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The Flies of Western North America

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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. proximus* McAtee (1921) is known from Colo. and Wyo.

D. sectus McAtee (1921) was discovered in the White Mts., New Hampshire; 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. stigmaterus Say has been recorded in the East and in B.C., Alta., Colo., N. Mex., Ariz., and Utah. *D. strigalatus* 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 Palaearctic. 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 Tipuloidea. 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 tho-

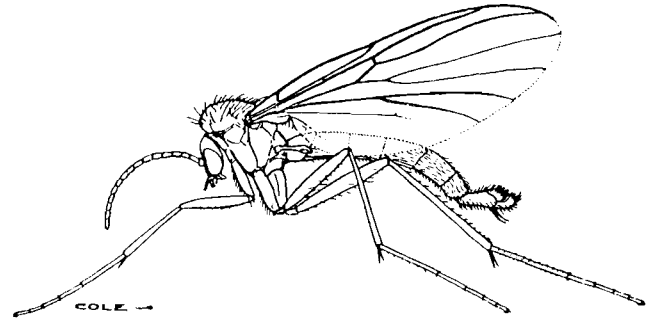


Figure 66. *Boletina atra* Cole, family Mycetophilidae. Drawing of holotype male.

rax; 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_{1+5} and M_{1+2} generally furcate; the

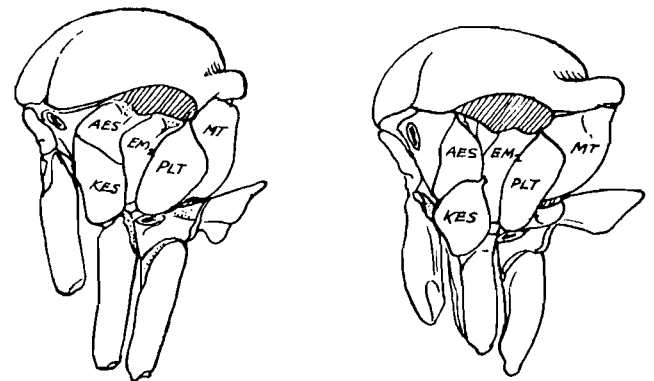


Figure 67. Pleural sclerites of mycetophilids, *Boletina* and *Mycomyia*.

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

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.

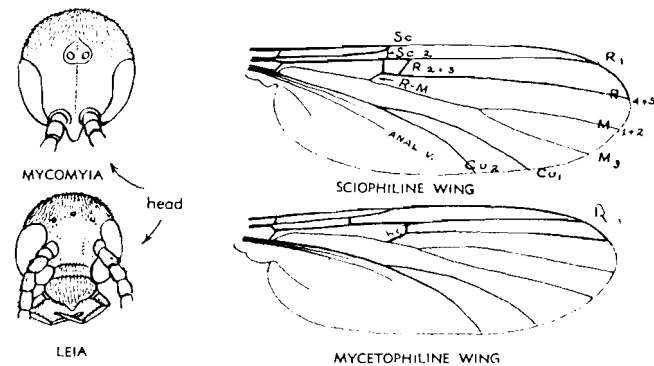


Figure 68. Mycetophilid heads and wings.

Key to the subfamilies

(Based on the Edwards' Classification, 1924)

1. Small m-cu crossvein present, connecting media and cubitus (veins 4 and 5), or these veins contiguous for a short distance at the place where the crossvein is usually located. 2
The m-cu crossvein or fusion absent. 6
2. Vein R₄ present, usually half or more than half as long as R₃; Sc ends free; posterior pronotum with one or more long bristles Ditomyiinae
Vein R₄ less than half as long as R₃ when present; Sc long, ending in costa; posterior pronotum lacks bristles 3
3. The m-cu (posterior) crossvein well before small r-m crossvein; media with a distinct basal section. Bolitophilinae
The m-cu crossvein close to r-m crossvein, or M fused with R for a short distance. 4
4. The crossveins m-cu and r-m present, practically in line; base of M lacking; Sc short. Diadocidinae
Vein M fused with R briefly (except *Palaeoplatyura*). 5
5. Antennae longer than body; anal angle of wings at right angles; tibiae without bristles. Macrocerinae
Antennae relatively short, usually thick-set and often flattened; tibial bristles present, small. Ceroplatinae
6. (1) Vein R_{1,2} and Rs running separately to wing base. Lygistorhininae
Rs arising from R well beyond base of wing. 7
7. Eyes joined by a narrow bridge above the antennae; r-m crossvein long and appearing like the base of Rs

