λ=1.54056 Å), at an operating voltage of 40 kV and a beam current of 40 mA. Baltic ambers exhibit the same XRD pattern comprising of a broad peak centered at $2\theta=15^0$. They are in the amorphous state. The records seem to indicate for Romanite and Lithuanian amber some internal crystallization tendency, confirmed also by microscopically studies. These have been marked up using a PANPHOT microscope transmitted light. On the Romanite thin sections a weak anisotropy with grey-yellowish to light-blue colors was observed, although in literature is mentioned that amber does not present crystallization tendencies. Baltic amber studied with this occasion revealed no anisotropy.

Preliminary results on xenoliths in basaltic andesite subvolcanic body in the vicinity of Kroumovgrad, eastern Rhodopes, Bulgaria

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The studied basaltic andesite subvolcanic body belongs to the Paleogene post-collisional volcanism of the Eastern Rhodopes Momchilgrad-Arda volcanic region. It intrudes acid and intermediate pyroclastic, epiclastic rocks as well as concomitant sedimentary rocks. The subvolcanic rocks are with dense porphyritic texture and glassy (hyalinic) ground mass. Phenocrysts are represented by clinopyroxene, orthopyroxene and plagioclase. The rocks are medium-K to high-K, Q-normative and with Mg# = 65-72. Their geochemical peculiarities are similar to those from subduction related magmas, with negative anomalies for Ta, Nb, Ti, P in primordial mantle normalized spidergrams, but are probably influenced by lower crust material. Three different types of deep xenoliths of granulites, plagioclasites and cumulate clinopyroxenites are established. Granulites are metabasites with MgO = 7.15 wt. %. Basic granulites (pyriclasites) are composed by clinopyroxene and plagioclase where titanomagnetite is an accessory phase. Plagioclasites are composed exclusively of oligoclase with a small amount of chlorite. And finally clinopyroxenites are monomineral but with a transitional peripheral zone, where plagioclase (anortite) appears as a reaction product. Pressure estimations for granulites and clinopyroxenites are 8-14 kbars corresponding approximately to the crust – mantle boundary. Both xenolith types show petrographic evidences for rock transformations and initial melting. They were probably the result of an interaction with the ascending–basaltic to basaltic andesite mantle-derived and lower crust modified magma.

Volcanic glass textures, shape characteristics and compositions from phreatomagmatic rock units of the western Hungarian monogenetic volcanic fields and their implication to magma fragmentation

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Mio-Pliocene (~8 – 2.3 My) monogenetic volcanic fields in western Hungary (Bakony-Balaton Highland and Little Hungarian Plain Volcanic Fields) consist of eroded maar, tuff ring and scoria cones. Erosion advanced in many cases, and today the crater and volcanic conduit filling pyroclastic assemblages are preserved. The majority of the volcanoes had at least in their initial eruptive phase phreatomagmatic eruptions that produced pyroclastic beds deposited mainly from base surges and subordinate pyrolcastic falls. These phreatomagmatic rock units are rich in well-preserved volcanic glass shards. Electron microprobe studies on fresh volcanic glass reviled that they are primarily tephritic in composition. Textural analysis of the shape parameters of the glass shards were carried out with an aim to determine the magma fragmentation style was responsible for their formation. The shape analysis indicated that the majority of the magma was fragmented in a brittle fashion. Not only the fine ash