

# CLÉ D'IDENTIFICATION DES NÉMATOCÈRES

D'après Borror, Triplehorn et Johnson



## Illustrations

Manual of Nearctic Diptera  
Biosystematics Res. Cent., Agric. Canada, Ottawa, Ont., Canada.

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Cégep de Sainte-Foy

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# CLÉ D'IDENTIFICATION DES NÉMATOCÈRES

D'après Borror, Triplehorn et Johnson

- 1. Mésotonum présentant une suture en forme de V; pattes longues et fines (fig. 1).....2
- 1'. Mésotonum sans cette suture en V; pattes de longueur variable .....5
  
- 2. Ocelles présents; suture en V du mésotonum incomplète au centre; ..... **Trichoceridae**
- 2'. Sans ocelles; suture en V complète .....3
  
- 3. 5 nervures R atteignant le bord de l'aile; lobe anal de l'aile bien développé; taches brunes sur les ailes (fig. 2) ..... **Tanyderidae** (une seule espèce, *Protoplasa fitchii*)
- 3'. 4 nervures R ou moins (fig.4); pas de lobe anal apparent; ailes généralement transparentes (mais pouvant parfois présenter des taches) .....4
  
- 4. Une seule nervure anale (2A) atteignant le bord de l'aile; pas de cellule discale fermée; pattes souvent rayées noir et blanc (fig. 3) ..... **Ptychopteridae**
- 4'. 2 nervures anales atteignant le bord de l'aile; petite cellule discale fermée généralement présente (fig.4)..... **Tipulidae**
  
- 5. Ocelles présents .....7
- 5'. Pas d'ocelles.....16
  
- 7. Présence d'une cellule discale fermée (fig. 5)..... **Anisopodidae**
- 7'. Pas de cellule discale fermée .....8
  
- 8. Nervures réduites : 6 nervures longitudinales ou moins .....9
- 8'. 7 nervures longitudinales ou plus .....13
  
- 9. Sans éperons au tibia; .....11
- 9'. Présence d'éperons (épingles allongées) à l'extrémité du tibia (à la jonction avec le tarse) (fig. 6); .....10
  
- 10. Yeux reliés par un mince pont au-dessus des antennes (fig. 6); antennes à 16 segments, généralement de la longueur de la tête et du thorax combinés; ..... **Sciaridae**
- 10'. Yeux ne se rejoignant pas par un pont au-dessus des antennes; antennes de longueur variable (peuvent être très longues); pétiole de la fourche de la nervure M généralement plus court que les branches (fig.13) ..... **Mycetophilidae**
  
- 11. Antennes courtes et épaisses, 5 à 10 segments, à peine plus longues que la tête (fig.7); nervure C se terminant avant l'extrémité de l'aile (entre 1/3 et 2/3 de l'aile) (fig.7); ..... **Scatopsidae**
- 11'. Antennes variables, 12 segments ou plus, plus longues que la tête; C variable .....12
  
- 12. Antennes généralement plus courtes que la tête et le thorax combinés;... **Ceratopogonidae**
- 12'. Antennes aussi longues ou plus longues que la tête et le thorax combinés; yeux reliés l'un à l'autre au-dessus des antennes..... **Cecidomyiidae** (S.F. *Lestremiinae*)
  
- 13. Pattes longues et minces; ressemble aux Tipulidae; fines lignes formant un réseau entre les nervures (fig.8); angle anal de l'aile prononcé; peu commun..... **Blephacerae**
- 13'. Sans l'ensemble de ces caractères.....14

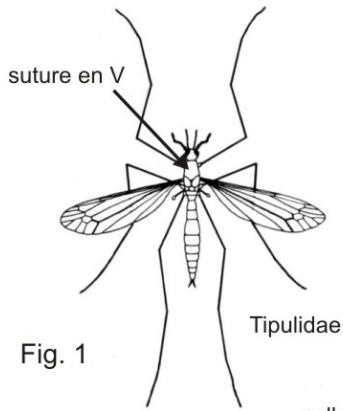


Fig. 1

Tipulidae

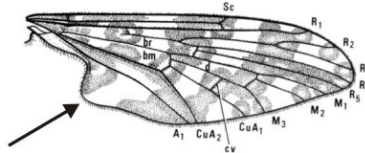
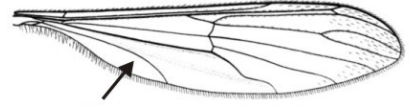


Fig. 2 Tanyderidae



Ptychopteridae  
Fig. 3

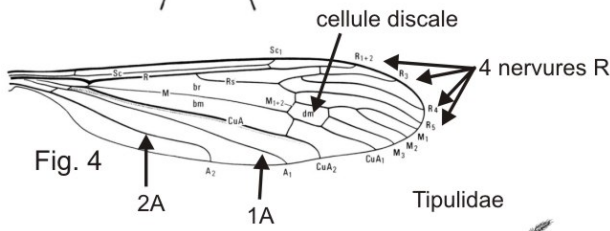


Fig. 4

Tipulidae

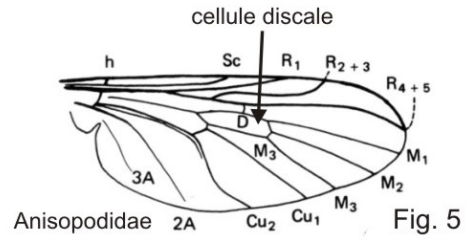


Fig. 5

Anisopodidae

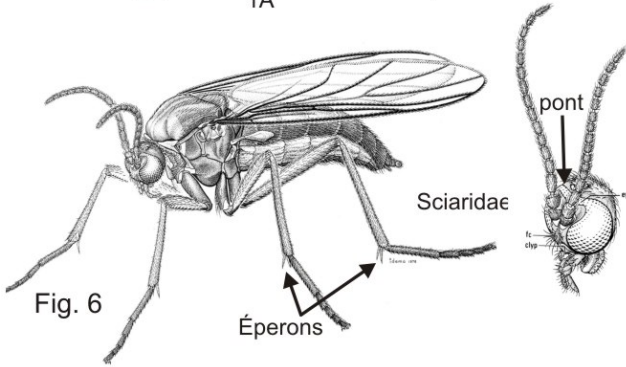


Fig. 6

Sciariidae

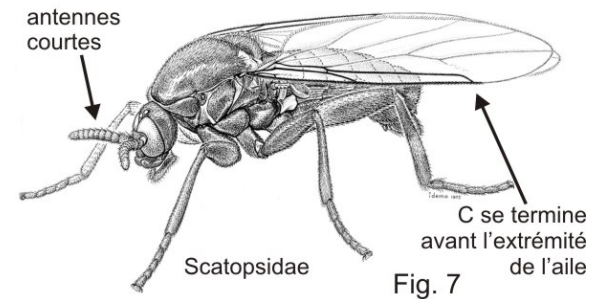


Fig. 7

Scatopsidae

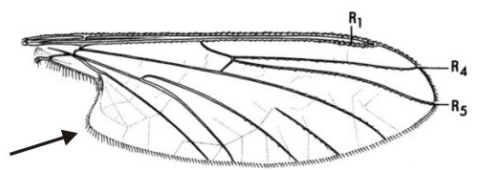
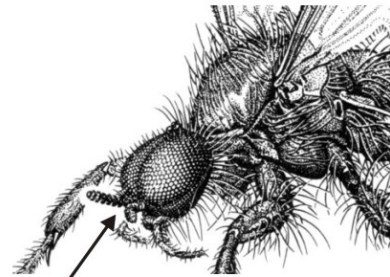


Fig. 8

Blepharidae



Bibionidae

Fig. 9

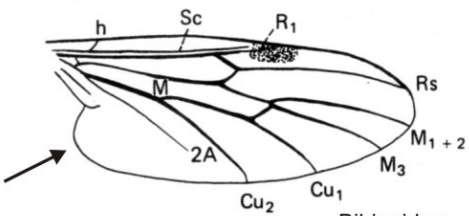
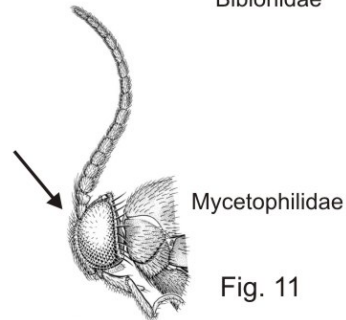


Fig. 10

Bibionidae



Mycetophilidae

Fig. 11

14. Antennes généralement plus courtes que le thorax, plutôt robustes, prenant naissance sous les yeux (fig.9); angle anal de l'aile généralement prononcé (fig.10)..... **Bibionidae**
- 14'. Antennes variables, mais généralement plus longues que le thorax, prenant naissance à peu près au milieu des yeux ou plus haut (fig.11) ..... 15
15. Nervure M formant une fourche dont les branches sont à peine plus longues ou, le plus souvent, plus courtes que le pétiole de la fourche (fig. 12)..... **Anisopodidae** (S.F. *Mycetobia*)
- 15'. Nervure M formant une fourche dont les branches sont nettement plus longues que le pétiole de la fourche (fig. 13) (exception dans le genre *Mycomya* où les branches ont sensiblement la même longueur que le pétiole) .....**Mycetophilidae**
16. Nervure C se terminant à la pointe ou avant la pointe de l'aile (fig. 14)..... 17
- 16'. Nervure C se poursuivant au-delà de l'extrémité de l'aile (fig. 18)..... 19
17. Ailes courtes et larges; nervures M, Cu et A très pâles, peu prononcées (fig. 14); antennes courtes, à peu près de la longueur que la tête; taille dépassant rarement 3 mm; couleur foncée; thorax bossu .....**Simuliidae**
- 17'. Ailes plus allongées; nervures M, Cu et A plus marquées; antennes nettement plus longues que la tête ..... 18
18. M généralement à 2 branches (fig. 15); M2 ne rejoignant pas toujours la base de M1; C se terminant généralement au milieu ou au  $\frac{3}{4}$  de l'aile; arrière de la tête rond; pattes de longueur moyenne, pattes postérieures plus longues que les autres; taille moins de 3mm; nervure R formant souvent 1 ou 2 petites cellules fermées (fig. 15 ) ..... **Ceratopogonidae**
- 18'. M simple (fig. 16); C se terminant près de l'extrémité de l'aile (fig. 16); arrière de la tête plat; pattes longues, pattes antérieures généralement plus longues que les autres; tarsi des pattes antérieures allongés ..... **Chironomidae**
19. Premier segment des tarsi nettement plus court que le second (fig. 17), parfois non visible (ce qui donne l'apparence de tarsi à 4 segments); moucheron petit et délicat, rarement plus de 3 mm; nervation réduite (fig. 18); généralement moins de 7 nervures longitudinales; yeux unis là où ils se rejoignent au-dessus des antennes (fig. 17) .....  
..... **Cecidomyiidae**
- 19'. Premier segment des tarsi plus long que le second; tarsi présentant 5 segments bien visibles ..... 20
20. Ailes courtes, extrémité pointue, généralement densément poilues et souvent placées en toit au-dessus du corps au repos (fig. 19) ..... **Psychodidae**
- 20'. Ailes plutôt longues et étroites (ou si courtes, ne se terminant pas en pointe); pilosité des nervures et du pourtour de l'aile variable ..... 21
21. Proboscis long; écailles recouvrant les nervures et sur le pourtour de l'aile (fig. 20); écailles recouvrant généralement le corps (fig. 20)..... **Culicidae**
- 21'. Proboscis court (dépassé à peine le clipeus); ailes et corps sans écailles (il peut y avoir des poils) ..... 22
22. Nervure  $R_{2+3}$  nettement arquée (fig.21); nervures présentant de courts poils épars; antennes portant de courts poils épars) ..... **Dixidae**
- 22'. Nervure  $R_{2+3}$  droite (fig. 22); nervures densément couvertes de longs poils; antennes très poilues avec poils très longs..... **Chaoboridae**
-

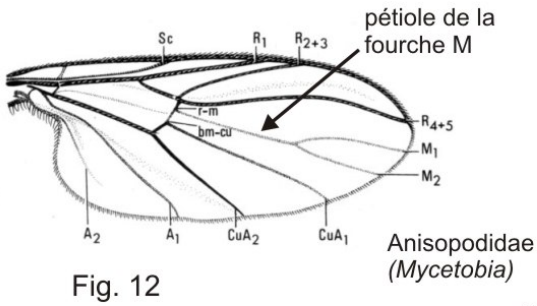


Fig. 12

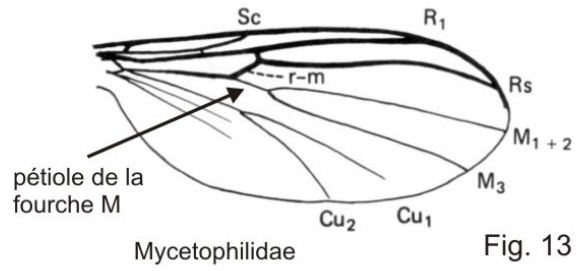


Fig. 13

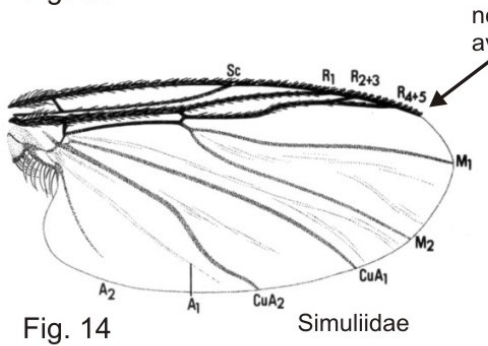


Fig. 14

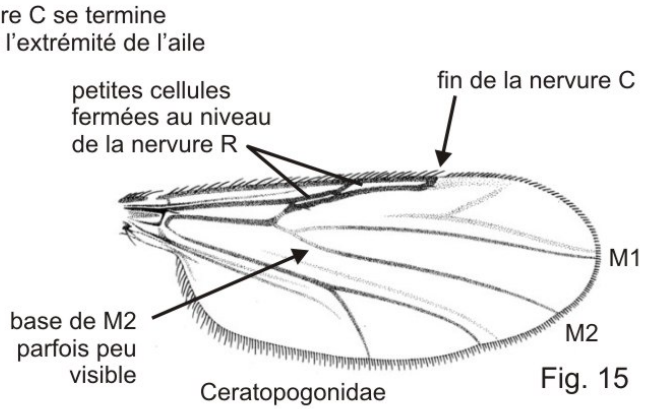


Fig. 15

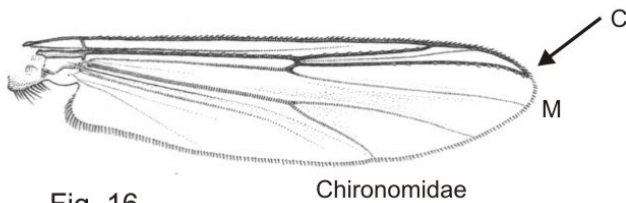


Fig. 16

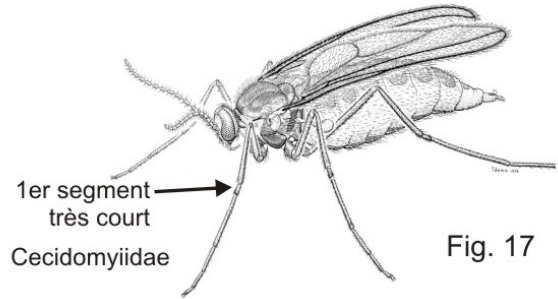


Fig. 17

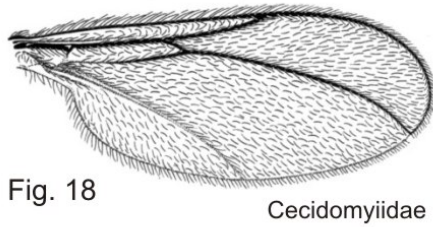


Fig. 18

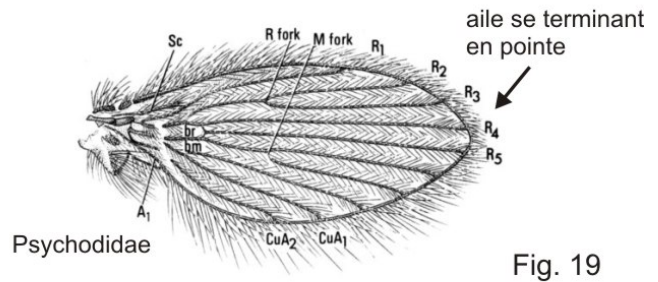


Fig. 19

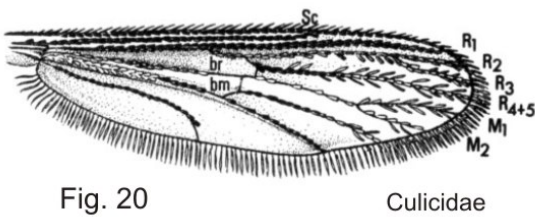


Fig. 20

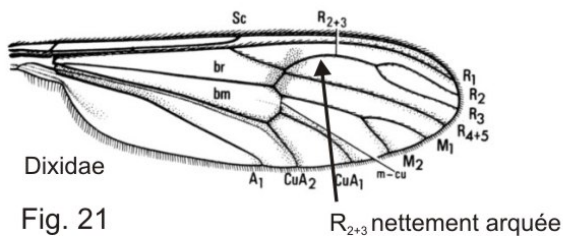


Fig. 21

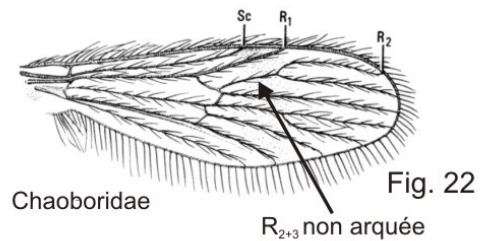
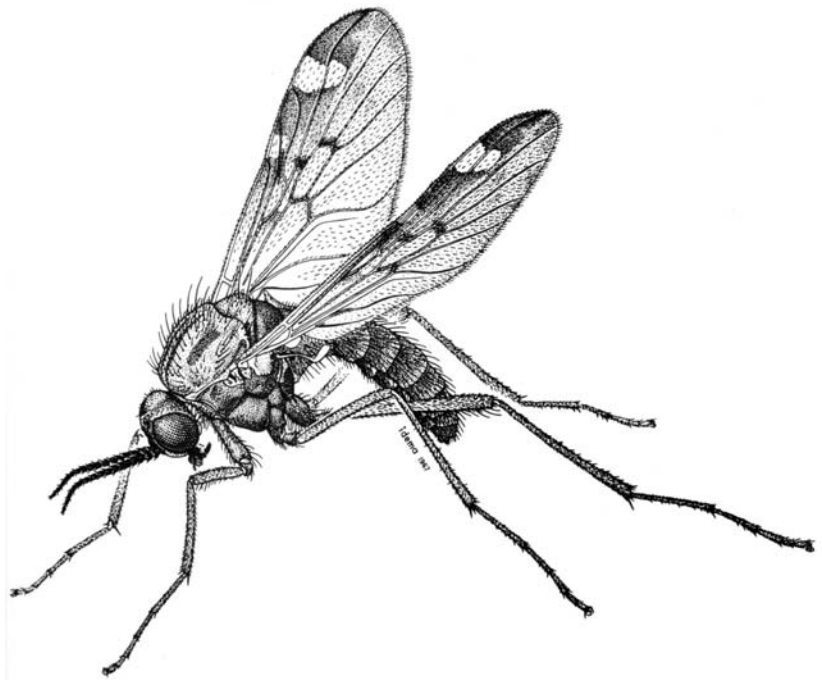
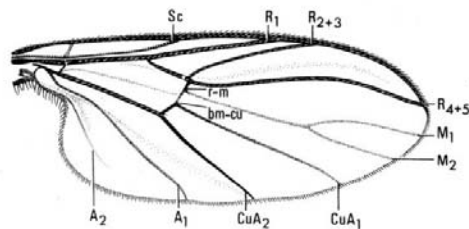


