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# Distribution of recent benthic foraminifera around the Okinawa Island

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Benthic foraminifera have been regarded as reliable indicators not only of bottom environment but also of food supply from the ocean surface, and thus provide fundamental information on paleoenvironment for paleoceanography and geology. In this study, the distribution patterns of recent benthic foraminifera are examined around Okinawa Island, where is the direct source area of the Tsushima Warm Current as well as the warm Kuroshio Current.

Surface sediments for this study were taken by K-grab sampler during the GH cruises of 2008-2010 by National Institute of Advanced Industrial Science and Technology (AIST) in the east and west sides of Okinawa Island. The surface sediments were treated by the rose Bengal staining for recognized living foraminifera, and were screened on a 0.063 mm sieve.

Fifty six stations around the Okinawa Island were selected for this study. The east side of the island consists of rather simple slopes to the Ryukyu Trench. In the west side, on the other hand, the main current of warm Kuroshio flows, and is gently deepening toward the Okinawa Trough with complicated topography by small islands and banks.

Every sample were split into smaller aliquot, and about 200 individuals of benthic foraminifera were picked. 103 species of 38 benthic foraminiferal genera have been identified. Based on faunal composition, four assemblages, Assemblages A to D, are recognized. Characteristic species of each assemblage are, as follows:

Assemblage A: Amphistegina spp. and porcellaneous foraminifera

Assemblage B: Globocassidulina subglobosa, Pullenia bulloides and Pseudoparrella exigua and Oridorsalis umbonatus

Assemblage C: Bolivina robusta and Uvigerina proboscidea

Assemblage D: Cibicides spp.

Assemblage A, B and C are almost corresponded to water mass but Assemblege D implies substrata. In additional point, Amphistegina spp. live in shallow depth such as coral area, but come out in deeper sediment in this area, especially, until 1000m in west side of Okinawa Island. This evidence shows sediments move deeper and the movement of influence is smaller in east side. Thus, these benthic foraminferal distributions can be explained by water mass, topography or substrata.