

<b>MEMBER COUNTRY: POLAND</b>						
<b>National Report to SCAR for years 2016/2017</b>						
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## A BRIEF SUMMARY OF SCIENTIFIC HIGHLIGHTS:

### **Life Sciences**

#### **Ecology of Antarctic and sub-Antarctic terrestrial habitats**

Domaciuk M., Leszczuk A., Szczuka E., Kellmann-Sopyła W., Koc J., Gielwanowska I. 2016. Female sporogenesis in the native Antarctic grass *Deschampsia antarctica* Desv. *Polish Polar Research* 37: 289–302.

Galera H., Wódkiewicz M., Czyż E., Łapiński S., Kowalska M.E., Pasik M., Rajner M., Bylina P., Chwedorzewska K.J. 2016. First step to eradication of *Poa annua* L. from Point Thomas Oasis (King George Island, South Shetlands, Antarctica). *Polar Biology* 40(4): 939-945.

Korczak-Abshire M., Kidawa A., Zmarz A., Storvold R., Karlsen S.R., Rodzewicz M., Chwedorzewska K., Znój A. 2016. Preliminary study on nesting Adélie penguins disturbance by unmanned aerial vehicles. *CCAMLR Science* 23: 1-16

Mieczan T., Adamczuk M. 2016. Ecology of Ciliates in Microbial Mats in Small Ponds: Relationship to Environmental Parameters (King George Island, Maritime Antarctica). *Annales Zoologici Fennici* 53: 201-214.

Olech M., Słaby A. 2016. Changes in the lichen biota of the Lions Rump area, King George Island, Antarctica, over the last 20 years. *Polar Biology* 39: 1499-1503.

### **Glacial ecosystems**

Gawor J., Grzesiak J., Sasin-Kurowska J., Borsuk P., Gromadka R., Górniak D., Świętecki A., Aleksandrak-Piekarczyk T., Zdanowski M.K. 2016. Evidence of adaptation, niche separation and microevolution within the genus *Polaromonas* on Arctic and Antarctic glacial surfaces. *Extremophiles* 20: 403-413

Zdanowski M.K., Bogdanowicz A., Gawor J., Gromadka R., Wolicka D., Grzesiak J. 2016. Enrichment of Cryoconite Hole Anaerobes: Implications for the Subglacial Microbiome. *Microbial Ecology* 73(3): 532-538.

### **Studies on the diversity and functioning of the Antarctic marine ecosystem**

Bielecka L., Jerzak B., Złoch I. 2016. Species composition, seasonal abundance and population structure of chaetognaths in Admiralty Bay (Antarctic). *Polish Polar Research* 37: 303-324.

Krzeminska M., Kuklinski P., Najorka J., Iglukowska A. 2016. Skeletal Mineralogy Patterns of Antarctic Bryozoa. *Journal of Geology* 124(3): 411-422.

Thomas E.W., Ligowski R. 2016. *Rhoicosphenia kloseri*, a new isopolar *Rhoicosphenia* (Bacillariophyta) species from the Antarctic with comparison to other isopolar *Rhoicosphenia*. *Phytotaxa* 265: 50-58.

### **International projects**

*A novel approach to monitoring the impact of climate change on Antarctic ecosystems (MONICA)* (project No 197810 in the Research Programme of the EEA/Norway Grants Framework). Participants: IBB PAS, Northern Research Institute Tromsø, Warsaw University of Technology. Project leader: K. Chwedorzewska (IBB PAS). Fixed-wing Unmanned Aerial Vehicles are used to collect geospatial environmental data such as abundance and distribution of penguin colonies, or mapping vegetation communities and colonization processes on the moraines left by retreating glaciers.

## **Geosciences**

### **Seismic investigations of the crustal structure of the South Shetland Islands, West Antarctica**

Okoń J., Giżejowski J., Janik T. 2016. New geological interpretation of multi-channel seismic profiles from the Pacific Margin of the Antarctic Peninsula. *Polish Polar Research* 37: 243–268.

### **Cenozoic glaciations and biota evolution: evidence from West Antarctica**

Hryniewicz K., Gaździcki A. 2016. A new sediment-dwelling pholadid bivalve from the Oligocene of King George Island, West Antarctica. *Acta Palaeontologica Polonica* 61(4).

### **Applied micropaleontology**

Bart P.J., Coquereau L., Warny S., Majewski W. 2016. In situ foraminifera in grounding zone diamict: a working hypothesis. *Antarctic Science* 28(4): 313-321.

Majewski W., Wellner J.S., Anderson J.B. 2016. Environmental connotations of benthic foraminifera assemblages from coastal West Antarctica. *Marine Micropaleontology* 124: 1-15.

Świło M., Majewski W., Anderson J.B., Minzoni R. 2016. Diatom assemblages from coastal settings of West Antarctica. *Marine Micropaleontology* 125: 95-109.

### **Antarctic fossil penguins: evolutionary trends**

Jadwiszczak P., Mörs T. 2016. First report on quill pits in early penguins. *Antarctic Science* 28(3): 217-218.

## **Physical Sciences**

Kubicki M., Odzimek A., Neska M. 2016. Relationship of ground-level aerosol concentration and atmospheric electric field at three observation sites in the Arctic, Antarctic and Europe. *Atmospheric Research* 178-179: 329-346.

Kubicki M., Odzimek A., Neska M., Berliński J., Michnowski S. 2016. First Measurements of the Earth's Electric Field at the Arctowski Antarctic Station, King George Island, by the New Polish Atmospheric Electricity Observation Network. *Acta Geophysica* 64: 2630-2649

Pętllicki M., Kinnard C. 2016. Calving of Fuerza Aérea Glacier (Greenwich Island, Antarctica) observed with terrestrial laser scanning and continuous video monitoring. *Journal of Glaciology* 62: 835-846.

Zwolinski Z., Kejna M., Rachlewicz G., Sobota I., Szpikowski J. 2016. Solute and sedimentary fluxes on King George Island. In: Source-to-sink fluxes in undisturbed cold environments (eds. Beylich A.A., Dixon J.C., Zwolinski Z.), Cambridge University Press: 213-237.

Zwolinski Z., Boltramovich S., Kejna M., Lastochkin A., Zhirov A. 2016. Environmental impact on contemporary solute and sedimentary fluxes in Antarctica: current knowledge. In: Source-to-sink fluxes in undisturbed cold environments (eds. Beylich A.A., Dixon J.C., Zwolinski Z.), Cambridge University Press: 163-182.