Fig. 22

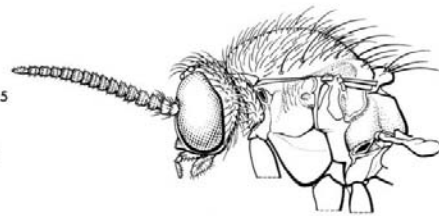
# Anisopodidae



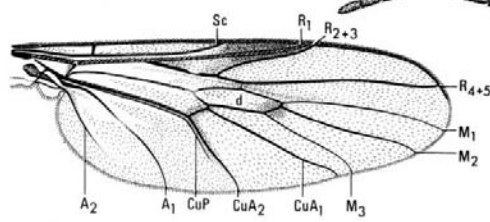
Female of *Sylvicola alternatus* (Say).



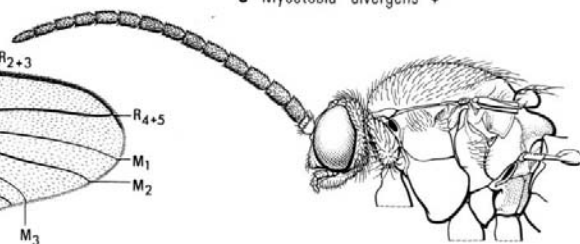
2 *Mycetobia divergens* ♀



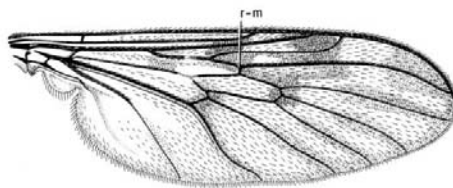
5 *Mycetobia divergens* ♀



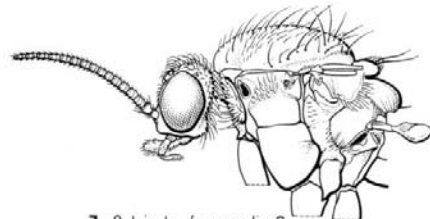
3 *Olbiogaster sackeni* ♀



6 *Olbiogaster sackeni* ♀

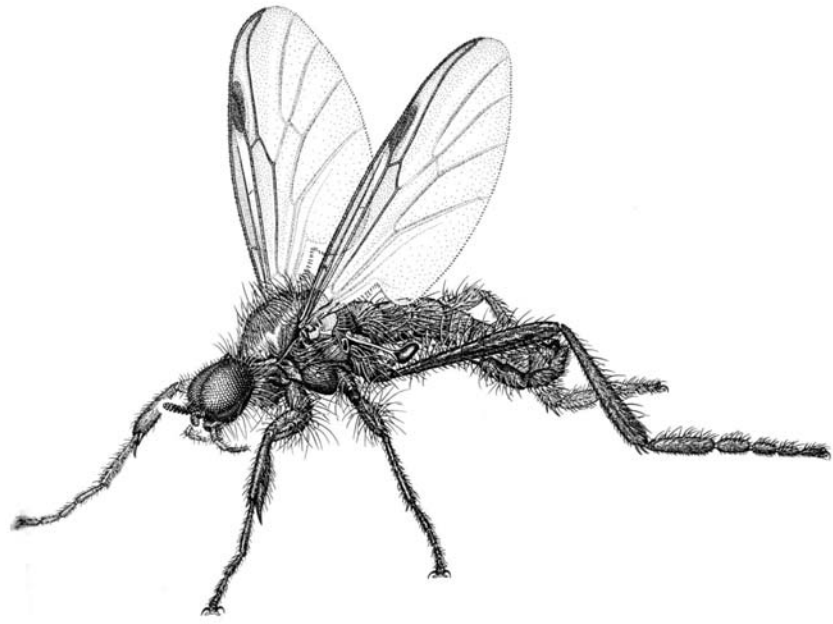


4 *Sylvicola fenestralis* ♂

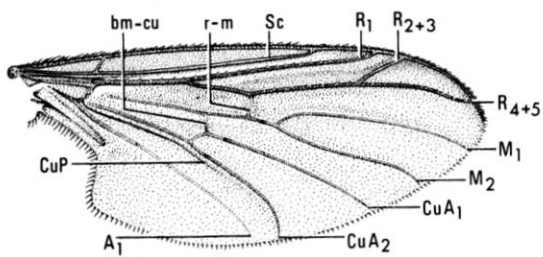


7 *Sylvicola fenestralis* ♀

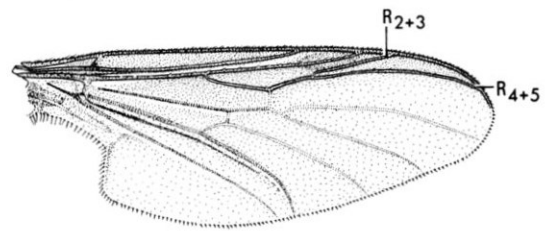
# Bibionidae



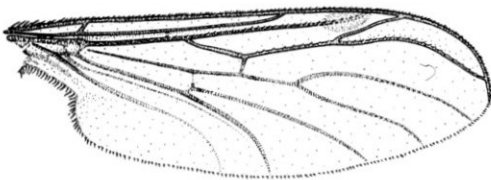
Male of *Bibio longipes* Loew.



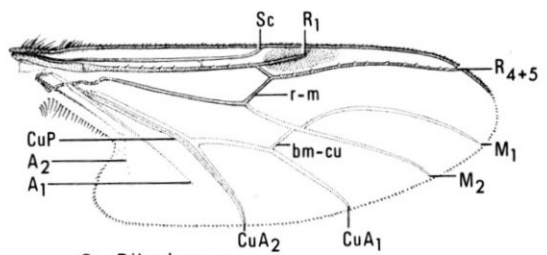
6 *Plecia americana* ♂



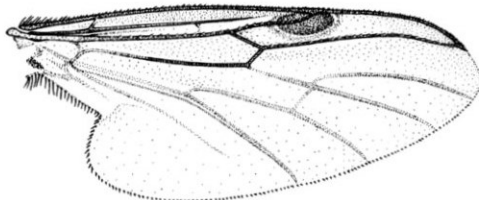
7 *Penthetria heteroptera* ♂



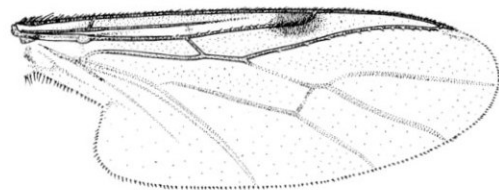
8 *Hesperinus brevifrons* ♂



9 *Dilophus* sp. ♂



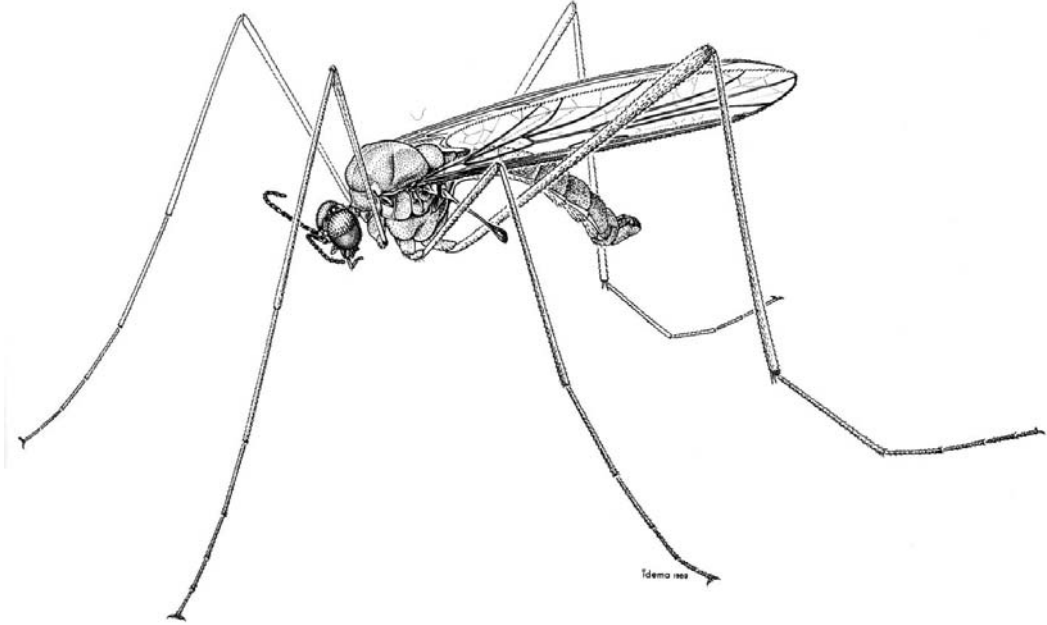
10 *Bibio xanthopus* ♂



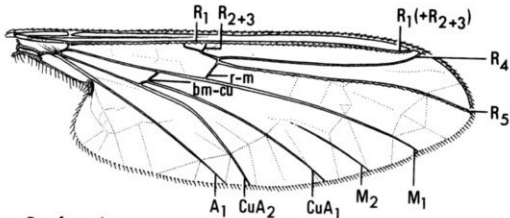
11 *Bibiodes aestivus* ♂



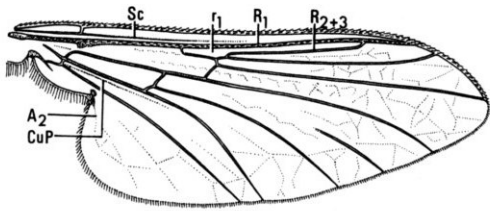
# Blephacerae



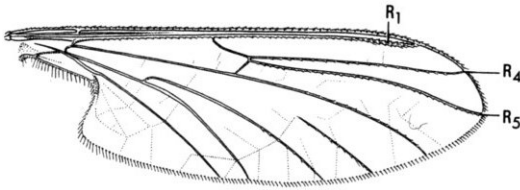
Male of *Agathon comstocki* (Kellogg).



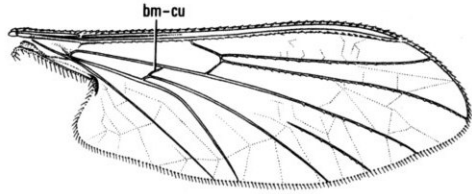
2 *Agathon doanei*



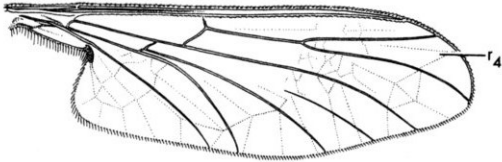
3 *Bibiocephala grandis*



4 *Blepharicera tenuipes*



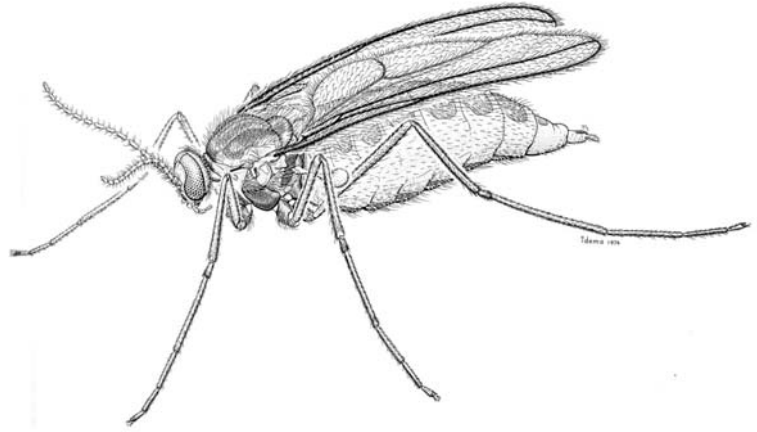
5 *Dioptopsis sequoiarum*



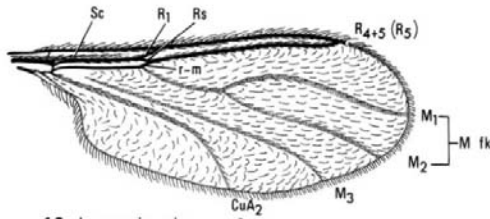
6 *Philorus jacinto*



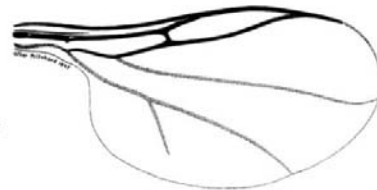
# Cecidomyiidae



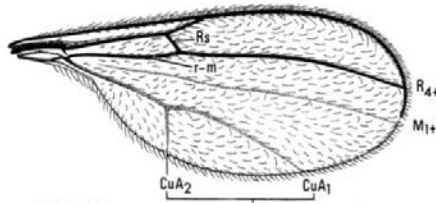
Female of *Cecidomyia resinicola* (Osten Sacken).



