

found and linked with the decomposition of the organic matter and/or pearls dehydration. Additional studies with non-destructive methods, by which the above changes could be observed (e.g. Raman spectroscopy), will be performed in order a method applicable in gemological laboratories to be found.

## **The latest paleogeographical realities of the Pannonian Basin in the late Quaternary: the relict Pannonian Lake, its successor and the finalization of the Danube way in the Upper Holocene**

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The new studies on the southeastern part of the Pannonian Depression confirm our idea concerning the existence in this basin of a lake with its shores around +100 m in the Uppermost Pleistocene (the Relict Pannonian Lake, Belgrade – 2006). A morphologic peculiarity placed in the Cazanele Mici area seems to have been permitted the maintaining of the shores for some time at this elevation. The Relict Pannonian Lake could be the direct successor of the Middle Pleistocene Lake made evident as a paleogeographical reality by the Serbian scientists in the southeastern part of the Pannonian Basin. The severe restriction of the surface of this lake has taken place at the beginning of the Holocene, as a result of the mega-floods, which mark the boundary between the Pleistocene and the Holocene. Therefore, a successor of the Relict Pannonian Lake seems to have maintained for some time in the Lower Holocene with its shore around the +85 m elevation. This perspective confirms the idea of some geomorphology researchers, which accepted a gradual retirement of the Pannonian Lake in Quaternary, associated with a succession of shorelines. In this case, the finalization of the stream system of the Danube, as a unitary river, has very recently happened (in Upper Holocene). In addition a possible connection between a stream system tributary to the Black Sea and another one tributary to the Pannonian area along the actual Danube Gorge could be realized only in the Greben zone (most probably during the Pasadenian phase). The existence of the Relict Pannonian Lake at the end of the Upper Pleistocene seems to be confirmed by the altitude of the all pre-historical sites in the Pannonian area. In addition, important data of mythical paleogeography are consistent with all these possible paleogeographical realities of the Pannonian area.

## **Zircon typology and preliminary mineral chemical and isotopic investigations on basaltic gem stone zircons from eastern Saxony, Germany**

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Basaltic zircons are known in eastern Saxony (Germany) from the Elbsandsteingebirge for a long time. Furthermore, there are some new localities described from the Upper Lusatia (Hofeberg quarry) and the Zittauer Gebirge (Lausche hill). The zircons derived from alkaline basalts. The Hofeberg locality in the south of the Görlitz town could provide evidence for *in situ* discoveries. Both of the other occurrences exist as placers.

The zircon crystals have a mean size from 0.5 up to 4 mm (min. 0.2 to max. 9 mm) and show a gem stone quality. Many crystals are broken and/or intensive rounded. The rounding is the result of a magmatic corrosion in the basaltic transporter rock. This is an argument against the genesis of these zircon megacrystals in the basaltic melt. The broken crystals (splinters) are probably the result of the fast cooling during the basaltic eruption.