(hybrid cores resulted from mixing of two contrasting magmas, events of drastic corrosion, development of more basic in composition thick rims with numerous melt pockets entrapped), presence of large relic clinopyroxene (presumed to be a remnant after fractionation from more basic magma), disintegrated intergrowths of biotite-plagioclase-ilmenite cumulates indicate evolution of magma likely via AFC in shallow magma chamber which developed in the upper crust. Rhyolites from Zemplin area are compositionally heterogeneous, but neither contains garnet or orthopyroxene. Almandine garnet is common in banded metapelitic rocks trapped as xenolits. Inclusions of quartz, ilmenite, Mg-chlorite, graphite, biotite and typically spessartine enriched margin of host garnet are evidence of its metamorphic origin. Most of extrusions or dykes are autometamorphosed. Matrix is replaced by K-feldspar, quartz and clay minerals; Fe released from mafic biotite fills cavities or armor phenocrysts. Rhyolite bodies have variable mineral proportions, crystallinity of the matrix and phenocrysts that is unique for each body. Peraluminous rhyolites from Eastern Slovakia are characterized by low content of Nb (10-19 ppm), Rb (120-159 ppm) and Y (5-37 ppm). Position on tectonic discrimination diagram corresponds to felsic magmatites evolved on the volcanic arc. Negative Nb, P, Ti anomalies and Pb peak on multi-element diagram indicate evolution with contribution of continental crust. Almost identical shape as for rhyolites from Central Chilean Andes suggests their origin in subduction regime with volcanic arc developed on thin continental crust. Rhyolites were analysed for Nd and Sr isotopic ratios ($^{143}Nd/^{144}Nd$ 0.51223- 0.512484 and $^{87}Sr/^{86}Sr$ 0.708163-0.715491). Variations in isotopic ratios are compatible with crustal component involved in petrogenesis of rhyolites. Three domains can be identified: 1) more $^{143}Nd/^{144}Nd$ and less radiogenic $^{87}Sr/^{86}Sr$ rhyolites from Merník (δNd -3.0, δSr 52), 2) lower $^{143}Nd/^{144}Nd$ and higher $^{87}Sr/^{86}Sr$ ratios from Beňatina and Byšta (δNd -7,5, δSr 92,9), 3) $^{143}Nd/^{144}Nd$ as with 2-nd domain but more radiogenic $^{87}Sr/^{86}Sr$ from Zemplin area (δNd -7,5, δSr 156). Position on the δNd vs δSr diagram scatters along trajectory from MORB to upper crust. Merník with the least crustal influence overlaps with fields of A-type and I-type granites; Beňatina and Byšta cluster in the intersection of I-type and S-type granites and Zemplin area is in the field of S-type granites. Dependence of variations in Nd-Sr isotopic ratios on areal distribution is attributed to different source composition and/or type and intensity of interaction with country rock during formation of partial melts.

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Paleovolcanological reconstruction of the Vepor andesite stratovolcano (Central Slovakia)

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In the region of the Hercynian crystalline massive of the Veporic unit (East of the Central Slovakia Volcanic Field, CSVF) denudation remnants of the intrusive-extrusive bodies and volcanoclastic rocks of supposed Neogene age have already been identified in the past. Paleovolcanological reconstruction has been done of former extensive andesite volcano, later removed by intensive erosion, on the basis of the recent mapping (in the scale 1:3 000 – 1: 10 000), petrological and radiometric data.

