

## Refining Middle Eocene Planktonic Biostratigraphy

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The Eocene cyclostratigraphic gap (53 to 42 Ma) has so far prevented extension of the astronomical time scale through the lower Paleogene. This study examines planktonic foraminiferal assemblages from Ocean Drilling Project (ODP) Leg 171B, Site 1051, Blake Nose in the western North Atlantic Ocean. Planktonic foraminifera are studied from 119 to 280 meters below seafloor at Site 1051A, corresponding to magnetochrons C21r to C18r of the Middle Eocene. All planktonic foraminifera are well preserved (although recrystallized) and assemblages are diverse with common *Acarinina*, *Globigerinatheka*, *Subbotina*, and *Turborotalia* genera.

Quantitative biostratigraphy reveals highest and lowest occurrences of *Turborotalia frontosa*, *Guembilitrioides nuttalli*, *Morozovelloides aragonensis*, *Globigerinatheka kugleri*, *Morozovelloides lehneri*, and allows for significant revision and recalibration of planktonic foraminifera zones E7b through E11.

As the foraminiferal biostratigraphy provides an important tool for unraveling dynamic changes through the middle Eocene, correlation with stable isotopic records will provide chronostratigraphic control and enhance our understanding of the middle Eocene. This study provides an important tool for unraveling dynamic changes resulting in a biostratigraphic and climatic record for the middle Eocene.