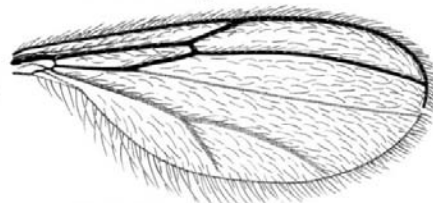
12 *Lestremia cinerea* ♂



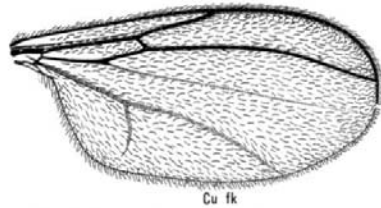
13 *Acoenonia perissa* ♀



14 *Micromya mana* ♂



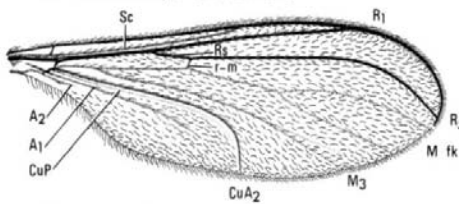
15 *Cordylomyia denningi* ♂



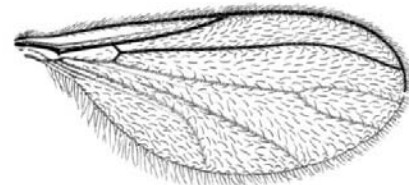
16 *Corinthomyia brevicornis* ♂



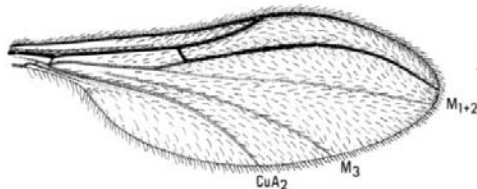
17 *Forbesomyia* sp. ♀



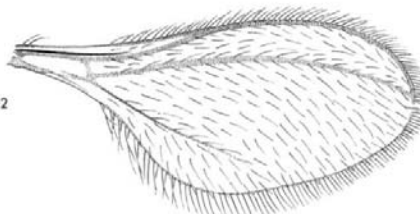
18 *Catotricha subobsoleta* ♂



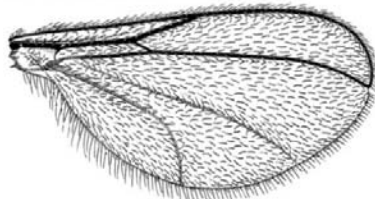
19 *Catocha slossonae* ♂



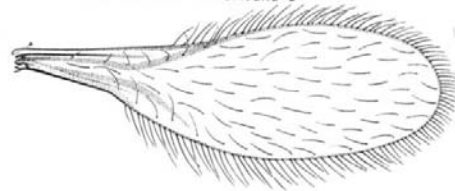
20 *Strobliella intermedia* ♂



21 *Miastor americana* ♂

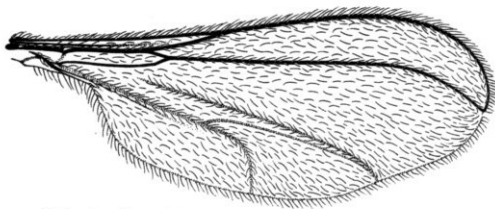


22 *Winnertzia fungicola* ♂

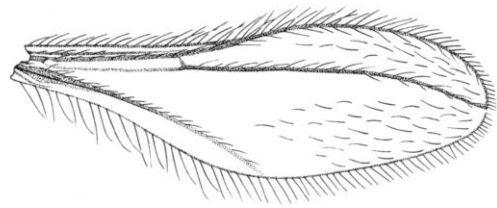


23 *Heteropeza pygmaea* ♀

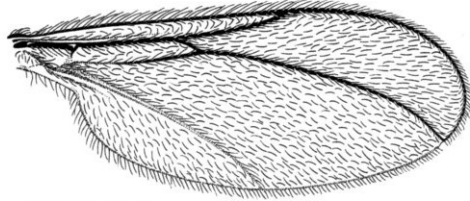
**Cecidomyiidae**



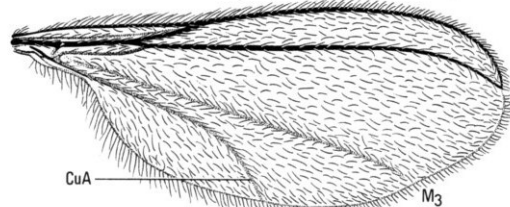
24 *Porricondyla nigripennis* ♂



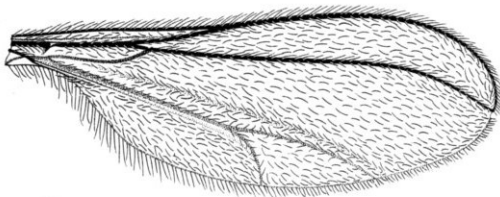
25 *Parwinnertzia* sp. ♂



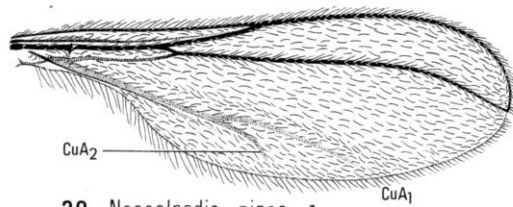
26 *Haplusia* sp. ♂



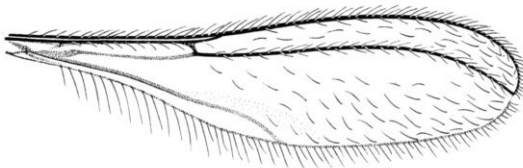
27 *Asynapta* sp. ♂



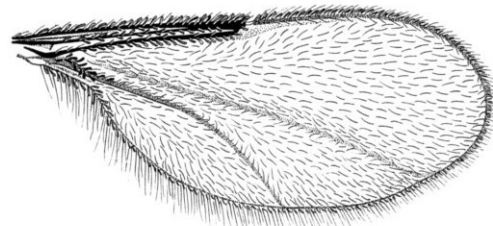
28 *Camptomyia* sp. ♂



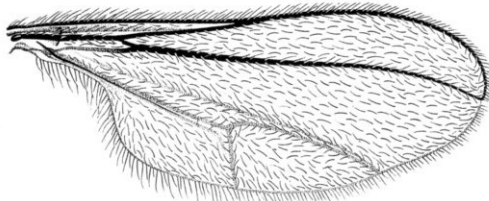
29 *Neocolpodia pinea* ♂



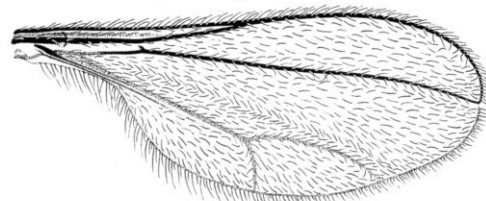
30 *Isocolpodia graminis* ♂



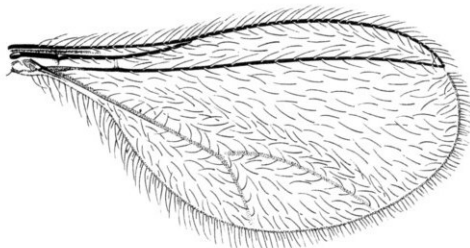
31 *Neolasioptera erigerontis* ♀



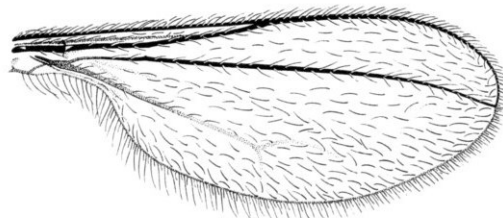
32 *Cecidomyia resinicola* ♂



33 *Contarinia schulzi* ♂

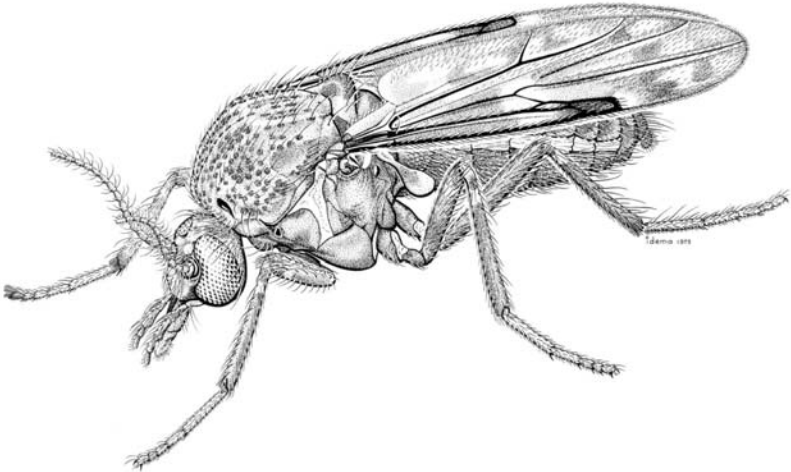


34 *Arthrocnodax rhoinus* ♀

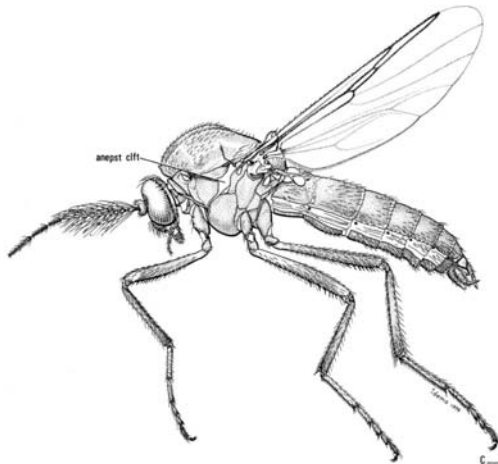


35 *Thecodiplosis piniresinosae* ♀

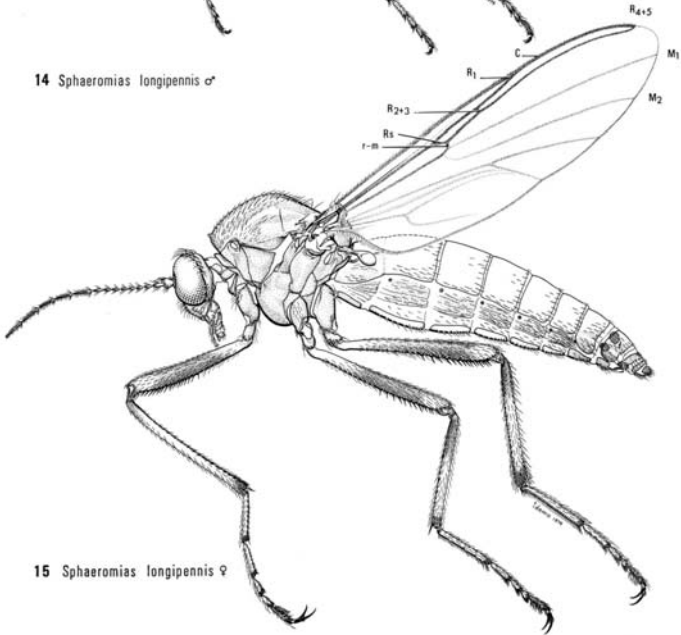
# Ceratopogonidae



Female of *Culicoides (Monoculicoides) variipennis* (Coquillett).



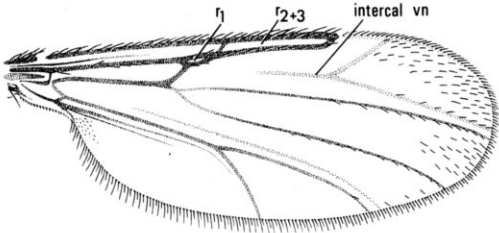
14 *Sphaeromyia longipennis* ♂



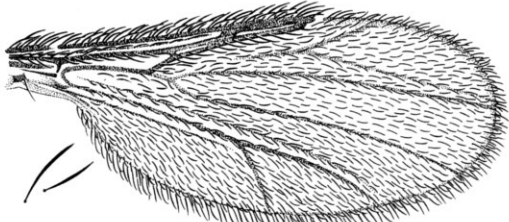
15 *Sphaeromyia longipennis* ♀

R<sub>4+5</sub>  
 C  
 R<sub>1</sub>  
 M<sub>1</sub>  
 R<sub>2+3</sub>  
 M<sub>2</sub>  
 R<sub>5</sub>  
 r-m

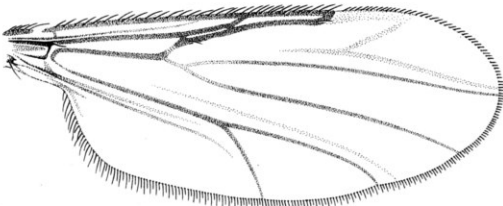
**Ceratopogonidae**



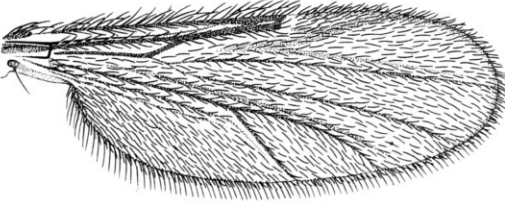
16 *Atrichopogon (Atrichopogon) levis* ♀



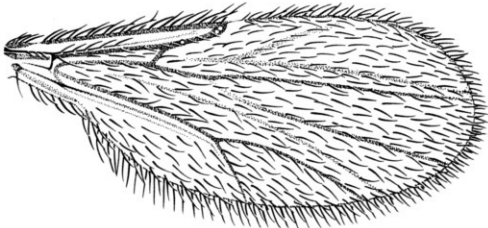
17 *Forcipomyia (Lasiohelea) fairfaxensis* ♀



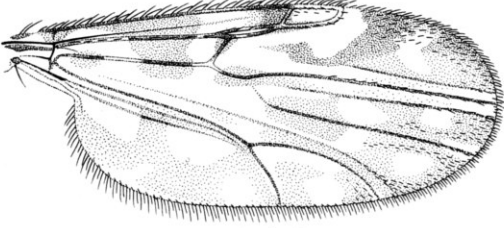
18 *A. (Psilokempia) sp.* ♀



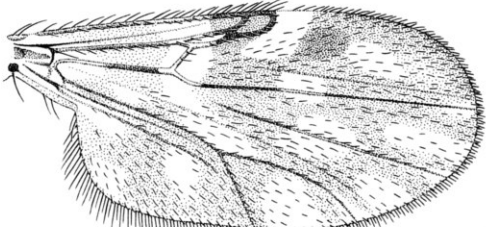
19 *Dasyhelea pseudoincisurata* ♀



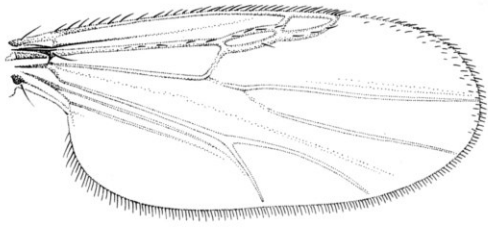
20 *Paradasyhelea minuta* ♀



21 *Culicoides insignis* ♀



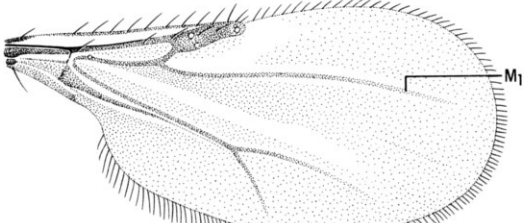
22 *Culicoides copiosus* ♀



23 *Ceratopogon culicoidithorax* ♀

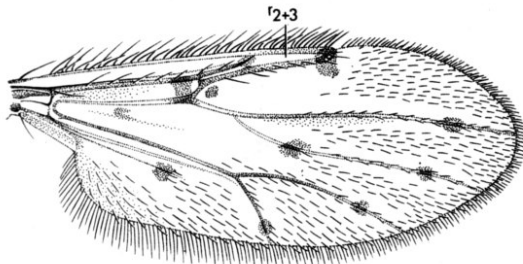


24 *Isohelea stigmalis* ♀

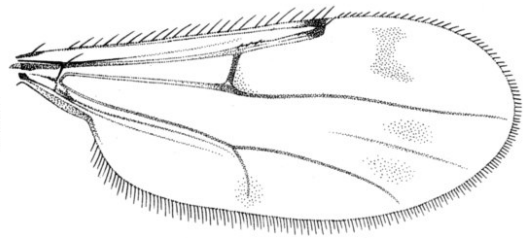


25 *Rhynchohelea monilicornis* ♀

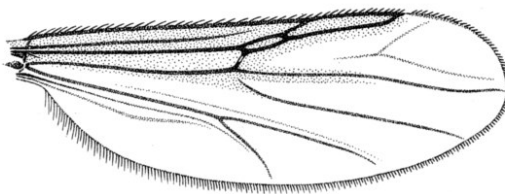
**Ceratopogonidae**



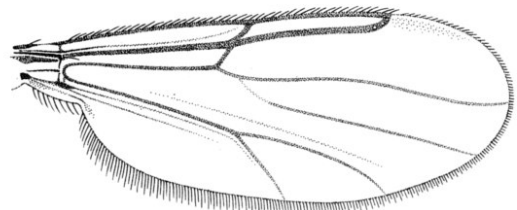
**26** *Alluaudomyia bella* ♀



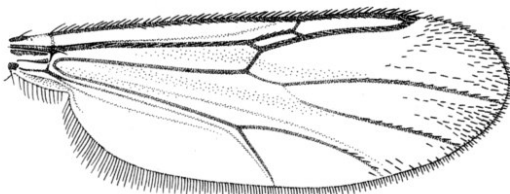
**27** *Brachypogon paraensis* ♀



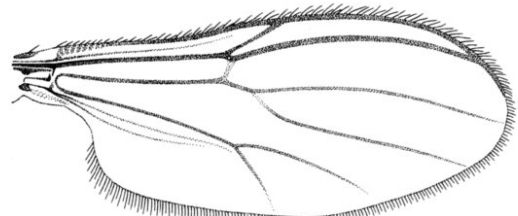
**28** *Echinohelea lanei* ♀



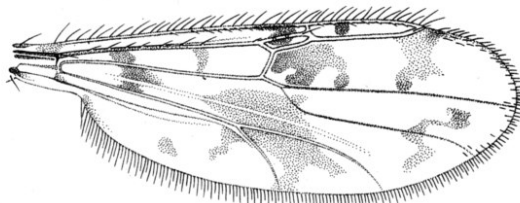
**29** *Stilobezzia (Eukraiohelea) elegantula* ♀



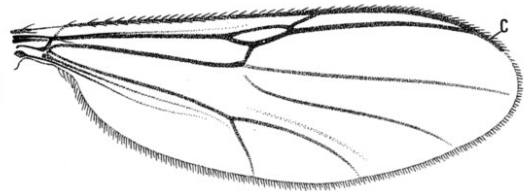
**30** *Stilobezzia (Neostilobezzia) lutea* ♀



