Vegetation and climate patterns in the Late Miocene of the Central and Eastern Paratethys in the context of palaeogeography

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Selected macro- and microfloras from Miocene continental deposits of Western Eurasia recently were analysed to reconstruct quantitative palaeoclimate data using the Co-existence Approach. For the same floras, diversity spectra of arboreal functional types were studied to obtain spatial distribution patterns of basic forest types. Here, inferred climate and vegetation data obtained for the Late Miocene floras of the Central and Eastern Paratethys realm are discussed in detail in the context of palaeogeography and compared to present-day conditions. To improve the spatial resolution in the area of interest, data from additional floras are included.

In the area of the Central and Eastern Paratethys, climate data show an all over warm, humid climate with significant regional differentiations. However, latitudinal and longitudinal gradients were lower than today. The presence of the Pannonian Lake caused mild winters and a reduced seasonality of temperature at nearby localities while for sites close to the Alpine orogen, cooler climate conditions result. The vegetation cover reconstructed for the area also reveals a heterogeneous spatial pattern that in many cases can be linked to palaeogeographic constraints. Mixed mesophytic forests with a high proportion of evergreens were restricted to the southern border of the Pannonian Lake while mixed deciduous and broadleaved deciduous forests spread in the northern part of the basin.