

Benthic foraminifers on the observational buoy: Evidence of the meroplankton stage in their life

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Colonization of new habitat of benthic foraminifers is related to their diversion, survival strategies and evolutions. However their dispersal mechanisms are not well documented and still poorly understood. Here we report a new evidence of floating benthic foraminifers communities in the open ocean. They had lived on the stems of hydrozoan attaching to observational moorings in the Pacific Ocean.

Physical and biogeochemical observational mooring systems were deployed at the Station S1 (30N, 145E, water depth: 5,900m). Moored periods were from August 2011 to July 2012. Hydrozoan attaching on the mooring systems were observed on the surface of sediment trap and float at shallower depths (~320 m) and we could not observed hydrozoan at the 550 m water sediment trap. More than 300 individuals of benthic foraminifers attached of the surface of hydrozoan body. Fourteen living benthic foraminifers were identified under the microscope. Some of them were sessile and shallow water species. It is noteworthy that some agglutinated specimens were also identified: They made their shells by using other calcareous plankton (i.e. planktic foraminifers, coccolithophores, and calcareous dinoflagellata). Although it is known that only 5 species has meroplanktic (temporary planktic) stage in their life, there are no reports for above benthic foraminifers since now. Our finding suggests that benthic foraminifers which has meroplanktic life stage exist much further in the nature.

Keywords: Benthic foraminifera, agglutinated foraminifera, meroplankton, Hydrozoan, Pacific Ocean