POLISH ACADEMY OF SCIENCES
Polish National Committee on SCAR

POLISH ANTARCTIC RESEARCH

REPORT TO SCAR
2004–2005

Record of Activities: January 2004 to December 2005
Polish Antarctic Bibliography 2004–2005
Centres of Polish Antarctic Research

WARSZAWA 2006

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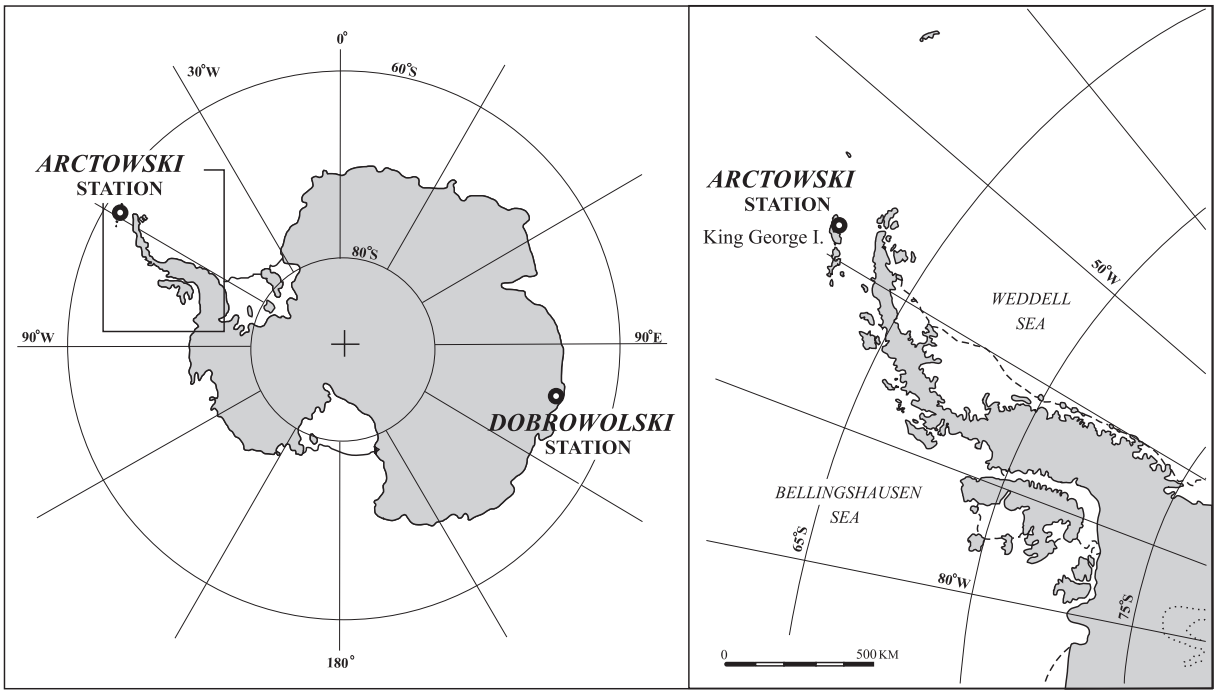
POLISH ANTARCTIC STATIONS

Name	Location	Latitude	Longitude	Altitude	Operating
Henryk Arctowski	King George Island, South Shetland Islands	62˚09' S	58˚28' W	3 m	permanently
Programmes being carried out at the *Arctowski* Station: marine biology, limnology, theriology, ornithology, plant ecology, geology, paleontology					
Antoni B. Dobrowolski	Bunger Hills	66˚17' S	100˚45' E	35 m	temporarily closed



Index map of Polish Antarctic Stations

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INTRODUCTION

This report has been prepared by the Polish National Committee on SCAR for the Scientific Committee on Antarctic Research of the International Council of Science (ICSU).

The present report includes:

1. Record of scientific activities: January 2004 to December 2005
2. Bibliography of the Polish Antarctic research 2004–2005
3. List of centres of the Polish Antarctic research

EXPEDITIONS

XXIX Expedition to *Arctowski* Station, 2004–2005
Leader – Dr Arkadiusz Nędzarek

Departed from Gdynia on 2nd October 2004, and returned home in December 2005. It included 11 members of wintering group and 5 members of summer party.

Programme:

1. Monitoring of the selected groups of fauna and flora, and trophic relationships in the near-shore and pelagic ecosystems of the King George Island region
2. Trophochemoreception of marine invertebrates and fishes
3. Vertebrate species diversity (fish and pinnipeds) of West Antarctica on the basis of genetic analyses
4. Directions and scale of the eolian transport of salt, biogenes and mineral matter in the ASPA 128 (Admiralty Bay)
5. Decomposition processes and the release of nutrients in Admiralty Bay
6. Plant succession in front of glaciers during deglaciation and climate warming
7. All year nutrients and cations content monitoring in soil, snow and water in Admiralty Bay
8. Multi-annual seasonal fluctuations in the biomass and species diversity of Admiralty Bay phytoplankton in relation to climatic changes
9. Body and blood chemical composition of Notothenidae
10. Cryosphere formation in Antarctica
11. Management of the protected areas (ASMA Admiralty Bay, ASPA 128, 151)

XXX Expedition to *Arctowski* Station, 2005–2006
Leader of summer group – Prof. Dr Maria Agata Olech
Leader of wintering group – Leszek Wilczyński

Departed from Gdynia on 7th October 2005, and it is expected to return home in December 2006. It includes 13 members of wintering group and 11 members of summer party, including one biologist from Ukraine.

Programme:

1. Monitoring of the selected groups of fauna and flora, and trophic relationships in the near-shore and pelagic ecosystems of the King George Island region
2. Behaviour and morphometry of two *Nacella concina* populations from Admiralty Bay
3. Management of the protected areas (ASMA Admiralty Bay, ASPA 128 and 151)

4. Plant succession in front of glaciers during deglaciation
5. Multi-annual temperature data for soil and water of Admiralty Bay, seasonal changes in the location of permafrost and UV radiation as indicators of climatic changes in the South Shetlands region
6. Identification of morpho-physiological and genetic features of plant species
7. Pinniped diversity of West Antarctica on the basis of genetic analyses
8. Phytoplankton multi-annual seasonal fluctuations
9. Basic meteorological observation
10. Microbial diversity in several Antarctic and Arctic habitats
11. Morphological investigation of plants and terrestrial invertebrates

CURRENT PROJECTS

Polish national project: ***Structure, evolution and dynamics of lithosphere, cryosphere and biosphere in the European Arctic sector and in the Antarctic, 2004–2006***.

Marine Biology

Location	Project	Principal investigators	Centres
Admiralty Bay, King George Island	Monitoring of the selected groups of fauna and flora	E. Kopczyńska M. Golachowski	1 1
Admiralty Bay, King George Island	Trophochemoreception of marine invertebrates and fishes	A. Kidawa T. Janecki M. Markowska S. Rakusa-Suszczewski	1 1 1 1
Admiralty Bay, King George Island	Vertebrate species diversity on the basis of genetic analyses	M. Golachowski	1
Admiralty Bay, King George Island	Multi-annual seasonal phytoplankton fluctuations in relation to climatic changes and variation	E. Kopczyńska	1
Admiralty Bay, King George Island	Body and blood chemical composition of the Notothenidae	K. Stepanowska	1, 34
Antarctica	Taxonomy, ecology and biogeography of planktonic and benthic Antarctic organisms	M. Błażewicz-Paszkowycz A. Jażdżewska K. Jażdżewski A. Kostecka R. Ligowski K. Pabis P. Presler J. Siciński	8 8 8 8 8 8 8 8
Admiralty Bay, King George Island	Structure and functioning of plankton and benthos in the near-shore zone	M. Błażewicz-Paszkowycz A. Jażdżewska K. Jażdżewski A. Kostecka R. Ligowski K. Pabis P. Presler J. Siciński	8 8 8 8 8 8 8 8

