

Paleoenvironment reconstitution of uppermost Albian deposits in Northern Tunisia inferred from foraminiferal and radiolarian assemblages

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The southwestern flank of Jbel el Goraa syncline in northern Tunisia shows that uppermost Albian deposits are made by an alternation of grey marls and yellow limestones. The presence of these limestones make this lithology distinguished from the other Albian sections in northern Tunisia. A quantitative approach to analyze the abundance of foraminifera and radiolarians is used to deduce their paleoecological potential and to track the paleoenvironmental reconstitution of northern Tunisia.

In this work, two different marine conditions in the late Albian can be distinguished: The K-selection strategy (CARON & HOMEWOOD, 1983) is installed into the Uppermost Albian deposits of the section revealing a stable ecosystem and recording an important diversification of the foraminifera and a high abundance of radiolarians. The planktonic foraminiferal assemblage is abundant by large and complex morphotypes such as *Ticinella*, *Biticinella*, *Preaglobotruncana* and *Rotalipora*. These "Deep Water Fauna" (LECKIE et al., 1998) indicate the presence of stratified water conditions. This tethyan foraminiferal assemblage leads to contribute this succession to the *Planomalina buxtorfi* taxon range zone (equivalent of the *Rotalipora appenninica* zone).

The r-selection strategy (CARON & HOMEWOOD, 1983) is recorded in the upper Albian s.s. deposits and suggests an unstable environment. Small sized and primitive foraminifera represented by the *Microhedbergella* and the *Globigerinelloides* genera, are more abundant. These "Shallow Water Fauna" (LECKIE et al., 1998) opportunistic species that live near the well oxygenated surface proliferate significantly with an environment rich in nutrient; while the large morphotypes hardly survive this surface-water productivity. The installation of the OAE1-d may be the reason for such instability.

The nassellarians/spumellarians ratio reaches its peak (>5) in the yellowish limestone levels of the section. However, in the dark grey marls the N/S ratio records less significant rates (1–4). Since the nassellarians are more abundant in deeper water sediment (Kießling, 1996), we may therefore conclude that these yellowish limestones have been deposited in a shallower environment than the gray marl depositional environment that may be linked to turbidity currents.

The quantitative analysis of both planktonic and benthic foraminifera has revealed an index of oceanity that varies from 96 % to 98.22 %. These values then suggest a marine depositional environment of bathyal zone according to Gibson (1989).

CARON et al., 1983. *Marine Microplaleontology*, **7**, 453–462.

LECKI et al., 1998. *SEPM, Concepts in sedimentology and paleontology* N°6, 101–126.

GIBSON, 1989. *Marine Micropaleontology*, **15**/1–2, 29–52.

KIESSLING, 1996. *Facies*, **35**, 237–274.