Propagule transport as a key method of dispersal in benthic foraminifera (Protista)

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ABSTRACT: The distributional patterns of benthic foraminifera provide key information for paleoclimatic, paleoecologic, and paleoceanographic studies. Yet the dispersal mechanisms that provide a crucial link between local populations and large-scale biogeographic patterns are not well documented. We experimentally demonstrate the dispersal of propagules, which include both sexually and asexually produced young (perhaps only the proloculus), though the sexually produced young appear to have a greater potential for dispersal. The propagules can rest in a cryptic state for months, constitute a substantial bank of individuals in sediments from water depths beyond the natural distribution of conspecific adults, and grow in these sediments when exposed to favorable conditions. Propagule dispersal probably provides an effective mechanism for colonization of widely separated habitats in a fashion broadly similar to other eukaryotic microbial groups and many groups of marine invertebrates.

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