



WP

11a

Agenda Item:

4.2.3

Person Responsible:

H Griffiths

**XXXIV SCAR Delegates Meeting
Kuala Lumpur, Malaysia, 29-30 August 2016**

State of the Antarctic Ecosystem 2015-16

Executive Summary

Title: State of the Antarctic Ecosystem 2015-16

Authors: Huw Griffiths, Jan Strugnell & the Steering Committee

Important Issues or Factors:

- Cross-Program SCAR workshop on 'Interactions between biological and climate processes in the Antarctic' was held in September 2015 in Barcelona, Spain.
- SO-AntEco Expedition to the South Orkney Islands.
- Multiple Ant-Eco sessions and workshops and the OSC 2016.
- AntEco supported early career scientists at the 'VIII Southern Connection Congress 2016', the SO-AntEco expedition and the SCAR OSC.

Recommendations/Actions and Justification:

We recommend that AntEco is extended for another four years and funding is approved for a further two years.

Budget Implications:

The continued funding of AntEco at current or increased levels for a further two years.

Introduction

Introduction/ Background: The Scientific Research Programme - AntEco (State of the Antarctic Ecosystem) has a focus on understanding and clarifying the processes driving patterns of biodiversity in all environments across the Antarctic, sub-Antarctic and Southern Ocean regions. The programme prioritises applied research and aims to provide scientific knowledge on biodiversity that can also be used for conservation and management. The full list of Steering Committee members and affiliations can be found in the '*AntEco External Performance Review Report*' (see Appendix 1.).

2015-2016 Progress

Since its formal inception in 2013, AntEco has focused on building and extending research networks, facilitating research that is aligned with the research priorities of the programme, and publishing research findings.

2015-16 has been a busy and productive year for AntEco, a recent publication list and other previously reported highlights can be found in the '*AntEco External Performance Review Report*' (see Appendix 1.) and responses to the comments arising.

A Cross-Program SCAR workshop on 'Interactions between biological and climate processes in the Antarctic' was held in September 2015 in Barcelona, Spain. AntEco was one of 4 SCAR programmes/groups hosting the event (along with AnT-ERA, AntarcticClimate 21 and Antarctic Climate Change and the Environment). AntEco supported 10 invited delegates to attend. (Approx. \$9.6k allocation)

The British Antarctic Survey funded a research cruise to the South Orkney Islands (February 2016) with a team of self-funded AntEco scientists (SO-AntEco) (see Appendix 2.). As part of the research and monitoring required by CCAMLR to inform and support the management of Marine Protected Areas (CM 91-04) an expert team of invited AntEco scientists conducted a benthic study of the South Orkney Islands Southern Shelf MPA and adjacent shelf and shelf-slope areas. The team included 22 participants from nine different countries and 16 institutes. The expedition took place on board the RRS James Clark Ross in February-March 2016.

The expedition serves as an excellent example of how national Polar Institutes can play a leadership role in developing international cooperation in policy-relevant polar science, under the umbrella of a SCAR research programme. Eight dedicated places were made available to AntEco early career scientists and an international call for participation was made through the CCAMLR scientific committee. The expedition provided hands-on experience and mentoring opportunities to early career scientists and met gender balance aspirations with over half of the scientists being female.

SO-AntEco used a variety of online communication tools including blogs and social media. The most immediate of these were the regular Twitter updates, with the #SOAntEco hashtag reaching an audience of **over one million twitter users**. This expedition will provide data and policy advice from the AntEco community and fits to the broader objective of "science that is policy relevant and assists in guiding management and conservation in the region." A more detailed summary of the expedition can be found in *Appendix 2*. This expedition required no direct funding from AntEco or SCAR, as is typical of the vast majority of research that our science community is happy to record as falling under the 'AntEco' banner.

AntEco supported a session and invited speaker participation at the 'VIII Southern Connection Congress 2016' Punta Arenas, Chile. 18-23 January. (approx. \$5k allocation), at which our Deputy Co-Chair Prof. Peter Convey was also, separately, an invited plenary speaker talking on Antarctic Biodiversity.

During the majority of 2016, AntEco has focused its efforts on the 'XXXIV SCAR Open Science Conference 2016' Kuala Lumpur, Malaysia. Multiple Ant-Eco sessions were proposed and heavily subscribed, and also several workshops will be held by AntEco scientists (Approx \$10k allocation). AntEco intends to contribute funding to a number of early career scientists to attend the OSC and associated workshops and meetings. AntEco will also be presenting a poster to raise awareness of the programme and its activities.

Expenditure on project activities and plans for unspent funds

Table 1. AntEco Budget for 2016

Event	Location	Attendee	Nationality of Attendees	Amount (USD)
Spatial analyses workshop (organised by Stefano Schiaparelli)	OSC Malaysia	An ECR	Not yet known	\$2500
Microbiome workshop (organised by Charles Lee & Chun Wie Chong)	OSC Malaysia	An ECR	Not yet known	\$2500
Microbiome workshop (organised by Alison Murray ^{SC})	NCEAS Santa Barbara, USA	Not yet known	Not yet known	\$5000
Open Science Conference	Malaysia	Jan Strugnell ^{SC} (Chief Officer)	Australian	\$2200
Open Science Conference	Malaysia	Mary-Anne Lea ^{SC} Claudio Gonzales Wevar ^{SC}	Australian	\$2850
Open Science Conference – ECR fund	Malaysia	7 ECRs	USA, Germany, Australia, Italy & UK	\$6550
Open Science Conference – Mid-Career/established researcher fund	Malaysia	?	?	?
TOTAL				\$25000

^{SC} = AntEco Steering Committee

The budget for 2017 is not yet been finalized as we do not yet know if the programme has been extended following review and if so, what level of funding it is likely to receive. \$2000 USD has already been committed to the Gordon Research Conference. It is anticipated that a significant proportion of our 2017 budget will be spent on supporting workshops associated with the SCAR Biology Conference in Belgium and also in supporting attendance of ECRs at this conference.

Table 2. AntEco Budget for 2017

Event	Attendee	Nationality of Attendees	Amount
Polar Gordon Research Conference and Gordon Research Seminar	Not yet determined	Not yet determined	\$2000
SCAR Biology Conference	Funding to support invited speakers on AntEco themes		Not yet determined
Workshops (TBD)	Not yet determined	Not yet determined	Not yet determined
SCAR Biology Conference – ECR fund	Not yet determined	Not yet determined	Not yet determined
SCAR Biology Conference – Mid-Career/established researcher fund	Not yet determined	Not yet determined	Not yet determined

Future Plans

Under the assumption that the extension of AntEco is approved and funded we will endeavour to continue to foster new scientific research collaborations and ideas through organising and funding workshops, meetings and travel.

Future funds will be directed towards value adding to existing conferences (e.g. SCAR OSC, SCAR Biology, Polar Gordon Research Conference and Gordon Research Seminar) by supporting meetings and workshops that seek to build new collaborations and aim to address AntEco's objectives. We will continue to encourage and support early career scientists.

We also envisage planning a workshop or symposium towards the end of AntEco's intended lifespan dedicated to synthesis and bringing together the new information amassed by AntEco and marking the fruition of the programme. We believe that this could be achieved in conjunction with the OSC in 2018 to reduce costs although these plans are a work in progress.

The AntEco steering committee will be refreshed and we will encourage new members to join the mailing list. We will work closely with other SCAR Scientific Research Programmes to ensure that cross linkages are maintained and developed. We will also communicate regularly with the SCAR Secretariat to ensure that AntEco plays a leading role within the organisation.

Recommendations/Expected Outcomes

We recommend that AntEco is extended as an SCAR Scientific Research Programme for another four years and funding is approved for a further two years.

Appendix 1.



SCAR Scientific Research Programme



External Performance Review

State of the Antarctic Ecosystem



www.scar.org/srp/anteco

Authors and Main Contacts

Jan Strugnell, Huw Griffiths and the AntEco Steering Group.
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British Antarctic Survey UK (hjk@bas.ac.uk)

Introduction

The SCAR Scientific Research Programme - State of the Antarctic Ecosystem (AntEco) is designed to focus on past and present patterns of biodiversity across all environments within the Antarctic, sub-Antarctic and Southern Ocean regions. The broad objectives of the programme are to increase the scientific knowledge of biodiversity, from genes to ecosystems that, coupled with increased knowledge of species biology, can be used for the conservation and management of Antarctic ecosystems.

Through the development and maintenance of an international research network, AntEco aims to inform our understanding of current biodiversity and patterns therein, to distinguish the impact of present processes from historical signals, and to use this knowledge to develop scenarios of its future state through interdisciplinary approaches. While the scope of research activities supported are broad, research priorities are directed towards science that is policy relevant and assists in guiding management and conservation in the region.

AntEco is structured into five research sectors, each with a sector leader:

1. Spatial Ecology (Huw Griffiths, British Antarctic Survey, UK)
2. Molecular Ecology and Evolution (Jan Strugnell, La Trobe University, Australia)
3. Ecoinformatics and Systems Biology (Alison Murray, DRI, USA)
4. Paleoecology (Dominic Hodgson, British Antarctic Survey, UK)
5. Impacts, Trends and Conservation (Annick Wilmotte, University Liège, Belgium).

The AntEco Executive is comprised of the joint Chief Officers (Jan Strugnell and Huw Griffiths), joint Deputy Chief Officers (Don Cowan and Pete Convey), Secretary (Anton Van de Putte) and the research sector leaders (Alison Murray, Dominic Hodgson and Annick Wilmotte). The remainder of the Steering Group is comprised of leading researchers that, together, represent a broad range of countries and disciplines (Appendix 1).

Deliverables and Milestones

I. Up to five key achievements

1) Scientific Outputs:

Ant-Eco members contributed to hundreds of peer reviewed publications over the last 3 years. Many of these are listed in Appendix II. Notable highlights include:

- Chown S.L., Clarke A., Fraser Cl., Cary S.C., Moon K.L., & McGeoch M.A. (2015) The changing form of Antarctic biodiversity. *Nature* 522(7557), 431-438. doi:10.1038/nature14505
- Royles, J., Amesbury, M.J., Convey, P., Griffiths, H., Hodgson, D.A., Leng, M.J., Charman, D.J. (2013) Plants and soil microbes respond to recent warming on the Antarctic Peninsula. *Current Biology*, 23. 1702-1706. doi:10.1016/j.cub.2013.07.011
- Barnes D.K.A. (2015) Antarctic sea ice losses drive gains in benthic carbon drawdown. *Current Biology*, 25. R789-R790. 10.1016/j.cub.2015.07.042
- Constable, A.J., Melbourne-Thomas, J., Corney, S.P., Arrigo, K.R., Barbraud, C., et al. (2014): Climate change and Southern Ocean ecosystems I: How changes in physical habitats directly affect marine biota. *Global Change Biology*, 1-22, doi: 10.1111/gcb.12623.
- Convey P., Chown S.L., Clarke A., Barnes D.K.A., Cummings V., Ducklow H., Frati F., Green T.G.A., Gordon S., Griffiths H., Howard-Williams C., Huiskes A.H.L., Laybourn-Parry J., Lyons B., McMinn A., Peck L.S., Quesada A., Schiaparelli S. & Wall D. (2014) The spatial structure of Antarctic biodiversity. *Ecological Monographs* 84, 203-244.

2) The Biogeographic Atlas of the Southern Ocean:

The Biogeographic Atlas of the Southern Ocean (De Broyer C., et al [eds.] 2014. Biogeographic Atlas of the Southern Ocean. Scientific Committee on Antarctic Research, Cambridge, XII 498 pp) is a key resource for all scientists studying life in the Southern Ocean. It represents an unprecedented effort by AntEco and SCAR scientists to collate and interpret the largest database of Antarctic marine life ever compiled. It is a collection of 66 syntheses describing the distribution patterns and processes

of a significant and representative proportion of Southern Ocean organisms, illustrated by more than 800 distribution maps and 200 pictures and graphs. The Atlas is an important legacy of the International Polar Year 2007-2008 and a key output of the Census of Marine Life and SCAR-Marine Biodiversity Information Network. The Atlas was launched at the SCAR Meeting and Open Science Conference (Auckland, New Zealand August 25-28th 2014).

3) Support for the AntEco community:

AntEco has nurtured new collaborations through facilitating and funding workshops and meetings (see section V for details). It also seeks to encourage early career scientists (see section VI) through actions such as providing letters of support, travel funding and the provision of berths on an AntEco-led expedition to the Southern Ocean. AntEco regularly communicates with the community via the email list, website and the SCAR Biology Facebook page, providing information about funding opportunities, new scientific discoveries, upcoming meetings and deadlines (see section VII).

4) The Monaco Assessment:

A meeting of global biodiversity and specifically Antarctic experts, entitled 'Antarctica and the Strategic Plan for Biodiversity 2011-2020: The Monaco Assessment', was convened for three days in Monaco in May 2015, with the support of the Monaco government, the Centre Scientifique de Monaco, SCAR, and Monash University. Aleks Terauds and Pete Convey from the AntEco Steering Group attended this meeting. The purpose of the meeting was to examine the extent to which conservation of the biodiversity of Antarctica and the Southern Ocean is realizing the set of ambitions agreed for the world as part of the Strategic Plan for Biodiversity 2011-2020. The meeting aimed to develop guidance for action that can effectively help deliver further conservation successes for Antarctica and the Southern Ocean. One outcome was a statement on Antarctic and Southern Ocean conservation in the context of the Strategic Plan for Biodiversity 2011-2020 entitled 'The Monaco Assessment' (www.scar.org/monaco-assessment). Findings were that the biodiversity outlook for Antarctica and the Southern Ocean appears to be no better than that for the rest of the globe, and while some areas are tracking well (e.g. non-native species management), other direct pressures on Antarctic biodiversity remain significant and require urgent attention. The assessment noted that prospects for effective action over the next five years to improve the outlook are exceptional.

II. Primary publications in peer-reviewed journals

See Highlight 1 and Appendix II.

III. Major reports, including linkages to major SCAR activities (e.g. advice to the Treaty or IPCC)

AntEco Steering Committee members are authors on chapters of the latest Intergovernmental Panel on Climate Change reports and also the United Nations World Ocean Assessment – a landmark publication resulting in, on the 23rd of December 2015, the General Assembly adopting resolution 70/235 on "Oceans and the law of the sea".

AntEco members have contributed to a range of content on the Antarctic Environments Portal (AEP) including non-native species, conservation and biodiversity. They also were invited to the Climate Change Content Development Workshop that drafted topic scoping summaries for the AEP (Cambridge 17-18 March 2015).

IV. Other reports and grey literature

AntEco members contributed to the scientific background document in support of the development of a CCAMLR MPA in the Weddell Sea (Antarctica) – Version 2014. This report has been compiled by members of the German Weddell Sea MPA project team and by experts from other CCAMLR member states and acceding states. AntEco members contributed to the 1st SCAR Antarctic and Southern Ocean Horizon Scan published in *Antarctic Science* and highlighted in *Nature*.

V. Workshops and other key meetings

AntEco convened five sessions at the SCAR–OSC in Auckland: i) Diversity and Distribution of life in Antarctica; ii) Impact of Past Glaciation and Climate; iii) Scientific Advice for Policymakers and Evidence-based Conservation; iv) Microbes Diversity and Ecological Roles; v) Diversity and Connectivity in Antarctica & Spatial Analysis of Antarctic Biodiversity. These sessions represent each of the research sectors in the AntEco implementation plan and were extremely well subscribed and attended. The sessions included over 70 oral presentations covering all aspects of AntEco work from the marine, lacustrine and terrestrial realms. The link between scientific research and design of management and conservation strategies by environmental managers and policymakers was also emphasized. In addition, AntEco also convened three well-attended and successful workshops during the OSC:

Workshop 1: Physical drivers of biodiversity at multiple spatial scales. Significant progress in the collation of biodiversity has been made since the meeting, with both marine and terrestrial datasets being consolidated. Analyses have begun on some specific marine taxa and terrestrial models are currently under development.

Workshop 2: Antarctic Aerobiology. A subsequent perspective article, led by David Pearce and entitled 'Aerobiology over Antarctica – a new initiative for a pan-continental sampling approach', has recently been published in *Frontiers in Microbiology*

Workshop 3: Eradication in Antarctica: Management and ecological considerations to inform conservation decision-making. A manuscript detailing the workshop findings is nearing completion.

AntEco convened an Antarctic Symposium at the joint Ecological Society of Australia and New Zealand Conference in Auckland (August 2013). Antarctic ecology was presented to a broad cross-section of the ecological research community.

AntEco supported a workshop in Dartington, England (2014): 'Moss-Dominated Ecosystems in Antarctica and surrounding regions: Past, Present and Future.' A manuscript detailing findings is in preparation.

AntEco supported and convened a session at the 2015 ISAES meeting in Goa, India, 'Key drivers of Antarctic biodiversity through the Cenozoic: the influence of climate, oceanography and tectonics'.

AntEco supported the 'Antarctic Near-Shore and Terrestrial Observation System' (ANTOS) workshop held in Hamilton, NZ, 18-19 August, 2015. A videoconference was organised each evening to inform and discuss with participants who could not travel to NZ.

AntEco also supported and co-convened the Interdisciplinary SCAR Cross-Program Workshop on Interactions between Biological and Environmental Processes in the Antarctic", Barcelona, Spain September 2015, along with AnT-ERA, ACCE and AntClim21 (see IX below)

AntEco supported a session at the VIII Southern Connection Congress 2016 in Chile.

AntEco members (Convey, Cowan) contributed to the SCAR Sub-Antarctic region Action Group meeting in Punta Arenas, 15-17 January 2016

VI. Capacity building and education outreach activities; detail any difficulties encountered

The SO-AntEco expedition is providing spaces for 8 early career scientists to gain vital experience of Antarctic fieldwork. They will be included as authors of the official reports and summary publications of the cruise. The expedition will also use social media and the SCAR website to engage with the public and the wider scientific community. This cruise has a website (<https://www.bas.ac.uk/project/so-anteco/>), blog and Twitter feed (#SOAntEco). This expedition will also conduct live telephone conversations with schools and museums as well as answering questions sent in over Twitter.

The Biogeographic Atlas had a significant media impact, with over 60 media articles published online following the press release including ABC News (Australia) and the BBC news website. Radio interviews included voice of Russia, RTE (Ireland) and the BBC World Service. Printed media included The Irish Times, El Mundo and the Independent (UK).