- (a group considered here as a separate family) Sciaridae
Eyes not joined by a faceted bridge over the antenna. 8
8. Prothorax with long bristles; antennae set at or below middle of head. ~~Macrotinae~~ 9
Prothorax without long bristles; antennae set above middle of head 8 *Macrotinae*
9. Microtrichia of wings irregularly arranged; Sc usually long; Lateral ocelli usually far from eye orbit. Sciophilinae
Microtrichia of wings usually in definite lines; Sc usually short; lateral ocelli usually touching margin of eye. Mycetophilinae

SUBFAMILY DITOMYIINAE

Symmerus Walker

Symmerus Walker, 1848: 88; Johannsen, 1909: 228-231; Fisher, 1941: 278-282.

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 *Mycetobia*. 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. coquilus* 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

Bolitophila Meigen, 1818: 220; Johannsen, 1909: 218-220; Fisher, 1937: 387-389.

The type-species is *cinerea* 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. buccera* 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 *B. dubiosa* Van Duzee (1928a) came from Mill Valley, Calif. Type material of *B. 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-

ing in the costa, while in *dubiosa* this second vein is straight and ends in R_{4+5} (third). The eastern *B. montana* Coquillett has been recorded from B.C.

B. patulosa 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 DIADOCIDIINAE

Diadocidia Ruthe

Diadocidia Ruthe, 1831: 1210; Johannsen, 1909: 231-233; Fisher, 1941: 282-284.

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)
 *Palaeoplatyura* Meunier
 The r-m crossvein obliterated by fusion of bases of R_{4+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.

Keroplatus Bosc, 1792: 42; Johannsen, 1909: 235-238; Edwards, 1929: 173-175; Fisher, 1941: 285-294. Name amended to *Ceroplatus*.

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.

Palaeoplatyura Meunier

Palaeoplatyura 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+14 segmented. The wings are rather broad and longer than the abdomen. Veins R_{2+3} and R_{1+5} (second and third veins) are separate at the base, distad of the r-m crossvein. The type-species is *Palaeoplatyura macrocera* Meunier.

P. aldrichii 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.

Orfelia Costa

Orfelia Costa, 1857: 448.

