Coral reefs environments after the Triassic-Jurassic boundary crisis



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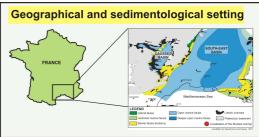
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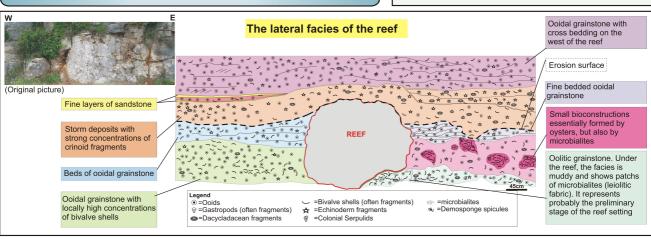


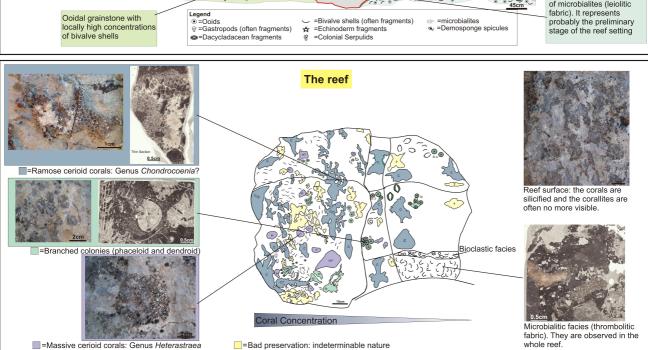
Introduction

The Triassic-Jurassic boundary (T-J boundary) estimated at ~200 million years ago was a critical transition where profound biotic and environmental changes occurred. This transition is considered as one of the big five mass extinction events of the Phanerozoic. The reef communities and especially the corals, were strongly affected by this crisis. In order to better understand the palaeoenvironmental conditions that prevailed in the western Tethys just affer the T-J crisis, different coral reefs were studied in the western part of Europe.

The present work is the first description of an Upper Sinemurian patch reef situated on the Cévennes margin (southern France). Here the lateral sedimentological facies and the reefal structure are shown.







Conclusions and Outlook

- •The patch reef grew in a shallow environment and in an "ooidal setting" indicating a significant hydrodynamic energy. The asymmetric organisation of facies is interpreted as a consequence of the shallow setting.
- ♠A thick storm facies cover the summit of the reef and shows an erosive base. It probably represents the factor that induced the death of the reef.
- There are at least four coral genera
- ©Microbialites (thrombolitic and leiolitic fabrics) are observed in the whole construction. They certainly strengthened the reefal framework
- >In order to obtain some precisions about the palaeotemperatures, geochemical analyses on oyster shells are in progress.
- >The determination of the corals is in progress.
- >A comparison with the other reefal facies discovered in the same geographical area is in progress.