Antarctica	Species richness and zoobenthos diversity in polar fjords	M. Błażewicz-Paszkowycz A. Jażdżewska K. Jażdżewski K. Pabis P. Presler J. Siciński	8 8 8 8 8 8
Admiralty Bay, King George Island	The diversity of the polychaete fauna	J. Siciński K. Pabis	8 8
Admiralty Bay, King George Island	Asteroids and ophiuroids (Echinodermata)	P. Presler	8
Admiralty Bay, King George Island	Diversity, structure and distribution of amphipod assemblages	A. Jażdżewska K. Jażdżewski J. Siciński	8 8 8
Ross Sea	Tanaidacea (Crustacea, Malacostraca) of the Ross Sea and of the Antarctic abyssal plain	M. Błażewicz-Paszkowycz	8
Antarctica (Argentine Islands, King George Island, Beagle Channel)	Helminth fauna of the Antarctic and Subantarctic vertebrates	K. Zdzitowiecki A. Rocka Z. Laskowski	9 9 9
Antarctica, Subantarctica	Phylogeny and systematics of the Antarctic Acanthocephala	K. Zdzitowiecki Z. Laskowski J. Kwiatowski	9 9 23
Admiralty Bay, King George Island	Decomposition processes and the release of nutrients	A. Nędzarek K. Stepanowska	1, 34 1, 34
Admiralty Bay, King George Island	Annual nutrients and cations monitoring	A. Nędzarek	1, 34

Terrestrial Biology

Location	Project	Principal investigators	Centres
Admiralty Bay, King George Island	Directions and scale of the eolian transport of salt, biogenes and mineral matter	M. Potocki P. Angiel J. Biszczuk A. Nędzarek	1 1 1 1, 34
Admiralty Bay, King George Island	Plant colonization and succession on deglaciated areas	M. Olech K. Chwedorzewska A. Barcikowski W. Wojciechowski	6 1 1, 10 1, 10
Admiralty Bay, King George Island	Bacterial decomposition of marine-derived material (penguin guano and macroalgae) in the terrestrial maritime Antarctica	M. Zdanowski M. Żmuda P. Borsuk	1 1 23
Admiralty Bay, King George Island	Microbial diversity	A. Chachulska P. Borsuk M. Zagórski	23 23 23
Admiralty Bay, King George Island	Identification of morphological and genetical characters of the most expansive Antarctic plants	P. Loro	19
King George Island	Taxonomy and ecology of algae	B. Kawecka A. Massalski T. Noga M. Olech	22 16 6 6

King George Island	Taxonomy and ecology of soil algae	A. Massalski M. Olech L. Kostikov	16 6 Ukraine
Antarctica	Taxonomy and ecology of lichens	M. Olech P. Osyczka S.M. Singh	6 6 India
Antarctica	Freezing protection mechanism in polar lichens	M. Olech H. Harańczyk	6 25
Antarctica (Prince Edward Islands, South Georgia)	The moss flora	R. Ochyra S. Bednarek-Ochyra R.I. Lewis Smith V.R. Smith	7 7 UK South Africa
Antarctica/ Subantarctica	Moss diversity in the plant kingdom	R. Ochyra	7

Climatology

Location	Project	Principal investigators	Centers
Admiralty Bay King George Island	Temperature as an environmental factor in *Arctowski* Station area: multiannual, annual and daily temperature changes in soil	I. Zwolska S. Rakusa-Suszczewski	30 1
South Shetlands and west coast of Antarctic Peninsula	The influence of large scale changes in hydrology on climatic variability	A. Styszyńska A. Marsz G. Kruszewski S. Zblewski	26 26 26 26

Geodesy and Geographic Information

Location	Project	Principal investigators	Centres
Antarctica	Atmospheric impact on GNSS observations in Antarctica in relation to geophysical research	J. Cisak P. Wielgosz Y. Zanimonskiy G. Milinevsky R. Dietrich P. Sarti D. Brzezinska	17 32 Ukraine Ukraine Germany Italy USA
Antarctica	In situ GNSS antenna tests and validation of phase centre calibration data	J. Cisak Y. Zanimonskiy G. Johnston D. Brzezinska L. Hothem	17 Ukraine Australia USA USA
King George Island	King George Island GIS (KGIS)	J. Cisak R. Pudełko E. Dongchen S. Vogt	17 33 China Germany

Geology

Location	Project	Principal investigators	Centers
King George Island	Cenozoic glaciations	K. Birkenmajer A. Gaździcki K.P. Krajewski A. Przybycin A. Solecki A. Tatur	4 5 1, 27 29 28 1, 2
King George Island	Holocene paleoclimatic reconstructions based on marine- and lake-sediment cores	A. Tatur A. Przybycin	1, 2 29
King George Island	Sedimentary petrology of Cenozoic deposits	K.P. Krajewski	1, 27
King George Island, Haswell Island	Ornithogenic soils	A. Tatur A. Przybycin C.E.R. Schaefer	1, 2 29 Brazil
King George Island (Admiralty Bay)	Natural radionuclides in environment	A. Solecki	28
Seymour Island	The Weddell Sea Formation: post-Pliocene glacial deposits	A. Gaździcki A. Tatur R.A. del Valle	5 1, 2 Argentina
Antarctica	Cryosphere formation	A. Tatur K.P. Krajewski	1 1, 5

Paleobiology

Location	Project	Principal investigators	Centers
King George Island	Holocene foraminifera	W. Majewski	5
King George Island	Holocene ostracods	W. Majewski E. Olempska	5 5
King George Island	Stromatolites from the Polonez Cove Formation (Oligocene)	A. Gaździcki	5
King George Island	Palynomorphs from Paleogene–Neogene sequences	A. Gaździcki L. Cao Y. Shen	5 China China
King George Island Seymour Island	Cenozoic foraminifera	A. Gaździcki	5
King George Island	Brachiopods from the Oligocene–Miocene strata	M.A. Bitner A. Gaździcki M.R.A. Thomson A. Troedson	5 5 UK Australia
King George Island	Early Cambrian fossils from glacial erratics	R. Wrona	5
Seymour Island	Eocene penguins of Seymour Island: systematics, evolution and paleoecology	P. Jadwiszczak	20
Seymour Island	*Tibiotarsus* of the Late Eocene bird	Ł. Fostowicz-Frelik A. Gaździcki	5 5
West Antarctica	Cenozoic bryozoan taxonomy, ecology, and biogeography	U. Hara A. Gaździcki J.A. Crame	21 5 UK
Kerguelen Plateau	Middle Miocene planktonic foraminifera at ODP Site 747	W. Majewski S. Bochaty J. Zachos	5 USA USA

Solid Earth Geophysics

Location	Project	Principal investigators	Centres
West Antarctica	Crustal structure and lower lithosphere in the northern part of Antarctic Peninsula	M. Grad A. Guterch T. Janik P. Środa	18 3 3 3
West Antarctica	Tectonophysical properties and evolution of the main lithospheric plates of West Antarctic	A. Guterch M. Grad T. Janik P. Środa	3 18 3 3

Miscellanea

Location	Project	Principal investigators	Centres
Admiralty Bay, King George Island	Management of the protected areas	S. Rakusa-Suszczewski T. Janecki	1 1
West Antarctica	Impact of human activity on the Antarctic environment	M. Olech P. Osyczka K. Sobiech P. Zwolak W. Mietelski P. Gaca	6 6 6 6 24 24

BIBLIOGRAPHY 2004–2005

Biology and Oceanography

Scientific papers

Białkowska A., Cieśliński H. and Turkiewicz M. 2004. Optymalizacja biosyntezy antarktycznej -galaktozydazy. *Acta Scientiarum Polonorum – Biotechnologia* 3: 25–35.

