Micropalaeontological investigation of the Mdairej Formation or
“Falaise de Blanche”

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“Falaise de Blanche”, also known as Jezzine Cliff, was first described by Ch.I. Blanche (1847). It represents a very distinctive geomorphological unit running throughout the chain of Mount Lebanon, Anti-Lebanon (Lebanon), and into Southern Alawite Mountains (Syria). For instance, it forms the natural bridge of Fakra and the background of the waterfall of Jezzine. This sheer-sided cliff consists of grey massive limestones that were given the status of a formal stratigraphic unit by Dubertret (1963) as the Mdairej Formation. It lies between the Abeih Formation (Walley, 1983) below and the Hammana Formation (Walley, 1983) above. According Dubertret and Vautrin (1937), the Mdairej Formation is Albian in age; but according to Dubertret (1963) it is late Aptian sensu anglico, or it even ranges from Early Aptian to early late Aptian in age according to Walley (1998). None of these datings is strongly constrained: there are ammonite records only from the Hammana Formation and they point to a Late Albian–Vraconian age; according to Dubertret and Vautrin (1937) the Abeih Formation might span the Barremian and the Early Aptian for its marly layers that yield some “Orbitolina lenticularis Blum”.

One of the main goals of the ongoing study will be to better constrain the age of the Mdairej Formation. We are currently completing the field work, i.e., logging sections in several localities at the scale of Lebanon. A number of sections have already been logged and are under investigation (sedimentary petrography and paleontology). There are few macrofossil finds (echinoids and ammonites) in the Mdairej Formation or in the underlying and overlying units; therefore, biostratigraphic keys will come from the benthic foraminifers and calcareous green algae which are common in the shallow-water carbonate facies.

Micropalaeontological investigations will cover first systematics of the various taxonomic microorganisms. Their distribution either vertical (time) or horizontal (landscape) will help to understand environmental changes in relation with the relative sea-level and the palaeogeography during this episode at the scale of Lebanon.
Petrographical analyses of the carbonate rocks (identification of depositional, erosional or diagenetic features) should contribute in validating the model.

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