

METAMORPHIC ZONATION IN NORTHERN GREECE, AND ITS BEARING ON THE EOHellenic OBDUCTION ISSUE

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The ophiolites of Northern Greece are generally ascribed to a late Vardar ocean, sutured during the Late Jurassic-Early Cretaceous Eohellenic phase. This interpretation is not supported by the broad metamorphic zonation of N-Greece. The most recent works result in a strong NE-SW polarity, going from the inner Rhodope to the External Hellenides. It is characterised by a decreasing age and grade of the HP-LT metamorphic events, from Eohellenic eclogites in the Rhodope nappes to Hellenic blueschist facies in the Pelagonian, thrust over the lower grade, Eocene flysch. In a typical subduction-obduction-collision belt such as the Alps, the suture zone runs within the innermost, Eoalpine eclogitic domain. In the obduction belt of the Oman mountains, which can represent a stage of the Eohellenic evolution, the oceanic homeland of the ophiolite is located on the inner side of the higher grade HP-LT rocks (eclogites), developed in the deformed continental margin. We suggest that, on the Hellenic transect, the Tethyan suture has to be found to the NE of the Rhodope massif, not in the Vardar zone.

OBSERVATIONS ON THE MESOZOIC FORMATIONS OF VRINAINA-KOFI AREA IN THE OTHRYS MOUNTAIN (GREECE)

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The area of Vrinaina-Kofi is located South of Almyros in the Northeastern part of the Othrys mountain (Department of Magnesia). The geological structure is mainly formed by Mesozoic formations which they belong to the geotectonical zone of Eastern Greece or Subpelagonian. Those formations are intensively tectonised with folds, thrusts and more recent normal faults which are the result of extensional tectonics.

We can distinguish the following formations:

— Triassic crystalline limestones and crystalline dolomites which towards their top they become medium platy crystalline limestones. At the Aghios Athanassios location, 100 m above the road to Vrinaina and in the base of the medium platy crystalline limestones we found fossils of big *Megalodon*.

— Clastic formations which can be distinguished in two members: a) The lower

member is composed of few pelites, sandstones and polymict breccia and conglomerates. The clasts are limestones, radiolarites, sandstones, basaltic lavas and serpentinites. Those clastics have lateral relations with masses of basaltic lavas (mainly pillow), radiolarites, red pelites, various types of Triassic-Jurassic limestones and ultramafic rocks s. b) The upper member consists of pelites, sandstones, calcareous sandstones, microbreccia with oriented clasts and intercalation of limestones which towards the top they become more frequent and thicker containing Rydites. The whole presents flysch characteristics.

— Upper Cretaceous platy limestones with intercalations of monomict, epiclastic breccias. Those limestones are the normal evolution towards the top of the clastic formations. Frequently they contain black silax.

— Flysch of sandy-pelitic facies which overlies the Upper Cretaceous limestones.

In the Tsingenorrema and 80-100 m below the base of the flysch we found *Globotruncanita gr. stuarti-stuartiformis* and *Omphalocyclus macroporus* (Lamarck) which are characteristic of the Maestrichtian. From this we conclude that the deposition of the flysch started, possibly, at the Paleocene or at least at the end of the Maestrichtian.

The study of the internal structure of the clastic and their overlying formations showed that the sedimentation was continuous taking place in an agitated environment which was deepening to SW.

PETROLOGY OF THE AMPHIBOLITES FROM THE AREA BETWEEN TULARE AND LEBANE

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Amphibolites occur regularly in association of rocks of the lower complex of Serbo-Macedonian Mass. They are mainly composed from hornblende and plagioclase, while garnets, coisite and epidote are rare. According to chemism these rocks belong to within plate basalt. On the basis of the metamorphic pair investigated amphibolites were metamorphosed at temperature between 590-640°C and pressure from 4-9 kB.