Eocene Achilidae (Homoptera: Fulgoromorpha) from European deposits

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Achilidae Stål, 1866

- one of the smaller families of plant hoppers (Homoptera: Fulgoromorpha)
- distributed worldwide, mainly in tropical and subtropical zone
- enclosing over 160 genera and about 550 species
- three subfamilies: Achilininae Mair. 1923, Belacanthinae Emeljanov. 1991 and Achilininae Stål. 1866 (with 11 recent and two extinct tribes)
- immatures are fungus feeders
- adults feed on woody plants: polyphagous
- appearing in Fossil record in the early Cretaceous

The first Achilidae fossils were described by Germar and Berendt (1856), however placed together with other not related taxa in the family Cixiidae Latreille, 1807, all under the genus Cixius Latreille, 1807. All these taxa come from the Baltic amber.

More species from the Eocene of Europe were subsequently add by Cockrell (1910, 1922), Usinger (1935), Emeljanov (1991), Szewdo & Strofinski (2001), Szewdo (2008), Lefebvre et al. (2007) and Emeljanov & Shcherbakov (2009).

These taxa are placed in the subfamily Achilininae, within the tribes: Achilinini Stål, 1866, and Achilini Cockrell, 1922, Psychotini Emeljanov, 1990 and Psychotini Szewdo, 2008 (the two latter extinct).

Surprisingly, vast majority of the fossils from the Baltic amber are to be placed in the Achilini. This tribe, in modern fauna, is represented by three subtribes: Electrotettataeinae, 1950, Achilina Stål, 1866 and Cixiina Emeljanov, 1953.

List of valid species names:

- Achilini
  - Angustacanthus longirostris Lefebvre, Bourgoin et Nel, 2007
  - Cixiina reticulata Germar and Berendt, 1856
  - Paractalus micansanye Emeljanov et Shcherbakov, 2009
  - Psychotriaeinae reticulata Emeljanov et Shcherbakov, 2009
  - Psychotini minor Emeljanov, 1990
  - Waghildini
  - Waghildina bialusza Szewdo, 2006

Two Achilidae specimens are reported from Fur Formation in Denmark, aged 56-54.5 Ma. These are imprints of tegmina, alas, weakly preserved.

Single Achilidae specimen is found among the inclusions of the Lowermost Eocene amber of Oliae, aged 55 Ma. It is representing another tribe - Electrotettataeinae Fernham, 1950 - the richest and the most speciosus tribe of modern Achilidae.

Vast majority of species (and dozens of new species under study) are reported from Baltic amber, from the Gulf of Gdańsk deposit. However, more specimens were found in the deposit of Royne in Ukraine, and along coasts of Denmark, contemporaneous to amber from Baltic area.

The last record of Achilidae in the European Eocene deposits comes from Bolodvor Formation of Isle of Wight, UK, aged ca. 5.9 Ma. Interestingly, only single species is known so far, and any additional specimens were found.