Błażewicz-Paszkowycz M. 2004. A description of a new species of *Typhlotanais (*Crustacea: Tanaidacea) from West Antarctic with a note on the genus. *Zootaxa* 535: 1–12.

Błażewicz-Paszkowycz M. 2005. *Singularia* n. gen. n. sp. (Tanaidacea: Tanaidomorpha) from Antarctic abyssal waters. *Journal of Crustacean Biology* 25: 75–80.

Błażewicz-Paszkowycz M. 2005. *Singula*, a new name for *Singularia* Błażewicz-Paszkowycz, 2005 (Crustacea: Malacostraca: Tanaidacea) preoccupied by *Singularia* Arenberger 1988 (Insecta: Lepidoptera). *Journal of Crustacean Biology* 25: 570.

Błażewicz-Paszkowycz M. 2005. Revision of the genus *Peraeospinosus* Sieg, 1986 (Crustacea: Peracarida: Tanaidacea). *Journal of Natural History* 39: 3847–3901.

Błażewicz-Paszkowycz M. and Heard R.W. 2005. Observations on Cumacea (Crustacea: Malacostraca) from Antarctic and Subantarctic waters. II. The rediscovery and redescriptions of *Diastylis hammoniae* Zimmer, 1902 and *Diastylis planifrons* Calman, 1912 (Crustacea: Malacostraca: Diastylidae) from subantarctic waters. *Proceedings of the Biological Society of Washington* 118: 649–659.

Błażewicz-Paszkowycz M. and Heard R.W. 2005. Observations on Cumacea (Crustacea: Malacostraca) from Antarctic and Subantarctic waters. III. The genus *Holostylis* Stebbing, 1912 (Diastylidae), with a supplemental description of *H. helleri* (Zimmer, 1907) and the description of *H. spinicauda*, a new deep-water species. *Proceedings of the Biological Society of Washington* 118: 660–673.

Błażewicz-Paszkowycz M. and Larsen K. 2004. Three new deep-sea species of Apseudidae (Tanaidacea; Pseudomorpha) from the southern seas and Antarctica. *Crustaceana* 77: 467–498.

Błażewicz-Paszkowycz M. and Larsen K. 2005. New species of the genus *Collettea* (Peracarida: Tanaidacea) from the southern seas and Antarctica. *Zootaxa* 1085: 1–19.

Błażewicz-Paszkowycz M. and Sekulska-Nalewajko J. 2004. A comparison of tanaid fauna of two polar fjords: Kongsfjorden , Spitsbergen (Arctic) and Admiralty Bay, King George Island (Antarctic). *Polar Biology* 27: 222–230.

Cardinal D., Savoye N., Trull T.W., Andre L., Kopczyńska E.E. and Dehairs F. 2005. Variations of carbon remineralisation in the Southern Ocean illustrated by the Baxs proxy. *Deep Sea Research* 52: 355–370.

Chwedorzewska K.J., Bednarek P.T. and Puchalski J. 2004. Molecular and morphological variation of Antarctic grass *Deschampsia antarctica* Desv. from King George Island (Antarctica). *Acta Societatis Botanicorum Poloniae* 73: 23–29.

Cieśliński H., Kur J., Białkowska A., Baran I., Makowski K. and Turkiewicz M. 2004. Cloning, expression and purification of a recombinant cold-adapted -galactosidase from Antarctic bacterium *Pseudoalteromonas* sp. 22b. *Protein Expression and Purification* 39: 27–34

Domanov M.M., Chwedorzewska K.J. and Rakusa-Suszczewski S. 2004. CO_2 partial pressure in near-water air layer at the Atlantic cross-section in November–December 2000. *Oceanology Russia* 45: 183–188.

Fiala M., Kopczyńska E., Oriol L. and Machado M.C. 2004. Phytoplankton variability in the Crozet Basin frontal zone (Southwest Indian Ocean) during austral summer. *Journal of Marine Systems* 50: 243–261.

Giełwanowska I., Bochenek A. and Loro P. 2005. Biology of generative reproduction of *Deschampsia antarctica*. *In*: L. Frey (ed.) *Biology of Grasses.* Szafer Institute of Botany, Kraków: 181–195.

Giełwanowska I. and Szczuka E. 2005. New ultrastructural features of organelles in leaf cells of *Deschampsia antarctica* Desv. *Polar Biology* 28: 951–955.

Giełwanowska I., Szczuka E., Bednara J. and Górecki R. 2005. Anatomical features and ultrastructure of *Deschampsia antarctica* (Poaceae) leaves from different growing habitats. *Annales of Botany* 96 (6): 1109–1119.

Guerrero-Kommritz J. and Błażewicz-Paszkowycz M. 2004. New species of *Tanaella* Norman et Stebbing, 1886 (Tanaidacea: Crustacea) from the deep-sea of the Antarctic and the Angola Basin, with a key to the genus. *Zootaxa* 459: 1–20.

Guerrero-Kommritz J. and Błażewicz-Paszkowycz M. 2004. *Magotanais* a new genus of Tanaidacea (Crustacea) from the Antarctic. *Beaufortia* 54: 105–112.

Harańczyk H., Grandjean J. and Olech M. 2004. Freezing of water bound in lichen thallus as observed by ^{1}H NMR. I. Freezing of loosely bound water in *Cladonia mitis* at different hydration levels. *Colloids and Surfaces B: Biointerfaces* 28: 239–249.

Harańczyk H., Grandjean J., Olech M. and Michalik M. 2004. Freezing of water bound in lichen thallus as observed by ^{1}H NMR. II. Freezing protection mechanisms in a cosmopolitan lichen *Cladonia mitis* and in Antarctic lichen species at different hydration levels. *Colloids and Surfaces B: Biointerfaces* 28: 251–260.

Ireland R.R., Bellolio B., Bednarek-Ochyra H. and Ochyra. R. 2005. Fertile plants of *Racomitrium patagonicum* (Bryopsida, Grimmiaceae). *Journal of the Hattori Botanical Laboratory* 98: 205–211.

Janecki T. and Rakusa-Suszczewski S. 2004. Chemical composition of *Odontaster validus* (Koehler, 1911) and their reaction to glutamic acid and kinurenic acid. *Russian Journal of Marine Biology* (*Biologiya morya*) 30: 358–360.

Janecki T. and Rakusa-Suszczewski S. 2004. The effect of glutamic acid (GLU) and kynurenic acid (KYN) on the metabolism of the Antarctic amphipod *Abyssorchomene plebs*. *Journal of Crustacean Biology* 24: 81–83.

Janecki T. and Rakusa-Suszczewski S. 2005. The influence of starvation and amino acids on metabolism of the Antarctic amphipod *Waldeckia obesa*. *Journal of Crustacean Biology* 25: 196–202.

Jordan R.W. and Ligowski R. 2004. New observations on *Proboscia* auxospores and validation of the family Probosciaceae fam. nov. *Vie et Milieu* 54: 91–103.

Kawecka B. and Olech M. 2004. Diatom diversity of streams in Finnish Lapland and maritime Antarctica. *Proceedings of the Seventeenth International Diatom Symposium 2002*, International Society for Diatom research, Ottawa, Canada: 161–188.

Kidawa A. 2005. Behavioural and metabolic responses of the Antarctic starfish *Odontaster validus* to different concentrations of food stimuli. *Polar Biology* 28: 449–455.

Kidawa A. 2005. The role of amino acids in phagostimulation in the shallow-water omnivorous Antarctic sea star *Odontaster validus. Polar Biology* 28: 147–155.

