The Porto–Albergaria-a-Velha–Águeda strike-slip zone (NW Portugal): a stratigraphic and morphotectonic outline

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The overall aim of this research is to assess the role of the regional geological and morphotectonical mapping on the tectonostratigraphic framework in Albergaria-a-Velha––Águeda region (NW Portugal). The Porto–Albergaria-a--Velha–Tomar strike-slip zone is an almost linear narrow zone of NNW trend from Porto to Tomar in the crystalline polymetamorphosed belt of the Iberian Variscides (Pereira, 1998; Chaminé *et al.*, 2003a; Ribeiro *et al.*, 2003). It ranges from 1 to 5 km wide and contains a very characteristic and ubiquitous tectonostratigraphy (Chaminé *et al.*, 2003a,b). This shear zone is located in the Western Iberian Line, which delineates a major tectonic corridor extending for more than 520 km, from Tomar (Portugal) to Finisterre (Galicia, Spain). Upper Palaeozoic (Late Devonian to Early Carboniferous) brittle deformed metasedimentary sequences in the northern-most region (Porto–Albergaria-a-Velha metamorphic belt, Chaminé *et al.*, 2003b) of the Ossa-Morena Zone contain black shales of very low to low-grade metamorphism (Chaminé *et al.*, 2003b). These metapelitic imbrications form a discrete NNW-trending structure within the Porto–Tomar shear zone, which remain subparallel to the observed major regional structures. Along the major imbricated accidents these discrete wrench basins presenting a sigmoidal shape, are overhanged and then imbricated in an Upper Proterozoic metamorphic substratum. The metapelitic basement is covered largely by post-Triassic sediments (Araújo *et al.*, 2003). The topographic configuration of Albergaria-a-Velha–Águeda region consists of a littoral platform characterised by a very regular planation surface gently dipping to the West, culminating around 180m, and East bounded by a series of elevated hill ranges (300m on the top). The flatness of this surface is interrupted by a meridian *graben* of plane top hills morphology down-lifted 20m to 40m in relation to the adjacent littoral platform. These hills are separated by deeply incised river valleys under regional tectonic control, particularly from the Porto–Tomar shear zone (*s.str.*). Two major fault branches, the S. João-de--Ver thrust sheet and the Porto–Albergaria-a-Velha–Tomar shear system, dominate the Albergaria-a-Velha sector, in a NNW-ESE direction (Chaminé *et al.*, 2003a). In the latter fault system a dextral strike-slip faulting is associated with transpressive kinematics triggered by the post-orogenic collapse of the structure along the ancient Porto–Coimbra––Tomar thrust planes. These processes generated a multitude of discrete ENE-WSW to NE-SW regional fault systems.

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