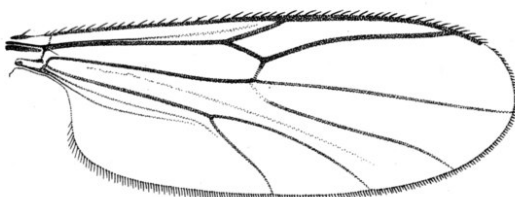
**31** *Parabezzia petiolata* ♀



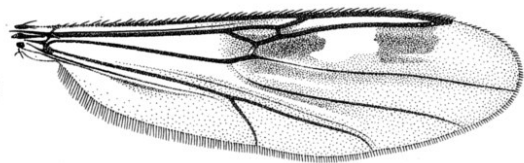
**32** *Monohelea hieroglyphica* ♀



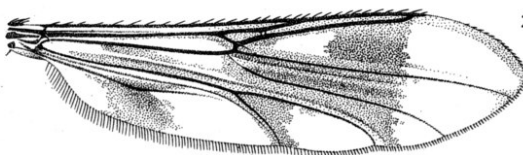
**33** *Neurohelea nigra* ♀



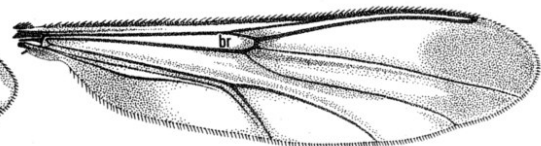
**34** *Neurobezzia granulosa* ♀



**35** *Clinohelea bimaculata* ♀

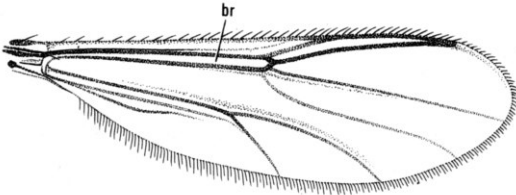


**36** *Heteromyia fasciata* ♀

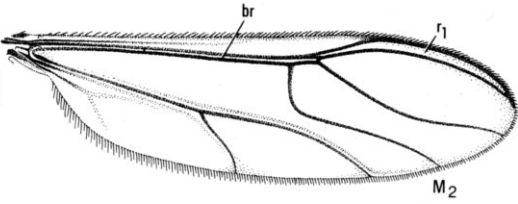


**37** *Paryphoconus angustipennis* ♀

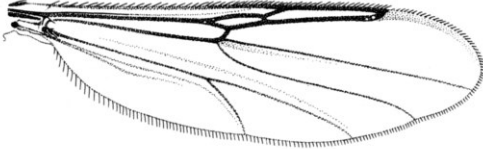
**Ceratopogonidae**



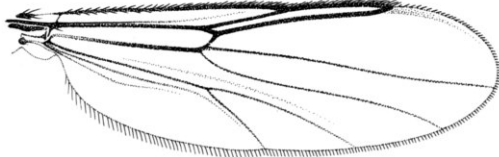
38 *Stenoxenus coomani* ♂



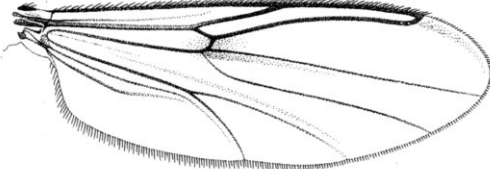
39 *Stenoxenus coomani* ♀



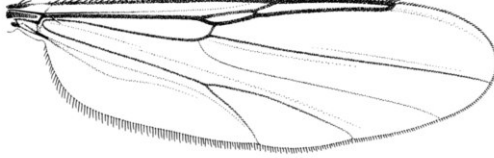
40 *Palpomyia plebeia* ♀



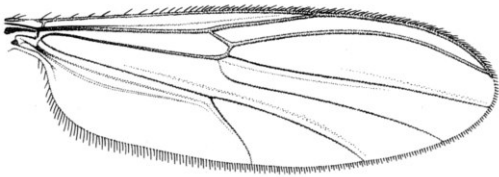
41 *Bezzia setulosa* ♀



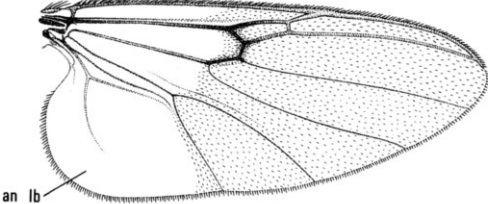
42 *Phaenobezzia pistiae* ♀



43 *Mallochohelea smithi* ♀

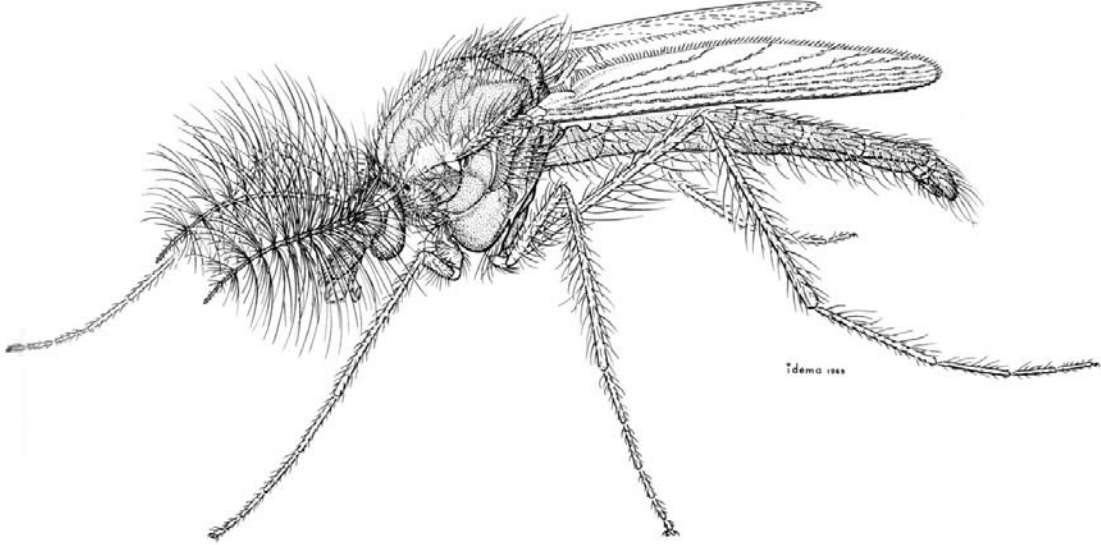


44 *Probezzia pallida* ♀

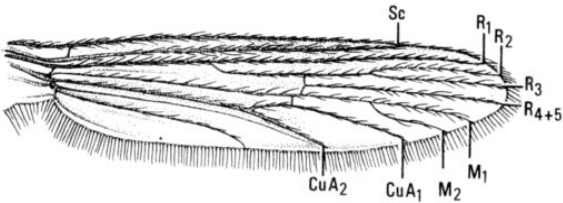


45 *Jenkinshalea magnipennis* ♀

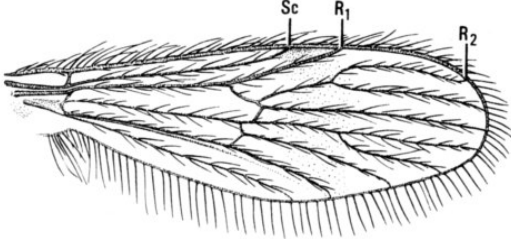
# Chaoboridae



Male of *Chaoborus (Chaoborus) americanus* (Johannsen).



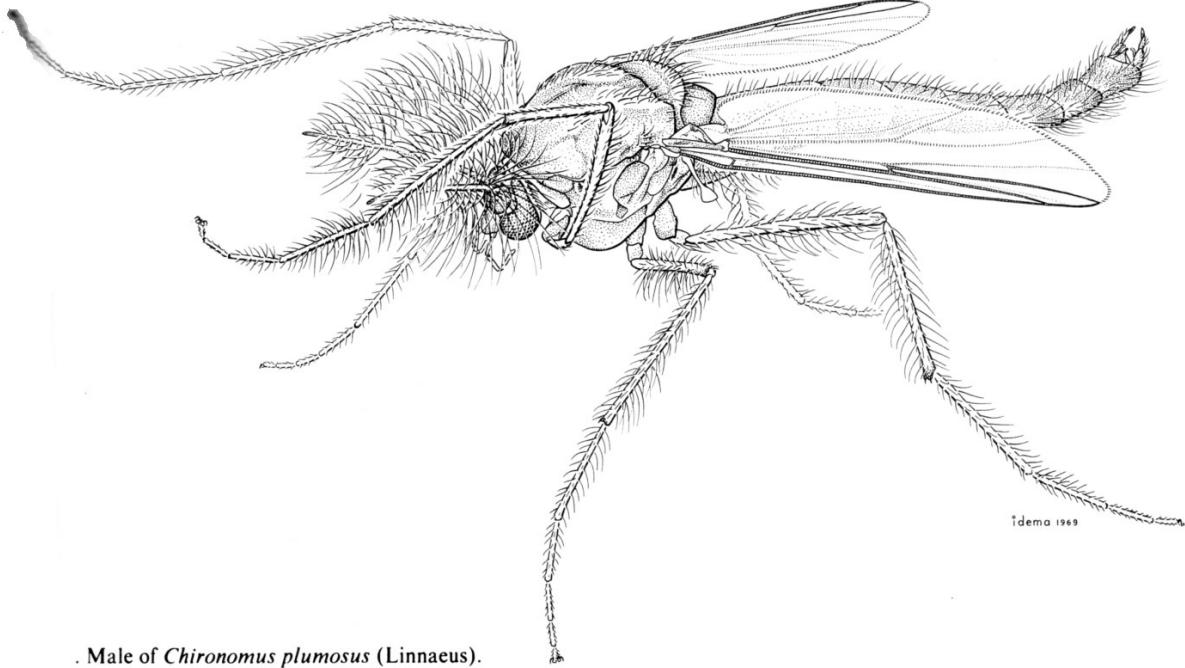
2 *C. (Chaoborus) americanus*



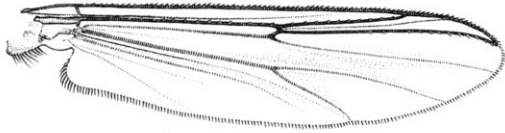
3 *Corethrella* sp.



**Chironomidae**



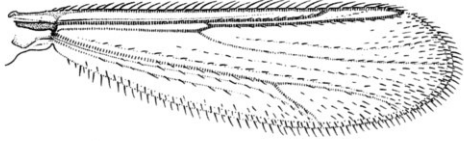
Male of *Chironomus plumosus* (Linnaeus).



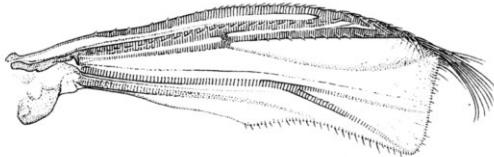
**16** *Chironomus riparius* ♂



**17** *Micropsectra* sp. ♂

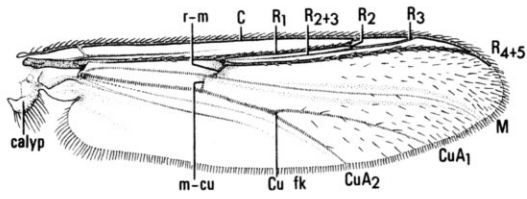


**18** *Stempellina* sp. ♂

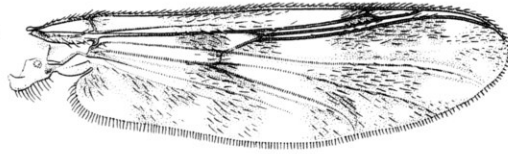


**19** *Corynocera* sp. ♂

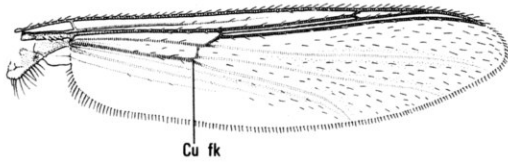
# Chironomidae



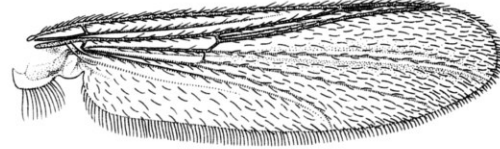
2 *Procladius freemani* ♂



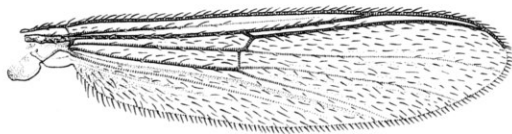
3 *Psectrotanypus dyari* ♂



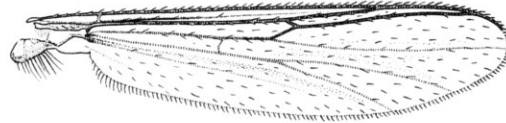
4 *Arctopelopia* sp. ♂



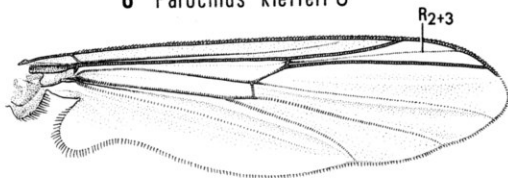
5 *Monopelopia boliekae* ♂



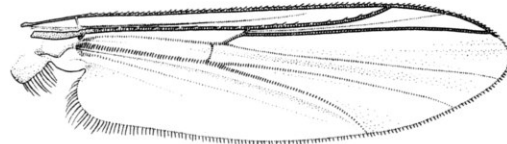
6 *Parochlus kiefferi* ♂



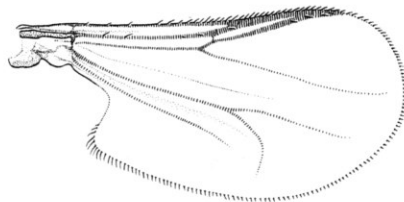
7 *Trichotanypus posticalis* ♂



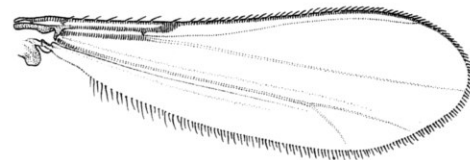
8 *Pseudodiamesa arctica* ♂



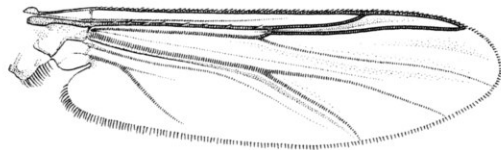
9 *Prodiamesa olivacea* ♂



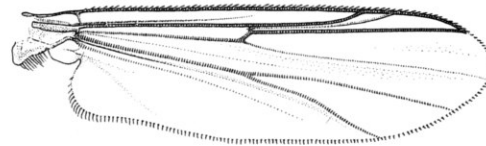
10 *Clunio* sp. ♂



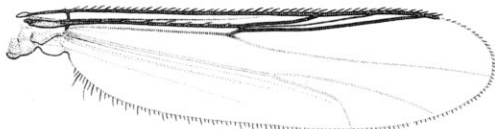
11 *Corynoneura* sp. ♂



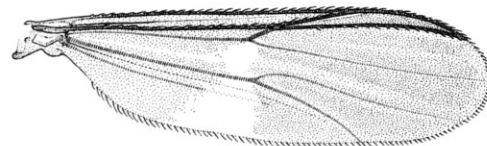
12 *Cardiocladius obscurus* ♂



13 *Orthocladius decoratus* ♂

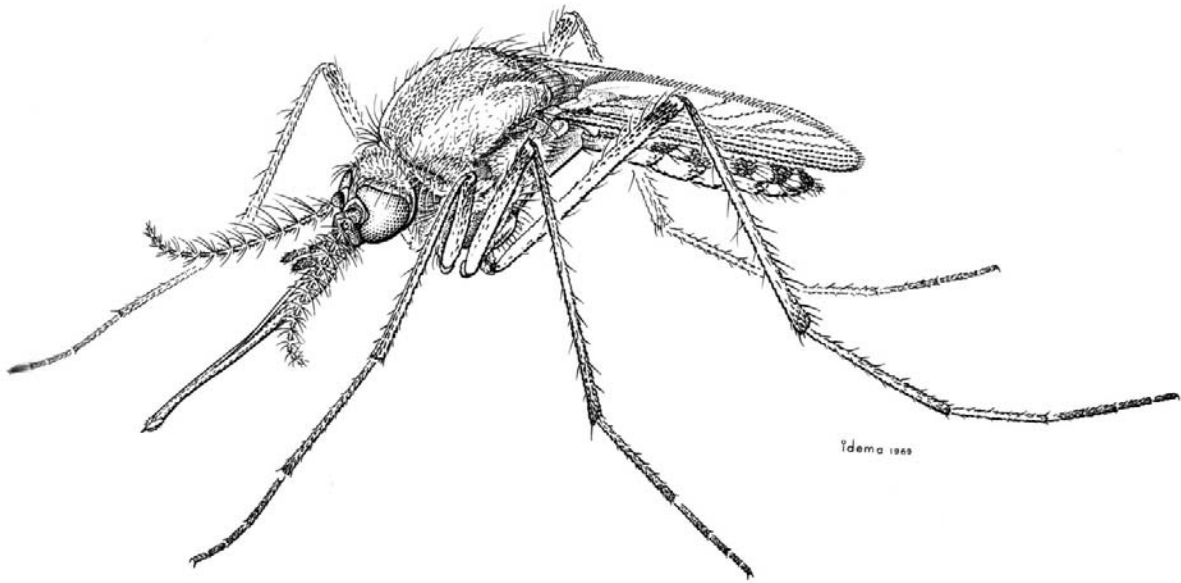


14 *Smittia* sp. ♂

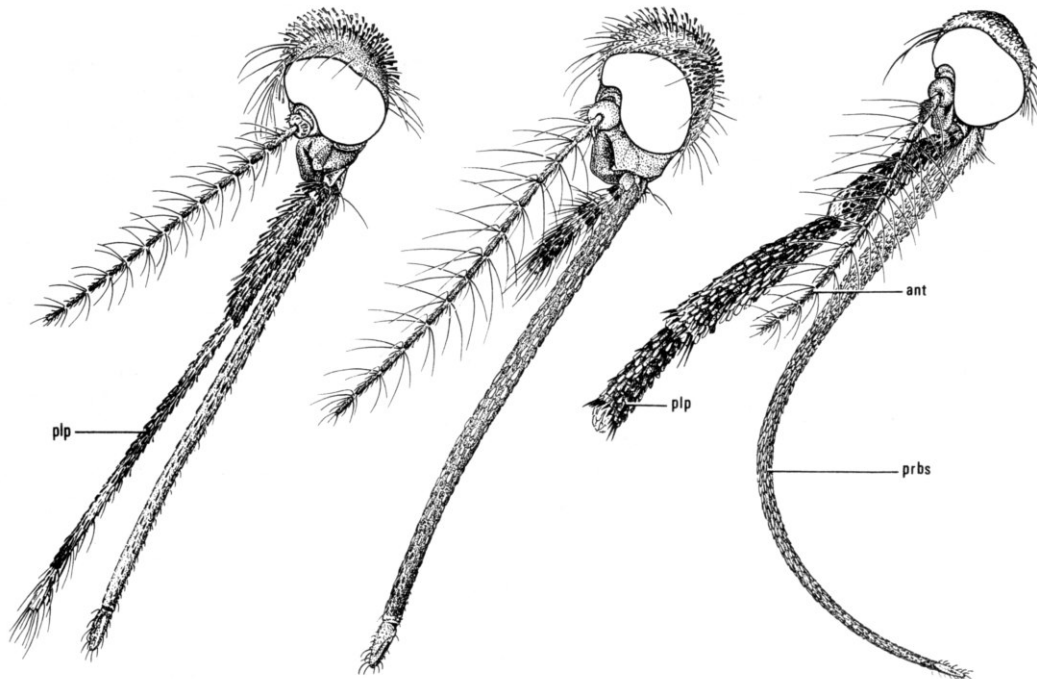


15 *Chasmatonotus unimaculatus* ♂

# Culicidae



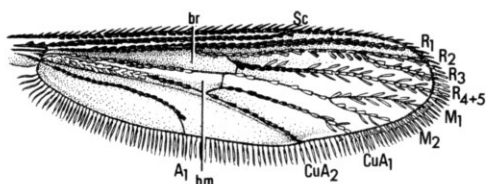
Female of *Aedes sticticus* (Meigen).