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

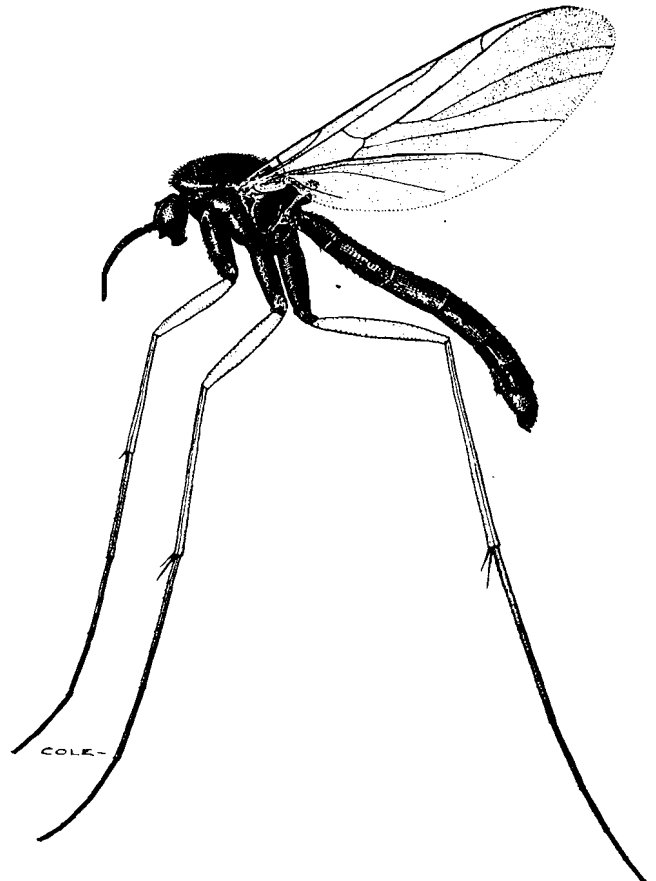


Figure 69. *Orfelia nigra* (Cole) family Mycetophilidae.

article (1941) with the title "A luminous fly larva with spider traits."

The type-species is *Platyura fasciata* Meigen. The types of *O. angustata* (Van Duzee) (1928a) were taken in Mill Valley, Calif. *O. elegantula* (Williston) was taken in Ariz. The type locality for *O. equalis* (Van Duzee, 1928) is Corvallis, Ore. The widespread *O. fascipennis* was taken in B.C. *O. intermedia* (Sherman, 1921) is known from B.C. *O. lurida* (Coquillett) was taken in Wash.

O. moerens (Johannsen) (1910a) and *O. moesta* (Johannsen) (1910a) are Wash. species. *O. nigra* (Cole) (1919) was collected at Forest Grove, Ore., May. *O. nigribarba* (Van Duzee) (1928a) was taken in Calif.; *nigrita* (Johannsen) (1910a) 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, Albany Co., Wyo. *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.

Platyura Meigen

Platyura Meigen, 1803: 264.

The type-species is *marginata* Meigen. *Apemon* Johannsen is a synonym. *P. maudae* Coquillett has been taken in Wash. and Ore. *P. nigriventris* (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 *rufa* from Calif. may be the same species. *P. pulchra* Williston was taken in Wash. *P. willistoni* Laffoon (1965) is a new name for *gracilis* Williston (preoccupied), known from Wash.

Asindulum Latreille

Asindulum Latreille, 1805: 290.

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

SUBFAMILY MACROCERINAE

Macrocera Meigen

Macrocera Meigen, 1803: 261; Johannsen, 1909: 265-273.

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

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 lutea* Meigen.

Garrett described seven species from western Canada in 1925. *M. beringensis* Malloch (1923) was taken in Alaska. *M. bicolor* Garrett was taken at Cranbrook, B.C. *M. clara* Loew is listed from B.C. *M. clavinervis* 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*, *similis*, and *uniqua* (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

Fenderomyia Shaw, 1948: 94-96.

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

- Cubitus (vein 5) not forked; mesopleura bare.
 *Monoclona* Mik
 Cubitus vein forked 2
- The r-m (anterior) crossvein long and oblique, looking like the beginning of a longitudinal vein, and much longer than the small transverse section of radial sector. *Tetragoneura* Winnertz
 Crossvein shorter, or not much longer than base of radial sector. 3
- Media (vein 4) forks slightly distad of r-m crossvein, but proximad of cubital fork; mesopleura hairy.
 *Sciophila* Meigen
 Media forks at least length of crossvein beyond latter, and distad of fork of cubitus. 4
- Ocelli 2, set next to eye margin. *Eudicrana* Loew
 Three ocelli present 5
- Ocelli widely separated, the middle one distinct and little smaller or no smaller than the lateral ones. . . . 6
 Ocelli close together, the middle one is present (minute); wings hyaline, without dark fasciae or spots; costa usually meets R_{4+5} (third) at tip of wing; no spurious vein between Rs and M_{1+2} eyes usually emarginate at base of antennae. . . *Mycomya* Rondani
 Ocelli close together; costa usually produced beyond tip of Rs; a spurious vein usually present between Rs and M_{1+2} ; wings with dark spots or bands.
 *Neompheria* Osten Sacken
- Vein R_{4+5} (third) curved and undulate; cell R_1 (marginal) usually shorter than broad; Sc ends free or in costa beyond the margin cell. . . . *Polylepta* Winnertz
 Vein R_{4+5} straight or gently curved; marginal cell as long or longer than broad; Sc, when present, placed on small marginal cell and ends in vein R_1 (first); small cell usually more than twice as long as broad (in genus *Empalia* vein Sc_2 placed proximad of small cell, the subcosta curved toward costa) 7
- Proboscis elongated, snoutlike; anterior veins of wing unusually thickened. *Hadroneura* Lundström
 Proboscis not extended; anterior wing veins not greatly thickened *Dziedzickia* Johannsen

