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Abstract

The Basal Eocene Oise amber has provided a rich and diverse chironomid fauna of 30 recognised species, with a general taxonomic pattern similar to that of the modern fauna. Among these fossils, 19 species are described in 17 recent genera, and 7 are attributed to 6 extinct new genera; thus, only 22% of the genera are not recent. All species belong to recent subfamilies, and the great majority to recent genera. We provide paleoenvironmental and paleoclimatic inferences, based on analyses at both the subfamily and generic levels. The subfamily analysis was conducted with 841 specimens, and revealed 14.9% Tanypodinae, 23.7% Chironominae, 0.4% Prodiamesinae, 0.3% Diamesinae, and 60.3% Orthocladiinae. The Chironominae are a minority in this fauna, but probably not because of climatic constraints. This subfamily was probably absent in the Upper Cretaceous and still under diversification during the Early Paleogene. Our generic inferences are congruent with available palaeoclimatic and palaeoecological reconstructions. They provide an image of a sandy, backwater fluvial deposit under a warm climate.

Key words: Diptera, Chironomidae, new genus, new species, Early Eocene, amber, France, palaeoecology

Introduction

Chironomidae are rather frequent in the fossil record until the Late Jurassic and Early Cretaceous (Evenhuis 1994, Sinitshenkova 1998). They are recorded from nearly all the Cenozoic lacustrine or amber outcrops. But few taxonomic works have been conducted on these small, fossil flies, probably because of the difficulties of studying them (large literature on the extant taxa and necessity to examine delicate structures). Little is known of the Chironomidae from the Oligocene-Miocene Dominican and Mexican amber (Grund 2005, 2006). The