

Whiteflies (Hemiptera: Aleyrodidae) of the Eocene succinite

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INTRODUCTION

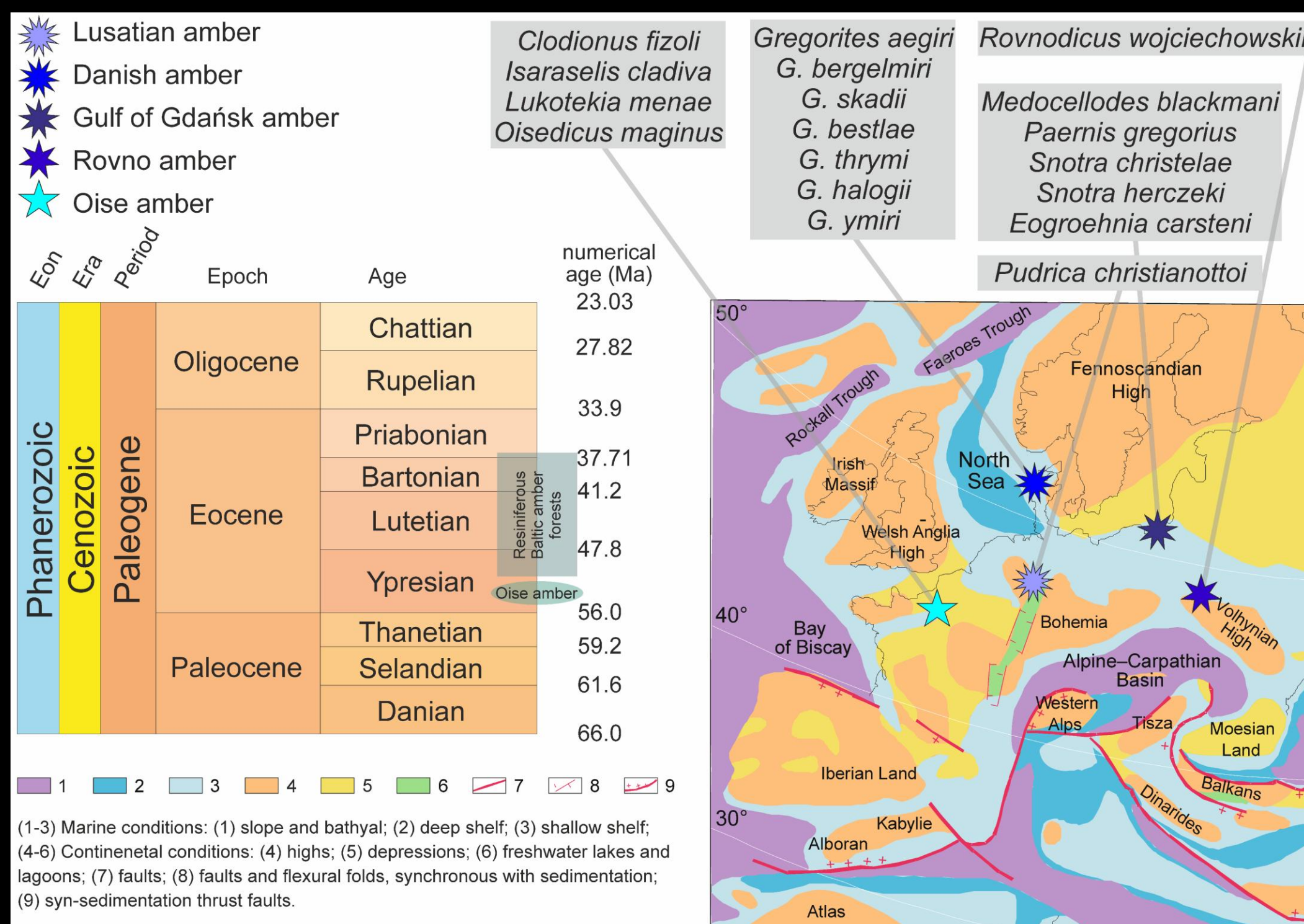
The family Aleyrodidae Westwood, 1840 comprises small inconspicuous bugs, often overlooked on the host plant despite their abundance on the lower surface of leaves. Their name “whitefly” is derived from the white appearance of adults of most species due to the deposition of wax on the body and wings. The world’s described whitefly fauna currently comprises 1,707 species belonging to four subfamilies: Aleurodicinae Quaintance et Baker, 1913, Aleyrodinae Westwood, 1840, Udamoselinae Enderlein, 1909 and extinct Berneinae Shcherbakov, 2000.



