23

Paragus
Latreille, 1804

***P*. (*Pandasyophthalmus*)**

Click on the subgenus identified



***P*. (*Paragus*)**

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Paragus (*Pandasyophthalmus*) Stuckenberg, 1954

Taxon on eol

Paragus (*Pandasyophthalmus*) *haemorrhous* have the oral margin slightly extended anteriorly (arrow on Fig. 1), the eyes haired (Fig. 1), the face yellow with a median black stripe, and the terminal abdominal segments reddish (Fig. 3). This species is easily distinguished from *P.* (*Paragus*) species by the completely black scutellum (Fig. 2). The facial tubercle (Fig. 1) and yellow face should distinguish this genus from other small genera of Syrphidae such as *Neoascia*.

Fig. 3. *P.* (*Pandasyophthalmus*) *haemorrhous*

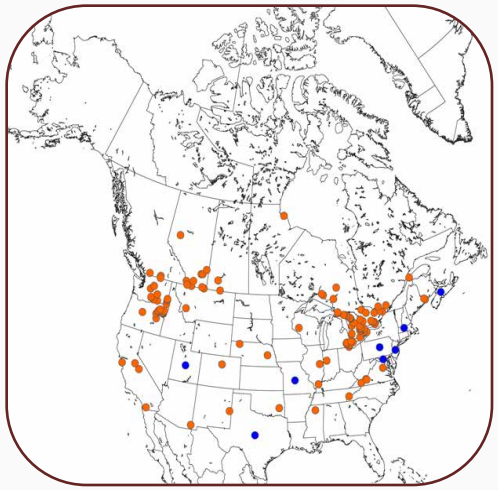
Species checklist (1)

- *P.* (*Pandasyophthalmus*) *haemorrhous* Meigen, 1822

Fig. 1. *P.* (*Pandasyophthalmus*) *haemorrhous*, head, lateral

Fig. 2. *P.* (*Pandasyophthalmus*) *haemorrhous*, scutellum, dorsal

Distribution



doi:10.3752/cjai.2013.23

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Paragus (*Paragus*) Latreille, 1804

Taxon on eol

Paragus (*Paragus*) species are common, small (4-6mm) syrphids (Fig. 1) with the oral margin slightly extended anteriorly (arrow on Fig. 2) the eye haired (Fig. 2), the face yellow with or without a black median stripe, and (sometimes) the terminal abdominal segments reddish. *Paragus* (*Paragus*) species are easily distinguished from *P.* (*Pandasyophthalmus*) *haemorrhous* by the apical orange colouration of the scutellum (Fig. 3). The facial tubercle (Fig. 2) and yellow face should distinguish this genus from other small genera of Syrphidae such as *Neoascia*.

Fig. 1. *P. (Paragus)* sp.

Species checklist (7)

Click here

Distribution

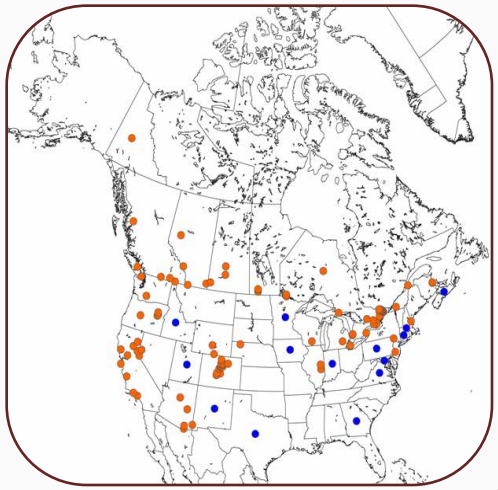

Fig. 2. *P. (Paragus) sp.*, head, lateral

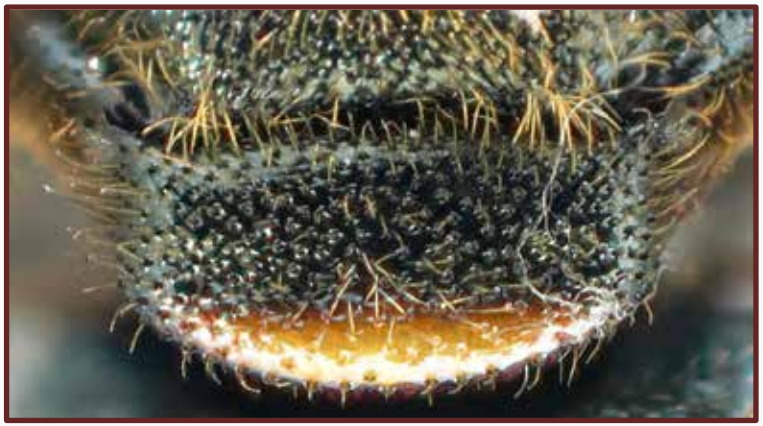

Fig. 3. *P. (Paragus)* sp., scutellum, dorsal

doi:10.3752/cjai.2013.23

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Paragus (*Paragus*) Latreille, 1804

Species checklist (7)

- *P. (Paragus) angustifrons* Loew, 1863
- *P. (Paragus) angustistylus* Vockeroth, 1986
- *P. (Paragus) arizonensis* Vockeroth, 1986
- *P. (Paragus) bispinosus* Vockeroth, 1986
- *P. (Paragus) cooverti* Vockeroth, 1986
- *P. (Paragus) longistylus* Vockeroth, 1986
- *P. (Paragus) variabilis* Vockeroth, 1986

Species key: Vockeroth (1986), Vockeroth (1992)

doi:10.3752/cjai.2013.23

Parasyrphus Matsumura, 1917

Parasyrphus are similar to *Syrphus* in that they have complete yellow bands on their abdomen, but differ in lacking long yellow hairs on the dorsal surface of the lower calypter (Fig. 1). *Parasyrphus* have hair on the posterior corner of the hind coxa (arrow on Fig. 2) and pile on the anterior anepisternum (like *M. cinctella*, arrow on Fig. 3).

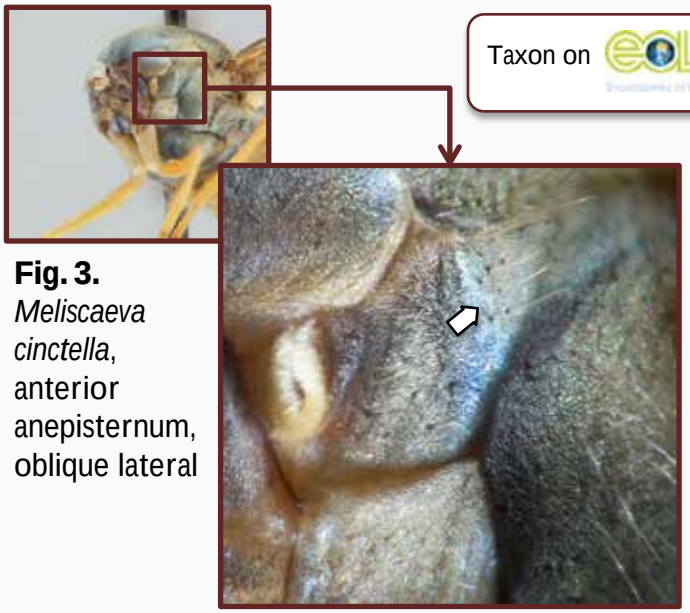


Fig. 3. *Meliscaeva cinctella*, anterior anepisternum, oblique lateral

Taxon on eol

Picture Gallery

Click here

Species checklist (11)

Click here

Fig. 1. *P. currani*, lower calypter

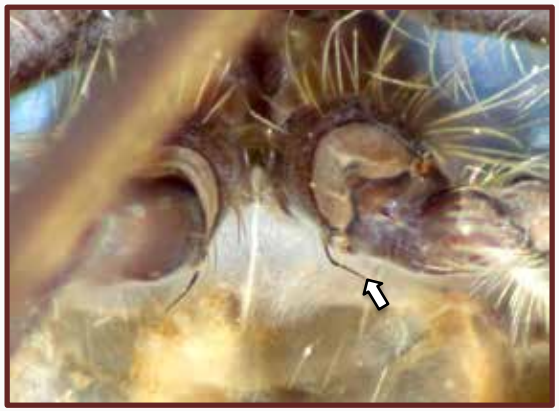
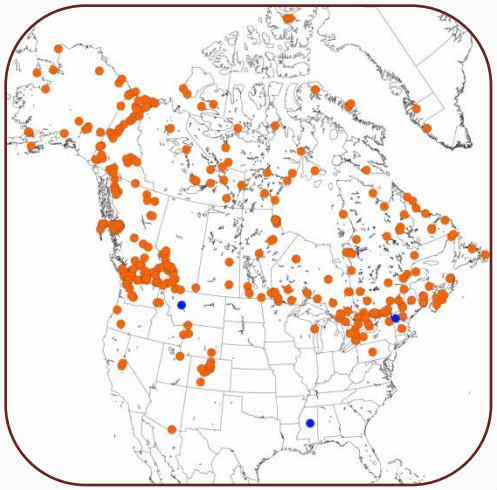


Fig. 2. *P. currani*, hind coxa, ventral

Distribution



doi:10.3752/cjai.2013.23

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Parasyrphus Matsumura, 1917

Species checklist (11)

- *P. currani* (Fluke, 1935)
- *P. genualis* (Williston, 1887)
- *P. groenlandica* (Nielsen, 1910)
- *P. insolitus* (Osburn, 1908)
- *P. macularis* (Zetterstedt, 1843)
- *P. melanderi* (Curran, 1925)
- *P. nigritarsis* (Zetterstedt, 1843)
- *P. relictus* (Zetterstedt, 1838)
- *P. semiinterruptus* (Fluke, 1935)
- *P. tarsatus* (Zetterstedt, 1838)
- *P. vockerothi* Thompson, 2012

Species key: Fluke (1935) as part of *Epistrophe*, Vockeroth (1992)

doi:10.3752/cjai.2013.23

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Parasyrphus Matsumura, 1917

Fig. 1. *Parasyrphus* sp.

Fig. 2. *P. semiinterruptus*

Fig. 3. *P. nigritarsis*

doi:10.3752/cjai.2013.23

Parhelophilus
Girschner, 1897

Picture Gallery

Click here

Taxon on eol

Parhelophilus species are similar to *Lejops*, but the apex of the hind tibiae is truncate (arrow on Fig. 1) and the face is not projecting (arrow on Fig. 2). They also resemble the more robust *Helophilus*, but in *Parhelophilus* the pterostigma is distinct and looks like a crossvein (arrow on Fig. 3).

