

Last Interglacial marine platforms in NW Portugal: some evidence of neotectonics

Maria da Assunção Araújo
Geography Department
Arts and Humanities Faculty (Fac. Letras)
Via Panorâmica s/n
4150 PORTO
PORTUGAL

Tel/Fax: +351 2 6077194
e-mail: ass.geo.porto@mail.telepac.pt

Littoral platform, for Portuguese geomorphologists, is a planed area, bordering the coastline. It begins at altitudes of 120 or lower and it is generally covered by deposits. It is separated from the inland by a step relief, which seems to be an neotectonic accident resulting from the reactivating of Porto-Tomar fault (a major fault that limits two main structural zones in Iberian massif). At the deposits of littoral platform from Porto region, we found evidences of tectonic movements: mainly inverse faults affecting deposits probably from Villafranquian times.

The lower deposits of the littoral platform have a marine origin. We consider the existence of 3 marine levels. They appear to be deformed, as they occur at higher altitudes in the North of the studied area, and at lower ones in the South. However, the apparent tilting from north to south doesn't seem to have a regular pattern. There are ups and downs: so, there must be some fragile movements too, cutting the littoral platform into a puzzle of small blocks, controlled by different fracture sets: some approximately parallel to the coastline (NNW-SSE) and others oblique to it (ENE-WSW or NNE-SSW).

The later marine deposits, probably from the last interglacial, are rather well preserved, so it is possible to detect that they appear at rather different altitudes, sometimes in very short distances. The existence of sharp rectilinear cliffs bordering raised erosion platforms also points out to a deformation of last interglacial platforms.

The interaction between neotectonics, sea level variation and rock structure and lithology can lead to some confusion in the identification of marine platforms. The only way to solve this problem is to date those erosion surfaces to decide if we are dealing with a disturbed platform or two different platforms, with different ages.

This approach could lead to a better knowledge of uplifted or subsided areas. It is possible that some severe erosion features to the South of Espinho (15 km South of Porto) might have something to do with a general trend to the subsidence.