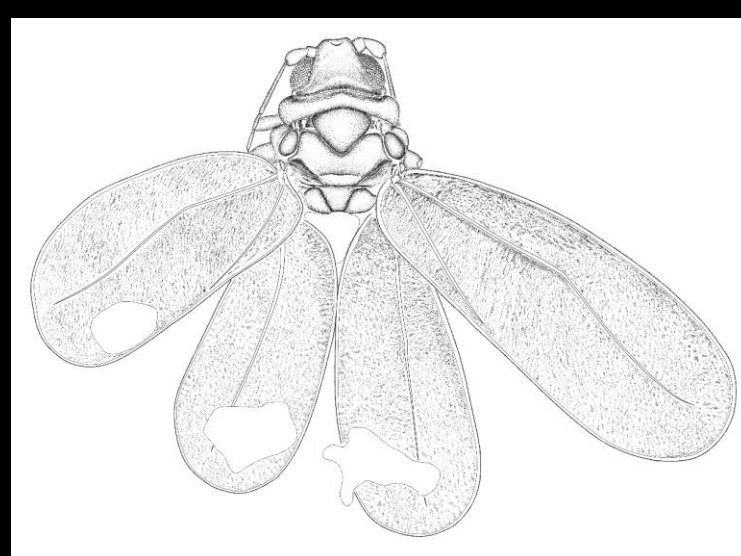
Current species *Trialeurodes vaporariorum* Westwood, 1856

RESULTS & DISCUSSION

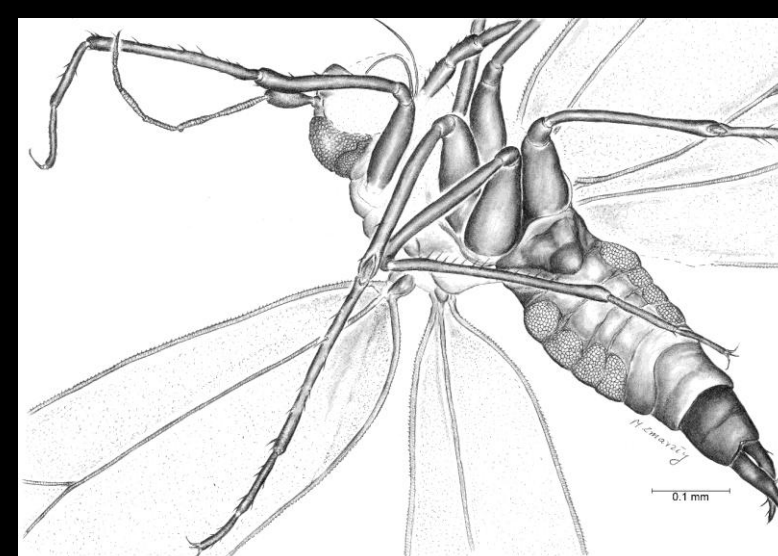
The fossil record of whiteflies extends back to the Late Jurassic, with the majority of known fossils reported from resins, including the first specimen described by Menge in 1856 under the name '*Aleyrodes*' *aculeatus* from the Eocene Baltic amber. The Eocene fossil resins of Europe, which contain inclusions of whiteflies, comprise the Lowermost Eocene amber from Oise (Paris Basin, France) and younger resins collectively named ‘Baltic amber’, aged variously (Lutetian to Priabonian). These resins have yielded five taxa of Aleurodicinae from Ypresian Oise amber. More taxa representing both Aleyrodinae and Aleurodicinae, come from the succinite of various ages and geographic origins. Succinite from the Gulf of Gdańsk area has yielded five species that have been identified to date (three taxa of Aleurodicinae and two of Aleyrodinae), while a single Aleyrodinae species is known from amber found in Rovno. Recently, seven species of Aleurodicinae were described from the succinite of Denmark. A further Aleyrodinae species was identified from the succinite found in the Miocene Lower Lusatia deposits, though the resin appears to be older.



