ANCIENT CARBONATE SLOPE SYSTEMS: AN EXAMPLE FROM THE LATE CRETACEOUS OF ALBANIA

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The Upper Cretaceous deposits of the Ionian Basin expose a unique example of a carbonate re-sedimentation system, now incorporated within the Albanian structural fold-and-thrust belt. Originally developed along a NW-SE direction extending into Greece, the Ionian Basin underwent shortening that resulted in the stacking of SW-verging thrust belts, now extensively exposing the Mesozoic succession. The Upper Cretaceous interval reveals a wide range of re-sedimentation facies of carbonate material derived from the Apulian Platform in the west. Two particular outcrops, Ksamil and Muzina, which belong to two separate thrust belts, are reported here. They respectively reveal the proximal and distal setting of the carbonate slope that forms the eastern edge of Apulia.

The Ksamil outcrop encompasses polygenic conglomerate beds of 5-15 m thick, composed of poorly sorted carbonate clasts in a calcilutitic matrix. Platform and slope-derived lithified clasts suggest dismantling of the platform and erosion of the slope. Recent investigations revealed significant variability in bed thickness and erosional contacts with underlying fine-grained (calcilutitic) series, pointing to the development of furrows expanding towards the basin.

The Muzina outcrop reveals graded calcarenite beds (0.5-2 m thick) that document well-defined normal grading over the entire thickness of the bed. Alternations of planar-horizontal and low-angle laminations within the calcarenitic material were recognized. The uppermost part of beds exposes calcarenite-rich load-casts and convolute laminations grading upwards into calcilutites, which are commonly associated with in-situ chert layers at the top. These deposits typically adopt sheet-like morphologies with no evidence of erosion.

Field observations form an integral part of this study, comprising facies and geometrical characterizations in the Ksamil outcrop and bed tracing along the kilometer-scale Muzina outcrop. In addition, numerous thin sections were analyzed. Previous studies have constrained the framework of the Late Cretaceous sedimentary evolution in this region. However, the down-slope evolution of single-bed gravity-flow events, as well as sedimentary attributes of the slope system as a whole, still need to be unraveled. This contribution aims to discuss how such uncertainties related to carbonate slope systems can be resolved.