

**Planktonic foraminiferal Molecular study from the
West Pacific: taxonomy and paleoceanographic
implication**

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In this study, planktonic foraminiferal specimens (*Pulleniatina obliquiloculata*, *Neogloboquadrina dutertrei*, *Globigerinoides ruber* and *Globorotalia trunculinoides*) were collected from the West Pacific Ocean and analyzed to obtain their molecular information. SSU rDNA sequences of these species are reported. Detailed comparisons of these DNA sequences with those from other regions suggest that biological isolation do not exist for these species in the West Pacific. In addition, the small intra-species differences of DNA Sequence (<1.5 %) indicate only one *Gs. ruber* s.s. species and one *N. dutertrei* species exist in the global ocean. *Gr. trunculinoides* DNA Sequence supports the genotype V existing in the northwestern Pacific Ocean. The DNA sequence character of *P. obliquiloculata* implies only one species inside the Pacific Ocean, which confirms earlier previous speculation on this species from the molecular work in the Okinawa Trough. The molecular evidence demonstrates sufficient genetic communications of planktonic foraminifera in the ocean circulation system, which not only guarantees the accurate application of index species in the paleoceanographic study, but also provides the basis for the molecular method in reconstructing the history of ocean circulation system.