The Flies of Western North America

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University of California Press
Berkeley and Los Angeles
1969
BIBIONIDAE

D. caurinus McAtee (1921) is common throughout the northern United States and southern Canada, with recorded western records from Alaska, B.C., Wash., N. Mex., and Utah. D. emarginatus McAtee (1921) was so named for the deeply emarginate ninth abdominal tergite of the shining black male; in the female the thorax chiefly black, abdomen velvety brownish black. Only Calif. types known.

D. jamesi (Hardy, 1937) was first taken at Masonville, Colo.; it is now known from Utah and east to Michigan, but is made a synonym of obesulus. D. obesulus Loew, first known from eastern states, has been taken in Colo., Calif., and B.C. D. proxinus McAtee (1921) is known from Colo. and Wyo.

D. sectus McAtee (1921) was discovered in the White Mts., N.H.; Strickland recorded the species from Alta. D. serotinus Loew, with type locality in Illinois, has been determined by Hardy from eastern states and from B.C., Wash., and Ore. We may as well write off serraticollis Walker as unrecognizable from the description. D. spinipes Say, originally taken in Missouri, is now listed "throughout U.S."

D. stigmatorus Say has been recorded in the East and in B.C., Alta., Colo., N. Mex., Ariz., and Utah. D. strigilatus McAtee (1921) appears to be common in numerous localities in Calif. D. tibialis Loew has been reported from Alaska, B.C., Alta., Wash., Ore., Idaho, Mont., Utah, Calif., and some eastern states. D. tingi Hardy (1945) was collected at Cronise Lake, San Bernardino Co., Calif., on mesquite blossoms, April, and at Borrego, San Diego Co., Calif., April.

PACHYNEURIDAE

The members of this family have been placed by some in Anisopodidae, by others in Bibionidae, but they do not fit satisfactorily in either family. The larva of only the eastern Axymyia furcata is known. Edwards (1928a) wrote a revision of this and some small related families in Genera Insectorum. The genus Pachyneura is Palaeartic. The bibionid genera Plecia and Hesperinus have been grouped with these flies, but these two genera have only 8 to 12 antennal segments.

The long antennae have 16 to 18 segments. Three ocelli are present in Cramptonomyia. The anal cell is wide open. Costa ending just beyond wing tip. In Pachyneura Zetterstedt four branches of R and three branches of M reach the wing margin; in Cramptonomyia three branches of R and four branches of M reach the wing margin.

These flies lack the V-shaped mesonotal suture of the Timpulidae. All tibiae have spurs. The halteres are elongate.

Cramptonomyia Alexander
Cramptonomyia Alexander, 1913a: 7.

The genus is based on the lone type-species, C. spenceri Alexander (1931a), with type locality at Vancouver, B.C., March, and published records from B.C., Wash., and Ore. The fly is about 11 mm. in length, gray to brownish gray in coloration. The apical cells of the wing with scattered macrotrichia. Curran figures the wing (Manual, 1934, p. 129).

MYCETOPHILIDAE

These little flies are generally known as fungus gnats because a great majority of the species are associated with some kind of fungus during their larval life. The species are relatively small and rather slender; they are nearly always dull in color, most of them being brown or yellowish. In general appearance the flies are not unlike the mosquitoes, but the resemblance is, with a little magnification, seen to be quite superficial.

The small head is usually set low and closely on the thorax; the more or less elongate antennae are composed of from 12 to 17 (usually 16) segments. The thorax is typically strongly arched, the scutellum small, and the metanotum large. There is a great variation in wing venation. Because the workers in this family have used the Comstock-Needham system, we reverse the system and use this first, with the Williston numbering in parenthesis. Vein R_{1+5} (third) arises from R_{1} (first); second vein absent, or simulating a crossvein; the veins R_{4+5} and M_{1+2} generally fuscate; the cell 1st M_{2} (discal) is absent. Coxae very long; tibiae with large apical spurs.

The flies are ordinarily collected in dark, damp places; some are taken in patches of grass, others on tree trunks. Once windows in old deserted houses were nearly always

Figure 66. Boletina atra Cole, family Mycetophilidae. Drawing of holotype male.

Figure 67. Pleural sclerites of mycetophilids, Boletina and Mycomyia.
good places to search for these gnats. The eggs, of which few are known, are small and white, elliptical, and in clusters or strings. The small larvae are vermiform, 12-segmented, mostly peripneustic (spiracles along each side of the body).

We originally followed the classification of Johannsen, his fascicle in Genera Insectorum (1909) and his Fungus Gnats of North America (1909–1912). The recent work of Shaw and Fisher, particularly their review of the family in Diptera of Connecticut (1952), has led us to make numerous changes. The classification of Edwards (1924) is now widely accepted as standard. The new catalog arrangement (1965) is by Laffoon.

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**MYCETOPHILIDAE**

Eyes joined by a narrow bridge above the antennae; (a group considered here as a separate family) . . . . . . . . . . Sciaridae

Eyes not joined by a facetted bridge over the antennae. 8

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**SUBFAMILY DITOMYIINAE**

*Symmerus* Walker


The subcostal vein in this genus is vestigial; the antennae are 2+15 segmented, the eyes are reniform (rounded in *Ditomyia*).

*S. annulatus* (Meigen), the type-species, was first recorded in this country from New Jersey and New Hampshire; it was originally described in the genus *Myctetobia*. We have taken specimens near Corvallis, Ore. The thorax is shining yellow, abdomen shining yellow with black posterior margins on the tergites. The wings are not distinctly fasciate as in the two described Mexican species. *S. cogulus* Garrett (1925a) has been taken in Alaska, Alta., B.C., Idaho, Ore., and Wash. Laffoon (1965) states: "annulatus, authors, not Meigen."

**SUBFAMILY BOLITOPHILINAE**

These are rather slender species with long and narrow wings. The cell R (first basal) and 2nd M (second basal) separated, the second much shorter. The antennae are 17-segmented, and in the male nearly as long as the body. Now that *Hesperinus* Walker has been removed to the family Bibionidae, there is only one genus.

*Bolitophila* Meigen


The type-species is *cineracea* Meigen, recorded below. *B. acuta* Garrett (1925a) was described from types taken at Marysville, B.C. *B. alberta* Fisher (1937) was described from a male taken at Jasper, Alta. *B. bilobata* Garrett (1925a) was taken in B.C. *B. buccata* Shaw (1940) was based on a male type collected at Boyer, Ore., and is said to resemble *dupla* Garret. *B. clavata* Garrett (1925a) is known from Cranbrook, B.C. *B. connectans* Garrett (1925a) was collected at Michel, B.C.

The type locality of *B. disjuncta* Loew, now made a synonym of *dubia* Siebke, was given as New Hampshire, but Aldrich found the species at Juliaetta, Idaho, and there is a record from Alta. (Strickland). The types of *D. dubiosa* Van Duzee (1928a) came from Mill Valley, Calif. Type material of *D. dupla* Garrett (1925a) came from Cranbrook and Vancouver, B.C. *B. hybrida* (Meigen) was taken in the White Mountains, New Hampshire, also far west in the Selkirk Mountains, B.C., and we found the species in early March at Forest Grove, Ore. The species has vein R_{2,3} end-. 

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**Figure 68.** Mycetophilid heads and wings.
ing in the costa, while in dubiosa this second vein is straight and ends in R_{1,5} (third). The eastern B. montana Coquillett has been recorded from B.C.

*B. paltula* Garrett (1925a) was described from specimens taken at Stanford University, Calif. *B. perlata* Garrett (1925a) was taken at Bull Run, B.C. *B. raca* Garrett (1925a) was collected at Crow's Nest, B.C. *B. recurva* Garrett (1925a) was described from specimens taken at Michel, B.C., and later records are from Alta. *B. simplex* Garrett (1925a) is known from Cranbrook, B.C. *B. subteresa* Garrett (1925a) is known from Cranbrook, B.C.

