

New event records highlighted in the Messinian post gypsum deposits from the Southern Dahra edge (NW Algeria)

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Studied sections located in the Dahra massif (NW Algeria) allow to identify a new stratigraphic series, starting with gypsum, followed by Messinian lacustrine deposits and transgressive blue marls Pliocene in age.

Beneath the selenite gypsum, the deposits revealed *Globorotalia mediterranea*, *Amaurolithus primus* associated with *A. delicatus* and *A. amplificus* indicating a Messinian age (N17/NN11c). Gypsums capped by white micritic limestones are together, correlated with the "TCC" of West Mediterranean coral reef platforms (Cornée *et al.*, 2004; Roveri *et al.*, 2020). These correlations lead to estimate, for the Dahra Gypsum, an age ranging from 5.971 (base) to 5.60 Ma (top) (Clauzon *et al.*, 2015). It would correspond to a peripheral basin sedimentation, followed by desiccation and a reflooding. Consequently, the lacustrine/lagoonal deposits of the Dahra Massif, classified as Lago Mare despite the absence of Paratethysian elements, correspond to the Lago Mare 1 episode, of age slightly earlier than 5.60 Ma, comparable to those of Vera and San Miguel de Salinas (Spain). They occupy a large extension, both on the southern margin of the Dahra and on the northern slopes of the Beni Chougrane. In addition, the unconformable conglomerate deposits seems to start a Messinian episode, probably corresponding to an erosion phase (MES?) because they are overlain by Pliocene deposits, with *G. punctulata* in the Oued Tarhia section and *Globorotalia margaritae* in the Sahaouria one.

The blue marls show several bio-events, notably the occurrence of *Sphaerodinellopsis subdehiscens*, *Globorotalia margaritae*, *Ceratolithus acutus*, *Reticulofenestra zancleana*, followed by *G. punctulata*, *G. bononiensis*, *G. aff. crassaformis* and *C. rugosus*, *Helicosphaera sellii*, *Discoaster asymmetricus*, and *D. tamalis*. These biomarkers indicate an age ranging (Mazzola, 1971; Belkebir and Anglada, 1985; Martini, 1971; Backman *et al.*, 2012) from the base of the Zanclean to the Lower Piacenzian (N18 *p.p.*, N19 and N20 *p.p.* - NN12 *p.p.*, NN13, NN14 / NN15 and NN16) (Hilgen *et al.*, 2012). So, the pre-Pliocene paleotopography areas appear to be irregular probably linked to the regional tectonic context, generated by the Messinian Salinity Crisis. Therefore, the setting of Pliocene marine deposits seals a plicative tectonic phase dated of Terminal Messinian age. This affects gypsum and Lago Mare deposits of the Dahra Massif. It has also resulted from a gravitational tectonic, responsible of the "olistolite" sedimentation setting, incorporated within the geological series. This deformation (in compression) seems to be far-reaching, corresponding to a restructuring of paleogeographical spaces associated with the littoral Tellian Chain uplift (Rouchy *et al.*, 2007; Rubino *et al.*, 2010), which may be contemporaneous (*p.p.*) with the evaporite deposits (brines) in the central Mediterranean basins, preceding the Pliocene marine reflooding in the region.

Key-words : Gypsum, Lago Mare, Messinian, Pliocene bioevents, tectonics.

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