

Lithostratigraphy and Biostratigraphic Markers of the Reuchenette Formation (Late Jurassic, Kimmeridgian) in Northwestern Switzerland

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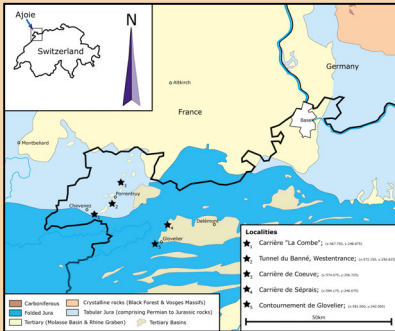


Fig.1

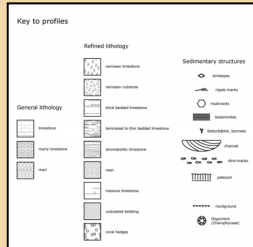
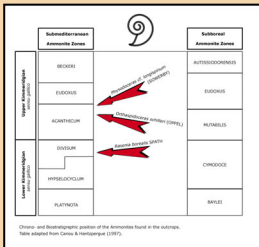
The sections presented on this poster are a first attempt to provide an overview of the thickness, the biostratigraphic markers and the lithology of the late Jurassic Reuchenette Formation in the Ajoie region in Northwestern Switzerland (see Fig.1).

Biostratigraphy

The thickness of the Reuchenette Formation in the Ajoie region approximates 145m. The lower part of the Reuchenette Formation can be assigned to the *platynota*- to *?divisum*-Zone as the ammonite *Rasenia borealis* SPATH demonstrates.

The base of the *virgula*-unit (upper part of the Reuchenette Formation) contains *Orthaspidoceras schilleri* (OPPEL) and *Physodoceras cf. longispinum* (SOWERBY) and thus can be placed to the *acanthicum*-Zone (and *?eudoxus*-Zone) (see Fig.2 & profiles).

Fig.2



Depositional environment

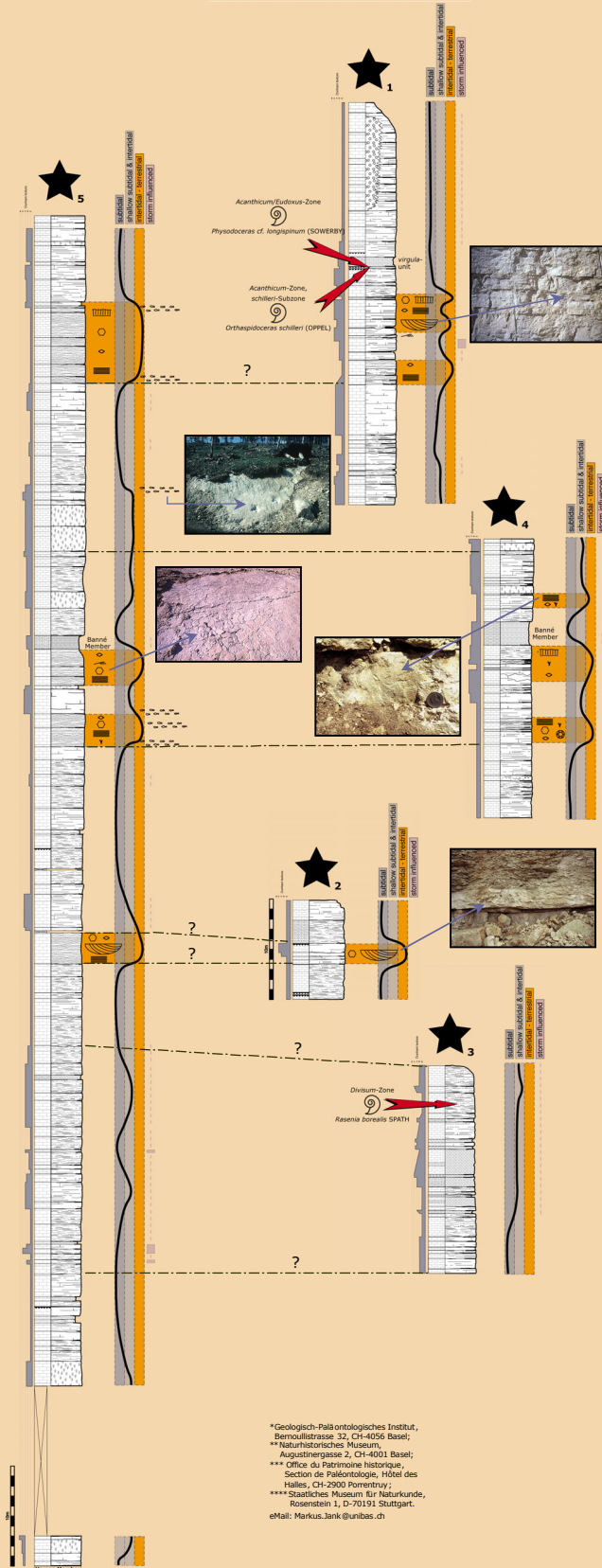
Deposits of the lower part of the Reuchenette Formation indicate depositional environments shifting from subtidal conditions in open and semi-restricted lagoons and platform areas to high energy conditions in tidal flats. The sediments are mainly composed of bioturbated (often marly) mudstones (subtidal) with brackish and freshwater excursions and signs of emersion (mudcracks, dinosaur tracks, birds

eyes, plant remains). Deposits of the upper part of this Formation indicate rather open marine, mainly shallow subtidal to high energy supratidal depositional environments (coral hedges, bio-laminites, cross bedding, paleosols) with signs of emersion and locally lagoonal marl excursions (*virgula*-unit). The sediments consist of mud- to grainstones.

Conclusions

The facies of the deposited calcareous shallow water platform sediments is mainly controlled by relative sea level fluctuations. It seems the deposits can be subdivided into sedimentary cycles of different scales. The marl excursions in the Lower and Upper Reuchenette Formation (Banné Member and *virgula*-unit) were

possibly deposited during phases of flooding of the platform. For the first time it is possible to date the sediments of the Reuchenette Formation in Northwestern Switzerland by index fossils. Our results allow now a lithostratigraphic correlation with coeval sediments in France and adjacent Germany.



Reuchenette Formation

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