

Family SYRPHIDAE

The virtually worldwide family Syrphidae, commonly called flower flies, consist of moderately-sized flies with often striking color patterns. There are approximately 6,000 described species in almost 200 genera. Adults of extant forms are often found hovering around or feeding on flowers. Some are important pollinators of various flowering plants. Larvae occupy diverse habits. Species of Microdontinae are known only from ants nests. Larvae of other subfamilies are either predaceous on other invertebrates, scavengers, or mycophagous or phytophagous. Larvae of some Eristalinae are known to be associated with tree holes and ulcerated wounds making them susceptible to being trapped in resin flows. This may explain the relative frequency of Eristalinae as inclusions in amber.

In addition to the determined forms listed below, Schumann & Wendt (1989: 42) recorded undetermined material of this family from the Miocene Bitterfeld amber deposits of Germany, Wilson (1977) recorded the family from the Middle Eocene deposits of British Columbia (making that material the oldest representative of the family in North America), and Kovalev (1979) recorded what may be the oldest example of the family from the Cretaceous resins of the Taimyr in Siberia.

Ref.: Hull (1945, review of fossil taxa); Vockeroth & Thompson (1989, brief review of fossil taxa).

Genus ARCHALIA Hull

ARCHALIA Hull, 1945: 305. Type species: *Archalia femorata* Hull, 1945, by original designation.

femorata Hull, 1945: 305. NE: USA (Oligocene) [C].

Genus ARCHISYRPHUS Hull

ARCHISYRPHUS Hull, 1960: 270. Type species: *Archisyrphus opacus* Hull, 1960, by original designation.

opacus Hull, 1960: 270. NE: USA (Oligocene) [C].

Genus ASARKINA Macquart

***ASARKINA** Macquart, 1842: 77 (1843: 137). Type species: *Scaeva rostrata* Wiedemann, 1824, by monotypy.

***ASARCINA** Agassiz, 1846: 35 (unjustified emendation of *Asarkina* Macquart). Type species: *Scaeva rostrata* Wiedemann, 1824, automatic.

quadrata Scudder, 1878c: 752 (*Milesia*). NE: USA (Eocene) [C].

Genus CACOGASTER Hull

CACOGASTER Hull, 1945: 297. Type species: *Cacogaster novamaculata* Hull, 1945, by original designation.

novamaculatus Hull, 1945: 297. NE: USA (Oligocene) [C].

Genus CHEILOSIA Meigen

***CHEILOSIA** Meigen, 1822: 296. Type species: *Syrphus flavipes* Panzer, 1798, by subsequent designation of Coquillett (1910: 521). [Validated by I.C.Z.N. (1993a: 251).]

***CHILOSIA** Agassiz, 1846: 80 (unjustified emendation of *Cheilosia* Meigen). Type species: *Syrphus flavipes* Panzer, 1798, automatic.

ampla Scudder, 1878c: 753. NE: USA (Eocene) [C].

bruesi Hull, 1945: 283. PA: Baltic Region (Eocene/Oligocene) [A].

germanica Hull, 1945: 281. PA: Baltic Region (Eocene/Oligocene) [A].

hecate Hull, 1945: 277. NE: USA (Oligocene) [C].

miocenica Cockerell, 1909c: 72. NE: USA (Oligocene) [C].

nigrachaeta Hull, 1945: 282. PA: Baltic Region (Eocene/Oligocene) [A].

oligocenica Théobald, 1937a: 353. PA: France (Oligocene) [C].

padova Timon-David, 1944: 133. PA: France (Oligocene) [C].

picata Statz, 1940: 141. PA: Germany (Oligocene) [C].

pratjei Hull, 1945: 279. PA: Baltic Region (Eocene/Oligocene) [A].

scudderi Cockerell & LeVeque, 1931: 357. NE: USA (Eocene) [C].

sepultula Cockerell, 1916c: 96. NE: USA (Oligocene) [C].

spheginascioides Röder, 1980: 4. PA: Baltic Region (Eocene/Oligocene) [A].

Genus CHEILOSIALEPTA Hull

CHEILOSIALEPTA Hull, 1945: 285. Type species: *Cheilosialepta baltica* Hull, 1945, by original designation.

baltica Hull, 1945: 286. PA: Baltic Region (Eocene/Oligocene) [A].

Genus CHRYSOGASTER Meigen

CHRYSOGASTER Meigen, 1800: 32. Suppressed by I.C.Z.N. (1963: 339).