Kittel P. 2004. The centenary of the beginning of commercial whaling in Antarctica [in Polish]. *Polish Polar Studies*: 179–189.

Krzewicka B. and Smykla J. 2004. The lichen genus *Umbilicaria* from the neighbourhood of Admiralty Bay (King George Island, Maritime Antarctic), with a proposed new key to all Antarctic taxa. *Polar Biology* 28: 15–25.

Kulesz J. and Rakusa-Suszczewski S. 2005. Western Antarctic fish species and biomass diversity. *Fragmenta Faunistica* 48: 217–229.

Laskowski Z., Rocka A., Zdzitowiecki K., Ghigliotti L. and Pisano E. 2005. New data on the occurrence of internal parasitic worms in the *Gymnodraco acuticeps* and *Cygnodraco mawsoni* (Bathydraconidae) fish in the Ross Sea, Antarctica. *Polish Polar Research* 26: 37–40.

Laskowski Z. and Zdzitowiecki K. 2004. Redescription of a sub-Antarctic acanthocephalan *Aspersentis johni* (Baylis, 1929) (Palaeoacanthocephala, Heteracanthocephalidae). *Wiadomości Parazytologiczne* 50 (suplement): 67.

Laskowski Z. and Zdzitowiecki K. 2004. New morphological data on a sub-Antarctic acanthocephalan, *Aspersentis johni* (Baylis, 1929) (Palaeoacanthocephala: Heteracanthocephalidae). *Systematic Parasitology* 59: 39–44.

Laskowski Z. and Zdzitowiecki K. 2005. The helminth fauna of some notothenioid fishes collected from the shelf of Argentine Islands, West Antarctica. *Polish Polar Research* 26: 315–324.

Mietelski J.W., Olech M.A., Gaca P., Sobiech K., Zwolak M., Tomankiewicz E. and Grabowska S. 2005. 137 Cs, 238 Pu, 239+240 Pu and 90 Sr in various kind of samples from the King George Island (Southern Shetlands) Antarctic environment. *In*: P. Strand, P. Borretzen and T. Jolle (eds) *Proceedings from the 6th International Conference on Environmental Radioactivity in the Arctic and Antarctic,* 2–6 October 2005 Nice, France: 130–133.

Nędzarek A. and Chwedorzewska K.J. 2004. Biogeny w glebie i w wodzie zasilającej wybrane stanowiska trawy *Deschampsia antarctica* Desv. (Wyspa Króla Jerzego, Antarktyka). *Polish Polar Studies*: 263–270.

Nędzarek A. and Chwedorzewska K.J. 2004. Stężenie nutrientów w wodzie zasilającej wybrane stanowiska trawy *Deschampsia antarctica* (King George Island, Antarctica). *Folia Universitatis Agriculture Stetinensis* 234: 299–304.

Nędzarek A. and Rakusa-Suszczewski S. 2004. Decomposition of macroalgae and the release of nutrients in Admiralty Bay, King George Island, Antarctica. *Polar Bioscience* 17: 26–35.

Noga T. and Olech M.A. 2004. Diatom communities in moos creek (King George Island, South Shetland Islands, Antarctica) in two summer seasons: 1995/96 and 2001/02. *Oceanological and Hydrobiological Studies* 33: 103–120.

Ochwanowski P. and Pociecha A. 2005. The impact of abiotic factors on diatom density dynamics in the freshwater Uncle Lake near the *Henryk Arctowski* Polish Antarctic Station during the austral summer. *Oceanological and Hydrobiological Studies* 257–267.

Ochyra R. 2004. *Schistidium leptoneurum* species nova from the South Shetland Islands, Antarctica. *Cryptogamie, Bryologie* 25: 125–130.

Ochyra R. 2004. *Tortula hoppeana*, the correct name for *Desmatodon latifolius* in *Tortula* (Bryopsida, Pottiaceae). *The Bryologist* 107: 497–500.

Ochyra R. 2004. Antipodal mosses: XIV. On the taxonomic status of *Grimmia lawiana* (Bryopsida: Grimmiaceae) from continental Antarctic. *Polar Polish Research* 25: 111–122.

Ochyra R. 2004. Antipodal mosses: XV. Taxonomy and distribution of *Schistidium cupulare* (Bryopsida: Grimmiaceae). *Polish Polar Research* 25: 123–133.

Ochyra R. 2005. *Didymodon brachyphyllus* (Sull.) R.H. Zander. South Georgia. *In*: T.L. Blockeel (ed.) New national and regional bryophyte records, 11. *Journal of Bryology* 27: 164.

Ochyra R. and Broughton D.A. 2004. Additions to the moss flora of the Falkland Islands. *Journal of Bryology* 26: 232–236.

Ochyra R. and Gremmen N.J.M. 2004. *Trematodon flexipes* Mitt. Prince Edward Island. *In*: T.L. Blockeel (ed.) New national and regional bryophyte records, 10. *Journal of Bryology* 26: 307–308.

Ochyra R. and Smith V.R. 2004. On the occurrence of *Ceratodon purpureus* (Hedw.) Brid. on Subantarctic Marion Island. *Cryptogamie, Bryologie* 25: 131–135.

Olech M. and Bystrek J. 2004. *Bryoria forsteri* (Lichenized Ascomycotina), a new species from Antarctica. *Acta Societatis Botanicorum Poloniae* 73: 151–153.

Osyczka P. and Olech M. 2004. Taksony rodzaju *Cladonia* (grzyby zlichenizowane) w rejonie Wyspy Króla Jerzego (Szetlandy Południowe, Antarktyka). *Polish Polar Studies*: 285–291.

Osyczka P. and Olech M. 2005. The lichen genus *Cladonia* of King George Island, South Shetland Islands, Antarctica. *Polish Polar Research* 26: 107–123.

Palinkas L.A., Johnson C.J., Boster S.J., Rakusa-Suszczewski S., Klopov V.P., Xue Quan Fu and Sachdeva U. 2004. Cross-Cultural Differences in Psychosocial Adaptation to Isolated and Confined Environments. *Aviation, Space, and Environmental Medicine* 75: 973–980.

Piotrowicz-Cieślak A., Giełwanowska I., Bochenek A., Loro P. and Górecki R. 2005. Carbohydrates in *Colobanthus quitensis* and *Deschampsia antarctica*. *Acta Societatis Botanicorum Poloniae* 74: 209–217.

Putten N. van der, Stieperaere H., Verbruggen C. and Ochyra R. 2004. Holocene palaeoecology and climate history of South Georgia (sub-Antarctica) based on a macrofossil record of bryophytes and seeds. *The Holocene* 14: 382–392.

Rocka A. 2004. Nematodes of the Antarctic fishes. *Polish Polar Research* 25: 135–152.

Rocka A. 2005. Polskie badania parazytologiczne w Antarktyce. *Kosmos* 54: 73–76.

Savoy N., Dehairs F., Elskens M., Cardinal D., Kopczyńska E., Trull T., Wright S., Baeyens W. and Griffiths. 2004. Regional variation of spring N-uptake and new production in the Southern Ocean. *Geophysical Research Letters* 31.

Siciński J. 2004. Polychaetes of Antarctic sublittoral in the proglacial zone (King George Island, South Shetland Islands). *Polish Polar Research* 25: 67–96.

Styszyńska A. 2004. The origin of coreless winters in the South Shetlands area (Antarctica). *Polish Polar Research* 25: 45–66.

Tatur A., del Valle R., Barczuk A. and Martinez-Macchiavello J. 2004. Records of Holocene environmental changes in terrestrial sedimentary deposits on King George Island, Antarctica. *Ocean and Polar Research* 26: 531–537.

