

Family TIPULIDAE

Tipulidae, commonly known as crane flies, are found worldwide and comprise approximately 4,000 species. Adults of extant forms are mostly associated with moist and temperate forests, swamps, marshes, and meadows, and can be found in the high latitudes as well as high altitudes. Immature stages are semi-aquatic to terrestrial and can be found in such places as moist leaf litter, moss, rotting logs, mud, and sands associated with riverbanks. They feed on decaying plant material. Adults, though possessing functional mouthparts, have been only rarely observed feeding at flowers.

Two schools of classification exist for the family groupings. Primarily North American and British authors have lumped Tipulidae as a single large family, while mostly European authors have split the *Cylindrotomidae* and *Limoniidae* into separate families. This catalog follows the family treatment of contemporary European workers with the the family Tipulidae herein equivalent to the subfamily Tipulinae of other authors

Tipulids constitute one of the major groups of Diptera in the fossil record. One hundred species in eight genera are listed in this catalog. In addition to the determined material listed below, Grimaldi (1990) recorded undetermined material from the Upper Cretaceous Santana formation of Brazil and Krzemińska & Krzemińska (1990: 496) recorded the family from the Eocene deposits of Pesciara di Bolca, Italy.

Ref.: Alexander (1931, review of Baltic amber taxa).

Genus CTENOPHORA Meigen

***CTENOPHORA** Meigen, 1803: 263. Type species: *Tipula pectinicornis* Linnaeus, 1758, by subsequent designation of Latreille (1804: 188).

decheni Heyden, 1859: 13. PA: Germany (Oligocene) [C].

Genus DICTENIDIA Brullé

DICTENIDIA Brullé, 1833*b*: 399. Type species: *Tipula bimaculata* Linnaeus, 1761, by subsequent designation of Duponchel *in d'Orbigny* (1844: 752).

DICERA Lioy, 1863: 216. Type species: *Tipula bimaculata* Linnaeus, 1761, by original designation.

DICAERA. Incorrect subsequent spelling of *Dicera* Lioy (Bell, 1888: 2).

Unidentified sp.—PA: UK (Scotland) (Pleistocene) [C] (Bell, 1888: 2).

Genus ISCHNOTOMA Skuse

***ISCHNOTOMA** Skuse, 1890*b*: 115. Type species: *Tipula serricornis* Macquart, 1846 [= *Tipula eburnea* Walker, 1848], by subsequent designation of Alexander (1920*b*: 53).

vasifera Cockerell & Haines, 1921*a*: 82 (*Holorusia*). PA: UK (England) (Eocene/Oligocene) [C].

Genus LEPTOTARSUS Guérin-Ménéville

***LEPTOTARSUS** Guérin-Ménéville, 1831: pl. 20, fig. 1 [1838*b*: 286]. Type species: *Leptotarsus macquarti* Guérin-Ménéville, 1831, by monotypy.

Subgenus MACROMASTIX Osten Sacken

**MACROTHORAX* Jaennicke, 1867: 319 (as genus). Type species: *Macrothorax ornatus* Jaennicke, 1867 [= *Tipula costalis* Swederus, 1787], by monotypy. [Preoccupied by Lioy, 1864.]

***MACROMASTIX** Osten Sacken, 1887*a*: 185 (as genus; new replacement name for *Macrothorax* Jaennicke). Type species: *Macrothorax ornatus* Jaennicke, 1867 [= *Tipula costalis* Swederus, 1787], automatic.

bornhardti Meunier, 1917*a*: 99 (*Macromastix*). PA: France (Oligocene) [C].
New combination.

cladoptera Cockerell & Haines, 1921*a*: 83 [1921*b*: 111] (*Macromastix*). PA: UK (England) (Eocene/Oligocene) [C]. **New combination.**

Genus MANAPSIS Scudder

MANAPSIS Scudder, 1894: 222 (60). Type species: *Manapsis anomala* Scudder, 1894, by monotypy.

anomala Scudder, 1894: 222 (60). NE: USA (Oligocene) [C].

Genus MEGISTOCERA Wiedemann

***MAEKISTOCERA** Wiedemann, 1820*b*: 41 [1821*a*: 41; 1821*b*: 41]. Type species: *Tipula filipes* Fabricius, 1805, by subsequent designation of Macquart [1838: 63 (59)] (for *Megistocera*).

