

Planktonic foraminiferal biostratigraphy and paleoceanographic reconstruction of the Pleistocene Kokumoto Formation, Kazusa Group in the Boso Peninsula, Japan

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The Plio-Pleistocene Kazusa Group is widely distributed in the Boso Peninsula. The Matuyama-Brunhes reverse boundary (MBB) has been recognized in the Kokumoto Formation of the upper part of the Kazusa Group. To reconstruct a detailed paleoceanographic record of environmental change across the early-middle Pleistocene boundary, we carried out a faunal analysis of planktonic foraminifera from a sediment core (TB2) obtained from the Kokumoto Formation at Tabuchi, Ichihara City, Chiba Prefecture, central Honshu, Japan. We also reexamined a planktonic foraminiferal biostratigraphy extending from the Kokumoto Formation to the lower Kakinokidai Formation along the Yoro River section, in order to identify important planktonic foraminifera biohorizons.

The 54-m core mainly consists of massive siltstone with a key tuff bed (Byakubi-E) and covers marine oxygen isotope stages (MIS) 20.2 to 19.2 with a high sedimentation rate of 1–2 m/ka. Total 41 species belonging to 15 genera of planktonic foraminifera were detected from 59 samples of the TB2 core. We reconstructed sea surface temperature and salinity based on the planktonic foraminiferal assemblages by using the Modern Analog Technique and the Transfer Function method. The results clearly demonstrate the migration process of the Kuroshio front from stages 20 to 19. The biostratigraphic result of the Yoro River section indicates that the top occurrence datum of *Neoglobobulimina inflata* Kucera and Kennett is placed near the boundary between Kokumoto and Kakinokidai formations. This biohorizon has been dated as 0.73 ± 0.05 Ma at Ocean Drilling Program Site 1150 off the Sanriku region, Northwest Pacific (Domitsu and Oda, 2008, The Open Paleontology Journal, 1, 1–6). Combining with previous studies, we refined the planktonic foraminiferal biostratigraphy of the Kazusa Group.

Keywords: Kokumoto Formation, planktonic foraminifera, biostratigraphy, paleoceanography