

Fauna of soft sediments and inactive hydrothermal sulfide deposits in the Russian Exploration Area on the Mid-Atlantic Ridge

Molodtsova T.¹; Galkin S.V.¹; Gebruk A.V.¹; Dobretsova I.G.²

¹P.P.Shirshov Institute of Oceanology RAS, Moscow, Russia; agebruk@gmail.com

²Polar Marine Geosurvey Expedition, Lomonosov, St-Petersburg, Russia

Hydrothermal ecosystems of the northern Mid-Atlantic Ridge are among the best studied habitats in the deep-sea. However, faunas of periphery of active deep-sea hydrothermal fields and inactive hydrothermal sulphide deposits remain poorly known. We provide here first results of study of megafauna associated with soft sediments and inactive hydrothermal structures on the Mid-Atlantic Ridge. The study is based on geological video records and limited material collected on several cruises of the RV Professor Logachev in the Russian Exploration Area (between 12°48.36'N and 20°54.36'N), including data obtained in February-March 2015 on the 37th cruise of Professor Logachev. Significant effort was aimed at studies of benthic non-vent soft sediment fauna at depths from 2270 m to 3900 m. Benthic sampling using Sigsbee trawl at seven stations revealed ~780 specimens and at least 136 species. Extensive fields of empty bivalve shells were observed on the TV profile in the vicinity of the new ore field Pobeda-1 (17°08.7'N, 46°23.44'W, depth 2100-2450 m). Limited biological data was obtained for the hard substrate fauna. Live specimens associated with ore deposits were of small size (<3 cm), that agrees with results of Dobretsova et al. (2013) for the MAR segment 12°58' - 13°31' N. This work was in part funded by the RSF Grant 14-50-00095 (Molodtsova TN, Gebruk AV, Galkin SV - biological studies in the area, taxonomic analysis).