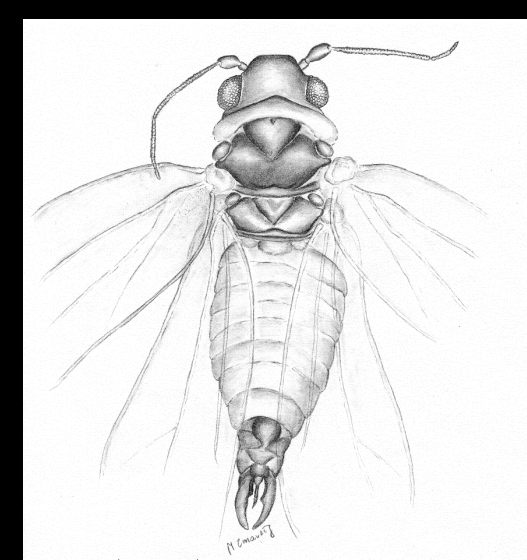
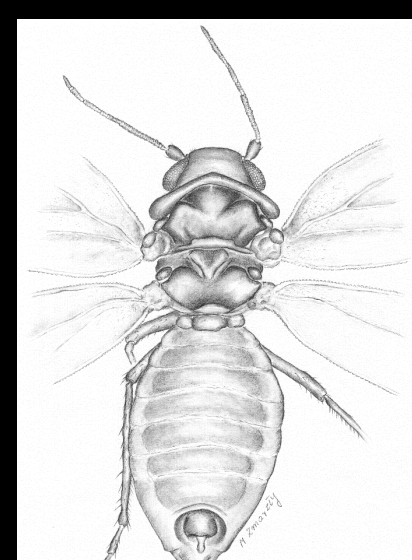
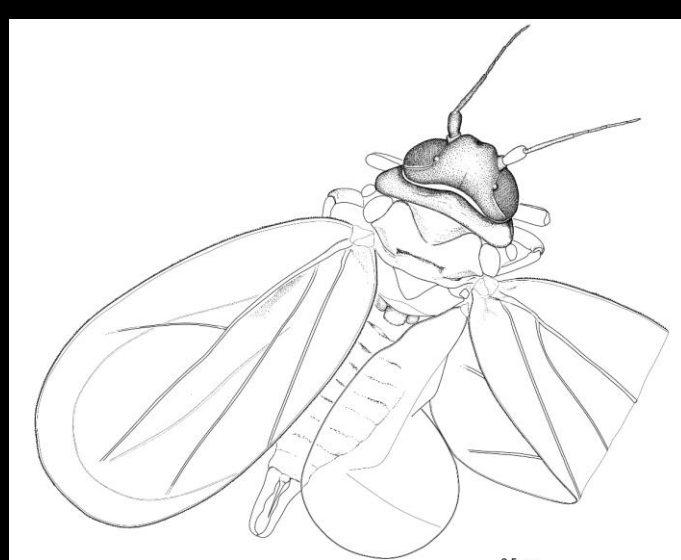
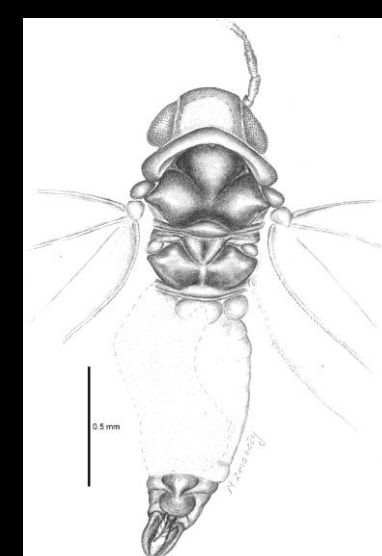
Snotra herczeki Drohojowska et Szwedo, 2023



Snotra christelae Szwedo et Drohojowska, 2016



Paernis gregorius Drohojowska et Szwedo, 2011



Medocellodes blackmani Drohojowska et Szwedo, 2022

Lukotekia menae Drohojowska et Szwedo, 2013

Clodionus fizoli Drohojowska et Szwedo, 2013

Gregorites bergelmiri Drohojowska et Szwedo, 2024

CONCLUSION

Inclusions of whiteflies present very important part of fossil record, providing a lot of new data, not only on taxonomy or morphology, but also pertinent information for palaeoecosystems and palaeohabitats reconstructions, palaeoclimates and evolutionary traits. New and abundant in whiteflies inclusions samples of Eocene succinite offer several new genera and species to be described. These fossils present in addition, a high morphological disparity, and their distribution can result in a better understanding of the palaeobiogeographic and palaeoenvironmental differentiation of Europe during the Eocene. Whiteflies could be good indicators for local faunas on one hand, on the other, could be helpful for the understanding of taphonomy, transportation and deposition of amber.

As of the present moment, there are 19 inclusions in amber of Oise that are undergoing elucidation. New material from the Gulf of Gdańsk encompasses 114 specimens of Aleyrodinae and Aleurodicinae, with at least 12 new taxa being identified. The inclusion of amber from Rovno has expanded the study to encompass a total of 35 specimens. Two inclusions of Aleyrodidae from Bitterfeld amber are also under scrutiny.

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