JURASSIC PALEOFAULTS IN THE IONIAN ZONE (EPIRUS)

V. Karakitsios

Department of Historical Geology-Paleontology, University of Athens, Panepistimiopolis, 15784 Athens, Greece

The synsedimentary faults observed in the Jurassic formations of the Ionian zone are normal faults active during Toarcian-Middle Bajocian and most probable Early Toarcian.

These paleofaults are associated with the internal separation of the Ionian basin into smaller paleogeographic units. This separation followed the Ionian zone individualization, from the adjacent Paxos and Gavrovo zones, which occured during Carixian stage (age of the first sediments with facies showing the deepening of the Ionian area).

These paleofaults having remained intact by either the Oligocene orogenetic compressional phase or the post-orogenetic neotectonics, show that the direction of the paleodistension which created them, is different of the corresponding post-orogenetic distension.

STRUCTURAL EVOLUTION AND METAMORPHISM OF BLUESCHISTS, AMBELAKIA NAPPE, EASTERN THESSALY, GREECE

A. Kilias*, W. Frisch, L. Ratschbacher**, A. Sfeikos****

*Department of Geology, University of Thessaloniki 54006 Thessaloniki, Greece
**Institute of Geology, University of Tübingen, D-7400 Tübingen, F.R. Germany

The Ambelakia nappe forms a volcanosedimentary blueschist sequence of probably Mesozoic age beneath the Pelagonian nappe system. It frames the Olympos and Ossa windows, north central Greece. The rocks of the Ambelakia nappe experienced polyphase metamorphism and deformation. The first metamorphic event (crystallization Kr_1) is due to subduction and crustal stacking in an accertionary wedge and dates in the Early Cretaceous. It wes of the high-pressure type and reached temperatures between 300 and 350°C and pressures up to about 7-10 Kb. The accompanying deformation (D_1) displays a top to SE displacement.

The second metamorphic avent (crystallization Kr_2) in the Middle Eocene was again of the high-pressure type with temperatures up to 400°C and pressures up to about 7-9 Kb. The emplacement of the Ambelakia nappe and the Pelagonian nappe system over the Mesozoic-Paleocene sequence of the Rizomata, Olympos, Ossa and Kranea windows was achieved during this event (D_2 deformation). D_2 displacement was top to SW. D_2 is characterized by isoclinal folds and sheath folds. Fold axes are largely parallel to the stretching lineation.

On the decompressional path of the second metamorphism the rocks experienced extension in NE-SW direction (D_{2e}) in the Late Eocene and Oligocene. D_{2e} was coevel to low- to very low-grade metamoprhic transformations (Kr_{2e}). Temperatures and pressures are estimated in the range of little more than 400° to 300°C and 6-7 to 3 Kb. Finite strain is mainly of the flattening type.

Brittle-ductile compressional deformation (D_3) took place in the Late Oligocene to Early Miocene. Conjugate kink folds and brittle shear zones, open folds, and a spaced foliation formed.

HP/LT METAMORPHIC CONDITIONS AND DEFORMATION IN THE TECTONIC WINDOW OF KRANEA (W. THESSALY, NORTHERN/CENTRAL GREECE)

A. Kilias*, H. Fasoulas*, M. Priniotakis*, A. Sfeikos, W. Frisch****

*Aristotle University of Thessaloniki. Department of Geology
54006 – Thessaloniki, Greece
**Institut für Geologie und Paläontologie. Universität Tübingen. Sigwartstrasse 10.
7400 – Tübingen, W. Deutschland

At the central part of the Kamvounia mountain chain located in W. Thessaly, the carbonate «Unit of Kranea» reveals in the form of a tectonic window.

The Pelagonian nappe is found to be overlain on the carbonate sendiments. The nappe consists of a Paleozoic polymetamorphic gneiss-schist basement with a lot of granitic intrusions, a Permo-Triassic volcanosendimentary sequence, and a Triassic-Jurassic carbonate cover.

Ophiolitic bodies are interposed between the Pelagonian nappe and the autochthonous to parautocthonous carbonate «Unit of Kranea».

HP/LT-metamorphism (P = 8-12 Kb, T = 300° – 450°C) characterize the lower, pre-HP/LT also metamorphosed, parts of the Pelagonian nappe, nearby their contact with the underlain «Unit of Kranea».

Greenschist metamorphic facies ($P \leq 6$-7 Kb and T = 400° – 480°C) replaces the HP/LT metamorphism, at the parts of the Pelagonian nappa that are far off their tectonic contact with the Unit of Kranea.

Both metamorphic events are accosiated with the same rotational deformation and the sense of shear, top to SW.

During middle to upper Eocene and as the D-1 deformation was developing a «nappe tectonic» took place on the carbonate sendiments of the foreland. This formation represents today the Unit of Kranea. Constrictional-type deformation characterize the evolutionary stages of the D_1-event.

During the end of Eocene-early Oligocene a further D_{Se}-streching of the orogeny, with the main movement towards SW, follows. Localy this streching took place in coaxial deformation conditions or even more with a NE movement. Simultaneously another metamorphic