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 *Leptomorphus* 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 *Diomonus* for species belonging here. *L. magnificus* (Johannsen) (1910b) was first found in eastern states, recently in Wash.; it was described in *Diomonus*. *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. glabanum* (Johannsen) (1910b), described in *Sciophila*, and ranging mostly through eastern states, with a record from Alta. Johannsen described a variety *germanum* from Wisconsin.

Monoclona Mik

Monoclona 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. idahoensis* Fisher (1946), from Idaho.

Eudicrana Loew

Eudicrana Loew, 1869: 142; Johannsen, 1910: 142.

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

Tetragoneura Winnertz

Tetragoneura Winnertz, 1946: 18; Johannsen, 1910: 130-132.

The type-species is *Sciophila sylvatica* 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 Duzee (1928a) is a Calif. species. *T. marcada* Sherman (1921) is a B.C. species.

T. quintana 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. pimpla* Coquillett was taken at Forest Grove, Ore., March. Garrett's *T. robur* and *T. similis* (1925a) were taken at Cranbrook, B.C., and nearby localities.

Sciophila Meigen

Sciophila Meigen, 1818: 245; Johannsen, 1910: 132-144.

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. agassis* 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. longua Garrett (1925a) was taken in B.C. *S. neohebes* Garrett (1925a) was collected near Cranbrook, B.C. and at Banff, Alta. The type locality for *S. nitida* Van Duzee (1928a) is Tulare Co., Calif.; the name is preoccupied by *nitida* Zetterstedt and Laffoon (Catalog) has substituted *puta* Garrett (1925a) described *S. parva* and *S. setosa* from B.C.

Synapha Meigen

Synapha Meigen, 1818: 227.

Empalia 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

Polylepta Winnertz, 1863: 745; Johannsen, 1910: 145-149.

The type-species is *P. undulata* Winnertz. The head and eyes are much like the average species of *Sciophila*. The western *P. modesta* Van Duzee (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. obediens* Johannsen (1910b) ranges west to B.C.

Dziedzickia Johannsen

Dziedzickia Johannsen, 1909: 44; Johannsen, 1910: 150-152.

The type-species is *Hertwigia marginata* Dziedzicki. *D. columbiana* Sherman (1921) was taken in B.C., also *D.*

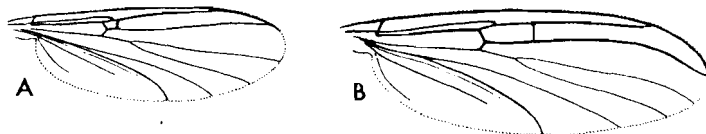


Figure 70. Wings of *Dziedzickia*, family Mycetophilidae. (A) *D. immaculata* Cole; (B) *D. oregona* Cole.

fuscipennis (Coquillett) (1905d). *D. immaculata* Cole and *D. oregona* Cole were both described in 1919 from types collected at Forest Grove, Ore. The species *oregona* 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 *rutila* and *vernalis* 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*

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 Caulfields, B.C. *M. ata* Garrett (1924c) was based on three males taken at Vancouver and on Savary Id., B.C. *M. autumnalis* Garrett (1924c) is known from B.C.

Original material of *M. biseriata* (Loew) came from "Red River of the North," Johannsen's redescription (1910) based on specimens from Selkirk Mts., B.C. *M. brevivittata* (Coquillett) was first taken in 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 Caulfields, 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. difficilis 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*, *fuscipalpis*, and *hirticauda* (all 1928a) were taken in Calif. *M. hirticollis* (Say) ranges across southern Canada to Ore.