Several AntEco activities have had active outreach components including the ANDEEP SYSTCO expedition and its blog and the Scotia Arc Expeditions through the Australian Museum (www.australianmuseum.net.au/scotia-arc-expedition). The data from the Scotia Arc expeditions was subsequently used to create lesson plans for increasing participation in STEM disciplines for high school students (<https://ucsdcreate.wordpress.com/2013/12/20/doing-a-deep-dive-biology-teachers-explore-antarctic-invertebrates-at-sio/>).

VII. New data and/or meta-data (including plans for archiving)

New data and/or meta-data associated with AntEco includes:

- The complete expert-validated database that was used to create the Atlas, including records from the continent to latitude 40°S, represents 1.07 million occurrence records for 9,064 validated species from about 434,000 distinct sampling locations. The database is publicly available on the SCAR-MarBIN/ANTABIF portal (www.biodiversity.aq).
- New geomorphic interpretation of the Ross Sea region, based on the IBCSO bathymetry compilation. Analysis of benthic communities from seafloor communities on the Sabrina Shelf (120E).
- Metagenomic DNA from 20 soil samples has been sequenced (HiSeq). Metagenome sequence datasets (to be submitted to Biodiversity.aq) will provide information on total soil biodiversity (viruses/phage, prokaryotes, lower eukaryotes, invertebrates).
- datasets continue to be made available on mARS (Microbial Antarctic Resource System) http://mars.biodiversity.aq/site_pages/datasets

VIII. Communication activities (eg website contents, social media, brochures, speaking engagements) and how these contribute to the promotion of SCAR and its mission.

AntEco news is highlighted on our website (<http://www.scar.org/anteco/anteco-news>). We have documented activities that AntEco has supported over the last few years including conferences, workshops and future events such as the South Orkneys – AntEco cruise.

AntEco Steering Committee members set up and manage the “SCAR Biology” Facebook account on behalf of the Life Sciences SSG, <https://www.facebook.com/SCARBiology/>, this is a vital communication tool for reaching a wider audience, especially for early career researchers. It is currently followed by 280 people and this number continues to grow.

IX. Linkages to other SCAR groups, international programmes and other activities

A SCAR cross-program workshop was held in Barcelona, Spain, 16-18th of September 2015. This workshop brought together participants from several SCAR and other related programs including ANTECO, ANT-ERA, AntCLim21, ICED, BEPSII, PAIS, EGBAMM, ICED, and IPCC and aimed to provide a forum for biologists and physicists to discuss the development of cross-disciplinary research to answer pressing questions in Antarctic science.

Jan Strugnell, the Co-Chair of Ant-Eco, was invited to present a keynote lecture, titled ‘Evolutionary Patterns and Processes in Antarctica (and the Arctic) at the Gordon Research Conference (GRC) on Polar Marine Science held in Tuscany, Italy from 15-20 March, 2015. The theme of the conference was ‘Polar Shelves and Shelf Break Exchange in Times of Rapid Climate Warming’. The conference included 172 delegates from 23 countries.

Don Cowan was an invited participant to the SCAR/COMNAP Antarctic Roadmap Challenge meeting, Tromsø, Norway, August 2015. Pete Convey gave invited plenary lectures to the Southern

Connections meeting in Chile in January 2016 and also to the 12th workshop on Systems Biology 2015 'From Big Data to Bioeconomy' in Melbourne 18 May- 5 June, 2015.

X. Expenditure on project activities and plans for unspent funds

Activity	Expenditure (USD)
Cross Program Workshop, Accommodation, Spain	\$3,371.88
Cross Program Workshop, Long Haul Travel, Spain	\$6,375.90
ANTOS Workshop, New Zealand	\$2,000
XVI COLACMAR-XVI Senalmar Meeting D. Deregiibus	\$1,490.19
XII International Symposium on Antarctic Earth Science C. Gonzalez-Wevar	\$1,100
VIII Southern Connection Congress	\$5,000

All 2015 funds have been spent.

Future funds will be directed towards value adding to existing conferences (e.g. SCAR OSC, SCAR Biology) by supporting meetings and workshops that seek to build new collaborations and aim to address AntEco's objectives. We will continue to encourage and support early career scientists.

Future Plans

AntEco will continue to build upon its achievements and support scientific collaboration and capacity building. The three overarching inter-disciplinary questions (outlined in our terms of reference) remain as important as when they were first written and align well with the themes of the 1st SCAR Antarctic and Southern Ocean Horizon Scan. We plan on continuing to use AntEco funding to facilitate scientific meetings and workshops and to encourage participation by early career scientists and those from regions with less well-developed Antarctic programmes.

SO-AntEco is a British Antarctic Survey (BAS) led expedition undertaken in conjunction with an international team of scientists from the Scientific Committee for Antarctic Research (SCAR) AntEco research programme. The team includes participants from 9 different countries and 16 institutes. The expedition will take place on board the BAS research ship the RRS James Clark Ross in early 2016. The SO-AntEco expedition will investigate the diversity of life both inside and outside of the SOISS MPA region in order to better understand the distribution and composition of the seafloor communities around islands. This work will lead to a series of scientific publications, public outreach and scientific advice to policy makers through written reports and presentations.

AntEco will play a very active role in activities associated with the Open Science Conference in Malaysia. AntEco members are playing a lead role in organising the following Mini Symposia:
MS2. Connecting the biological and the physical: Environmental divers of biodiversity in Antarctica.
MS3. Linking Antarctic science with environmental protection: Celebrating the 25th anniversary of the Madrid Protocol. In addition, several symposia at the OSC will be chaired by AntEco members including S22, S25, S28, S29, & S30.

In addition two side meetings supported by AntEco will take place at the OSC, "Spatial analyses of Antarctic biodiversity: sampling bias, environmental variables and statistical issues" (organized by Stefano Schiaparelli) and Harmonising Molecular and Functional Analyses of Antarctic Microbiomes: Toward A Methodological Framework for Understanding Ecosystem Functional Resilience (organised by Charles Lee).

Two AntEco members (Annick Willmotte, Anton Van de Putte) will directly participate in the organisation of the next SCAR Biology meeting to be held in Belgium in 2017.

Appendix I - Membership

Steering Committee

Last Name, First Name	Affiliation	Country	Email	Gender	Term	Position
Griffiths, Huw	British Antarctic Survey	UK	hjh@bas.ac.uk	M	2012 -	Chief Officer & Research Sector leader
Strugnell, Jan	La Trobe University	Australia	J.Strugnell@latrobe.edu.au	F	2012 -	Chief Officer & Research Sector leader
Convey, Pete	British Antarctic Survey	UK	pcon@bas.ac.uk	M	2012 -	Deputy Chief Officer
Cowan, Don	U. Pretoria	South Africa	don.cowan@up.ac.za	M	2012 -	Deputy Chief Officer
Terauds, Aleks	Australian Antarctic Division	Australia	aleks.terauds@gmail.com	M	2012 -	Chief Officer (2012-14)
Murray, Alison	Desert Research Institute	US	Alison.Murray@dri.edu	F	2012 -	Research Sector leader
Hodgson, Dominic	British Antarctic Survey	UK	daho@bas.ac.uk	M	2012 -	Research Sector leader
Van de Putte, Anton	University of Leuven	Belgium	antonarctica@gmail.com	M	2012 -	Secretary
Wilmotte, Annick	University Liège	Belgium	awilmotte@ulg.ac.be	F	2012 -	Research Sector leader
Lea, Mary-Ann	IMAS, U Tas	Australia	MaryAnne.Lea@utas.edu.au	F	2012 -	Steering Group member
Brandt, Angelika	U. Hamburg	Germany	Abrandt@zoologie.uni-hamburg.de	F	2012 -	Steering Group member
Cary, Craig	U. Waikato	New Zealand	caryc@waikato.ac.nz	M	2012 -	Steering Group member
di Prisco, Guido	U. Naples	Italy	g.diprisco@ibp.cnr.it	M	2012 -	Steering Group member
Gonzales-Wevar, Claudio	U. Chile	Chile	omeuno01@hotmail.com	M	2012 -	Steering Group member
Gutt, Julian	AWI	Germany	julian.gutt@awi.de	M	2012 -	Linkage with Ant-ERA
Avila, Conxita	U. Barcelona	Spain	conxita.avila@ub.edu	F	2012 -	Steering Group member
Schiaparelli, Stefano	U. Genoa	Italy	stefano.schiaparelli@unige.it	M	2012 -	Steering Group member

Members

AntEco is open to any interested scientists. It has no official membership. The AntEco mailing list comprising a 'community' of 278 members.

Appendix II - References

2013

abu Samah, Azizan, Convey, Peter, Aisyah Alias, Siti, Smykla, Jerzy. ; di Prisco, G., Verde, C. (eds.). (2013) Antarctica: Malaysia's journey to the ice. Kuala Lumpur, National Antarctic Research Centre, 275 pp.

Ali, Siti Hafizah, Alias, Siti Aisyah, Siang, Hii Yii, Smykla, Jerzy, Pang, Ka-Lai, Guo, Sheng-Yu, Convey, Peter. (2013) Studies on diversity of soil microfungi in the Hornsund area, Spitsbergen. Polish Polar Research, 34. 39-54. doi:10.2478/popore-2013-0006

Alias, Siti Aisyah, Smykla, Jerzy, Ming, Chin Yoon, Rizman-Idid, Mohammed, Convey, Peter. (2013) Diversity of microfungi in orthogenic soils from Beaufort Island, continental Antarctica. Czech Polar Report, 3. 10.5817/CPR2013-2-15

Amon, Diva J., Glover, Adrian G., Wiklund, Helena, Marsh, Leigh, Linse, Katrin, Rogers, Alex D., Copley, Jonathan T.. (2013) The discovery of a natural whale fall in the Antarctic deep sea. Deep Sea Research Part II: Topical Studies in Oceanography, 92. 87-96. doi:10.1016/j.dsr2.2013.01.028
Barnes, David K.A.. (2013) Ice spy: piecing together our planet's past and problematic future (book review). Current Biology, 23. 262-263. 10.1016/j.cub.2013.02.003

Barnes, David K.A.. (2013) Marine biology: new light on growth in the cold. Current Biology, 23. R609-R611. doi:10.1016/j.cub.2013.05.058

Benayas, J., Pertierra, L., Tejedo, P., Lara, F., Bermudez, O., Hughes, K.A., Quesada, A.. (2013) A review of scientific research trends within ASPA No. 126 Byers Peninsula, South Shetland Islands, Antarctica. Antarctic Science, 25. 128-145. doi:10.1017/S0954102012001058

Bokhorst, Stef, Huiskes, Ad, Aerts, Rien, Convey, Peter, Cooper, Elisabeth J., Dalen, Linda, Erschbamer, Brigitta, Gudmundsson, Jón, Hofgaard, Annika, Hollister, Robert D., Johnstone, Jill, Jónsdóttir, Ingibjörg S., Lebouvier, Marc, Van de Vijver, Bart, Wahren, Carl-Henrik, Dorrepaal, Ellen. (2013) Variable temperature effects of Open Top Chambers at polar and alpine sites explained by irradiance and snow depth. Global Change Biology, 19. 64-74. doi:10.1111/gcb.12028

Bottos, E. M., Woo, A. C., Zavar-Reza, P., Pointing, S. B., & Cary, S. C. (2013). Airborne bacterial populations above desert soils of the McMurdo Dry Valleys, Antarctica. Microbial Ecology, online, 1-9. doi:10.1007/s00248-013-0296-y

Buckeridge, John S., Linse, Katrin, Jackson, Jennifer A.. (2013) *Vulcanolepas scotiaensis* sp. nov., a new deep-sea scalpelliform barnacle (Eolepadidae: Neolepadinae) from hydrothermal vents in the Scotia sea, Antarctica. Zootaxa, 3745. 551-568. 10.11646/zootaxa.3745.5.4

Campbell, B. J., Polson, S. W., Zeigler Allen, L., Williamson, S. J., Lee, C. K., Wommack, K. E., . . . Cary, S. C. (2013). Diffuse flow environments within basalt- and sediment-based hydrothermal vent ecosystems harbor specialized microbial communities. Frontiers in Extreme Microbiology, online, 1-15. doi:10.3389/fmicb.2013.00182

Campos, Lúcia S., Montone, Rosalinda C., de Moura, Rafael B., Yoneshigue-Valentin, Yocie, Kawall, Helena G., Convey, Peter. (2013) Anthropogenic impacts on sub-Antarctic and Antarctic islands and the adjacent marine environments. In: Adaption and evolution in marine environments Volume 2 , From pole to pole, Berlin, Springer, 177-203. 10.1007/978-3-642-27349-0_10

Cannone, Nicoletta, Convey, Peter, Guglielmin, Mauro. (2013) Diversity trends of Bryophytes in continental Antarctica. Polar Biology, 36. 259-271. 10.1007/s00300-012-1257-5

Caruso, Tancredi, Trokhymets, Vladlen, Bargagli, Roberto, Convey, Peter. (2013) Biotic interactions as a structuring force in soil communities: evidence from the micro-arthropods of an Antarctic moss model system. Oecologia, 172. 495-503. doi:10.1007/s00442-012-2503-9

- Chong, Chun Wie, Goh, Yuh Shan, Convey, Peter, Pearce, David, Tan, Irene Kit Ping. (2013) Spatial pattern in Antarctica: what can we learn from Antarctic bacterial isolates?. *Extremophiles*, 17. 733-745. doi:10.1007/s00792-013-0555-3
- Collins, Lewis G., Allen, Claire S., Pike, Jennifer, Hodgson, Dominic A., Weckström, Kaarina, Massé, Guillaume. (2013) Evaluating highly branched isoprenoid (HBI) biomarkers as a novel Antarctic sea-ice proxy in deep ocean glacial age sediments. *Quaternary Science Reviews*, 79. 87-98. doi:10.1016/j.quascirev.2013.02.004
- Convey, P., Chown, S. L., Clarke, A., Barnes, D. K., Bokhorst, S., Cummings, V., ... & Wall, D. H. (2014). The spatial structure of Antarctic biodiversity. *Ecological Monographs*, 84(2), 203-244.
- Convey, Peter, Brandt, Angelika, Nicol, Steve. (2013) Life in a cold environment. In: *Antarctica: global science from a frozen continent*, Cambridge, Cambridge University Press, 161-210.
- Convey, Peter. (2013) Antarctic ecosystems. In: *Encyclopedia of Biodiversity*. 2nd edition, Waltham, MA, Academic Press, 179-188.
- Coyne, K. J., Countway, P. D., Pilditch, C. A., Lee, C. K., Caron, D. A., & Cary, S. C. (2013). Diversity and distributional patterns of ciliates in Guaymas basin hydrothermal vent sediments. *Journal of Eukaryotic Microbiology*, 60(5), 433-447. doi:10.1111/jeu.12051
- Everatt, M.J., Bale, J.S., Convey, P., Worland, M.R., Hayward, S.A.L.. (2013) The effect of acclimation temperature on thermal activity thresholds in polar terrestrial invertebrates. *Journal of Insect Physiology*, 59. 1057-1064. doi:10.1016/j.jinsphys.2013.08.003
- Everatt, M.J., Convey, P., Worland, M.R., Bale, J.S., Hayward, S.A.L.. (2013) Heat tolerance and physiological plasticity in the Antarctic collembolan, *Cryptopygus antarcticus*, and mite, *Alaskozetes antarcticus*. *Journal of Thermal Biology*, 38. 264-271. doi:10.1016/j.jtherbio.2013.02.006
- Everatt, Matthew J., Worland, Michael R., Convey, Peter, Bale, Jeff S., Hayward, Scott A. L.. (2013) The impact of salinity exposure on survival and temperature tolerance of the Antarctic collembolan *Cryptopygus antarcticus*. *Physiological Entomology*, 38. 202-210. doi:10.1111/phen.12011
- Fernandez-Carazo, Rafael, Verleyen, Elie, Hodgson, Dominic A., Roberts, Stephen J., Waleron, Krzysztof, Vyverman, Wim, Wilmotte, Annick. (2013) Late Holocene changes in cyanobacterial community structure in maritime Antarctic lakes. *Journal of Paleolimnology*, 50. 15-31. doi:10.1007/s10933-013-9700-3
- Figuerola, B., Ballesteros, M., Avila, C. Description of a new species of *Reteporella* (Bryozoa: Phidoloporidae) from the Weddell Sea (Antarctica) and the possible functional morphology of avicularia (2013) *Acta Zoologica*, 94 (1), pp. 66-73.
- Figuerola, B., Núñez-Pons, L., Moles, J., Avila, C. Feeding repellence in Antarctic bryozoans (2013) *Naturwissenschaften*, 100 (11), pp. 1069-1081.
- Ghiglione, C., Alvaro, M. C., Griffiths, H. J., Linse, K., & Schiaparelli, S. (2013). Ross Sea Mollusca from the latitudinal gradient program: R/V *Italica* 2004 Rauschert dredge samples. *ZooKeys*, (341), 37.
- Glover, A.G., Wiklund, H., Taboada, S., Avila, C., Cristobo, J., Smith, C.R., Kemp, K.M., Jamieson, A.J., Dahlgren, T.G. Bone-eating worms from the Antarctic: The contrasting fate of whale and wood remains on the Southern Ocean seafloor (2013) *Proceedings of the Royal Society B: Biological Sciences*, 280 (1768), art. no. 20131390, .
- Gokul, J. K., Valverde, A., Tuffin, M., Cary, S. C., & Cowan, D. A. (2013). Micro-eukaryotic diversity in hypolithons from Miers Valley, Antarctica. *Biology*, 2(1), 331-340. doi:10.3390/biology2010331
- González-Wevar, C.A., Saucède, T., Morley, S.A., Chown, S.L., Poulin, E. Extinction and recolonization of maritime Antarctica in the limpet *Nacella concinna* (Strebel, 1908) during the last

glacial cycle: Toward a model of Quaternary biogeography in shallow Antarctic invertebrates (2013) *Molecular Ecology*, 22 (20), pp. 5221-5236.

Griffiths, H.J., Whittle, R.J., Roberts, S.J., Belchier, M., Linse, K.. (2013) Antarctic crabs: invasion or endurance?. *PLoS One*, 8. 10.1371/journal.pone.0066981

Gutt, J., Griffiths, H. J., & Jones, C. D. (2013). Circumpolar overview and spatial heterogeneity of Antarctic macrobenthic communities. *Marine Biodiversity*, 43(4), 481-487.