2 *Anopheles punctipennis* ♀

3 *Aedes stimulans* ♀

4 *Toxorhynchites rutilus* ♀



5 *Uranotaenia sapphirina* ♀

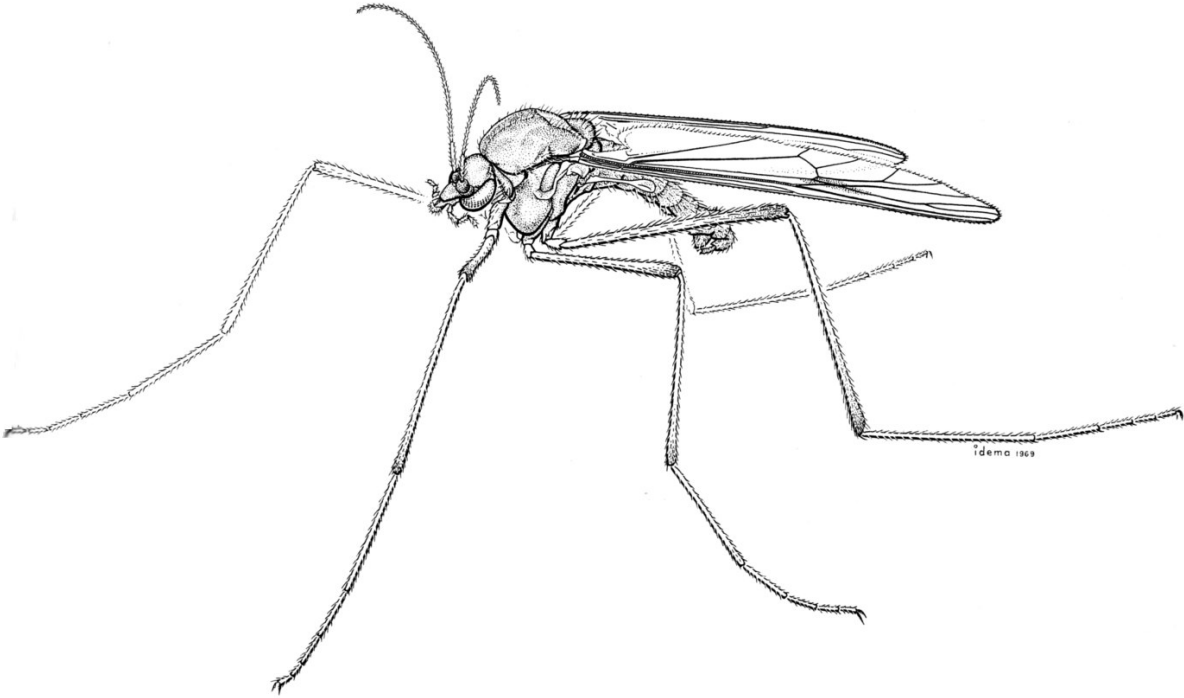


6 *Mansonia titillans* ♀

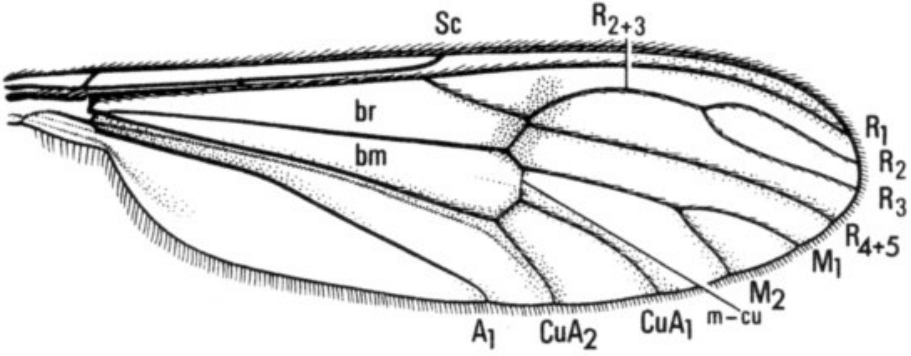


7 *Mansonia titillans* ♀

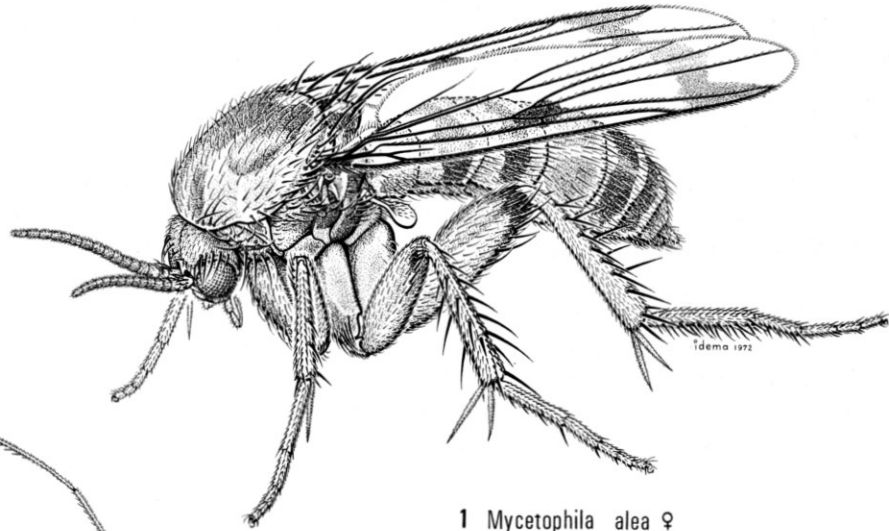
# Dixidae



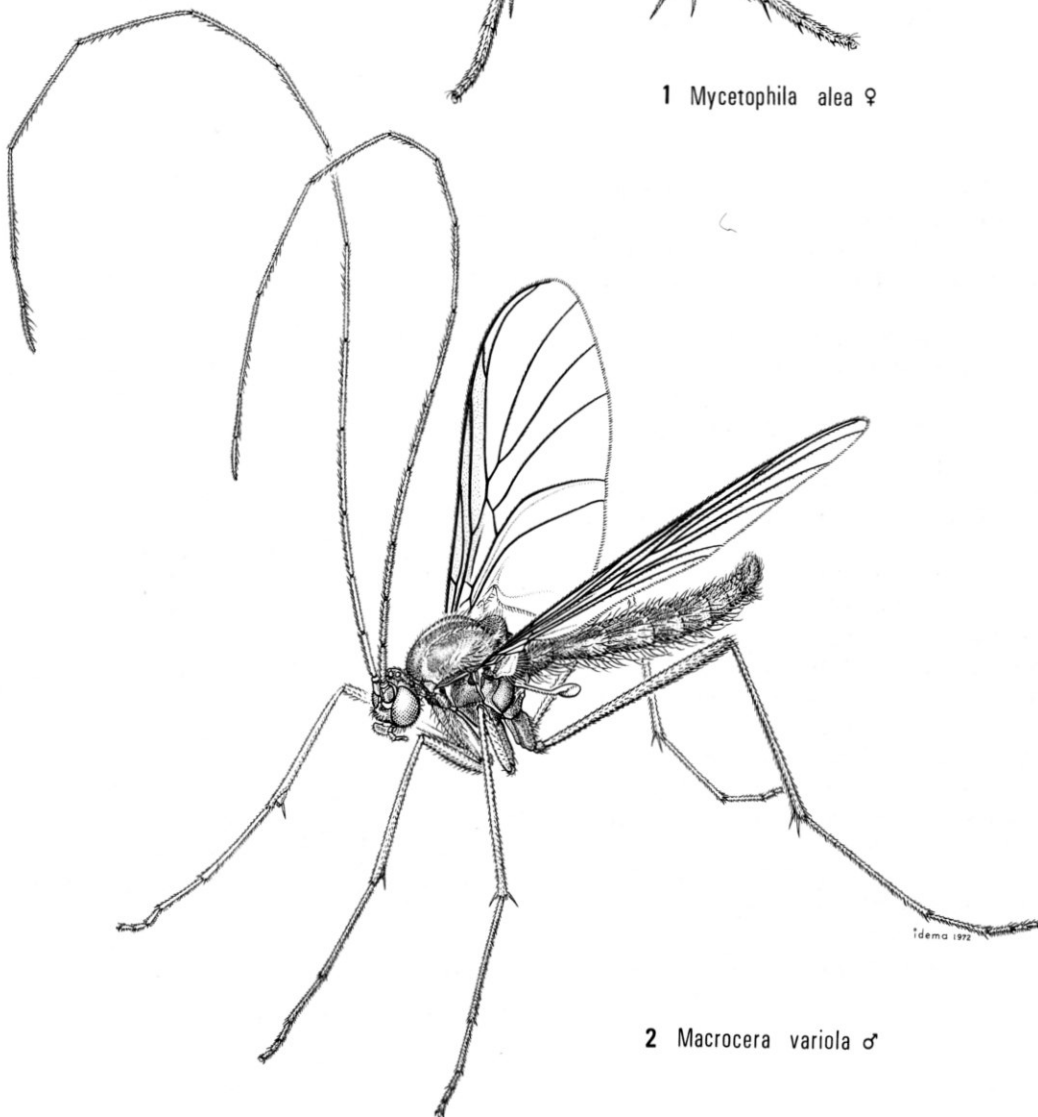
Male of *Dixa* sp.



# Mycetophilidae



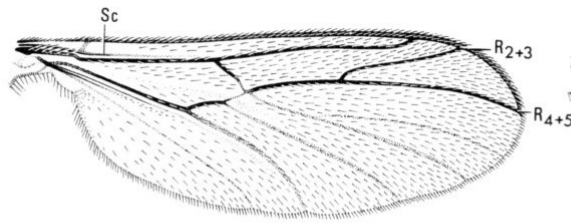
1 *Mycetophila alea* ♀



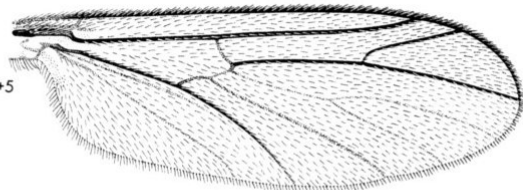
2 *Macrocera variola* ♂

-2. (1) Female of *Mycetophila alea* Laffoon; (2) male of *Macrocera variola* Garrett.

