Geophysical Research Abstracts
Vol. 20, EGU2018-15644, 2018
EGU General Assembly 2018

Living inside a sponge: Foraminifera at the Karasik Seamount (Central Arctic Ocean)

Patrick Bukenberger (1), Petra Heinz (1), and Jutta Wollenburg (2)

(1) Department of Paleontology, University of Vienna, Vienna, Austria (patrick.bukenberger@univie.ac.at), (2) Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung, Bremerhaven, Germany

Seamounts are unique deep sea environments and often regarded as diversity hot spots. The Karasik Seamount is situated on the Gakkel Ridge, an active mid ocean ridge in the central Arctic Ocean (87°N 61°E), in a completely ice covered, oligotrophic region. During the German F/S Polarstern 101 expedition in autumn 2016, surface sediment samples were taken with a video equipped multiple corer at the seamount and in the surrounding. A Rose Bengal Ethanol mixture was added to the sediments. The Rose Bengal stained foraminifera were regarded as recently alive and were investigated.

The analyses showed that the surface of the Karasik Seamount is covered by large sponges, which are providing a rather specific niche for the present foraminiferal species. The foraminifera live probably commensalistic on sponge needles, benefitting from being attached by getting access to the food suspended in the water current maintained by and circulating through the sponge.

While *Tolypammina vagans* or *Placopsilinella aurantiaca* were commonly observed to grow along and around sponge needles, the test of epizoic species of the calcareous order Spirillinidae e.g. *Patellina corrugata* and an undescribed *Spirillina* test remained flat, a roll-up of the test around sponge spiculae was not observed. However, some *Patellina corrugata* specimens and the undescribed *Spirillina* species precipitated calcareous spines on the outer test margin. We assume that this morphological adaptation helps the foraminifera to anchor themselves inside the sponge matrix.