

## Family CULICIDAE

Culicidae, or mosquitoes, are found worldwide. Adult females of most living forms are blood feeders and are infamous as vectors of various diseases. Species of various genera are known to transmit malaria, filariasis, dengue, encephalitis, and yellow fever. Adult males are nonbiting and feed on plant fluids. Immatures are aquatic, occupying various types of bodies of water from leaf axils to large estuarine wetlands.

Culicidae as fossils are not common. Most listed in this catalog are known from compression fossils. However, there are a few records known from amber inclusions. Described species in amber are from the Eocene/Oligocene deposits of Baltic amber. Undetermined specimens are also known from the Miocene amber of Chiapas, Mexico (Poinar, 1992). The oldest known mosquito is a single undescribed specimen found in Upper Cretaceous Canadian amber by T. Pike (Poinar, 1992, 1993). Lambrecht (1980: 369) listed a fossil record of Culicidae from the Triassic. It is not known from which deposit the specimen referred to derives.

Records of adult specimens identified as mosquitoes are known from compression fossils from the Cretaceous in Mongolia (Inner Mongolian Geological Survey, 1976), and immatures are recorded from the Lower Jurassic of Germany (Bode, 1953) but the true familial placement of all of these taxa is still in question. Lutz (1985b) recorded an undetermined specimen from the Lower Oligocene of France and Cuffey *et al.* (1982: 120) listed a single specimen from the Oligocene Creede Caldera of southwestern Colorado. Fossils of Japanese mosquitoes were discussed by M. Stopes (*in* Edwards, 1923: 154–55), but neither their age nor the deposit in which they were found was given.

An interesting record of a culicid egg from the Oligocene Florissant shales is given by Cockerell (1913e: 125).

*Ref.:* Edwards (1923, 1932, revision of fossil taxa); Knight & Stone (1977, world catalog); Capasso (1993, fossil checklist).

### Genus AEDES Meigen

\***AEDES** Meigen, 1818: 13. Type species: *Aedes cinereus* Meigen, 1818, by monotypy.

\***ciliaris** Linnaeus, 1767: 1002 (*Culex*). PA: Sweden; LU (Holocene) [K].  
**protolepis** Cockerell, 1915c: 488 (*Culex*). PA: UK (England) (Eocene/Oligocene) [C].

**petrifactellus** Cockerell, 1915c: 489. PA: UK (England) (Eocene/Oligocene) [C].

### Genus ANOPHELES Meigen

- \***ANOPHELES** Meigen, 1818: 10. Type species: *Anopheles maculipennis* Meigen, 1818, by subsequent designation of I.C.Z.N. (1959a: 155).  
**rottensis** Statz, 1944b: 109. PA: Germany (Oligocene) [C].  
 Unidentified sp.—NT: Dominican Republic (Oligocene/Miocene) [A] (Grimaldi, 1993: 165).

### Genus CULEX Linnaeus

- \***CULEX** Linnaeus, 1758: 602. Type species: *Culex pipiens* Linnaeus, 1758, by subsequent designation of Latreille (1810: 442).  
**damnatorum** Scudder, 1890: 582. NE: USA (Eocene) [C].  
**erikae** Szadziewski & Szadziewska, 1985: 515. PA: Baltic Region (Eocene/Oligocene) [A].  
**flavus** Gistl, 1831: 247. NT: Brazil (Holocene) [K].  
\***pipiens** Linnaeus, 1758: 602. PA: Sweden & America; PA: Baltic Region (Eocene/Oligocene)[A], LU: (Holocene) [K].  
**protorhinus** Cockerell, 1915c: 488. PA: UK (England) (Eocene/Oligocene) [C].  
**tanzaniae** Capasso, 1993: 178. AF: Tanzania (Pliocene) [K].  
**vectensis** Edwards, 1923: 151. PA: UK (England) (Eocene/Oligocene) [C].  
**winchesteri** Cockerell, 1919a: 44. NE: USA (Eocene) [C].  
 Unidentified sp.—PA: Denmark (Eocene) [C] (Kalugina, 1991: 70).  
 Unidentified sp.—NT: Dominican Republic (Oligocene/Miocene) [A] (N.L. Evenhuis, unpubl.).  
 Unidentified sp.—PA: France (Oligocene) [C] (Scudder, 1891: 620).

### Genus CULISETA Felt

- \***CULISETA** Felt, 1904: 391c. Type species: *Culex absobrinus* Felt, 1904 [= *Culex impatiens* Walker, 1848], by original designation.  
 Unidentified sp.—NT: Dominican Republic (Oligocene/Miocene) [A] (Grimaldi, 1993: 165).

### Genus MANSONIA Blanchard

- PANOPLITES** Theobald, 1900: 5. Suppressed by I.C.Z.N. (1959c: 187). [Previously occupied by Gould, 1854.]  
\***MANSONIA** Blanchard, 1901: 1046 (new replacement name for *Panoplytes* Theobald). Type species: *Culex titillans* Walker, 1848, by subsequent

designation of Nevue-Lemaire (1902: 214). [Ratified by I.C.Z.N. (1959c: 187).]