Fig. 1. *P. laetus*, metatibia, lateral

Species checklist (10)

Click here

Fig. 2. *P. laetus*, head, lateral

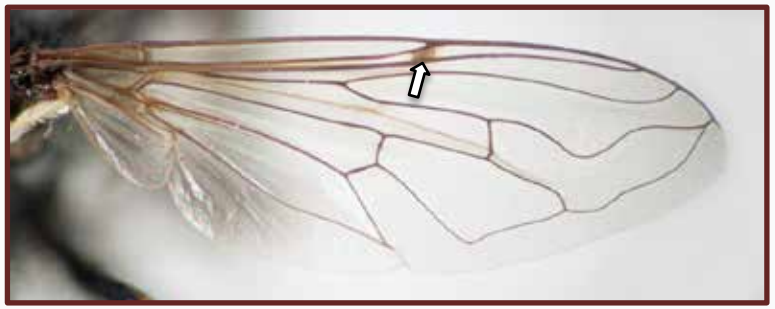
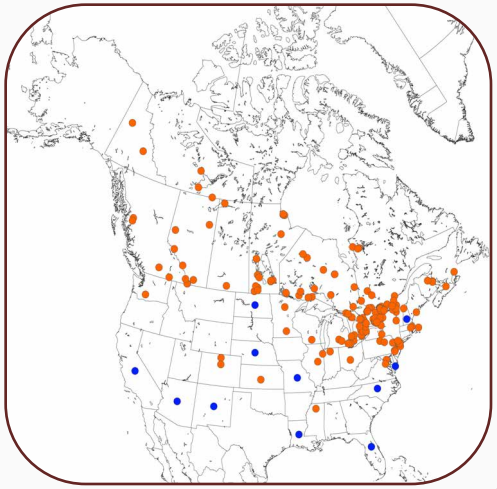


Fig. 3. *P. porcus*, wing

Distribution



doi:10.3752/cjai.2013.23

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Parhelophilus Girschner, 1897

Species checklist (10)

- *P. brooksi* Curran, 1927
- *P. currani* Fluke, 1953
- *P. divisus* (Loew, 1863)
- *P. flavifacies* (Bigot, 1884)
- *P. integer* (Loew, 1863)
- *P. laetus* (Loew, 1863)
- *P. obsoletus* (Loew, 1863)
- *P. porcus* (Walker, 1849)
- *P. rex* Curran & Fluke, 1926
- *P. laetus* (Loew, 1895)

Species key: Curran and Fluke (1926)

doi:10.3752/cjai.2013.23

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Parhelophilus Girschner, 1897

Fig. 1. *P. rex*

Fig. 2. *P. laetus*

doi:10.3752/cjai.2013.23

Pelecocera
Meigen, 1822

***P.* (*Chamaesyrphus*)**

Click on the subgenus identified

***P.* (*Pelecocera*)**

Back to previous couplet

Pelecocera (*Chamaesyrphus*) Mik, 1895

Taxon on eol

Members of the subgenus *Chamaesyrphus* (Fig. 1) are small (less than 4mm) flies with a quadrate basoflagellomere (Figs. 2 and 3).

Fig. 1. *P. (Chamaesyrphus) pruniosomaculatus* (photographed in Greece)

Fig. 2. *P. (Chamaesyrphus) apichaetus*, head, oblique dorsal

Fig. 3. *P. (Chamaesyrphus) apichaetus*, dorsal

Distribution

Species checklist (1)

- *P. (Chamaesyrphus) apichaetus* (Curran, 1923)

doi:10.3752/cjai.2013.23

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Pelecocera (*Pelecocera*) Meigen, 1822

Taxon on eol

Pelecocera (Fig. 1) species are small flies with vein M_1 joining R_{4+5} very close to the wing margin (Fig. 2). *P.* (*Pelecocera*) species are distinguished from the subgenus *Chamaesyrphus* by the distinct, basally enlarged basoflagellomere (arrow on Fig. 3). *Pelecocera is* distinguished from *Merapioidus* by the crossvein r-m positioned closer to the base of cell dm (Fig. 2) and from *Callicera* by the more distinct enlargment of the basoflagellomere.

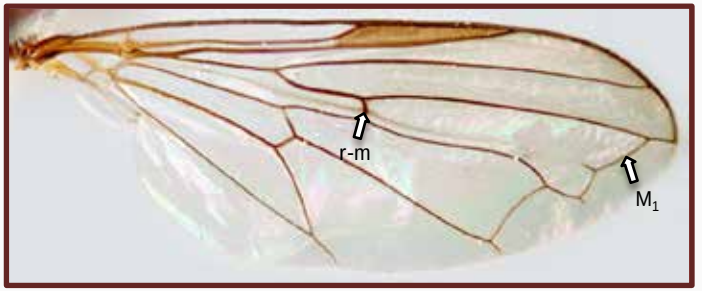


Fig. 2. *P. (Pelecocera)* sp.,wing

Species checklist (2)

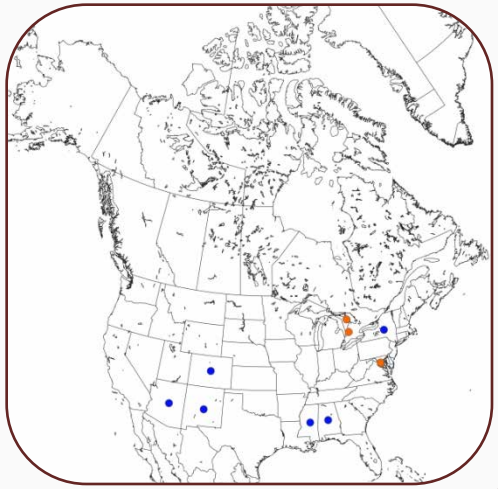
- *P.* (*Pelecocera*) *pergandei* (Williston, 1884)
- *P.* (*Pelecocera*) *willistoni* Snow, 1895

Species key: No key available

Fig. 1. *P. (Pelecocera) pergandei*

Fig. 3. *P. (Pelecocera) pergandei*, head, lateral

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Pelecinobaccha
Shannon, 1927

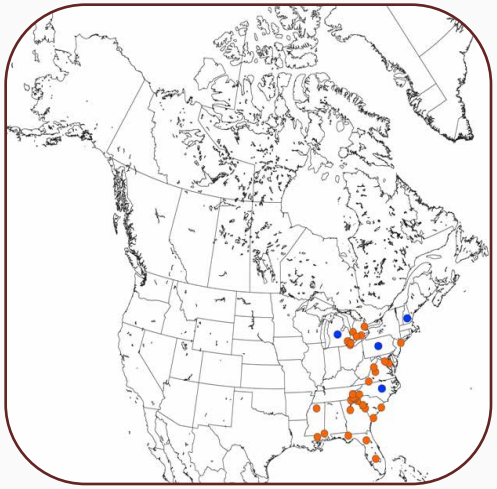
Pelecinobaccha females have a conical 6th segment (arrow on Fig. 1), and the only North American species can be distinguished from closely related *Ocyptamus* species by the wing with dark anterior margin. *P. costata* is similar to *Pseudodoros*, but lacks the produced face.

Fig. 1. *P. costata*

Species checklist (1)

- *P. costata* (Say, 1829)

Distribution



Pipiza Fallen, 1810

Taxon on eol

Pipiza species are small, dark flies (Fig. 1) with a straight face (arrow on Fig. 2), a slightly apically enlarged hind femur, an evenly rounded oral margin, and a bare katepimeron (at most with microtrichia, arrow on Fig. 3). *Heringia*, *Pipiza* and *Trichopsomyia* are extremely similar and identifications should be checked carefully.

Fig. 2. *P. femoralis*, head, lateral

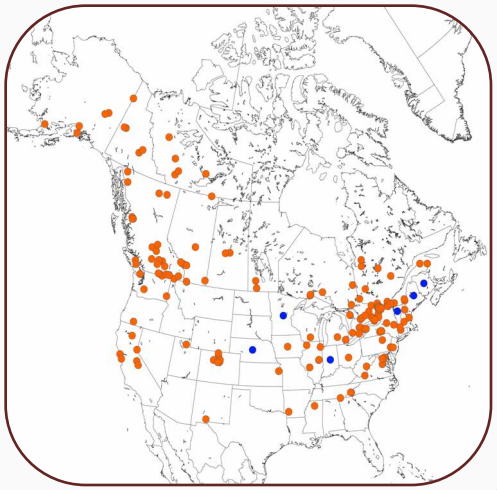
Species checklist (11)

Click here

Fig. 1. *Pipiza sp.*

Fig. 3. *P. femoralis*, katepimeron

Distribution



doi:10.3752/cjai.2013.23

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Pipiza Fallen, 1810

Species checklist (11)

- *P. atrata* Curran, 1922
- *P. crassipes* Bigot, 1884
- *P. cribbeni* Coovert, 1996
- *P. davidsoni* Curran, 1921
- *P. distincta* Curran, 1921
- *P. femoralis* Loew, 1866
- *P. macrofemoralis* Curran, 1921
- *P. nigripilosa* Williston, 1887
- *P. puella* Williston, 1887
- *P. quadrimaculata* (Panzer, 1804)
- *P. subinflatifrons* Coovert, 1996

Species key: Curran (1921)

doi:10.3752/cjai.2013.23

Platycheirus
Lepeltier & Serville, 1828

Taxon on eol

Platycheirus have the face and scutellum black, and the abdomen relatively slender (Figs. 1 and 2). Certain species are easily confused with *Melanostoma*, but *Platycheirus* can be distinguished by the non-excavated metasternum (arrow on Fig. 3).

Fig. 1. *P. scambus*

Picture Gallery

Click here

Species checklist (73)

Click here

Fig. 2. *Platycheirus* sp.