- ***CHRYSOGASTER** Meigen, 1803: 274. Type species: *Musca cemiteriorum* Linnaeus, 1758, by subsequent designation of Coquillett (1910: 523).
antiquarius Hull, 1945: 296. NE: USA (Oligocene) [C].

Genus CRIORHINA Meigen

- ***CRIORHINA** Meigen, 1822: 236. Type species: *Syrphus asilicus* Fallén, 1816, by subsequent designation of Westwood (1840: 136).
 ***CRIORRHINA** Scudder, 1882: 90 (unjustified emendation of *Criorhina* Meigen). Type species: *Syrphus asilicus* Fallén, 1816, automatic.
 Unidentified spp.—PA: Baltic Region (Eocene/Oligocene) [A] (Giebel, 1870: 87; Hull, 1945: 338).

Genus EOXYLOTA Hull

- EOXYLOTA** Hull, 1945: 324. Type species: *Xylota pulchra* Meunier, 1904, by original designation.
pulchra Meunier, 1904f: 207 (*Xylota*). PA: Baltic Region (Eocene/Oligocene) [A].

Genus EPISTROPHE Walker

- ***EPISTROPHE** Walker, 1852b: 242. Type species: *Epistrophe conjungens* Walker, 1852 [= *Syrphus grossulariae* Meigen, 1822], by monotypy.
kastenholzi Statz, 1940: 142. PA: Germany (Oligocene) [C].

Genus ERISTALIS Latreille

- TUBIFERA* Meigen, 1800: 34. Suppressed by I.C.Z.N. (1963: 339).
ELOPHILUS Meigen, 1803: 274. Suppressed by I.C.Z.N. (1993b: 256).
 ***ERISTALIS** Latreille, 1804: 194. Type species: *Musca tenax* Linnaeus, 1758, by subsequent designation of Curtis (1832: pl. 432). [Conserved by I.C.Z.N. (1993b: 256).]
lapideus Scudder, 1877a: 756. NE: USA (Eocene) [C].
miocaenicus Stackelberg, 1925: 89 (*Tubifera*). PA: Russia (Stavropol) (Miocene) [C].

paucisnuatus Théobald, 1937a: 352. PA: France (Oligocene) [C].
 Unidentified sp.—PA: Germany (Oligocene) [C] (Statz, 1940: 143).

Genus **HELOPHILUS** Fabricius

HELOPHILUS Meigen, 1803: 273. Suppressed by I.C.Z.N. (1993b: 256).

***HELOPHILUS** Fabricius, 1805: 233. Type species: *Musca pendula* Linnaeus, 1758, by subsequent designation of Curtis (1832: pl. 429). [Conserved by I.C.Z.N. (1993b: 256).]

primarius Germar, 1837: pl. 25. PA: Germany (Oligocene) [C].

villeneuvei Théobald, 1937a: 351. PA: France (Oligocene) [C].

Genus **LEUCOZONA** Schiner

***LEUCOZONA** Schiner, 1860b: 214. Type species: *Musca lucorum* Linnaeus, 1758, by original designation.

[See Wirth *et al.* (1965: 563) for details on nomenclatural problems concerning this genus-group name and its type species.]

nigra Hull, 1945: 271. NE: USA (Oligocene) [C].

Genus **LIOMYODIA** Evenhuis, new name

DOLIOMYIA Hull, 1945: 330. Type species: *Doliomyia chalybea* Hull, 1945, by original designation. [Preoccupied by Johannsen, 1924.] **New synonymy.**

LIOMYODIA Evenhuis, 1994: in this work (**new replacement name** for *Doliomyia* Hull). Type species: *Doliomyia chalybea* Hull, 1945, automatic.

chalybea Hull, 1945: 330 (*Doliomyia*). PA: Baltic Region (Eocene/Oligocene) [A]. **New combination.**

Genus **MEGAXYLOTA** Hull

MEGAXYLOTA Hull, 1945: 341. Type species: *Megaxylota magnifemur* Hull, 1945, by original designation.

magnifemur Hull, 1945: 341. PA: Baltic Region (Eocene/Oligocene) [A].

Genus MERODON Meigen

***MERODON** Meigen, 1803: 274. Type species: *Syrphus clavipes* Fabricius, 1781, by subsequent designation of Guérin-Ménéville in Bory de Saint-Vincent (1826: 446).

germari Heyden, 1862: 78. PA: Germany (Oligocene) [C].

Genus MICRODON Meigen

***MICRODON** Meigen, 1803: 275. Type species: *Musca mutabilis* Linnaeus, 1758, by monotypy.

Unidentified sp.—PA: France (Oligocene) [C] (Serres, 1829: 233; Burmeister, 1832: 639).

