Sedimentary Evolution and Palaeogeography of Upper Lias-Dogger Deposits of the Central High Atlas, Morocco

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In the central part of Moroccan central High Atlas, Upper Lias-Dogger series are represented by two formations of clay, marl and carbonate deposits (Agoudim and Tazigzaout formations). On the margins the equivalents of these two formations are carbonates and presented lithological and environmental characteristics of Bin El Ouidane Group. This Group is overlying by clays and limestone of Tillouguite formation and by silts, sandstones and conglomerates of Anemzi formation.

From Toarcian to early Bajocian (Agoudim members I and II) a contrasted palaeogeographic evolution is marked by a relatively deep central basin bordered by shallow marine carbonates. The Aalenian-Lower Bajocian interval (Agoudim member II) shows the arrival of channels of biodetritic limestone within hemipelagic deposits. These facies resulted from recurrent faulting activity which was at the origin of the individualisation of a series of ridges and depocenters within the High Atlas trough.

During the Bajocian (Agoudim member IV) the palaeogeography was homogenised on all the central High Atlas and correspond to a carbonate ramp with coral patch reefs. The Upper Bajocian (Tazigzaout basal member) shows a new palaeogeography with reappearance of deep zones in the central depocenters. During the Upper Bajocian-Bathonian pp. (Tazigzaout upper member) again a very homogeneous carbonate ramp was established. These uniform palaeogeographic situation corresponds undoubtedly to a stable tectonic regime announcing the end of the Jurassic sedimentary cycle.