Fig. 3. *P. quadratus*, metasternum

Distribution

doi:10.3752/cjai.2013.23

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Platycheirus Lepeltier & Serville, 1828

Species checklist (73)

- *P. aeratus* Coquillett, 1900
- *P. albimanus* (Fabricius, 1781)
- *P. amplus* Curran, 1927
- *P. angustatus* (Zetterstedt, 1843)
- *P. atra* (Curran, 1925)
- *P. brunnifrons* Nielsen, 2004
- *P. carinatus* (Curran, 1927)
- *P. ciliatus* Bigot, 1884
- *P. clausseni* Nielsen, 2004
- *P. clypeatus* (Meigen, 1822)
- *P. coerulescens* (Williston, 1887)
- *P. concinnus* (Snow, 1895)
- *P. confusus* (Curran, 1925)
- *P. coracinus* Vockeroth, 1990
- P. *discimanus* Loew, 1871
- *P. flabellus* Hull, 1944
- *P. granditarsis* (Forster, 1771)
- *P. groenlandicus* Curran, 1927
- *P. hesperius* Vockeroth, 1990
- *P. hispidipes* Vockeroth, 1990
- *P. holarcticus* Vockeroth, 1990
- *P. hyperboreus* (Staeger, 1845)
- *P. immarginatus* (Zetterstedt, 1849)
- *P. inversus* Ide, 1926
- *P. jaerensis* Nielsen, 1971
- *P. kelloggi* (Snow, 1895)
- *P. latitarsis* Vockeroth, 1990
- *P. latus* (Curran, 1922)
- *P. lundbecki* (Collin, 1931)
- *P. luteipennis* (Curran, 1925)
- *P. manicatus* (Meigen, 1822)
- *P. modestus* (Ide, 1926)
- *P. nearcticus* Vockeroth, 1990
- *P. nielseni* Vockeroth, 1990
- *P. nigrofemoratus* Kanervo. 1934
- *P. nodosus* Curran, 1923
- *P. normae* Fluke, 1939
- *P. obscurus* (Say, 1824)
- *P. octavus* Vockeroth, 1990
- *P. orarius* Vockeroth, 1990
- *P. oreadis* Vockeroth, 1990
- *P. parmatus* Rondani, 1857
- *P. peltatoides* Curran, 1923
- *P. perpallidus* Verrall, 1901
- *P. pilatus* Vockeroth, 1990
- *P. podagratus* (Zetterstedt, 1838)
- *P. protrusus* Vockeroth, 1990
- *P. pullatus* Vockeroth, 1990
- *P. quadratus* Say, 1823
- *P. rosarum* (Fabricius, 1787)
- *P. rufigaster* Vockeroth, 1990
- *P. rufimaculatus* Vockeroth, 1990
- *P. russatus* Vockeroth, 1990
- *P. sabulicola* Vockeroth, 1990
- *P. scamboides* Curran, 1927
- *P. scambus* (Staeger, 1843)
- *P. scutatus* (Meigen, 1822)
- *P. setipes* Vockeroth, 1990
- *P. setitarsis* Vockeroth, 1990
- *P. spinipes* Vockeroth, 1990
- *P. squamulae* (Curran, 1922)
- *P. stegnoides* Vockeroth, 1990
- *P. stegnus* (Say, 1829)
- *P. striatus* Vockeroth, 1990
- *P. subordinatus* Becker, 1915
- *P. tenebrosus* Coquillett, 1900
- *P. thompsoni* Vockeroth, 1990
- *P. thylax* Hull, 1944
- *P. urakawensis* (Matsumura, 1919)
- *P. varipes* (Curran, 1923)
- *P. willistoni* (Goot, 1882)
- *P. woodi* Vockeroth, 1990
- *P. yukonensis* Vockeroth, 1990

Species key: Curran (1927, 1930a), Vockeroth (1992), Young (2012)

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Platycheirus Lepeltier & Serville, 1828

Fig. 1. *P. concinnus*, male, dorsal

Fig. 2. *P. granditarsis*, male, dorsal

Fig. 3. *P. groenlandicus*, female, dorsal

Fig. 4. *P. immarginatus*, male, dorsal

Fig. 5. *P. kelloggi*, female, dorsal

Fig. 6. *P. manicatus*, male, dorsal

doi:10.3752/cjai.2013.23

Pocota
Lepeltier & Serville, 1828

Taxon on eol

Our one *Pocota* species, *P. bomboides*, is a bumblebee mimic (Fig. 1) with long yellow pile on the anterior half of the scutum and the 4th abdominal tergite. *Hadromyia* are somewhat similar, but *Pocota* can be distinguished from *Hadromyia* by the medial black facial stripe (arrow on Fig. 2) as well as the concavity of the face (arrow on Fig. 3).

Fig. 2. *P. bomboides*, head, dorsal

Species checklist (1)

- *P. bomboides* Hunter, 1897

Fig. 1. *P. bomboides*, dorsal

Fig. 3. *P. bomboides*, head, lateral

Distribution

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Polybiomyia Shannon, 1925

Taxon on eol

Polybiomyia have a short or weakly produced antennal base, petiolate abdomen (Fig. 1) and complete postmetacoxal bridge (arrow on Fig. 2).

Fig. 1. *P. townsendi*

Fig. 2. *P. bellardii*, postmetacoxal bridge

Species checklist (8)

- *P. bellardii* (Shannon, 1925)
- *P. engelhardti* (Shannon, 1925)
- *P. macquartii* (Shannon, 1925)
- *P. pedicellata* (Williston, 1887)
- *P. sayi* (Shannon, 1925)
- *P. schnablei* (Williston, 1892)
- *P. signifera* (Loew, 1853)
- *P. townsendi* (Snow, 1895)

Species key: Shannon (1925)

Distribution

doi:10.3752/cjai.2013.23

Taxon on eol

Pseudodoros Becker, 1903

Our one *Pseudodoros*, *P. clavatus*, is a petiolate species (Fig. 1) with a slightly anteriorly extended oral margin, a yellow face with a dark median stripe, a facial tubercle (arrow on Fig. 2), and distinctive paired oblique markings on the 4th abdominal tergite (arrow on Fig. 1).

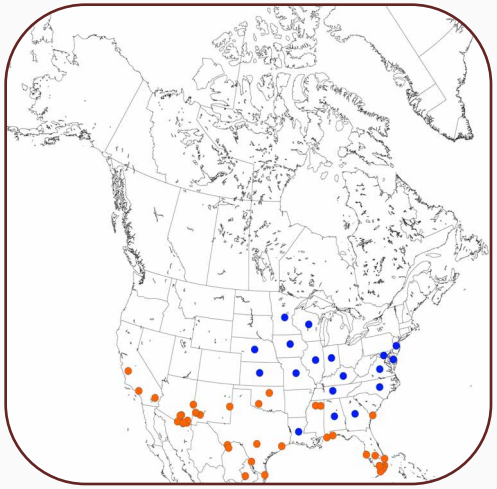
Fig. 1. *P. clavatus*

Fig. 2. *P. clavatus*, head, lateral

Species checklist (1)

- *P. clavatus* (Fabricius, 1794)

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Pseudoscaeva Vockeroth, 1969

Pseudoscaeva diversifasciata (Figs. 1 and 2) can be distinguished from closely related *Ocyptamus* species by the yellow banded 3rd and 4th abdominal tergites, and the glossy wing.

Fig. 1. *P. diversifasciata*

Fig. 2. *P. diversifasciata*

Species checklist (1)

- *P. diversifasciata* (Knab, 1914)

Distribution

doi:10.3752/cjai.2013.23

Psilota Meigen, 1822

Psilota species are dark flies with haired eyes (Fig. 1) and an elongate basoflagellomere. Similar in appearance to *Pipiza* and others, *Psilota* may be distinguished by its anteriorly notched oral margin (arrow on Fig. 2).

Fig. 2. *Psilota* sp., lateral

Taxon on eol

Species checklist (3)

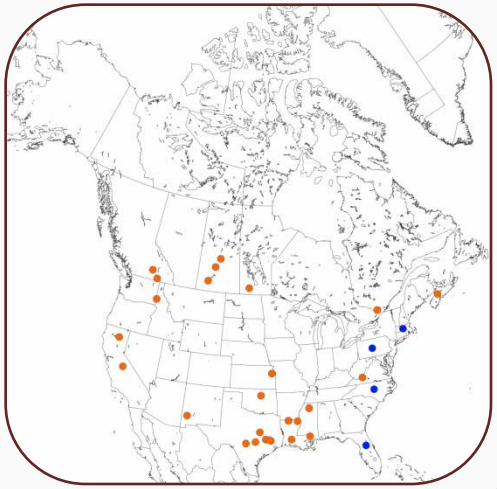
- *P. buccata* (Macquart, 1842)
- *P. flavidipennis* Macquart, 1855
- *P. thatuna* Shannon, 1922

Species key: No key available

Fig. 1. *P. buccata*, head, lateral

Fig. 2. *P. buccata*, head, ventral

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Pterallastes Loew, 1863

Pterallastes thoracicus has a sinuous R_{4+5}, M_1 joining R_{4+5} close to the wing margin (arrow on Fig. 1), and a scutum covered by dense pollinosity that creates a distinctive, dull yellowish appearance (arrow on Fig. 2).

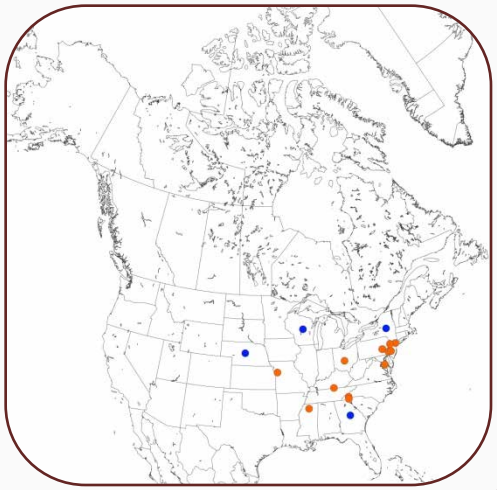
Fig. 1. *P. thoracicus*, wing

Fig. 2. *P. thoracicus*

Species checklist (1)

- *P. thoracicus* Loew, 1863

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Pyritis Hunter, 1897

Pyritis kincaidii has a quadrate basoflagellomere (arrow on Fig. 1), haired arista (Fig. 1), densely haired eyes and face (Fig. 2), and an apically directed M_1 vein (arrow on Fig. 3).

Fig. 2. *P. kincaidii*, habitus

Species checklist (1)

- *P. kincaidii* (Coquillett, 1895)

Fig. 1. *P. kincaidii*, antenna

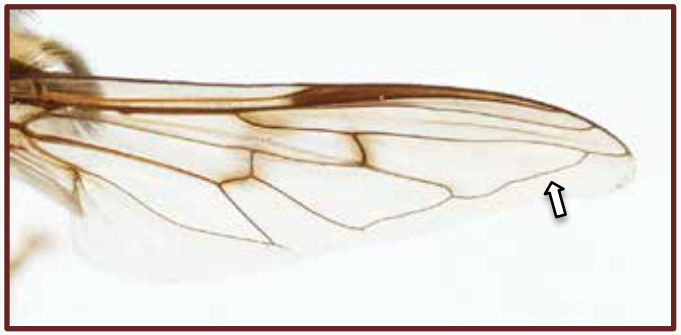
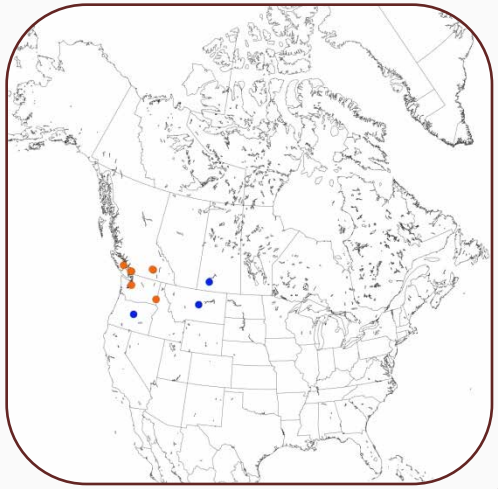


Fig. 3. *P. kincaidii*, wing

Distribution



doi:10.3752/cjai.2013.23

Rhingia Scopoli, 1763

Taxon on eol

Rhingia is readily recognized by the anteriorly extended face with no tubercle upon it (arrow on Fig. 1). Another character to help identify this genus is the termination of veins C and R_{4+5} after the apex of the wing (Fig. 2).

