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Tectonometamorphic evolution of the westernmost segment of the Alpine Perimediterranean Chains. Evidences from the Sierra de Gador (Betic Internal Zone, Spain)

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The Betic Chain, the western end of the Alpine peri-Mediterranean Chains is the consequence of the collision of two continental blocks: the Iberian Plate (the deformed continental margin of which constitutes the Betic External Zones) and a fragment of the Mesomediterranean Microcontinent (presently forming most of the so-called Betic Internal Zone, BIZ). Our study focuses on the Sierra de Gador, a metamorphic segment of the Betic Internal Zone.

The BIZ is composed of three nappe complexes, from bottom to top: Nevado-Filabride, Alpujarride, and Malaguide. In the Sierra de Gador, only the upper two crop out. We have distinguished five tectonic units, Gador-Turon, Laujar, Murtas, and Felix (Alpujarride) and the Malaguide Chiran unit. These terrains have been affected by a polyphase tectono-metarmorphic evolution. The first recognised tectonic stage is a HP/LT event evidenced by the presence of Mg-carpholite in early quartz veins and by relict S_1 foliation. The second stage is responsible for the main foliation observed at the regional scale, this stage is related to an isothermal decompression as a conse-

quence of a crustal thinning. The third stage, representing the transition between the ductile and brittle conditions, produces kilometric north-vergent folds and the superposition of the already metamorphosed terrains in tectonic units as seen nowadays. A post-metamorphic Miocene extension takes place, thinning the already structured nappe pile. Finally, during the middle Miocene the oblique collision with the External Zones produces dextral strike-slip faults in the northern part of the Sierra de Gador.