Johannsen (1910b) recorded his *imitans* from northeastern states and from B.C. *M. incompta* Johannsen (1910b) is a B.C. species. *M. intermedia* Fisher (1937) was taken in Calif. *M. littoralis* (Say) var. *frequens* Johannsen (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* Johannsen (1910b) came from the Selkirk Mts., B.C. *M. maxima* Johannsen (1910b) is known from Maine to B.C. *M. mendax* Johannsen (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* Johannsen (1910b) is known from eastern states and Alta. *M. shermani* Garrett (1924c) was taken at Michel, B.C. *M. sigma* Johannsen (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

Neoempheria Osten Sacken, 1878: 9; Johannsen, 1910: 157-164.

In *Genera Insectorum* (1909) Johannsen 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

Hadroneura Lundström, 1906: 10.

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

SUBFAMILY MYCETOPHILINAE

Key to the genera

(After Johannsen)

1. Proboscis longer than head; media and cubitus unbroken; palpi near apex of proboscis. *Gnoriste* Meigen
Proboscis not elongate. 2
2. Cubitus not forked, or faint; lateral ocelli removed from eye margin; subcosta goes to base of Rs. *Acnemia* Winnertz
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
Basal section of anterior branch of media present. . . 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 proximad of base of Rs; legs slender and extremely long; media forks broadly. *Phthinia* Winnertz
Cubitus forks under or proximad 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 *Sciophilinae*). *Boletina* Staeger
Distance between tip of subcostal and base or radial sector is at least one-fourth breadth of wing; the extremity of subcosta may be faint in some (some authors place in tribe *Leiini* of *Sciophilinae*). *Leia* Meigen
8. (5) Cubitus (fifth vein) forks proximad or under fork of media; anal vein not produced to wing margin. *Boletina* Staeger, part
Cubitus forks distad of fork of media (fourth vein). . 9
9. Lateral ocelli remote from eye margin; posterior basal seta of hind coxa absent. *Coelosia* Winnertz
Lateral ocelli close to eye margin; subcostal vein short, rarely reaching costa; posterior basal seta of hind coxa present. *Phronia* Winnertz, part
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 *Docosia* 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 R₁; 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 *Brachypeza*), usually little if any longer than diameter of tibia 15
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 toruslike; tibiae stout, noticeably enlarged at ends, the setae moderate; base of fork of cubitus (fifth vein) proximad of proximal end of r-m crossvein; wings sometimes with markings. *Brachypeza* Winnertz
Antennal segments usually subcylindrical, and otherwise not with the above combination of characters; wings unmarked except in *Telmaphilus*. 16
16. Cubitus (fifth vein) forks proximad of fork of media (4th) 17
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 proximad of proximal end of r-m (anterior) crossvein. *Rymosia* Winnertz
Anal vein slender, and otherwise differing from above *Allodia* Winnertz
18. (16) Media (fourth vein) forks proximad 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. *Mycothera* Winnertz

Gnoriste Meigen

Gnoriste Meigen, 1818: 243; Johannsen, 1911 (1912a): 256-258.

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 Gnoristini of the subfamily Sciophilinae (along with *Coelosia*, *Boletina*, *Dziedzickia*, 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 Laffoon.

Acnemia Winnertz

Acnemia Winnertz, 1863: 798; Johannsen, 1911 (1912a): 258-260.

The type-species is *Leia nitidicollis* 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

Rondaniella Johannsen, 1909: 66; Johannsen, 1911 (1912a): 260-261.

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

*In the Sciophilinae as cataloged by Laffoon.

Odontopoda Aldrich

Odontopoda Aldrich, 1896 (1897): 187; Johannsen, 1911 (1912a): 264.

The genus differs from the following *Neuratelia* only in lacking the subcostal crossvein (sometimes faint in that genus), and is placed under *Neuratelia* by Laffoon. 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

Neuratelia Rondani, 1856: 195; Johannsen, 1911 (1912a): 262–264.

