



## **Some insights for the Triassic to Early Cretaceous evolution of the southern margin of the East European Platform along the Northern Dobrogea (Romania)- Crimea (Ukraine) – Greater Caucasus (Russia) deformed corridor.**

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We aim at correlating / comparing the Triassic to Early Cretaceous evolution of three segments of the deformed southern margin of the East European Platform: Northern Dobrogea (Romania)- Crimea (Ukraine) – Greater Caucasus (Russia). If they have been linked all together in the past and also with the Pontides (northern of Turkey) this orogenic belt has been totally disrupted during the opening of the mid-Cretaceous to Tertiary (?) opening of the Black Sea basins. Mainly based on field data acquired during the last three years, we have for each of the three fragments compiled a magmato-tectono-sedimentological scheme of their evolution through the early Mesozoic. Comparison of such allowed to link Crimea and Dobrogea with more certainties than with Greater Caucasus. In Permo-Triassic times the three areas have undergone (trans-?) tensional tectonics with rift basin development. On the northern Greater Caucasus, the Eo-Cimmerian (latest Triassic) tectonic inversion is well recorded and could be related to the accretion of Iran micro-plate to the margin of Eurasia. In Crimea-Dobrogea, the same compressional event is not so well evidenced and the geological records (slight unconformity between Triassic and Jurassic and very local one as it disappears at some places) can also be due to the post-rift evolution of the basin in Northern Dobrogea and even to a new rifting episode in Crimea with horst and graben –like develop-

ment and extrusion of magma. In Dobrogea the Neo-Cimmerian (prior to Early Cretaceous) tectonic inversion of the basin. In Crimea, such event surely occurred prior to the Hauterivian (during Lower Cretaceous if the Upper Jurassic-Berriasian masses of carbonate platform are on allochthonous position above the oldest deformed rocks or end of Middle Jurassic if they are not, just sealing the oldest deformed rocks). In the Greater Caucasus, a new rifting event going to a highly thinned continental crust with the extrusion of tholeiitic MORB occurred during the Early Jurassic. Middle Jurassic as well could have been rift-related time. The unconformity between Middle Jurassic and Late Jurassic is reported to be due to compression affecting the northern margin of the basin whereas sedimentation has been continuous in the deepest part of the basin. We argue that such architecture of the strata could have been due to the post-rift subsidence of the basin as well. The inversion of the Greater Caucasus deep basin occurred in Tertiary from late Eocene to present-day. Our view of the evolution of the southern margin of the East European Platform from Dobrogea to Crimea and Greater Caucasus joins some previous reported models of its evolution, i.e. the Dobrogea and Crimea are mostly Cimmerian-related geological objects whereas the Greater Caucasus is mainly an Alpine-related belt. Also, we propose to link the tectonic evolution of the studied regions to the regional geodynamic setting of the southern margin of the East European Platform as an active convergent margin.