Gutt, Julian, Barnes, David K.A., Lockhart, Susanne J., van de Putte, Anton. (2013) Antarctic macrobenthic communities: a compilation of circumpolar information. *Nature Conservation*, 4. 1-13. 10.3897/natureconservation.4.4499

Hermant, Marie, Prinzing, Andreas, Vernon, Philippe, Convey, Peter, Hennion, Françoise. (2013) Endemic species have highly integrated phenotypes, environmental distributions and phenotype-environment relationships. *Journal of Biogeography*, 40. 1583-1594. doi:10.1111/jbi.12095

Hodgson, D.A., Bentley, M.J.. (2013) Lake highstands in the Pensacola Mountains and Shackleton Range 4300-2250 cal. yr BP: Evidence of a warm climate anomaly in the interior of Antarctica. *The Holocene*, 23. 388-397. doi:10.1177/0959683612460790

Hodgson, Dominic A., Roberts, Stephen J., Smith, James A., Verleyen, Elie, Sterken, Mieke, Labarque, Minke, Sabbe, Koen, Vyverman, Wim, Allen, Claire S., Leng, Melanie J., Bryant, Charlotte. (2013) Late Quaternary environmental changes in Marguerite Bay, Antarctic Peninsula, inferred from lake sediments and raised beaches. *Quaternary Science Reviews*, 68. 216-236. 10.1016/j.quascirev.2013.02.002

Hughes, K.A., Cary, S.C., Cowan, D.A., Lovejoy, C., Vincent, W.F., Wilmotte, A.. (2013) Pristine Antarctica: threats and protection. *Antarctic Science*, 25. 1-1. doi:10.1017/S0954102013000047

Hughes, K.A., Pertierra, L.R., Walton, D.W.H.. (2013) Area protection in Antarctica: how can conservation and scientific research goals be managed compatibly?. *Environmental Science and Policy*, 31. 120-132. 10.1016/j.envsci.2013.03.012

Hughes, Kevin A., Worland, M. Roger, Thorne, Michael A.S., Convey, Peter. (2013) The non-native chironomid *Eretmoptera murphyi* in Antarctica: erosion of the barriers to invasion. *Biological Invasions*, 15. 269-281. doi:10.1007/s10530-012-0282-1

Kaiser, S., Brandão, S. N., Brix, S., Barnes, D. K., Bowden, D. A., Ingels, J., ... & Yasuhara, M. (2013). Patterns, processes and vulnerability of Southern Ocean benthos: a decadal leap in knowledge and understanding. *Marine biology*, 160(9), 2295-2317.

Kaiser, Stefanie, Brandão, Simone N., Brix, Saskia, Barnes, David K.A., Bowden, David A., Ingels, Jeroen, Leese, Florian, Schiaparelli, Stefano, Arango, Claudia P., Badhe, Renuka, Bax, Narissa, Blazewicz-Paskowycz, Magdalena, Brandt, Angelika, Brenke, Nils, Catarino, Ana I., David, Bruno, De Ridder, Chantal, Dubois, Philippe, Ellingsen, Kari E., Glover, Adrian G., Griffiths, Huw J., Gutt, Julian, Halanych, Kenneth M., Havermans, Charlotte, Held, Christoph, Janussen, Dorte, Lörz, Anne-Nina, Pearce, David A., Pierrat, Benjamin, Riehl, Torben, Rose, Armin, Sands, Chester J., Soler-Membrives, Ana, Schüller, Myriam, Strugnell, Jan M., Vanreusel, Ann, Veit-Köhler, Gritta, Wilson, Nerida G., Yasuhara, Moriaki. (2013) Patterns, processes and vulnerability of Southern Ocean benthos – a decadal leap in knowledge and understanding. *Marine Biology*, 160. 2295-2317. 10.1007/s00227-013-2232-6

Khor, S., Wood, S. A., Salvitti, L., Ragg, N. L. C., Taylor, D., McNabb, P., . . . Cary, S. C. (2013). Development of a non-lethal biopsy technique for estimating total tetrodotoxin concentrations in the grey side-gilled sea slug *Pleurobranchaea maculata*. *Toxicon*, 74, 27-33. doi:10.1016/j.toxicon.2013.07.024

Linse, K., Griffiths, H. J., Barnes, D. K., Brandt, A., Davey, N., David, B., ... Strugnell, JM & Enderlein, P. (2013). The macro-and megabenthic fauna on the continental shelf of the eastern Amundsen Sea, Antarctica. *Continental Shelf Research*, 68, 80-90.

Linse, Katrin, Griffiths, Huw J, Barnes, Dave KA, Brandt, Angelika, Davey, Niki, David, Bruno, De Grave, Sammy, d'Udekem d'Acoz, Cédric, Eléaume, Marc, Glover, Adrian G., Hemery, Lenaïg G., Mah, Christopher, Martín-Ledo, Rafael, Munilla, Tomás, O'Loughlin, Mark, Pierrat, Benjamin, Saucède, Thomas, Sands, Chester J, Strugnell, Jan M, Enderlein, Peter. (2013) The macro- and megabenthic fauna on the continental shelf of the eastern Amundsen Sea, Antarctica. *Continental Shelf Research*, 68. 80-90. doi:10.1016/j.csr.2013.08.012

Linse, Katrin, Jackson, Jennifer A., Fitzcharles, Elaine, Sands, Chester J., Buckeridge, John S.. (2013) Phylogenetic position of Antarctic scalpelliformes (Crustacea: Cirripedia: Thoracica). *Deep Sea Research Part I: Oceanographic Research Papers*, 73. 99-116. doi:10.1016/j.dsr.2012.11.006

Makhalanyane, T. P., Valverde, A., Birkeland, N. -K., Cary, S. C., Marla Tuffin, I., & Cowan, D. A. (2013). Evidence for successional development in Antarctic hypolithic bacterial communities. *ISME Journal*, 7(11), 2080-2090. doi:10.1038/ismej.2013.94

Marion, G.M., Murray, A.E., Wagner, B., Fritsen, C.H., Kenig, F., Doran, P.T. Carbon Sequestration and Release from Antarctic Lakes: Lake Vida and West Lake Bonney (McMurdo Dry Valleys) (2013) *Aquatic Geochemistry*, 19 (2), pp. 135-145.

Martín-Ledo, Rafael, Sands, Chester, López-González, Pablo J.. (2013) A new brooding species of brittle-star (Echinodermata: Ophiuroidea) from Antarctic waters. *Polar Biology*, 36. 115-126. 10.1007/s00300-012-1242-z

Moreau, Camille, Linse, Katrin, Griffiths, Huw, Barnes, David, Kaiser, Stefanie, Glover, Adrian, Sands, Chester, Strugnell, Jan, Enderlein, Peter, Geissler, Paul. (2013) Amundsen Sea Mollusca from the BIOPEARL II expedition. *ZooKeys*, 294. 1-8. doi:10.3897/zookeys.294.4796

Núñez-Pons, L., Carbone, M., Vázquez, J., Gavagnin, M., Avila, C. Lipophilic Defenses From *Alcyonium* Soft Corals of Antarctica (2013) *Journal of Chemical Ecology*, 39 (5), pp. 675-685.

Nye, Verity, Copley, Jon, Linse, Katrin, Plouviez, Sophie. (2013) *Iheyaspira bathycodon* new species (Vetigastropoda: Trochoidea: Turbinidae: Skeneinae) from the Von Damm Vent Field, Mid-Cayman Spreading Centre, Caribbean. *Journal of the Marine Biological Association of the United Kingdom*, 93. 1017-1024. 10.1017/S0025315412000823

Nye, Verity, Copley, Jonathan T., Linse, Katrin. (2013) A new species of *Eualus* Thallwitz, 1891 and new record of *Lebbeus antarcticus* (Hale, 1941) (Crustacea: Decapoda; Caridea; Hippolytidae) from the Scotia Sea. *Deep Sea Research II*, 92. 145-156. 10.1016/j.dsr2.2013.01.022

Pearce, David A., Hodgson, Dominic A., Thorne, Michael A. S., Burns, Gavin, Cockell, Charles S.. (2013) Preliminary analysis of life within a former subglacial lake sediment in Antarctica. *Diversity*, 5. 680-702. doi:10.3390/d5030680

Pertierra, L.R., Hughes, K.A.. (2013) Management of Antarctic Specially Protected Areas: permitting, visitation and information exchange practices. *Antarctic Science*, 25. 553-564. doi:10.1017/S0954102012001204

Pertierra, Luis R., Hughes, Kevin A., Benayas, Javier, Justel, Ana, Quesada, Antonio. (2013) Environmental management of a scientific field camp in Maritime Antarctica: reconciling research impacts with conservation goals in remote ice-free areas. *Antarctic Science*, 25. 307-317. doi:10.1017/S0954102012001083

Pertierra, Luis R., Lara, Francisco, Benayas, Javier, Hughes, Kevin A.. (2013) *Poa pratensis* L., current status of the longest-established non-native vascular plant in the Antarctic. *Polar Biology*, 36. 1473-1481. 10.1007/s00300-013-1367-8

- Puddick, J., Prinsep, M. R., Wood, S. A., Cary, S. C., Hamilton, D. P., & Wilkins, A. L. (2013). Isolation and structure determination of two new hydrophobic microcystins from *Microcystis* sp. (CAWBG11). *Phytochemistry Letters*, 6(4), 575-581.
- Puddick, J., Prinsep, M. R., Wood, S. A., Miles, C. O., Rise, F., Cary, S. C., . . . Wilkins, A. L. (2013). Structural characterisation of new microcystins containing tryptophan and oxidized tryptophan residues. *Marine Drugs*, 11(8), 3025-3045.
- Purvis, O.W., Convey, P., Flowerdew, M.J., Peat, H.J., Najorka, J., Kearsley, A.. (2013) Iron localization in *Acarospora* colonizing schist on Signy Island. *Antarctic Science*, 25. 24-30. doi:10.1017/S0954102012000582
- Reed, Adam J., Morris, James P., Linse, Katrin, Thatje, Sven. (2013) Plasticity in shell morphology and growth among deep-sea protobranch bivalves of the genus *Yoldiella* (Yoldiidae) from contrasting Southern Ocean regions. *Deep Sea Research Part I: Oceanographic Research Papers*, 81. 14-24. doi:10.1016/j.dsr.2013.07.006
- Reed, Adam J., Thatje, Sven, Linse, Katrin. (2013) An unusual hermaphrodite reproductive trait in the Antarctic brooding bivalve *Lissarca miliaris* (Philobryidae) from the Scotia Sea, Southern Ocean. *Polar Biology*, 36. 1-11. 10.1007/s00300-012-1233-0
- Reid, William D.K., Sweeting, Christopher J., Wigham, Benjamin D., Zwirgmaier, Katrin, Hawkes, Jeffrey A., McGill, Rona A.R., Linse, Katrin, Polunin, Nicholas V.C.. (2013) Spatial differences in East Scotia Ridge hydrothermal vent food webs: influences of chemistry, microbiology and predation on trophodynamics. *PLoS One*, 8. e65553. 10.1371/journal.pone.0065553
- Risk, D., Lee, C. K., MacIntyre, C., & Cary, S. C. (2013). First year-round record of Antarctic Dry Valley soil CO₂ flux. *Soil Biology & Biochemistry*, 66, 193-196.
- Römer, Miriam, Kopsiske, Eberhard, Linse, Katrin, Marcon, Yann, Little, Crispin, Wu, Tingtin. (2013) Ocean Floor Observation System (OFOS). *Berichte zur Polar- und Meeresforschung*, 668. 46-79.
- Roterman, C. N., Copley, J. T., Linse, K. T., Tyler, P. A., Rogers, A. D.. (2013) Development of polymorphic microsatellite loci for three species of vent-endemic megafauna from deep-sea hydrothermal vents in the Scotia Sea, Southern Ocean. *Conservation Genetics Resources*, 5. 835-839. doi:10.1007/s12686-013-9921-9
- Roterman, C.N., Copley, J.T., Linse, K.T., Tyler, P.A., Rogers, A.D.. (2013) The biogeography of the yeti crabs (Kiwaidae) with notes on the phylogeny of the Chirostyloidea (Decapoda: Anomura). *Proceedings of the Royal Society of London, B*, 280. 10.1098/rspb.2013.0718
- Royles, Jessica, Amesbury, Matthew J., Convey, Peter, Griffiths, Howard, Hodgson, Dominic A., Leng, Melanie J., Charman, Dan J.. (2013) Plants and soil microbes respond to recent warming on the Antarctic Peninsula. *Current Biology*, 23. 1702-1706. doi:10.1016/j.cub.2013.07.011
- Royles, Jessica, Ogée, Jérôme, Wingate, Lisa, Hodgson, Dominic A., Convey, Peter, Griffiths, Howard. (2013) Temporal separation between CO₂ assimilation and growth? Experimental and theoretical evidence from the desiccation-tolerant moss *Syntrichia ruralis*. *New Phytologist*, 197. 1152-1160. doi:10.1111/nph.12114
- Royles, Jessica, Sime, Louise C., Hodgson, Dominic A., Convey, Peter, Griffiths, Howard. (2013) Differing source water inputs, moderated by evaporative enrichment, determine the contrasting $\delta^{18}\text{O}$ CELLULOSE signals in maritime Antarctic moss peat banks. *Journal of Geophysical Research: Biogeosciences*, 118. 184-194. doi:10.1002/jgrg.20021
- Sands, C. J., Griffiths, H. J., Downey, R. V., Barnes, D. K., Linse, K., & Martín-Ledo, R. (2013). Observations of the ophiuroids from the West Antarctic sector of the Southern Ocean. *Antarctic Science*, 25(01), 3-10.

- Sands, Chester J., Griffiths, Huw J., Downey, Rachel V., Barnes, David K. A., Linse, Katrin, Martin-Ledo, Rafael. (2013) Observations of the ophiuroids from the West Antarctic sector of the Southern Ocean. *Antarctic Science*, 25. 3-10. 10.1017/S0954102012000612
- Sands, Chester J., Griffiths, Huw J., Downey, Rachel V., Barnes, David K. A., Linse, Katrin, Martin-Ledo, Rafael. (2013) Observations of the ophiuroids from the West Antarctic sector of the Southern Ocean. *Antarctic Science*, 25. 3-10. 10.1017/S0954102012000612
- Saunders, K.M., Grosjean, M., Hodgson, D.A.. (2013) A 950 yr temperature reconstruction from Duckhole Lake, southern Tasmania, Australia. *The Holocene*, 23. 771-783. 10.1177/0959683612470176
- Saunders, K.M., Harrison, J.J., Hodgson, D.A., de Jong, R., Mauchle, F., McMinn, A.. (2013) Ecosystem impacts of feral rabbits on World Heritage sub-Antarctic Macquarie Island: a palaeoecological perspective. *Anthropocene*, 3. 1-8. doi:10.1016/j.ancene.2014.01.001
- Saunders, Krystyna M., Harrison, Jennifer J., Butler, Edward C. V., Hodgson, Dominic A., McMinn, Andrew. (2013) Recent environmental change and trace metal pollution in World Heritage Bathurst Harbour, southwest Tasmania, Australia. *Journal of Paleolimnology*, 50. 471-485. doi:10.1007/s10933-013-9740-8
- Silchenko, A.S., Kalinovskiy, A.I., Avilov, S.A., Andryjashchenko, P.V., Dmitrenok, P.S., Kalinin, V.I., Taboada, S., Avila, C. Triterpene glycosides from Antarctic sea cucumbers IV. Turquetoside A, a 3-O-methylquinovose containing disulfated tetraoside from the sea cucumber *Staurocucumis turqueti* (Vaney, 1906) (=Cucumaria spatha) (2013) *Biochemical Systematics and Ecology*, 51, pp. 45-69.
- Sokol, E. R., Herbold, C. W., Lee, C. K., Cary, S. C., & Barrett, J. E. (2013). Local and regional influences over soil microbial metacommunities in the Transantarctic Mountains. *Ecosphere*, 4(11), 1-24. Retrieved from <http://www.esajournals.org/doi/abs/10.1890/ES13-00136.1>
- Strugnell, J.M. & Allcock, A.L. (2013) Southern Ocean Evolution in a Global Context: A Molecular Viewpoint. In: *From Pole to Pole*. Eds. Kallenborn, R., di Prisco, G., Walton, D. Springer-Verlag. pp 35-53.
- Sun, L.G., Emslie, S.D., Huang, T., Blais, J.M., Xie, Z.Q., Liu, X.D., Yin, X.B., Wang, Y.H., Huang, W., Hodgson, D.A., Smol, J.P.. (2013) Vertebrate records in polar sediments: Biological responses to past climate change and human activities. *Earth-Science Reviews*, 126. 147-155. doi:10.1016/j.earscirev.2013.08.004
- Taboada, S., Junoy, J., Andrade, S.C.S., Giribet, G., Cristobo, J., Avila, C. On the identity of two Antarctic brooding nemertean: Redescription of *Antarctonemertes valida* (Bürger, 1893) and description of a new species in the genus *Antarctonemertes* Friedrich, 1955 (Nemertea, Hoplonemertea) (2013) *Polar Biology*, 36 (10), pp. 1415-1430.
- Taboada, S., Núñez-Pons, L., Avila, C. Feeding repellence of Antarctic and sub-Antarctic benthic invertebrates against the omnivorous sea star *Odontaster validus* (2013) *Polar Biology*, 36 (1), pp. 13-25.
- Taboada, S., Wiklund, H., Glover, A.G., Dahlgren, T.G., Cristobo, J., Avila, C. Two new Antarctic *Ophryotrocha* (Annelida: Dorvilleidae) described from shallow-water whale bones (2013) *Polar Biology*, 36 (7), pp. 1031-1045.
- Van Nieuwenhuysen, Wim, Roberts, S.J., McCulloch, R., Verleyen, E., Hodgson, D.A., Sterken, M., Van De Vyver, E., Van Wichelen, J., Heirman, K., Sabbe, K., Vyverman, W.. (2013) A paleolimnological reconstruction of Holocene climate change in southern Patagonia. *Diatomededelingen*, 37. 35-41.
- Volonterio, Odile, Ponce de León, Rodrigo, Convey, Peter, Krzemińska, Ewa. (2013) First record of Trichoceridae (Diptera) in the maritime Antarctic. *Polar Biology*, 36. 1125-1131. doi:10.1007/s00300-013-1334-4

Williams, S. T., Smith, L. M., Herbert, D. G., Marshall, B. A., Warén, A., Kiel, S., Dyal, P., Linse, K., Vilvens, C., Kano, Y.. (2013) Cenozoic climate change and diversification on the continental shelf and slope: evolution of gastropod diversity in the family Solariellidae (Trochoidea). *Ecology and Evolution*, 3. 887-917. doi:10.1002/ece3.513

Wilson, NG, Maschek, JA, and Baker, BJ (2013) A species flock driven by predation? Secondary metabolites support diversification of slugs in Antarctica. *PLoS ONE* 8(11): e80277.