**SUBFAMILY DIADOCCIDINAE**

**Diadocidinae Ruthe**


The segments of the antennae are 2+15. The wings are rather large, hairy, with a wide base; both crossveins closing the basal cells are present, nearly in a straight line. The type-species is *Mycetobia ferruginosa* Meigen.

*D. borealis* Coquillett was discovered at Lowe Inlet, B.C.; Shaw and Fisher have added Connecticut in the East, Wash., and Calif. in the West. We found the species near Forest Grove, Ore. *D. ferruginosa* (Meigen) has been taken in Wash. and Calif. *D. stanfordensis* Arnaud and Hoyt (1956) was described from specimens taken at Stanford University, Calif.

**SUBFAMILY KEROPLATINAE**

**Key to the genera**

The eastern *Asindilum* differs in having greatly elongated face and mouthparts.

1. Antennae very much flattened, straplike; palpi porrect, not incurved; vein R_{2,3} (second) ends in R_{1} (first); proboscis short. .................. *Keroplatus* Bosc Antennae not conspicuously flattened; palpi incurved. 2

2. The r-m crossvein not obliterated by fusion of bases of radial and medial veins (third and fourth) ............ *Palaeoplataura* Meunier

   The r-m crossvein obliterated by fusion of bases of R_{1,5} and M_{1} ......................... 3

3. Media (fourth vein) arises at base of wing and basal portion may be foldlike; vein R_{2,3} (second) ends in first branch of R ............ *Apemon* Johannsen Media arises at the crossveins (its basal section is lacking); setae present on head, thorax, and coxae (only fine hairs in *Apemon*; however, Shaw and Fisher consider *Apemon* not generically distinct from *Platyura*) .............. *Orfelia* Costa, *Platyura* Meigen

*Keroplatus* Bosc.


Edwards, in his revision of 1929, divided the genus into six subgenera, four of which are in the Nearctic region; of these *Ceroplatus* and *Euceroplatus* are found in the West. The type-species is *Keroplatus tipuloides* Bosc.

*K. (K.) clausus terminalis* Coquillett (1905d) was described from a specimen taken at Kaslo, B.C.; Fisher had other material from the province and from Texas. K. (E.) *Euceroplatus fasciatus* (Garrett, 1925a) is known from B.C., Wash., and Calif. K. (E.) *fasciolus* Coquillett is known only from females taken in Wash. and Arkansas. K. (K.) *militaris* Johannsen (1909) is known from several eastern states and from Wash.

**Palaeoplataura Meunier**

*Palaeoplataura* Meunier, 1899; 164; Johannsen, 1909: 224–227; Fisher, 1941: 295–296. The genus contains recent as well as the indicated fossil species. The antennae are 2+4 segmented. The wings are rather broad and longer than the abdomen. Veins R_{2,3} and R_{1,4} (second and third veins) are separate at the base, distal of the r-m crossvein. The type-species is *Palaeoplataura macroceraria* Meunier.

*P. aldrichi* Johannsen (1909) was described from specimens taken at Friday Harbor, Wash. *P. melanderi* Fisher (1941) was described from a male taken at Tahoma Fort, Mt. Rainier, Wash., later found in other localities in Wash.


Johannsen placed all these species in the genus *Platyura* Meigen. There is apparent intergradation between Johannsen's *Apemon* and *Platyura*. A species in North Carolina, *Platyura fultoni* Fisher, is described in a well-illustrated

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**Figure 69. Orfelia nigra (Cole) family Mycetophilidae.**
article (1941) with the title “A luminous fly larva with spider traits.”

The type-species is Platvura fasciata Meigen. The types of O. angustata (Van Duzee) (1928a) were taken in Mill Valley, Calif. O. elegansu (Williston) was taken in Ariz. The type locality for O. equa/is (Van Duzee, 1928) is Corvallis, Ore. The widespread O. fascipennis (Coquillett) (1921) is known from B.C. O. hirtula (Coquillett) was collected at Vancouver, B.C.

O. moenecus (Johannsen) is known only from Sask. (Johannsen, 1922) was collected at Santa Cruz, Cranbrook, B.C. Loew is listed from B.C. M. superba (Johannsen) (1910a) is a synonym. The widespread M. marginata (Johannsen, 1910) was taken in Wash. Type material of O. notabilis (Williston) was taken in Wash. O. palmi (Shaw, 1951) was based on a male taken in the Snowy Range Mountains, Albion Co., Wash. O. pullata (Coquillett) is a Calif. species. O. scapularis (Johannsen, 1910) was collected in Wash., Idaho, and Calif. O. setiger (Johannsen, 1910) was taken in Wash.

Platvura Meigen

Platvura Meigen, 1803: 264.

The type-species is marginata Meigen. Anemon Johannsen is a synonym. P. maudae Coquillett has been taken in Wash. and Ore. P. nigricentrus (Johannsen, 1910) is known from B.C., Wash., Idaho, and Mont. P. pectoralis Coquillett is a large species (8 to 12 mm.), with abdomen mostly reddish yellow, now known from Nev., Wash., Ore., and Idaho; Van Duzee's njas from Calif. may be the same species. P. pulchra Williston was taken in Wash. P. willstoni Laffoon (1965) is a new name for gracilis Williston (preoccupied), known from Wash.

Asindulm Latreille

Asindulm Latreille, 1805: 290.

The type-species is nigrum Latreille. There is a record of the generally eastern A. montanum Roder from Alta.

SUBFAMILY MACROCERINAE

Macrocera Meigen


Laffoon (1965 Catalog) puts Macrocera and Fenderomyia in the subfamily Keroplatinae.

These little flies (3 to 5 mm.) have antennae segmented 2+14, the total often much longer than the body. The type-species is Macrocera lutca Meigen.

Garrett described seven species from western Canada in 1925. M. heringensis Malloch (1923), was taken in Alaska. M. bicolor Garrett was taken at Cranbrook, B.C. M. clara Loew is listed from B.C. M. claviceps Van Duzee (1928a) was taken in Calif. M. diluta Adams was taken in Ariz.; it is a shining yellow species with a wing spot covering the base of the media. M. distincta Garrett (1925a) was found at Cranbrook, B.C. M. formosa Loew, first known from New York, we have taken at Hood River, Ore.; there are two fasciae and two spots on the wing.

Specimens of M. hirtipennis Van Duzee (1928a) were collected at Santa Cruz, Mill Valley, and Berkeley, Calif. Garrett's species pilosa, simillis, and unica (1925a) were taken in the vicinity of Cranbrook, B.C. M. trivittata Johnson (1922) is known only from Sask. M. variola Garrett (1925a) was collected in Alta. The type locality for M. villosa Garrett (1925a) is Fernie, B.C.

Fenderomyia Shaw


This genus resembles Macrocera but differs in thoracic structure and wing venation. The petiole of the media (fourth vein) is distinct and appears to extend to what is ordinarily called the m-cu crossvein. In the pleural area the mesepimeron fails to reach the metapleurite.

The one known species is F. smithi Shaw (1948); this was described from specimens taken at Station 3A, Peavine Ridge, McMinnville, Ore.

SUBFAMILY SCIOPHILINAE

Key to the genera

1. Cubitus (vein 5) not forked; mesopleura bare.

2. The r-m (anterior) crossvein longer and oblique, looking like the beginning of a longitudinal vein, and much longer than the small transverse section of radial sector.

3. Media (vein 4) forks slightly distal of r-m crossvein, but proximal of cubital fork; mesopleura hairy.

4. Ocelli 2, set next to eye margin.

5. Ocelli widely separated, the middle one distinct and little smaller or no smaller than the lateral ones...

6. Vein R4,5 (third) curved and undulate; cell R1 (marginal) usually shorter than broad; Sc ends free or in costa beyond the margin cell.

