

Calcareous nannofossil biostratigraphy of the Lower-Middle Pleistocene in the Kazusa Group, central part of the Boso Peninsula, and estimated sea surface environments

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Quaternary marine sediments, called the Kazusa Group, distribute in the Boso Peninsula situated in the middle part of the Pacific side of Japan. Lithostratigraphic and chronostratigraphic investigations have been done (Niitsuma, 1976; Sato et al., 1988; Igarashi, 1994) because the formations in this Group are well exposed and contain well-preserved fossils. The Matuyama/Brunhes boundary (MBB) is situated in the Kokumoto Formation, the upper part of the formations in the Kazusa Group, and this formation is one of three candidates for the GSSP (Global Boundary Stratotype Section and Point) of the Lower-Middle Pleistocene Boundary (Kazaoka et al., 2015). Thus, in order to determine a precise age of the Lower-Middle Pleistocene Boundary in this formation, detailed chronostratigraphic and chronometric studies are needed. In this study, we investigate calcareous nannofossil assemblages in the Kokumoto Formation in order to clarify nannofossil biohorizons and to estimate sea surface environment around the MBB in the northwestern Pacific region during the early to middle Pleistocene. Ten genera and 19 species of calcareous nannofossils were found in 66 samples from the Kokumoto Formation. Floral compositions are almost same throughout the examined interval. Abundant occurrences of small *Gephyrocapsa* were markedly found just above the MBB in the Kokumoto Formation. This event was also recognized in the Montalbano Jonico and Valle di Manche, the southern part of Italy (Girone et al., 2013) and it can be globally traceable event. Furthermore, an inverse relationship of occurrences between a cool water taxa, *Coccolithus pelagicus*, and a warm water taxa, *Umbilicosphaera sibogae*, is found. It indicates that the Kuroshio front, which corresponds with the boundary between the Kuroshio and the mixed waters, has moved northward and southward repeatedly during the early to middle Pleistocene.

References

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