Wood, S., Smith, K. F., Banks, J. C., Tremblay, L. A., Rhodes, L., Mountfort, D., . . . Pochon, X. (2013). Molecular genetic tools for environmental monitoring of New Zealand's aquatic habitats, past, present and the future. *New Zealand Journal of Marine and Freshwater Research*, 47(1), 90-119.

Xavier, J.C., Barbosa, A., Agustí, S., Alonso-Sáez, L., Alvito, P., Ameneiro, J., Ávila, C., Baeta, A., Canário, J., Carmona, R., Catry, P., Ceia, F., Clark, M.S., Cristobo, F.J., Cruz, B., Duarte, C.M., Figuerola, B., Gili, J.-M., Gonçalves, A.R., Gordillo, F.J.L., Granadeiro, J.P., Guerreiro, M., Isla, E., Jiménez, C., López-González, P.J., Lourenço, S., Marques, J.C., Moreira, E., Mota, A.M., Nogueira, M., Núñez-Pons, L., Orejas, C., Paiva, V.H., Palanques, A., Pearson, G.A., Pedrós-Alió, C., Peña Cantero, T.L., Power, D.M., Ramos, J.A., Rossi, S., Seco, J., Sañé, E., Serrão, E.A., Taboada, S., Tavares, S., Teixidó, N., Vaqué, D., Valente, T., Vázquez, E., Vieira, R.P., Viñegla, B. Polar marine biology science in Portugal and Spain: Recent advances and future perspectives (2013) *Journal of Sea Research*, 83, pp. 9-29.

Yi Pan, Shing, Tan, G. Y. Annie, Convey, Peter, Pearce, David A., Tan, Irene K. P.. (2013) Diversity and bioactivity of actinomycetes from Signy Island terrestrial soils, maritime Antarctic. *Advances in Polar Science*, 24. 208-212. 10.3724/SP.J.1085.2013.00208

Zawar-Reza, P., Katurji, M., Soltanzadeh, I., Dallafior, T., Zhong, S., Steinhoff, D., . . . Cary, S. C. (2013). Pseudovertical Temperature Profiles Give Insight into Winter Evolution of the Atmospheric Boundary Layer over the McMurdo Dry Valleys of Antarctica. *Journal of Applied Meteorology and Climatology*, 52(7), 1664-1669. doi:10.1175/JAMC-D-13-034.1

2014

Archer, S. D. J., McDonald, I. R., Herbold, C. W., & Cary, S. C. (2014). Characterisation of bacterioplankton communities in the meltwater ponds of Bratina Island, Victoria Land, Antarctica. *FEMS Microbiology Ecology*, 89(2), 451-464. doi:10.1111/1574-6941.12358

Banks J, Lea M-A, Wall S, McMahon CR, Hindell MA, 'Combining bio-logging and fatty acid signature analysis indicates spatio-temporal variation in the diet of the southern elephant seal, *Mirounga leonina*', *Journal of Experimental Marine Biology and Ecology*, 450 pp. 79-90. ISSN 0022-0981

Banks, J. C., Cary, S. C., & Hogg, I. D. (2014). Isolated faecal bacterial communities found for Weddell seals, *Leptonychotes weddellii*, at White Island, McMurdo Sound, Antarctica. *Polar Biology*, 37(12), 1857-1864. doi:10.1007/s00300-014-1567-x

Barnes, David K.A., Downey, Rachel V.. (2014) Bryozoa. In: Biogeographic Atlas of the Southern Ocean, Cambridge, Scientific Committee on Antarctic Research, 195-199.

Barnes, David KA, Fenton, Mairi, Cordingley, Ashley. (2014) Climate-linked iceberg activity massively reduces spatial competition in Antarctic shallow waters. *Current Biology*, 24. R553-R554. 10.1016/j.cub.2014.04.040

Bentley, Michael J., Ó Cofaigh, Colm, Anderson, John B., Conway, Howard, Davies, Bethan, Graham, Alastair G.C., Hillenbrand, Claus-Dieter, Hodgson, Dominic A., Jamieson, Stewart S.R., Larter, Robert D., Mackintosh, Andrew, Smith, James A., Verleyen, Elie, Ackert, Robert P., Bart, Philip J., Berg, Sonja, Brunstein, Daniel, Canals, Miquel, Colhoun, Eric A., Crosta, Xavier, Dickens, William A., Domack, Eugene, Dowdeswell, Julian A., Dunbar, Robert, Ehrmann, Werner, Evans, Jeffrey, Favier, Vincent, Fink, David, Fogwill, Christopher J., Glasser, Neil F., Gohl, Karsten, Golledge, Nicholas R., Goodwin, Ian, Gore, Damian B., Greenwood, Sarah L., Hall, Brenda L., Hall, Kevin, Hedding, David

W., Hein, Andrew S., Hocking, Emma P., Jakobsson, Martin, Johnson, Joanne S., Jomelli, Vincent, Jones, R. Selwyn, Klages, Johann P., Kristoffersen, Yngve, Kuhn, Gerhard, Leventer, Amy, Licht, Kathy, Lilly, Katherine, Lindow, Julia, Livingstone, Stephen J., Massé, Guillaume, McGlone, Matt S., McKay, Robert M., Melles, Martin, Miura, Hideki, Mulvaney, Robert, Nel, Werner, Nitsche, Frank O., O'Brien, Philip E., Post, Alexandra L., Roberts, Stephen J., Saunders, Krystyna M., Selkirk, Patricia M., Simms, Alexander R., Spiegel, Cornelia, Stoldorf, Travis D., Sugden, David E., van der Putten, Nathalie, van Ommen, Tas, Verfaillie, Deborah, Vyverman, Wim, Wagner, Bernd, White, Duanne A., Witus, Alexandra E., Zwart, Dan. (2014) A community-based geological reconstruction of Antarctic Ice Sheet deglaciation since the Last Glacial Maximum. *Quaternary Science Reviews*, 100. 1-9. doi:10.1016/j.quascirev.2014.06.025

Bottos, E. M., Scarrow, J. W., Archer, S. D. J., McDonald, I. R., & Cary, S. C. (2014). Bacterial community structures of Antarctic soils. In D. Cowan (Ed.), *Antarctic Terrestrial Microbiology: Physical and Biological Properties of Antarctic Soils* (pp. 9-33). Springer Berlin Heidelberg. doi:10.1007/978-3-642-45213-0_2

Brabyn, L., Zawar-Reza, P., Stichbury, G. A., Cary, S. C., Storey, B. C., Laughlin, D. C., . . . Katurji, M. (2014). Accuracy assessment of land surface temperature retrievals from Landsat 7 ETM+ in the Dry Valleys of Antarctica using iButton temperature loggers and weather station data. *Environmental Monitoring and Assessment*, 186(4), 2619-2628. doi:10.1007/s10661-013-3565-9

Brandão, S. N. Vital, H., Brandt, A. (2014): Southern Polar Front Macroecological and Biogeographical Insights gained from Benthic Ostracoda. *Deep-Sea Research II*, 108: 33-50.

Brandt A., Havermans, C., Janussen, D., Jörger, K.M., Meyer-Löbbecke, A., Schnurr, S., Schüller, M., Schwabe, E., Würzberg, L., Zinkann, A.-C. (2014): Composition of epibenthic sledge catches in the South Polar Front of the Atlantic. *Deep-Sea Research II* (2014), 108: 69-75.

Brandt A., Würzberg, L. (2014): Southern Ocean biodiversity – a benthic view to pelagic processes. *Deep-Sea Research II* (2014), 108: 1-5. DOI: 10.1016/j.dsr2.2014.07.011

Brandt, A. (2014): Marine Biodiversität in den Polarregionen nach der Volkszählung der Meere. In: Lozán, J. L., Grassl, H., Notz, D. & D. Piepenburg (Hrsg.). *Warnsignal Klima: Die Polarregionen*. pp. 200-205. Online: www.klima-warnsignale.uni-hamburg.de. doi:10.2312/warnsignal.klima.die-Polarregionen.28

Brandt, A. van de Putte, A., Griffiths, H. (2014): Southern Ocean benthic deep-sea biodiversity and biogeography. In: De Broyer C., Koubbi P., Griffiths H.J., Raymond B., Udekem d'Acoz C. d', Van de Putte A.P., Danis B., David B., Grant S., Gutt J., Held C., Hosie G., Huettmann F., Post A., Ropert-Coudert Y. (eds.), 2014. *Biogeographic Atlas of the Southern Ocean*. Scientific Committee on Antarctic Research, Cambridge, XII + 498 pp., pp. 233-239.

Brandt, A., Brix, S.B., Held, C., Kihara, T.C. (2014): Molecular differentiation in sympatry despite morphological stasis: deep-sea *Atlantoserolis* Wägele, 1994 and *Glabroserolis* Menzies, 1962 from the south-west Atlantic (Crustacea: Isopoda: Serolidae). *Zoological Journal of the Linnean Society* 172: 318–359.

Brandt, A., Griffiths, H., Gutt, J., Linse, K., Schiaparelli, S., Ballerini, T., ... & Pfannkuche, O. (2014). Challenges of deep-sea biodiversity assessments in the Southern Ocean. *Advances in Polar Science*, 25(3), 204-212.

Brandt, A., Vanreusel, A., Bracher, A., Hoppe, C., Lins, L., Meyer-Löbbecke, A., Altenburg Soppa, M., Würzberg, L. (2014): Are boundary conditions in surface productivity at the Southern Polar Front are reflected in benthic activity? *Deep-Sea Research II* (2014), 108: 51-60.

Bridge, Paul, Edgington, Steve, Hughes, Kevin A.. (2014) Antarctic Fungi: Potential Novel Mycoinsecticides?. *Outlooks on Pest Management*, 25. 340-343. doi:10.1564/v25_oct_10

Carapelli, A., Convey, P., Nardi, F., Frati, F.. (2014) The mitochondrial genome of the antarctic springtail *Folsomotoma octooculata* (Hexapoda; Collembola), and an update on the phylogeny of

collembolan lineages based on mitogenomic data. *Entomologia*, 2. 46-55.
doi:10.4081/entomologia.2014.190

Carbone, M., Núñez-Pons, L., Ciavatta, M.L., Castelluccio, F., Avila, C., Gavagnin, M. Occurrence of a taurine derivative in an antarctic glass sponge (2014) *Natural Product Communications*, 9 (4), pp. 469-470.

Cary, S. C., & Fierer, N. (2014). The importance of sample archiving in microbial ecology. *Nature Reviews Microbiology*, 12, 789-790. doi:10.1038/nrmicro3382

Cary, S. C., Coyne, K. J., Rueckert, A., Wood, S. A., Kelly, S., Gemmill, C., . . . Hicks, B. J. (2014). Development and validation of a quantitative PCR assay for the early detection and monitoring of the invasive diatom *Didymosphenia geminata*. *Harmful Algae*, 36, 63-70. doi:10.1016/j.hal.2014.04.003

Charman, Dan, Griffiths, Howard, Convey, Pete, Hodgson, Dominic, Amesbury, Matt, Royles, Jessica. (2014) Heating up the Holocene. *International Innovation*.
Cleeland JB, Lea M-A, Hindell MA, 'Use of the Southern Ocean by breeding short-tailed shearwaters (*Puffinus tenuirostris*)', *Journal of Experimental Marine Biology and Ecology*, 450 pp. 109-117. ISSN 0022-0981 (2014)

Connolly, S.R., MacNeil, M.A., Caley, M.J., Knowlton, N., Cripps, E., Hisano, M., Thibaut, L.M., Bhattacharya, B.D., Benedetti-Cecchi, L., Brainard, R.E., Brandt, A., Bulleri, F., Ellingsen, K.E., Kaiser, S., Kröncke, I., Linse, K., Maggi, E., O'Hara, T.D., Plaisance, L., Poore, G.C.B, Sarkar, S.K., Satpathy, K.K., Schücker, U., Williams, A., Wilson, R.S., 2014. Commonness and rarity in the marine biosphere. *Proc. Nat. Ac. Sci.* 111, 8524-8529. www.pnas.org/cgi/doi/10.1073/pnas.1406664111

Constable, A.J., Melbourne-Thomas, J., Corney, S.P., Arrigo, K.R., Barbraud, C., Barnes, D.K.A., Bindoff, N.L., Boyd, P.W., Brandt, A., Costa, D.P., Davidson, A.T., Ducklow, H.W., Emmerson, L., Fukuchi, M., Gutt, J., Hindell, M.A., Hofman, H.E., Hosie, G.W., Iida, T., Jacob, S., Johnston, N.M., Kawaguchi, S., Koubbi, P., Lea, M.-A., Makhado, A., Massom, R.A., Meiners, K., Meredith, M.P., Murphy, E.J., Nicol, S., Richerson, K., Riddle, M.J., Rintoul, S.R., Smith Jr., W.O., Southwell, C., Stark, J.S., Sumner, M., Swadling, K.M., Takahashi, K.T., Trathan, P.N., Welsford, D.C., Weimerskirch, H., Westwood, K.J., Wienecke, B.C., Wolf-Gladrow, D., Wright, S.W., Xavier, J.C., Ziegler, P. (2014): Climate change and Southern Ocean ecosystems I: How changes in physical habitats directly affect marine biota. *Global Change Biology*, 1-22, doi: 10.1111/gcb.12623.

Convey, Peter, Chown, Steven L., Clarke, Andrew, Barnes, David K.A., Bokhorst, Stef, Cummings, Vonda, Ducklow, Hugh W., Frati, Francesco, Green, T. G. Allan, Gordon, Shulamit, Griffiths, Huw J., Howard-Williams, Clive, Huiskes, Ad H. L., Laybourn-Parry, Johanna, Lyons Berry, W. , McMinn, Andrew, Morley, Simon A., Peck, Lloyd S., Quesada, Antonio, Robinson, Sharon A., Schiaparelli, Stefano, Wall, Diana H.. (2014) The spatial structure of Antarctic biodiversity. *Ecological Monographs*, 84. 203-244. doi:10.1890/12-2216.1

Convey, Peter. (2014) Antarctic research: Significance to the global community. *International e-Journal of Science, Medicine and Education*, 8. 1-3.

Coulson, S.J., Convey, P., Aakra, K., Aarvik, L., Ávila-Jiménez, M.L., Babenko, A., Biersma, E., Boström, S., Brittain, J.E., Carlsson, A., Christoffersen, K.S., De Smet, W.H., Ekrem, T., Fjellberg, A., Füreder, L., Gustafsson, D., Gwiazdowicz, D.J., Hansen, L.O., Hullé, M., Kaczmarek, L., Kolicka, M., Kuklin, V., Lakka, H.-K., Lebedeva, N., Makarova, O., Maraldo, K., Melekhina, E., Ødegaard, F., Pilskog, H.E., Simon, J.C., Sohlenius, B., Solhøy, T., Søli, G., Stur, E., Tanasevitch, A., Taskaeva, A., Velle, G., Zawierucha, K., Zmudczyńska-Skarbek, K.. (2014) The terrestrial and freshwater invertebrate biodiversity of the archipelagoes of the Barents Sea; Svalbard, Franz Josef Land and Novaya Zemlya. *Soil Biology and Biochemistry*, 68. 440-470. doi:10.1016/j.soilbio.2013.10.006

de los Ríos, A., Cary, C., & Cowan, D. (2014). The spatial structures of hypolithic communities in the Dry Valleys of East Antarctica. *Polar Biology*, 37(12), 1823-1833. doi:10.1007/s00300-014-1564-0

De Maayer, P., Anderson, D., Cary, C., & Cowan, D. A. (2014). Some like it cold: understanding the survival strategies of psychrophiles. *EMBO Reports*, 15(5), 508-517. doi:10.1002/embr.201338170

- Douglass, L.L., Beaver, D., Raymond, B., Constable, A.J., Brandt, A., Post, A.L., Kaiser, S., Grantham, H.S., Nicoll, R.A. (2014): Benthic regional classification. In: De Broyer C., Koubbi P., Griffiths H.J., Raymond B., Udekem d'Acoz C. d', Van de Putte A.P., Danis B., David B., Grant S., Gutt J., Held C., Hosie G., Huettmann F., Post A., Ropert-Coudert Y. (eds.), 2014. Biogeographic Atlas of the Southern Ocean. Scientific Committee on Antarctic Research, Cambridge, XII + 498 pp., pp. 414-417.
- Douglass, L.L., Grantham, H.S., Kaiser, S., Constable, A., Nicoll, R., Raymond, B., Post, A., Brandt, A., Beaver, D., (2014): A hierarchical classification of benthic biodiversity and assessment of protected areas in the Southern Ocean. PLOS ONE 9(7): 1-16.
- Dreesens, L. L., Lee, C. K., & Cary, S. C. (2014). The distribution and identity of edaphic fungi in the McMurdo Dry Valleys. *Biology*, 3(3), 466-483. doi:10.3390/biology3030466
- Dunlop, Katherine M., Barnes, David K., Bailey, David M.. (2014) Variation of scavenger richness and abundance between sites of high and low iceberg scour frequency in Ryder Bay, west Antarctic Peninsula. *Polar Biology*, 37. 1741-1754. 10.1007/s00300-014-1558-y
- Edgington, Steven, Thompson, Emma, Moore, Dave, Hughes, Kevin A., Bridge, Paul. (2014) Investigating the insecticidal potential of *Geomyces* (Myxotrichaceae: Helotiales) and *Mortierella* (Mortierellaceae: Mortierellales) isolated from Antarctica. SpringerPlus, 3. 289. doi:10.1186/2193-1801-3-289
- Everatt, M.J., Convey, P., Worland, M.R., Bale, J.S., Hayward, S.A.L.. (2014) Are the Antarctic dipteran, *Eretmoptera murphyi*, and Arctic collembolan, *Megaphorura arctica*, vulnerable to rising temperatures?. *Bulletin of Entomological Research*, 104. 494-503. doi:10.1017/S0007485314000261
- Everatt, M.J., Convey, P., Worland, M.R., Bale, J.S., Hayward, S.A.L.. (2014) Contrasting strategies of resistance vs. tolerance to desiccation in two polar dipterans. *Polar Research*, 33. 10.3402/polar.v33.22963
- Everatt, Matthew J., Convey, Peter, Mirbahai, Leda, Worland, Michael R., Bale, Jeff S., Hayward, Scott A.L.. (2014) Can the Antarctic terrestrial midge, *Eretmoptera murphyi*, tolerate life in water?. *Ecological Entomology*, 39. 732-735. 10.1111/een.12147
- Fierer, N., & Cary, C. (2014). Archiving: Don't let microbial samples perish. *Nature*, 512(7514), 253. doi:10.1038/512253b
- Figuerola, B., Gordon, D.P., Polonio, V., Cristobo, J., Avila, C. Cheilostome bryozoan diversity from the southwest Atlantic region: Is Antarctica really isolated? (2014) *Journal of Sea Research*, 85, pp. 1-17.
- Figuerola, B., Núñez-Pons, L., Monleón-Getino, T., Avila, C. Chemo-ecological interactions in Antarctic bryozoans (2014) *Polar Biology*, 37 (7), pp. 1017-1030.
- Figuerola, B., Sala-Comorera, L., Angulo-Preckler, C., Vázquez, J., Jesús Montes, M., García-Aljaro, C., Mercadé, E., Blanch, A.R., Avila, C. Antimicrobial activity of Antarctic bryozoans: An ecological perspective with potential for clinical applications (2014) *Marine Environmental Research*, 101 (1), pp. 52-59.
- Fraser, C*, Terauds, A*, Smellie, J., Convey, P. & Chown, S.L. (2014) Geothermal activity helps life survive glacial cycles. *Proceedings of the National Academy of the USA* 15: 5634-5639. *Authors contributed equally
- Fuenzalida, G., Poulin, E., Gonzalez-Wevar, C., Molina, C., Cardenas, L. Next-generation transcriptome characterization in three *Nacella* species (Patellogastropoda: Nacellidae) from South America and Antarctica (2014) *Marine Genomics*, 18 (PB), pp. 89-91.