7. Proboscis elongated, snoutlike; anterior veins of wing unusually thickened.

Two generic names have recently been added to our list of North American forms in the tribe Sciophilini; these are noted in the 1965 Catalog by Laffoon. Members of the genus Leptonomorphus have been reared from bark fungi.
Leptomorphus Curtis
Leptomorphus Curtis, 1831: pl. 365.
The type-species is walkeri Curtis. Walker later (1848) set up the genus Diamonius for species belonging here. L. magnificus (Johannsen) (1910b) was first found in eastern states; recently in Wash.; it was described in Diamonius. L. subcaeruleus (Coquillett) ranges across eastern United States into Alta. Johannsen's pulcher is a synonym.

Megalopelma Enderlein
Megalopelma Enderlein, 1910b: 165.
The type-species is planiceps Enderlein. Our one species is M. glabum (Johannsen) (1910b), described in Sciophila, and ranging mostly through eastern states, with a record from Alta. Johannsen described a variety germanum from Wisconsin.

Monocloa Mik
Monocloa Mik, 1886: 279; Johannsen, 1910: 128.
Sciophila halterata Staeger is the type-species = rufilatera (Walker). In 1925 Garrett described M. simplex, taken at Caulfields, B.C. We can add the eastern elegantula Johannsen (1910), reported from B.C., also M. furcata Johannsen (1910b) and M. ulahensis Fisher (1946), from Idaho.

Eudicrana Loew
The type-species is the eastern E. obiunbrata Loew. The western E. plexipus Garrett (1925a) was taken at Vancouver, B.C.

Tetragoneura Winnertz
The type-species is Sciophila sylvatia Curtis. Johannsen included three eastern forms and a fossil from Florissant, Colo. Sherman (1921) described the species arcuata, atra, and fallax from B.C. T. longicauda Van Duuze (1928a) is a Calif. species T. marcella Sherman (1921) is a B.C. species.

T. quiriana Cole (1921) was taken at Forest Grove, Ore., March (Cole); the general body color is black, including antennae, palpi, and mouthparts. The presumably eastern T. pinipila Coquillett was taken at Forest Grove, Ore., March. Garrett's T. rohur and T. similis (1925a) were taken at Cranbrook, B.C., and nearby localities.

Sciophila Meigen
The type-species is Sciophila hirta Meigen. The head is small in this group, spherical, flattened in front; eyes oval, slightly emarginate at base of antennae.

S. acuta Garrett (1925a) was collected in B.C. S. agassiz Garrett (1925a) was taken at Agassiz, B.C. (evidently an error in typesetting). S. bicolor Garrett (1925a) was taken in Allo, B.C. S. bifida Garrett (1925a) is a B.C. species.

S. fasciata Say is accepted and redescribed by Johannsen as a species occurring in "Pennsylvania, Maryland, and New Mexico." In the Aldrich Catalog there is a "bifasciata Say—N.W. Territory," and that agrees with our copy of Say, Volume I. S. distincta Garrett (1925a) and S. fusca Garrett (1925a) are B.C. species.

We collected a species at Forest Grove, Ore., that agreed with the description of hirta Meigen given by Johannsen, with type habitat in Greenland. S. impar Johannsen (1910b) was described from specimens taken in Wyo. and Wash.

S. longira Garrett (1925a) was taken in B.C. S. neohobes Garrett (1925a) was collected near Cranbrook, B.C. and at Banfl, Alta. The type locality for S. nitula Van Duuze (1928a) is Tulare Co., Calif.; the name is preoccupied by nitula Zetterstedt and Laffoon (Catalog) has substituted puta Garrett (1925a) described S. pura and S. setosa from B.C.

Synapha Meigen
Synapha Meigen, 1818: 227.
Enaphia Winnertz (1863) has been used here; see Johannsen, 1910: 149–150. The type-species of Synapha is fasciata Meigen. Johannsen observed: "the straight course of R_{4,5} seems to me to have greater value as a generic character than the incompleteness of the subcosta." S. disjuncta (Garrett, 1925b) is known from Marysville, B.C.

Polylepta Winnertz
The type-species is P. uncilata Winnertz. The head and eyes are much like the average species of Sciophila. The western P. moesta Van Duuze (1928a) was taken at Carmel, Calif.; the western P. nigella Johannsen (1910b) was found on Orcas Id., Wash.; it is subshining black, with yellow on humeri and second antennal segment. The eastern P. obedientis Johannsen (1910b) ranges west to B.C.

Dziedzickia Johannsen
The type-species is Hertwigia marginata Dziedzicki. D. columbiana Sherman (1921) was taken in B.C., also D. fuscipennis (Coquillett) (1905d). D. immaculata Cole and D. oreogena Cole were both described in 1919 from types collected at Forest Grove, Ore. The species oreogena differs from its Ore. neighbor in the longer cell r_{1}, black knob of halteres, etc. Sherman (1921) described johannseni and occidentalis from B.C.

D. pullata (Coquillett) was first taken at Stanford University, Calif.; it has hyaline wings; petiole of media about twice as long as r-m crossvein. Sherman (1921) described rutula and cernalis from B.C.

Mycomya Rondani
Mycomya Rondani, 1856: 194; Johannsen, 1910: 165–188.
The type-species is Sciophila marginata Meigen. M. alternata Fisher (1937) ranges west to B.C. and Wyo. M. ampla

Figure 70. Wings of Dziedzickia, family Mycetophiliidae. (A) D. immaculata Cole; (B) D. oreogena Cole.
Garrett (1924c) was taken at Banff, Alta., and Fernie, B.C. M. angulata (Adams) was collected at Manitou Park, Colo. M. armata (Garrett 1924c) was based on a male taken at Caulfieds, B.C. M. ata Garrett (1924c) was based on three males taken at Vancouver and on Savary Isd., B.C. M. autumnalis Garrett (1924c) is known from B.C.

Original material of M. biseriata (Loew) came from “Red River of the North,” Johanssen’s re-description (1910) based on specimens from Selkirk Mts., B.C. M. brevisvittata (Coquillett) is known from B.C. M. calcarata (Coquillett) is known from Calif. M. californica Van Duzee (1928a) is a Calif. species. M. caulfieldi Garrett (1924c) was collected at Caulfiecls, B.C. M. cranbrookii Garrett (1924c) was based on a male taken at Cranbrook, B.C. M. curvata Fisher (1937) is recorded from Alta., B.C., Wash., Mont., Wyo., and Maine.

M. difficils Garrett (1924c) is based on specimens taken at Cranbrook, B.C. M. dura Garrett (1924c) was taken at Vancouver, B.C. M. echinata Garrett (1924c) was collected at Michel and at Vancouver, B.C. There is a B.C. record for the eastern flavohirta (Coquillett). M. hamata Garrett (1924c) was based on a male taken near Michel, B.C. M. humida Garrett (1924c) was also taken near Michel, B.C. Van Duzee’s fulvitibia, juscipalpis, and hirticauda (all 1928a) were taken in Calif. M. hirticollis (Say) ranges across southern Canada to Ore.

Johanssen (1910b) recorded his imitans from northeastern states and from B.C. M. incompta Johanssen (1910b) is a B.C. species. M. intermedia Fisher (1937) was taken in Calif. M. littoralis (Say) var. frequens Johanssen (1910) was reported from central Calif. (Bay Region). M. longispina Van Duzee (1928a) is made a synonym of fulvitibia Van Duzee. M. magna Garrett (1924c) was taken at Fernie, B.C.

Types of M. marginalis Johanssen (1910b) came from the Selkirk Mts., B.C. M. maxima Johanssen (1910b) is known from Maine to B.C. M. mendax Johanssen (1910b), with its varieties a and b, was collected in Idaho, B.C., and Calif. M. mutabilis Sherman (1921) is a B.C. species. Types of M. nigricauda (Adams) were taken at Colorado City, Colo.