Johannsen (1912a) briefly described six species; four of these are from western states, including the type-species *Mycetophila nemoralis* Meigen. Garrett (1925b) collected *N. abrevena* 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 Duzee (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. silvatica* 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

Boletina Staeger, 1840: 233; Johannsen, 1911 (1912a): 267–278.

This genus may be better placed in the subfamily Sciophilinae, 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 Duzee described a *B. atra* from Skagway, Alaska, in 1928; this is now declared 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 Duzee (1928a) is an Alaskan species.

B. delicata Johannsen (1912a) is known from Wyo. *B. differens* 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. inops* 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. jucunda Garrett (1924c) is known from B.C. *B. longicornis* Johannsen (1912a) is known from Moscow, Idaho. *B. magna* Garrett (1925a) was collected at Marysville, B.C. *B. melancolica* Johannsen (1912a) was first taken at Jackson Lake, Wyo., later in B.C. *B. montana* Garrett (1924c) is a B.C. species. *B. nacta* Johannsen (1912a) was taken in Wyo. *B. notescens* Johannsen (1912a) ranges from Maine west to B.C. The first specimens of *B. obesula* Johannsen (1912a)

were taken "at the head of Tsirku River, Alaska, July." The head and thorax are entirely black, abdomen dark brown with yellow incisures; femora and tibiae yellow.

B. oviducta (Garrett) (1924c) was described in *Mycomya* from B.C. *B. punctus* 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. sobria* 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 Duzee, 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 fascipennis* Meigen.

Garrett (1925b) collected *L. cephalo* near Marysville, B.C. *L. cuneola* (Adams), first listed from Colo., was taken in Idaho. *L. hemiata* Garrett (1925a) is known from Marysville, B.C. *L. hyalina* (Coquillett) was recorded from Las Vegas Hot Springs, N. Mex. *L. lineola* (Adams) was first found in Kern 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 *joculator* Laffoon was substituted (1965 Catalog).

L. nigricornis Van Duzee (1928a) is an Alaskan species. *L. oblectabilis* (Loew) is listed from eastern states and from Mt. Rainier, Wash. *L. opima* (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* (Williston), first taken in Wash., is known also from Wyo. and Calif.; the larvae infest mushrooms. The eastern *L. sublunata* (Loew) is now reported from Alta. and B.C. *L. varia* Walker, described from "Canada," 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

Anatella Winnertz, 1863: 854; Johannsen, 1911 (1912a): 301; Fisher, 1938a: 195–196. Key.

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. difficilis* 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.

Zygomysia Winnertz

Zygomysia Winnertz, 1863: 901; Johannsen, 1912: 109–111.

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 *S. 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."

Phthinia Winnertz

Phthinia Winnertz, 1863: 779; Johannsen, 1911 (1912a): 290-292.

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 *Phthinia 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

Coelosia Winnertz, 1863: 796; Johannsen, 1911 (1912a): 292-295.

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. modesta* 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.

Sytemna Winnertz

Sytemna Winnertz, 1863: 767; Johannsen, 1911 (1912a): 295-298.

The type-species is *Sytemna 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 "*Sytemna*, authors, not Winnertz," and places our species in *Dziedzickia*.

Megophthalmidia Dziedzicki

Megophthalmidia Dziedzicki, 1889: 525; Johannsen, 1911 (1912a): 298-299.

The type-species is *Megophthalmidia zugmayeriae* Dziedzicki = *crassicornis* (Curtis) 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. apicula* Garrett came from Fernie, B.C.; this a black species with yellow legs. *D. defecta* Van Duzee (1928a) was taken in Mill Valley, Calif., February. The subcostal vein is lacking. In *dialata* Van Duzee (1928a) known from Mill Valley and Moraga Valley, Calif., the subcostal vein ends in vein R₁ (first).

D. nebulosa Garrett was described from Vancouver specimens. *D. nigella* 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. vierecki* 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. fusciventris* Van Duzee (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. confera* 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

Brachypeza Winnertz, 1863: 806; Johannsen, 1911: 308-309.

