Geophysical Research Abstracts,
Vol. 11, EGU2009-5443-1, 2009
EGU General Assembly 2009
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# Late Miocene (Pannonian) Vegetation from the Northern Part of Central Paratethys

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During Late Miocene, the Western Carpathian paleogeography started to change. The Lake Pannon retreated southwards, and the northern coast of the back arc basin was slightly elevated due to progradation of deltaic and alluvial facies, especially in the lowlands.
The studied „Pannonian lake“ sediments come from the Czech and Slovak parts of Central Paratethys. Changes of the sedimentary environment from deep to shallow lake and deltaic environment, followed by development of alluvial plains were noticed. Salinity crisis due to Paratethys isolation led to development of total freshwater environment to the end of this period. Samples from 3 surficial localities and 15 boreholes were palynologically studied. Occasional occurences of Dinoflagellates indicate a slightly higher salinity, whereas green algae Pediastrum, aquatic ferns Azolla, and aquatic and coastal plants (Nelumbo, Nymphaea, Myriophyllum, Sparganium, Potamogeton, Cyperaceae etc.) represent a freshwater environment. Due to paleogeographic changes and climatic oscillations the number of thermophilous taxa decreased and some of them disappeared completely from this area (f. e. Sapotaceae, Palmae). Mostly broad-leaved deciduous elements of mixed mesophytic forests (Quercus, Celtis, Carya, Tilia, Carpinus, Betula, Juglans) with some thermophilous elements admixture of Engelhardia, Castanea, Trigonobalanopsis, Symplocos, Cornaceaepollis satzveyensis generally dominate. Variously high relief of the uplifted mountainy chains created ideal conditions for higher presence of extrazonal vegetation (Cedrus, Tsuga, Picea, Cathaya) in the investigated area. Zonal type of vegetation including marshes, riparian forests with Alnus, Salix, Pterocarya, Liquidambar, Betula, Fraxinus, shrubs and lianas on dryer substrates associated riparian forest (Buxus, Ericaceae, Vitaceae, Lonicera, Rosaceae type Rubus), and coastal swamps with Taxodiaceae, Nyssa, Myrica, Sciadopitys were growing in the floodplain lowlands of Vienna Basin. Accumulations of the Chenopodiaceae in the interfluve areas probably indicate local saline swampy environments during sea level fall. The increasing amounts of herbs indicate the existence of wet prairie areas (Thalictrum, Rumex, Valeriana, Dipsacaceae, Lamiaceae, Galium) or steppes (Artemisia - up to 17%, Asteraceae, Campanula, Fabaceae, Daucaceae, Caryophyllaceae, Plantago).

This is the contribution to the projects ESF -EC-009-07, APVT 51-011305, APVV-0280-07 (Slovakia) and MSM0021622427 (Czech republic).