***MEGISTOCERA** Wiedemann, 1828: 55. Type species: *Tipula filipes* Fabricius, 1805, by subsequent designation of Macquart [1838: 59 (63)]. [The name *Megistocera* is used here in the interest of stability and common usage. Suspension of the I.C.Z.N. rules is necessary to validate this name over *Maekistocera*, which has priority.]

gurnetensis Cockerell, 1921*c*: 456. PA: UK (England) (Eocene/Oligocene) [C].

Genus NEPHROTOMA Meigen

PALES Meigen, 1800: 14. Suppressed by I.C.Z.N. (1963: 339).

***NEPHROTOMA** Meigen, 1803: 262. Type species: *Tipula dorsalis* Fabricius, 1781, by monotypy.

Unidentified sp.—PA: Italy (Miocene) [C] (Gentilini, 1990: 220).

Unidentified sp.—PA: France (Oligocene) [C] (Serres, 1829: 231).

Genus TIPULA Linnaeus

***TIPULA** Linnaeus, 1758: 585. Type species: *Tipula oleracea* Linnaeus, 1758, by subsequent designation of Latreille (1810: 442).

ADETUS Berendt, 1845: 57. *Nomen nudum*.

ADETUS Bronn, 1847: 597. *Nomen nudum*.

MICRAPSIS Scudder, 1894: 242 (80). Type species: *Micrapsis paludis* Scudder, 1894, by monotypy.

TIPULIDEA Scudder, 1894: 238 (76). Type species: *Tipulidea consumpta* Scudder, 1894, by subsequent designation of Cockerell (1909*d*: 84).

Subgenus ELECTROTIPULA Alexander

ELECTROTIPULA Alexander, 1931: 21. Type species: *Tipula pinetorum* Alexander, 1931, by original designation.

pinetorum Alexander, 1931: 22. PA: Baltic Region (Eocene/Oligocene) [A].

Unplaced to Subgenus of TIPULA Linnaeus

acourti Cockerell, 1921*c*: 455. PA: UK (England) (Eocene/Oligocene) [C].

aemula Heer, 1849: 193. PA: Croatia (Miocene) [C].

angustata Novák, 1877: 87. PA: Czech Republic (Oligocene) [C].

bilineata Scudder, 1894: 240 (78) (*Tipulidea*). NE: USA (Oligocene) [C].