- Griffiths, Huw J., Whittle, Rowan J., Roberts, Stephen J., Belchier, Mark, Linse, Katrin, Thatje, Sven. (2014) Decapoda: crabs and lobsters. In: Biogeographic Atlas of the Southern Ocean, Cambridge, Scientific Committee on Antarctic Research, 185-189.
- Guglielmin, Mauro, Worland, M. Roger, Baio, Fabio, Convey, Peter. (2014) Permafrost and snow monitoring at Rothera Point (Adelaide Island, Maritime Antarctica): implications for rock weathering in cryotic conditions.. *Geomorphology*, 225. 47-56. 10.1016/j.geomorph.2014.03.051
- Gutt, Julian, Barnes, David, Lockhart, Susanne J.. (2014) Classification and spatially explicit illustration of Antarctic macrobenthic assemblages: a feasibility study. In: Biogeographic Atlas of the Southern Ocean, Cambridge, Scientific Committee on Antarctic Research, 229-232.
- Herbold, C. W., Lee, C. K., McDonald, I. R., & Cary, S. C. (2014). Evidence of global-scale aeolian dispersal and endemism in isolated geothermal microbial communities of Antarctica. *Nature Communications*, 5. doi:10.1038/ncomms4875
- Herbold, C. W., McDonald, I. R., & Cary, S. C. (2014). Microbial ecology of geothermal habitats in Antarctica. In D. Cowan (Ed.), *Antarctic Terrestrial Microbiology: Physical and Biological Properties of Antarctic Soils* (pp. 181-215). Springer Berlin Heidelberg. doi:10.1007/978-3-642-45213-0_10
- Hillenbrand, Claus-Dieter, Bentley, Michael J., Stoldorf, Travis D., Hein, Andrew S., Kuhn, Gerhard, Graham, Alastair G.C., Fogwill, Christopher J., Kristofferson, Yngve, Smith, James A., Anderson, John B., Larter, Robert D., Melles, Martin, Hodgson, Dominic A., Mulvaney, Robert, Sugden, David E.. (2014) Reconstruction of changes in the Weddell Sea sector of the Antarctic Ice Sheet since the Last Glacial Maximum. *Quaternary Science Reviews*, 100. 111-136. 10.1016/j.quascirev.2013.07.020
- Hodgson, Dominic A., Graham, Alastair G.C., Griffiths, Huw J., Roberts, Stephen J., Cofaigh, Colm Ó, Bentley, Michael J., Evans, David J.A.. (2014) Glacial history of sub-Antarctic South Georgia based on the submarine geomorphology of its fjords. *Quaternary Science Reviews*, 89. 129-147. doi:10.1016/j.quascirev.2013.12.005
- Hodgson, Dominic A., Graham, Alastair G.C., Roberts, Stephen J., Bentley, Michael J., Cofaigh, Colm Ó, Verleyen, Elie, Vyverman, Wim, Jomelli, Vincent, Favier, Vincent, Brunstein, Daniel, Verfaillie, Deborah, Colhoun, Eric A., Saunders, Krystyna M., Selkirk, Patricia M., Mackintosh, Andrew, Hedding, David W., Nel, Werner, Hall, Kevin, McGlone, Matt S., Van der Putten, Nathalie, Dickens, William A., Smith, James A.. (2014) Terrestrial and submarine evidence for the extent and timing of the Last Glacial Maximum and the onset of deglaciation on the maritime-Antarctic and sub-Antarctic islands. *Quaternary Science Reviews*, 100. 137-158. doi:10.1016/j.quascirev.2013.12.001
- Hughes, Kevin A., Convey, Peter, Huiskes, Ad H.L.. (2014) Global movement and homogenisation of biota: challenges to the environmental management of Antarctica. In: *Antarctic futures: human engagement with the Antarctic environment*, Netherlands, Springer, 113-137. 10.1007/978-94-007-6582-5_5
- Hughes, Kevin A., Convey, Peter. (2014) Alien invasions in Antarctica – is anyone liable?. *Polar Research*, 33. 13 pp. 10.3402/polar.v33.22103
- Hughes, Kevin A., Convey, Peter. (2014) Non-native species in Antarctic terrestrial environments: the impacts of climate change and human activity. In: *Invasive species and global climate change*, CABI, 81-100.
- Hughes, Kevin A.. (2014) Threats to soil communities: human impacts. In: *Antarctic terrestrial microbiology. Physical and biological properties of Antarctic soils*, Heidelberg, Springer, 263-277. 10.1007/978-3-642-45213-0_14
- Huiskes, Ad H.L., Gremmen, Niek J.M., Bergstrom, Dana M., Frenot, Yves, Hughes, Kevin A., Imura, Satoshi, Kiefer, Kate, Lebouvier, Marc, Lee, Jennifer E., Tsujimoto, Megumu, Ware, Chris, Van de Vijver, Bart, Chown, Steven L.. (2014) Aliens in Antarctica: Assessing transfer of plant propagules by human visitors to reduce invasion risk. *Biological Conservation*, 171. 278-284. 10.1016/j.biocon.2014.01.038

Hüne, M., González-Wevar, C., Poulin, E., Mansilla, A., Fernández, D.A., Barrera-Oro, E. Low level of genetic divergence between *Harpagifer* fish species (Perciformes: Notothenioidei) suggests a Quaternary colonization of Patagonia from the Antarctic Peninsula (2014) *Polar Biology*, 38 (5), pp. 607-617.

Kennicutt II M., Chown S.L., Cassano J., Liggett D., Massom R., Peck L., Rintoul S., Storey J., Vaughan D., Wilson T., Allison I., Ayton J., Badhe R., Baeseman J., Barrett P., Bell R., Bertler N., Bo S., Brandt A., Bromwich D., Cary C., Clark M., Convey P., Costa E.S., Cowan D., Deconto R., Dunbar R., Elfring C., Escutia C., Francis J., Fricker H., Fukuchi M., Gilbert N., Gutt J., Havermans C., Hik D., Hosie G., Jones C., Kim Y., Le Maho Y., Lee S.H., Leppe M., Leichenkov G., Li X., Lipenkov V., Lochte K., López-Martínez J., Lüdecke C., Lyons W., Marensi S., Miller H., Morozova P., Naish T., Nayak S., Ravindra R., Retamales J., Ricci C., Rogan-Finnemore M., Ropert-Coudert Y., Samah A.A., Sanson L., Scambos T., Schloss I., Shiraishi K., Siegert M.J., Simões J., Sparrow M., Storey B., Wall D., Walsh J., Wilson G., Winther J.G., Xavier J., Yang H., Sutherland W.J. (2014). A roadmap for Antarctic and Southern Ocean science for the next two decades and beyond. *Antarctic Science*, online, 1-16, doi:10.1017/S0954102014000674.

Kersken, D., Göcke, C., Brandt, A., Lejzerowicz, F., Schwabe, E., Sefeld, M., Veit-Köhler, G., Janussen, D. (2014): The infauna of three widely distributed sponge species (Hexactinellida and Demospongiae) from the deep Ekström shelf in the Weddell Sea, Antarctica. *Deep-Sea Research II* (2014), <http://dx.doi.org/10.1016/j.dsr2.2014.06.005>.

Khor, S., Wood, S. A., Salvitti, L., Taylor, D. I., Adamson, J., McNabb, P., . . . Cary, S. C. (2014). Investigating diet as the source of tetrodotoxin in *Pleurobranchaea maculata*. *Marine Drugs*, 12(1), 1-16. doi:10.3390/md12010001

Kleinteich, J., Hildebrand, F., Wood, SA, Cirés, S, Agha, R, Quesada, A, Pearce, D, Convey, P, Kupper, FC, Dietrich, DR. (2014) Diversity of toxin and non-toxin containing cyanobacterial mats of meltwater ponds on the Antarctic peninsula: a pyrosequencing approach. *Antarctic Science*, 26. 521-532. doi:10.1017/S0954102014000145

Krishnan, Abiramy, Convey, Peter, Gonzales-Rocha, Gerardo, Alias, Sita Aisyah. (2014) Production of extracellular hydrolase enzymes by fungi from King George Island. *Polar Biology*. 10.1007/s00300-014-1606-7

Kuhn, E., Ichimura, A.S., Peng, V., Fritsen, C.H., Trubl, G., Doran, P.T., Murray, A.E. Brine assemblages of ultrasmall microbial cells within the ice cover of Lake Vida, Antarctica (2014) *Applied and Environmental Microbiology*, 80 (12), pp. 3687-3698.

Lepot, K., Compère, P., Gérard, E., Namsaraev, Z., Verleyen, E., Tavernier, I., Hodgson, D. A., Vyverman, W., Gilbert, B., Wilmotte, A., Javaux, E. J.. (2014) Organic and mineral imprints in fossil photosynthetic mats of an East Antarctic lake. *Geobiology*, 12. 424-450. doi:10.1111/gbi.12096

Lie, A. A. Y., Liu, Z., Hu, S. K., Jones, A. C., Kim, D. Y., Countway, P. D., . . . Sherr, B. F. (2014). Investigating microbial eukaryotic diversity from a global census: Insights from a comparison of pyrotag and full-length sequences of 18S rRNA genes. *Applied and Environmental Microbiology*, 80(14), 4363-4373. doi:10.1128/AEM.00057-14

Linse, Katrin, Jackson, Jennifer A., Malyutina, Marina V., Brandt, Angelika. (2014) Shallow-water northern hemisphere Jaera (Crustacea, Isopoda, Janiridae) found on whale bones in the Southern Ocean deep sea: ecology and description of *Jaera tyleri* sp. nov. *PLoS ONE*, 9. 20 pp. doi:10.1371/journal.pone.0093018

Linse, Katrin. (2014) *Bivalvia*. In: *Biogeographic Atlas of the Southern Ocean*, Cambridge, Scientific Committee on Antarctic Research, 126-128.

Loxton, Jennifer, Kuklinski, Piotr, Barnes, David K. A., Najorka, Jens, Spencer Jones, Mary, Porter, Joanne S.. (2014) Variability of Mg-calcite in Antarctic bryozoan skeletons across spatial scales.. *Marine Ecology Progress Series*, 507. 169-180. 10.3354/meps10826

- Mackintosh, Andrew N., Verleyen, Elie, O'Brien, Philip E., White, Duanne A., Jones, R. Selwyn, McKay, Robert, Dunbar, Robert, Gore, Damian B., Fink, David, Post, Alexandra L., Miura, Hideki, Leventer, Amy, Goodwin, Ian, Hodgson, Dominic A., Lilly, Katherine, Crosta, Xavier, Golledge, Nicholas R., Wagner, Bernd, Berg, Sonja, van Ommen, Tas, Zwart, Dan, Roberts, Stephen J., Vyverman, Wim, Masse, Guillaume. (2014) Retreat history of the East Antarctic Ice Sheet since the Last Glacial Maximum. *Quaternary Science Reviews*, 100. 10-30. doi:10.1016/j.quascirev.2013.07.024
- Magalhaes, C. M., Machado, A., Frank-Fahle, B., Lee, C. K., & Cary, S. C. (2014). The ecological dichotomy of ammonia-oxidizing archaea and bacteria in the hyper-arid soils of the Antarctic Dry Valleys. *Frontiers in Microbiology*, 5, 11 pages. doi:10.3389/fmicb.2014.00515
- Makhalanyane, T. P., Valverde, A., Birkeland, N. -K., Cary, S. C., Tuffin, I. M., & Cowan, D. A. (2014). Erratum: Evidence of successional development in Antarctic hypolithic bacterial communities (ISME Journal (2013) 7 (2080-2090) DOI:10.1038/ismej.2013.94). *ISME Journal*, 8(4), 952. doi:10.1038/ismej.2013.230
- Malyutina M.V. & Brandt A. (2014): New species of the deep-sea munnopsid genus *Tythocope* (Crustacea, Isopoda, Asellota) from the south Atlantic and the Weddell Sea. *Zootaxa* 3786 (1): 001–043.
- Meyer-Löbbecke, A., Brandt, A., Brix, S. (2014): Diversity and abundance of deep-sea Isopoda along the Southern Polar Front: Results from the SYSTCO I and II expeditions. *Deep-Sea Research II*, 108: 76-84.
- Morley, S. A., Belchier, M., Sands, C., Barnes, D. K. A., Peck, L. S.. (2014) Geographic isolation and physiological mechanisms underpinning species distributions at the range limit hotspot of South Georgia. *Reviews in Fish Biology and Fisheries*, 24. 485-492. doi:10.1007/s11160-013-9308-8
- Mystikou, Alexandra, Peters, Akira F., Asensi, Aldo O., Brickle, Paul, van West, Pieter, Convey, Peter, Kupper, Frithjof C.. (2014) Seaweed biodiversity in the south-western Antarctic Peninsula: Surveying macroalgal community composition in the Adelaide Island / Marguerite Bay region over a 35-year time span. *Polar Biology*, 37. 1607-1619. 10.1007/s00300-014-1547-1
- Neal, Lenka, Wiklund, Helena, Muir, Alexander I., Linse, Katrin, Glover, Adrian G.. (2014) The identity of juvenile Polynoidae (Annelida) in the Southern Ocean revealed by DNA taxonomy, with notes on the status of *Herdmanella gracilis* Ehlers sensu Augener. *Memoirs of Museum Victoria*, 71. 203-216.
- Nuñez-Pons, L., Avila, C. Defensive metabolites from antarctic invertebrates: Does energetic content interfere with feeding repellence? (2014) *Marine Drugs*, 12 (6), pp. 3770-3791.
- Núñez-Pons, L., Avila, C. Deterrent activities in the crude lipophilic fractions of Antarctic benthic organisms: Chemical defences against keystone predators (2014) *Polar Research*, 33 (1 SUPPL), art. no. 21624, .
- Ó Cofaigh, Colm, Davies, Bethan J., Livingstone, Stephen J., Smith, James A., Johnson, Joanne S., Hocking, Emma P., Hodgson, Dominic A., Anderson, John B., Bentley, Michael J., Canals, Miquel, Domack, Eugene, Dowdeswell, Julian A., Evans, Jeffrey, Glasser, Neil F., Hillenbrand, Claus-Dieter, Larter, Robert D., Roberts, Stephen J., Simms, Alexander R.. (2014) Reconstruction of ice-sheet changes in the Antarctic Peninsula since the Last Glacial Maximum. *Quaternary Science Reviews*, 100. 87-110. doi:10.1016/j.quascirev.2014.06.023
- Pabis, K., Hara, U., Presler, P. and Siciński, J. 2014. „Structure of bryozoan communities along the glacial disturbance gradient of the Antarctic fjord (Admiralty Bay, South Shetlands)”. *Polar Biology*, 37, 737-751.
- Pasotti, F., Convey, P., Vanreusel, A.. (2014) Potter Cove, west Antarctic Peninsula, shallow water meiofauna: a seasonal snapshot. *Antarctic Science*, 26. 554-562. doi:10.1017/S0954102014000169
- Piazza, P., Błażewicz-Paszkowycz, M., Ghiglione, C., Alvaro, M.C., Schnabel, K., Schiaparelli, S.

Distributional records of Ross Sea (Antarctica) tanaidacea from museum samples stored in the collections of the Italian National Antarctic Museum (MNA) and the New Zealand National Institute of Water and Atmospheric Research (NIWA) (2014) ZooKeys, (451), pp. 49-60.

Pisa, S., Biersma, E. M., Convey, P., Patiño, J., Vanderpoorten, A., Werner, O., Ros, R. M.. (2014) The cosmopolitan moss *Bryum argenteum* in Antarctica: recent colonisation or in situ survival?. Polar Biology, 37. 1469-1477. doi:10.1007/s00300-014-1537-3

Post, A. L., B. K. Galton-Fenzi, et al. (2014). "Modern sedimentation, circulation and life beneath the Amery Ice Shelf, East Antarctica." Continental Shelf Research 74: 77-87.

