

16:30 16:45 ECTOSYMBIOSIS ON CIDADROIDS, A CRITICAL FACTOR IN ESTABLISHING LOCAL BENTHIC BIODIVERSITY IN DEEP WEDDELL SEA.

Rigaud, Thierry, Université de Bourgogne, UMR CNRS de Bourgogne, France
De Ridder, Chantal; Hétérier, Vincent; Biologie Marine, Université Libre de Bruxelles, Belgium
David, Bruno, UMR CNRS Biogéosciences, Université de Bourgogne, France

In deep marine environments, competition for hard substrates is a critical factor in the distribution and diversity of benthic organisms. In this context, the occurrence of biotic substrates in addition to mineral substrates may change the characteristics of sessile fauna. We tested this hypothesis in different localities of the Weddell Sea (Antarctica), by studying the contribution of ectosymbionts installed on the spines of cidaroids (echinoids). Presence of cidaroids promoted a higher total specific richness, increased sessile species abundance, but did not change the diversity. Analyses of species distribution suggested that the cidaroids are a favorable habitat for sessile organisms, compared to stones, but are colonized by relatively specialist sessile species, leaving the unfavorable stone habitat to more generalist species. Therefore, our study highlights the role of some living organisms, such as cidaroids, as key species increasing Antarctic benthic deep sea biodiversity, through the niche they provide to symbiotic species.

16:45 17:00 MARINE MICROPLANKTON BIODIVERSITY CHANGES OF ARCTIC IN FEVER". BENEFIT OR DISASTER?

Wiktor, Jozef; Piwosz, Katarzyna; Hapter, Ryszard. Marine Ecology Department, Institute of Oceanology PAS, Poland.

"Traditional" model of pelagic ecosystem assume one feast of lipid rich diatom spring bloom as a main nutritional event for arctic pelagic and benthic communities. believed since beginning of Polar research. Among others, warming of Arctic has consequences in productivity of pelagic ecosystems. Field semi simultaneous experiment in Hornsund-fjord on the border between Arctic and Atlantic domain – cold scenario and Kongsfjorden –influenced by warm Atlantic waters fjord, was carried out. Hornsund microplankton dominated by diatoms and another autotrophs while warm Kongsfjorden dominated was by small flagellates and mixo and heterotrophic ones. "Quantity" of taxonomic composition reflected – as was expected – quantity of biomass and primary production

17:00 17:15 SYSTEMATICS AND BIOGEOGRAPHY OF ANTARCTIC DEEP-SEA GROMIIDS

Rothe, Nina; Gooday, A.J.; Hughes, J.A.; DEEPSEAS Benthic Biology Group, Zoological Institute of Russian Academy of Sciences, Russia
Pawłowski, J.; Fahrni, J.; Department of Zoology and Animal Biology, University of Geneva, Switzerland
Aranda da Silva, A., Centro de Estudos do Ambiente e do Mar, Universidade de Aveiro, Portugal
Pearce, R.B., Paleoclimatology and Paleoclimate, National Oceanography Centre, Southampton, UK

Gromiids (Supergroup Rhizaria; genus *Gromia*) are large protists related to, but distinct from, the Foraminifera. Until recently, they were known mainly from a single, cosmopolitan shallow-water species, *Gromia oviformis*. Morphologically, *Gromia* species are characterized by 1) their simple, organic-walled tests, which range from spherical to grape-shaped, sausage-shaped or lobate in form, 2) the presence of an oral capsule and 3) a distinctive "honeycomb membrane" layer in the test wall. With the exception of an early record from a deep Norwegian fjord, the first report of deep-sea *Gromia* stems from the Oman (*Gromia sphaerica*) and Pakistan (*Gromia pyriformis*) margins of the Arabian Sea, where gromiids were discovered in 1994, living at bathyal depths. Here, we present the first report of gromiids from bathyal and abyssal depths in the Weddell Sea, Antarctica. The systematic description of thirteen previously undescribed species is based on a combination of morphological and molecular criteria. *Gromia* species are characterized by their test morphology and presence of a distinct oral capsule. Three species were identified as gromiids based on the presence of a "honeycomb membrane" layer, as well as on the phylogenetic analysis of partial SSU rDNA sequences. The new species are smaller (length from 0.4 to 4.4 mm) than *G. sphaerica* (4.7 to 38 mm), but reach a larger average size than *G. pyriformis* (< 1.0 mm). The Weddell Sea samples include novel morphotypes, including one in which the organic test is enclosed within an agglutinated case, so far a unique feature among gromiids. Other species show previously undescribed wall structures, including a polygonal surface pattern of thickened sections of wall with a layer of illite clay particles attached to the wall surface. This study has considerably increased our knowledge of the morphological and taxonomic diversity of this fascinating and potentially ecologically important group of deep-sea protists.