The type-species is *Brachypeza bisignata* Winnertz. Johannsen knew only the type species and an eastern variety. Van Duzee described his species *brevitibia* (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 *Allodia dentica* of Guthrie belongs in *Brachypeza*; it was described in 1917 from Calif.; the range now extended to Wash. and Iowa.

Rymosia Winnertz

Rymosia Winnertz, 1863: 810; Johannsen, 1911 (1912a): 309-314.

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. parvicauda* 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. plumosa* 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. proluxa* and *R. seminigra* from B.C.

Allodia Winnertz

Allodia Winnertz, 1863: 926; Johannsen, 1911 (1912a): 314–320.

The type-species is *Mycetophila ornaticollis* 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. callida* Johannsen (1912a) is recorded from Keyport, Wash., and from Littlewind River, Wyo. *A. cincta* Van Duzee (1928a) was taken near San Francisco, Calif. *A. delita* 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 *ornaticollis* (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 *pistillata* (Lundström, 1911b) was taken in Alta. *A. subelata* Malloch (1923i) was collected in Alaska (Pribilof Ids.).

Phronia Winnertz

Phronia Winnertz, 1863: 857; Johannsen, 1912b: 59–63.

The type-species is *Phronia rustica* Winnertz = *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 *fusciventris*. Fisher (1938b) proposed *californica* for *basalis*, preoccupied. In *P. fusciventris* the abdomen is wholly shining, black, the male claspers long, slender, and curving.

P. hitchcocki 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.

Telmaphilus Becker

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

Becker assigned two species to the genus, one of them being his *T. biarcuatus*, 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 Winnertz

Exechia Winnertz, 1863: 879; Johannsen, 1912b: 64–67.

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 = *Mycetophila fusca* Meigen.

In 1928 Van Duzee described six species from specimens taken in Mill Valley, Calif. These species are named *aequalis*, *angustata*, *brevipetiolata*, *noctivaga*, *umbrosa*, and *unicincta*. The eastern *E. absurda* Johannsen (1912b) was found in Alta. *E. alexanderi* Shaw (1951) was collected at Laramie, Wyo. *E. assidua* 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 (1928) was listed from B.C. *E. canalicula* Johannsen (1912b) was taken in Utah. *E. capitata* 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 *nugax* (1912b) now reported from Alta. and B.C.

Type material of *E. obediens* (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. pratti* Shaw (1951a) was based on a male taken at Laramie, Wyo. *E. umbratica* (Aldrich) was first found in "Shiloh Cave, Ind., July." Specimens taken at Corvallis, Ore., November, answer the good description. *E. unicolor* Van Duzee (1928a) is an Alaskan species.

Dynatosoma Winnertz

Dynatosoma Winnertz, 1863: 947; Johannsen, 1912b: 75–77.

The type-species is *Mycetophila fuscicornis* Meigen. *D. aureum* (Guthrie, 1917) was collected in Calif. *D. fulvum* Coquillett has been taken in both the Northeast and the Northwest. *D. huliphilum* 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.

Epicrypta Winnertz

Epicrypta Winnertz, 1863: 909; Johannsen, 1912b: 77–80.

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).

Mycothera Winnertz

Mycothera Winnertz, 1863: 913; Johannsen, 1912b: 80–84.

Johannsen separated this small group from the big genus *Mycetophila* because it possessed three ocelli instead of two. Laffoon (1956) sinks the group under *Mycetophila* (his *Fungivora*), and in following him we transfer two species placed in *Mycothera* by Johannsen, *impellans* Johannsen and *paula* Loew.

Mycetophila Meigen

Mycetophila Meigen, 1803: 263; Johannsen, 1912: 84–108; Laffoon, 1957: 141–340.

Laffoon's revision of *Mycetophila* (his *Fungivora*, 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 setulae 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. alea* Laffoon (1965), new name for *guttata* Dzied., Europe and Alaska. *M. alexanderi* (Laffoon, 1957) was based on Iowa types, but specimens were taken in B.C., Wash., Ore., Calif., and Ariz. *M. arnaldi* (Laffoon, 1957) was first taken at Tuolumne Meadows, Yosemite, Calif., later found in Ore. and Wash.