Post, A. L., A. J. S. Meijers, et al. (2014). Chapter 14. Environmental Setting. Biogeographic Atlas of the Southern Ocean. C. De Broyer, P. Koubbi, H. J. Griffiths et al. Cambridge, Scientific Committee on Antarctic Research: 46-64.

Poulin, E., González-Wevar, C., Díaz, A., Gérard, K., Hüne, M. Divergence between Antarctic and South American marine invertebrates: What molecular biology tells us about Scotia Arc geodynamics and the intensification of the Antarctic Circumpolar Current (2014) Global and Planetary Change, 123, pp. 392-399

Puddick, J., Prinsep, M. R., Wood, S. A., Kaufononga, S. A., Cary, S. C., & Hamilton, D. P. (2014). High levels of structural diversity observed in Microcystins from Microcystis CAWBG11 and characterization of six new Microcystin congeners.. Marine Drugs, 12(11), 5372-5395. doi:10.3390/md12115372

Rajanahally, Meghana A., Sim, Dalice, Ryan, Ken G., Convey, Peter. (2014) Can bottom ice algae tolerate radiative and temperature changes?. Journal of Experimental Marine Biology and Ecology, 461. 516-527. 10.1016/j.jembe.2014.10.005

Reed, Adam J., Linse, Katrin, Thatje, Sven. (2014) Differential adaptations between cold-stenothermal environments in the bivalve *Lissarca cf. miliaris* (Philobryidae) from the Scotia Sea islands and Antarctic Peninsula. Journal of Sea Research, 88. 11-20. doi:10.1016/j.seares.2013.12.008

Reed, Adam J., Morris, James P., Linse, Katrin, Thatje, Sven. (2014) Reproductive morphology of the deep-sea protobranch bivalves *Yoldiella ecaudata*, *Yoldiella sabrina*, and *Yoldiella valettei* (Yoldiidae) from the Southern Ocean. Polar Biology, 37. 1383-1392. doi:10.1007/s00300-014-1528-4

Richter, I., Herbold, C. W., Lee, C. K., McDonald, I. R., Barrett, J. E., & Cary, S. C. (2014). Influence of soil properties on archaeal diversity and distribution in the McMurdo Dry Valleys, Antarctica. Fems Microbiology Ecology, online, 1-13. doi:10.1111/1574-6941.12322

Riehl, T. Brenke, N., Brix, S.B., Driskell, A., Kaiser, S., Brandt, A. (2014): Field and laboratory methods for DNA studies on deep-sea isopod crustaceans. Polish Polar Research 35(2): 203–224.

Roads, Esme, Longton, Royce, Convey, Peter. (2014) Millennial timescale regeneration in a moss from Antarctica. Current Biology, 24. R222-R223. 10.1016/j.cub.2014.01.053

Rogers, Alex D., Linse, Katrin. (2014) Chemosynthetic communities. In: Biogeographic Atlas of the Southern Ocean, Cambridge, Scientific Committee on Antarctic Research, 240-244.

Römer, M., Torres, M., Kasten, S., Kuhn, G., Graham, A.G.C., Mau, S., Little, C.T.S., Linse, K., Pape, T., Geprägs, P., Fischer, D., Wintersteller, P., Marcon, Y., Rethemeyer, J., Bohrmann, G.. (2014) First evidence of widespread active methane seepage in the Southern Ocean, off the sub-Antarctic island of South Georgia. Earth and Planetary Science Letters, 403. 166-177. doi:10.1016/j.epsl.2014.06.036

Royles, Jessica, Amesbury, Matthew, Ogee, Jerome, Wingate, Lisa, Convey, Peter, Hodgson, Dominic, Griffiths, Howard, Leng, Melanie, Charman, Dan. (2014) Stable isotopes and Antarctic moss banks: plants and soil microbes respond to recent warming on the Antarctic Peninsula [abstract only].

In: EGU General Assembly 2014 Vienna, Austria, 28 Apr - 2 May 2014. European Geosciences Union.

Schiaparelli, Stefano, Ghiglione, Claudio, Alvaro, Maria Chiara, Griffiths, Huw J., Linse, Katrin. (2014) Diversity, abundance and composition in macrofaunal molluscs from the Ross Sea (Antarctica): results of fine-mesh sampling along a latitudinal gradient. *Polar Biology*, 37. 859-877. doi:10.1007/s00300-014-1487-9

Schiaparelli, Stefano, Linse, Katrin. (2014) Gastropoda. In: Biogeographic Atlas of the Southern Ocean, Cambridge, Scientific Committee on Antarctic Research, 122-125.

Selbmann, L., Onofri, S., Zucconi, L., Isola, D., Rottigni, M., Ghiglione, C., Piazza, P., Alvaro, M.C., Schiaparelli, S. Distributional records of Antarctic fungi based on strains preserved in the culture collection of fungi from extreme environments (CCFEE) mycological section associated with the Italian national Antarctic museum (MNA) (2015) *MycoKeys*, 10, pp. 57-71.

Shaw, J.D., Terauds, A., Riddle, M., Possingham, H.P & Chown, S.L (2014) Antarctica's protected areas are inadequate, unrepresentative and at risk. *PLoS Biology*. 12 (6): e1001888.

Tavernier, Ines, Verleyen, Elie, Hodgson, Dominic A., Heirman, Katrien, Roberts, Stephen J., Imura, Satoshi, Kudoh, Sakae, Sabbe, Koen, De Batist, Marc, Vyverman, Wim. (2014) Absence of a Medieval Climate Anomaly, Little Ice Age and twentieth century warming in Skarvsnes, Lützow Holm Bay, East Antarctica. *Antarctic Science*, 26. 585-598. doi:10.1017/S0954102014000029

Taylor J.C., Cocquyt C., Karthick B. & Van de Vlijver B. (2014) Analysis of the type of *Achnanthes exigua* Grunow (Bacillariophyta) with the description of a new Antarctic species. *Fottea* 14: 43–51.

Terauds, A., Doube, J., McKinlay, J. & Springer, K. (2014) Using long term population trends of an invasive herbivore to quantify the impact of management actions in the sub-Antarctic. *Polar Biology* 37: 833-843.

Tin, Tina, Lamers, Machiel, Liggett, Daniela, Maher, Patrick T., Hughes, Kevin A.. (2014) Setting the scene: human activities, environmental impacts and governance arrangements in Antarctica. In: *Antarctic futures: human engagement with the Antarctic environment*, Netherlands, Springer, 1-24. 10.1007/978-94-007-6582-5

Trathan, Philip N., Collins, Martin A., Grant, Susie M., Belchier, Mark, Barnes, David K.A., Brown, Judith, Staniland, Iain J.. (2014) The South Georgia and the South Sandwich Islands MPA: Protecting a biodiverse oceanic island chain situated in the flow of the Antarctic Circumpolar Current. In: *Marine Managed Areas and Fisheries*, Elsevier, 15-78. (Advances in Marine Biology, 69). doi:10.1016/B978-0-12-800214-8.00002-5

Tsujimoto, Megumu, McInnes, Sandra J., Convey, Peter, Imura, Satoshi. (2014) Preliminary description of tardigrade species diversity and distribution pattern around coastal Syowa Station and inland Sør Rondane Mountains, Dronning Maud Land, East Antarctica.. *Polar Biology*, 37. 1361-1367. 10.1007/s00300-014-1516-8

Turner, John, Barrand, Nicholas E., Bracegirdle, Thomas J., Convey, Peter, Hodgson, Dominic A., Jarvis, Martin, Jenkins, Adrian, Marshall, Gareth, Meredith, Michael P., Roscoe, Howard, Shanklin, Jon, French, John, Goose, Hugues, Guglielmin, Mauro, Gutt, Julian, Jacobs, Stan, Kennicutt, Marlon C., Masson-Delmotte, Valerie, Mayewski, Paul, Navarro, Francisco, Robinson, Sharon, Scambos, Ted, Sparrow, Mike, Summerhayes, Colin, Speer, Kevin, Klepikov, Alexander. (2014) Antarctic climate change and the environment: an update. *Polar Record*, 50. 237-259. doi:10.1017/S0032247413000296

Tytgat B, Verleyen E, Obbels D, Peeters K., De Wever A, D'Hondt S, De Meyer T, Van Criekinge W, Vyverman W, Willems A (2014) Bacterial diversity assessment in Antarctic soils and lake sediments: a comparison between bidirectional pyrosequencing and cultivation. *PLoS One*. 9: e97564 (doi:10.1371/journal.pone.0097564)

- Van de Vijer, B. & Kopalová, K. (2014) Four *Achnantheidium* species (Bacillariophyta) formerly identified as *Achnanthes minutissima* from the Antarctic Region. *European Journal of Taxonomy* 79: 1–19. <http://dx.doi.org/10.5852/ejt.2014.79>
- Van de Vijer, B., Morales E.A. & Kopalová K. (2014) Three new araphid diatoms (Bacillariophyta) from the Maritime Antarctic Region. *Phytotaxa* 167: 256–266. <http://dx.doi.org/10.11646/phytotaxa.167.3.4>
- Van de Vijer, B., de Haan M. & Lange-Bertalot H. (2014) Revision of the genus *Eunotia* (Bacillariophyta) in the Antarctic Region. *Plant Ecology & Evolution* 147: 256–284. <http://dx.doi.org/10.5091/plecevo.2014.930>
- Van de Vijer, B., & Crawford R.M. (2014) *Orthoseira limnopolarensis* sp. nov. (Bacillariophyta), a new diatom species from Livingston Island (South Shetland Islands, Antarctica). *Cryptogamie, Algologie* 35: 245–257. <http://dx.doi.org/10.7872/crya.v35.iss3.2014.245>
- Van de Vijer, B., Kopalová K., Zidarova R. & Levkov Z. (2014) Revision of the genus *Halamphora* (Bacillariophyta) in the Antarctic Region. *Plant Ecology & Evolution* 147: 374–391. <http://dx.doi.org/10.5091/plecevo.2014.979>
- Von Salm, JL, Wilson, NG, Vesley, BA, Fleeman, R, Shaw, LN, Kyle, DE, Cuce, J, Baker, BJ (2014). Shagenes A and B, novel tricyclic sesquiterpenes produced by an undescribed Antarctic Octocoral. *Organic Letters* 16: 2630-2633.
- Walters A, Lea M-A, van den Hoff J, Field IC, Virtue P, et al., 'Spatially explicit estimates of prey consumption reveal a new krill predator in the Southern Ocean', *Plos One*, 9, (1) Article e86452. ISSN 1932-6203
- Wetzel C.E., VAN DE VIJVER B., Kopalová K., Hoffmann L., Pfister L. & Ector L. (2014) Type analysis of the South American diatom *Achnanthes haynaldii* (Bacillariophyta) and description of *Planothidium amphibium* sp. nov., from aerial and aquatic environments of Oregon (USA). (2014) *Plant Ecology & Evolution* 14: 439–454. <http://dx.doi.org/10.5091/plecevo.2014.1058>
- Whittle, Rowan, Quaglio, Fernanda, Griffiths, Huw, Linse, Katrin, Crame, J. Alistair. (2014) The Early Miocene Cape Melville Formation fossil assemblage and the evolution of modern Antarctic marine communities. *Naturwissenschaften*, 101. 47-59. [10.1007/s00114-013-1128-0](https://doi.org/10.1007/s00114-013-1128-0)
- Würzberg, L., Zinkann, A.-C., Brandt, A., Janussen, D., Bohn, J.M., Schwabe, E. (2014): Abyssal megafauna sampled with the Agassiz Trawl along the Polar Front during the expedition SYSTCO II (ANTXXVIII/3) – general comments on abundance and comparison of echinoderm biomass estimates. *Deep-Sea Research II*, 108: 85-94.
- Yung, C. C. M., Chan, Y., Lacap, D. C., Perez-Ortega, S., de los Rios-Murillo, A., Lee, C. K., . . . Pointing, S. B. (2014). Characterization of chasmoendolithic community in Miers Valley, McMurdo Dry Valleys, Antarctica. *Microbial Ecology*, 68(2), 351-359. [doi:10.1007/s00248-014-0412-7](https://doi.org/10.1007/s00248-014-0412-7)
- Zablocki, O., van Zyl, L., Adriaenssens, E. M., Rubagotti, E., Tuffin, M., Cary, C., . . . Cowan, D. (2014). Niche-dependent genetic diversity in Antarctic metaviromes. *Bacteriophage*, 4(4), e980125. [doi:10.4161/21597081.2014.980125](https://doi.org/10.4161/21597081.2014.980125)
- Zablocki, O., van Zyl, L., Adriaenssens, E. M., Rubagotti, E., Tuffin, M., Cary, S. C. R., . . . Cowan, D. (2014). High-level diversity of tailed phages, eukaryote-associated viruses, and viroplasm-like elements in the metaviromes of Antarctic soils. *Applied and Environmental Microbiology*, 80(22), 6888-6897. [doi:10.1128/AEM.01525-14](https://doi.org/10.1128/AEM.01525-14)
- Zidarova R., Kopalová K. & VAN DE VIJVER B. (2014) The genus *Stauroneis* (Bacillariophyta) from the South Shetland Islands and James Ross Island (Antarctica). *Fottea* 14: 201–207.

2015

- Admondis, S., Hara U. and Concheyro A. 2015. Late Cenozoic Bryozoa from diamicrites of Cape Lamb, Vega Island, Antarctic Peninsula. Polish Polar Research, vol. 36, no. 4, pp. 325-341.
- Amaro, Eduardo, Padeiro, Ana, Mão de Ferroa, André , Mota, Ana Maria, Leppe, Marcelo, Verkulich, Sergey, Hughes, Kevin, Peter, Hans-Ulrich, Canário, João . (2015) Assessing trace element contamination in Fildes Peninsula (King George Island) and Ardley Island, Antarctic. Marine Pollution Bulletin, 97. 523-527. 10.1016/j.marpolbul.2015.05.018
- Angulo-Preckler, C., Cid, C., Oliva, F., Avila, C. Antifouling activity in some benthic Antarctic invertebrates by "in situ" experiments at Deception Island, Antarctica (2015) Marine Environmental Research, 105, pp. 30-38.
- Angulo-Preckler, C., Spurkland, T., Avila, C., Iken, K. Antimicrobial activity of selected benthic Arctic invertebrates (2015) Polar Biology, 38 (11), pp. 1941-1948.
- Arango, Claudia P., Linse, Katrin. (2015) New *Sericosura* (Pycnogonida: Ammotheidae) from deep-sea hydrothermal vents in the Southern Ocean. Zootaxa, 3995. 37-50. 10.11646/zootaxa.3995.1.5
- Archer, S. D. J., McDonald, I. R., Herbold, C. W., Lee, C. K., Niederberger, T. S., & Cary, S. C. (2015). Temporal, regional and geochemical drivers of microbial community variation in the melt ponds of the Ross Sea region, Antarctica. Polar Biology, online, 16 pages. doi:10.1007/s00300-015-1780-2
- Archer, S. D., McDonald, I. R., Herbold, C. W., Lee, C. K., & Cary, C. S. (2015). Benthic microbial communities of coastal terrestrial and ice shelf Antarctic meltwater ponds.. Frontiers in Microbiology, 6, 485. doi:10.3389/fmicb.2015.00485
- Arthur B, Hindell M, Bester M, Trathan P, Jonsen I, et al., 'Return customers: foraging site fidelity and the effect of environmental variability in wide-ranging Antarctic fur seals', PLoS ONE, 10, (3) Article e0120888. ISSN 1932-6203 (2015)
- Balazy, Piotr, Kuklinski, Piotr, Włodarska-Kowalczyk, Maria, Barnes, David, Kędra, Monika, Legeżyńska, Joanna, Marcin Węsławski, Jan. (2015) Hermit crabs (*Pagurus* spp.) at their northernmost range: distribution, abundance and shell use in the European Arctic. Polar Research, 34. doi:10.3402/polar.v34.21412
- Barnes, D.K.A.. (2015) Antarctic sea ice losses drive gains in benthic carbon drawdown. Current Biology, 25. R789-R790. 10.1016/j.cub.2015.07.042
- Barnes, David K.A.. (2015) Marine colonization and biodiversity at Ascension Island and remote islands. Journal of the Marine Biological Association of the United Kingdom. 12 pp. doi:10.1017/S0025315415001526 (In Press)
- Barnes, David, Ireland, Louise, Hogg, Oliver, Morley, Simon, Enderlein, Peter, Sands, Chester. (2015) Why is the South Orkney Island shelf (the world's first high seas marine protected area) a carbon immobilization hotspot?. Global Change Biology. 10.1111/gcb.13157
- Bennett, J. R., J. D. Shaw, A. Terauds, et al. (2015) Polar lessons learned: informing long-term management based on shared threats in Arctic and Antarctic environments. Frontiers in Ecology and the Environment 13(6): 316-324.
- Bokhorst, Stef, Convey, Peter, Huiskes, Ad, Aerts, Rien. (2015) *Usnea antarctica*, an important Antarctic lichen, is vulnerable to aspects of regional environmental change. Polar Biology. 11 pp. 10.1007/s00300-015-1803-z
- Bollard-Breen, B., Brooks, J. D., Jones, M. R. L., Robertson, J., Betschart, S., Kung, O., . . . Pointing, S. B. (2015). Application of an unmanned aerial vehicle in spatial mapping of terrestrial biology and human disturbance in the McMurdo Dry Valleys, East Antarctica. Polar Biology, 38(4), 573-578. doi:10.1007/s00300-014-1586-7

