



The lost mangrove and mudflat-associated gastropods of Europe: the genus *Terebralia* in the European Oligocene and Miocene

Danae Thivaïou (1), Mathias Harzhauser (2), and Efterpi Koskeridou (1)

(1) National and Kapodistrian University of Athens, Geology and Geoenvironment, Zografou, Greece (dthivaïou@geol.uoa.gr), (2) Natural History Museum Vienna, Department of Geology and Palaeontology, Vienna, Austria

Characteristic associations of gastropods and their respective environments give an opportunity to retrace their distributions through time. Here, we focus on the genus *Terebralia*, which was represented by a few species in Europe from the Oligocene to the late Miocene. The close relationship that modern representatives of these species have in the Indo-Pacific with mangrove vegetation is indicative of the extent of habitats favourable for mangrove development in Europe until the late Miocene.

In the present work, we examine the distributions of the fossil species of *Terebralia* from the Oligocene until the late Miocene, while facing the challenge of the proper definition of the genus members.

Results show that the maximum distribution occurred in the middle Miocene with members of the genus present from the North Sea Basin to the north, to Greece and Turkey to the south. Three species of *Terebralia* are also present in the central Paratethys, extending from Austria to the west to Romania and Ukraine to the east. Early representatives of the genus are considered to be European, but their preferred environments are still uncertain. These results can be particularly useful especially in the Mediterranean Basin where the preservation potential is low and palynological data is scarce. Therefore, the use of *Terebralia* as a proxy to infer vegetation patterns can give a global idea of coastal vegetation in Europe as well as a better comprehension of its distribution patterns in the Miocene and Pliocene of the Caribbean and the Indo-Pacific.