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Further information at www.bryozoa.net/iba

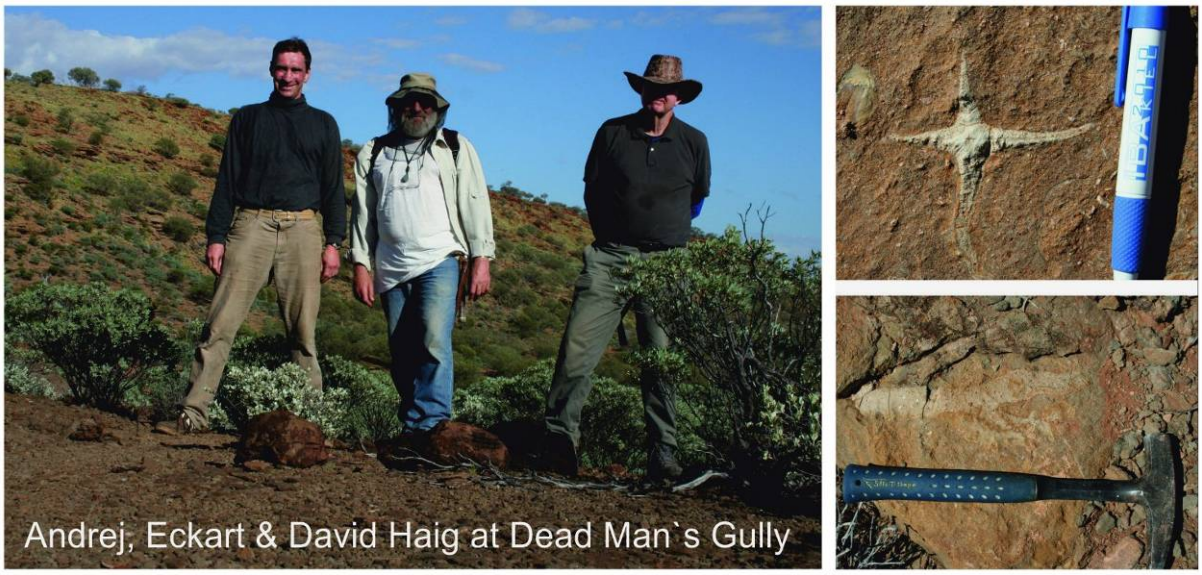
News from the Membership

Yvonne Bone would like to hear from IBA members who use are using digital cameras on their microscopes that are plugged into their computers. “I have been sent information from Noel James about Infinity cameras and they look as though they would be great, but I can’t find a supplier in Australia. I still have a small amount of money in my last grant, and now that I’m confined to working at home, this might be the answer for me, seeing that I can’t have an SEM at home!”

Karin H. Fehlauer-Ale. Andrea Waeschenbach, Grace E. Lim-Fong, Ezequiel Ale, Joshua Mackie and I are currently working on the global phylogeography of *Bugula neritina*, based on the preliminary work I presented last year in Kiel. Andrea is optimizing the sequencing of nuclear genes, Eze will help with the phylogeograhic analyses, and Grace and Josh are sequencing material from U.S. and Australia, respectively. Moreover, I am also working on the molecular phylogeny of *Bugula* species. I already have samples/ sequence data for several species from distinct localities around Atlantic, including *Bugula* cf. *minima, Bugula* cf. *turrita, B. turrita, B. dentata, B. fulva, B. plumosa, B. purpurotincta, B. simplex, B. stolonifera, B. turbinata and B. uniserialis*. I have been very lucky because Judy Winston, Javi Souto, Oscar Reverter-Gil and Judith Fuchs kindly sent me specimens from their places. I also would like to remember that I’m still accepting samples from others researchers! Cheers.

Eckart Håkanssen. Andrej Ernst has just spent a month in Perth funded by a Gledden Senior Fellowship. The main purpose of his visit was to launch a joint project to describe the very rich and exiting bryozoan faunas from the Permian of Western Australia together with Hans Arne Nakrem – all under strong guidance of the local stratigraphic guru David Haig, UWA.

It has been good fun with the bryozoans already at hand at the Geological Institute of UWA, but it was magnificent to see and collect them in the field! We spent a week camping out in the remote north-western part of Western Australia collecting from three localities containing abundant and fascinating bryozoans (see examples below: star-shaped *Evactinostella* and giant *Hexagonella*) – fighting extreme heat and flies in unbelievable abundance. Extensive collections are now being prepared for transport to Kiel & Oslo for further investigations, so we can be ready to present the preliminary results at the next IBA in Palermo.



