

Evolution of the diversity in interactions between plants, insects and other pathogens in the early european cenozoic

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The study of plant-insect interactions in the fossil record is one of particular significance, as it not only gives us a better understanding of the evolution of such relations, through time and space, but also provides information on how said interactions, and by extension the wider ecosystem, reacted to ancient global changes. In particular, the Cretaceous-Paleogene (K/Pg) extinction is an event whose drastic effects on interaction diversity is well documented from North American Data. Recent studies in other parts of the world, such as South America and Europe have shown that these effects might have been more regionalized than previously assumed. Unlike South America however, published data on European assemblages are limited to the Paleocene.

In this study, we will describe the results from two Late Cretaceous assemblage, the flora of the Aachen sands (located on the border between Belgium, the Netherlands and Germany), of Santonian age, and the Austrian Grünbach flora, from the Campanian. The interactions data from these two assemblages will be compared to the previously published Menat (France) and Gelinden (Belgium) floras, to provide a preliminary outline of the evolution of insects and plants communities across the Cretaceous-Paleogene boundary in Europe. In particular, this European data seems to point towards an intermediate state between North America, where the effects of the effects of the K/Pg extinction are drastic, and South America, where they are barely perceptible, at least in the realm of plant-insect interactions.

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