M. nigrihirta Van Duzee (1928a) was collected near Berkeley, Calif. M. oviducta Garrett (1924c) is transferred to Boletina. M. polleni Garrett (1924c) was based on males from Cranbrook, B.C. M. sequax Johanssen (1910b) is known from eastern states and Alta. M. shermanii Garrett (1924c) was taken at Michel, B.C. M. sigma Johanssen (1910b) ranges west to Idaho. M. simplex (Coquillett) (1905d) was taken in B.C. There are now western records for sphagnicola and sublittoralis Shaw (1941a). M. tantilla (Loew) ranges west to Wyo. M. terminata Garrett (1924c) was taken at Fernie, B.C. M. vulgaris Garrett (1924c) is known from B.C. and Alta.

**Neoempheria Osten Sacken**


In *Genera Insectorum* (1909) Johanssen considered this group a subgenus but later found some characters other than the fasciate wings to justify separation. The type-species is *Sciophila striata* Meigen.

Laffoon (new Catalog) reported only *N. didyma* (Loew) from the West, from B.C. *N. flavohirta* (Coquillett) is placed in *Mycomya*.

**Hadroneura Lundström**


The type-species is *palmeni* Lundström. Our one species is *H. kincaidi* (Coquillett), taken in Alaska (Popof Id.).

**SUBFAMILY MYCETOPHILINAE**

**Key to the genera**

(At Johanssen) 1. Proboscis longer than head; media and cubitus unbroken; palpi near apex of proboscis .......................... *Gnoriste* Meigen... 2

2. Proboscis not elongate ........................................ 2

2. Cubitus not forked, or faint; lateral ocelli removed from eye margin; subcosta goes to base of Rs. ... .......................... *Acremia* Winnertz... 2

Cubitus with 2 branches, anterior branch may be detached at base; both cubitus and media forked, but immediate base of anterior branch may be lacking. 3

3. Subcostal vein ends in costa and is at least one-half as long as basal cell R. .......................... 4

Subcosta usually short, but if long, ending either in R₁ (marginal cell) or with its end free. 10

4. Basal section of anterior branch of media (fourth vein) lacking; subcostal crossvein present though faint; costa slightly produced beyond tip of Rs.; third vein undulate; postnotum hairy or bristly (the genus *Odontopoda* might trace here) .................. *Neuratelia* Rondani ... 5

5. Subcostal crossvein present .................................. 6

Subcostal crossvein absent .................................. 8

6. Cubitus (fifth vein) forks distad of media (fourth); ocelli on a transverse row on a broad frons; subcostal crossvein proximal of base of Rs; legs slender and extremely long; media forks broadly .................. *Phrinia* Winnertz ... 7

Cubitus forks under or proximal of fork of media ... 7

7. Subcostal vein enters costa beyond, at, or little before base of radial sector; fore metatarsus shorter than tibia; petiole of media (fourth vein) less than one-half as long as anterior branch (some recent authors place the genus in *Scrophilinae*) .......................... *Boletina* Staeger ... 8

Distance between tip of subcostal and base of radial sector is at least one-fourth breadth of wing; the extremity of subcosta may be faint in some (some authors place in tribe *Leini* of *Scrophilinae*) .......................... *Leia* Meigen ... 8

8. (5) Cubitus (fifth vein) forks proximal or under fork of media; anal vein not produced to wing margin .......................... *Boletina* Staeger, part ... 9

9. Lateral ocelli remote from eye margin; posterior basal seta of hind coxa absent .......................... *Coelosisia* Winnertz ... 9

Lateral ocelli close to eye margin; subcostal vein short, rarely reaching costa; posterior basal seta of hind coxa present .......................... *Phronia* Winnertz, part ... 10

10. (3) Costal vein extends noticeably beyond tip of Rs (if
but slightly, then subcostal vein long and ending in first vein); subcostal vein either longer than one-fourth basal cell or it does not end in first vein; lateral ocelli nearly or quite contiguous to eye margin ........................................ 11
Costa not extending beyond tip of radial sector; second palpal segment not distinctly swollen; antennae longer than head. ........................................ 14

11. The r-m (anterior) crossvein in same line as second section of Rs; fork of media (fourth vein) slightly distad of fork of cubitus (fifth) or in line; costa produced beyond Rs. .Docostia Winnertz
The r-m crossvein makes a distinct angle with second section of radial sector (Rs). ........................................ 12

12. Subcostal vein less than one-half as long as basal cell R; cubitus forks noticeably distad of fork of media, the branches of former widely divergent; costa but little produced; anal cell short; tibial setae small; basal seta of hind coxa present. ........................................ Phronia Winnertz, part
Subcostal vein more than one-half as long as basal cell R, ending in Rs; costa produced little if any beyond tip of Rs; basal seta of hind coxa lacking. ........................................ 13

13. Setae of hind tibiae short, not much longer than diameter of tibiae; 3 ocelli, middle one small. .Trichonta Winnertz
Setae of hind tibiae usually arranged in 3 rows, stout, more than twice as long as diameter of tibiae; middle ocellus rarely present; costa not produced beyond Rs. .Dynatosoma Winnertz

14. (10) Posterior basal seta of hind coxa present; ranges of setae on hind tibiae slender (except in Brachypes)a), usually little if any longer than diameter of tibia. .Brachypes Winnertz
Posterior basal seta of hind coxa absent; the ranges of setae on hind tibiae conspicuously stout and twice as long as diameter of tibia; crossveins usually with dark spots, the wing usually fasciate. . .................... 20

15. Intermediate antennal segments closely sessile, annular or torulose; tibiae stout, noticeably enlarged at ends, the setae moderate; base of fork of cubitus (fifth vein) proximal of proximal end of r-m crossvein; wings sometimes with markings. .Brachypes Winnertz
Antennal segments usually subcyllindrical, and otherwise not with the above combination of characters; wings unmarked except in Telmaphilus. ........................................ 16

Cubitus forks distad of fork of media. . .................... 18

17. Anal vein stout, ending abruptly, usually a little beyond fork of cubitus; angle between branches of cubitus very acute at base; base of fork at or proximal of proximal end of r-m (anterior) crossvein. .Rymosia Winnertz
Anal vein slender, and otherwise differing from above. .Aldolia Winnertz

18. (16) Media (fourth vein) forks proximal of end of basal cell R; subcostal vein ends free; middle ocellus present or absent; mesopleural and hypopleural bristles absent. .Exechia Winnertz
Media forks distad of end of basal cell R; costa extends very little beyond end of radial sector; 3 ocelli, the middle one very small. . .................... 19

19. Wings hyaline; subcosta less than one-half length of basal cell R. .Phronia Winnertz, part
Apex of wings more or less cloudy or smoky; subcosta ends free beyond middle of basal cell. .Telmaphilus Becker

20. (14) Subcostal vein ends in first branch of R; branches of cubitus (fifth vein) quite divergent; usually 3 ranges of setae on hind tibiae; middle ocellus usually absent (see couplet 13). .Dynatosoma Winnertz
Subcostal vein ends free. .................... 21

21. Two ocelli (lacking middle one); costa not produced beyond tip of radial sector; branches of cubitus (fifth vein) usually parallel on apical third. .Mycetophila Meigen
Three ocelli present, middle one minute; branches of cubitus more or less convergent, rarely parallel; fork frequently distad of fork of media (fourth); costa ends at tip of Rs. .Mycotherea Winnertz

Gnoriste Meigen
The genus is remarkable for its slender proboscis, which may be longer than the head and thorax combined. The wings are relatively large. Shaw and Fisher (1952) have placed the genus in the tribe Gnoroitini of the subfamily Sciophilinae (along with Coelosia, Boletina, Dzedzickia, and some eastern genera); we have kept to the older Johannsen classification.