Tkaczuk K.L., Bujnicki J.M., Białkowska A., Bielecki S., Turkiewicz M., Cieśliński H. and Kur J. 2005 Molecular modelling of a psychrophilic -galactosidase. *Biotransformation and Biocatalysis* 23: 201–209.

Turkiewicz M., Pazgier M., Donachie S. and Kalinowska H. 2005. Invertase and -glucosidase production by the psychrophilic Antarctic marine yeast *Leucosporidium antarcticum*. *Polish Polar Research* 26: 125–136.

Walkusz W., Kwaśniewski S., Dmoch K., Hop H., Żmijewska M.I., Bielecka A.L., Falk-Petersen S. and Siciński J. 2004. Characteristics of the Arctic and Antarctic mesozooplankton in the neritic zone during summer. *Polish Polar Research* 25: 275–291.

Zdanowski M.K., Węgleński P., Golik P., Sasin J.M., Borsuk P., Żmuda M.J. and Stankovic A. 2004. Bacterial diversity in Adelie Penguin, P*ygoscelis adeliae*, guano: Molecular and morphophysiological approaches. *Federation of European Microbiological Societies, Microbiology Ecology* 50: 163–173.

Zdanowski M., Żmuda M.J. and Zwolska I. 2005. Bacterial role in the decomposition of marine-derived material (penguin guano) in the terrestrial maritime Antarctic. *Soil Biology and Biochemistry* 37: 581–595.

Zdzitowiecki K. and Laskowski Z. 2004. Helminths of an Antarctic fish *Notothenia coriiceps* from the Vernadsky Station (Western Antarctica) in comparison with Admiralty Bay (South Shetland Islands). *Helminthologia* 41: 201–207.

Abstracts

Barcikowski A., Krywult M., Loro P., Rektoris L., Smykla J., Wincenciak A. and Zubel P. 2004. Gatunki zwornikowe a funkcjonowanie ekosystemów: rola kolonii pingwinów w różnicowaniu roślinności lądowej Antarktyki Morskiej. *Toruńskie Seminarium Ekologiczne, „Kryteria ochrony ekosystemów"*, 25–27.06.2004, Instytut Ekologii i Ochrony Środowiska, Uniwersytet Mikołaja Kopernika, Toruń: 6.

Białkowska A. 2005. Antarctic -galactosidase from *Pseudoalteromonas* sp.22b – kinetic and molecular adaptation to cold. *2nd Polish Molecular Biotechnology Conference,* Gdańsk, 14–15 October 2005: 85–86.

Białkowska A., Cieśliński H., Makowski K., Kałużewska M., Kur J. and Turkiewicz M. 2004. Antarctic -galactosidase – properties and usefulness. *2nd International Conference Biocatalysis in the Food and Drinks Industries*, Hohenheim, September 2004: 22.

Białkowska A., Turkiewicz M. and Kałużewska M. 2004. Charakterystyka i potencjalne wykorzystanie antarktycznej -galaktozydazy. *35 Sesja Naukowa Komitetu Nauk o Żywności PAN „Żywność – aspekty technologiczne i prozdrowotne"*, Łódź, wrzesień 2004: komunikat 2/7.

Chwedorzewska K.J. 2004. Preliminary genetic study on species from genus *Deschampsia* from Antarctic (King George Island) and Arctic (Spitsbergen). *XXVII Symposium on Polar Biology*, National Institute of Polar Research, Tokyo, Japan, 2–3 XII 2004: 88.

Chwedorzewska K.J. and Nędzarek A. 2004. Molekularna analiza zmienności genetycznej populacji *Deschampsia antarctica* i jej gatunków pokrewnych. *Konferencja Zmienność i Ewolucja*, Poznań, 2004: 86.

Cieśliński H., Długołęcka A., Białkowska A., Turkiewicz M., Tkaczuk K. and Kur J. 2005. Izolacja, klonowanie i ekspresja w *Escherichia coli* zimnolubnej lipazy klasy GDSL z morskiej antarktycznej bakterii *Pseudoalteromonas* sp. 643A. *I Konferencja Naukowa Komitetu Mikrobiologii PAN*, Warszawa, 22–23 października 2005: 32.

Dehairs F., Cardinal D, Savoye N., Jacquet S., Andre L., Elskens M., Trull T., Buesseler K. and Kopczyńska E. 2005. A multi-proxy approach to constrain C, N and Si fluxes in the ocean: a Southern Ocean case study. *International Ocean Research Conference*, Paris, June 6–10, 2005.

Delimat A., Rakusa-Suszczewski S., Zdanowski M.K., Chojnacka A., Bajda A., Ciepichal E., Świeżewska E. and Chojnacki T. 2004. On the possibility of the occurrence of poliprenols in Antarctic flora. *Comparative*

Genomics for Health and Environment. Institute of Biochemistry and Biophysics, Polish Academy of Sciences. Warsaw 26–29, November 2004.

Długołęcka A., Cieśliński H., Białkowska A., Turkiewicz M., Tkaczuk K. and Kur J. 2005 A cold active lipase/esterase of *Pseudoalteromonas* sp. 643A: gene identification, cloning and expression. *2nd Polish Molecular Biotechnology Conference*, Gdańsk, 14–15 October 2005: 89.

Gromek E. and Turkiewicz M. 2004. Alkalostable subtilysin-like proteinase from antarctic bacterium *Pseudoalteromonas* sp. no 93. *2nd International Conference Biocatalysis in the Food and Drinks Industries,* Hohenheim, September 2004: 23.

Gromek E. and Turkiewicz M. 2004. Alkalostabilna proteinaza bakterii antarktycznych *Psedoalteromonas* sp. nr 93. XXX Międzynarodowe Sympozjum Polarne, Gdynia, 23–25 września 2004: 58–59.

Gromek E. and Turkiewicz M. 2005. Characterization of a cold-adapted alkalistable serine protease from Antarctic bacterium *Pseudoalteromonas* sp., strain 93. *2nd Polish MolecularBiotechnology Conference*, Gdańsk, 14–15 October 2005: 91.

Guzera E., Żmijewska M.I. and Kuczyński R. 2005. Comparison analysis of summer population of *Ctenocalanus citer* (Copepoda) from the Admiralty Bay (King George Island, South Shetland, Atlantic Ocean sector) and Croker Passage (Antarctic Peninsula, Pacific Ocean sector, Antarctica) [in Polish]. *XXXI Sympozjum Polarne*, Kielce 12–14 września 2005: 44–45.

Janecki T. and Rakusa-Suszczewski S. 2004. Antarctic starfish *Odontaster validus* (Koehler 1911), reactions to glutamic acid (Glu) and kinurenic acid (Kyn). *XXVII Symposium on Polar Biology*, National Institute of Polar Research, Tokyo, Japan, 2–3 XII 2004: 43.

Janecki T. and Rakusa-Suszczewski S. 2004. *Glyptonotus antarcticus* (Eights) – acpects of biology, metabolism and trophochemoreception (Admiralty Bay, King George Island, Antarctica). *XXVII Symposium on Polar Biology*, National Institute of Polar Research, Tokyo, Japan, 2–3 XII 2004: 55.

Janecki T. and Rakusa-Suszczewski S. 2004. Influence of amino acids on the oxygen consumption of Antarctic necrophagous amphipod *Waldeckia obesa* (Chevreux, 1905). *XXVIII SCAR Open Science Conference, Antarctica and the Southern Ocean in the Global System*: 114.

Kalinowska H., Zielińska M., Kuc K., Kuras E., Pasieczka M., Majda T., Mrozik A. and Turkiewicz M. 2005. Diversity of fatty acids produced by Antarctic microorganisms. *2nd Polish Molecular Biotechnology Conference*, Gdańsk, 14–15 October 2005: 96–97.

