

Discovery of Ichthyofauna at the Cenomanian-Turonian boundary in Ouarsenis (Algeria)

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The discovery of rich Ichthyofauna in the lands of the Upper Cretaceous marine of Ouarsenis is a first in Algeria. In addition to some forms that remain to be determined, these fossil fishes include species belonging to the *Pycnodontidae*, *Ichthyodectidae*, *Plethodidae* (= *Tselfatiidae*, *Bananogmiidae*) and *Dercetidae* families. This discovery is obviously interesting and will allow to complete the palaeobiogeographic knowledge of the Mediterranean region during this geological period. Until now, the Cretaceous Ichthyofauna of the Eurafican Mesogea were essentially known in Morocco, Portugal, Italy, Egypt, Lebanon and Palestine. The event of the Cenomanian-Turonian interval in Ouarsenis is interpreted as a maximum transgression surface representing condensation sequence. This event is characterized by a "siliceous level" rich in globular planktonic foraminifera (*Whiteinella*, *Globigerinelloids*, *Rotalipora*, *Hedbergella*, *Heterohelix*). Associated with these forms are also radiolaria and calcispheres, generally very abundant, and, for the first time, the presence of halecostomes and teleosts fishes (cf. figure *infra*) (e.g. Brahim, 2014). This entity (siliceous bar) is part of the "Ouled Sidi Djillali Formation" which constitutes the Nappe B in the eastern Ouarsenis of C-T age (e.g. Mattauer, 1958). This lithostratigraphic unit is presented in an alternation calcareous/marl section by a limestone bar loaded with siliceous beds constituting an excellent projection in the topography. This reference level is composed by a trilogy of facies : (i) clear chocolate argilite with fish ; (ii) black shales with organic matter (OM) containing siliceous grains, phosphate and pyrite ; (iii) siliceous limestone with radiolaria associated with globular planktonic forms (*Heterohelicidae*, *Whiteinelles* and *Hedbergelles*), and with keels of the *Rotalipora* type. The very abundant *Heterohelix* form marks the event or boom (e.g. Caron *et al.*, 2006) and named Heterohelix shift (e.g. Leckie, 1985), which succeeds filament level (small test bivalve) that would have reached adult size in deep pelagic environment under non-anoxic conditions. Their valves fall by decantation on the bottom and are arranged in a bed evoking the "filament event". The presence of foraminifera type *Helvetoglobotruncana helvetica* would have confirmed the end of the black shales level.

Such rich deposits at the same time, OM and siliceous organisms indicate the Cenomanian-Turonian Boundary Event (OAE2) reported in the C-T series in several localities forming a continuous belt along the northern African platform during the Cretaceous period, encompassing Tunisia, Algerian Atlas and Moroccan Pre-Rif.

References

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