- Cannone, N., Guglielmin, M., Convey, P., Worland, M.R., Favero Longo, S.E.. (2015) Vascular plant changes in extreme environments: effects of multiple drivers. *Climatic Change*. 10.1007/s10584-015-1551-7
- Casanovas, Paula, Black, Martin, Fretwell, Peter, Convey, Peter. (2015) Mapping lichen distribution on the Antarctic Peninsula using remote sensing, lichen spectra and photographic documentation by citizen scientists. *Polar Research*, 34. 8 pp. 10.3402/polar.v34.25633
- Chen, Chong, Copley, Jonathan T., Linse, Katrin, Rogers, Alex D., Sigwart, Julia D.. (2015) The heart of a dragon: 3D anatomical reconstruction of the 'scaly-foot gastropod' (Mollusca: Gastropoda: Neomphalina) reveals its extraordinary circulatory system. *Frontiers in Zoology*, 12. 10.1186/s12983-015-0105-1
- Chen, Chong, Copley, Jonathan T., Linse, Katrin, Rogers, Alex D., Sigwart, Julia. (2015) How the mollusc got its scales: convergent evolution of the molluscan scleritome. *Biological Journal of the Linnean Society*, 114. 949-954. 10.1111/bij.12462
- Chen, Chong, Copley, Jonathan T., Linse, Katrin, Rogers, Alex D.. (2015) Low connectivity between 'scaly-foot gastropod' (Mollusca: Peltospiridae) populations at hydrothermal vents on the Southwest Indian Ridge and the Central Indian Ridge. *Organisms Diversity and Evolution*, 15. 663-670. 10.1007/s13127-015-0224-8
- Chen, Chong, Linse, Katrin, Roterman, Christopher N, Copley, Jonathan T., Rogers, Alex D.. (2015) A new genus of large hydrothermal vent-endemic gastropod (*Neomphalina*: Peltospiridae). *Zoological Journal of the Linnean Society*, 175. 319-335. 10.1111/zoj.12279
- Chong, Chun-Wie, Pearce, David A., Convey, Peter. (2015) Emerging spatial patterns in Antarctic prokaryotes. *Frontiers in Microbiology*, 6. 10.3389/fmicb.2015.01058
- Chown, S. L., Clarke, A., Fraser, C. I., Cary, S. C., Moon, K. L., & McGeoch, M. A. (2015). The changing form of Antarctic biodiversity. *Nature*, 522(7557), 431-438. doi:10.1038/nature14505
- Convey, Peter, Abbandonato, Holly, Bergan, Frode, Beumer, Larissa Teresa, Biersma, Elisabeth Machteld, Bråthen, Vegard Sandøy, D'Imperio, Ludovica, Jensen, Christina Kjellerup, Nilsen, Solveig, Paquin, Karolina, Stenkewitz, Ute, Svoen, Mildrid Elvik, Winkler, Judith, Müller, Eike, Coulson, Stephen James. (2015) Survival of rapidly fluctuating natural low winter temperatures by High Arctic soil invertebrates. *Journal of Thermal Biology*, 54. 111-117. doi:10.1016/j.jtherbio.2014.07.009
- Convey, Peter, Hart, Tom. (2015) Polar invasion: how plants and animals would colonise an ice-free Antarctica. *The Conversation*.
- Convey, Peter. (2015) Alien invasions. The impact of non-native species: changing the face of life on land in Antarctica?. In: *Exploring the last continent: an introduction to Antarctica*, Switzerland, Springer, 539-555. 10.1007/978-3-319-18947-5_27
- Cowan DA, Ramond J-B, Makhalanyane TP, De Maayer P. (2015) Metagenomics of extreme environments. *Current Opin. Microbiol.* 25: 97–102
- Cutignano, A., Moles, J., Avila, C., Fontana, A. Granuloside, a Unique Linear Homosesterterpene from the Antarctic Nudibranch *Charcotia granulosa* (2015) *Journal of Natural Products*, 78 (7), pp. 1761-1764.
- Dietz, L, Arango, CP, Dömel, JS, Halanych, KM, Harder, AM, Held, C, Mahon, AR, Mayer, C, Melzer, RR, Rouse, GW, Weis, A, Wilson, NG, Leese, F. (2015) Regional differentiation and extensive hybridization between mitochondrial clades of the Southern Ocean giant sea spider *Colossendeis megalonyx*. *Royal Society Open Science* 2(7), 140424.

- Doemel, Jana Sophie, Convey, Peter, Leese, Florian. (2015) Genetic data support independent glacial refugia and open ocean barriers to dispersal for the Southern Ocean sea spider *Austropallene cornigera* (Möbius, 1902). *Journal of Crustacean Biology*, 35. 480-490. 10.1163/1937240X-00002351
- Dugan, H.A., Doran, P.T., Wagner, B., Kenig, F., Fritsen, C.H., Arcone, S.A., Kuhn, E., Ostrom, N.E., Warnock, J.P., Murray, A.E. Stratigraphy of Lake Vida, Antarctica: Hydrologic implications of 27 m of ice (2015) *Cryosphere*, 9 (2), pp. 439-450.
- Everatt, Matthew J., Convey, Pete, Bale, Jeffrey S., Worland, M. Roger, Hayward, Scott A.L.. (2015) Responses of invertebrates to temperature and water stress: A polar perspective. *Journal of Thermal Biology*, 54. 118-132. 10.1016/j.jtherbio.2014.05.004
- Fassio, G., Modica, M.V., Alvaro, M.C., Schiaparelli, S., Oliverio, M. Developmental trade-offs in Southern Ocean mollusc kleptoparasitic species (2015) *Hydrobiologia*, 761 (1), pp. 121-141.
- Fontaneto, D., Schiaparelli, S. Preface: Biology of the Ross Sea and surrounding areas in Antarctica (2015) *Hydrobiologia*, 761 (1), 3 p.
- Gunnigle E, Ramond J-B, Guerrero LD, Makhalanyane TP, Cowan DA (2015) Draft genomic DNA sequence of the multi-resistant *Sphingomonas* sp. strain Anth11 isolated from an Antarctic hypolith. *FEMS Microbiology Letters* Accepted for publication
- Hara, U. Mörs, T. Hagström J. and Reguero M. A. 2015. Eocene bryozoan assemblages from the La Meseta Formation of Seymour Island, Antarctica (ready to be reviewed).
- Hara, U. 2015. Bryozoan internal moulds from the La Meseta Formation (Eocene) of Seymour Island, Antarctic Peninsula". *Polish Polar Research*, vol. 36, 25-49. (doi: 10.1515/popore-2015-0003).
- Helly, J.J., Vernet, M., Murray, A.E., Stephenson, G.R. Characteristics of the meltwater field from a large Antarctic iceberg using δ 18 O (2015) *Journal of Geophysical Research C: Oceans*, 120 (3), pp. 2259-2269.
- Hu, S. K., Liu, Z., Lie, A. A. Y., Countway, P. D., Kim, D. Y., Jones, A. C., . . . Sherr, B. F. (2015). Estimating protistan diversity using high-throughput sequencing. *Journal of Eukaryotic Microbiology*, 62(5), 688-693. doi:10.1111/jeu.12217
- Hughes, Kevin A., Cowan, Don A., Wilmotte, Annick. (2015) Protection of Antarctic microbial communities – ‘out of sight, out of mind’. *Frontiers in Microbiology*, 6. 10.3389/fmicb.2015.00151
- Hughes, Kevin A., Ireland, Louise, Convey, Peter, Fleming, Andrew H.. (2015) Assessing the effectiveness of specially protected areas for conservation of Antarctica’s botanical diversity. *Conservation Biology*. 10.1111/cobi.12592
- Hughes, Kevin A., Pertierra, Luis R., Molina-Montenegro, Marco A., Convey, Peter. (2015) Biological invasions in terrestrial Antarctica: what is the current status and can we respond?. *Biodiversity and Conservation*, 24. 1031-1055. 10.1007/s10531-015-0896-6
- Hughes, Kevin A.. (2015) [Editorial] A new paradigm – Antarctic influence without Antarctic presence?. *Antarctic Science*, 27. 1-1. 10.1017/S0954102014000844
- Iakovenko, N.S., Smykla, J., Convey, P., Kasparova, E., Kozeretska, I.A., Trokhymets, V., Dykyy, I., Plewka, M., Devetter, M., Duris, Z., Janko, K.. (2015) Antarctic bdelloid rotifers: diversity, endemism and evolution. *Hydrobiologia*, 761. 5-43. 10.1007/s10750-015-2463-2
- Jackson, Jennifer A., Linse, Katrin, Whittle, Rowan, Griffiths, Huw J.. (2015) The evolutionary origins of the Southern Ocean philobryid bivalves: hidden biodiversity, ancient persistence. *PLoS One*, 10. 20 pp. 10.1371/journal.pone.0121198

Kašparová E, Van de Putte AP, Marshall C, Janko K (2015) Lifestyle and Ice: The Relationship between Ecological Specialization and Response to Pleistocene Climate Change. PLoS ONE 10(11): e0138766. doi:10.1371/journal.pone.0138766

Kennicutt, M.C., Chown, S.L., Cassano, J.J., Liggett, D., Peck, L.S., Massom, R., Rintoul, S.R., Storey, J., Vaughan, D.G., Wilson, T.J., Allison, I., Ayton, J., Badhe, R., Baeseman, J., Barrett, P.J., Bell, R.E., Bertler, N., Bo, S., Brandt, A., Bromwich, D., Cary, S.C., Clark, M.S., Convey, P., Costa, E.S., Cowan, D., Deconto, R., Dunbar, R., Elfring, C., Escutia, C., Francis, J., Fricker, H.A., Fukuchi, M., Gilbert, N., Gutt, J., Havermans, C., Hik, D., Hosie, G., Jones, C., Kim, Y.D., Le Maho, Y., Lee, S.H., Leppe, M., Leitchenkov, G., Li, X., Lipenkov, V., Lochte, K., López-Martínez, J., Lüdecke, C., Lyons, W., Marensi, S., Miller, H., Morozova, P., Naish, T., Nayak, S., Ravindra, R., Retamales, J., Ricci, C.A., Rogan-Finnemore, M., Ropert-Coudert, Y., Samah, A.A., Sanson, L., Scambos, T., Schloss, I.R., Shiraishi, K., Siegert, M.J., Simões, J.C., Storey, B., Sparrow, M.D., Wall, D.H., Walsh, J.C., Wilson, G., Winther, J.G., Xavier, J.C., Yang, H., Sutherland, W.J.. (2015) A roadmap for Antarctic and Southern Ocean science for the next two decades and beyond. Antarctic Science, 27. 3-18. doi:10.1017/S0954102014000674

Knappy, Christopher, Barilla, Daniela, Chong, James, Hodgson, Dominic, Morgan, Hugh, Suleman, Muhammad, Tan, Christine, Peng, Yao, Keely, Brendan. (2015) Mono-, di- and trimethyl homologues of isoprenoid tetraether lipid cores in archaea and environmental samples: mass spectrometric identification and significance. Journal of Mass Spectrometry, 50. 1420-1432. 10.1002/jms.3709

Mah, Christopher, Linse, Katrin, Copley, Jonathan, Marsh, Leigh, Rogers, Alex, Clague, David, Foltz, David. (2015) Description of a new family, new genus and two new species of deep-sea Forcipulatacea (Asteroidea), including the first known sea star from hydrothermal vent habitats. Zoological Journal of the Linnean Society, 174. 93-113. 10.1111/zoj.12229

Makhalanyane TP, Valverde A, Velazquez D, Gunnigle E, Van Goethem M, Quesada A, Cowan D. (2015) Ecology and biogeochemistry of cyanobacteria in soils, permafrost, aquatic and cryptic polar habitats. Biodiv. Conservat. 24: 819-840

Matheus Carnevali, P.B., Rohrssen, M., Williams, M.R., Michaud, A.B., Adams, H., Berisford, D., Love, G.D., Priscu, J.C., Rassuchine, O., Hand, K.P., Murray, A.E. Methane sources in arctic thermokarst lake sediments on the North Slope of Alaska (2015) Geobiology, 13 (2), pp. 181-197.

McGeoch, M.A., Shaw, J.D., Terauds, A., Lee J.E. & Chown, S.L. (2015) Monitoring biological invasion across the broader Antarctic: a baseline and indicator framework. Global Environmental Change. 32:108-125

Moles, J., Avila, C., Kim, I.-H. *Anthessius antarcticus* n. sp. (Copepoda: Poecilostomatoida: Anthessiidae) from Antarctic waters living in association with *Charcotia granulosa* (Mollusca: Nudibranchia: Charcotiidae) (2015) Journal of Crustacean Biology, 35 (1), pp. 97-104.

Moles, J., Figuerola, B., Companyà-Llovet, N., Monleón-Getino, T., Taboada, S., Avila, C. Distribution patterns in Antarctic and Subantarctic echinoderms (2015) Polar Biology, 38 (6), pp. 799-813. times.

Moles, J., Núñez-Pons, L., Taboada, S., Figuerola, B., Cristobo, J., Avila, C. Anti-predatory chemical defences in Antarctic benthic fauna (2015) Marine Biology, 162 (9), pp. 1813-1821.

Niederberger, T. D., Sohm, J. A., Gunderson, T. E., Parker, A. E., Tirindelli, J., Capone, D. G., . . . Cary, S. C. (2015). Microbial community composition of transiently wetted Antarctic Dry Valley soils. Frontiers in Microbiology, 6, 12 pages. doi:10.3389/fmicb.2015.00009

Niederberger, T. D., Sohm, J. A., Gunderson, T., Tirindelli, J., Capone, D. G., Carpenter, E. J., . . . Cary, S. C. (2015). Carbon-fixation rates and associated microbial communities residing in arid and ephemerally wet Antarctic Dry Valley soils. Frontiers in Microbiology, 6, 9 pages. doi:10.3389/fmicb.2015.01347

Núñez-Pons, L., Avila, C. Natural products mediating ecological interactions in Antarctic benthic communities: a mini-review of the known molecules (2015) *Natural Product Reports*, 32 (7), pp. 1114-1130.

Oellermann, M, Strugnell JM, Lieb B, Mark FC (2015) Positive selection in octopus haemocyanin indicated functional links to temperature adaptation. *BMC Evolutionary Biology* 15:133.

O'Toole MD, Lea MA, Guinet C, Schick R, Hindell MA, 'Foraging strategy switch of a top marine predator according to seasonal resource differences', *Frontiers in Marine Science*, 2, (21) pp. 1-10. ISSN 2296-7745 (2015)

Pabis, Krzysztof, Blazewicz-Paszkowycz, Magdalena, Jozwiak, Piotr, Barnes, David K.A.. (2015) Tanaidacea of the Amundsen and Scotia Seas: an unexplored diversity. *Antarctic Science*, 27. 19-30. 10.1017/S0954102014000303

Parnikoza, Ivan, Miryuta, Natalia, Ozheredova, Iryna, Kozeretska, Iryna, Smykla, Jerzy, Kunakh, Victor, Convey, Peter. (2015) Comparative analysis of *Deschampsia antarctica* Desv. population adaptability in the natural environment of Admiralty Bay (King George Island, maritime Antarctic). *Polar Biology*, 38. 1401-1411. 10.1007/s00300-015-1704-1

Pearce, D.A., Alekhina, I.A., Terauds, A., Wilmotte, A., Quesada, A., Edwards, A., Dommergue, A., Sattler, B., Adams, B., Magalhaes, C., Loy, C.W., Lau, C.Y.M., Cary, C., Smith, D.J., Wall, D., Eguren, G., Matcher, G., Bradley, J., Devera, J-P., Elster, J., Hughes, K., Cuthbertson, L., Benning, L., Gunde-Cimeran, N., Convey, P., Hong, S.G., Pointing, S., Vellizari, V. and Vincent, W. (2016) Aerobiology over Antarctica – A New Initiative for Atmospheric Ecology. *Frontiers in Microbiology*. Accepted Dec 2015. DOI:10.3389/fmicb.2016.00016

Peck, Victoria L., Allen, Claire S., Kender, Sev, McClymont, Erin L., Hodgson, Dominic. (2015) Oceanographic variability on the West Antarctic Peninsula during the Holocene and the influence of upper circumpolar deep water. *Quaternary Science Reviews*, 119. 54-65. 10.1016/j.quascirev.2015.04.002

Piazza, P., Alvaro, M.C., Bowden, D.A., Clark, M.R., Conci, N., Ghiglione, C., Schiaparelli, S. First record of living *Acesta* (Mollusca: Bivalvia) from an Antarctic seamount (2015) *Marine Biodiversity*, 2 p. Article in Press.

Pointing, Stephen B., Budel, Burkhard, Convey, Peter, Gillman, Len N., Korner, Christian, Leuzinger, Sebastian, Vincent, Warwick F.. (2015) Biogeography of photoautotrophs in the high polar biome. *Frontiers in Plant Science*, 6. 12 pp. 10.3389/fpls.2015.00692

Puddick, J., Prinsep, M. R., Wood, S. A., Cary, S. C., Hamilton, D. P., & Holland, P. T. (2015). Further characterization of glycine-containing microcystins from the McMurdo Dry Valleys of Antarctica. *Toxins*, 7(2), 493-515. doi:10.3390/toxins7020493

Quiroga MV, Valverde A, Mataloni G, Cowan D. (2015) Understanding diversity patterns in bacterioplankton communities from a Sub-Antarctic peatland. *Environ. Microbiol. Rep.* doi:10.1111/1758-2229.12287

Rajanahally, Meghana A., Lester, Phil J., Convey, Peter. (2015) Aspects of resilience of polar sea ice algae to changes in their environment. *Hydrobiologia*, 761. 261-275. 10.1007/s10750-015-2362-6
Raymond B, Lea MA, Patterson T, Andrews-Goff V, Sharples R, et al., 'Important marine habitat off east Antarctica revealed by two decades of multi-species predator tracking', *Ecography*, 38, (2) pp. 121-129. ISSN 0906-7590 (2015)

Riesgo, A., Taboada, S., Avila, C. Evolutionary patterns in Antarctic marine invertebrates: An update on molecular studies (2015) *Marine Genomics*, 23, pp. 1-13.

Riesgo, A., Taboada, S., Sánchez-Vila, L., Solà, J., Bertran, A., Avila, C. Some like it fat: Comparative ultrastructure of the embryo in two demosponges of the genus *Mycale* (order Poecilosclerida) from Antarctica and the Caribbean (2015) *PLoS ONE*, 10 (3), art. no. e0118805, .