Fig. 1. *R. nasica*

Species checklist (1)

- *R. nasica* Say, 1983

Distribution

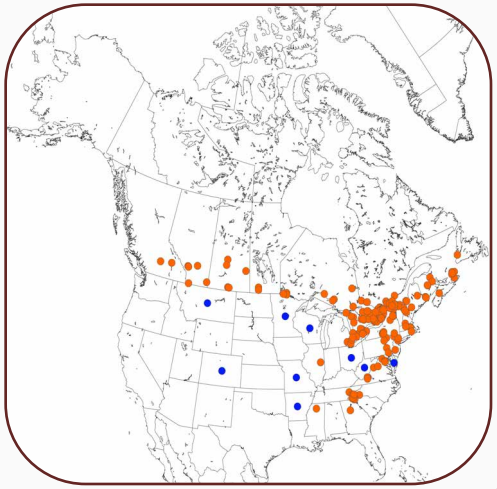


Fig. 2. *R. nasica*, wing

doi:10.3752/cjai.2013.23

Taxon on eol

Rhopalosyrphus Giglio-Tos, 1891

Rhopalosyrphus are petiolate flies (with a narrow abdomen constricted at the base), similar in appearance to *Mixogaster* (Fig. 1) but distinguished by the spur on vein R_{4+5} (arrow on Fig. 2).

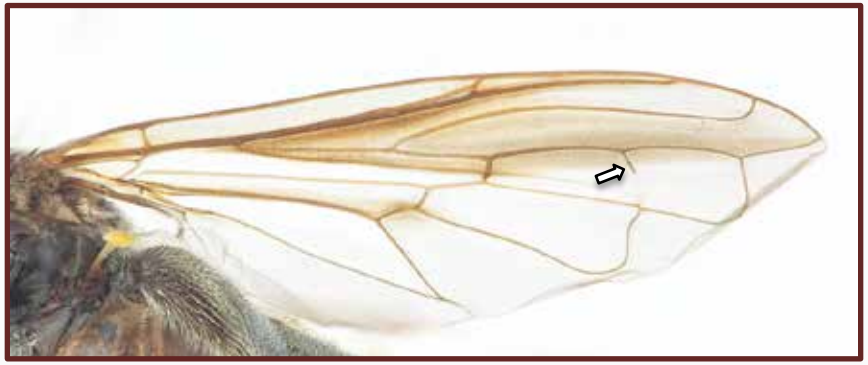


Fig. 2. *R. guentherii*, wing

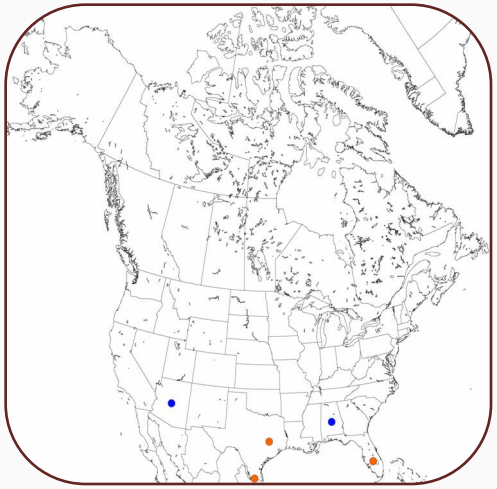
Species checklist (2)

- *R. guentherii* (Lynch-Arribálzaga, 1891)
- *R. ramulorum* Weems & Deyrup, 2003

Species key: Weems et al. (2003), Thompson (2012)

Fig. 1. *R. guentherii*, dorsal

Distribution



Taxon on eol

Salpingogaster Schiner, 1868

Salpingogaster species are petiolate flies (narrow basal abdominal segments, and expanded apical segments) with an elongate second abdominal segment (arrow on Fig. 1), ventral spines on the hind femur, a facial tubercle, and a sinuous R_{4+5} vein (arrow on Fig. 2). *Salpingogaster* is similar to *Eosalpingogaster*, but has the 1st abdominal tergite produced into strong lateral spurs whereas *Eosalpingogaster* has that tergite unmodified.

Fig. 2. *S. punctifrons*, wing

Species checklist (1)

- *S. punctifrons* Curran, 1929

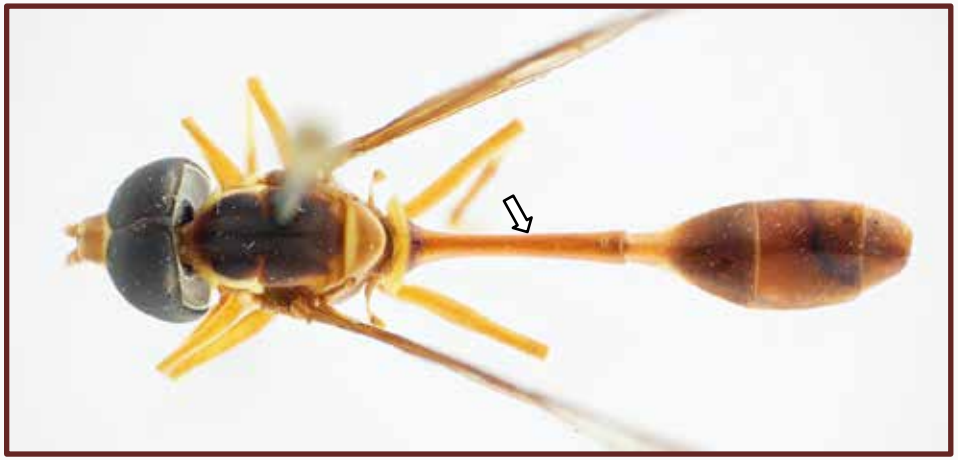


Fig. 1. *S. punctifrons*, dorsal

Distribution

doi:10.3752/cjai.2013.23

Scaeva
Fabricius, 1805

Taxon on eol

Medium-sized black and yellow flies with narrow, curved, yellow half-bands (Fig. 1). *Scaeva* species can be distinguished from similar-looking genera by the haired eye (Fig. 2), bare wing, and vein R_{4+5} curving up into r_{2+3} cell (Picture Gallery). Males of this genus have an area of enlarged facets on the eye.

Fig. 1. *S. pyrastri*

Fig. 2. *S. pyrastri*, head, anterior

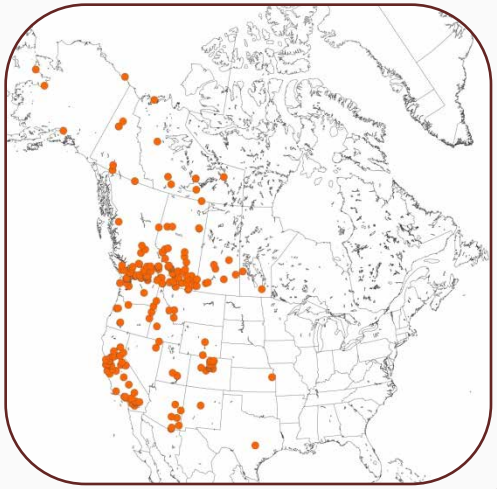
Picture Gallery

Click here

Species checklist (1)

- *S. pyrastri* (Linnaeus, 1758)

Distribution



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Scaeva Fabricius, 1805

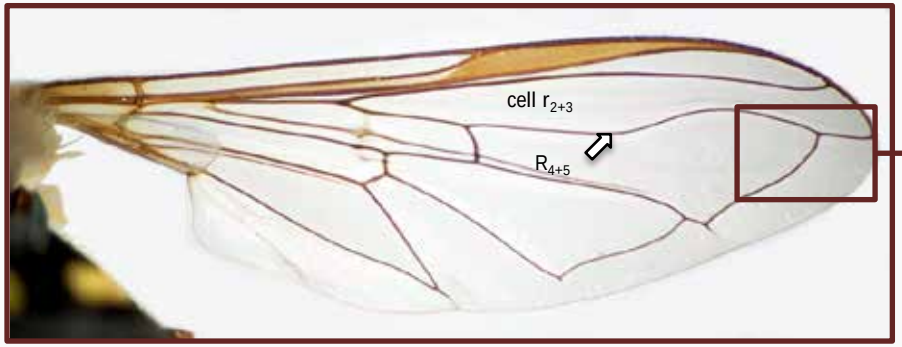

Fig. 1. *S. pyrastri*, wing

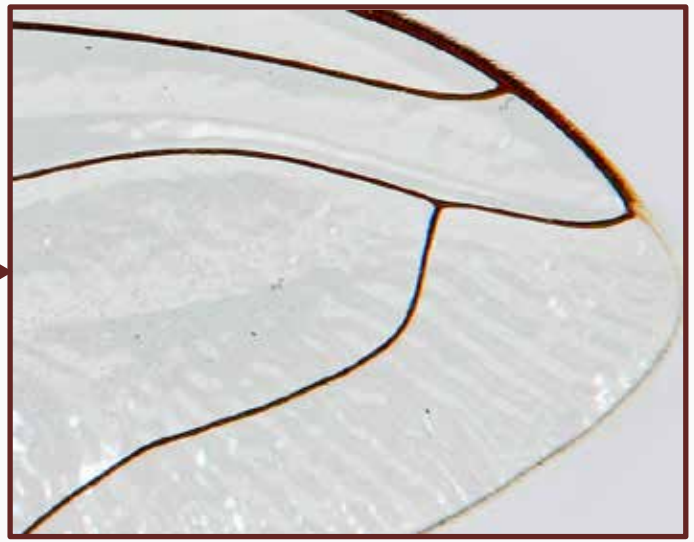

Fig. 2. *S. pyrastri*, detail of wing apex

Fig. 3. *S. pyrastri*

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Sericomyia Meigen, 1803

Picture Gallery

Click here

Taxon on eol

Sericomyia have a plumose arista (arrow on Fig. 1), bare eye, and unmarked scutum (Figs. 2 and 3). Some species have a distinct abdominal pattern (Fig. 2), and a few are bee-mimics (Picture Gallery). *Sericomyia tolli* is distinguished from other *Sericomyia* species by the strongly produced face (Picture Gallery).