Kasieczka M., Kalinowska H., Kuc K. and Turkiewicz M. 2005. Pectinase and tannase production by Antarctic filamentous fungi [in Polish]. *XXXI Sympozjum Polarne*, Kielce, 12–14 września 2005: 51–53.

Kaufman A. and Turkiewicz M. 2005. Effect of temperature downshift on protein synthesis by Antarctic bacteria. *2nd Polish Molecular Biotechnology Conference*, Gdańsk, 14–15 October 2005: 94–95.

Klimek-Ochab M., Szatkowski M., Turkiewicz M., Lejczak B. and Kafarski P. 2005. Degradation of structurally diverse organophosphonates by psychrophilic Antarctic fungi. *2nd Polish Molecular Biotechnology Conference*, Gdańsk, 14–15 October 2005: 98–99.

Kopczyńska E.E., Savoye N., Dehairs F. and Elskens M. 2004. Phytoplankton variability versus zonal variation in spring new production in the Southern Ocean, between Australia and Antarctica. *XXVIII SCAR Open Science Conference, Antarctica and the Southern Ocean in the Global System*: 155.

Krzewicka B. and Smykla J. 2004. Diversity of *Umbilicaria* species in the neighbourhood of Admiralty Bay (King George Island, Antarctic). *5th Symposium of the International Association for Lichenology*, *Lichens in focus*, University of Tartu (Estonia), 16–21.08.2004:

Kuc K. and Turkiewicz M. 2005 General characteristics of Antarctic soil microorganisms from the collection of Institute of Technical Biochemistry (Technical University of Lódź). *2nd Polish Molecular Biotechnology Conference*, Gdańsk, 14–15 October 2005: 100–101.

Kuc K. and Turkiewicz M. 2005. The collection of Antarctic soil microorganisms of Institute of Technical Biochemistry (Technical University of Łódź) [in Polish]. *XXXI Sympozjum Polarne*, Kielce, 12–14 września 2005: 72–74.

Kuczyński R. and Żmijewska M.I. 2005. Biomass and species composition of macroalgae from eulitoral zone of Arctowski Cove in the year 2004. *XXXI Sympozjum Polarne*, Kielce, 12–14 września 2005: 75–76.

Lasecki R. and Loro P.M. 2004. Wpływ ptaków latających na kolonizację przez rośliny wolnych od lodu terenów morskiej Antarktyki. *XXX Międzynarodowe Sympozjum Polarne*, Gdynia, 23–25 września 2004: 104–105.

Makowski K., Antczak T. and Turkiewicz M. 2005. Antarctic filamenous fungi – the tool for stereoselective resolution of secondary alcohols. *2nd Polish Molecular Biotechnology Conference,* Gdańsk, 14–15 October 2005: 101.

Makowski K., Szczęsna-Antczak M., Turkiewicz M. and Cieśliński H. 2005. Application of Antarctic -galactosidase of *Pseudoalteromonas* sp. 22b for reaction of hydrolysis and synthesis. *2nd Polish Molecular Biotechnology Conference*, Gdańsk, 14–15 October 2005: 102–103.

Markowska M. and Kidawa A. 2004. Interactions between Antarctic limpet *Nacella concinna* and predatory starfish *Lysasterias* sp. in laboratory and field experiments. *XXVIII SCAR Open Science Conference*, *Antarctica and the Southern Ocean in the Global System*: 175.

Massalski A., Kostikov I. and Olech M. 2005. Mitosis, cytokinesis and multinuclearity development in *Xanthonema* cf. *exile* isolated from Antarctic soil [in Polish]. *XXXI Sympozjum Polarne*, Kielce, 12–14 września 2005: 85–87.

Nędzarek A., Chwedorzewska K.J. and Rakusa-Suszczewski S. 2004. Stężenie biogenów w glebie i w wodzie zasilającej wybrane stanowiska trawy *Deschampsia antarctica* (Wyspa Króla Jerzego, Antarktyka). *XXX Międzynarodowe Sympozjum Polarne*, Gdynia, 23–25 wrzesień 2004: 129–134.

Ochwanowski P. and Pociecha A. 2005. Diatoms in some Antarctic freshwater habitats near *Arctowski* Station [in Polish]. *XXXI Sympozjum Polarne*, Kielce 12–14 września 2005: 101.

Ochwanowski P. and Pociecha A. 2005. Impact of abiotic factors on diatoms density dynamics in freshwater Uncle's lake near Polish Antarctic *Arctowski* Station during austral summer. *XXIV International Symposium of the Phycological Section of the Polish Botanical Society, Toxic Cyanobacteria – problem of the future*. Krynica Morska, May 19–22. 2005: 106.

Olech M. 2004. Badania lichenologiczne w polskich wyprawach antarktycznych. 53 Zjazd Polskiego Towarzystwa Botanicznego, *Przyroda Polski w europejskim dziedzictwie dóbr natury*, Toruń–Bydgoszcz 6–11.09. 2004: 129.

Olech M. 2004. Nowe i rzadkie gatunki porostów rejonu Zatoki Admiralicji (Wyspa Króla Jerzego, Szetlandy Południowe). *XXX Międzynarodowe Sympozjum Polarne*, Gdynia, 23–25 września 2004: 135.

Osyczka P. and Olech M. 2004. Gatunki rodzaju *Cladonia* Hill ex Browne (grzyby zlichenizowane) w ekosystemie lądowym Wyspy Króla Jerzego (Antarktyka). *XXX Międzynarodowe Sympozjum Polarne*, Gdynia, 23–25 września 2004: 136–137.

Osyczka P. and Olech M. 2005. Species of the lichen genus *Tephromela* m. Choisy in the Antarctic region [in Polish]. *XXXI Sympozjum Polarne*, Kielce 12–14 września 2005: 102–104.

Pabis K. and Siciński J. 2005. New data on polychaete taxocene in Admiralty Bay (King George Island, South Shetland Islands, Antarctic) [in Polish]. XXXI *Sympozjum Polarne*, Kielce 12–14 września 2005: 105–106.

Pociecha A. 2005. Effect of temperature on respiraion of *Branchinecta gaini* (Daday, 1910). *Fourth Symposium for European Freshwater Sciences*, Kraków, Poland, 22–26 August 2005: 128.

Schaefer C.E.G.R., Simas F.N.B., Costa L.M., Albquergue Filho M.R., Dias L.E., Michel R.F.M. and Tatur A. 2004. Nutrients bioavailability of ornithogenic cryosols on volcanic rocks from Admiralty Bay, King George Island, Antarctica. *XXVIII SCAR and COMNAP XVI Meeting*, Bremen, Germany, 25–31 July 2004: 98.

Siciński J., Jażdżewski K., De Broyer C., Błażewicz-Paszkowycz M. and Pabis K. 2005. The Admiralty Bay bottom fauna – species richness, diversity and distribution. *IXth SCAR International Biology Symposium*, Curitiba, Brazil, 25–29 July 2005: 264.

Smykla J. 2005. Changes in the species composition of plant communities related to the penguin rookery impact gradient (King George Island, Maritime Antarctic) [in Polish]. *XXXI Sympozjum Polarne*, Kielce 12–14 września 2005: 123–127.

Smykla J., Krywult M., Wołek J., Barcikowski A. and Loro P. 2005. Penguin impact on patterns and diversity of vegetation in the Maritime Antarctic. *IXth SCAR International Biology Symposium,* Curitiba, Brazil, 25–29 July 2005: 266.

Smykla J. and Krzewicka B. 2005. Occurence and diversity of the lichen genus *Umbilicaria* in the ice-free areas of Admiralty Bay, King George Island, Maritime Antarctic. *IXth SCAR International Biology Symposium*, Curitiba, Brazil, 25–29 July 2005: 249.