G. apicalis Meigen, the type-species, is a boreal species found in Europe, and we quote Johannsen (1911) "said to occur also in Alaska and Colorado." It now appears to be "not Nearctic." G. megarrhina Osten Sacken was first collected in Yosemite Valley, Calif. It is a blackish species, about 7 mm. in length, marked with yellow; wings with a yellowish tinge. Johannsen reported specimens from New York.

In the new catalog the genera Acnemia Winnertz, Rondaniella Johannsen, and Neuratelia Rondani are placed in the subfamily Sciophilinae by Lafuoo.

Acnemia Winnertz
The type-species is Leia ntidicollis Meigen. A. psylla Loew is a small (2.5 mm.) black species, with yellow legs, and without wing bands; variety a, which may be a distinct species, was taken in Wash. by Aldrich. A. varipennis Coquillett was collected in "mountains near Claremont, California." There is a brown crossband on the wing.

Rondaniella Johannsen
The type-species is Leia variegata Winnertz. R. abbreviata (Loew), made a synonym of sororcula (Loew) by Lafuoo, was found in eastern states, also in Selkirk Mts., B.C. (Johannsen).

*In the Sciophilinae as cataloged by Lafuoo.
Odontopoda Aldrich


The genus differs from the following Neuratelia only in lacking the subcostal crossvein (sometimes faint in that genus), and is placed under Neuratelia by Aldrich. The type-species is O. sayi Aldrich, taken in Marengo Cave, Indiana. There are two fossil species found in Baltic amber. Garrett (1925) described O. distincta from specimens taken at Agassiz, B.C.

Neuratelia Rondani


Johannsen (1912a) briefly described six species; four of these are from western states, including the type-species Mycetophila nemoralis Meigen. Garrett (1925b) collected N. abregena at Marysville, B.C. N. coxalis (Coquillett) was also taken in B.C. N. eminens Johannsen (1912a) was taken at Kendrick, Idaho (Aldrich).

N. flexa Van Duzez (1928a) was collected in Mill Valley, Calif. N. grandis Garrett (1925a) was described in three lines, from types taken at Marysville, B.C. N. nemoralis (Meigen) was recorded from Alaska, B.C., and Muir Woods, Calif. N. obscura Garrett (1925a) was taken in B.C. N. silvarica Johannsen (1912a) was first taken at Felton, Santa Cruz Mts., Calif. Johannsen gave the length of the above species as 5 to 6 mm.

Boletina Staeger


This genus may be better placed in the subfamily Scioophilinae, but we follow Johannsen. Johannsen named 21 species in his 1911 (1912a) bulletin, 11 of these listed from the West. The type-species is Leia trivittata Meigen.

B. antica Garrett, B. antoma Garrett, and B. astacus Garrett (all 1924c) were collected in B.C. B. atra Cole (1921) was described from western Ore. specimens. Van Duzez described a B. atra from Skagway, Alaska, in 1928; this is now to be a synonym of B. subatra Fisher. Type material of B. beringensis Coquillett came from Bering Island, in the Bering Sea (it is not listed in the 1965 Catalog). The Siberian B. birulai Lundström (1915) was found in Alaska. B. crassicauda Van Duzez (1928a) is an Alaskan species.

B. delicata Johannsen (1912a) is known from Wyo. B. diversis Garrett (1924c) was taken in B.C. B. gracilis Johannsen (1912a) was taken in Calif. and in B.C. The boreal B. groenlandica Staeger is listed from Alaska and Colo. The types of B. imitator Johannsen (1912a) were taken on Mt. Rainier, Wash.; later specimens from B.C. and Alta. B. insaps Coquillett was first taken at Yakutat and Orca, Alaska; a variety noted from Moore's Lake, Idaho; we found the species at Forest Grove, Ore., September to January.

B. juvana Garrett (1924c) is known from B.C. B. longicornis Johannsen (1912a) is known from Moscow, Idaho. B. magnana Garrett (1925a) was collected at Marysville, B.C. B. melaneuca Johannsen (1912a) was first taken at Jackson Lake, Wyo., later in B.C. B. montana Garrett (1924c) is a B.C. species. B. necta Johannsen (1912a) was taken in Wyo. B. notescens Johannsen (1912a) ranges from Maine west to B.C. The first specimens of B. obsola Johannsen (1912a) were taken “at the head of Tsirku River, Alaska, July.” The head and thorax are entirely black, abdomen dark brown with yellow incisions; femora and tibiae yellow.

B. ovicincta (Garrett) (1924c) was described in Myconyma from B.C. B. punctata Garrett (1925a) was taken at Creston, B.C. B. sedula Johannsen (1912a) was found on Mt. Rainier, Wash., later taken in Alta. B. shermani Garrett (1924c) was collected in B.C. B. sebra Johannsen (1912a) was first found on Mt. Rainier, Wash., later taken in B.C. B. subatra Fisher (1938b) is a new name for atra Van Duzez, an Alaskan species. B. tricincta Johannsen (1912a) ranges across the country—from New England, through the central states, and into B.C.

Leia Meigen

Leia Meigen, 1818: 258; Johannsen, 1911 (1912a): 278–290.

Johannsen discussed the 22 known species in his 1911 bulletin (actually mailed March 1912). The type-species is Leia fasciennis Meigen.

Garrett (1925b) collected L. cephalis near Marysville, B.C. L. cuneola (Adams), first listed from Colo., was taken in Idaho. L. heminata Garrett (1925a) is known from Marysville, B.C. L. hyalinana (Coquillett) was recorded from Las Vegas Hot Springs, N. Mex. L. lineola (Adams) was first found in Kem Co., Calif.

L. nigra Johannsen (1912a) was first taken at Pullman, Wash., where Melander found it infesting mushrooms. The name is preoccupied (Zetterstedt, 1838) and juculata Laffoon was substituted (1965 Catalog).

L. nigricornis Van Duzez (1929a) is an Alaskan species. L. oblectabilis (Loew) is listed from eastern states and from Mt. Rainier, Wash. L. opina (Loew) was listed by Johannsen from eastern states and from Wyo. L. shermani Garrett (1925a) was first taken at Agassiz, B.C., in June. L. striata (Wiltston), first taken in Wash., is known also from Wyo. and Calif.; the larvae infest mushrooms. The eastern L. sulluna (Loew) is now reported from Alta. and B.C. L. varia Walker, described as "Casada," has been recorded from Wyo. L. winthemii Lehman, with type locality "Canada; New Hampshire," has been collected in Wash. and Ore. (Aldrich and Cole).

Anatella Winnertz


The type-species is A. gibba Winnertz. Johannsen mentioned a fossil species from Colo. and a little (2.5 mm.) species from New York. A difficillus Garrett (1925a) has been placed here; it was taken near Vancouver, B.C. A. silverstris Johannsen (1909) was first reported from New York, now recorded from B.C.

Zygomyia Winnertz


The type-species is Mycetophila vara Staeger. Johannsen includes three species from the eastern United States. Garrett (1925b) described five species from B.C. The species are Z. bifasciata Garrett, Z. christata Garrett, Z. christulata Garrett, Z. coxalis Garrett, and Z. pilosa Garrett. All of these came from the same general region—Cranbrook and Marysville, B.C.
Sceptonia Winnertz

Sceptonia Winnertz, 1863: 907; Johannsen, 1912: 109. The type-species is Mycetophila nigra Meigen. We are back with Garrett (1925b) at Cranbrook and Marysville, B.C., where the types of *autumnalis* and *johannseni* were collected. The European *S. nigra* was reported from Dowie Creek and Rogers Pass, Selkirk Mts., B.C., but Laffoon (Catalog) lists it “not Nearctic.”

Phthina Winnertz


In this group the thorax is small and highly arched, the legs long and slender; abdomen relatively long and slender, particularly in male; wings shorter than abdomen. Laffoon places the genus in the Sciophilinae (Catalog).