M. attonsa (Laffoon, 1957) was described from specimens taken on Moscow Mt., Idaho, later found in Wash. *M. bentincki* (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 Larimer 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, *Opistholoba ocellata* Johannsen, *Mycothera 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. chamberlini* (Laffoon, 1957) was described from a male taken in a rotary trap at Matanuska, Alaska. The European *M. cingulum* Meigen has been collected in Alaska and New Hampshire. *M. lunulata* Macquart and *Leia bifasciata* von Roser (in part) are synonyms of *cingulum*. *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. consonans* (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 *lassata* Johannsen are said to be synonyms. Type locality for *M. crassisetata* (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* Lundström (1913) is Felsobanya, 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. falcata* 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. fatua* 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. fisherae (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. fisherae*. *M. foecunda* Johannsen (1912b) was discovered at Ithaca, New York, and is now known from Alaska, 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. cunctans* Wiedemann, *M. semicineta* 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 *alea*, 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. hiulca* (Laffoon, 1957) was described from a male collected in the White Mts., New Hampshire; it was also collected in B.C.

Types of *M. ichneumonea* (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. lenta 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 Laf-

foen, 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 *lineola* indicates that Meigen had *guttata* (Dziedzicki) or a closely allied species, and not *M. ruficollis* Meigen (= *M. lineola* of most authors). Further study may clear up the status of the names *lineola* and *guttata*; the name *lineola* is not included in the 1965 Catalog.

The European *M. luctuosa* 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. moravica* Landrock (1925b) was first taken in Moravia, Czechoslovakia, but specimens have been found in Alaska, Idaho, Wy., 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 *monochaeta* Loew, and *fusca* Van Duzee and *fenestrata* Coquillett.

Type locality for *M. parvimaclata* 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, nearly all the western states, and in several eastern states. *M. trifasciata* Coquillett is made 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. pectita* 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 Vanduzee's names, *ovata* and *hispina*, 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. propinqua* 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. reclusa* (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 *lineola* 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. sepulta* (Laffoon, 1957), based on Iowa types, also occurs in Alaska, Alta., Sask., Ore., and Calif. *M. sertata* (Laffoon, 1957) was described from a male taken at Crater Lake, Ore.; other records are from

Idaho, Utah, Wash., Wyo., and Calif. *M. shawi* (Laffoon, 1957) is known mostly from eastern states (type from Maryland), with one record from B.C.

Types of *M. sierrae* (Laffoon, 1957) were collected at Pinecrest and Camino, Calif. There are European records for *M. sigillata* Dziedzicki and western records from B.C., Idaho, Ore., and Wyo. There is a wide distribution pattern for *M. signoides* Loew, with known western specimens from Alta., B.C., and Wash. Johannsen's *fastosa* is considered a synonym. *M. signatoides* 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. stolidus* 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* Staeger (Denmark) from specimens taken in Wash. and Ore; *trichonota* Loew and *fuliginosa* Dziedzicki are made synonyms. Types of *M. subita* (Laffoon, 1957) came from Gold Hill, Latah Co., Idaho, and Pinecrest, Tuolumne Co., Calif.; there are additional records from these states and from Wash. and Ore.

M. trinotata Staeger (Denmark) has been collected in Alaska, Sask., and California; names placed in synonymy (1957) are *quatuornotata* Loew, *russata* Dziedzicki, *ujhelii* Lundström, 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

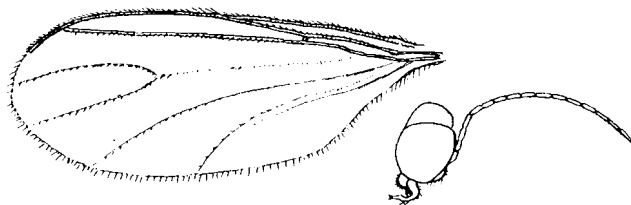


Figure 71. Wing and head of *Sciara* sp., family Sciaridae.

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 sciarids. 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-