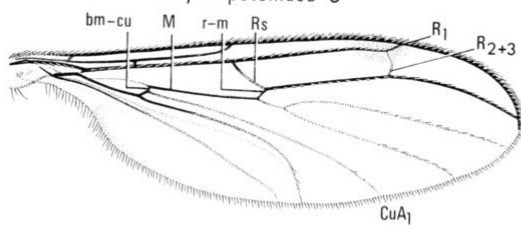
# Mycetophilidae



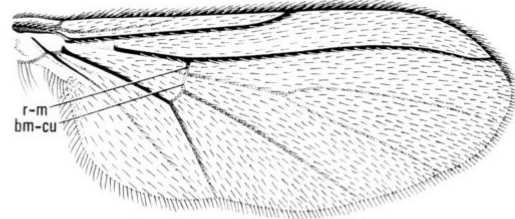
11 *Ditomyia potomaca* ♂



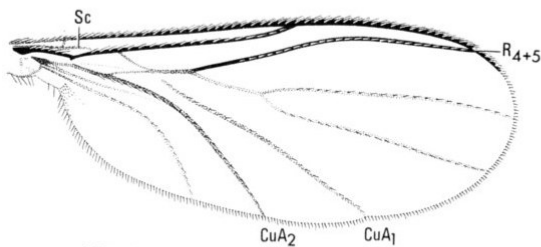
12 *Symmerus vockerothi* ♂



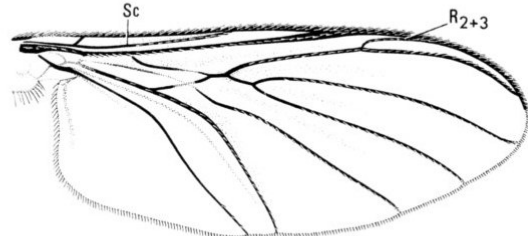
13 *Bolitophila cinerea* ♂



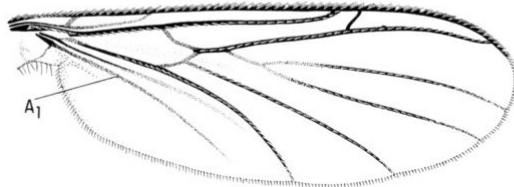
14 *Diadocidia ferruginosa* ♂



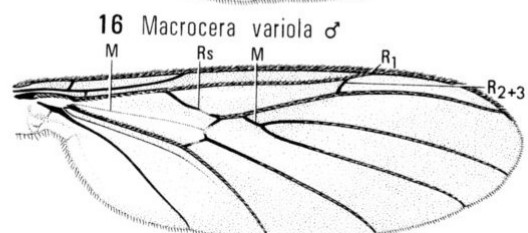
15 *Robsonomyia reducta* ♂



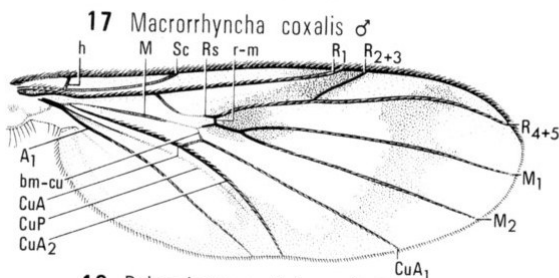
16 *Macrocera variola* ♂



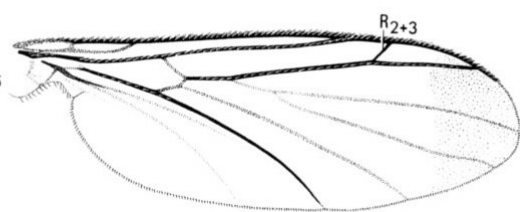
17 *Macrorrhyncha coxalis* ♂



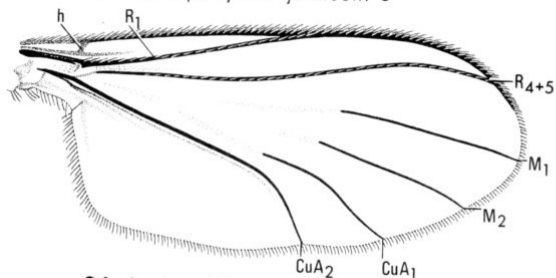
18 *Platyura nigriventris* ♂



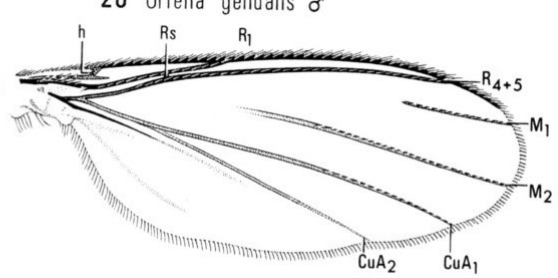
19 *Paleoplatyura johnsoni* ♂



20 *Orfelia genualis* ♂

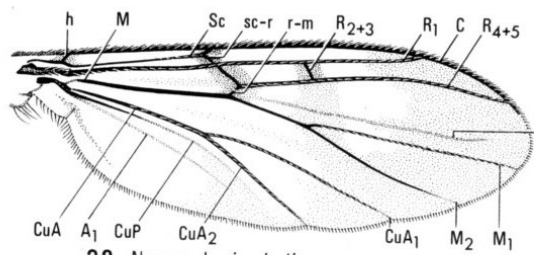


21 *Lygistorrhina sanctaecatharinae* ♂

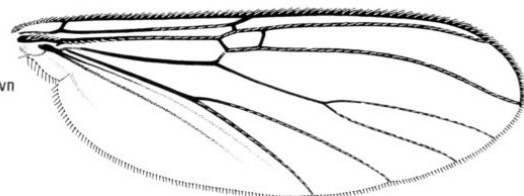


22 *Manota* sp. ♂

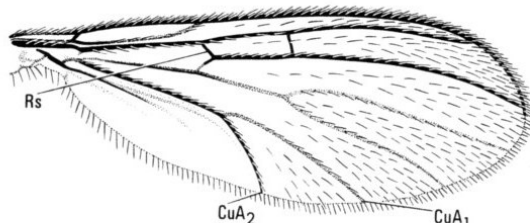
# Mycetophilidae



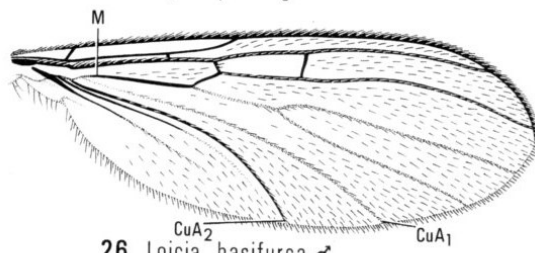
23 *Neoempheria balioptera* ♂



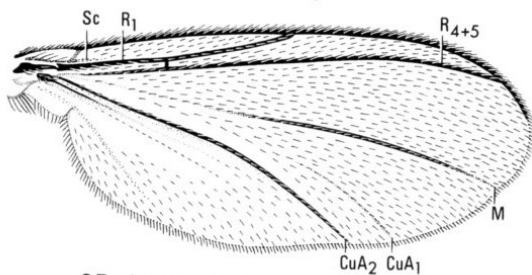
24 *Mycomya vulgaris* ♂



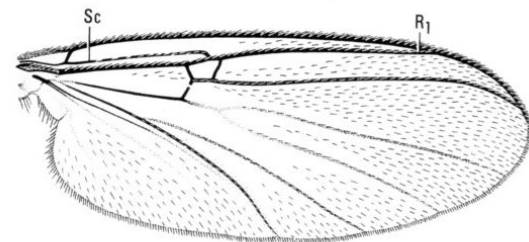
25 *Paratinia recurva* ♂



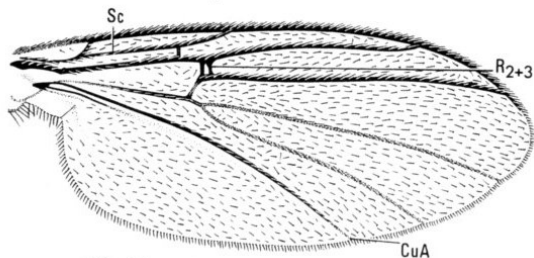
26 *Loicia basifurca* ♂



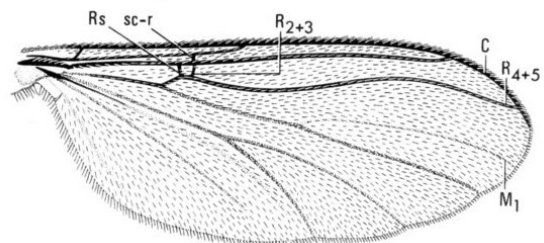
27 *Azana* sp. ♂



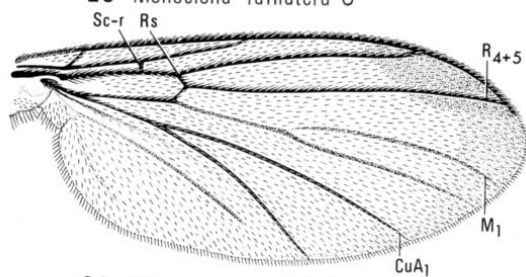
28 *Syntemna vernalis* ♀



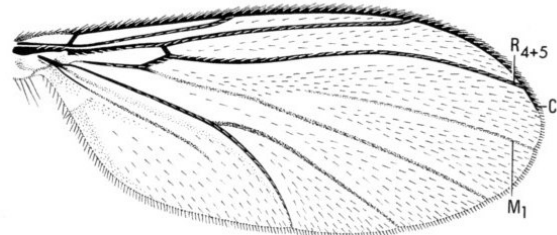
29 *Monoclona rufilatera* ♂



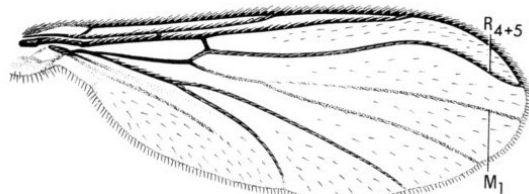
30 *Polylepta guttiventris* ♂



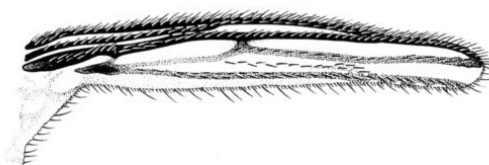
31 *Allocotocera pulchella* ♂



32 *Anaclileia* sp. ♂



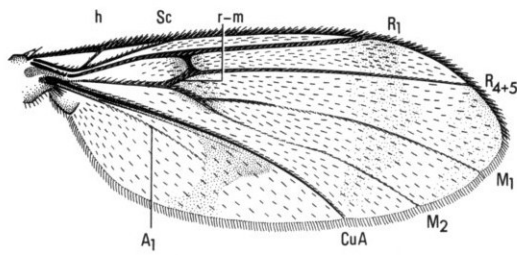
33 *Baeopterogyna nudipes* ♂



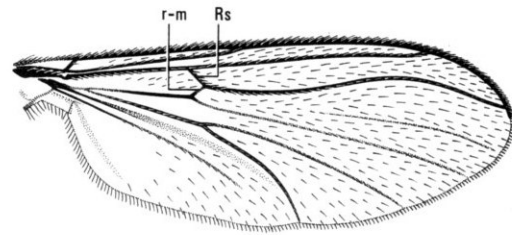
34 *Baeopterogyna nudipes* ♀



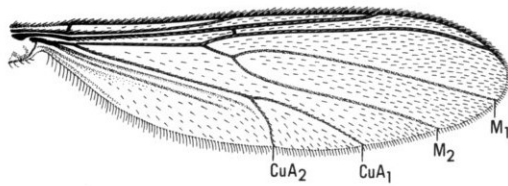
# Mycetophilidae



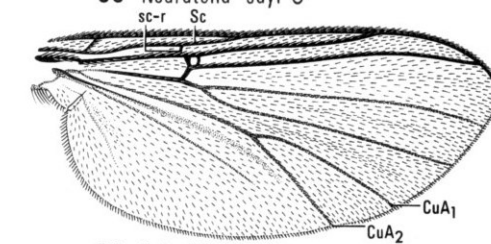
35 *Cluzobra* sp. ♀



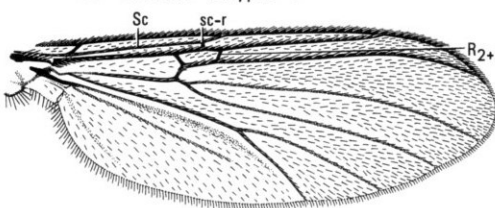
36 *Neuratelia sayi* ♂



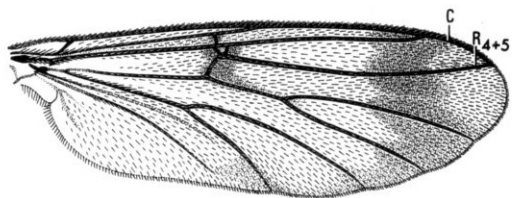
37 *Pthinia tanyus* ♂



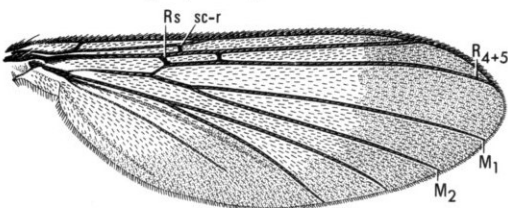
38 *Sciophila novata* ♂



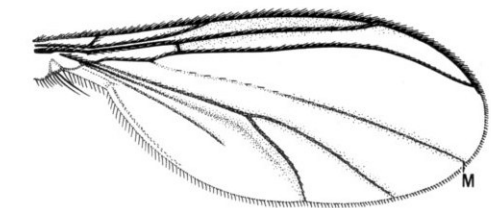
39 *Megalopelma glabanum* ♂



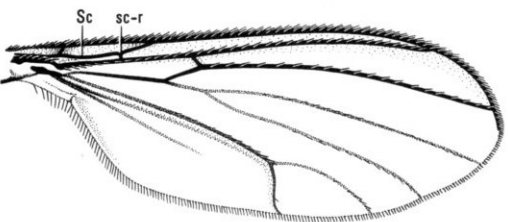
40 *Leptomorphus nebulosus* ♂



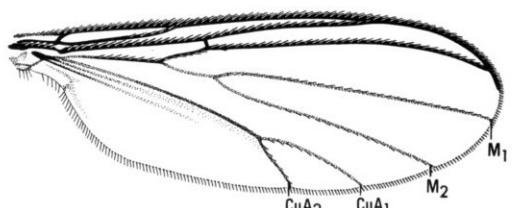
41 *Eudicrana obumbrata* ♂



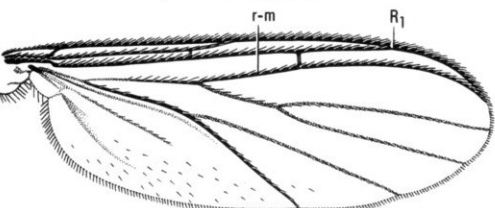
42 *Adicroneura biocellata* ♀



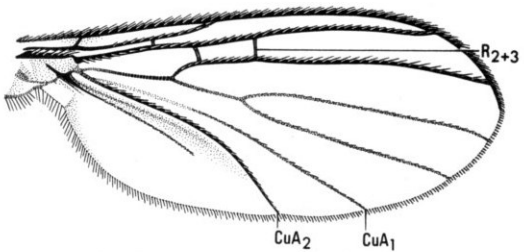
43 *Coelophthinia curta* ♂



44 *Coelosia tenella* ♂

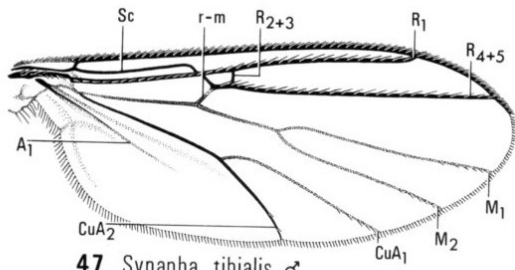


45 *Garrettella shermani* ♂

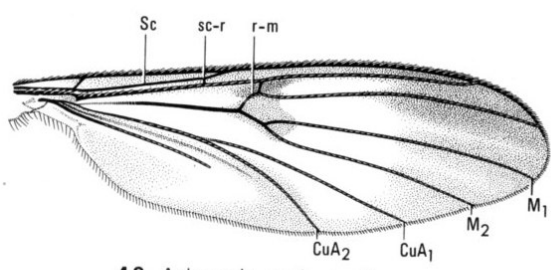


46 *Drepanocercus ensifer* ♂

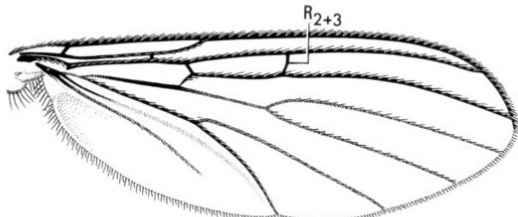
# Mycetophilidae



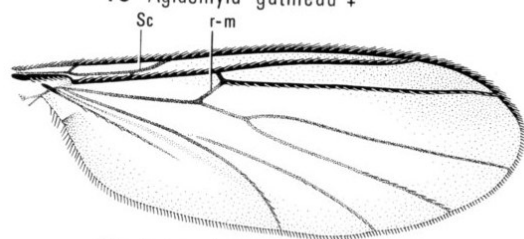
47 *Synapha tibialis* ♂



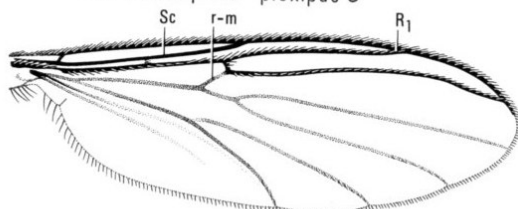
48 *Aglaomyia gatineau* ♀



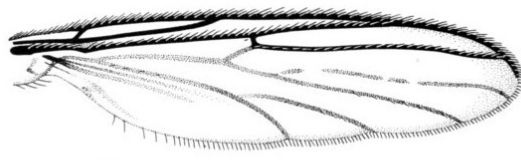
49 *Acomoptera plexipus* ♂



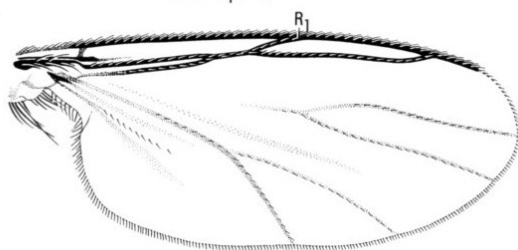
50 *Saigusaia cincta* ♂



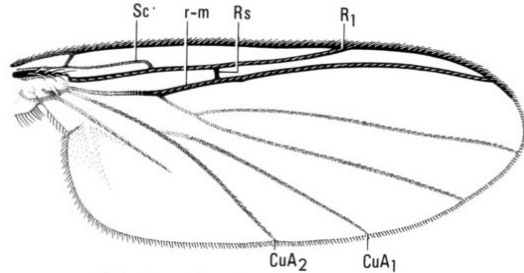
51 *Boletina* sp. ♂



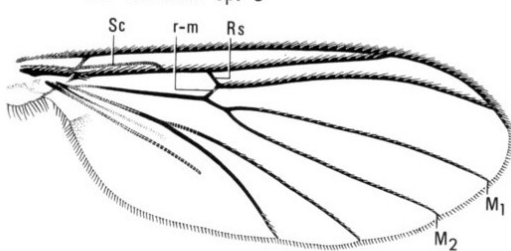
52 *Boletina* sp. ♂



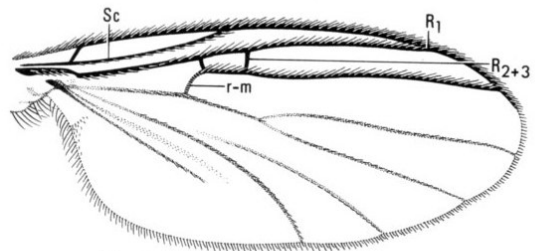
53 *Novakia* sp. ♂



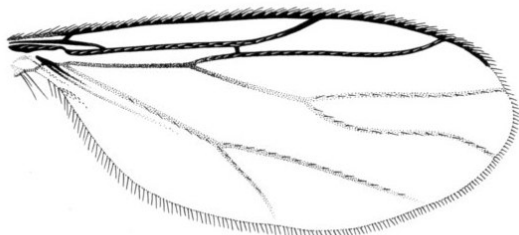
54 *Docosia dichroa* ♂



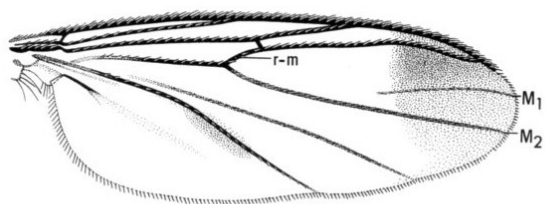
55 *Dziedzickia vittata* ♂



56 *Apolephthisa* sp. ♂

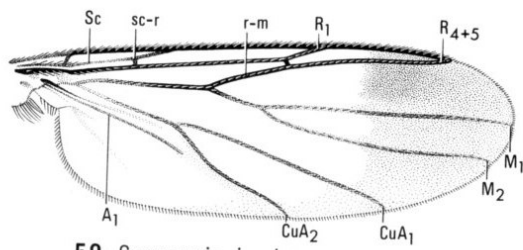


57 *Aphrastomyia* sp. ♂

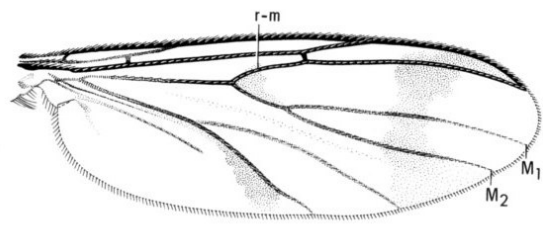


58 *Rondaniella dimidiata* ♂

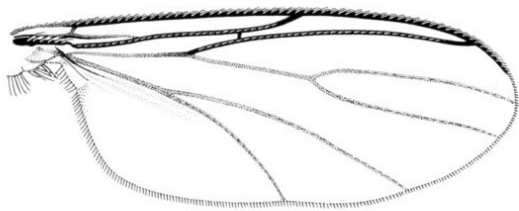
# Mycetophilidae



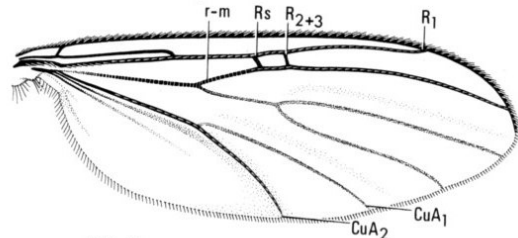
59 *Greenomyia jocularis* ♂



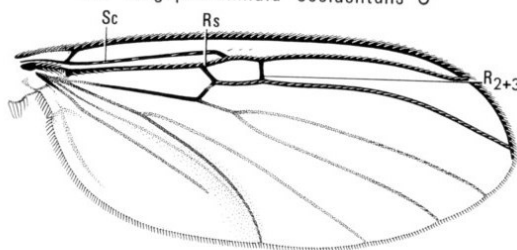
60 *Leia opima* ♂



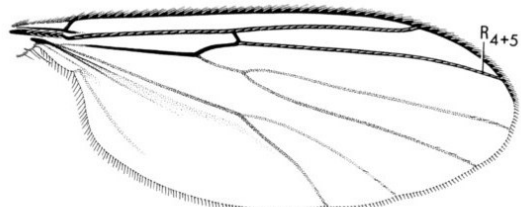
61 *Megophthalmidia occidentalis* ♂



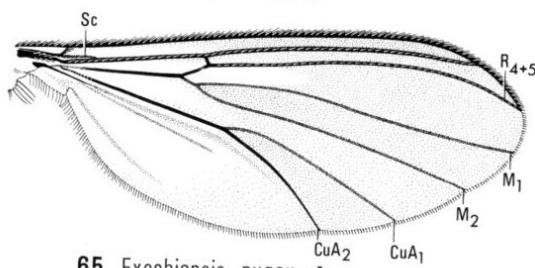
62 *Tetrhoneura fallax* ♂



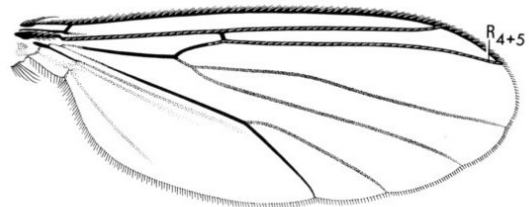
63 *Hadroneura rutila* ♂



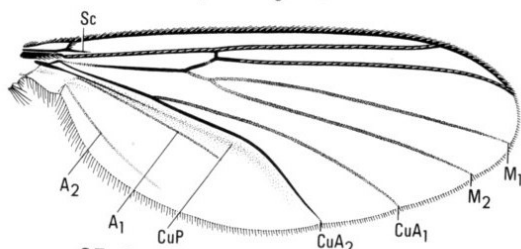
64 *Anatella ciliata* ♂



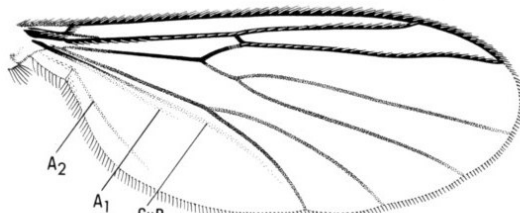
65 *Exechiopsis nugax* ♂



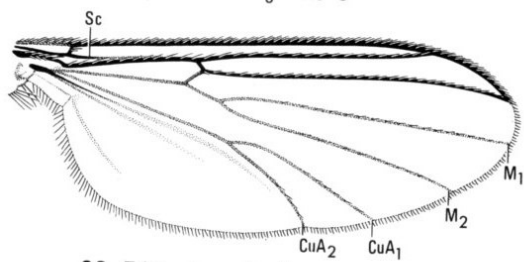
66 *Exechia attrita* ♂



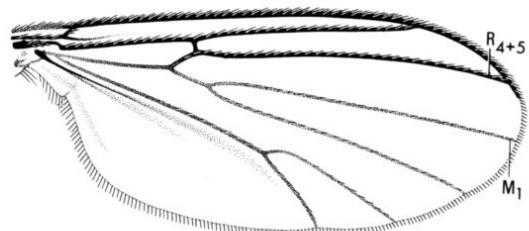
67 *Rymosia triangularis* ♂



68 *Allodia ornaticollis* ♂



69 *Trichonta vulcani* ♂



70 *Phronia cordata* ♂

# Psychodidae

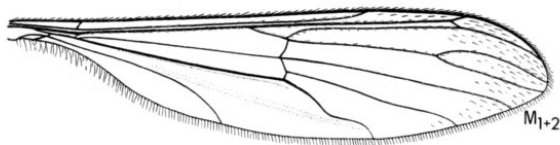


Fig. 17.1. Female of *Psychoda* sp.