- binoculata** Henriksen, 1922: 19. PA: Denmark (Eocene) [C].
- bouati** Meunier, 1915*b*: 14. PA: France (Oligocene) [C].
- brevirostris** Loew, 1850*b*: 37. *Nomen nudum*. [Preoccupied by Zetterstedt, 1838.]
- callarche** Cockerell, 1921*c*: 455. PA: UK (England) (Eocene/Oligocene) [C].
- carolae** Lewis, 1973*b*: 707. NE: USA (Oligocene) [C].
- carolinae** Scudder, 1894: 233 (71). NE: USA (Oligocene) [C].
- carpenteri** Alexander, 1938: 112. NE: USA (Eocene) [C].
- clauda** Scudder, 1894: 229 (67). NE: USA (Oligocene) [C].
- consumpta** Scudder, 1894: 239 (77) (*Tipulidea*). NE: USA (Oligocene) [C].
- cossmanni** Meunier, 1915*b*: 14. PA: France (Oligocene) [C].
- crassipes** Meunier, 1899*e*: 173. PA: Baltic Region (Eocene/Oligocene) [A].
- digitifera** Alexander, 1931: 26. PA: Baltic Region (Eocene/Oligocene) [A].
- eocenica** Meunier, 1906*f*: 394 (*Brachypremna*). PA: Baltic Region (Eocene/Oligocene) [A].
- eucera** Loew, 1850*b*: 37. *Nomen nudum*.
- eva** Krzemiński, 1992*a*: 43. PA: Russia (Amur) (Upper Cretaceous) [C].
- evanitura** Scudder, 1894: 230 (68). NE: USA (Oligocene) [C].
- expectans** Novák, 1877: 88. PA: Czech Republic (Oligocene) [C].
- falco** Alexander, 1931: 30. PA: Baltic Region (Eocene/Oligocene) [C].
- florissanta** Scudder, 1894: 227 (65). NE: USA (Oligocene) [C].
- fmartinbrowni** Evenhuis, 1994: in this work **new replacement name** for *decorata* Brown. NE: USA (Oligocene) [C].
- decorata* Brown, 1985: 98. NE: USA (Oligocene) [C]. [Preoccupied by Philippi, 1865.] **New synonymy**.
- fongicola** Meunier, 1899*e*: 174. *Nomen nudum*.
- furensis** Frieswald, 1990: 51. PA: Denmark (Paleocene/Eocene) [C].
- gardneri** Cockerell, 1917*b*: 374. PA: UK (England) (Eocene/Oligocene) [C].
- goliath** Loew, 1850*b*: 37. PA: Baltic Region (Eocene/Oligocene) [A].
- graciosa** Meunier, 1906*f*: 391. PA: Baltic Region (Eocene/Oligocene) [A].
- grandis** Meunier, 1915*a*: 196. PA: France (Oligocene) [C]. [Preoccupied by Panzer, 1804; no new name proposed at this time.]
- grandissima** Meunier, 1906*f*: 393. PA: Baltic Region (Eocene/Oligocene) [A].
- handlirschiana** Alexander, 1931: 32. PA: Baltic Region (Eocene/Oligocene) [A].
- heeriana** Cockerell, 1909*b*: 58 (new replacement name for *lineata* Heer). PA: Croatia (Miocene) [C]; France (Miocene) [C].
- lineata* Heer, 1849: 194. PA: Croatia (Miocene) [C]. [Preoccupied by Scopoli, 1763.]
- heilprini** Scudder, 1894: 232 (70). NE: USA (Oligocene) [C].
- hepilliana** Cockerell, 1909*g*: 285. NE: USA (Oligocene) [C].
- hooleyi** Cockerell & Haines, 1921*a*: 82. PA: UK (England) (Eocene/Oligocene) [C].
- indura** Théobald, 1937*a*: 145. PA: France (Oligocene) [C].
- infernalis** Heer, 1861: 153. *Nomen nudum*.

