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Eocene Shallow Marine Records in Tunisia: A Larger Foraminifera (Mainly Orthophragminids) Perspective

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The shallow marine Eocene carbonate packages, previously referred to El Garia Formation and Reineche Limestone, crops out extensively in central and north Tunisia. El Garia Formation and newly discovered carbonate deposits that differ from El Garia sensu stricto represent the diachronic deposition of platform carbonates during Early and Middle Eocene. The Reineche Limestone sandwiched between the deep marine clastics of the Souar Formation with a limited lateral extent corresponds to intermittent development of a carbonate platform in Bartonian and is coeval with the Middle Eocene Climatic Optimum (MECO). The El Garia and associated units correspond to separate phases of carbonate deposition in early Ypresian (SBZ 5 to 8), late Ypresian (SBZ 10/11) and late Ypresian to early/middle Lutetian (SBZ 12-13/14) based on the occurrence of Discocyclina archiaci, Nemkovella stockari, Orbitoclypeus multiplicatus, O. bayani, O. schopeni, O. munieri, O. varians, Asterocyclina stella, A. taramellii, A. alticostata and A. stellata. The genus Nummulites is common, alveolinids are very scanty and Assilina was not recorded. There is no record of shallow marine sedimentation in late Eocene. The Reineche Limestone, with best outcrops in Cap Bon Peninsula in northeast Tunisia contains Discocyclina trabayensis, D. discus, D. prattii, D. dispansa, D. radians, D. augustae, Nemkovella evae, Orbitoclypeus haynesi, O. varians, O. douvillei, O. zitteli, Asterocyclina alticostata, A. stellata, A. stella, A. sireli, A. kecskemetii and Asterocyclina aff. ferrandezi associated with Assilina ex. gr. alpina, Operculina ex. gr. gomezi, Nummulites spp., Sphaerogypsina sp., Gyroidinella sp., Fabiania sp, Gypsina sp., rare coral fragments, miliolidae, red algae and some unidentified rotaliids. Two orthophragminid species common to Indian subcontinent and Turkey, but not known from Europe, A. sireli and O. haynesi occur abundantly in Reineche Formation. These taxa might be immigrants from Indian subcontinent because of the expansion of the Eastern Tethyan fauna during MECO.

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