Fig. 3. *S. chrysotoxoides*

Species checklist (17)

Click here

Fig. 1. *S. chrysotoxoides*, antenna

Fig. 2. *S. lata*

Distribution

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Sericomyia Meigen, 1803

Species checklist (17)

- *S. arctica* Schirmer, 1913
- *S. bifasciata* Williston, 1887
- *S. carolinensis* (Metcalf, 1917)
- *S. chalcopyga* Loew, 1863
- *S. chrysotoxoides* Macquart, 1842
- *S. flagrans* (Osten Sacken, 1875)
- *S. harveyi* (Osburn,1908)
- *S. jakutika* (Stackelberg, 1927)
- *S. lata* (Coquillett, 1907)
- *S. militaris* Walker, 1849
- *S. nigra* Portschinsky, 1873
- *S. sexfasciata* Walker, 1849
- *S. slossonae* Curran, 1934
- *S. tolli* (Frey, 1915)
- *S. transversa* (Osburn, 1926)
- *S. vockerothi* Skevington, 2012
- *S. woodi* Nielsen & Vockeroth, 2000

Species key: Skevington and Thompson (2012)

doi:10.3752/cjai.2013.23

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Sericomyia Meigen, 1803

Fig. 1. *S. flagrans*

Fig. 2. *S. tolli*, dorsal

Fig. 3. *S. tolli*, head, lateral

doi:10.3752/cjai.2013.23

Taxon on eol

Somula
Macquart, 1847

Somula species have large, somewhat oblique, rectangular yellow markings on the abdominal tergites (Fig. 1), and a slightly produced antennal base (arrow on Fig. 2). Some *Blera* species are somewhat similar, but the abdominal markings of *Somula* are unique and distinctive.

Fig. 1. *S. decora*

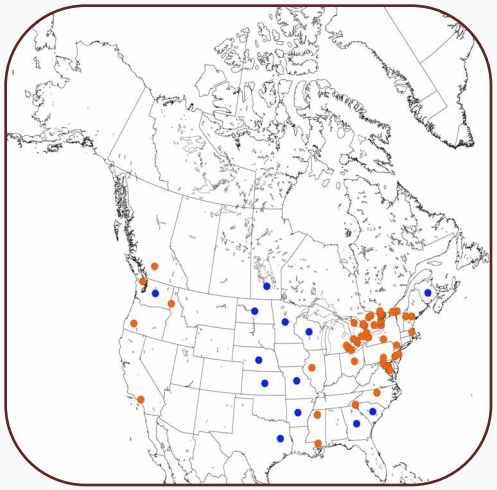
Fig. 2. *S. decora*

Species checklist (2)

- *S. decora* Macquart, 1847
- *S. mississippiensis* Brimley, 1923

Species key: Curran (1925b)

Distribution



doi:10.3752/cjai.2013.23

Sphaerophoria
Lepeltier & Serville, 1828

Taxon on eol

These very common flies are distinctive for their bold yellow abdominal markings and elongated abdomen (Figs. 1 and 2). Males have large, globose genitalia (arrows on Figs. 1 and 3) and a parallel-sided abdomen. Females may be confused with *Allograpta* or *Toxomerus*, but lack the triangular emargination on the posterior eye margin of *Toxomerus*, and lack the distinct pattern found on the tergites of either genera.

Fig. 3. *S. philanthus*, male genitalia, ventral

Species checklist (14)

Click here

Distribution

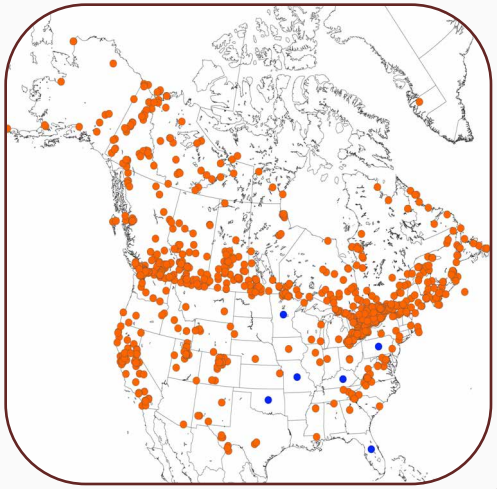


Fig. 1. *Sphaerophoria* sp., male

Fig. 2. *Sphaerophoria* sp., female

doi:10.3752/cjai.2013.23

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Sphaerophoria Lepeltier & Serville, 1828

Species checklist (14)

- *S. abbreviata* Zetterstedt, 1849
- *S. asymmetrica* Knutson, 1972
- *S. bifurcata* Knutson, 1972
- *S. brevipilosa* Knutson, 1972
- *S. cleoae* Metcalf, 1917
- *S. contigua* Macquart, 1847
- *S. cranbrookensis* Curran, 1921
- *S. longipilosa* Knutson, 1972
- *S. novaeangliae* Johnson, 1916
- *S. philanthus* (Meigen, 1822)
- *S. pyrrhina* Bigot, 1884
- *S. scripta* (Linnaeus, 1758)
- *S. sulphuripes* (Thomson, 1869)
- *S. weemsi* Knutson, 1972

Species key: Knutson (1973), Vockeroth (1992)

doi:10.3752/cjai.2013.23

Taxon on eol

Sphecomyia
Latreille, 1829

Sphecomyia species are large wasp mimics with a prominent anteroventrally produced face (arrow on Fig. 1) and (usually) elongate antennae (arrow on Fig. 2). *Spilomyia* and *Temnostoma* are somewhat similar to *Sphecomyia* but neither have a produced face.

Fig. 2. *S. vittata*

Species checklist (8)

Click here

Distribution

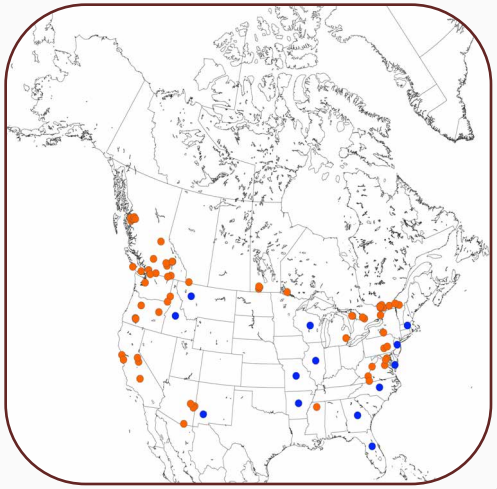

Fig. 1. *Sphecomyia sp.*

doi:10.3752/cjai.2013.23

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Sphecomyia Latreille, 1829

Species checklist (8)

- *S. brevicornis* Osten Sacken, 1877
- *S. columbiana* Vockeroth, 1965
- *S. dyari* Shannon, 1925
- *S. fusca* Weisman, 1964
- *S. nasica* Osburn, 1908
- *S. occidentalis* Osburn, 1908
- *S. pattonii* Williston, 1882
- *S. vittata* (Wiedemann, 1830)

Species keys: Weismann (1965, 1966)

doi:10.3752/cjai.2013.23

Sphegina
Meigen, 1822

***S.* (*Sphegina*)**

Click on the subgenus identified

***S.* (*Asiosphegina*)**

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Sphegina (*Sphegina*) Meigen, 1822

Taxon on eol

Sphegina species are small, distinctively petiolate flies (Fig. 1) with slightly enlarged hind femora bearing ventral spines, and with the face always concave (arrow on Fig. 2). Colouration ranges from light to dark brown, never metallic and usually not black and yellow as in other similar petiolate flies, although the face concavity is diagnostic. *S. (Sphegina)* can be distinguished from *S. (Asiosphegina)* by the unreduced 1st sternite in the former (arrow on Fig. 3).

Fig. 3. *S. (Sphegina) lobata*, 1st sternite, ventral

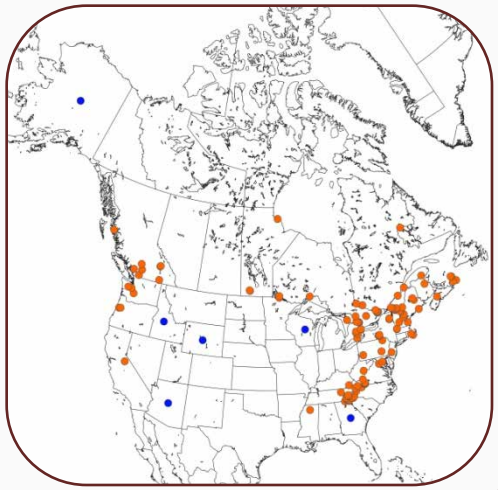
Species checklist (15)

Click here

Distribution

Fig. 1. *S. (Sphegina) brachygaster*

Fig. 2. *S. (Sphegina) lobata*, head, lateral



doi:10.3752/cjai.2013.23

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Sphegina (*Sphegina*) Meigen, 1822

Species checklist (15)

- *S. (Sphegina) albipes* (Bigot, 1884)
- *S. (Sphegina) appalachiensis* Coovert, 1977
- *S. (Sphegina) armatipes* Malloch, 1922
- *S. (Sphegina) brachygaster* Hull, 1935
- *S. (Sphegina) bridwelli* Cole, 1924
- *S. (Sphegina) flavimana* Malloch, 1922
- *S. (Sphegina) flavomaculata* Malloch, 1922
- *S. (Sphegina) infuscata* Loew, 1863
- *S. (Sphegina) keeniana* Williston, 1887
- *S. (Sphegina) lobata* Loew, 1863
- *S. (Sphegina) lobulifera* Malloch, 1922
- *S. (Sphegina) nigrimana* Cole, 1924
- *S. (Sphegina) occidentalis* Malloch, 1922
- *S. (Sphegina) punctata* Cole, 1921
- *S. (Sphegina) rufa* Malloch, 1922

Species keys: Malloch (1922), Hull (1935), Coovert and Thompson (1977)

doi:10.3752/cjai.2013.23

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Sphegina (*Asiosphegina*) Stackelberg, 1974

Taxon on eol

Sphegina species are small, distinctively petiolate flies (Fig. 1) with slightly enlarged hind femora bearing ventral spines, and with the face always concave. Colouration ranges from light to dark brown, never metallic and usually not black and yellow as in other similar petiolate flies, although the face concavity should leave no doubts. *S. (Asiosphegina)* can be distinguished from *S. (Sphegina)* by the reduced 1st sternite in the former (arrow on Fig. 2).