Sahade, Ricardo, Lager, Cristian, Torre, Luciana, Momo, Fernando, Monien, Patrick, Schloss, Irene, Barnes, David K.A., Servetto, Natalia, Tarantelli, Soledad, Tatian, Marcos, Zamboni, Nadia, Abele, Doris. (2015) Climate change and glacier retreat drive shifts in an Antarctic benthic ecosystem. *Science Advances*, 1. 10.1126/sciadv.1500050

Salvitti, L. R., Wood, S. A., McNabb, P., & Cary, C. (2015). No evidence for a culturable bacterial tetrodotoxin producer in *Pleurobranchaea maculata* (Gastropoda: Pleurobranchidae) and *Stylochoplana* sp. (Platyhelminthes: Polycladida). *Toxins*, 7(2), 255-273. doi:10.3390/toxins7020255

Salvitti, L. R., Wood, S. A., Winsor, L., & Cary, S. C. (2015). Intracellular immunohistochemical detection of tetrodotoxin in *Pleurobranchaea maculata* (Gastropoda) and *Stylochoplana* sp. (Turbellaria). *Marine Drugs*, 13(2), 756-769. doi:10.3390/md13020756

Salvitti, L., Wood, S. A., Taylor, D. I., McNabb, P., & Cary, S. C. (2015). First identification of tetrodotoxin (TTX) in the flatworm *Stylochoplana* sp.; a source of TTX for the sea slug *Pleurobranchaea maculata*. *Toxicon*, 95, 23-29. doi:10.1016/j.toxicon.2014.12.006

Sands, Chester J., O'Hara, Timothy, Barnes, David K.A., Martín-Ledo, Rafael. (2015) Against the flow: evidence of multiple recent invasions of warmer continental shelf waters by a Southern Ocean brittle star. *Frontiers in Ecology and Evolution*, 3. 10.3389/fevo.2015.00063

Saucède, T., Griffiths, H., Moreau, C., Jackson, J. A., Sands, C., Downey, R., ... & Linse, K. (2015). East Weddell Sea echinoids from the JR275 expedition. *ZooKeys*, (504), 1.

Saucede, Thomas, Griffiths, Huw, Moreau, Camille, Jackson, Jennifer, Sands, Chester, Downey, Rachel, Reed, Adam, Mackenzie, Melanie, Geissler, Paul, Linse, Katrin. (2015) East Weddell Sea echinoids from the JR275 expedition. *Zookeys*, 504. 1-10. 10.3897/zookeys.504.8860

Saunders, Krystyna M., Hodgson, Dominic A., McMurtrie, Shelley, Grosjean, Martin. (2015) A diatom-conductivity transfer function for reconstructing past changes in the Southern Hemisphere westerly winds over the Southern Ocean. *Journal of Quaternary Science*, 30. 464-477. 10.1002/jqs.2788

Schiaparelli, S., Ahyong, S.T., Bowden, D. Evidence of niche conservatism and host fidelity in the polar shrimp *Lebbeus kiae* n. sp. (Decapoda: Caridea: Thoridae) from the Ross Sea, Antarctica (2015) *Hydrobiologia*, 761 (1), pp. 45-69. Cited 1 time. *Hydrobiologia* 761 (1), 1-3

Seydametova, Emine, Zainol, Norazwina, Salihon, Jailani, Convey, Peter. (2015) Mangrove rhizosphere soils: a unique natural source of pravastatin-producing *Penicillium* microfungi. *International Journal of Extensive Research*, 5. 79-87.

Singh, Shiv Mohan, Olech, Maria, Cannone, Nicoletta, Convey, Peter. (2015) Contrasting patterns in lichen diversity in the continental and maritime Antarctic. *Polar Science*, 9. 311-318. 10.1016/j.polar.2015.07.001

Solomina, Olga N., Bradley, Raymond S., Hodgson, Dominic A., Ivy-Ochs, Susan, Jomelli, Vincent, Mackintosh, Andrew N., Nesje, Atle, Owen, Lewis A., Wanner, Heinz, Wiles, Gregory C., Young, Nicolas E.. (2015) Holocene glacier fluctuations. *Quaternary Science Reviews*, 111. 9-34. doi:10.1016/j.quascirev.2014.11.018

Sterken, Mieke, Verleyen, Elie, Jones, Vivienne J., Hodgson, Dominic A., Vyverman, Wim, Sabbe, Koen, Van de Vijver, Bart. (2015) An illustrated and annotated checklist of freshwater diatoms (Bacillariophyta) from Livingston, Signy and Beak Island (Maritime Antarctic Region). *Plant Ecology and Evolution*, 148. 431-455. doi:10.5091/pleveo.2015.1103

Strother, Stephanie L., Salzmann, Ulrich, Roberts, Stephen J., Hodgson, Dominic A., Woodward, John, Van Nieuwenhuize, Wim, Verleyen, Elie, Wyverman, Wim, Moreton, Steven G.. (2015) Changes in Holocene climate and the intensity of Southern Hemisphere Westerly Winds based on a

high-resolution palynological record from sub-Antarctic South Georgia. *The Holocene*, 25. 263-279. 10.1177/0959683614557576

Taboada, S., Bas, M., Avila, C. A new *Parougia* species (Annelida, Dorvilleidae) associated with eutrophic marine habitats in Antarctica (2015) *Polar Biology*, 38 (4), pp. 517-527.

Taylor, D. I., Wood, S. A., McNabb, P., Ogilvie, S., Cornelisen, C., Walker, J., . . . Cary, S. C. (2015). Facilitation effects of invasive and farmed bivalves on native populations of the sea slug *Pleurobranchaea maculata*. *Marine Ecology Progress Series*, 537, 39-48. doi:10.3354/meps11466

Telling, J., Boyd, E.S., Bone, N., Jones, E.L., Tranter, M., MacFarlane, J.W., Martin, P.G., Wadham, J.L., Lamarche-Gagnon, G., Skidmore, M.L., Hamilton, T.L., Hill, E., Jackson, M., Hodgson, D.A.. (2015) Rock comminution as a source of hydrogen for subglacial ecosystems. *Nature Geoscience*, 8. 851-855. 10.1038/ngeo2533

Thatje, Sven, Marsh, Leigh, Roterman, Christopher Nicolai, Mavrogordato, Mark N., Linse, Katrin. (2015) Adaptations to hydrothermal vent life in *Kiwa tyleri*, a new species of yeti crab from the East Scotia Ridge, Antarctica. *PLoS One*, 10. 10.1371/journal.pone.0127621

Wei STS, Higgins CM, Adriaenssens EM, Cowan DA, Pointing SB (2015) Genetic signatures indicate widespread antibiotic resistance and phage infection in microbial communities of the McMurdo Dry Valleys, East Antarctica. *Polar Biol.* 38: 919-925

Wei, S. T. S., Fernandez-Martinez, M. -A., Chan, Y., Van Nostrand, J. D., de los Rios-Murillo, A., Chiu, J. M. Y., . . . Pointing, S. B. (2015). Diverse metabolic and stress-tolerance pathways in chasmoendolithic and soil communities of Miers Valley, McMurdo Dry Valleys, Antarctica. *Polar Biology*, 38(4), 433-443. doi:10.1007/s00300-014-1598-3

Zmudczyńska-Skarbek, Katarzyna, Zwolicki, Adrian, Convey, Peter, Barcikowski, Mateusz, Stempniewicz, Lech. (2015) Is ornithogenic fertilisation important for collembolan communities in Arctic terrestrial ecosystems?. *Polar Research*, 34. 10.3402/polar.v34.25629

Zwirgmaier, Katrin, Reid, William D. K., Heywood, Jane, Sweeting, Christopher J., Wigham, Benjamin D., Polunin, Nicholas V.C., Hawkes, Jeff A., Connelly, Douglas P., Pearce, David, Linse, Katrin. (2015) Linking regional variation of epibiotic bacterial diversity and trophic ecology in a new species of Kiwaidae (Decapoda, Anomura) from East Scotia Ridge (Antarctica) hydrothermal vents. *MicrobiologyOpen*, 4. 136-150. doi:10.1002/mbo3.227

Zwolicki, Adrian, Barcikowski, Mateusz, Barcikowski, Adam, Cymerski, Mariusz, Stempniewicz, Lech, Convey, Peter. (2015) Seabird colony effects on soil properties and vegetation zonation patterns on King George Island, Maritime Antarctic. *Polar Biology*, 38. 1645-1655. 10.1007/s00300-015-1730-z

2016

Aliyu H, De Maayer P, Cowan DA (2016) The genome of the Antarctic polyextremophile *Nesterenkonia AN1* reveals adaptive strategies for survival under multiple stress conditions. *FEMS Microb Ecol.* In Press

Bennett JR, Shaw JD, Terauds A, Smol JP, Aerts R, et al., 'Polar lessons learned: informing long-term management based on shared threats in Arctic and Antarctic environments', *Frontiers in Ecology and the Environment* pp. 1-27. ISSN 1540-9295

Foster, Louise C., Pearson, Emma J., Juggins, Steve, Hodgson, Dominic A., Saunders, Krystyna M., Verleyen, Elie, Roberts, Stephen J.. (2016) Development of a regional glycerol dialkyl glycerol tetraether (GDGT)-temperature calibration for Antarctic and sub-Antarctic lakes. *Earth and Planetary Science Letters*, 433. 370-379. 10.1016/j.epsl.2015.11.018

González-Wevar, C.A., Chown, S.L., Morley, S., Coria, N., Saucède, T., Poulin, E. Out of Antarctica: quaternary colonization of sub-Antarctic Marion Island by the limpet genus *Nacella* (Patellogastropoda: Nacellidae) (2016) *Polar Biology*, 39 (1), pp. 77-89.

- Guglielmin, Mauro, Convey, Peter, Malfasi, Francesco, Cannone, Nicoletta. (2016) Glacial fluctuations since the 'Medieval Warm Period' at Rothera Point (western Antarctic Peninsula). *The Holocene*, 26. 154-158. 10.1177/0959683615596827
- Hodgson, Dominic A., Bentley, Michael J., Smith, James A., Klepacki, Julian, Makinson, Keith, Smith, Andrew M., Saw, Kevin, Scherer, Reed, Powell, Ross, Tulaczyk, Slawek, Rose, Mike, Pearce, David, Mowlem, Matt, Keen, Peter, Siegert, Martin J.. (2016) Technologies for retrieving sediment cores in Antarctic subglacial settings. *Philosophical Transactions of the Royal Society of London, A*, 374. 20150056. 10.1098/rsta.2015.0056
- Hodgson, Dominic A., Whitehouse, Pippa L., De Cort, Gijs, Berg, Sonja, Verleyen, Elie, Tavernier, Ines, Roberts, Stephen J., Vyverman, Wim, Sabbe, Koen, O'Brien, Philip. (2016) Rapid early Holocene sea-level rise in Prydz Bay, East Antarctica. *Global and Planetary Change*. 10.1016/j.gloplacha.2015.12.020
- Hughes, Kevin A., Ashton, Gail V.. (2016) Breaking the ice: the introduction of biofouling organisms to Antarctica on vessel hulls. *Aquatic Conservation: Marine and Freshwater Ecosystems*. 10.1002/aqc.2625
- Makinson, Keith, Pearce, David, Hodgson, Dominic, Bentley, Michael, Smith, Andrew, Tranter, Martyn, Rose, Mike, Ross, Neil, Mowlem, Matthew, Parnell, John, Siegert, Martin. (2016) Clean subglacial access: prospects for future deep hot-water drilling. *Philosophical Transactions of the Royal Society of London, A*, 374. 14 pp. 10.1098/rsta.2014.0304
- Makhalanyane TP, Van Goethem M, Cowan DA. (2016) Microbial diversity and functional capacity in polar soils. *Curr Opin Biotechnol*. In Press
- Morley, Simon A., Berman, Jade, Barnes, David K. A., de Juan Carbonell, Carlos, Downey, Rachel V., Peck, Lloyd S.. (2016) Extreme phenotypic plasticity in metabolic physiology of Antarctic demosponges. *Frontiers in Ecology and Evolution*, 3. doi:10.3389/fevo.2015.00157
- Obbels D., E. Verleyen, M.-J. Mano, Z. Namsaraev, M. Sweetlove, B. Tytgat, R. Fernandez-Carazo, A. De Wever, S. D'hondt, D. Ertz, J. Elster, K. Sabbe, A. Willems, A. Wilmotte, and W. Vyverman. 2016. Bacterial and eukaryotic biodiversity patterns in terrestrial and aquatic habitats of the Sør Rondane Mountains, Dronning Maud Land, East Antarctica. *FEMS Microbiol. Ecol*. In press.
- Pearce, David A., Alekhina, Irina A., Terauds, Aleks, Wilmotte, Annick, Quesada, Antonio, Edwards, Arwyn, Dommergue, Aurelien, Sattler, Birgit, Adams, Byron, Magalhães, Catarina M., Loy, Chu Wan, Lau, Chu Y.M., Cary, Craig, Smith, David J., Wall, Diana, Eguren, Gabriela, Matcher, Gwynneth, Bradley, James, Devara, Jean-Pierre, Elster, Josef, Hughes, Kevin, Cuthbertson, Lewis, Benning, Liane, Gunde-Cimerman, Nina, Convey, Peter, Hong, Soon G., Pointing, Steve, Pellizari, Vivian, Vincent, Warwick F.. (2016) Aerobiology over Antarctica – a new initiative for atmospheric ecology. *Frontiers in Microbiology*, 7. 10.3389/fmicb.2016.00016
- Tahon, G., B. Tytgat, P. Stragier, A. Willems. 2016. Analysis of cbbL, nifH and pufLM in soils from the Sør Rondane Mountains, Antarctica, reveals a large diversity of autotrophic and phototrophic bacteria. *Microb. Ecol*. 71:131–149.
- Zablocki O, Adriaenssens E, Cowan DA. (2016) Diversity and ecology of viruses in hyperarid desert soils. *Appl. Environ. Microbiol*. In Press

Appendix III.

SO-AntEco (South Orkneys – State of the Antarctic Ecosystem) JR15005

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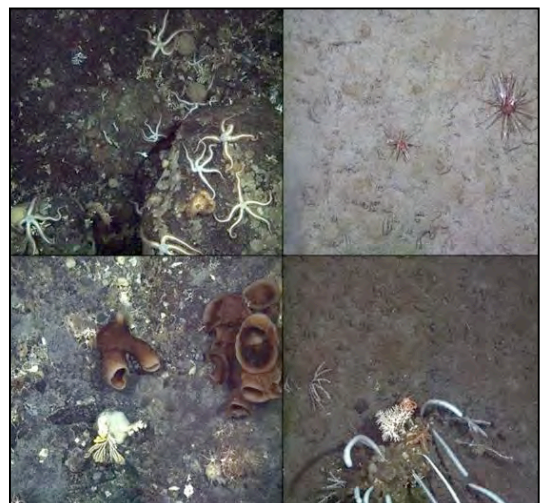
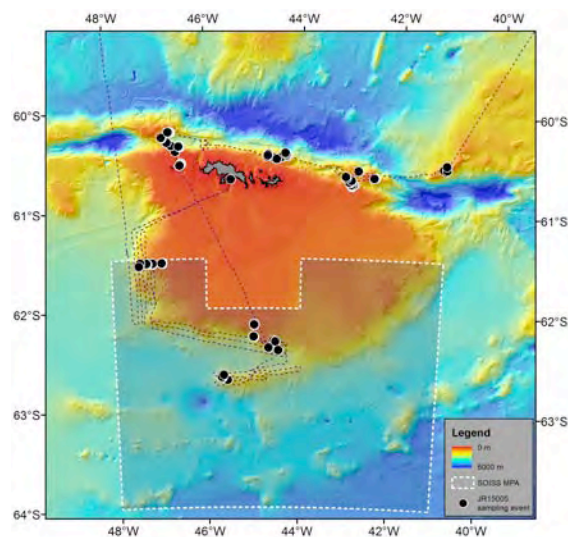


Figure 1. A range of animals collected during JR15005. Images by C. Waller, H. Wiklund, B. Danis and C. Moreau.

Background

The South Orkney Islands is a small archipelago located in the Southern Ocean, 375 miles north-east of the tip of the Antarctic Peninsula. The seafloor around the South Orkney Islands has been shown to be an area with exceptionally high biodiversity. The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) closed all finfish fisheries around the South Orkney Islands in 1989, and in 2009 they established the South Orkney Islands Southern Shelf Marine Protected Area (SOISS MPA), the first MPA located entirely within the High Seas anywhere on the planet.

SO-AntEco (JR15005) was a British Antarctic Survey (BAS) led expedition undertaken in conjunction with an international team of scientists from the Scientific Committee for Antarctic Research (SCAR) AntEco research programme. The team included 22 participants from 9 different countries and 16 institutes. The expedition took place on board the *RRS James Clark Ross* in February-March 2016.



Objectives

- To find and identify seafloor animals from around the South Orkney Islands and to name and describe any species new to science.
- To detect any significant differences between the types of species and numbers of animals in different habitats and to identify species that are indicative of specific habitat types to help with future habitat mapping.
- To map all vulnerable species found and to report their presence and distribution to relevant stakeholders and
- To contribute information and scientific advice to the CCAMLR South Orkney Islands MPA review in 2019.

Results

A total of 124 trawled gear and 34 video/camera deployments (Figure 2) were conducted during ~17 days of science. In total, over 700 seafloor habitat photographs (Figure 3) and 3,900 live specimen photos were taken with over 38,000 individual invertebrates and fish (158 kg) collected and preserved for future analyses. Eighteen phyla of animals were found from depths between ~500 m and ~2000 m.

Highlights

- New species were found in most groups of animals examined on the cruise including corals, anemones, echinoderms and polychaete worms, with many other probable new species awaiting further identification.
- There was an evident correlation between abundance of animals from Vulnerable Marine Ecosystem groups and the overall diversity of seafloor life, both inside and outside of the SOISS MPA.
- A range of unusual animals including rare pelagic bryozoans, the highly publicised “Dendrogramma” (found for the first time since their discovery in Australia) and a seafloor covered with the plates of long-dead giant acorn barnacles all came as a surprise to an experienced group of Antarctic marine biologists.
- The importance of Vulnerable Marine Ecosystem indicator groups such as corals, sponges and pencil urchins as habitats for other species was highly evident and previously unknown associations and interactions were revealed (Figure 4).
- Specimens were collected for future research into the biogeography of Vulnerable Marine Ecosystem groups, molecular biology (all specimens were preserved in 96% ethanol or RNA Later), ocean acidification, palaeo-oceanography and climate, food webs, habitat mapping and biochemistry.



Figure 4. Examples of VME animals providing habitat for other species, recorded during JR15005. Images by C. Waller.

Impact

The expedition serves as an excellent example of how national Polar Institutes can play a leadership role in developing international cooperation in policy-relevant polar science, under the umbrella of a SCAR research programme. The expedition provided hands on experience and mentoring opportunities to early career scientists and met gender balance aspirations with over half of the scientists being female.

SO-AntEco used a variety of online communication tools including blogs and social media. The most immediate of these were the regular Twitter updates, with the #SOAntEco hashtag reaching an audience of over one million twitter users.