The type-species is *Phthina humilis* Winnertz. *P. curta* Johannsen (1912a) was described from New York types. We collected what appears to be this species at Forest Grove, Ore., December and January; Laffoon reported it from B.C.

Coelosia Winnertz


We have five of the six species keyed out and discussed by Johannsen. The type-species, *Boletina flava* Staeger, is said to occur also in the United States, but now recorded “not Nearctic.”

*C. gracilis* Johannsen (1912a) is known from Calif. and Colo. *C. lepida* Johannsen (1912a) was taken at Los Angeles and Palo Alto, Calif. The types of *C. molestana* Johannsen (1912a) were taken at Palo Alto and Berkeley, Calif. Type locality for *C. pygophora* Coquillett is San Mateo Co., Calif. Laffoon reports the European *tenella* (Zetterstedt) and *truncata* Lundström from the Northwest, and places the genus in Sciophilinae.

Syntemna Winnertz


The type-species is *Syntemna morosa* Winnertz. *S. vittata* (Coquillett) is one of the five species known to Johannsen in 1911; the type was taken in New Hampshire, but Johannsen thought a female taken at Friday Harbor, Wash., might belong here. Laffoon (Catalog) states “Syntemna, authors, not Winnertz,” and places our species in *Drieszickia*.

Megophthalmidia Dzedzicki


The type-species is *Megophthalmidia zugunyeriae* Dzedzicki. *C. crassicornis* (Curits) The type specimens of *M. occidentalis* Johannsen (1909) were collected at Friday Harbor and on Mt. Rainier, in Wash., July and August (Aldrich), later taken in B.C.

Docosia Winnertz

Docosia Winnertz, 1863: 82; Johannsen, 1911 (1912a): 299–301.

The type-species is *Docosia valida* Winnertz. Four species were known to Johannsen. Garrett’s species were described in 1925, all from B.C.

D. aceus Garrett was taken at Cranbrook, B.C. *D. affinis* Garrett was taken at Marysville, B.C. Types of *D. apicina* Garrett came from Fernie, B.C.; this a black species with yellow legs. *D. deflecta* Van Duzea (1928a) was taken in Mill Valley, Calif., February. The subcostal vein is lacking. In *dialeta* Van Duzea (1928a) known from Mill Valley and Moraga Valley, Calif., the subcostal vein ends in vein R, (first).

*D. nebulosa* Garrett was described from Vancouver specimens. *D. niggella* Johannsen (1912a) is said to differ from *obscura* mostly in wing venation; types were collected at the head of Tsirku River, Alaska. *D. nigrita* Garrett was taken at Marysville, B.C. *D. nitida* Johannsen (1912a) was taken in Alta. *D. obscura* Coquillett was based on a type from “White Mts., New Hampshire,” but a female from Muir Woods, Calif., was thought by Johannsen to belong here. *D. setosa* Garrett was taken at Michel, and *D. similis* Garrett was taken at Fernie, B.C.; *D. vieaecki* Garrett was also found in B.C.

Trichonta Winnertz

Trichonta Winnertz, 1863: 847; Johannsen, 1911 (1912a): 301–305.

The type-species is *Mycetophila melanura* Staeger. There are several eastern species and a fossil species. *T. chaoi* Shaw (1951b) was collected in Wyo. Type specimens of *T. fusca* Van Duzea (1928a) were taken in Mill Valley, Calif.

Cordyla Meigen

Cordyla Meigen, 1803: 262; Johannsen, 1911 (1912a): 308.

The type-species is *Cordyla fusca* Meigen. The species described by Garrett were taken in B.C. and published in 1925. *C. confecera* Garrett was taken at Cranbrook. *C. gracilis* Fisher (1938a) was taken in the Berkeley Hills, Calif. The eastern *C. manca* Johannsen (1912a) is listed from B.C. *C. neglecta* Johannsen (1912a) was collected at Los Angeles and at Felton, Calif., in May. *C. parva* Garrett is known from Cranbrook. *C. scita* Johannsen (1912a) was collected at Friday Harbor, Wash. *C. scutellata* Garrett was taken at Nelson, B.C.; *C. verio* Garrett was collected at Cranbrook.

Brachypeza Winnertz


The type-species is *Brachypeza bisignata* Winnertz. Johannsen knew only the type species and an eastern variety. Van Duzea described his species *brevicita* (1928a) from specimens taken in Mill Valley, Calif. The small species has unspotted wings; the eastern *bisignata* has two wing spots, one on the disc, the other at the apex of Rs. The *Allotia dentica* of Guthrie belongs in *Brachypeza*; it was described in 1917 from Calif.; the range now extended to Wash. and Iowa.

Rymosia Winnertz


The type-species is *Mycetophila fasciata* Meigen. Six eastern species were known to Johannsen. The larvae live in fungi (*Armillaria*, etc.). The eastern *R. akeleyi* Johannsen (1912a) is reported from Alta. *R. beckeri* Shaw (1951) was
described from a male taken at Jackson, Wyo.; the subspecies *R. beckeri marionae* Shaw (1951) came from Laramie, Wyo. *R. brevicornis* Sherman (1921) is a B.C. species. *R. coheri* Shaw (1951b) was collected in the Snowy Range, Albany Co., Wyo. *R. dietrichi* Shaw (1951b) is known only from Wash.

*R. diffusa* Johannsen (1912a) is known from Wash. and Calif. *R. faceta* Sherman (1921) was collected in B.C. *R. imitator* Johannsen (1912a) was taken at San Pablo, Calif., in November. *R. particauda* Van Duzee (1928a) was taken in Mill Valley, Calif., February and March; the wide yellow basal bands on the abdominal segments are of equal width. *R. pectinata* Sherman (1921) was collected in B.C. *R. pediformis* Shaw (1951) was taken at Jackson, Wyo. The types of *R. phamosa* Van Duzee (1928a) came from Mill Valley, Calif.; another species from the same locality is *R. spinicauda* Van Duzee (1928a); the black thorax is dusted with coarse white pollen; male claspers black and spiny. Sherman (1921) described *R. prolixia* and *R. seminigra* from B.C.

**Alloidia Wynnertz**


The type-species is *Myctophila ornatica* Meigen. Johannsen described eight species and noted that the structure of the anal vein and the position of the fork of the cubitus are slightly variable, even within a species.

Aldrich collected *A. bella* Johannsen (1912a) at Stanford University, Calif., February. *A. callicula* Johannsen (1912a) is recorded from Keyport, Wash., and from Littlewind River, Wyo. *A. cineta* Van Duzee (1928a) was taken near San Francisco, Calif. *A. delta* Johannsen (1912a) is known from Wash. and Calif.

Johannsen noted a variety of his species *falcata* (1912a) taken in Illinois and at Longmire’s Springs, Wash., May to August; *falcata* is now made a synonym of *ornatica* (Meigen). The types of *A. hirticauda* Van Duzee (1928a) were found in Mill Valley, Calif. It is a brown and black species, marked with yellow, and with long hairs at the tips of the male claspers. The European *nastillata* (Lundström, 1911b) was taken in Alta. *A. subelata* Malloch (1923b) was collected in Alaska (Pribilof Isds.).

**Phronia Wynnertz**


The type-species is *Phronia rustica* Wynnertz = *exigua* (Zetterstedt). In 1928 Van Duzee described three species he collected in Mill Valley, Calif. In these species the costal vein is produced but little beyond the tip of the radial sector; these species were named *basalis*, *flabellata*, and *fuscinervis*. Fisher (1938b) proposed *californica* for *basalis*, preoccupied. In *P. fuscinervis* the abdomen is wholly shining, black, the male claspers long, slender, and curving.

*P. hitecocki* Shaw (1951a) was described from a male taken on the Snowy Range Mts., Wyo. The eastern *P. insulsa* Johannsen (1912) has been reported from Utah. *P. nebulosa* (Johannsen, 1912) was taken in B.C. *P. tenebrosa* Coquillett is recorded from B.C., Ore., and Calif. *P. venusta* Johannsen (1912) ranges west to B.C., Alta., and Idaho.