Species checklist (5)

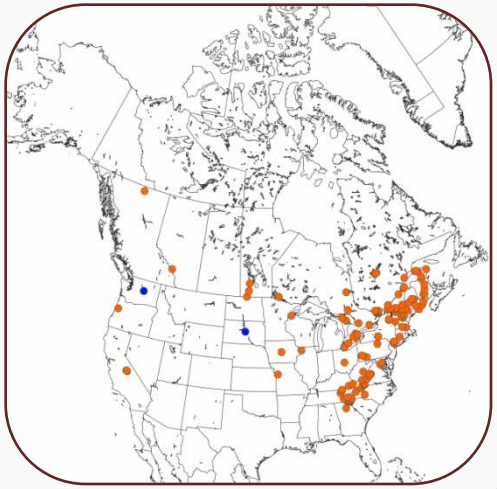
- *S. (Asiosphegina) biannulata* Malloch, 1922
- *S. (Asiosphegina) californica* Malloch, 1922
- *S. (Asiosphegina) campanulata* Robertson, 1901
- *S. (Asiosphegina) petiolata* Coquillett, 1910
- *S. (Asiosphegina) rufiventris* Loew, 1863

Species keys: Malloch (1922), Hull (1935), Coovert and Thompson (1977)

Fig. 1. *S. (Asiosphegina) rufiventris*

Fig. 2. *S. (Asiosphegina) campanulata*, 1st sternite, ventral

Distribution



doi:10.3752/cjai.2013.23

Taxon on eol

Sphiximorpha Rondani, 1850

Similar to *Polybiomyia*, but the postmetacoxal bridge on *Sphiximorpha* (Fig. 1) is incomplete (arrow on Fig. 2).

Fig. 1. *S. willistoni*

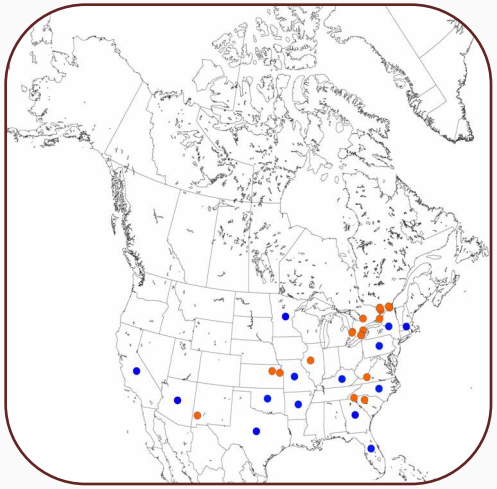
Fig. 2. *S. willistoni*, postmetacoxal bridge

Species checklist (4)

- *S. cylindrica* (Curran, 1921)
- *S. durani* (Davidson, 1925)
- *S. loewii* (Williston, 1887)
- *S. willistoni* (Kahl, 1897)

Species key: Thompson (2012)

Distribution



doi:10.3752/cjai.2013.23

Spilomyia Meigen, 1803

Taxon on eol

Spilomyia species are large, wasp-mimicking flies (Figs. 1 and 2) with a straight face, a preapical spur on the hind femur (arrow on Fig. 3) and eyes that are usually patterned. *Temnostoma*, *Sphecomyia*, *Doros* and other wasp-mimicking genera differ from *Spilomyia* in lacking a preapical spur on the hind femur.

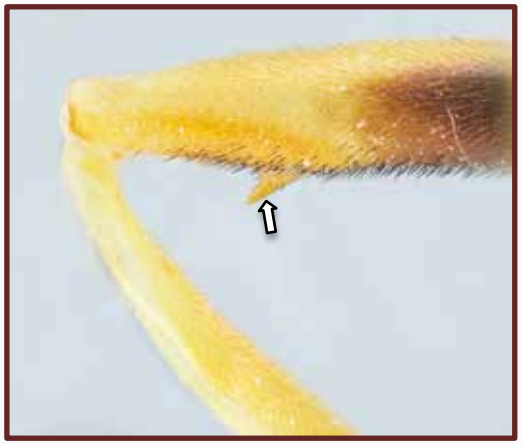


Fig. 3. *S. alcimus*, hind femur

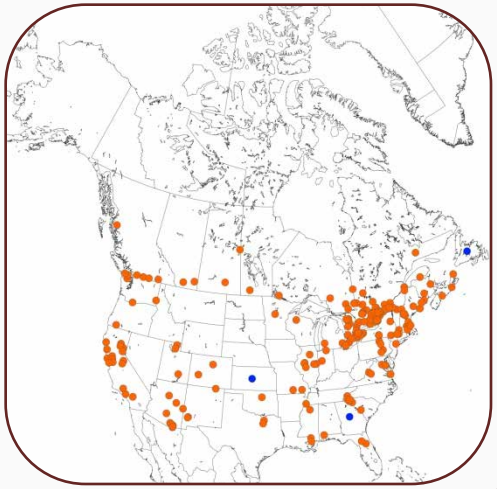
Species checklist (11)

Click here

Fig. 1. *S. fusca*

Fig. 2. *S. sayi*

Distribution



doi:10.3752/cjai.2013.23

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Spilomyia Meigen, 1803

Species checklist (11)

- *S. alcimus* (Walker, 1849)
- *S. citima* Vockeroth, 1958
- *S. crandalli* Curran, 1951
- *S. foxleei* Vockeroth, 1958
- *S. fusca* Loew, 1864
- *S. interrupta* Williston, 1882
- *S. kahli* Snow, 1895
- *S. liturata* Williston, 1887
- *S. longicornis* Loew, 1872
- *S. obscura* Coquillett, 1902
- *S. sayi* (Goot, 1964)

Species key: Curran (1951)

doi:10.3752/cjai.2013.23

Syrphus
Fabricius, 1775

Taxon on eol

Syrphus are medium-sized, black and yellow flies (Fig. 1). The yellow bands on the abdomen are complete (Fig. 1) or incomplete (Fig. 2). This genus is distinctive for the long, yellow hairs on the dorsal surface of the lower calypter (arrow on Fig. 3).

Fig. 3. *S. torvus*, lower calypter

Picture Gallery

Click here

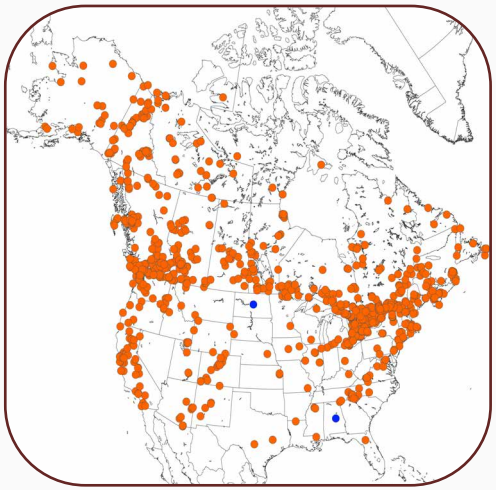
Species checklist (14)

Click here

Fig. 1. *S. ribesii*

Fig. 2. *S. attenuatus*

Distribution



doi:10.3752/cjai.2013.23

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Syrphus Fabricius, 1775

Species checklist (14)

- *S. attenuatus* Hine, 1922
- *S. currani* Fluke, 1939
- *S. dimidiatus* Macquart, 1834
- *S. doesburgi* Goot, 1964
- *S. intricatus* Vockeroth, 1983
- *S. knabi* Shannon, 1916
- *S. monoculus* (Swederus, 1787)
- *S. opinator* Osten Sacken, 1877
- *S. rectus* Osten Sacken, 1875
- *S. ribesii* (Linnaeus, 1758)
- *S. sexmaculatus* (Zetterstedt, 1838)
- *S. sonorensis* Vockeroth, 1983
- *S. torvus* Osten Sacken, 1875
- *S. vitripennis* Meigen, 1822

Species key: Vockeroth (1983), Vockeroth (1992)

doi:10.3752/cjai.2013.23

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Syrphus Fabricius, 1775

Fig. 1. *S. torvus*

Fig. 2. *S. sexmaculatus*

Fig. 3. *S. knabi*

doi:10.3752/cjai.2013.23

Syritta
Lepeltier & Serville, 1828

Taxon on eol

Syritta (Fig. 1) might be confused with *Chalcosyrphus* species, but *Syritta* has a spinose ridge (arrow on Fig. 2) on the hind femur and mostly bare wings (Fig. 3).

Fig. 2. *S. pipiens*, hind femur, lateral

Species checklist (2)

- *S. flaviventris* Macquart, 1842
- *S. pipiens* (Linnaeus, 1758)

Species key: Thompson *et al.* (1990)

Fig. 1. *S. pipiens*

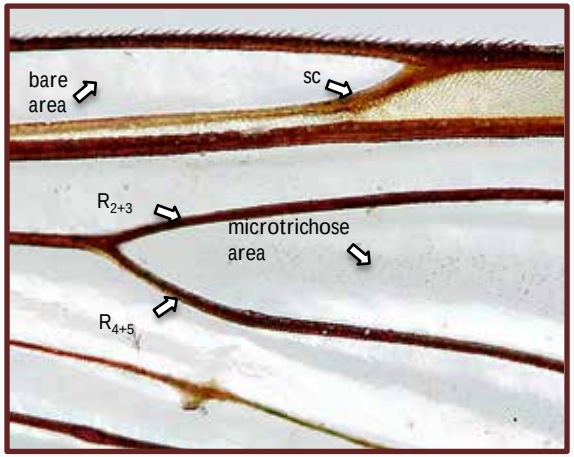
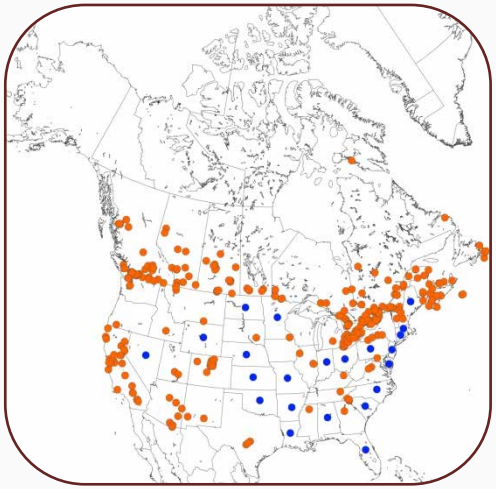


Fig. 3. *S. pipiens*, wing section

Distribution



Temnostoma
Lepeltier & Serville, 1828

Taxon on eol

Temnostoma species are wasp mimics with a dense yellow pollinosity pattern on the abdomen (Figs. 1 and 2) and with the katepisternum continuously haired on its posterior margin (arrow on Fig. 3). Other large wasp mimics, such as *Spilomyia*, *Sphecomyia* and *Doros*, have separate dorsal and ventral patches of hair on the katepisternum.