Genus MYOLEPTA Newman

***MYOLEPTA** Newman, 1838: 373. Type species: *Musca luteola* Gmelin, 1790 [preoccupied, = *Thereva dubia* Fabricius, 1805], by monotypy.

***MYIOLEPTA** Newman, 1841: 226 (unjustified emendation of *Myolepta* Newman). Type species: *Musca luteola* Gmelin, 1790 [preoccupied, = *Thereva dubia* Fabricius, 1805], automatic.

Subgenus ARCTOLEPTA Hull

ARCTOLEPTA Hull, 1945: 287 (as genus). Type species: *Arctolepta calamitans* Hull, 1945, by original designation.

calamitans Hull, 1945: 288 (*Arctolepta*). PA: Baltic Region (Eocene/Oligocene) [A].

Subgenus SERICOLEPTA Hull

SERICOLEPTA Hull, 1945: 303 (as genus). Type species: *Sericolepta maculata* Hull, 1945, by original designation.

maculata Hull, 1945: 304 (*Sericolepta*). PA: Baltic Region (Eocene/Oligocene) [A].

Unplaced to Subgenus of MYOLEPTA Newman

andreei Hull, 1945: 299. PA: Baltic Region (Eocene/Oligocene) [A].

elisabethae Statz, 1940: 144. PA: Germany (Oligocene) [C].

germanica Hull, 1945: 300. PA: Baltic Region (Eocene/Oligocene) [A].

luehei Cockerell, 1910a: 173 [1910b: 155]. PA: Baltic Region (Eocene/Oligocene) [A].

valida Hull, 1945: 299. PA: Baltic Region (Eocene/Oligocene) [A].

woteni Hull, 1945: 302. PA: Baltic Region (Eocene/Oligocene) [A].

Unidentified sp.—NE: USA (Oligocene) [C] (Williston, 1887: 282).

Genus **PALAEOASCIA** Meunier

PALAEOASCIA Meunier, 1893*a*: ccxlix (1893*b*: ccxlix). Type species: *Palaeoascia uniappendiculata* Meunier, 1904, by subsequent monotypy in Meunier (1904*f*: 203).

atrata Hull, 1945: 309. PA: Baltic Region (Eocene/Oligocene) [A].

nigra Hull, 1945: 310. PA: Baltic Region (Eocene/Oligocene) [A].

uniappendiculata Meunier, 1904*f*: 203. PA: Baltic Region (Eocene/Oligocene) [A].

ssp. **brachypennis** Hull, 1945: 309. PA: Baltic Region (Eocene/Oligocene) [A].

ssp. **obtusa** Hull, 1945: 309. PA: Baltic Region (Eocene/Oligocene) [A].

ssp. **uniappendiculata** s. str. PA: Baltic Region (Eocene/Oligocene) [A].

Genus **PALAEOERISTALIS** Hull

PALAEOERISTALIS Hull, 1945: 334. Type species: *Palaeoeristalis tessellatus* Hull, 1945, by original designation.

tessellatus Hull, 1945: 334. NE: USA (Oligocene) [C].

Genus **PALAEOPIPIZA** Meunier

PALAEOPIPIZA Meunier, 1902*a*: 103. Type species: *Palaeopipiza xenos* Meunier, 1902, by monotypy.

xenos Meunier, 1902*a*: 103. PA: Baltic Region (Eocene/Oligocene) [A].

Genus **PALAEOSPHEGINA** Meunier

PALAEOSPHEGINA Meunier, 1901*a*: 71. Type species: *Palaeosphegina elegantula* Meunier, 1904, by subsequent monotypy in Meunier (1904*c*: 204).

baccha Hull, 1945: 320. PA: Baltic Region (Eocene/Oligocene) [A].

elegantula Meunier, 1904*f*: 204. PA: Baltic Region (Eocene/Oligocene) [A].

ssp. **atrox** Hull, 1945: 319 (as *elegantula* variety). PA: Baltic Region (Eocene/Oligocene) [A].

ssp. **tristis** Hull, 1945: 319. (as *elegantula* variety) PA: Baltic Region (Eocene/Oligocene) [A].

ssp. **elegantula** s. str. PA: Baltic Region (Eocene/Oligocene) [A].

fumosa Hull, 1945: 321. PA: Baltic Region (Eocene/Oligocene) [A].

pilosa Hull, 1945: 320. PA: Baltic Region (Eocene/Oligocene) [A].

