

Charophytes and ostracods as tool to detect key stratigraphic surfaces in Mid-Cretaceous strata from the Central Tunisian Atlas (North African margin)

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In Central Tunisia, the Mid-Cretaceous (Aptian–Early Albian) Orbata Formation (Aptian super-sequence in the sense of M'RABET et al., 1979) is characterized by lateral and vertical litho-facies variations, associated with unconformities due to erosion or non-deposition. These changes have been related to tectono-eustatic control (CHEKHMA & BEN AYED, 2013). In lithostratigraphic terms, the Orbata Fm is subdivided into three units; a lower dolomitic Member “A”, a middle Member “B” and an upper Member “C”, respectively, attributed to the Upper Barremian–Lower Aptian, Middle Aptian, and Upper Aptian (M'RABET et al., 1979). Two “major regional discontinuities” of eustatic order have been detected in this Formation throughout the studied sections of the Central Tunisian Atlas. The first emersion surface corresponds to the karstified and eroded summit of the lower dolomitic Member “A” as response to the major sea-level fall event KAp1 of major amplitude (> 75 m) of HAQ (2014). As consequence, marginal-coastal deposits developed with new biota dominated by associations of charophytes (TRABELSI et al., 2016) and ostracods (TRABELSI et al., 2015), which both well evidence the Lower Aptian interval age of the considered stratigraphic surface. Subsequently, minor transgressive-regressive cycles controlled the development of the Orbata Formation until the following prominent major sea-level fall (KAp7 of HAQ, 2014) which caused the quasi-total emersion of the central domain of the Tunisian Atlas (“Kairouan Island” in the sense of M'RABET et al., 1979). Following this second major emersion surface, continental to marginal-coastal deposits again developed bearing charophytes and ostracods, which confirm an Uppermost Aptian?–Lower Albian age of this second key stratigraphic interval (TRABELSI et al., 2016). Hence, a major Lower Albian terrigenous event has been identified throughout the Tunisian Atlas basins from north to south which implicates the requirement to review the related paleogeographic scheme.

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