

Plagioclases span much of the crystallization history throughout the magmatic series, generally decreasing in anorthite component from basic to acid plutonic varieties. In volcanic rock the plagioclase is in the bytownite–labradorite range.

Potassium feldspar of orthoclase composition is typical for the monzonite and syenite. It forms large crystals, disposed between plagioclase. The orthoclase is the major carrier for Sr, Ba, Pb, Rb.

Amphibole is the main mafic mineral in all rock types, with Mg# 58-97. In the classification diagram of Leake et al. (1997), the amphibole from the plutonic rock falls in the field of the magnesio hornblende and ferrohornblende, whereas the amphibole from the volcanic rocks is tschermakite.

Clinopyroxene is a characteristic mineral for all rock types with Mg# 58-84. It forms deep resorption nuclei or single grains with euhedral contours. Compositionally it is augite and diopside.

U-Pb single zircon method was used for the precise geochronological dating of the Vitosha volcano-plutonic edifice. Sr and Nd whole rock and Hf–zircon tracing have been used to clarify the origin of the studied rocks.

Following U-Pb single zircon age data have been obtained for the plutonic rocks: gabbro 81.58 ± 0.23 , monzonite 82.45 ± 0.4 and syenite 79.67 ± 0.76 . U-Pb data of single zircon grains from an andesite plot on a discordia with a Paleozoic age.

Strontium isotope data are quite variable, ranging between 0.7044 and 0.7042 in the less evolved gabbro and andesite, through 0.7052 in the monzonite, to 0.7091 in the syenite. Nd (80 Ma) values also show a large variation, from 0.37 to 2.74.

The new age data reported here provide that the rocks of the Vitosha pluton range between 82.4 and 79.7 Ma. Chemistry of the parental magma suggests similarity with the other plutonic suites from the axial part of the western Srednogorie. Compositional variations of the rock-forming minerals indicate calc-alkaline I-type signature for the Vitosha pluton. Sr and Nd isotope data indicate the presence of depleted mantle source for the parental magma, whereas generation of most evolved magmas requires different degree of crystal contamination. The upper discordia intercept U-Pb zircon of Paleozoic age suggest that the contaminant must have been lithologies from the Variscan basement.

New Hippopotamid finds in Eurotas Valley (Laconia, Greece)

Athanassiou A. and Bouzas D.

Hellenic Ministry of Culture, Department of Palaeoanthropology–Speleology, Ardittou 34B, 116 36 Athens, Greece. aathanas@geol.uoa.gr, dpmpouzas@gmail.com

A new locality tracked down in the Eurotas Valley (Laconia, Greece) yielded mammalian dental remains of a young individual referred to as *Hippopotamus antiquus*. The findings are of very large size compared to already known specimens from Greece and W. Europe. The new locality is biochronologically dated at the Early–Middle Pleistocene.

On Pliocene mammal remains in the area of Epanomi (Macedonia, Greece)

Athanassiou A.¹ and Kostopoulos D.S.²

¹*Ministry of Culture, Ephorate of Palaeoanthropology–Speleology, Ardittou 34B, 116 36 Athens, Greece, aathanas@geol.uoa.gr*

²*University of Thessaloniki, Department of Geology, 54124 Thessaloniki, Greece, dkostop@geo.auth.gr*

Neogene/Quaternary deposits along the east shoreline of Thermaikos Gulf (Thessaloniki, Greece) occasionally yielded several isolated fossil vertebrate remains. A proboscidean tusk and an equid astragalus have been recently unearthed from a new

palaeontological spot near Epanomí. The finds are referred to *Mammuthus* cf. *meridionalis* and *Equus* sp. On the basis of biochronological data the deposits are dated as latest Pliocene.

Large Scale Geoelectrical survey of the Sarantaporon Basin (Thessaly, Greece)

Atzemoglou A.¹ and Tsourlos P.²

¹*Institute of Geology and Mineral Exploration, 54626 Thessaloniki, Greece, matzem@thes.igme.gr*

²*Department of Geophysics, school of Geology, Aristotle University of Thessaloniki, 54124, Thessaloniki, Greece, tsourlos@geo.auth.gr*

A large-scale Vertical Electrical Sounding (VES) survey was conducted at the basin of Sarantaporon, Ellassona in order to study the tectonic and hydrogeological setting of the area. More than 150 soundings ($AB/2 > 500\text{m}$) were measured on a near-regular grid and were processed with 1-D inversion algorithm. Selected Interpretation models took into account the existing detailed drilling information of the area. Since some of the dense measured soundings were co-linear was possible to combine 1-D sounding data and produce 2D data sets which were interpreted using a fully 2D inversion algorithm. Finally the 2D and 1D results were combined to produce pseudo-3D geoelectrical images of the subsurface.

Interpretations are in very good agreement with the existing drilling and geological information and reveal a relatively detailed picture of the basin's lithological and hydrogeological environment. Further, the results allowed us to obtain new, and verify existing, structural information regarding the studied area. Overall it is concluded that advanced interpretation to 1-D VES measurements can produce improved subsurface geophysical images and presents a very useful tool for larger scale geological investigations.

Middle Jurassic matrix radiolarians from the Meliata ophiolite melange at the type Meliatic sites Meliata and Jaklovce (Western Carpathians): palaeogeographic evidence.

Aubrecht R.^{1,2}, Gawlick H.-J.³, Missoni S.³, Suzuki H.⁴, Plašienka D.¹, Kronome K.¹ and Kronome B.⁵

¹*Department of Geology and Paleontology, Faculty of Natural Sciences, Comenius University, Mlynská dolina - G, 842 15 Bratislava, Slovakia, aubrecht@fns.uniba.sk, plasienska@fns.uniba.sk, kronomek@fns.uniba.sk*

²*Geophysical Institute, Slovak Academy of Sciences, Dúbravská cesta 9, SK-845 28 Bratislava, Slovakia*

³*University of Leoben, Department of Applied Geosciences and Geophysics, Prospection and Applied Sedimentology Peter-Turner-Strasse 5, 8700 Leoben, Austria, hans-juergen.gawlick@mu-leoben.at, s.missoni@daad-alumni.de*

⁴*Otani University, Koyama-Kamifusa-cho, Kita-ku, Kyoto 603-8143, Japan; hsuzuki@res.otani.ac.jp*

⁵*State Geological Institute of Dionyz Stur, Mlynská dolina 1, 817 04 Bratislava, Slovakia*

The Meliata Unit is crucial for understanding the West Carpathian geology. Its remnants mark an important suture zone which remained after the Meliata part of Neotethys Ocean which was open in the Middle Triassic and partly closed in Late Jurassic time. The key areas, in which occurrences of this unit are concentrated, are near Meliata village and in the wider surrounds of Margecany and Jaklovce villages. The first site lies southwest of the Gemic Superunit, whereas the second occurs at its NE margin. Position of the Meliata Unit on the both sides of this crustal block (comparable with Greywacke Zone of the Eastern Alps) led some authors to opinions about two branches of the Meliata Ocean surrounding the Gemic Superunit, whereas others inferred that the northern occurrences do not represent a true suture but they were transported to its recent position tectonically by thrusting (obduction). If the first opinion was true there would be some time difference between the closures of the two branches. Therefore, the two principal sites, Meliata and Margecany were revisited and new micropaleontological data were obtained, the first report of which is given herein.