

blocks, turbidites with pelagic interlayers, felsic volcanic rocks such as rhyolites, rhyodacites, quartz porphyrites and pyroclastites, dome-shaped trachytic/tracyndesitic intrusions and basic lava-flows. This unit is paraconformably overlain by Eldes formation of Early Upper Permian age, composed of quartzites and shallow marine limestones.

The Halici Group is suggested to be deposited in a back-arc basin, whose rifting was reflected by the diabase dykes intruding Bozdag platform carbonates. The main arc was situated further to the north, represented by the calcalkaline Carboniferous granitoides within the Sakarya Unit. The formation of the arc and back-arc systems were related to the southwards subduction of the Hercynian oceanic crust; The closure of the system was accompanied by polyphase deformation, imbrication and low-grade metamorphism in the region.

Scythian continental clastics unconformably overlying the consolidated Hercynian basement reflect the Alpine rifting. Deposition of Anisian-Lower Cretaceous open-restricted shelf carbonates along KBB is interpreted as the stabilisation of the northwards facing Turide-Anatolide Platform.

## **THE SOUTH EUROPEAN VARISCAN SUTURE ZONE AND ITS POSSIBLE SOUTHERN CONTINUATION**

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The notion for the South European Variscan suture zone has been based on the presence of large ophiolite blocks, obducted over ancient cores in the European Variscides. These blocks are represented by the bodies of the Balkan-Carpathian Precambrian ophiolite Association, the massifs Kraubath, Hochgrossen, Chamrousse and others.

The recent investigations in the southernmost segment of the suture, along Struma river, established new and interesting features in its structure. Two ophiolitic blocks formed by the Unit of the Sheeted dyke were discovered there, with size of 50 and 25 km<sup>2</sup>. They are tectonically imbricated with the Struma diorite Formation (SDF).

SDF is a metamorphosed igneous, mainly intrusive, complex. It's structure, composition and geochemical properties indicate that it was formed in conditions of ensimatic island arc. It's igneous rocks intersect the ophiolites in some localities.

The predominance of intrusive rocks and the presence of dioritisation processes testify that SDF has been formed in the roots of an island arc. The analogous age of SDF (560-660 Ma) to the Balkan-Carpathian island-arc Association, tectonically imbricated with the mentioned Precambrian ophiolites, and other considerations, indicate it

has been formed in the same island arc. This clarifies also the mechanism of obduction of the ophiolite-island arc assemblage.

Directly over SDF with the ibricated ophiolites are thrustured over the migmatites of the Thracian massif, a microcontinent probably of peri-Gondvanaland origin.

The South European Variscan suture and the connected with it abundant collisional igneous assemblage end up abruptly on the N shore of Mediterranean sea. The disposition of Precambrian ophiolites and island-arc associations along the suture zones of NE and E Africa directly south of the Mediterranean sea is impressive (Berhe, 1990). There exist data: comparable age of the island-arc associations and the internal structure of the zones which indicate possible connection between the investigated suture and the ones from the Mozambique belt.

#### REFERENCES

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### METAMORPHIC EVOLUTION OF THE WESTERN CARPATHIANS PRE-ALPINE BASEMENT

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Variscan metamorphosed (pra-Permian) complexes crop out in the Western Carpathians Tatric, Veponic and Gemeric units (Fig.).

In the Tatric unit two pre-Alpine metamorphic events are distinguished. They are defined on the basis of petrological (composition of the rock-forming minerals, geothermometry, geobarometry), lithological and geochronological data.

The older metamorphic event is documented by the presence of rock relicts originally metamorphosed under the granulite/eklogite facies conditions. They are present in the most widespread metamorphic types which are a product of younger (Variscan) metamorphic recrystallization. The metamorphic processes took part under the amphibolite facies conditions.

In the Veponic unit one pre-Alpine metamorphic event is defined. Amphibolite facies conditions are characteristic for it.

In the Gemeric unit Caledonian tectono-thermal event is expressed by (mostly) acid volcanic activity. Variscan metamorphic recrystallization underwent under the greenschist facies conditions. In the northern rim of the unit a sedimentary-volcanic sequence metamorphosed under the amphibolite facies conditions occurs.