



***Ordralfabetix sirophatanis* gen. et sp. n.—the first Lophopidae from the Lowermost Eocene Oise amber, Paris Basin, France (Hemiptera: Fulgoromorpha)**

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Abstract

A new genus and species, *Ordralfabetix sirophatanis*, is described on the basis of a specimen from the Lowermost Oise amber, Paris Basin, France. It could be ascribed to the Sarebasa⁺ group of Lophopidae in respect to tegmen venation characters, but differs from the genera placed there by significant tegmen features. The evolution and distribution pattern of fossil and recent Lophopidae are also reviewed.

Key words: Sarebasa⁺ group, fossil insect, taxonomy, biogeography, evolution

Introduction

Fossil resin known as Oise amber has been known from several sites of the Paris Basin since the beginning of the 19th century. All the listed sites date from the early Eocene and are related to the Sparnacian continental facies (De Franceschi & De Ploëg 2003), i.e. Ypressian of the ICS. A new deposit was discovered in 1997, at the Quesnoy locality in the Oise River area (Oise Departmente, France). This deposit provides a great amount of fossil resin (De Ploëg *et al.* 1998; Nel *et al.* 1999, 2004), with fossils presenting a good state of preservation and diversity of flora and fauna (Nel *et al.* 1999, 2004). Amber pieces contain more than 300 arthropod species, which are of great importance for insect taxonomy, morphology, evolution and distribution studies. The resin contains angiosperm-like pollens and woody remains mainly belonging to dicotyledons (Nel *et al.* 1999, De Franceschi *et al.* 2000, De Franceschi & De Ploëg 2003). The deposit is aged Lowermost Eocene, i.e. 55–53 Mya. It was assessed by stratigraphy and confirmed by the presence of fossil remains of Condylarthra, Perissodactyla and *Teilhardina* (minuscule primate) as the mammalian layer reference.

The amber was produced by an angiosperm plant, unlike the Baltic amber of gymnosperm affinities (Feugueur 1963; Nel *et al.* 1999, 2004, Jossang *et al.* 2008, Wolfe, *et al.* 2009). The tree supposed to produce this amber was *Aulacoxylon sparnacense* Combes, 1907 of the order Fabales and family Caesalpiniaceae, tribe Detar-iaie, believed to be a key species of the forests of the Paris Basin in the Lowermost Eocene (De Franceschi & De Ploëg 2003). However, microscopic analysis has suggested that the tree fossil might correspond to the modern genus *Daniellia* Bennett, 1854, also Caesalpiniaceae, while chemical molecular work indicated rather the caesalpiniaceous genus *Hymenaea* Linné, 1753 (Jossang *et al.* 2008).

Few representatives of Fulgoromorpha have been reported so far from this fossil resin. Up to date only two genera of Cixiidae: Mnemosynini with three species were described from the Oise amber (Szwedo *et al.* 2006), i.e. *Mnaomaia bellovaciorum* Szwedo, Bourgoïn et Lefebvre, 2006, *Stalisyne lutetiorum* Szwedo, Bourgoïn et Lefebvre, 2006 and *S. veromanduiorum* Szwedo, Bourgoïn et Lefebvre, 2006. The other planthoppers identified among Oise amber inclusions are representatives of the families Achilidae, Dictyopharidae, Lophopidae, Tropiduchidae, Ricaniidae, Nogodinidae, and another not yet described family (Stroiński & Szwedo 2011; Szwedo 2010; Szwedo & Bourgoïn 2010). The Lophopidae were reported from the European deposits of Messel in Germany (Szwedo & Wappler 2006)—Middle Eocene, and from Palaeocene deposits of France and Denmark (Szwedo & Soulier-Perkins 2010).