

## The Moura Phyllonitic Complex: An Accretionary Complex related with obduction in the Southern Iberia Variscan Suture

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### Abstract

The structure of the southernmost domain of the Ossa Morena Zone in Portugal (south sector of the Iberian Autochthonous Terrane) is strongly controlled by earlier deformation events. The first two deformation events correspond to tangential strain regimes, marked by sub-horizontal milonitic foliations. These events seem to be directly related with the obduction/subduction process during the Variscan ocean closure and the emplacement of the Beja-Acebuches Oceanic Terrane. In this domain (Évora-Beja Domain), the upper tectono-stratigraphic unit (Moura Phyllonitic Complex) is mainly represented by phyllites and corresponds to a strongly imbricated complex, involving several layers of autochthonous sequence (mainly rocks of a volcano-sedimentary complex), but it also includes dismembered and scattered slices of ophiolites. The widespread greenschists facies overprint an earlier high-pressure metamorphic event (blueschists in the central sector of Évora-Beja Domain and eclogites in the western sector). With regard to its geochemical signature, the Moura Phyllonitic Complex includes amphibolites ranging from N-MORB to T/P-MORB (ophiolitic slices) and mafic alkaline and peralkaline metavolcanics (autochthonous slices). At macroscopic scale, the autochthonous sequence of the Évora-Beja Domain is almost complete in the eastern region, with a stratigraphic sequence ranging from Precambrian to Silurian/Lower Devonian. Towards WSW, the Moura Phyllonitic Complex progressively become tectonically discordant on the sequence below, just near the suture, where it superposes Precambrian levels.

The overall evidences (tectonic, metamorphic and geochemical) allow the conclusion that the Moura Phyllonitic Complex is an accretionary complex related with the obduction process during earlier times of the variscan ocean closure.

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