



## **Microfacies and development of shallow-benthic communities from the Early-Middle Eocene of eastern Alborz (NE Iran)**

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The shallow marine Eocene succession is represented by the Ziarat Formation in two outcrop sections (Mojen and Kalateh) from the eastern Alborz zone (Iran). In total, 10 microfacies types (MFT1-MFT10) have been distinguished on the basis of component distribution, textures and fabric analysis after Nebelsick et al. (2005), so that they are presented separately for the middle Ilerdian-late Ilerdian (SBZ7-SBZ9) and the Bartonian (SBZ17) stages within the Mojen and Kalateh sections, respectively. These MFT of the Mojen section are generally dominated by abundant Alveolina and nummulitids assemblages including MFT1 (Terrigenous peloidal wackstone-packstone), MFT2 (Sandy peloidal Alveolina floatstone), MFT3 (Sandy Alveolina packstone-rudstone), MFT4 (Macroïd-nummulitid rudstone), MFT5 (Bioclast grainstone (locally wackstone)) while the Bartonian stage of the Kalateh section is characterized by the LBF and rhodalgal assemblages, including: MFT6 (Coral-rhodolith packstone-rudstone), MFT7 (Rhodolith-Nummulites rudstone), MFT8 (Nummulites rudstone), MFT9 (Crustose coralline algal bindstone), MFT10 (Nummulites-rhodolith-orthophragminids rudstone). As a result of the microfacies interpretations with respect to the paleoecology of LBF and other biogenic components suggests depositions in a shallow ramp environment with increasing water depth during Early-Middle Eocene (Ilerdian and Bartonian). Therefore, in this case study, the Early-Middle Eocene shallow-marine succession is approximately in accordance with flourish of both A- and B-form LBF in the Tethys region. In summary, the deepening trend within a shallow-water carbonate ramp depositional system of the Ziarat Formation (Mojen section), and also the paleoenvironmental condition and evolution of foraminiferal communities are well comparable with western Tethys region (i.e. Global community maturation cycle and eustatic sea-level curve in Haq et al., 1987; Hottinger 1997, 2001).