



Antarctic sea ice: a habitat for the planktonic foraminifer *Neogloboquadrina pachyderma*

M. Spindler

Institute for Polar Ecology, Kiel University

mspindler@ipoe.uni-kiel.de

The planktonic foraminifer *Neogloboquadrina pachyderma* occurs in extremely high numbers in Antarctic sea ice. Maximum numbers exceed 1000 individuals per liter melted ice with an average of 87 specimens. Antarctic sea ice contained at least 70 times more foraminifers per unit volume than the underlying water column. The foraminifers are usually incorporated into the ice when it is being formed. They live within the brine channel system of the ice where they feed on the numerous diatoms.

Experiments have shown that *N. pachyderma* can survive the harsh conditions within this channel system. They actively grow (by adding chambers to their tests) in salinities up to 60 psu and survive 82 psu for at least some weeks. Reproduction was never observed within the ice and reproductive additional calcite crusts were missing in ice living specimens.

These observations may have implications for paleoceanography when *N. pachyderma* is used.