

Anuário do Instituto de Geociências - UFRJ ISSN 0101-9759 Vol. 29 - 1 / 2006 p. 450

FORAMS 2006

Extracellular cracking and content removal of benthic diatoms by intertidal foraminifera

Heather Anne Austin¹; William E. N. Austin² & David M. Paterson¹

¹Sediment Ecology Research Group, Gatty Marine Laboratory, University of St. Andrews, St. Andrews, Fife, KY16 8LB, U.K. ha8@st-andrews.ac.uk ²School of Geography & Geosciences, Irvine Building, University of St. Andrews, St Andrews, Fife, KY16 9AL, U.K.

Field-collected living specimens of the benthic foraminifera *Haynesina germanica* were maintained in the laboratory and fed a naturally occurring motile benthic diatom assemblage dominated by *Pleurosigma angulatum*. The extracellular removal of diatom contents was inferred for *P. angulatum* in controlled experiments. A characteristic pattern of fracturing of the diatom frustule was observed that was directly attributed to foraminiferal feeding/sequestration mechanisms. These feeding/sequestration mechanisms have a potentially important bearing on our understanding of foraminiferal aperture morphology, foraminiferal evolution and the preservation of diatoms in marine sediments. Recognition of this characteristic breakage pattern of diatom frustules may provide insight into the natural importance of foraminifera in grazing diatom biofilms.