Genus **PIPIZA** Fallén

***PIPIZA** Fallén, 1810: 11. Type species: *Musca noctiluca* Linnaeus, 1758, by subsequent designation of Curtis (1837: pl. 669).

Subgenus **PSEUDOPIPIZA** Hull

PSEUDOPIPIZA Hull, 1945: 294. Type species: *Pipiza antiqua* Hull, 1945, by original designation.

antiqua Hull, 1945: 295. PA: Baltic Region (Eocene/Oligocene) [A].

europa Hull, 1945: 295. PA: Baltic Region (Eocene/Oligocene) [A].

Subgenus **PIPIZA** Fallén

melanderi Hull, 1945: 293. NE: USA (Oligocene) [C].

Unplaced to Subgenus of **PIPIZA** Fallén

venilia Heyden, 1870: 260. PA: Germany (Oligocene) [C].

Genus **PLATYCHEIRUS** Lepeletier & Serville

***PLATYCHEIRUS** Lepeletier & Serville in Latreille *et al.*, 1828: 513 (as *Syrphus* subgenus). Type species: *Syrphus scutatus* Meigen, 1822, by subsequent designation of Westwood (1840: 137).

***PLATYCHIRUS** Agassiz, 1846: 295 (unjustified emendation of *Platycheirus* Lepeletier & Serville). Type species: *Syrphus scutatus* Meigen, 1822, automatic.

freyeri Heer, 1849: 244 (*Syrphus*). PA: Croatia (Miocene) [C].

geminatus Heer, 1849: 245 (*Syrphus*). PA: Croatia (Miocene) [C].

haidingeri Heer, 1849: 243 (*Syrphus*). PA: Croatia (Miocene) [C].

infumatus Heer, 1849: 246 (*Syrphus*). PA: Croatia (Miocene) [C].

lethaeus Melander, 1949: 46. NE: USA (Oligocene) [C].

persistens Hull, 1938: 116. NE: USA (Oligocene) [C].

Genus PRAEPTILOCEPHALA Evenhuis, new name

PTILOCEPHALA Hull, 1945: 335. Type species: *Ptilocephala volucelloides* Hull, 1945, by original designation. [Preoccupied by Rambur, 1866.]
New synonymy.

PRAEPTILOCEPHALA Evenhuis, 1994: in this work (**new replacement name** for *Ptilocephala* Hull). Type species: *Ptilocephala volucelloides* Hull, 1945, automatic.

volucelloides Hull, 1945: 337 (*Ptilocephala*). PA: Baltic Region (Eocene/Oligocene) [A]. **New combination.**

Genus PROTOCHRYSTOXUM Hull

PROTOCHRYSTOXUM Hull, 1945: 326. Type species: *Protochrysotoxum sphinx* Hull, 1945, by original designation.

sphinx Hull, 1945: 326. NE: USA (Oligocene) [C].

Genus PROTORHINGIA Hull

PROTORHINGIA Hull, 1945: 289. Type species: *Protorhingia carpenteri* Hull, 1945, by original designation.

carpenteri Hull, 1945: 290. NE: USA (Oligocene) [C].

magnipennis Hull, 1945: 291. NE: USA (Oligocene) [C].

Genus PSEUDOSPHEGINA Hull

PSEUDOSPHEGINA Hull, 1945: 313. Type species: *Pseudosphegina dichoptica* Hull, 1945, by original designation.

carpenteri Hull, 1958: 42. NE: USA (Oligocene) [C].

dichoptica Hull, 1945: 314. PA: Baltic Region (Eocene/Oligocene) [A].

withersi Hull, 1945: 315. PA: Baltic Region (Eocene/Oligocene) [A].

Genus PSILOTA Meigen

***PSILOTA** Meigen, 1822: 256. Type species: *Psilota anthracina* Meigen, 1822, by monotypy.

tabidosa Scudder, 1890: 561. NE: USA (Oligocene) [C].

Genus RHINGIA Scopoli

***RHINGIA** Scopoli, 1763: 358. Type species: *Conops rostrata* Linnaeus, 1758, by monotypy.

zephyrea Hull, 1945: 292. NE: USA (Oligocene) [C].

Genus SPHEGINA Meigen

***SPHEGINA** Meigen, 1822: 193. Type species: *Milesia clunipes* Fallén, 1816, by subsequent designation of Westwood (1840: 136).

abrasa Théobald, 1937a: 243. PA: France (Oligocene) [C].

obscura Hull, 1945: 323. NE: USA (Oligocene) [C].

