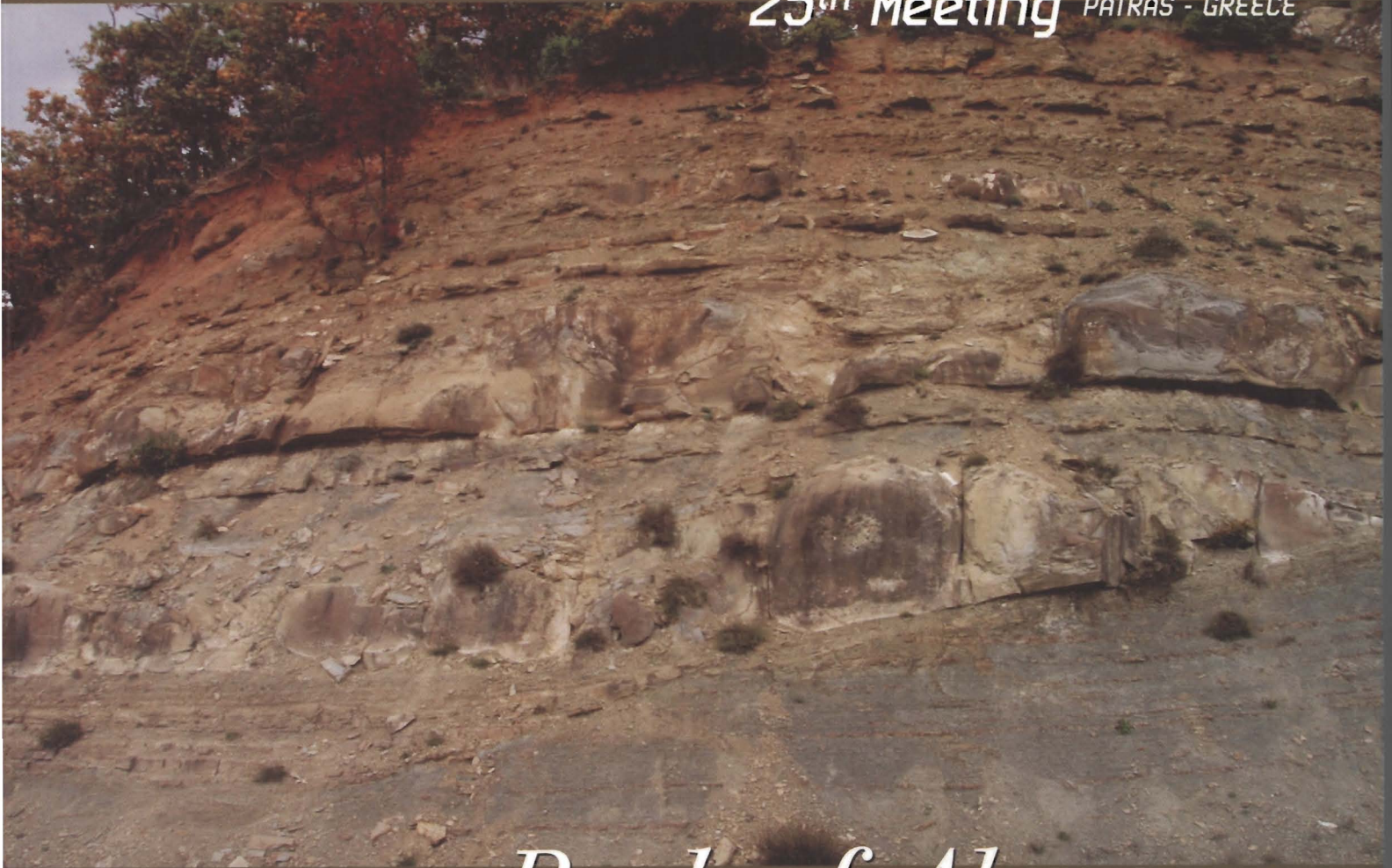




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Benthic foraminifera recolonization process in turbidite-like deposits: A case study

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The Lower Tortonian Potamos section, in Gavdos Island, is about 115 m thick and contains mostly clayey silts, silty sands and sand beds which are thought to represent turbidite-like deposits triggered by stream floods during periods of extreme discharges rather than by slope instability. The depositional model and facies relationships within the Potamos sediments is been significantly improved correlating faunal and sediment trends in turbidite-like deposits.

Benthic foraminifera were collected from 69 samples of Potamos succession. The foraminiferal assemblages contain indigenous benthic taxa that represent combined bottom-water and bottom-sediment controlled benthic environments and allochthonous benthic shelf taxa that are transported downslope into deeper-water biotopes. Considerable differences in diversity, community organisation, feeding and habitat preferences are detected among

benthic foraminiferal assemblages below, across and above the turbiditic episodes. Prior to the deposition of the turbiditic sands, the benthic foraminiferal assemblage (*Cassidulina laevigata*–*Bulimina* spp. assemblage) is indicative of a strong preference of environments with highly elevated food supply, but sheltered from direct disturbance. This stability was disrupted by the recurrent deposition of turbiditic sands. Some specialized endobenthic forms, such as *Valvulineria complanata* and *Globobulimina* spp. could keep pace with high sedimentation reflecting enhanced supply of organic matter by transport. Just above the turbidites, a “recolonisation” fauna (*Bolivina* assemblage), entirely composed of infaunal elements, is observed, indicating a nutrient-rich substrate. The reduction in the dominance of *Bolivina* spp. and the reappearance of both infaunal and epifaunal taxa reflects the ongoing recovery of the benthic ecosystem.