**Telmaphilius Becker**

*Telmaphilius* Becker, 1908: 67; Johannsen, 1912b: 63–64.

Becker assigned two species to the genus, one of them being his *T. biacutatus*, which is designated the type-species. The genus is now made a synonym of *Phronia*. Our known species, as the above *tenebrosa*, have one or two clouds on the wing.

**Exechia Wynnertz**


This is a rather large genus of closely related and quite variable species. Johannsen’s key was for males, based largely on the form of the hypopygia. The larvae are well-known fungus feeders. The type-species is *Tipula fungorum* De Geer = *Myctophila fusca* Meigen.

In 1928 Van Duzee described six species from specimens taken in Mill Valley, Calif. These species are named *aequalis*, *angustata*, *brevipetiolata*, *nocicagia*, *umbrosa*, and *unicincta*. The eastern *E. absurda* Johannsen (1912b) was found in Alta. *E. alexanderti* Shaw (1951) was collected at Laramie, Wyo. *E. assimilis* Johannsen (1912b) was taken on Mt. Constitution, Wash. *E. bellula* Johannsen (1912b) was taken in B.C.

*E. bilobata* Shaw (1951) was taken at Jackson, Wyo. *E. borealis* Van Duzee (1928a) was taken in Alaska; *E. brevipetiolata* Van Duzee (1928a) was slisted from B.C. *E. canalicula* Johannsen (1912b) was taken in Utah. *E. capillata* Johannsen (1912b) was collected near Palo Alto, Calif. *E. casta* Johannsen (1912b) is a synonym of *frigida* (Boheman).

*E. cincinnata* Johannsen (1912b) was based on eastern types, but the species was later found to be abundant in Mill Valley, Calif.; we have taken the fly at Forest Grove, Ore. The European *E. frigida* (Boheman) was taken in Alaska and Wyo. *E. ligulata* Shaw (1951) was taken at Laramie, Wyo.; the name preoccupied, and changed to *subligulata* Shaw. Johannsen described *nugatoria* and *nugux* (1912b) now reported from Alta. and B.C.

Type material of *E. obovidens* (1912b) came from Stanford University and Berkeley, Calif. The species was common in western Ore. in the early spring of 1917 and 1918. *E. palmata* Johannsen (1912b) was collected on Mt. Rainier, Wash. *E. perspicua* Johannsen (1912b) ranges from Maine to B.C. *E. pratii* Shaw (1951a) was based on a male taken at Laramie, Wyo. *E. umbretica* (Aldrich) was first found in “Skiloh Cave, Ind., July.” Specimens taken at Corvallis, Ore., November, answer the good description. *E. unicolor* Van Duzee (1928a) is an Alaskan species.

**Dynatosoma Wynnertz**


The type-species is *Myctophila fuscicornis* Meigen. *D. aureum* (Guthrie, 1917) was collected in Calif. *D. fulcidum* Coquillett has been taken in both the Northeast and the Northwest. *D. hilophilum* Garrett (1925b) was collected at Marysville, B.C., also Garrett’s *montanum* (1925b). *D. nigrina* Johannsen (1912) was first taken in Massachusetts, later found at Forest Grove, Ore.; recent studies place it as a synonym of *bifasciatum* (Walker), a species recorded from Maine to B.C. The eastern *D. placidum* Johannsen (1912b) ranges west to B.C.

**Epicypta Wynnertz**

E. scatophora (Perris), the type-species, mainly European and eastern, is recorded from B.C. Three synonyms are listed—pulicaria Loew, vitrea Coquillett (1905d), anomala Johannsen (1912b).

Mycetophila Meigen


Laffoon's revision of Mycetophila (his Funigotora, Meigen 1800) recognized 96 species, 67 of which are to be found in North America. We are indebted to Laffoon for examining our material in this group and for correcting several species names. Apparently the larvae are always associated with fungi; Johannsen called attention to structure of the larvae, which possess transverse rows of microscopic ambulacral setae upon the margins of the segments of the venter.

M. alata Guthrie (1917) as first taken at Stanford University, Calif., later collected toward the coast in Santa Cruz Co. Laffoon noted that permata Guthrie (in part, not holotype) and singularis Van Duzee are synonyms. M. alberta Curran (1927f) was first taken in Edmonton, Alta., later found in Alaska, B.C., Wash., Ore., and Calif. M. ala Laffoon (1965), new name for guttata Dzied., Europe and Alaska. M. alexandri (Laffoon, 1957) was based on Iowa types, but specimens were taken in B.C., Wash., Ore., Calif., and Ariz. M. arnaudi (Laffoon, 1957) was first taken at Tuolumne Meadows, Yosemite, Calif., later found in Ore. and Wash.

M. ottonsa (Laffoon, 1957) was described from specimens taken on Moscow Mt., Idaho, later found in Wash. M. bentineki (Laffoon, 1957) was collected in Sequoia Park and in Shasta Co., Calif., also in other northern Calif. localities. M. bohartorum (Laffoon, 1957) is known from Berkeley, Calif. M. carruthi Shaw (1951b) was first taken in Laramie Co., Wyo., later found in B.C., Wash., Ore., Calif., N. Mex., and Ariz. M. caudata Staeger was first known from Denmark; records now are from B.C., Alta., Sask., Wash., Ore., Idaho, Ariz., and Calif. M. gibba Winnertz, M. polita Loew, Opisthobola ocellata Johannsen, Mycetothera impellans Johannsen (in part, Pennsylvania and New Jersey only) are synonyms of caudata.

M. caurina (Laffoon, 1957) is known from males taken in Wyo., B.C., and Wash. M. cavillator (Laffoon, 1957) is based on males taken in Alta., Utah, and Calif. M. chamberlinii (Laffoon, 1957) was described from a male taken in a rotary trap at Matanuska, Alaska. The European M. cingu lum Meigen has been collected in Alaska and New Hampshire. M. inunulata Macquart and Letia bifasciata von Roser (in part) are synonyms of cingu lum. M. clavata Van Duzee (1928), with types taken in Mill Valley, Calif., has been recorded from B.C. and from all western states except Utah and Wyo. Laffoon puts spinigera Van Duzee, pacifica Fisher, and denningi Shaw in synonymy.

M. concinna (Laffoon, 1957) was based on Iowa specimens, with a western record from Sask. M. consocius (Laffoon, 1957) is known from males taken in Wash., Ore., and Calif. Types of M. contigua Walker were taken in Nova Scotia, but there are records from B.C., Ore., Utah, and Calif.; fallax Loew and lasata Johannsen are said to be synonyms. Type locality for M. crassitera (Laffoon, 1957) is Cloudcroft, N. Mex.; other specimens are from B.C. and Wash. M. cruciator (Laffoon, 1957) was described from a male taken at Mono Lake, Calif., and there is a N. Mex. record.

The type locality of M. dentata Lundstrom (1913) is Felsohanyka, Hungary, but Laffoon has determined specimens from Alaska, B.C., Wash., Utah, Calif., and several eastern states. The name permata Guthrie is a synonym. See under alata Guthrie. M. faceta (Laffoon, 1957) is known from males taken on Mt. Baker, Wash., and from Eldorado Co., Calif. Types of the common M. falciata Johannsen (1912b) were from New York, but there are records from the western Canadian provinces and from all of our western states. M. fascinator (Laffoon, 1957) was described from Minnesota types, with western records from Wash. and Calif. M. fatica Johannsen (1912b) was first taken at Moscow, Idaho; it is now known from B.C. and from western states east to Mont. and Wyo.