Genus SPHEGINASCIA Meunier

SPHEGINASCIA Meunier, 1901a: 72. Type species: *Spheginascia biappendiculata* Meunier, 1904, by subsequent monotypy in Meunier (1904f: 205).

biappendiculata Meunier, 1904f: 205. PA: Baltic Region (Eocene/Oligocene) [A].

ssp. **biappendiculata** s. str. PA: Baltic Region (Eocene/Oligocene) [A].

ssp. **rectinervis** Hull, 1945: 323 (as *biappendiculata* variety). PA: Baltic Region (Eocene/Oligocene) [A].

Genus SPILOMYIA Meigen

TRITONIA Meigen, 1800: 33. Suppressed by I.C.Z.N. (1963: 339). [Preoccupied by Cuvier, 1798.]

***SPILOMYIA** Meigen, 1803: 273. Type species: *Musca diophthalma* Linnaeus, 1758 (as "*Syrphus diophthalmus*") [misidentification, = *Syrphus saltuum* Fabricius, 1794], by subsequent designation of Coquillett (1910: 607).

Unidentified sp.—PA: Germany (Oligocene) [C] (Statz, 1940: 144).

Genus SYRPHUS Fabricius

***SYRPHUS** Fabricius, 1775: 762. Type species: *Musca ribesii* Linnaeus, 1758, by subsequent designation of Rondani (1845: 459).

aphidopsidis Cockerell, 1909h: 253. NE: USA (Oligocene) [C].

- bremii** Heer, 1864: 394. PA: Germany (Oligocene) [C].
carpenteri Hull, 1945: 262. NE: USA (Oligocene) [C].
curvipetiolatus Meunier, 1904f: 208. PA: Baltic Region (Eocene/Oligocene) [A].
eocenicus Cockerell, 1924a: 7. NE: USA (Eocene) [C].
euphemus Heyden, 1870: 262. PA: Germany (Oligocene) [C].
hendersoni James, 1932: 265. NE: USA (Eocene) [C].
lithaphidis Cockerell, 1920a: 253. NE: USA (Eocene) [C].
petrographicus Hull, 1960: 271. NE: USA (Oligocene) [C].
platychiralis Hull, 1945: 261. NE: USA (Oligocene) [C].
reciprocus Förster, 1891: 486. PA: Germany (Oligocene) [C].
schellenbergi Heer, 1864: 394. PA: Germany (Oligocene) [C].
statzi Goot, 1964: 220 (new replacement name for *aeneus* Statz). PA: Germany (Oligocene) [C].
aeneus Statz, 1940: 142. PA: Germany (Oligocene) [C]. [Preoccupied by Fabricius, 1794.]
willistoni Cockerell, 1909a: 9. NE: USA (Oligocene) [C].
 Unidentified sp.—PA: Italy (Miocene) [C] (Handlirsch, 1907c: 1024).

Genus TEMNOSTOMA Lepeletier & Serville

- ***TEMNOSTOMA** Lepeletier & Serville, 1828: 518 (as *Milesia* Latreille subgenus). Type species: *Milesia bombylans* Fabricius, 1805, by subsequent designation of Coquillett (1910: 612).
sacki Statz, 1940: 145. PA: Germany (Oligocene) [C].

Genus TROPIDIA Meigen

- ***TROPIDIA** Meigen, 1822: 346. Type species: *Eristalis milesiformis* Fallén, 1817 [= *Musca scitus* Harris, 1780], by subsequent designation of Curtis (1832: pl. 401).
tumulata Lewis, 1973a: 488. NE: USA (Oligocene) [C].
 Unidentified sp.—PA: Baltic Region (Eocene/Oligocene) [A] (Handlirsch, 1907c: 1024; Hull, 1945: 338, 342).
 Unidentified sp.—PA: Germany (Oligocene) [C] (Statz, 1940: 143).

Genus VOLUCELLA Geoffroy

***VOLUCELLA** Geoffroy, 1762: 540. Type species: *Musca pellucens* Linnaeus, 1758, by subsequent designation of Curtis (1833: pl. 452). [Validated by I.C.Z.N. (1957*a*: 85).]

Unidentified spp.—PA: Baltic Region (Eocene/Oligocene) [A] (Loew, 1850*b*: 42; Hull, 1945: 336, 338).

Genus XYLOTOSYRPHUS Hull

XYLOTOSYRPHUS Hull, 1945: 339. Type species: *Xylotosyrphus pulchrafenestra* Hull, 1945, by original designation.

pulchrafenestra Hull, 1945: 339. NE: USA (Eocene) [C].