**martinii** Statz, 1944b: 110. PA: Germany (Oligocene) [C].

*martinii* Statz, 1941: fig. 13. *Nomen nudum*.

**varivestita** Statz, 1944b: 111. PA: Germany (Oligocene) [C].

*varivestita* Statz, 1941: fig. 14. *Nomen nudum*.

### Genus NEOCULICITES Evenhuis, new name

**CULICITES** Meunier, 1915b: 16. Type species: *Culicites depereti* Meunier, 1915, by **present designation**. [Preoccupied by Heyden, 1862.] **New synonymy.**

**NEOCULICITES** Evenhuis, 1994: in this work (**new replacement name** for *Culicites* Meunier). Type species: *Culicites depereti* Meunier, 1915, automatic.

**arvernensis** Piton, 1936: 17 (*Culicites*). PA: France (Oligocene) [C]. **New combination.**

**ceyx** Heyden, 1870: 252 (*Culex*). PA: Germany (Oligocene) [C]. **New combination.**

**depereti** Meunier, 1915b: 17 (*Culicites*). PA: France (Oligocene) [C]. **New combination.**

### Genus OCHLEROTATUS Lynch Arribálzaga

\***OCHLEROTATUS** Lynch Arribálzaga, 1891a: 353, 367 [1891b: 143]. Type species: *Ochlerotatus confirmatus* Lynch Arribálzaga, 1891 [= *Aedes scapularis* Rondani, 1848], by subsequent designation of Coquillett (1910: 577).

**TAENIORHYNCHUS** Lynch Arribálzaga, 1891a: 374 [1891b: 147]. Suppressed by I.C.Z.N. (1959c: 187).

**cockerelli** Edwards, 1923: 151 (*Taeniorhynchus*). PA: UK (England) (Eocene/Oligocene) [C].

### Genus TOXORHYNCHITES Theobald

\***TOXORHYNCHITES** Theobald, 1901a: 234 [1901b: 244]. Type species: *Toxorhynchites brevipalpis* Theobald, 1901, by subsequent monotypy in Theobald (1901b: 245). [Name validated by I.C.Z.N. (1959b: 167). Type species conserved by I.C.Z.N. (1982: 122).]

**loewi** Giebel, 1862: 317 (*Culex*). AF: Tanzania (Pleistocene/Holocene) [K].

**Questionably Placed in CULICIDAE****Genus AMIANTA Bode**

**AMIANTA** Bode, 1953: 327. Type species: *Amianta eurycephala* Bode, 1953, by monotypy.

**eurycephala** Bode, 1953: 327. PA: Germany (Lower Jurassic) [C].

**Genus AMPHIPROMECA Bode**

**AMHIPROMECA** Bode, 1953: 324. Type species: *Amphipromeca acuta* Bode, 1953, by monotypy.

**acuta** Bode, 1953: 324. PA: Germany (Lower Jurassic) [C].

**Genus ASIOCULICUS Hong**

**ASIOCULICUS** Hong in Inner Mongolia Autonomous Region Bureau of Geology, 1976: 86. Type species: *Asioculicus damaioensis* Hong, 1976, by original designation.

**damaioensis** Hong in Inner Mongolia Autonomous Region Bureau of Geology, 1976: 87. PA: Mongolia (Upper Jurassic/Lower Cretaceous) [C].

**longipodus** Hong & Wang in Inner Mongolia Autonomous Region Bureau of Geology, 1976: 87. PA: Mongolia (Upper Jurassic/Lower Cretaceous) [C].

**Genus CULICISCOLEX Bode**

**CULICISCOLEX** Bode, 1953: 322. Type species: *Culiciscolex gibberatus* Bode, 1953, by monotypy.

**gibberatus** Bode, 1953: 322. PA: Germany (Lower Jurassic) [C].

**Genus EMPIDOCAMPE Bode**

**EMPIDOCAMPE** Bode, 1953: 323. Type species *Empidocampe retrocrassata* Bode, 1953, by monotypy.

**retrocrassata** Bode, 1953: 323. PA: Germany (Lower Jurassic) [C].

**Genus PROPEXIS Bode**

**PROPEXIS** Bode, 1953: 327. Type species: *Propexis incerta* Bode, 1953, by monotypy.

**incerta** Bode, 1953: 327. PA: Germany (Lower Jurassic) [C].

**Genus RHOPALOSCOLEX Bode**

**RHOPALOSCOLEX** Bode, 1953: 326. Type species: *Rhopaloscolex longus* Bode, 1953, by original designation.

**brevis** Bode, 1953: 326. PA: Germany (Lower Jurassic) [C].

**longus** Bode, 1953: 326. PA: Germany (Lower Jurassic) [C].