

## NEW RESULTS ON MINERAL ZONES AND ASSEMBLAGES IN THE CZECH PART OF THE KRÁLOVSKÝ HVOZD UNIT (KHU) (KÜNISCHES GEBIRGE)

J. BABŮREK<sup>1</sup>, P. BLÜMEL<sup>2</sup>

<sup>1</sup> Czech Geological Survey, 11821 Praha 1, Klárov 3, Czech Republic

<sup>2</sup> Institute of Mineralogy, University Technische Hochschule Darmstadt, Schnittspahnstr. 9, 64287 Darmstadt, FRG

The Královský Hvozď Unit (KHU) comprises metapelites and -psammites with intercalated graphite schists, calc-silicate rocks, marbles and (epidote-) amphibolites in the NW edge of the unit. On the basis of the metamorphic zonation established by Vejnar (1962) and Blümel and Schreyer (1976) a phase petrological analysis of the KHV mainly in metapelites was initiated. First results are:

- 1) The metamorphic zonation of the eastern part differs from that of the western part; in the south-eastern part a kyanite zone was re-delimited (Vejnar 1962).
- 2) Calcite-dolomite marbles with accessory margarite and Mg-chlorite and associated with Paleozoic metapsammites (Reitz 1992) give temperature of 425–455 °C (thermometers of Powell et al. 1984, and Rice 1976), which are compatible with the assemblages in the associated metapelites.
- 3) In Vejnar's staurolite zone the assemblage chloritoid-garnet-biotite-phengitic muscovite is observed.
- 4) Within the staurolite zone, the delimitation of which is impeded by the scarcity of proper rock compositions, first pyroxene-bearing calc silicate rocks are observed.
- 5) At similar grain size garnet porphyroblasts show bell-shaped Mn-zonation profiles (starting with 55 mol% spessartine) at lowest grades, a two-stage pattern growth followed by retrograde zonation in the andalusite zone, and flat profiles with about 15 mol% pyrope in the kyanite (-muscovite) zone.
- 6) In the sillimanite zone garnet seems to disappear by the decompression reaction  $grt + mus = sil + bio + qtz$  and zirconian staurolite by the reaction of the type:  $sta = spl + sil + qtz$ .

Re-investigation of the metamorphic zonation in the KHU may shed new light onto the relation between the SW-Bohemian and the Bavarian part of the Moldanubian.

## PALAEOZOIC GEODYNAMIC EVOLUTION OF THE SOUTHERN CENTRAL ANDES (NW-ARGENTINA, N-CHILE), AND ITS BEARING ON THE POSTULATED LAURENTIA CONNECTION

H. BAHLBURG

*Geologisch-Paläontologisches Institut, Im Neuenheimer Feld 234, 69120 Heidelberg, Germany*

The region of the southern Central Andes of NW-Argentina and N-Chile has formed part of the South American continental margin since at least the Late Precambrian. In analogy to geodynamic models of the Mesozoic-Cenozoic active Andean margin, continuous subduction since at least the Ordovician has long been assumed for the Palaeozoic Andes. However, the wealth of new studies of Palaeozoic rocks indicates a segmented development of the Palaeozoic margin of western South America. The development of the south central Andean segment of NW-Argentina and N-Chile is summarized here in order (i) to elucidate the main processes which formed the proto-Andean orogens, and (ii) to evaluate the recently postulated hypothesis of repeated plate-tectonic interaction between eastern Laurentia and western South America during the Palaeozoic.

Since the end of the Pampean Orogeny in the early Cambrian, the geodynamic evolution of this part of Palaeozoic South America is characterized by tectonic regimes alternating between phases without subduction and associated magmatism (late Cambrian?, and Silurian-early Late Carboniferous) and phases of active subduction accompanied by arc magmatism (Early Ordovician, and Late Carboniferous-Permian).

The inferred Late Cambrian margin in the Argentinian Cordillera Oriental is marked by an at least 1000 m thick succession of quartz arenites intercalated by shales (Mesón Group). It was deposited under shallow marine, partly tidal conditions on a west-facing platform. There is no magmatic activity of similar age recorded. The tectonic setting of this siliciclastic platform is unclear but the depositional patterns, slow subsidence rates, the absence of magmatism and the lack of a western margin make a passive margin regime very likely. During the Tremadoc to Early Llanvirn, the Mesón