

## VARISCAN GRANITOIDS IN BÄRNAU – ROZVADOV AREA

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The Rozvadov–granitoid massif and Bärnau–granite body intruded katazonally metamorphosed Moldanubicum on the both sides of Bohemian–Bavarian border, 20 km ESE of KB–site. Four principal types of granitoids characterised by new geological mapping and petrological investigation are as follows:

- 1, a complex of different varieties of granitoids with cordierite. The primary magma (preserved as small bodies of coarse–grained biotite granite at periphery of the complex) was contaminated by high–alumina paragneisses. The extreme product of contamination is the cordierite–rich diorite with 56% SiO<sub>2</sub> and 25% Al<sub>2</sub>O<sub>3</sub>. The cordierite crystals reach 2x2x5 cm in size.
- 2, fine to medium–grained two–mica granite “Rozvadov type” constitutes the largest part of the Rozvadov massif. There are, westwards from the main outcrops, many dyke–like apophyses, many of them leucocratic and aplitic and/or pegmatitic in character. Pericontact parts of aplite–pegmatite dykes and/or lenses show often paralel fabric. For this reason, aplite dykes in Bavaria were described as “metaaplite”. New technical works including boreholes on the Bohemian territory proved magmatic origin of this fabric.
- 3, medium– to coarse–grained two–mica granite “Bärnau type” forms an equidimensional body NNW of foregoing types, which is deeply rooted according to gravity data. This granite body is compact, without apophyses, dyke rocks are very rare.
- 4, fine to medium–grained albite–zinwaldite granite with topaz, “Křížový kámen/Kreuzstein–type” forms some stocks and dykes within a NNW–SSE oriented zone between the Bärnau– and Flossenburg–massifs between Altglashütte in the north to Weidhaus in the south. Granite is geochemically highly specialised (Rb about 1000 ppm, Li about 500 ppm, F about 0.5%) and enriched in Sn and Ta. Characteristic is high–P content, mineralogically expressed as PO<sub>4</sub>–bearing albite in granites and phosphates in adjacent pegmatites.  
In the northern part of the zone (Silberhütte–Entenbühl–Havran) there are, through an advanced erosion, exposed the bottom parts of stocks with only rare stockchaiders, but with indications of disseminated cassiterite–columbite mineralization.  
In the southern part, less affected by erosion, there are some of stocks preserved including apical parts of copula, where famous phosphate pegmatites developed (Hagendorf, Weidhaus, Pleystein)

## TEMPERATURE ESTIMATION FROM AUTHIGENIC PHYLLOSILICATES IN PERMIAN VOLCANICLASTIC ROCKS, N CHILE

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XRD and microprobe measurements of phyllosilicates and fluid inclusion measurements were carried out to estimate the temperature which affected a volcanisedimentary succession during diagenesis, incipient very low–grade metamorphism, and hydrothermal alteration.

The succession comprises the Peine Fm. and Chunar Beds, 2 km thick, which crop out at the eastern margin of the Salar de Atacama in N Chile. Here, during the Permian an extensional intra–arc basin accommodated basalto–andesitic to dacitic lavas and silica–rich pyroclastic deposits. The associated mainly volcanoclastic sediments formed in lakes, flood plains, and alluvial fans (Breitkreuz 1991).

Burial metamorphism, accompanied by strong, differential compaction led to the formation of a zeolite facies assemblage. The main phases are calcite, quartz, laumontite, prehnite, illite, and chlorite. This assemblage is present in nearly all lithologies in contrast to kaolinite and analcime, which are restricted to certain silica–rich clastic rocks. Albitisation of plagioclase is advanced but incomplete. In the albitized areas the percentage of Ab ranges from 91 to 98%. Later hydrothermal epidote and piemontite formed dispersed in the rocks and in joints. Epidote is present in all rock types in various levels throughout the succession.