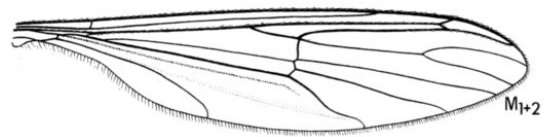
# Ptychopteridae



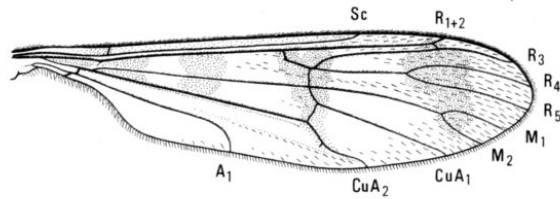
Male of *Bittacomorpha clavipes* (Fabricius).



2 *Bittacomorphella jonesi* ♂

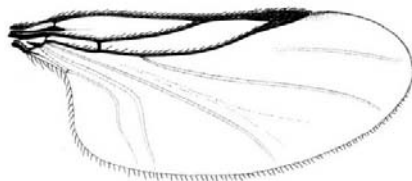
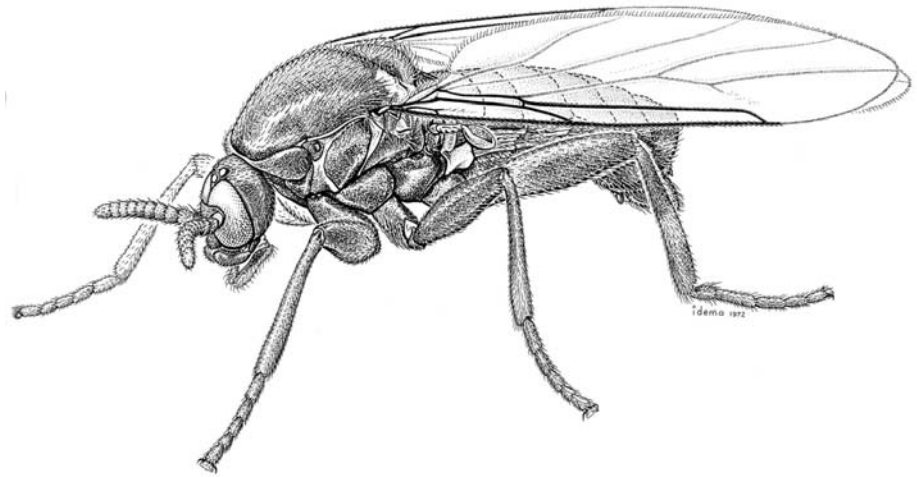


3 *Bittacomorpha clavipes* ♂

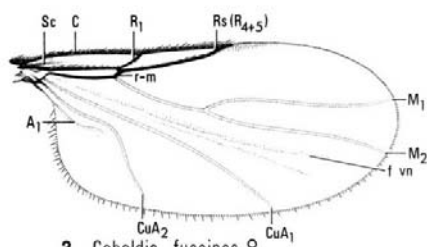


4 *Ptychoptera quadrifasciata* ♂

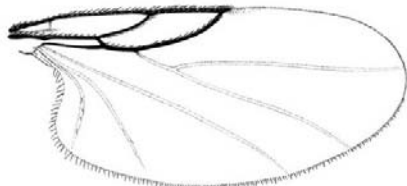
# Scatopsidae



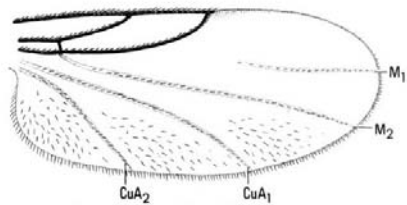
2 *Aspistes* sp. ♀



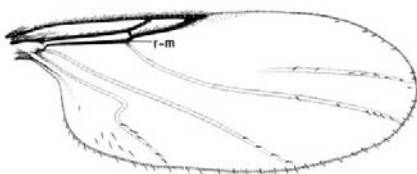
3 *Coboldia fuscipes* ♀



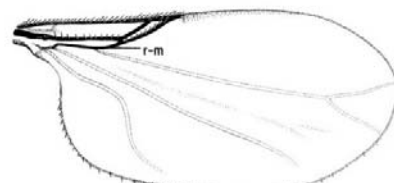
4 *Ectaetia* sp. ♂



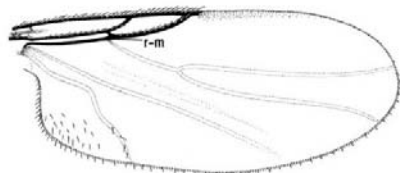
5 *Anapausis soluta* ♀



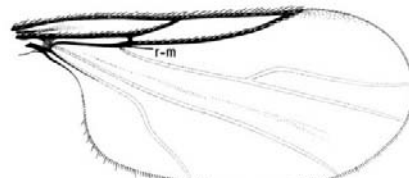
6 *Rhegmoclema truncatum* ♀



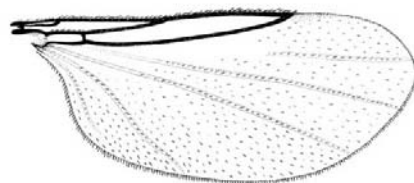
7 *Swammerdamella obtusa* ♀



8 *Rhegmoclemina bimaculata* ♀

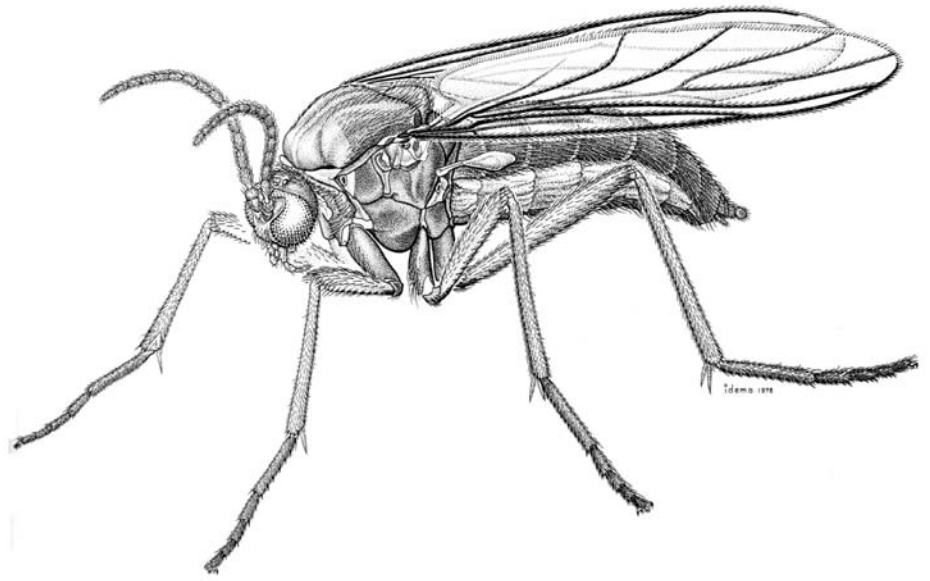
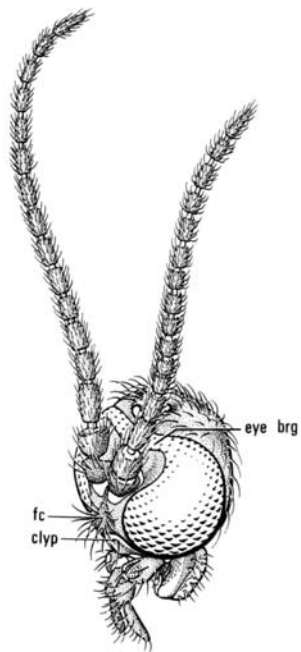


9 *Colobostema variatum* ♀

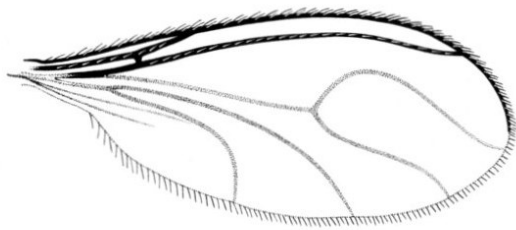


10 *Psectrosiara californica* ♀

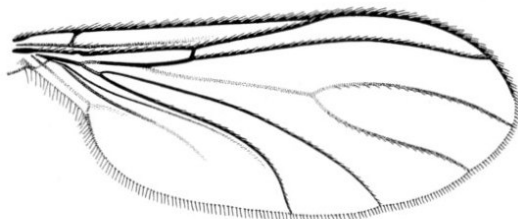
# Sciaridae



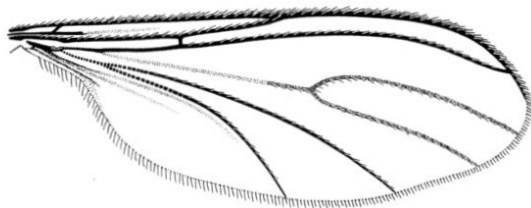
Female of *Sciara* sp.



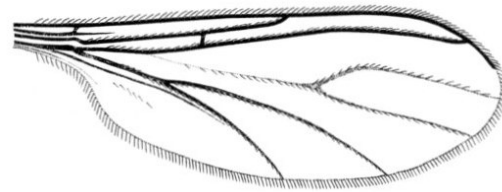
14 *Zygoneura* sp. ♂



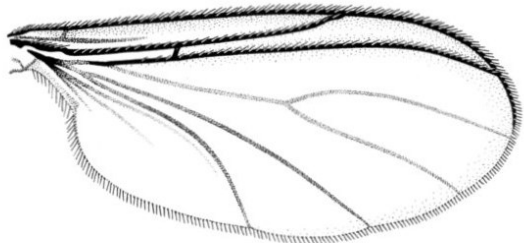
15 *Sciara* sp. ♂



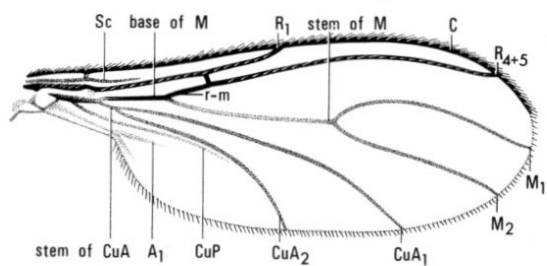
16 *Phytosciara flavipes* ♀



17 *Pseudosciara forceps* ♀



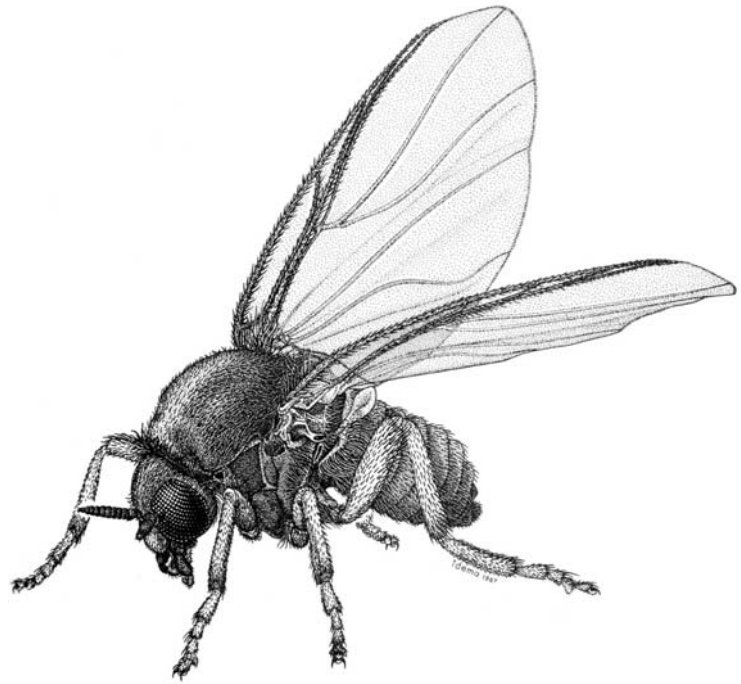
18 *Schwenkfeldina imitans* ♂



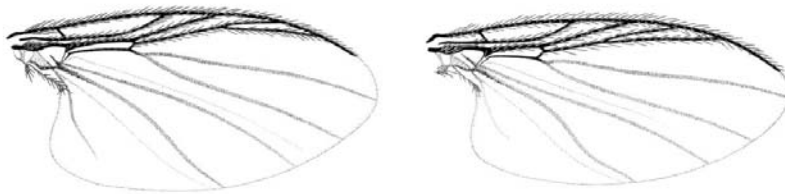
19 *Lycoriella* sp. ♂



# Simuliidae

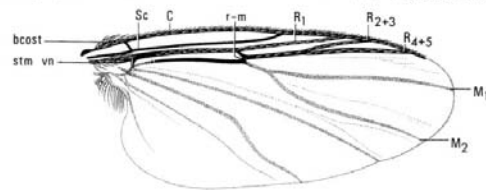


Female of *Prosimulium mixtum* Syme & Davies.

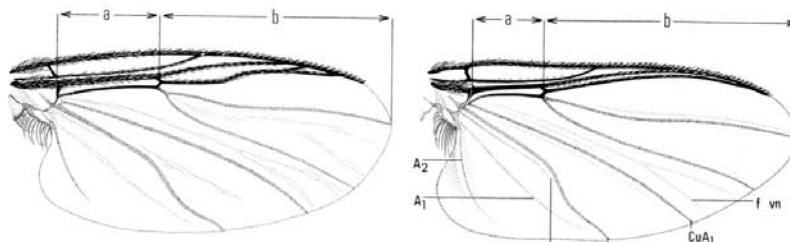


24 *P. (Astoneomyia) melanderi* ♂

25 *P. (Parasimulium) stonei* ♂

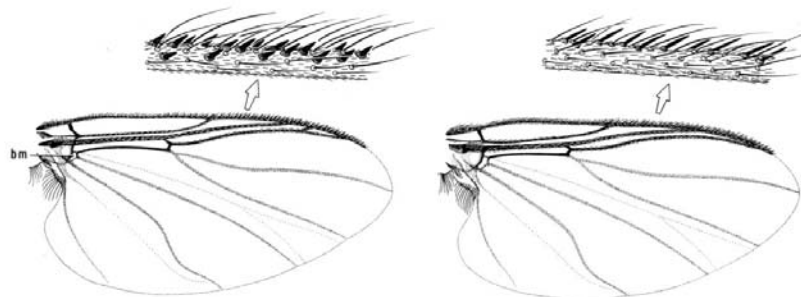


26 *Gymnopais holopticus* ♀



27 *Cnephia dacotensis* ♀

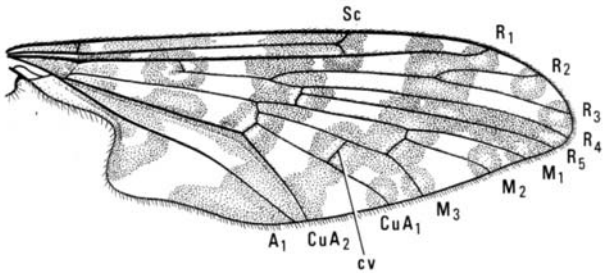
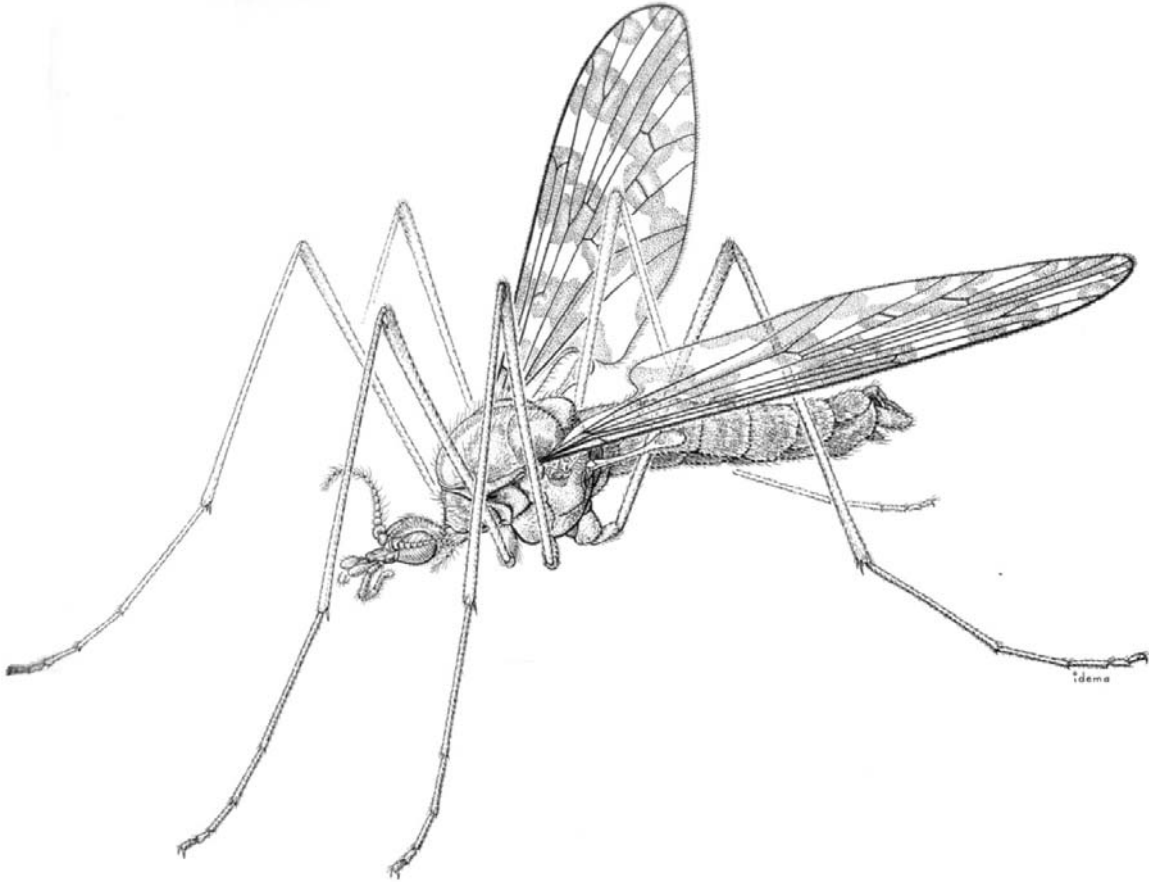
28 *Simulium venustum* ♀