Smykla J. and Krzewicka B. 2005. The lichen genus *Umbilicaria* from the area of Admiralty Bay (King George Island, Maritime Antarctic) [in Polish]. *XXXI Sympozjum Polarne*, Kielce, 12–14 września 2005: 128–129.

Turkiewicz M. 2004. Drobnoustroje antarktyczne jako źródło biotechnologicznie użytecznych substancji. *XXX Międzynarodowe Sympozjum Polarne*, Gdynia 23–25 września 2004: 191–193.

Turkiewicz M. 2005. Extremophilic microorganisms as a source of useful biomolecules. *2nd Polish Molecular Biotechnology Conference*, Gdańsk, 14–15 October 2005: 82–83.

Turkiewicz M. and Makowski K. 2004. Immobilizacja psychrofilnej -galaktozydazy antarktycznego szczepu *Pseudoalteromonas* sp. 22b na nośnikach chitozanowych. *35 Sesja Naukowa Komitetu Nauk o Żywności PAN „Żywność – aspekty technologiczne i prozdrowotne"*, Łódź, wrzesień 2004. Abstracts: 21.

Zdanowski M.K. and Żmuda M.J. 2005. Bakteryjny rozkład materii morskiego pochodzenia w warunkach lądowych morskiej Antarktyki: guano pingwinów. *1 Konferencja Naukowa Komitetu Mikrobiologii PAN „W.H.J. Kunicki-Goldfinger Mikrobiolog – Filozof – Mistrz"*, Uniwersytet Warszawski, 22 października 2005: 143.

Zdanowski M.K. and Żmuda M.J. 2004. Udział bakterii w rozkładzie makroglonów w warunkach lądowych morskiej Antarktyki. *XXX Międzynarodowe Sympozjum Polarne*, Gdynia, 23–25 września: 217.

Żmuda M.J. and Zdanowski M.K. 2005. Bakteryjny rozkład makroglonów w warunkach lądowych morskiej Antarktyki (wyniki wstępne). *1 Konferencja Naukowa Komitetu Mikrobiologii PAN „W.H.J. Kunicki-Goldfinger Mikrobiolog – Filozof – Mistrz"*, Uniwersytet Warszawski 22 października 2005: 144.

Climatology

Scientific paper

Styszyńska A. 2004. The origin of coreless winters in the South Shetlands area (Antarctica). *Polish Polar Research* 25: 45–66.

Geodesy and Geographic Information

Scientific papers

Cisak J. 2005. Overview of the research on the atmospheric impact on GPS observations in polar regions. *SCAR Report 23*. April 2005: 15–23.

Cisak J., Kryński J., Zanimonskiy Y.M. and Wielgosz P. 2004. Variations of GPS solutions for Antarctic stations. Ionospheric impact in new results of the project: Atmospheric impact on GPS observations in Antarctica. *Suchasni dosiagnennja geodezichnoj nauki ta virobnictva. Zbirnik naukovih prac Zahidnogo Geodezichnogo Tovaristva*. Liga-Press, Lviv.

Cisak J., Milinevski G. and Zanimonskiy Y.M. 2005. International projects on geodesy for the Antarctic: history, results, perspectives. *Proceedings of X Jubilee International Scientific and Technical Symposium*, September 6–11, 2005, Alushta, Ukraine: 160–161.

Kryński J. and Zanimonskiy Y.M. 2005. Current results on the investigation of GPS positioning accuracy and consistency. *SCAR Report 23*. April 2005: 64–71.

Pachuta A. 2005. An outline of polar expeditions of the scientists from the Warsaw University of Technology. *SCAR Report 23*. April 2005: 13–14.

Shagimuratov I., Krankowski A., Baran L.W., Cisak J. and Yakimova G. 2005. Storm-time structure and dynamics of the ionosphere obtained from GPS observations. *SCAR Report 23*. April 2005: 28–31.

Shagimuratov I., Baran L.W., Krankowski A., Cisak J. and Epishov I. 2005. Developments of TEC fluctuations in Antarctic ionosphere during storm using GPS observations. *SCAR Report 23*. April 2005: 32–36.

Wielgosz P., Kashani I., Grejner-Brzezińska D. and Cisak J. 2005. Regional ionosphere modeling using smoothed pseudoranges. *SCAR Report 23*. April 2005: 37–41.

Wielgosz P., Zanimonskiy Y.M., Cisak J. and Milinevski G. 2005. Application of measurements of permanent Antarctic stations for ionospheric researches. Proceedings of *X Jubilee International Scientific and Technical Symposium*, September 6–11, 2005, Alushta, Ukraine: 162–164.

Abstracts

Cisak J. 2004. Summary and future prospects of the GIANT project: Atmospheric impact on GPS observation in Antarctica. *XXVIII SCAR Open Science Conference*, Bremen, Germany. *Terra Nostra* 2004 (4): 298–299.

Cisak J., Olijnyk A., Prokopov A. and Zanimonskiy Y. 2004. Second order refraction effects of GPS signal in ionosphere at high and middle latitudes. *XXVIII SCAR Open Science Conference*, Bremen, Germany. *Terra Nostra* 2004 (4): 287.

Zanimonskiy Y.M. 2005. On the randomization of GNSS solutions. *SCAR Report 23*. April 2005: 58.

Geology and Paleontology

Scientific papers

Birkenmajer K., Gaździcki A., Krajewski P.K., Przybycin A., Solecki A., Tatur A. and Ho II Yoon. 2005. First Cenozoic glaciers in West Antarctica. *Polish Polar Research* 26: 3–12.

Eumig C.C. and Bitner M.A. 2005. *Glottidia* (Brachiopoda: Lingulidae) from the Eocene La Meseta Formation, Seymour Island, Antarctica. *Palaeontology* 48 (2): 423–431.

Gaździcki A. 2004. Eocene–Pliocene ecosystems of South Shetlands and Antarctic Peninsula. *Bollettino di Geofisica Teorica ed Applicata* 45 (2): 258–260.

Gaździcki A., Tatur A., Hara U. and del Valle R.A. 2004. The Weddell Sea Formation: post-Late Pliocene terrestrial glacial deposits on Seymour Island, Antarctic Peninsula. *Polish Polar Research* 25: 189–204.

Hara U. and Crame J.A. 2004. A new aspidostomatid bryozoan from the Cape Melville Formation (Lower Miocene) of King George Island, West Antarctica. *Antarctic Sciences* 16 (3): 319–327.

Jadwiszczak P. 2005. *Fossil penguins of Seymour Island: systematics, evolution, and their role in the Eocene ecosystem of Antarctica*. Ph.D. Thesis, Institute of Biology, University of Białystok, Białystok, Poland: 229 pp.

Majewski W. 2005. Benthic foraminiferal communities: distribution and ecology in Admiralty Bay, King George Island, West Antarctica. *Polish Polar Research* 26: 159–214.

Majewski W. and Olempska E. 2005. Recent ostracods from Admiralty Bay, King George Island, West Antarctica. *Polish Polar Research* 26: 13–36.

Solecki A.T. 2005. Radon and thoron daughters activities in environment of the King George Island (West Antarctica). *Annals of Geophysics* 48 (1): 129–134.

Abstracts

Gaździcki A. 2004. Stromatolites from the Oligocene of King George Island, West Antarctica. *XXX Międzynarodowe Sympozjum Polarne*, Gdynia, 23–25 września 2004: 41–42.

Gaździcki A. 2004. Eocene–Pliocene ecosystems of Antarctica. SCAR Open Science Conference *Antarctica and the Southern Ocean in the Global System*. 25–31 July 2004, Bremen, Germany. Abstract Volume. *Terra Nostra.* Schriften der Alfred-Wegener-Stiftung 2004 (4): 263.

