

THE FOSSIL SCUTTLE FLIES – PALAEO-DIVERSITY AND EVOLUTION FROM CRETACEOUS TO HOLOCENE

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The scuttle flies (Phoridae) are one of the most species-rich, biologically diverse families of Diptera. They have an extensive fossil record in the world's amber and copal deposits, from their origin in the Cretaceous to the present. Amber is particularly favourable because morphological characters can be observed in it with exceptional detail in each of the geological ages between the Cretaceous and the Holocene periods. The major problem is the lack of palaeontological data in many amber and copal deposits specimens that have been found but have never been studied. Currently, all of the gaps in the fossil record do not allow complete understanding of morphological evolution and adaptation the Phoridae may undergo over the last 110 million years. The selection of new phorid fly specimens will be studied from amber and copal deposits from different geological ages and geographical distributions to better understand the palaeodiversity and evolution of selected Phoridae from Cretaceous to Holocene. The aims are to determine: 1) if the high diversity of phorids were already present during the Cretaceous period; 2) how the family developed after the Cretaceous in the earlier geological periods covered by amber deposits; 3) if the diversity observable in the specimens preserved in amber and copal is a response to the evolutionary pressures (e.g., climatic and biological changes) during the different periods or a reflection of taphonomic bias of non-comparable data between the different amber deposits.