

In the northern parts of the section we know sea level changes in the Lusatian lignite region, corresponding to the alpidic movements.

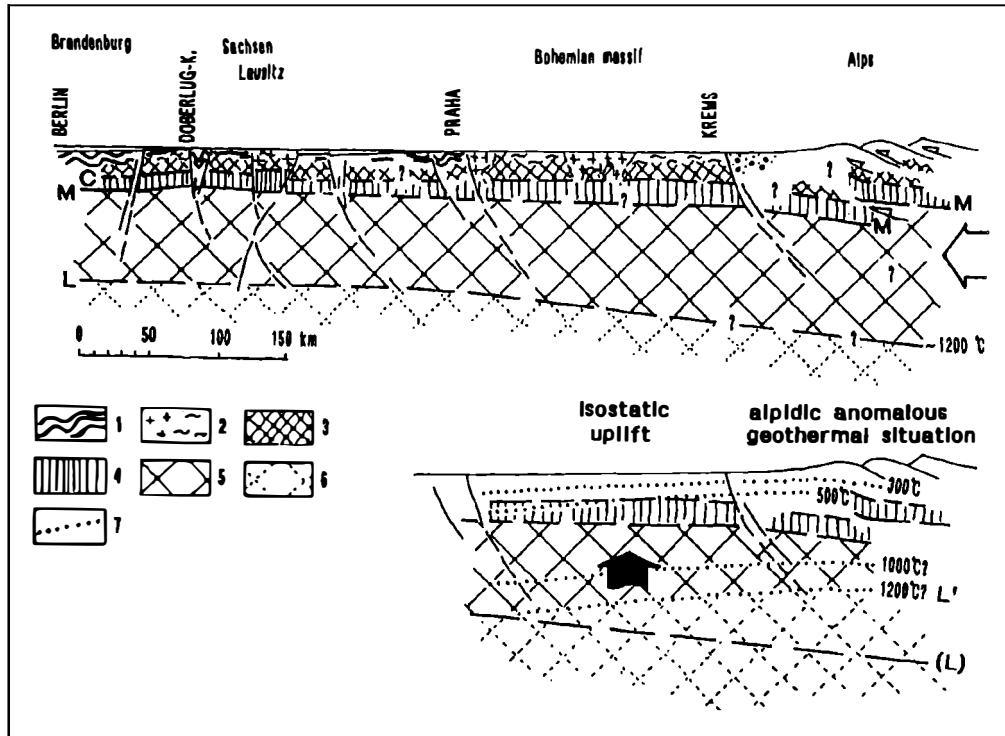


Fig. 1: Legend: 1 - Palaeozoic, Upper Proterozoic, 2 - crystalline, 3 - Upper crust, 4 - Lower crust, 5 - solid Upper mantle, 6 - asthenosphere, 7 - isotherm

THE YOUNGEST VARISCAN MAGMATIC ROCKS IN THE SOUTHERN PART OF THE BOHEMIAN MASSIF - EXAMPLE "HOMOLKA" GRANITE

BREITER, K.

Czech Geological Survey, Praha, Czech Republic

The last episode of Variscan granitoid magmatism in the southern part of the Bohemian Massif is documented by intrusions of felsic subvolcanic dykes in N-S trending zones of extensional tectonics followed by intrusions of strongly differentiated leucocratic granites. All these granitic rocks are enriched in F, Rb, Sn and/or

P, Li, W, Nb, Ta. This association of rocks was recently found or reinterpreted in several regions. They are from the W to the E:

1. Zone of P-rich albite-zinnwaldite-topaz granites between Weidhaus, Hagendorf (D) and Havran (CZ), about 20 km SE from KTB-fit (BREITER, 1994). There are characteristic manifestations of phosphate-rich pegmatites in the apical part of granite stocks.
2. Zone of rhyolitic subvolcanics along the W-margin of the Kladruby massif followed by intrusions of two-mica granite and muscovite-turmalin granites in "Sedmihoří" ring-massif NW from the Domažlice town. These granites are accompanied with quartz-wolframite veins and cassiterite aureole in recent sediments.
3. Tectonic zone between the Kaplice and Rožmberk towns with Sn-enriched muscovitic aplite dykes. Cassiterite and wolframite were detected in recent sediments.
4. stocks of muscovitic granite with aureole of granite porphyries ("Šejby") near the Nové Hradky town with occurrences of Sn and Nb-Ta mineralization (KLEČKA & MATĚJKA, 1993).
5. Zone of felsitic dyke rocks between Pelhřimov (CZ) and Litschau (A) (VRÁNA 1990; KLEČKA & VAŇKOVÁ 1988) with stock of albite-muscovite-topaz granite "Homolka" with indications of Sn, W, Nb and Ta mineralization (BREITER et al., 1994).

The best known example of associations mentioned above is the southern part of the Pelhřimov-Litschau zone between the Jindřichdův Hradec and Litschau towns. In this area three types of dyke rocks are distinguished:

- i. granite porphyry, often with cordierite,
- ii. felsitic dyke rhyolite, partly with fluidal fabric,
- iii. fine-grained leucocratic granite of "Josefsthal" type.

