Geophysical Research Abstracts
Vol. 19, EGU2017-3013, 2017
EGU General Assembly 2017

Upper Triassic limestones from the northern part of Japan: new insights on the Panthalassa Ocean and Hokkaido Island

Giovan Peyrotty (1), Camille Peybernes (1), Hayato Ueda (2), and Rossana Martini (1)

(1) Department of Earth Sciences, University of Geneva, Rue des Maraîchers 13, CH-1205 Genève (giovan.peyrotty@unige.ch), (2) Department of Geology, Niigata University, 8050 Ikarasi-ninocho, Nishi-ku, Niigata, 950-2181 Japan

In comparison with the well-known Tethyan domain, Upper Triassic limestones from the Panthalassa Ocean are still poorly known. However, these carbonates represent a unique opportunity to have a more accurate view of the Panthalassa Ocean during the Triassic. Their study will allow comparison and correlation of biotic assemblages, biostratigraphy, diagenesis, and depositional settings of different Triassic localities from Tethyan and Panthalassic domains. Moreover, investigation of these carbonates will provide data for taxonomic revisions and helps to better constrain palaeobiogeographic models.

One of the best targets for the study of these carbonates is Hokkaido Island (north of Japan). Indeed, this island is a part of the South-North continuity of Jurassic to Paleogene accretionary complexes, going from the Philippines to Sakhalin Island (Far East Russia). Jurassic and Cretaceous accretionary complexes of Japan and Philippines contain Triassic mid-oceanic seamount carbonates from the western Panthalassa Ocean (Onoue & Sano, 2007; Kiessling & Flügel, 2000). They have been accreted either as isolated limestone slabs or as clasts and boulders, and are associated with mudstones, cherts, breccias and basaltic rocks. Two major tectonic units forming Hokkaido Island and containing Triassic limestones have been accurately explored and extensively sampled: the Oshima Belt (west Hokkaido) a Jurassic accretionary complex, and the Cretaceous Sorachi-Yezo Belt (central Hokkaido).

The Sorachi-Yezo Belt is composed of Cretaceous accretionary complexes in the east and of Cretaceous clastic basin sediments deposited on a Jurassic basement in the west (Ueda, 2016), both containing Triassic limestones. The origin of this belt is still matter of debate especially because of its western part which is not in continuity with any other accretionary complex known in the other islands of Japan and also due to the lack of data in this region.

One of the main goals of this study is to investigate and characterise Triassic limestones, particularly from western part of Sorachi-Yezo, in order to provide new crucial data allowing us to define the origin of this belt. The comparison (i.e. biotic assemblages, preservation, diagnesis, associated lithologies) of the Triassic limestones in Oshima and Sorachi-Yezo belts might highlight differences in their depositional setting as well as in geodynamic evolution of the western part of Sorachi-Yezo Belt.

REFERENCES

Kiessling, W., & Flügel, E. 2000: Late Paleozoic and Late Triassic Limestones from North Palawan Block (Philippines): Microfacies and Paleogeographical Implications. Facies, 43, 39-78.
Onoue, T., & Sano, H. 2007: Triassic mid-oceanic sedimentation in Panthalassa Ocean: Sambosan accretionary complex, Japan. Island Arc, 16(1), 173-190.
Ueda H. 2016: Hokkaido in The Geology of Japan, Taira A. Ohara Y. Wallis S. Ishawatari A.Iryu Y. Geological Society, London, 203-223.