- inflexa** Théobald, 1937a: 343. PA: France (Oligocene) [C].
- insolita** Zhang, 1989a: 326. PA: China (Miocene) [C].
- internecata** Scudder, 1894: 235 (73). NE: USA (Oligocene) [C].
- lapillescens** Scudder, 1894: 237 (75). NE: USA (Oligocene) [C].
- latahensis** Lewis, 1969: 106. NE: USA (Miocene) [C].
- lethaea** Scudder, 1894: 236 (74). NE: USA (Oligocene) [C].
- limfjordensis** Freiwald, 1990: 53. PA: Denmark (Paleocene/Eocene) [C].
- limi** Scudder, 1894: 234 (72). NE: USA (Oligocene) [C].
- limiformis** Cockerell, 1915c: 492. PA: UK (England) (Eocene/Oligocene) [C].
- longicornis** Meunier, 1899e: 174. *Nomen nudum*. [Preoccupied by Linnaeus, 1758.]
- longipalpis** Meunier, 1906f: 392. PA: Baltic Region (Eocene/Oligocene) [A].
- longipes** Keilbach, 1982: 327. *Nomen nudum*. [Preoccupied by Fabricius, 1805.]
- maclurei** Scudder, 1894: 231 (69). NE: USA (Oligocene) [C]; PA: France (Miocene/Pliocene) [C].
- ssp. **chervini** Piton, 1934: 38 [Piton *in* Piton & Théobald, 1935: 92]. PA: France (Miocene/Pliocene) [C].
- ssp. **maclurei s. str.** NE: USA (Oligocene) [C].
- maculipennis** Heer, 1849: 191. PA: Croatia (Miocene) [C].
- magnifica** Scudder, 1894: 226 (64). NE: USA (Oligocene) [C].
- maior** Unger, 1841: 425 (*Rhipidia*). PA: Croatia (Miocene) [C].
- ungeri* Heer, 1849: 195. PA: Croatia (Miocene) [C].
- major** Meunier, 1906f: 392. PA: Baltic Region (Eocene/Oligocene) [A]. [Secondary junior homonym of *maior* Unger; no new replacement name proposed here.]
- marioni** Théobald, 1937a: 144. PA: France (Oligocene) [C].
- maxima** Statz, 1934: 95. PA: Germany (Oligocene) [C].
- media** Meunier, 1906f: 392. PA: Baltic Region (Eocene/Oligocene) [A].
- miegi** Théobald, 1937a: 238. PA: France (Oligocene) [C].
- minima** Théobald, 1937a: 237. PA: France (Oligocene) [C].
- needhami** Cockerell, 1910c: 281. NE: USA (Oligocene) [C].
- obtecta** Heer, 1849: 195. PA: Croatia (Miocene) [C].
- pachyvena** Freiwald, 1990: 56. PA: Denmark (Paleocene/Eocene) [C].
- paludis** Scudder, 1894: 243 (81) (*Micrapsis*). NE: USA (Oligocene) [C].
- peusi** Statz, 1944b: 101. PA: Germany (Oligocene) [C].
- phoracantha** Alexander, 1931: 27. PA: Baltic Region (Eocene/Oligocene) [A].
- picta** Scudder, 1894: 241 (79) (*Tipulidea*). NE: USA (Oligocene) [C].
- piligera** Keilbach, 1982: 328. *Nomen nudum*.
- presliana** Alexander, 1931: 27. PA: Baltic Region (Eocene/Oligocene) [A].
- reliquiae** Scudder, 1894: 241 (79) (*Tipulidea*). NE: USA (Oligocene) [C].
- revivificata** Scudder, 1894: 230 (68). NE: USA (Oligocene) [C].
- rigens** Scudder, 1894: 227 (65). NE: USA (Oligocene) [C].
- rubiensis** Lewis, 1973b: 706. NE: USA (Oligocene) [C].
- scudderiana** Alexander, 1931: 32. PA: Baltic Region (Eocene/Oligocene) [A].
- sectorialis** Zeuner, 1938: 135. PA: Germany (Oligocene) [C].

- sepulchri** Scudder, 1890: 578. NE: USA (Eocene) [C].
spinistyla Alexander, 1931: 30. PA: Baltic Region (Eocene/Oligocene) [A].
spoliata Scudder, 1890: 577. NE: USA (Eocene) [C].
submedia Alexander, 1931: 26. PA: Baltic Region (Eocene/Oligocene) [A].
subterjacens Scudder, 1894: 236 (74). NE: USA (Oligocene) [C].
tartari Scudder, 1894: 233 (71). NE: USA (Oligocene) [C].
tubifera Wighton, 1980: 624. NE: Canada (Paleocene) [C].
tulameena Handlirsch, 1910: 123. NE: Canada (Oligocene) [C].
varia Heer, 1849: 193. PA: Croatia (Miocene) [C].
wilmatteae Melander, 1949: 5. NE: USA (Oligocene) [C].
 Unidentified sp.—PA: France (Eocene) [C] (Nectoux, 1981: 12).
 Unidentified sp.—PA: Germany (Miocene) [A] (Schumann & Wendt, 1989: 41).

Unplaced Species of TIPULIDAE

- antiqua** Presl, 1822: 202 (*Tipula*). PA: Baltic Region (Eocene/Oligocene) [A].
 ***culiciformis** Linnaeus, 1767: 978 (*Tipula*). PA: Sweden; LU: (?Holocene) [K].
curvicornis Presl, 1822: 200 (*Tipula*). PA: Baltic Region (Eocene/Oligocene) [A].
fusca Bloch, 1776: 175 (*Tipula*). LU (?Holocene) [K].
 ***incarnata** Linnaeus, 1767: 978 (*Tipula*). PA: Sweden; LU (?Holocene) [K].
 ***longicornis** Linnaeus, 1758: 588 (*Tipula*). PA: Sweden; LU (?Holocene) [K].
 ***minutissima** Linnaeus, 1767: 979 (*Tipula*). PA: Sweden; LU (?Holocene) [K].
protogaea Presl, 1822: 201 (*Tipula*). PA: Baltic Region (Eocene/Oligocene) [A].