北西太平洋の遠洋性堆積物中の白亜紀／古第三紀境界層付近における deep-water agglutinated foraminifers

Cretaceous to Paleogene deep-water agglutinated foraminifers in the western North Pacific pelagic sediments

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Deep-water agglutinated foraminifers (DWAF) are often composed of the only microfossils well-preserved in pelagic sediments without calcareous and siliceous fossils. DWAF have been studied for a long time for determining a stratigraphic succession and obtaining paleoecological information. While their quantitative distributions in sediments from the Atlantic Ocean were well-documented (e.g., Kuhnt et al., 1992), those from the Pacific Ocean have not been studied sufficiently enough to establish the stratigraphy. Wightman and Kuhnt (1992) investigated DWAF in the sediment cores drilled at Deep Sea Drilling Project Sites 196 and 198, and Ocean Drilling Program Sites 800 and 801 in the western North Pacific Ocean. They reported that the faunal density and diversity of DWAF rapidly declined across the horizon that approximately corresponds to the Cretaceous/Paleogene (K-Pg) boundary.
Recently, we constructed lithological description, including microfossils, for a pelagic sediment core of KR13-02 PC05 collected from the western North Pacific Ocean, and recognized a rapid decline of the density and diversity of DWAF across a spherule-rich layer. The spherules have a very similar appearance to those associated with the Chicxulub impact at the K-Pg boundary. We present a distribution of DWAF across the spherules-rich layer in the core and discuss its paleoceanographic implications.

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