
Lithostratigraphy of the Jebel Boulahouajeb section (Lansarin Chain): proposal of a new formation for North Tunisia

Sarra Melliti^{*1}, M.sabri Arfaoui^{†1}, and Fouad Zargouni^{‡1}

¹Faculté des Sciences Tunis, University Tunis El Manar, 1060 Tunis, Tunisia – Tunisia

Abstract

The Jebel Boulahouajeb section is located in northern Tunisia near Tebourba city, about 40 km west of Tunis. The studied section belongs to the Lansarine Chain, delimited by the vast plain of the Medjerda valley to the south and east, and by the plain of the Oued Ettine to the north and North–West. The Jebel Boulahouajeb section belongs to the Tunisian trough (“sillon tunisien”), a strongly subsiding basin from the Jurassic to Cretaceous time in north-Eastern Tunisia. The Valanginian–Aptian succession of Jebel Oust, which is considered as a reference section of the Lower Cretaceous, which belongs to the M’Chergua Formation. The Jebel Boulahouajeb’s section corresponds to a deep marine palaeoenvironment characterized by pelagic-deep deposits. It presents nearly 3000 meters of thickness. Dated in detail for the first time as Early Cretaceous, on the basis of the ammonites and planktonic foraminifera (Melliti et al., 2019).

These sediments are characterized by shaly units with limestones and detrital sediments, which suggest that they were deposited in a variety of depositional environments, likely influenced by tectonic and climatic factors. Six lithostratigraphic units were recognized in Jebel Boulahouajeb, aged Barremian.

Lower Barremian strata at this site consist of 122 meters thickness (Unit Br1), constituted by massive limestone beds intercalated by green marls. In the uppermost part occur metric beige gray limestones benches straightened (5.8m) which make reliefs forming the ridge of Jebel Boulahouajeb.

The studied section shows the rapid North-Westward increase in thickness of the Upper Barremian marls, from less than several hundred metres to about 1780 meters, which represent 4 successive lithostratigraphic units (Br2–Br3–Br4 and Br5). The lower most upper Barremian succession, unit Br2 is interrupted at the base by some sandstone beds. Laminated siltstone and mudstone, current-rippled cross-laminated very fine grained sandstone and wave-rippled cross-laminated fine-grained sandstone. The lithology of the Upper Barremian (unit Br6) 100 meters is characterized by several sequences of nodular marly limestones, metric beds of fossiliferous limestones and dark marls.

The Tunisian Sillon subsided during the Early Cretaceous period. Since, it was affected by

*Speaker

†Corresponding author: msarfaoui@gmail.com

‡Corresponding author: fouadzargouni@yahoo.fr

normal faults, along Lower Cretaceous sediments occurred. This coincided with the Tethys transgressions, which remained a major control on the sedimentation's increase of Jebel Boulahouajeb.

To sum up, the greatest accumulation of lower Cretaceous sediments recorded in the section studied, its continue marine sedimentation and the great richness in ammonites and foraminifera (Benthic and Planctonic): Not only The Jebel Boulahouajeb's section is proposed in this work as a new standad Lower Cretaceous section of the Northen Tunisia, but we present a new lithostratigraphic Formation: Boulahouajeb Formation.

Keywords: Keywords: Jebel Boulahouajeb, Early Cretaceous, New Lithostratigraphic formation, New Lower Cretaceous standard section, North Tunisia.