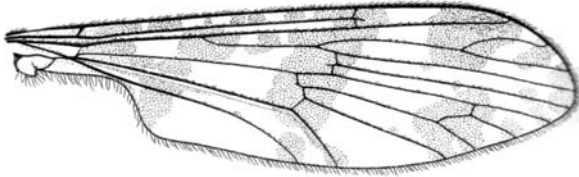
29 *Mayacnephia* sp. ♀

30 *Greniera* sp. ♀

# Tanyderidae



2 *Protoplasa fitchii* ♂

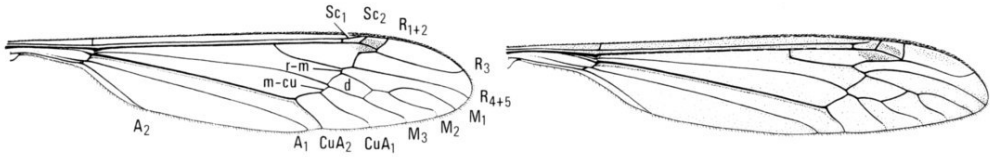


3 *Protanyderus margarita* ♂

# Tipulidae

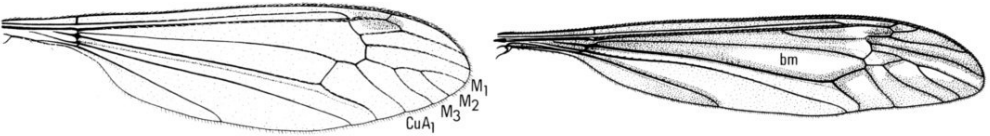


Fig. 7.1. Male of *Tipula trivittata* Say.



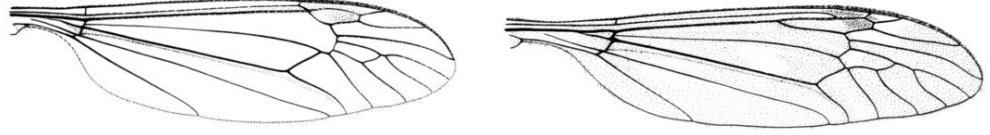
20 *Megistocera longipennis* ♂

21 *Brachypremna dispellens* ♀



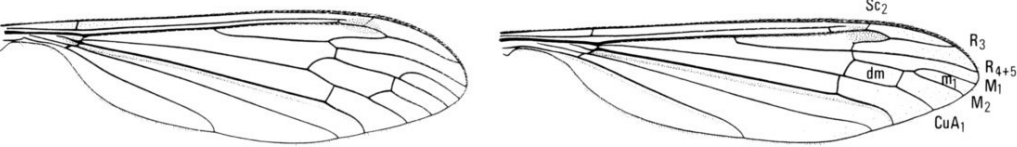
22 *Dolichopeza americana* ♀

23 *Tipula (Yamatotipula) caloptera* ♂



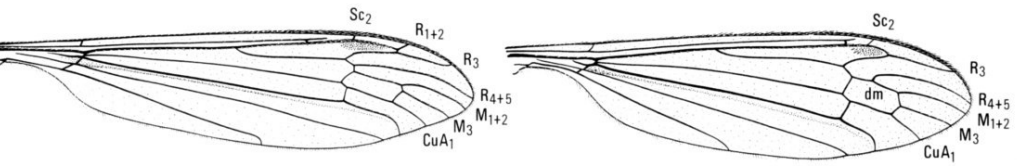
24 *Nephrotoma ferruginea* ♂

25 *Tipula (Lunatipula) dorsimacula* ♂



26 *Cylindrotoma distinctissima americana* ♂

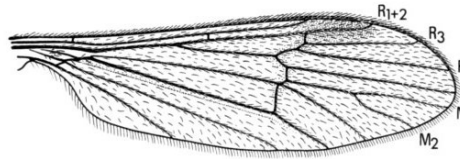
27 *Phalacrocera tipulina* ♂



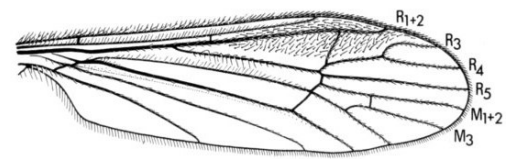
28 *Phalacrocera replicata* ♂

29 *Liogma nodicornis* ♂

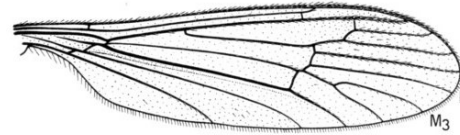
# Tipulidae



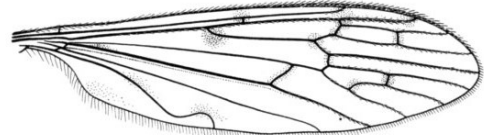
59 *Ormosia (Ormosia) manicata* ♂



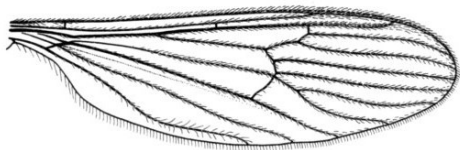
60 *Empedomorpha empedoides* ♂



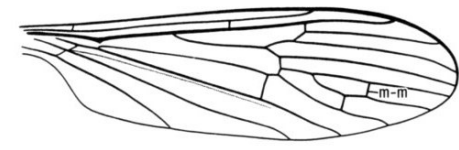
61 *Hesperoconopa melanderi* ♂



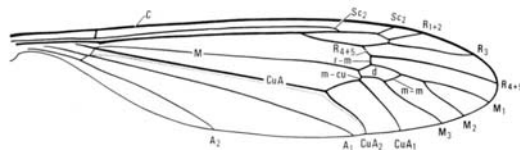
62 *Erioptera (Symplecta) cana* ♀



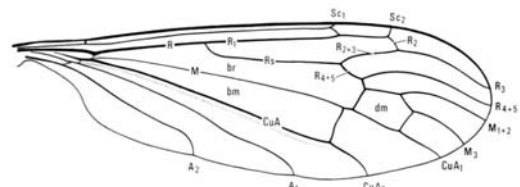
63 *Erioptera (Erioptera) septemtrionis* ♀



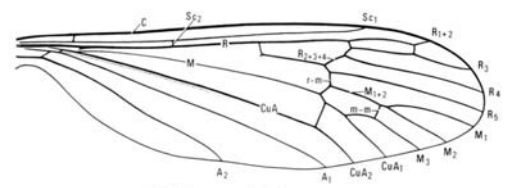
64 *Erioptera (Hoplolabis) armata* ♀



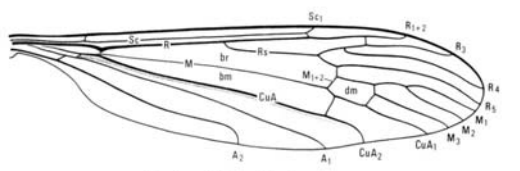
15 *Tipula (Yamatotipula) tricolor* ♂



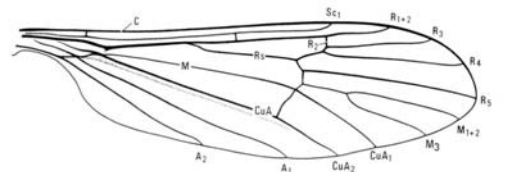
16 *Limonia (Metalimnobia) triocellata* ♂



17 *Dicranota (Eudicranota) pallida* ♂

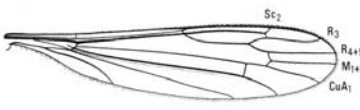


18 *Pseudolimnophila inornata* ♂

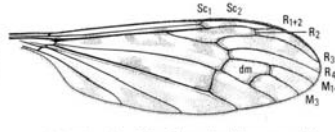


19 *Ormosia monticola* ♀

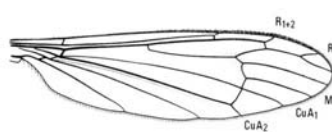
# Tipulidae



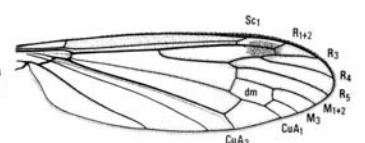
30 *Limonia (Alexandriaria) whartoni* ♂



31 *Limonia (Metalimnobia) immatura* ♀



40 *Hexatoma megacera* ♀



41 *Hexatoma (Eriocera) longicornis* ♀



32 *Helius flavipes* ♂



33 *Dicranoptycha germana* ♀



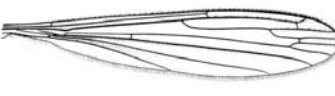
42 *Elephantomyia westwoodi* ♂



43 *Atarba picticornis* ♀



34 *Thaumastopectera hynesi* ♂



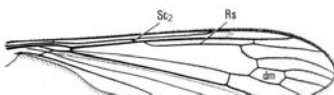
35 *Drimarga (Diotrepha) mirabilis* ♀



44 *Phyllolabis encausta* ♀



45 *Polymera rogersiana* ♀



36 *Elliptera tennesa* ♀



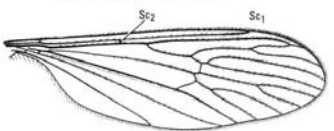
37 *Antocha saxicola* ♂



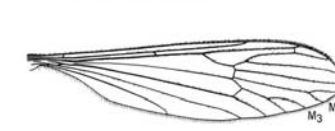
46 *Pseudolimnophila noveboracensis* ♂



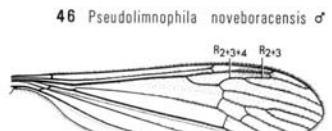
47 *Prolimnophila areolata* ♂



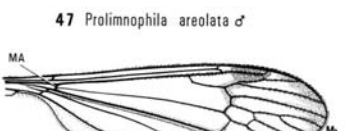
38 *Pedicia (Tricyphona) protea* ♀



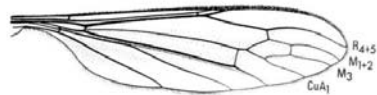
39 *Dicranota (Rhaphidolabis) tenuipes* ♂



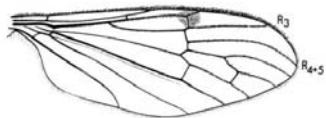
48 *Australimnophila toxoneura* ♂



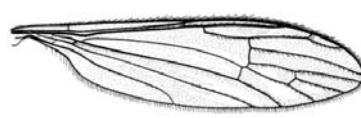
49 *Limnophila (Phylidorea) adusta* ♀



50 *Toxorhina magna* ♂



51 *Teucholabis complexa* ♂



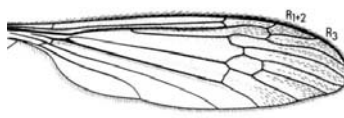
52 *Gonomyia (Lipophleps) sulphurella* ♀



53 *Gnophomyia tristissima* ♀



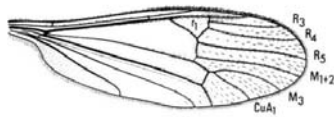
54 *Gonomyia (Gonomyia) subcinerea* ♀



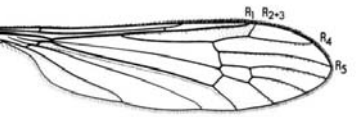
55 *Lipsothrix nigrianea* ♀



56 *Molophilus (Promolophilus) nitidus* ♂

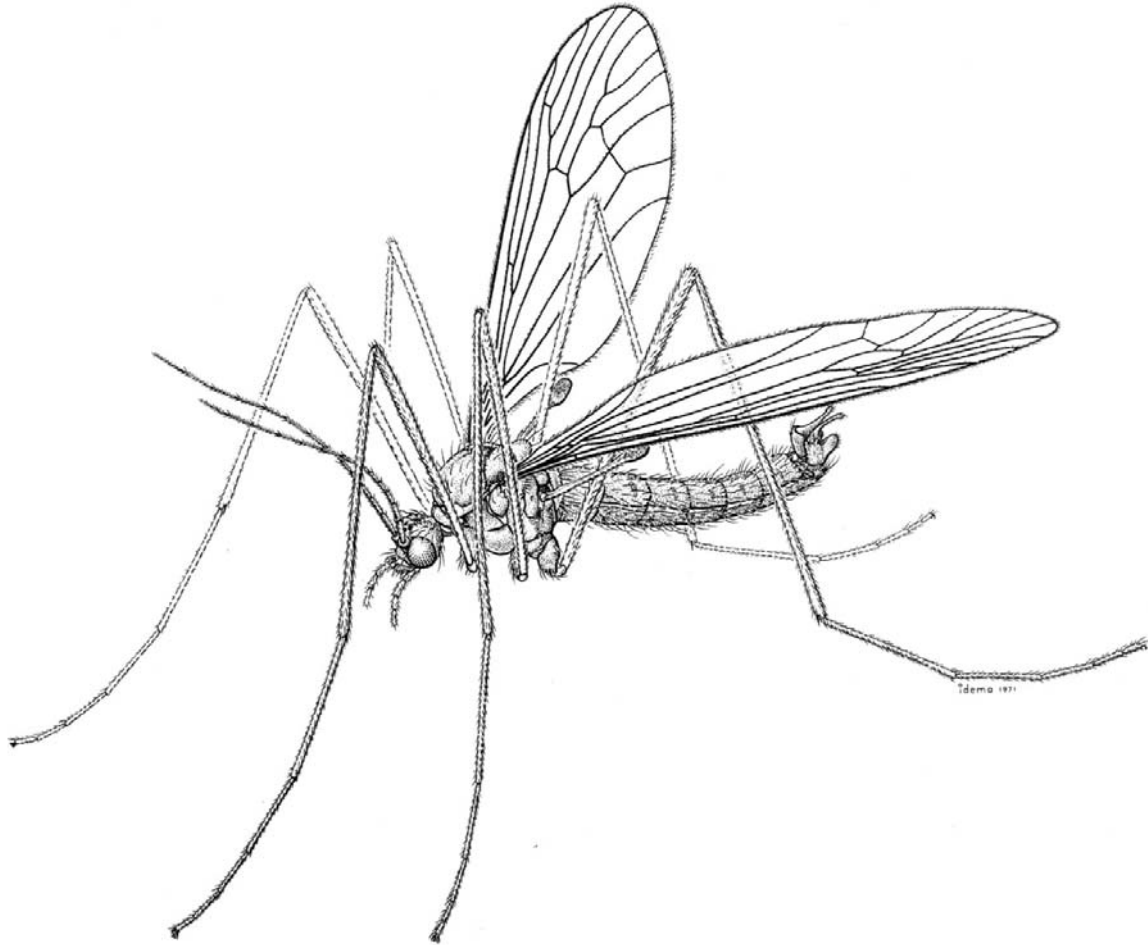


57 *Cryptolabis paradoxa* ♀

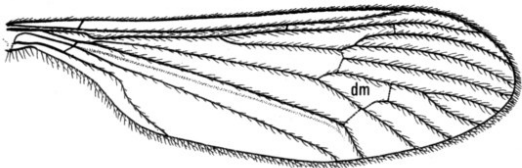


58 *Rhabdomastix (Sacandaga) californiensis* ♂

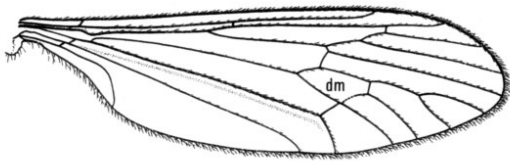
# Trichoceridae



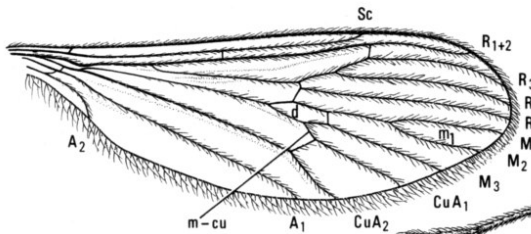
Male of *Trichocera garretti* Alexander.



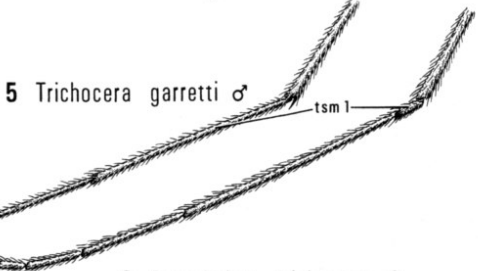
2 *Diazosma hirtipennis* ♂



3 *Trichocera garretti* ♂



4 *Paracladura trichoptera* ♀



5 *Trichocera garretti* ♂

6 *Paracladura trichoptera* ♀