

GLAUCONITIC FORMATIONS IN AND AROUND THE CARPATHIAN–PANNONIAN REGION

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Glaucinitic minerals are defined as Fe-rich layer silicates with structures varying from a Fe-rich smectite to a dioctahedral Fe-rich mica. The glauconitic facies (glaucony) is characterized by the granular morphology of the aggregates, by a heterogeneous but mainly monophase glauconite-type composition and by a distinctive genesis, the glauconitization process. Thus, it can be approached in mineralogical, petrographical and sedimentological ways. Comparative and regional case studies of the glauconite formations can provide important criteria for stratigraphical correlations as well as for structural and paleoenvironmental models of genetically connected areas. Based on several criteria estimated for various glauconitic levels outcropping in the same region, AMOROSI (1996) defined three genetic types: autochthonous, paraautochthonous and detrital glauconite.

Our aim is to monitor the glauconite formations with their main occurrences in and around the Carpathian-Pannonian region, taking into account mineralogical-petrographical features of glauconitic minerals (size, concentration in the host-rock, morphological type of the green grains, the amount of the main cations (total Fe, Al, K) and the mineralogical type defined by the polytypes 1M, 1Md, <1Md) as well as geological criteria (the geological unit, the lithostratigraphical unit, the age and the host rock). The information included in the database originates both from our previous research on significant glauconite occurrences in Romania and Hungary, and from comprehensive mineralogical, petrological and stratigraphical reference data in the literature of the region (Slovakia, Ukraine, Poland, Czech Republic, Croatia, Slovenia). With only one exception (Paleozoic, Poland), the glauconite formations in this region are not older than Jurassic. The most abundant formations are known from the Paleogene, then from the Neogene and then from the Upper Cretaceous. The most common host rocks are the detrital, from conglomerate to shale, dominantly sandstone, but other types of rocks were mentioned as well (limestone, phosphorite, chert).

Plots of the glauconite occurrences according to their stratigraphical ages offer the frame for a discussion of the geologic relationship between the synchronous formations, taking into account the possible genetic types (autochthonous vs. detrital) of glauconites.

This study intends to be a first stage in a larger project, which should emphasize the geological importance of glauconitic minerals, as well as another example of an applied mineralogical research.

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Reference

AMOROSI, A. (1996). *Sedimentary Geology*, 22: 1–19.