

Early Aptian Oceanic Anoxic Event 1a (OAE1a): Evidence based on calcareous nannofossils in the Qaleh Zoo section, central Kopet Dagh, Iran

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This study examines a marine sedimentary succession from the middle part of the Sarcheshmeh Formation with the aim of recording the early Aptian Oceanic Anoxic Event (OAE) 1a in the Qaleh Zoo section in the central part of the Kopet Dagh Basin in northeastern Iran. The OAE1a was recorded on a global scale during the early Aptian in the nannofossil Subzone NC6B. In this study based on calcareous nannofossils, the interval from the uppermost part of Subzone NC6A to the lowermost part of Subzone NC7A (early Aptian) was examined in the Sarcheshmeh Formation. For the identification of OAE1a, calcareous nannofossil paleoecology and calcium carbonate content were analyzed. The rare presence or absence of nannoconids in Subzone NC6B, together with the lowest calcium carbonate values, indicates the presence of OAE1a in the Sarcheshmeh Formation (55–180 m in the studied interval). Considering the calcareous nannofossil data and the calcium carbonate content of the samples, OAE1a was placed in the middle part of the Sarcheshmeh Formation, which is equivalent to the event west of the Kopet Dagh Basin in the Takal Kuh section (Mahanipour et al., 2011).

References:

Mahanipour, A., Mutterlose, J., Kani, A. & Adabi, M.H. 2011. Palaeoecology and biostratigraphy of early Cretaceous (Aptian) calcareous nannofossils and the $\delta^{13}\text{C}_{\text{carb}}$ isotope record from NE Iran. *Cretaceous Research*, **32**(3): 331–356. <https://doi.org/10.1016/j.cretres.2011.01.006>