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## Quaternary Environmental Changes in the Corinth Rift Area: the IODP 381 Palynological Record

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The new sedimentary record from the Gulf of Corinth (south Greece), retrieved within the IODP Exp. 381: Corinth Active Rift Development, is a new archive registering environmental and climatic variability continuously over the last one million years. The Gulf of Corinth, strategically located at the southernmost tip of the Balkan Peninsula, is a semi-enclosed basin that is sensitive to climate forcing and sea level fluctuations. The Gulf was repeatedly isolated from the Mediterranean Sea during glacial/low-stand intervals, resulting in the amplification of paleoenvironmental gradients (McNeill et al., 2019).

The “Quaternary Environmental Changes in the Corinth Rift Area: the IODP 381 palaeovegetation record (QECCoRA)” project aims to analyse how climate variability affected the development of local vegetation and marine ecosystems in response to glacial/interglacial cycles, using palynological analysis (terrestrial and aquatic palynomorphs). The main goals are: a) to study the glacial-interglacial vegetation history in the southernmost Balkan tree refugium at a millennial scale b) to constrain the timing of Quaternary extinctions of relict tree taxa, and c) to decipher the alternation between marine and isolated intervals and its impact on aquatic ecosystems and the depositional environment using the aquatic palynomorph record.

The first results of the microscopic analysis show significant shifts of the vegetation composition in response to climate variability, nevertheless the fluctuation in vegetation cover appears less pronounced. Dinoflagellate cysts show distinct alternations between marine and brackish conditions revealing changes in surface water salinity, productivity, and temperature. Ongoing palynological analysis will produce a skeleton paleoenvironmental record that will contribute to further analyses carried out within the IODP Exp. 381 Science team.

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## Reference

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