Biostratigraphy, Microfacies, and Paleoecology of the Asmari Formation in the south-western Iran

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Abstract

In this research, the biostratigraphy, microfacies, sedimentary environment and paleoecology of Asmari formation were investigated in Vazag, Eshgar and Gorgdan outcrops in Izeh zone of Zagros basin of southwest of Iran. Based on depositional textures, petrographic analysis, and fauna 8 facies and 18 subfacies, were distinguished. They indicate different depositional settings, inner ramp, middle ramp and outer ramp. Also, based on the distribution of larger benthic foraminifera, 6 assemblage zones were identified, including :assemblege zone I to the age of the Rupelian, the assemblege zone II in the age of the Rupelian-Chattian ,The assemblege zone III to the age of Chattian, the assemblage zone IV to the age of the Aquitanian, the assemblage zone of V in the age of the Aquitanian and assemblage zone VI Burdigalian age. In addition, in the studied areas it was identified two subfamilies of red algae non-geniculate Melobesioideae and Lithophylloideae ,Corallines genus of the red algae geniculate from subfamily Corallinoideae and Subterraniphyllum thomasii Elliott may be transitional species and evolutionary link between geniculate and nongeniculate coralline algae .paleoecology of Asmari Formation based on the main components of carbonate sedimentation (Benthonic foraminifera, coralline red algae and corals) in the studied sections salinity varied normal to highsalinity, Considering the nutritional status, the eutrophic and oligotrophic conditions, with conditions predominantly in oligotrophic to mesotrophic conditions, Light conditions aphotic to euphotic, and in terms of depth, it has been deposited from relatively deep to shallow areas.

Keywords: Asmari Formation, Biostratigraphy, microfacies, paleoecology, Benthic foraminifera