

The early Miocene lake of Foietta la Sarra-A in eastern Iberian Peninsula and its relevance for the reconstruction of the Ribesalbes–Alcora Basin palaeoecology

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Acta Palaeontologica Polonica 66 (3), 2021: s013-s030 doi:<https://doi.org/10.4202/app.00842.2020>

The Ribesalbes–Alcora Basin (Castelló Province, Spain) contains two lower Miocene units that are rich in fossils. The Unit B contains oil-shale and laminated bituminous dolomicrite related to a palaeolake, whereas the Unit C is composed of sandstone and mudstone beds from distal deltaic and shallow lacustrine environments. The La Rinconada and San Chils localities from the Unit B have yielded a fossil assemblage of plants, molluscs, arthropods, and vertebrates, while the localities from the Unit C in the Campisano ravine (Araia/Mas d’Antolino outcrop) are rich in mammalian record. Here we study a new palaeolake deposit of laminated lacustrine limestone beds in the Unit C named Foietta la Sarra-A. This new locality has provided an assemblage of charophytes, terrestrial plants, molluscs, arthropods, and teleosteans. The latter represent the only known fish record from the Ribesalbes–Alcora Basin to date. Although the specimens are generally poorly preserved, the presence of soft-body preservation due to the action of microbial mats at the lake bottom allows considering the Foietta la Sarra-A locality as a Konservat-Lagerstätte. The Foietta la Sarra-A palaeolake had a different water chemistry compared to that represented in the Unit B. Its depth was about a few metres and the water level suffered periodic fluctuations. This new locality sheds light on the palaeoenvironmental dynamics of the Ribesalbes–Alcora Basin during the early Miocene and provides a new approach to the palaeoecological reconstruction of the basin.

Key words: Characeae, Poales, Gastropoda, Cladocera, Insecta, Teleostei, palaeoenvironment, taphonomy, palaeoecology, lacustrine basin, Neogene, Konservat-Lagerstätte, Spain.

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