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Planktic foraminiferal stratigraphic study across the Campanian/ Maastrichtian boundary (C/M) and the Cretaceous/ Paleogene (K-Pg) transition sediments deposits at Oued Smara and Oued Abiod sections (Tadjerouine, NW Tunisia)

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The detailed planktic foraminiferal stratigraphical study from the upper Campanian to the Cretaceous/Paleogene boundary of the two closed sections; Oued Smara and Oued Abiod located at Tadjerouine region (NW Tunisia), allows us to establish a biozonation and subzonation of this interval.

Across the upper Campanian/lower Maastrichtian interval deposits, we have recognized the following biozones and subzones by their biomarkers: The Gansserina gansseri and the Abathomphalus mayaroensis biozones subdivided into Rugoglobigerina rotundata, Rugoglobigerina scotti, Planoglobulina acervulinoides, Racemiguembelina fructicosa, Pseudoguembelina hariaensis and Plummerita hantkeninoides subzones. The international Commission of Stratigraphy placed the Campanian/Maastrichtian (C/M) boundary close to the first appearance of the biomarker R. scotti at the Tercis-les-Bains section (Landes, France). We have adopted this first occurrence which coincides with the C/M boundary to place this boundary at Tajderouine area (Tunisia). The first occurrence defines also the base of the R. scotti subzones of the lower Maastrichtian interval. This subzone which corresponds to El Haria Formation, is composed of marls deposits and is intercalated by two limestone's bar and characterized by high abundances of H. globulosa species which attend maximum abundances at the middle and upper part of this subzone.

The lower Danian interval deposits, is characterized by Guembelitria cretacea, Parvularugoglobigerina eugubina, and Parasubbotina pseudobulloides biozones. The Guembelitria cretacea Zone was subdivided into the Hedbergella holmdelensis and Parvularugoglobigerina longiapertura Subzones; the Parvularugoglobigerina eugubina Zone into the Parvularugoglobigerina sabina and Eoglobigerina simplicissima Subzones; and the Parasubbotina pseudobulloides Zone into the Eoglobigerina trivialis and Subbotina triloculinoides Subzones. We have also identified the Praemurica trinidadensis biozones at the upper part of the Danian interval.

To subdivide the Upper Campanian-Maastrichtian interval, we have placed the base of the lower Masstrichtian at the first occurrence (F.O) of R. scotti index species, and the base of the Upper Maastrichtian at the F.O of Abathomphalus mayaroensis index species. Consequently, the Rugoglobigerina rotundata characterize the upper Campanian deposits.