

Stöckhert, B. – Maresch, W.V. – Toetz, A. – Kluge, R. – Krückhans, G. – Kaiser, C. – Aguilar, V. – Klier, T. – Laupenmühlen, S. – Piepenbreier, D. – Wiethe, L. (1993): Zentralblatt für Geologie und Paläontologie, in press.  
 Ross, M.I. – Scotese C.R. (1988): *Tectonophysics*, 155, 139–168.

## BASIC VOLCANICS IN CENTRAL EUROPEAN VARISCAN BASINS – AN APPROACH TOWARDS A MODIFIED GEOTECTONIC INTERPRETATION

U. KNITTEL<sup>1</sup>, A.P. WILLNER<sup>2</sup> – A. KROHE<sup>3</sup>

<sup>1</sup> *Institut für Mineralogie, Willnerstr.2, 52062 Aachen, Germany*

<sup>2</sup> *Institut für Mineralogie, Ruhr-Universität, D-44790 Bochum, Germany*

<sup>3</sup> *Institut für Mineralogie, Corrensstr.24, D-48149 Münster, Germany*

During Devonian and Carboniferous the Rhenohercynian and Saxothuringian basins as well as many others within the European Variscides are characterized by bimodal submarine volcanism. The setting is clearly characterized as thinned continental crust. Usually rifting or back arc spreading is assumed as the major cause. On the other hand, the Rhenohercynian realm is considered to be a passive continental margin bordering a small oceanic basin to the south, which itself was obliquely subducted towards further south, mainly during Lower Carboniferous.

The most important chemical pattern of the basic rocks will be reviewed to derive some principal processes of magma genesis. The basic rocks were often classified as continental basalts. Yet typically, characterisation of these rocks with commonly used discrimination diagrams fail as most continental basalts do (Wang & Glover 1992). Nevertheless, many basic rocks show strong similarity to E-MOR-basalts (e.g. Schmincke & Sunkel 1987) which occur in present oceanic crust near plume areas often associated with transform faults (e.g. LeRoex et al. 1983). Such magma pathways may cut into continental margins with a small angle, if the spreading axis is at a high angle to the continental margin. Hence concomitant opening of small oceanic basins characterized by strike slip transform motion and a strongly dissected ridge very similar to the present Gulf of California (Saunders et al. 1979) is assumed during Devonian and Carboniferous evolution of the Rhenohercynian and Saxothuringian basins.

### References

- LeRoex, A.P. – Dick, H.J.B. – Erlank, A.J. – Reid, A.M. – Frey, F.A. – Hart, S.R. (1983): *J.Petrol.*, 24, 267–318.  
 Saunders, A.D. – Fornari, D.J. – Joron, J.L. – Tarney, J. – Treuil, M. (1979): *Initial Report DSDP*, 64, 595–642.  
 Schmincke, H.U. – Sunkel, G. (1987): *Geol. Rdschau*, 76, 709–734.  
 Wang, P. – Glover, I. (1992): *Earth-Science Reviews*, 33, 111–131.

## INDICATION OF LOWER CRUSTAL ORIGIN FOR THE WEINSBERG GRANITE (SOUTH BOHEMIAN PLUTON, AUSTRIA)

F. KOLLER<sup>1</sup>, U. KLÖTZLI<sup>2</sup> & V. HÖCK<sup>3</sup>

<sup>1</sup> *Institute of Petrology, University of Vienna, Dr. Karl Luegering 1, A-1010 Vienna, Austria*

<sup>2</sup> *Laboratory of Geochronology, BVFA Arsenal, Franz Grill Str. 9, A-1030 Vienna, Austria*

<sup>3</sup> *Institute of Geology and Paleontology, University of Salzburg, Hellbrunnerstraße 34, A-5020 Salzburg, Austria*

The intrusives of the composite South Bohemian Pluton cover a large area in the western part of the Bohemian massif in Austria. They consist mainly of different types of granites with only subordinate basic and intermediate rocks such as gabbros and diorites. The coarse grained Weinsberg granite is the most widespread in this area, forming smaller bodies close to the Bavarian border containing dark patches of a quartz monzodiorite.

It consists of two assemblages which are not in mutual equilibrium. The younger one crystallized from a biotite–granite melt with dark colored orthoclase, plagioclase (An~30), quartz, and biotite. Both feldspars show clear magmatic textures and zoning. The older one is formed by a granulitic assemblage of plag(An~50)–opx–cpx with a metamorphic texture. The XMg value range for the cpx from 0.50–0.54 and for the opx from 0.35–0.42. Both pyroxenes are homogenous and are partly re-