Upper Triassic Foraminifers: New Data on Dispersal, Paleogeography and Stratigraphic Global Correlations

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Upper Triassic foraminiferal studies are strongly unbalanced. In the Tethys, wide investigations for over 100 years provide a reliable stratigraphic framework. However, in ancient Panthalassa, Late Triassic tropical to subtropical carbonate settings, only a handful of publications on foraminifers exist. It is not clear whether this disparity is due to the absence of fossils or if it is attributable to a poor knowledge of counterparts outside the Tethys. In spite of that, the correlation and foraminiferal paleobiogeography far from the Tethys remains a mystery yet to be solved.

New data on the Upper Triassic foraminifers from terranes of North America and Japan allow us to improve our understanding of stratigraphy and paleogeography within the huge Panthalassa Ocean. First, contrary to previous ideas, foraminifers were common and well-distributed throughout both deposits of volcanic islands arcs and seamount-capped carbonate platforms. Secondly, although it is likely that distances of thousands kilometers separated foraminiferal associations of North America and Japan from those of the Tethys, they reveal astonishingly strong correspondences and show the same stratigraphic distribution. Therefore, Upper Triassic foraminifers may be an important tool for the global correlations.

Even if recent studies on actual shallow water benthic foraminifers suggest that they have a restricted geographic distribution, our work might indicate that in a relatively brief geological time, foraminifers were able to be dispersed all over the oceans of the ancient world.