



Evidence of late Triassic-early Jurassic block tilting along E-W faults in southern Tunisia

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In southern Tunisia the Jeffara plain exposes structures belonging to the southwestern-most margin of the East Mediterranean Basin. Among these structures, the Tebaga of Medenine is a puzzling structure situated at the northern edge of the Dahar plateau, a wide monocline flanking the Jeffara plain. It presents the unique outcropping marine Permian sequence in Africa as well as spectacular angular unconformities related to Mesozoic tectono-sedimentary events. Many hypotheses have been proposed to explain this structure including an interpretation as the limb of a wide faulted anticline developed during the early Mesozoic.

We will present the result of an integrated study of the Mesozoic tectonic evolution of the Jeffara, based on new field work and a reassessment of available subsurface data. In our structural hypothesis, the Tebaga of Medenine is interpreted as a rotated panel resulting from large scale block tilting, controlled by E-W faults, among which the Azizia Fault played a major role. These E-W faults running along the Jeffara plain may represent inherited structural features in relation with deep faulting in the Paleozoic substratum. Syn-tectonic normal faulting led to the progressive unconformity of the Upper Triassic to Dogger rocks onto the southern flank of the Tebaga of Medenine. The Middle Jurassic deposits present rather the geometry a sag basin resulting from thermal subsidence post-dating the main extensional episode. However, the geometry of the Middle Jurassic along the northern side of the Tebaga shows that extensional deformation continued at that time at least along secondary faults as the one fringing the Tebaga to the north.

In summary, we interpret the Tebaga of Medenine as the head of a large tilted block controlled by E-W faults. The sedimentation history suggests that the extension in Southern Tunisia was a continuous process from the Late Triassic to the Middle Jurassic. Finally, we will integrate these new data in the general frame of the East Mediterranean.