Geophysical Research Abstracts, Vol. 8, 09619, 2006

SRef-ID: 1607-7962/gra/EGU06-A-09619 © European Geosciences Union 2006



The Itea - Amfissa detachment: A pre-Corinth rift extensional structure in central Greece.

D. I. Papanikolaou, L. Gouliotis

Natural Hazards Laboratory, University of Athens, Panepistimioupoli Zografou, 15784 Athens, Greece (dpapan@geol.uoa.gr)

The Itea - Amfissa valley divides the Mt Giona. to the west from the Mt. Parnassos to the east. This NNW-SSE oriented geomorphological depression is the result of an extensional detachment observed along the eastern slopes of Mt. Giona. This tectonic structure extends from the coastal area of Galaxidi at the northern margin of the Corinth basin to Prosilio village towards the north-northwest at a distance of 25-30 km. The fault plane of the low angle normal faults observed along the detachment, dip 25-40o to the east - northeast. At several segments of the detachment the fault surface is marked in the landscape by a geometrical morphotectonic plane dipping to the same direction and with the same dip as the fault, observed from altitudes of 1200 - 1400 m to 600 - 1000 m. Sequences of breccias - conglomerates that are several hundred meters thick, are deposited along the slopes of Mt. Giona on top of the hanging-wall of the detachment. The breccias dominate along the western outcrops of the sediments near the fault whereas the conglomerates prevail in the eastern outcrops. The top of the sediments forms a planation surface that is well developed in the Aghia Efthymia village. The altitude of the planation surface is increased in elevation towards the north. In particular, the planation surface lies at 0 - 100m at Galaxidi, 400 - 600m at Aghia Efthymia and 1100 -1200m at Prosilio. The footwall rocks are part of the Upper Triassic - Jurassic carbonates of the Parnassos - Giona tectonic unit whereas the hanging-wall rocks belong to ?Upper Miocene - lower Pliocene brecciasconglomerates which are overlying the Cretaceous limestones and the Tertiary flysch. The bottom of the present-day valley where alluvial sedimentation occurs, is located several hundred meters below the neogene breccias-conglomerates, implying an important uplift during ?late Pliocene - Quaternary. The overall structure is deformed by E-W active normal faults bordering the northern margin of the Corinth rift structure. The southern prolongation of this detachment may be traced in the Peloponnese, south of the Corinth rift and in particular in the Feneos - Stymphalia, Merkouri and Eastern Parnon detachments. The change from N-S to E-W extensional structures has occurred within Pliocene.