M. fishevae (Laffoon, 1957) is abundant in northeastern states and adjacent Canada, with isolated records from Alta. and Colo. Laffoon (1956) states that many specimens referred to in literature as M. punctata Meigen were M. fishevae. M. fuscumula Johannsen (1912b) was discovered at Ithaca, New York, and is now known from Alta., Idaho, and Ore. M. frustrator (Laffoon, 1957) was described from a male taken at Eureka, Calif.; other material came from Alta., Idaho, Mont., Ore., and Wash.

M. fungorum (De Geer) is a widespread mushroom pest, named originally from Scandinavian specimens, now known from most of western North America. Laffoon lists the following names in synonymy: Sciara striata Fabricius, M. cunicans Wiedemann, M. seminicta Meigen, M. rufa Macquart, M. trivialis Meigen, M. unicolor Meigen, M. grisea Zetterstedt, and M. khasiensis Senior-White.

M. ghanii Shaw (1951b) was described from a male taken on the Snowy Range, Albany Co., Wyo.; other records are from Wash. and Ore. M. guttata Dziedzicki (recently found preoccupied; see ala, above) was named from European specimens, and is now known in eastern states, most of the western states from Alaska to Calif. and east to Colo. M. hiuca (Laffoon, 1957) was described from a male collected in the White Mts., New Hampshire; it was also collected in B.C.

Types of M. ichneumonoea (Say) were taken in Pennsylvania; western records are from B.C., Alta., Sask., and Mont. Laffoon places in synonymy the well-known M. mutica Loew, a common mushroom pest in the Midwest and ranging west to the Pacific Coast. M. impellans (Johannsen) (1912b), first taken at Ithaca, New York, is now known to range over most of the western states and north to Alaska and Alta. Johannsen's edentula has been made a synonym. M. jugata Johannsen (1912b) was first known from the Santa Cruz Mts., Calif., and is now recorded north to B.C. M. leno Johannsen (1912b) was described from eastern males; specimens have been found in Alta. The status of M. lineola (Meigen) has been discussed by Edwards and Laff-
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foon, and there is a complex of old names. For the time being we may accept it as a species ranging across Europe, to Japan, Alaska, and down our Pacific Coast. This is the "mutica" of the Oregon list. Laffoon believes that the original description of lincola indicates that Meigen had guttata (Dziedzicki) or a closely allied species, and not M. ruficollis Meigen (= M. lincola of most authors). Further study may clear up the status of the names lincola and guttata; the name lincola is not included in the 1965 Catalog.

The European M. leuctosa Meigen has been collected in western Canadian provinces, also west in Alaska, Wash., Ore., Mont., Wyo., and northern Calif. Two synonyms made are M. modesta Winnertz and M. extenta Johannsen (1912b). M. maravica Laurdron (1925b) was first taken in Moravia, Czechoslovakia, but specimens have been found in Alaska, Idaho, Wyo., Utah, Ariz., also in Alta. and Sask. The type locality for M. ocellus Walker is England; recently specimens have been taken throughout the United States, Canada, and Alaska. Laffoon gives an extensive synonymy, including the well-known species names monachaeta Loew, and fusca Van Duzee and fenestrata Coquillet.

Type locality for M. parvimaculata Van Duzee (1928a) is Mill Valley, Calif.; Laffoon (1957) had added records from B.C., Ore., Calif., and Ariz. M. maculosa Guthrie (nec. Meigen) is a synonym. M. paula (Loew), described in Mycothera, has been taken in Alaska, neighboring Canadian provinces, and in several eastern states. M. trifasciata Coquillet is a synonym. M. paxillata (Laffoon, 1957) was based on a male type taken in Cedar Canyon, Idaho; other males were taken in nearby Alta., Wash., and Ore.

Types of M. pecita Johannsen (1912b) were taken in B.C.; the records now include some eastern states, Alaska, Alta., Sask., Idaho, Wyo., Ore., and Calif. (northern). Two of Van Duzee's names, ovata and bispinia, have been made synonyms (1957). Type material of M. percursa (Laffoon, 1957) consists of a male taken at Hazel Creek, near Dexter, Ore. M. perita Johannsen (1912b) was first taken in New York, later collected in B.C., Ore., and Calif.

M. pinguis Loew was first recorded from English River, Ontario; it is now known from some eastern states, and west in Sask. Loew's scalaris, now considered a synonym of pinguis, was reported from Hood River, Ore., October (Cole). M. propinquua Walker is recorded from several eastern states, and from the West in Idaho, Wash., and Ore. Laffoon (1957) makes Johannsen's perlonga a synonym.

M. recta Johannsen (1912b), described from a male taken in New York, has been taken in Alta., Sask., Idaho, Pacific Coast states, and Colo. Type material of M. recurva (Laffoon, 1957) consists of males taken in Tuolumne Co., Calif., and other localities in the state. M. ruficollis Meigen is European, but is now known from Alaska, the western Canadian provinces, and most of our western states. Laffoon (1957) gives several European synonyms and a long list of names that have been used in this country; the specific names lincola and mutica have been used throughout our literature.

Specimens of the Scottish M. scotica Edwards (1941) have been determined by Laffoon from Alaska and northern Calif. Types of M. seclusa (Laffoon, 1957) were collected in Colo. and Calif. M. septula (Laffoon, 1957), based on Iowa types, also occurs in Alaska, Alta., Sask., Ore., and Calif. M. serrata (Laffoon, 1957) was described from a male taken at Crater Lake, Ore.; other records are from Idaho, Utah, Wash., Wyo., and Calif. M. shawii (Laffoon, 1957) is known mostly from eastern states (type from Maryland), with one record from B.C.

Types of M. sierra (Laffoon, 1957) were collected at Pinecrest and Camino, Calif. There are European records for M. sigilla Dziedzicki and western records from B.C., Idaho, Ore., and Wyo. There is a wide distribution pattern for M. sigillata Loew, with known western specimens from Alta., B.C., and Wash. Johannsen's fastosa is considered a synonym. M. signata Dziedzicki, originally European, has been determined from specimens taken in B.C., Ore., and Wyo.

Type locality for M. sordida van der Wulp is The Netherlands; there are records (1957) in our country from eastern states and from Alaska, Alta., Sask., Wash., and Calif. Another European species, M. stolida Walker, has been taken in eastern states and in Alaska. Johannsen's socia is made a synonym. M. stricklandi (Laffoon, 1957) is known from Alaska, Alta., Sask., Ore., and two midwest states. Laffoon (1957) has determined M. strigata Staeher (Denmark) from specimens taken in Wash. and Ore; trichonota Loew and fuliginosa Dziedzicki are made synonyms. Types of M. subita (Laffoon, 1957) came from Cold Hill, Latah Co., Idaho, and Pinecrest, Tuolumne Co., Calif.; there are additional records from these states and from Wash. and Ore.

M. trinotata Staeher (Denmark) has been collected in Alaska, Sask., and California; names placed in synonymy (1957) are quatuornotata Loew, russata Dziedzicki, uhellii Lundstrom, and subquatuornotata Shaw. M. uncinata (Laffoon, 1957) is known from Mont., Utah, and Wyo. M. vegeta (Laffoon, 1957), based on Iowa types, is reported from Ariz. and Calif. Types of M. venusta (Laffoon, 1957) came from Alaska, other specimens from adjacent Alta. and Sask.

SCIARIDAE

(Lycoriidae)

The status of this group of rather small, fragile, dark-colored flies has vacillated between subfamilial placement under the Mycetophilidae and distinct familial status. Today most dipterists recognize this group as a family related to the Mycetophilidae and Cecidomyiidae. The adults differ from typical mycetophilids in the possession of shorter coxae and somewhat different wing venation. Also, the compound eyes, in most species, are more or less kidney-shaped, with an eye bridge above the antennae on the vertex. Some cecidomyiids have an eye bridge, but they lack the tibial spurs of the scarids. The three ocelli are distinct. The antennae are segmented 2 + 14, the two basal segments keylike in shape. Most of the species are scavengers in the larval stage, al-