Fig. 1. *T. alternans*

Species checklist (8)

Click here

Distribution

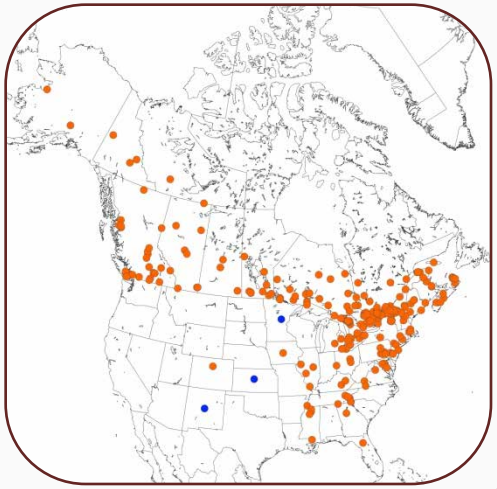


Fig. 2. *Temnostoma* sp.

Fig. 3. *T. balyras*, katepisternum, oblique lateral

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Temnostoma Lepeltier & Serville, 1828

Species checklist (8)

- *T. alternans* Loew, 1864
- *T. balyras* (Walker, 1849)
- *T. barberi* Curran, 1939
- *T. daochus* (Walker, 1849)
- *T. excentrica* (Harris, 1841)
- *T. obscurum* Loew, 1864
- *T. trifasciatum* Robertson, 1901
- *T. venustum* Williston, 1887

Species keys: Curran (1939a), Shannon (1939)

doi:10.3752/cjai.2013.23

Taxon on eol

Teuchocnemis
Osten Sacken, 1875

Teuchocnemis (Figs. 1 and 4) is characterized by a yellow face, a slightly enlarged hind femur and a straight A_1 vein (arrow on Fig. 2). Males have a strong ventromedial spur on the hind tibiae (arrow on Fig. 3).

Fig. 1. *T. lituratus*

Species checklist (2)

- *T. bacuntius* (Walker, 1849)
- *T. lituratus* (Loew, 1863)

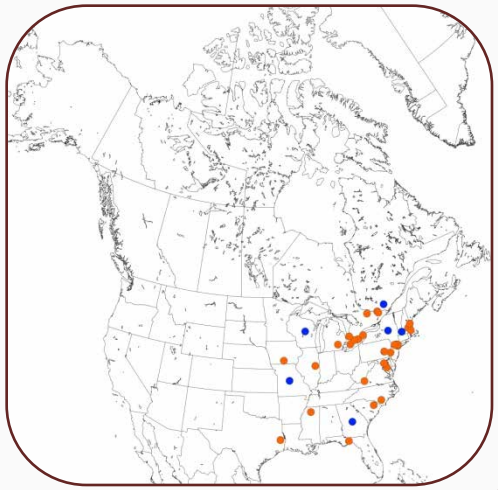
Species key: Williston (1887)

Fig. 3. *T. lituratus*, male, metatibia, lateral

Fig. 2. *T. bacuntius*, wing

Fig. 4. *T. bacuntius*, dorsal

Distribution



doi:10.3752/cjai.2013.23

Toxomerus Macquart, 1855

Taxon on eol

Toxomerus includes some extremely common small species with mostly yellow abdominal segments marked by a central pair of black stripes that extend basally towards the sides (Figs. 1, 2 and 4). The genus also includes some species with apical segments completely yellow, and others that have a mostly dark abdomen (at least on the fall colour morphs (Fig. 3)). All species have a distinct triangular emargination on the posterior eye margin.

Fig. 1. *T. geminatus*,in copula

Species checklist (13)

Click here

Distribution

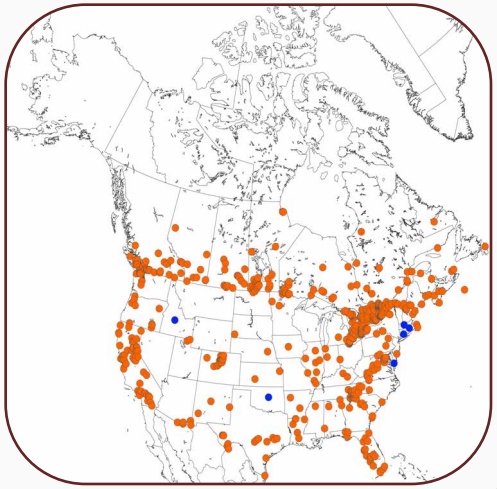


Fig. 2. *T. marginatus*

Fig. 3. *T. marginatus*, dorsal, dark morph

Fig. 4. *T. geminatus*

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Toxomerus Macquart, 1855

Species checklist (13)

- *T. arcifer* (Loew, 1866)
- *T. boscii* Macquart, 1842
- *T. corbis* (Walker, 1852)
- *T. dispar* (Fabricius, 1794)
- *T. floralis* (Fabricius, 1798)
- *T. geminatus* (Say, 1823)
- *T. jussiaeae* Vige, 1939
- *T. marginatus* (Say, 1823)
- *T. occidentalis* Curran, 1922
- *T. parvulus* (Loew, 1866)
- *T. politus* (Say, 1823)
- *T. teliger* (Fluke, 1953)
- *T. verticalis* (Curran, 1927)

Species keys: Hull (1943) as *Mesogramma*, Vockeroth (1992)

doi:10.3752/cjai.2013.23

Taxon on eol

Trichopsomyia Williston, 1888

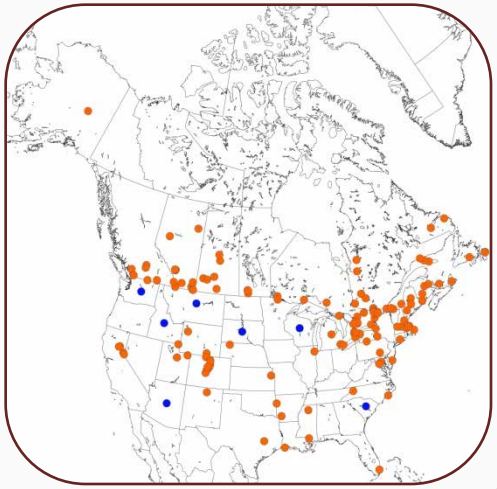
Trichopsomyia species are small black flies with haired eyes (Fig. 1) and an evenly rounded apical oral margin. They can be distinguished from similar genera such as *Heringia* and *Pipiza* by the haired anterior anepisterum (arrow on Fig. 2). *Pipiza*, *Heringia*, and *Trichopsomyia* are extremely similar morphologically and identifications should be checked carefully.

Fig. 1. *T. banksi*, lateral

Species checklist (9)

Click here

Distribution



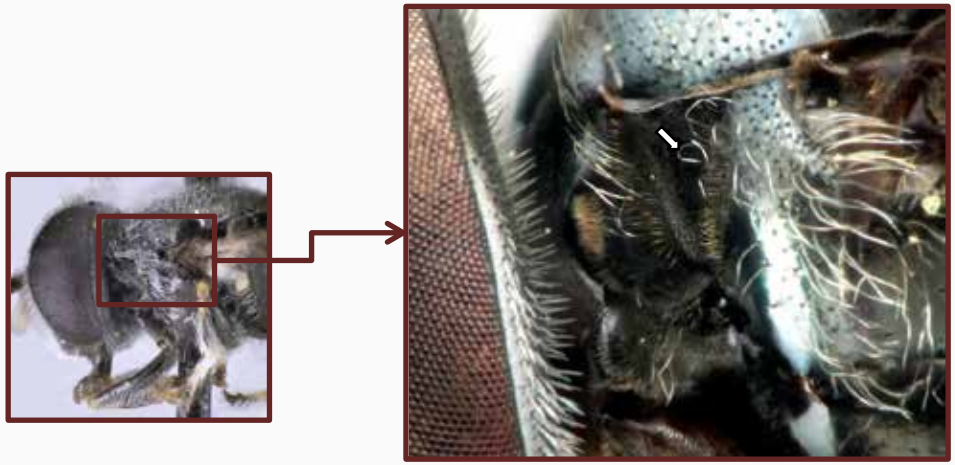


Fig. 2. *T. apisaon*, anterior anepisternum, lateral

doi:10.3752/cjai.2013.23

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Trichopsomyia Williston, 1888

Species checklist (9)

- *T. apisaon* Walker, 1849
- *T. australis* (Johnson, 1907)
- *T. banksi* (Curran, 1921)
- *T. nigritarsis* (Curran, 1924)
- *T. occidentalis* (Townsend, 1897)
- *T. pubescens* (Loew, 1863)
- *T. recedens* (Walker, 1852)
- *T. rufithoracica* (Curran, 1921)
- *T. similis* (Curran, 1924)

Species key: Curran (1921) as *Pipizella*

doi:10.3752/cjai.2013.23

Tropidia
Meigen, 1822

Taxon on eol

Tropidia species are characterized by an enlarged hind femur with a preapical spinose triangular plate (arrow on Fig. 1). Other diagnostic attributes of the genus include a large metasternum, a carinate face (at least on the lower half; arrow on Fig. 2) and veins dm-cu and M_1 that seem almost continuous (Fig. 3).

Fig. 1. *Tropidia* sp.

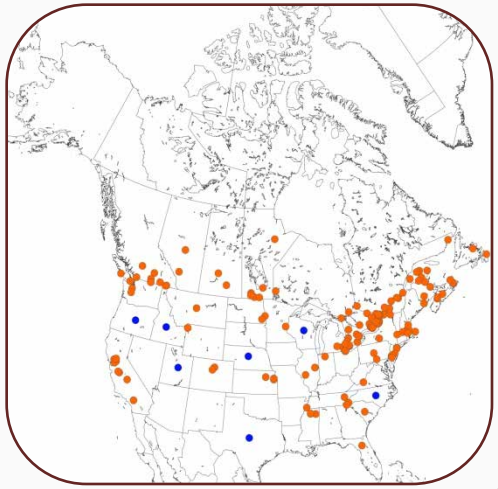
Species checklist (8)

Click here

Fig. 2. *T. quadrata*, head, lateral

Fig. 3. *T. quadrata*, wing

Distribution



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Tropidia Meigen, 1822

Species checklist (8)

- *T. albistylum* Macquart, 1847
- *T. calcarata* Williston, 1887
- *T. coloradensis* (Bigot, 1884)
- *T. incana* Townsend, 1895
- *T. mamillata* Loew, 1861
- *T. montana* Hunter, 1896
- *T. pygmaea* Shannon, 1926
- *T. quadrata* (Say, 1824)

Species key: Shannon (1926b)

doi:10.3752/cjai.2013.23

Taxon on eol

Volucella Geoffroy, 1762

Volucella species are robust, bumblebee-like flies (Fig. 1), with haired arista, anteroventrally produced face, and M_1 vein strongly curved towards the wing base (arrow on Fig. 2).

