probably already at amphibolite facies conditions by Late Devonian times. In contrast, Lower Carboniferous ages are common from within the acid granulite/peridotite units. Temperatures were high for a significant proportion of the uplift history of these rocks and it may be that the ages are not those of the high pressure metamorphism. This aspect of BohemianMassif geology is currently actively under investigation and we may be in for a few surprises if the remarkably young ages derived for Alpine high pressure rocks are anything to go by.

TOPAZ BEARING QUARTZITES AT THE CONTACT WITH GRANITOID ORTHOGNEISSES NEAR ZDOBNICE IN THE ORLICKÉ HORY (LUGICUM, BOHEMIAN MASSIF)

M. OPLETAL[1] - A. SOKOL[2]

[1] *Czech Geol. Survey, Klárov 3, 11821 Praha 1, Czech Republic*

[2] *Loretánské nám. 2, 11800 Praha 1, Czech Republic*

Variscan tin mineralization is very well documented from the Saxothuringian zone - in the Krušné hory. However, cassiterite, scheelite and topaz mineralization of pre-Variscan age is also reported in crystalline rocks of the Lugicum (Michniewicz, et al. 1991). These mineralization follows contacts between orthogeniss and country rocks and is considered to be Caledonian (Borkowska et al. 1990) or more precisely early Caledonian as deduced from the $^{207}Pb/^{206}Pb$ age of 507±10 Ma - 503±4 Ma (Kröner, Jaeckel and Opletal - this volume).

Topaz-bearing quartzites were recently discovered by field geochemical prospection near Zdobnice in the Orlické hory at the top of mountain crest (910 m). Granitoid orthogneiss is in a overturned position above quartzites and mica schists.

Muscovite quartzite is fine grained, distinctly foliated with lepidogranoblastic texture. Hypidiomorphic topaz 0.X—2.6 mm in size was affected by two tectonometamorphic phases recorded by two cleavage systems and recrystallization. Crystals of topaz were coroded by quartz (silicification effect), partly replaced by muscovite during the first phase and crushed during the second one.

The dated granitoid orthogneiss with lepidogranoblastic texture represents metamorphosed granite contact metamorphic effect of which can still be seen in country micaschist and marbles (sulphide - scheelite - cassiterite contact mineralization).

With a view of these fact the discovery of primary topaz in muscovite quartzite at the contact with granitoid orthogneiss proofs the existence of the end of early Caledonian (or terminal Cadomian) magmatic event cca 500 Ma old and contact pneumatolitic metallogenic activity in the eastern part of Lugicum.

SILURIAN (WENLOCKIAN) SPOROMORPH IN SOUTH BOHEMIAN MOLDANUBICUM

B. PACLTOVÁ

Department of Paleontology, Charles University, 128 43 Praha 2, Albertov 6, Czech Republic

In strongly metamorphosed graphitic limestones from the locality "U vápenky" quarry at the southern periphery of Český Krumlov, further well definable Cryptospores, sculptured miospores together with nethromorphic acritarchs (*Deunffia, Domasia sp. div., Veryhachium sp., Leiofusa sp. div.) Leiosphaeridium sp. div., Tasmanites, Glaeocapsomorpha prisca,* organic-walled tubes and cuticles were discovered.

According to Burgess and Richardson (1991) the appearance of sculpture on hilate cryptospores and trilete miospores is an event of biostratigraphical, biological and evolutionary significance, which is useful for interregional stratigraphical correlation. The sculptured sporomorphs appeared first in the late Wenlockian Cyrtograptus lungreni Biozone of the type area in Shropshire. This assemblage characterized inshore facies. According to Dr. P.Dufka (personal communication), some of the sporomorphs stated above (e.g. trilete miospore Type 1, Burgess & Richardson) have been newly described from the Wenlockian of the Barrandian area (Dufka in press).

