Dust accumulation and paleoenvironment at the Gödöllő Hills during the last 30 kyr

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The Mende loess-paleosol sequence is one of the type profiles in Hungary, which records the evolution of middle and late Pleistocene environments at the Gödöllő Hills. A rudimentary age-depth model has been created for the youngest part (30 kyr) of the profile by using previous TL age data. According to this model, the mean sedimentation rate (SR) was ca 0.51 mm/yr, while the dust flux amounted to 761 g/m^2/yr during the final stage of loess accumulation (12-28 kyr, MIS2) at the study site, referring to the fact that this part of the basin must have been a „hot spot" of dust accumulation.
Shells of 18,931 individuals representing 33 species were found in 129 samples taken from the profile in 10 cm resolution. The mesophilous species (*Pupilla muscorum, Vallonia costata*) and the warm-loving *Pupilla triplicata* occur frequently in the mollusc assemblages implying prevalent open, semi-arid/arid environments during loess formation. Significant increase of wetland, cold-tolerant species and ecotone and closed forest preferring elements could be observed in more consecutive samples in several phases. Some dominance peaks of cryophilous species (*Vallonia tenuilabris*, *Pupilla sterri*) likewise occur mainly in the first half (ca 20-28 kyr) of the period studied, indicating cold climatic conditions (T_{July}: 12-14 °C) in these periods. By contrast, the other extreme of paleo-temperatures can be characterized by July maximum values as high as 18-19 °C. The regional and/or global (ice cores) correlation of fluctuations mentioned above is not possible owing to the poor age-depth model.

Keywords: loess, dust, mollusks, paleoenvironment, Hungary
Kulcsszavak: lösz, por, molluszkák, őskörnyezet, Magyarország