All these rocks are building dykes 10 - 20 m thick and hundreds of m long. They are peraluminous and enriched in lithophile elements (Rb 350 - 500 ppm, Nb 20 - 40 ppm, Sn 10 - 35 ppm). Even younger is the stock of albite-muscovite-topaz granite "Homolka", 6 km² in size. The rock is relatively homogeneous, medium- to coarse-grained, with schlieren of fine-grained and porphyritic facies. Marginal pegmatite is locally developed on the contact. Xenolites of Eisgarn-granite and granite porphyry were found in the central part of the body. The main substituents are quartz (33 - 35 %), albite (34 - 37 %), K-feldspar (19 - 22 %), muscovite with 0.35 - 0.5 % Li and 0.7% Rb (13 - 16 %), apatite (1 - 2 %) and topaz (up to 2 %). Cassiterite, ferrocolumbite, ilmenite and fluorite are accessory minerals.

The granite is peraluminous (ASI 1.1 - 1.2), enriched in P (0.7 - 1.0 %), F (0.5 - 0.6 %), Rb (800 - 1500 ppm), Sn (50 - 300 ppm), Nb (40 - 150 ppm), Ta (up to 60 ppm). On the other hand, the contents of Mg, Ba, Sr, Zr, Y and REE are very low. The Sn and Nb-Ta mineralization was mainly the product of magmatic processes. It was concentrated probably mainly in the apical part of intrusion, eroded during the

Tertiary. Remarkable contents of cassiterite were found in the Pliocene, as well as in recent sediments.

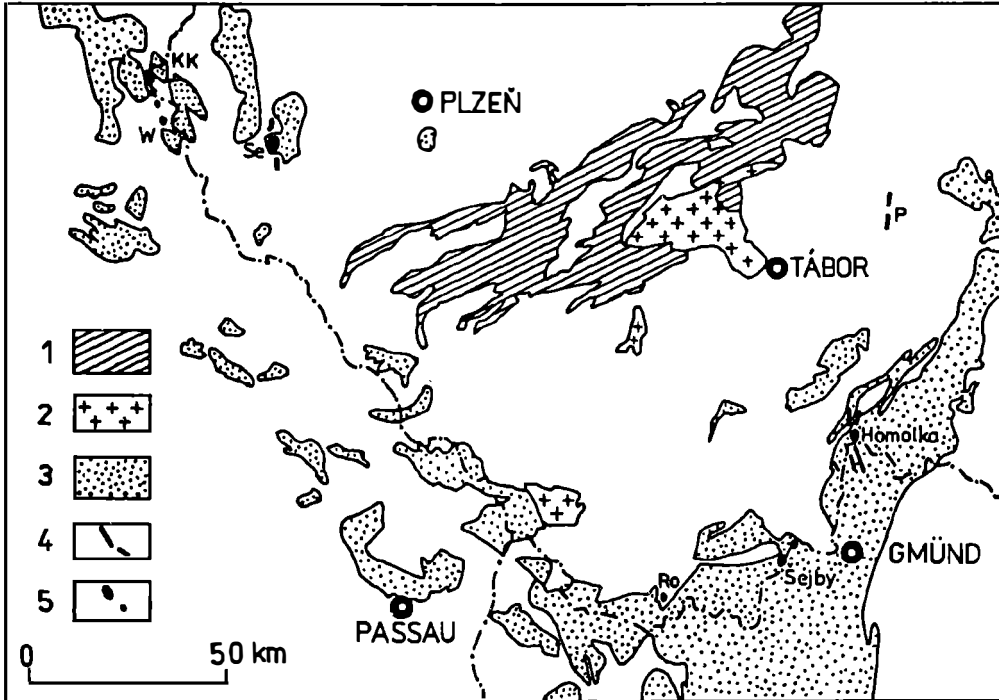


Fig. 1: Variscan granitoids in the southern part of the Bohemian Massif.

Legend: 1 - tonalite, 2 - granodiorite, granite, 3 - durbachitic rocks, 4 - subvolcanic rhyolitic dykes, 5 - strong differentiated granites.

Localities: KK - Křížový kámen/Kreuzstein, W - Weidhaus, Se - Sedmihoři, Ro - Rožmberk, P - Pelhřimov.

BREITER, K. (1994): Meeting Evolution of Variscan and comparable Paleozoic orogenic belts, Praha. Abstract.

BREITER K., KLEČKA, M., LOCHMAN, V., ŠREIN, V. (1994): A topaz bearing muscovite granite (Homolka type). - Mineral.Petrol., in press.

KLEČKA M., MATĚJKA D. (1992): Symposium Geochemie a životní prostředí. Abstract. Kostelec nad Č.lesy.

KLEČKA M., VAŇKOVÁ V. (1988): Čas.Mineral.Geol., 33, 225 - 249. Praha.

VRÁNA S.(1990): Věst.Ústř.Úst.geol., 65, 143-15.. Praha.