Reference
Burgess N.D., Richardson J.B. (1991): Silurian Cryptospores and Miospores from the type Wenlock Area, Shropshire, England, Paleontology, 34, 3, 601 - 628

EARLY PALEOZOIC EVOLUTION OF THE BARRANDIAN TERRANE BOHEMIAN MASSIF, CZECH REPUBLIC: PALEOTECTONIC IMPLICATIONS OF SEDIMENTARY, FOSSIL AND VOLCANIC RECORD

F. PATOČKA[1], A. GALLE[1], M. VAVRDOVÁ[1] & P. VLAŠÍMSKÝ[2]

[1] *Geological Institute, Czech Academy of Sciences, Rozvojová 135, 16500 Praha 6, Czech Republic*

2 Czech Geological Survey, Klárov 3, 11821 Praha 1, Czech Republic

A tentative reconstruction of the Early Paleozoic development of the Barrandian is based upon its sedimentary and fossil record, the geochemistry of volcanic rocks, and a limited amount of reliable paleomagnetic data.

The Barrandian Early Paleozoic sequences form a part of the Barrandian Terrane, comprising the Upper Proterozoic and Lower Paleozoic of the entire Teplá–Barrandian–Železné hory Mts. region together with the substratum of the Bohemian Cretaceous Basin, and contact–metamorphosed relics ("Islet Zone") of the Central Bohemian Pluton mantle. The Barrandian Terrane is considered to be one of the numerous peri–Gondwanide terranes which were rifted off the northern margin of Gondwana during the Late Cambrian and Ordovician and translated from higher southern latitudes towards the Equator, and finally accreted stepwise to Baltica (Laurussia) during the Silurian, Devonian and Carboniferous.

The Early Cambrian Barrandian volcanics, displaying geochemical features of both active plate–margin and of within–plate igneous rocks from regions of attenuated continental lithosphere, were probably emplaced during the Cambrian collapse of the Cadomian orogene which introduced the Early Paleozoic large–scale break–up of the northern Gondwana margin. A close affinity of Barrandian to Gondwana during the Cambrian is indicated both by the Early Cambrian continental clastics, which were deposited under a semiarid to arid and possibly cold environment, by the Middle Cambrian marine clastics containing a Gondwana fauna and by the paleomagnetic data indicating a Mid–Cambrian paleolatitute of about 40° S.

Separation of the Barrandian Terrane from the Gondwana during the Late Cambrian was ushered in by numerous intrusions of diabases of transitional to alkaline MORB composition; these large swarms of diabase dykes - cross–cutting the Middle Cambrian - are truncated by the Cambrian/Ordovician disconformity. Counter–clockwise rotation by ca. 90° accompanied the northward translation of the Barrandian Terrane to paleolatitude af ca. 28°, that was achieved in Tremadoc. This motion of the Barrandian Terrane was accompanied by subduction of oceanic lithosphere beneath it, giving rise to a rather intensive subaerial, mostly intermediate to acídic calc–alkaline volcanism in the NW part of the Barrandian basin, that is dated at 501±5 Ma; contemporaneous deformations, causing the development of a disconformity between the Middle Cambrian and Ordovician strata, are equivalent to the Sardic Orogeny.

The Cambrian/Ordovician boundary is marked by an inversion of the Barrandian relief. The area of Cambrian sedimentary basin occupying the SE limb of the Barrandian was uplifted whereas the Prague Basin began to subside during the Early Ordovician along the axis of the Barrandian Terrane. Since Ordovician times the Barrandian volcanism is purely of a within–plate nature until its terminating during the Middle Devonian. As within–plate volcanism it generally accompanies crustal extension, tectonic setting of the Barrandian during this time span was probably similar to that of modern extensional basins. The magmatic evolutionary sequence, ranging from Ordovician exclusively alkaline volcanic activity to the Silurian alkaline, transitional and tholeiitic rock types, suggests that extension culminated in the Silurian, during which the Prague Basin reached a maximum width.

Widening of the Prague Basin, the axial parts of which are preserved in the Barrandian Synclinorium, was coupled with a decrease of clastic influx from the source regions, as evident by the open marine nature of Silurian and Early Devonian sediments.

The gradual disappearance of paleoclimatic differentiation and cosmopolitan nature shown by the Prague Basin fossil communities at the end of Ordovician can be ascribed to the drift of the peri–