

**Microfacies, diagenesis and depositional setting of the
Late Triassic mid-oceanic carbonates from Dalnegorsk area
(Taukha terrane, Far Eastern Russia)**

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In comparison with the well-known Tethyan domain, and despite of the amount of research already carried out, Upper Triassic limestones from the Panthalassa Ocean remain poorly known. For more than 10 years, the REEFCADE project, initiated and supervised by Rossana Martini, aims to improve our knowledge about these Triassic mid-oceanic limestones from Panthalassa realm (Chablais *et al.*, 2010¹; Heerwagen *et al.*, 2018²; Peybernes *et al.*, 2016³; Rigaud *et al.*, 2013⁴). One of the best areas to pursue this project is the Taukha Terrane in Sikhote-Alin mountain range (Primorsky and Khabarovsk Kraï, Far East Russia) where an extraordinary amount of Triassic limestones is exposed. These carbonates, showing a general good preservation, are described and analysed in detail for the first time in this study. Thus, they are of a major importance to better understand the evolution of carbonate systems in the Panthalassa Ocean during the Late Triassic.

The Taukha Terrane is a part of the South—North continuity of Jurassic to Paleogene accretionary complexes, going from the Philippines to Sakhalin Island (Far East Russia). Nine main limestone bodies, situated few kilometers around the Dalnegorsk town, have been accurately explored and extensively sampled. The foraminiferal association, mostly dominated by the genera *Parvalamella* and *Aulotortus*, indicates a Norian age. Some other genera characteristic of a Carnian age also occur. The microfacies analysis shows that all the sampled blocks display closer facies, with very minor changes, indicating a stable depositional system over a long period spanning the Carnian and the Norian. The limestones are dominated by peloidal packstones-grainstones with abundant microbial clasts and microproblematica. Oolitic grainstones and Megalodont patches are also very common. The diagenetic analysis evidences major events, from early marine diagenesis to accretion-related changes. The cathodoluminescence observations and geochemical analyses allow us to define more precisely the deposition and cementation conditions. They also permit to document, for the very first time in Triassic Panthalassic carbonates, the REE and carbon/oxygen isotopes signals of different cementation stages.

References

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