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# Decontra (Maiella, Abruzzi, Italy) - a key section for correlating Mediterranean shallow water deposits with global Oligocene-Miocene stratigraphy

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For the stratigraphy of the Cenozoic era, the Mediterranean is of peculiar meaning because nearly all stages are defined with their GSSPs in this region. These GSSPs are located in deep-water successions, most of them in Italy, which have a widely complete record and planktonic fossils afford the necessary biostratigraphic resolution. More recently, this time resolution was distinctly enhanced by astrochronology, which allows to resolve at a scale of thousands of years. Due to this high time resolution and more stable environmental conditions palaeoceanographic and palaeoclimatic models for the Cenozoic mainly rest on isotope studies of deep water deposits. In contrast to deep water successions, there is an intrinsic limitation regarding achievable age resolution of shallow water deposits. Hence, Cenozoic shallow-marine sedimentary successions in the Mediterranean region are predominantly lithostratigraphically classified. Accurate chronostratigraphic correlations are generally impeded by the stratigraphically incomplete record and the less precise biostratigraphic resolution in shallow and marginal marine settings.
The 120-m-thick Decontra section on the Maiella Platform (S-Apennine, Italy) is a reference section for the correlation of central Mediterranean shallow water deposits. We re-evaluated the oxygen and carbon stable isotopes, $CaCO_3$ and TOC trends in this section and complement the multi-proxy data set with magnetosusceptibility and gamma-ray measurements. Due to its isolated and tectonically relative stable oceanic setting in the central Mediterranean Sea the carbonate platform is suited to identify local processes possibly overprinting the regional or global signal in the shallow water carbonates. Integrated multi-proxy and facies analysis indicate that magnetosusceptibility, gamma-ray, $CaCO_3$ and TOC content as well as stable oxygen isotopes display only local to regional processes on and along the carbonate platform and are not suited for stratigraphic correlation on a wider scale. In contrast, new biostratigraphic data allows for the first time the correlation of the stable carbon isotope trends in Decontra section with the global carbon isotope curve.
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