Gaździcki A. 2005. Cenozoic glacial history and biota evolution: evidence from South Shetlands and Antarctic Peninsula. 22. Internationale Polartagung 18–24.9.2005 Jena. Abstract Volume. *Terra Nostra*. Schriften der Alfred-Wegener-Stiftung 2005 (3): 55.

Hara U. 2004. Origin and the biogeographical links of the Antarctic bryozoan fauna – evidence from the Eocene of Seymour Island, Antarctic Peninsula. SCAR Open Science Conference *Antarctica and the Southern Ocean in the Global System*. 25–31 July 2004, Bremen, Germany. Abstract Volume. *Terra Nostra.* Schriften der Alfred-Wegener-Stiftung 2004 (4): 265.

Hara U. 2005. Cenozoic bryozoan biota in the ecosystems of West Antarctica. The 5th Larwood Symposium, Institute of Biological Sciences, University of Wales, Aberystwyth, 5th–8th April, 2005.

Hara U. 2005. Cenozoic bryozoan biota: their significance in Antarctic ecosystems. *Conference "Geoitalia 2005", Quinto Forum Italiano di Scienze della Terra*, Spoleto, 21–23 Settembre, 2005, FIST – Federazione Italiana di Scienze della Terra, Italy, 1: 273.

Majewski W. 2004. Współczesne otwornice Zatoki Admiralicji, Wyspa Króla Jerzego, Antarktyka. *XXX Międzynarodowe Sympozjum Polarne*. Gdynia 23–25 września 2004: 110.

Majewski W. 2004. Miocene Antarctic glaciation in the light of micropaleontological study at ODP 744, Southern Indian Ocean. *Wissenschaft und Kunst für Europa. Dokumentation des 6. Internationalen Kongresses der Societas Humboldtiana Polonorum*, Kraków, 24–27.06.2004: 240–241.

Solid Earth Geophysics

Scientific papers

Janik T., Środa P., Grad M. and Guterch A. 2006. Moho depth along the Antarctic Peninsula and crustal structure across the landward projection of Hero Fracture Zone. *In*: D.K. Fütterer *et al*. (eds) *Antarctica: contributions to global Earth sciences.* Springer-Verlag, Berlin, Heidelberg, New York: 229–236.

Grad M., Guterch A., Janik T. and Środa P. 2004. Lithospheric structure of the West Antarctica: results and future plans. *Polish Polar Studies, XXX Międzynarodowe Sympozjum Polarne*, Gdynia: 117–130.

Guterch A. 2004. 4-Międzynarodowy Rok Polarny 2007–2008. Strategiczne cele i zadania. *Polish Polar Studies, XXX Międzynarodowe Sympozjum Polarne*, Gdynia: 13–21.

Guterch A. 2005. 4. International Polar Year 2007–2008. Main messages, aims and assignments. *Przegląd Geofizyczny* 3–4: 163–175.

Guterch A., Gaździcki A., Głowacki P. and Grad M. 2005. White Ends of the Earth. *Academia* 1 (5): 16–19.

Abstracts

Grad M., Guterch A., Janik T. and Środa P. 2004. Lithospheric structure of the West Antarctica: results and future plans. *XXX Międzynarodowe Sympozjum Polarne*, Gdynia 23–25 września 2004: 57.

Janik T. 2004. Seismic modelling of the Hero Fracture Zone. West Antarctica. *XXX Międzynarodowe Sympozjum Polarne*, Gdynia 23–25 września 2004: 67–69.

Miscellanea

Guterch A., Gaździcki A., Głowacki P. and Grad M. 2004. Polskie ślady w wiecznych lodach. *Sprawy Nauki* 12: 24–25.

Kalinowska H., Zielińska M., Kuras E., Kasieczka M., Piotrowska-Wasiak M., Majda T. and Turkiewicz M. 2005. Zastosowanie enzymów drobnoustrojów antarktycznych w biosyntezie wielonienasyconych kwasów tłuszczowych. *In*: E. Kołakowski, W. Bednarski and S. Bielecki (eds) *Enzymatyczna modyfikacja składników żywności*. Wydawnictwo Akademii Rolniczej w Szczecinie: 373–382.

Majewski W. 2004. 27th Polish Antarctic expedition to *Arctowski* Station (King George Island, Antarctica), 2002/2003. *Polish Polar Research* 25: 97–102.

Markowska M., Biszczuk J., Jaczewski A., Lityńska Z., Curyło A. and Zabłocki G. 2004. Pomiary promieniowania ultrafioletowego na Oceanie Atlantyckim i na Antarktydzie. *VIII Festiwal Nauki*, Jabłonna 18–19 września.

Olech M. 2005. Lichens of King George Island, Antarctica. The Institute of Botany of the Jagiellonian University: 1–391.

Olech M. 2005. Polish-Indian co-operation in Antarctica. Newsletter, International Relations Office, Jagiellonian University: 3–5.

Piwowar B.A. and Kolondra L. 2005. A Polish glaciologists appointed as SCAR Executive Officer. *Polish Polar Research* 26: 231–232.

Rakusa-Suszczewski S. 2004. *Roczniki Antarktyczne*. Zakład Biologii Antarktyki PAN, Warszawa: 277 pp.

Rakusa-Suszczewski S. 2005. Current situation and perspectives of Polish Antarctic Research [in Polish]. *Nauka PAN* 2: 119–128.

Rakusa-Suszczewski S. 2005. Prediction of changes in Antarctic coastal ecosystem. *XIII International Conference on Fisheries Oceanology*, Svetlogorsk, Kaliningrad region, September 12–17, 2005.

Rakusa-Suszczewski S., Kopczyńska E., Krajewski K., Tatur A. and Zdanowski M. (eds) 2005. *Contributions to The coastal and shelf ecosystems of maritime Antarctica, Admiralty Bay, King George Island*. Collected reprints, Warsaw University Press, Warsaw: 682 pp.

Sosiński J. and Janusz J. 2003. Biologia i rozmieszczenie nototenii falklandzkiej *Patagonotothen ramsayi* (Regan, 1913) na szelfie patagońskim. *Wyniki polskich badań 1979–1993*. Wyd. Morski Instytut Rybacki, Gdynia: 1–63.

Sosiński J., Janusz J. and Trella K. 2004. *Przegląd biologicznych badań rybackich zasobów Antarktyki prowadzonych przez Morski Instytut Rybacki w Gdyni*. Wyd. Morski Instytut Rybacki, Gdynia: 101 pp.

Turkiewicz M., Białkowska A.,Tkaczuk K., Kałużewska M., Makowski K., Cieśliński H., Wanarska M., Kur J. and Bujnicki J.M. 2005. Antarktyczna -galaktozydaza – właściwości i wykorzystanie w hydrolizie laktozy. *In*: E. Kołakowski, W. Bednarski and S. Bielecki (eds) *Enzymatyczna modyfikacja składników żywności*. Wydawnictwo AR w Szczecinie: 397–414.

Zdanowski M.K., Węgleński P., Golik P., Sasin J., Borsuk P., Żmuda M.J., and Stankovic A. 2004. Microbial diversity in Adelie penguin, *Pygoscelis adeliae*, guano: Molecular and morphophysiological approaches. *Comparative Genomics for Health and Environment*. Institute of Biochemistry and Biophysics, Polish Academy of Sciences. Warsaw 26–29, November 2004.

Zdanowski M.K., Żmuda M.J. and Zwolska I. 2004. Bacterial decomposition of marine derived material (penguin guano and seaweeds) in the terrestrial maritime Antarctic. *In*: M. Kunz-Pirrung and M. Reineke (eds), *XXVIII SCAR and COMNAP XVI Meeting*, 25–31 July 2004, Bremen, Germany.

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