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

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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 set-
ing is clearly characterized as thinned continental crust. Usually rifting or back arc spreading is as-
sumed 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 conti-
nental margin. Hence comcomitant opening of small oceanic basins characterized by strike slip trans-
form 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

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

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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-