



## **The Ventós-Maigmo Strike-Slip Fault Zone (Alicante province, SE Spain): evidences of Miocene tectonic control on sedimentation**

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The Alicante region (SE Spain) belonging to the South-Iberian Margin (External Betic Zone) today shows several strike-slip faults, belonging to the N70E-oriented Cadiz-Alicante Fault, Vinalopó Fault System (N155E), and Socovos Fault System (N120E). Usually the fault zones are characterized by the outcropping of Triassic clays with gypsum and also by Neogene rocks. The blocks bounded by the faults are composed mainly by folded Cretaceous to Miocene marly and calcareous successions, affected by E-W folds. These faulting and folding systems appear to be related to transpressive conditions under a compressive regional setting.

Mapping, lithostratigraphic, biostratigraphic and structural detailed analyses have been performed north-west of the city of Alicante, between the localities of Agost and Jijona along the “Ventós-Maigmo Strike-Slip Fault Zone”. This dextral fault zone is bordered by the “Agost Fault Zone” to the west and by the “Jijona Fault Zone” to the east (both oriented nearly N155E). This fault zone, trending about N90E, shows a dextral displacement and is responsible for a narrow sedimentary Miocene basin: the “Xirau Trough”. This basin at present shows Triassic diapiric elongated bodies, and Cretaceous to Miocene sigmoidal-shaped outcrops. The rising blocks bounding the basin are usually made up of Cretaceous rocks with wedge-shaped bodies differing in thickness. This fact gives rise to the proposal that the master faults bordering the Ventós-Maigmo Zone are Mesozoic faults that were reactivated during the Neogene.

The turbiditic deposits and olistostromes with Triassic rocks in the Miocene infilling of the Xirau Trough, indicate a syntectonic sedimentation during fault reactivation. Moreover, in the Miocene sedimentary succession, several pieces of evidence of tectonic control have been detected: progressive unconformities, fan devices, growing

folds, faults sealed by conglomeratic channels, etc. The detailed structural analysis of the Ventós-Maigmo Strike-Slip Fault Zone and the study of the infilling of the Xirau Trough have lead to precise the geodynamic evolution and the timing of deformation of the area during the Miocene.