The region of central volcanic zone is exposed by deep denudation cut around the Magnetový vrch hill. The subvolcanic multi-stage diorite intrusion-pluton of cedar shape (K-Ar age:12.08 ±0.47 and 12.28 ±0.42 Ma, respectively) in its lower part in the valley at the level of the Rimavica river (500 m altitude) steeply intrudes into the complex of the Hercynian granite and metamorphic rocks. On the western margin the intrusion transforms into several sub-horizontal apophyses emplaced in form of the sills along the lithological boundary between Hercynian granite and Middle Triassic limestone and dolomite and higher within the Mesozoic complex (Magnetový vrch hill, 960 m altitude). Zones of magnetite scarns are evolved at the contact of carbonates with the diorite intrusion. The intrusion is later crosscut by dyke swarm of W-E to ENE-WSW direction. The dykes (K-Ar age: 11.94 ±1.0 Ma) are mostly formed by coarse grained amphibole hyperstene andesite porphyry. Dyke swarm of basaltic andesite to basalt (K-Ar age: 12.02 ±1.05 Ma) of ENE-WSW orientation at the SW slope of the Magnetový Vrch hill is most probably related to small parasitic volcano.

Proximal volcanic zone. Deeper levels of the complex of intrusive-extrusive bodies of hyperstene amphibole andesites ±garnet (K-Ar age: 12.10 ±0.38 Ma) characterised by autometamorphic alteration are exposed by erosion. Direction of steep fan-like lineation (fluidality) and zones with autoclastic breccias near the margins indicate forms of dome-type alternatively tholoide-type. Another small-sized of amphibole andesites (K-Ar age: 12.25 ±0.5 Ma) to rhyodacites (K-Ar age: 12.53 ±0.42 Ma) in the northern part of the proximal zone confirms the presence of small parasitic volcanoes in the region of the former volcanic slope. One small parasitic volcano that survived denudation represented by volcanic neck and adjacent remnant of cinder cone (agglutinate pyroclastic deposits) was found.

Distal volcanic zone of the Vepor stratovolcano is represented by denudation remnants of the volcanoclastic rocks that filled former paleo-valleys (canyons) of radial orientation with respect to central volcanic zone. More extensive remnant of NW-SE orientation is the Hajna Hora hill complex located on the NW from the proximal zone. A study of the paleo-valley filling formed by pyroclastic and epiclastic volcanic rocks (block-and-ash flows, ash-pumice flows and lahars) alternating with layers of epiclastic volcanic sandstones and conglomerates enable reconstruction of eruptive cycles and volcanic events. The filling of another radial paleo-valley on the west from the central volcanic zone represented by erosion relict of the lava flow of pyroxene andesite (K-Ar age: 11.56 ±0.43 Ma) of WSW orientation cover the peak area of the Klenovsky Vepor hill. The lava flow overlaid basal fluvial sediments. Pokorádz complex, formed by volcanoclastic and volcanosedimentary rocks, is located SE from central volcanic zone. Deposition of the volcanic material took place in the shallow fluvial-limnic environment. Tuffitic-sandy sedimentation with conglomerate layers was episodically interrupted by a mass transport in the form of gravitational flows, lahars and block-and-ash flows.

On the basis of the field observations and K-Ar data it is possible to reconstruct the complex succession of the volcanic and intrusive events of the Vepor stratovolcano. The K-Ar ages suggest that the stratovolcano was active for a relatively short time during Lower Sarmatian, between 12.53 – 11.56 Ma. The radiometric ages are in a good agreement with biostratigraphic data.

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A problem of rigidity of the Eurasian lithospheric plate in the light of data on age and dynamics of the Cenozoic intraplate deformations in different regions of the Northwestern Eurasia

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Now it became obvious that Cenozoic intraplate deformations of the Northwestern Eurasia were connected with the Alpine plate collision. However, areas of dynamic influence of plate-indenters, such as the Periapulian, Periarabian and Periindian “collisional areas”, as well as relations of the Cenozoic intraplate deformations with the contemporary spreading in the north and transcontinental shears along the Tornquist line and Urals must be determined more exactly. Besides, some paleomagnetic data does not correlate well with an uniform rigidity of the Eurasian lithospheric plate. These questions are discussed here in terms of evolution and dynamics of the Cenozoic intraplate deformations in different regions of Northwestern Eurasia. In West Europe, the aulacogen covers were crumbled in the Paleocene (the Laramic orogeny) simultaneously with the plate collision in the Alps. A spreading axis propagated from the Northern Atlantic into the Arctic at the same time, which allows