Fig. 2. *Volucella* sp., wing

Fig. 1. *V. facialis*

Species checklist (3)

- *V. arctica* Johnson, 1916
- *V. evecta* Walker, 1852
- *V. facialis* Williston, 1882

Species key: Cheng (2011)

Distribution

doi:10.3752/cjai.2013.23

Xanthandrus Verrall, 1901

Picture Gallery

Click here

Taxon on eol

Flies in the genus *Xanthandrus* are dark, with a black face and scutellum (Figs. 1 and 2), and yellow to orange abdominal markings (Fig. 1). They are similar to *Melanostoma* and *Platycherius* but are typically larger and more robust. This genus can also be distinguished by its haired metepisternum (Fig. 1. Picture Gallery) and katepisternum (Fig. 2. Picture Gallery) with dorsal and ventral pile patches almost meeting anteriorly.

Fig. 1. *X. mexicanus*, dorsal

Fig. 2. *X. mexicanus*, head, anterior

Species checklist (1)

- *X. mexicanus* Curran, 1930

Distribution

doi:10.3752/cjai.2013.23

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Xanthandrus Verrall, 1901

Fig. 1. *X. mexicanus*, metepisternum (arrow), oblique ventral

Fig. 2. *X. mexicanus*, katepisternum pile patches joining anteriorly (arrow), ventral

doi:10.3752/cjai.2013.23

Xanthogramma
Schiner, 1860

Picture Gallery

Click here

Taxon on eol

Xanthogramma have distinctive yellow, lateral stripes on the scutum and a yellow posterior margin on the scutellum (arrows on Figs. 1 and 2). This genus is further characterized by a yellow face (Fig. 1, Picture Gallery) and yellow markings on the anepisternum and katepisternum (Fig. 2, Picture Gallery).

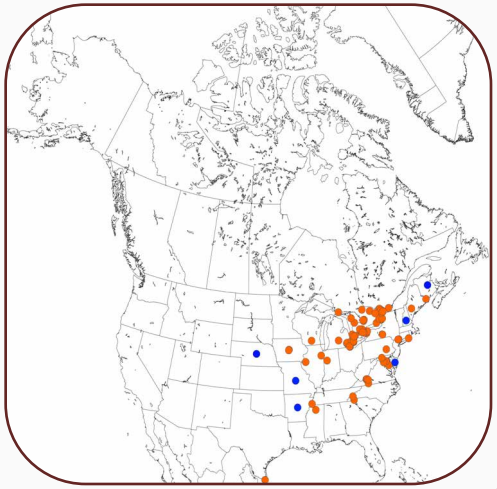
Fig. 1. *X. flavipes*

Fig. 2. *X. flavipes*

Species checklist

- *X. flavipes* (Loew, 1863)

Distribution



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Xanthogramma Schiner, 1860

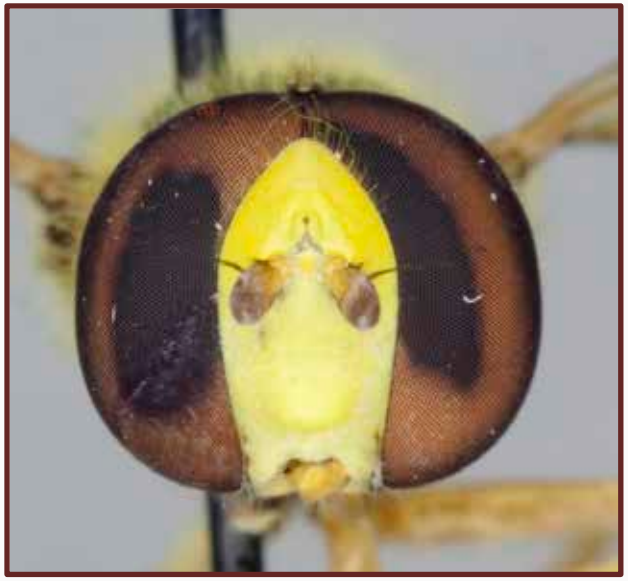

Fig. 1. *X. flavipes*, head, anterior

Fig. 2. *X. flavipes*, head and thorax, lateral

doi:10.3752/cjai.2013.23

Xylota
Meigen, 1822

Click on the subgenus identified

***X.* (*Ameroxylota*)**

***X.* (*Sterphoides*)**

***X.* (*Xylota*)**

doi:10.3752/cjai.2013.23

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Xylota (*Ameroxylota*)
Hippa, 1978

Taxon on eol

Similar to *X.* (*Xylota*), but *X.* (*Ameroxylota*) *flukei* has yellow markings on the 2nd abdominal tergite that reach its anterior margin (Fig. 1), and lacks a subscutellar fringe (Fig. 2). *Chalcosyrphus* and *Xylota* are superficially similar and difficult to distinguish in the field, the only reliable character to differentiate between them being the pilosity of the metasternum (*Xylota* has a bare metasternum while *Chalcosyrphus* species have this sclerite haired).

Fig. 1. *X.* (*Ameroxylota*) *flukei*, male, dorsal

Fig. 2. *X.* (*Ameroxylota*) *flukei*, scutellum, posterior

Species checklist (1)

- *X.* (*Ameroxylota*) *flukei* (Curran, 1941)

Distribution

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Taxon on eol

Xylota (*Sterphoides*) Hippa, 1978

Xylota (*Sterphoides*) are dark flies with apical abdominal segments reddish (Figs. 1 and 2). *Chalcosyrphus* and *Xylota* are superficially similar and difficult to distinguish in the field, the only reliable character to differentiate between them being the pilosity of the metasternum (*Xylota* has a bare metasternum while *Chalcosyrphus* species have this sclerite haired).

Fig. 1. *X.* (*Sterphoides*) *azurea*, female, dorsal

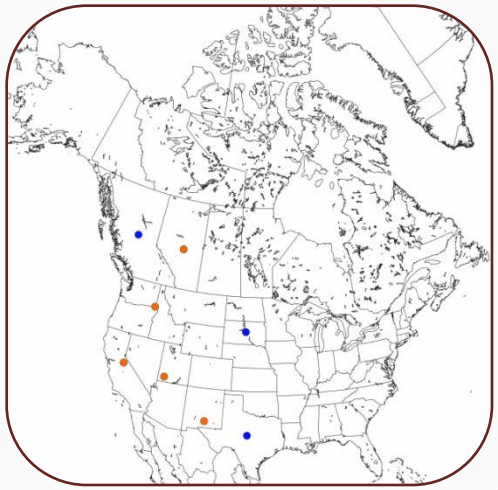
Fig. 2. *X.* (*Sterphoides*) *azurea*, male, dorsal

Species checklist (4)

- *X.* (*Sterphoides*) *azurea* (Fluke, 1953)
- *X.* (*Sterphoides*) *lovetti* Curran, 1925
- *X.* (*Sterphoides*) *nebulosa* Johnson, 1921
- *X.* (*Sterphoides*) *nitidula* (Fluke, 1939)

Species key: Shannon (1926b), Curran (1941) as part of *Helophilus*

Distribution



doi:10.3752/cjai.2013.23

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Xylota (*Xylota*) Meigen, 1822

Picture Gallery

Click here

Taxon on eol

Xylota species have an elongate, parallel-sided abdomen which either has pairs of quadrangular yellow markings or is entirely dark (Picture Gallery). The face is concave (arrow on Fig. 1), the metasternum is always bare (arrow on Fig. 2) and the hind femur is usually swollen (arrow on Fig. 3). *Chalcosyrphus* and *Xylota* are superficially similar and difficult to distinguish in the field, the only reliable character to differentiate between them being the pilosity of the metasternum (*Chalcosyrphus* species have this sclerite haired).

Fig. 3. *X.* (*Xylota*) *annulifera*, hind leg, lateral

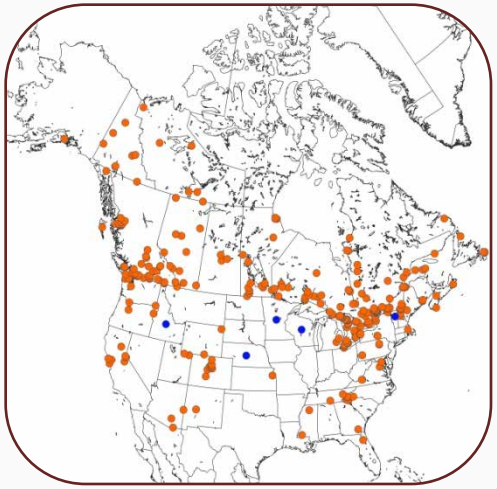
Species checklist (20)

Click here

Fig. 1. *X.* (*Xylota*) *flavifrons*

Fig. 2. *X.* (*Xylota*) *annulifera*, metasternum, lateral

Distribution



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Xylota (*Xylota*) Meigen, 1822

Species checklist (20)

- *X.* (*Xylota*) *analis* Williston, 1887
- *X.* (*Xylota*) *angustiventris* Loew, 1866
- *X.* (*Xylota*) *annulifera* Bigot, 1884
- *X.* (*Xylota*) *argoi* Shannon, 1926
- *X.* (*Xylota*) *barbata* Loew, 1864
- *X.* (*Xylota*) *bicolor* Loew, 1864
- *X.* (*Xylota*) *caerulifrons* Bigot, 1884
- *X.* (*Xylota*) *confusa* Shannon, 1926
- *X.* (*Xylota*) *ejuncida* Say, 1824
- *X.* (*Xylota*) *flavifrons* Walker, 1849
- *X.* (*Xylota*) *flavitibia* Bigot, 1884
- *X.* (*Xylota*) *hinei* (Curran, 1941)
- *X.* (*Xylota*) *micrura* (Curran, 1941)
- *X.* (*Xylota*) *naknek* Shannon, 1926
- *X.* (*Xylota*) *ouelleti* (Curran, 1941)
- *X.* (*Xylota*) *quadrimaculata* Loew, 1866
- *X.* (*Xylota*) *scutellarmata* Lovett, 1919
- *X.* (*Xylota*) *segnis* (Linnaeus, 1758)
- *X.* (*Xylota*) *subfasciata* Loew, 1866
- *X.* (*Xylota*) *tuberculata* (Curran, 1941)

Species key: Shannon (1926b), Curran (1941) as part of *Helophilus*

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Xylota (*Xylota*) Meigen, 1822

Fig. 1. *X.* (*Xylota*) *angustifrons*, dorsal

Fig. 2. *X.* (*Xylota*) *naknek*, dorsal

Fig. 3. *X.* (*Xylota*) *hinei*, dorsal

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