Andrew Ostrovsky. In January 2011 I spent 12 days at Maldives collecting bryozoans around Vabbinfaru and Angsana Islands, North Male Atoll. This time I mainly focused my efforts on picking up the erect colonies with embryos for histological and ultrastructural work. The weather was often windy, and currents strong, so it was a tricky thing to recognize the tiny branches underwater. However, more than 10 such species were found (several Bugulas and Scrupocellaria together with reproducing ctenostomes). Specimens are already embedded in plastic. Together with **Thomas Schwaha** we studied brooding ctenostome using transmission electron microscope for the first time. Results are very interesting, and we hope to present them soon.

Abby Smith. We had a delightful visit from Andrea Waeschenbach in February. She spent most of her time huddled over a microscope at our marine lab, but hopefully she enjoyed poking around the collection. We are looking forward to seeing what she finds. Unfortunately the Christchurch Earthquake cancelled our AustraLarwood so a planned visit by Kevin Tilbrook has had to be postponed.

I turned 50 this January and IBA friend Caroline Buttler sent me a present. Imagine when I opened the box and found this gorgeous knitted bryozoan! It has pride of place in my office. We are truly an amazing group, eh?

Antonietta Rosso. Last week I received the visit from Marcus Key, a volcanologist colleague of his and a group of 13 Dickinson College students. So, in view of the IBA 2013 meeting we had the opportunity to visit a selection of fossiliferous sites for the pre-conference and the mid-conference IBA field-trip. We discussed and visited possible lecture and reception venues as well and mid-conference field trip ideas.

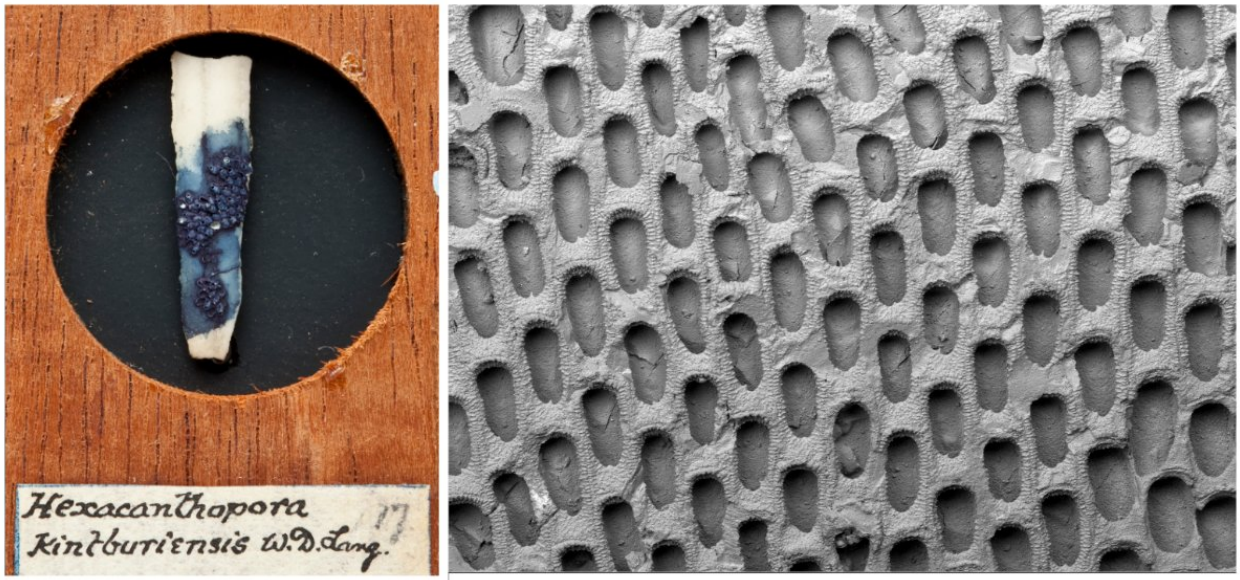
A *Cladocora coespitosa* reef along the Vallone Loddiero – Pleistocene

Pliocene “Yellow Calcareous Marls” Capo Milazzo Peninsula

Paul Taylor and **Beth Okamura** were recently hosted by **Aaron O’Dea** in Panama where they were collecting Plio-Pleistocene bryozoans from the Burica Peninsula and studying material in STRI.

New Member

Anna Taylor. I am a mathematician with a biological background and I am currently volunteering in the Palaeontology Department at the Natural History Museum, London, working with Consuelo Sendino and Paul Taylor. At present I am databasing the bryozoan cavity slides and thin sections, and researching Lang's collections, especially those specimens that Lang painted to highlight their morphology (see figure below). This study will shortly be published and the results will be given at the next Larwood meeting in Santiago de Compostela (Spain). I am also looking at bryozoan MART (Mean Annual Range in Temperature).



One of Lang's specimens

A fenestrate with branching growth habit from Arnao, Lower Devonian of Spain

Juan Luis Suárez-Andrés

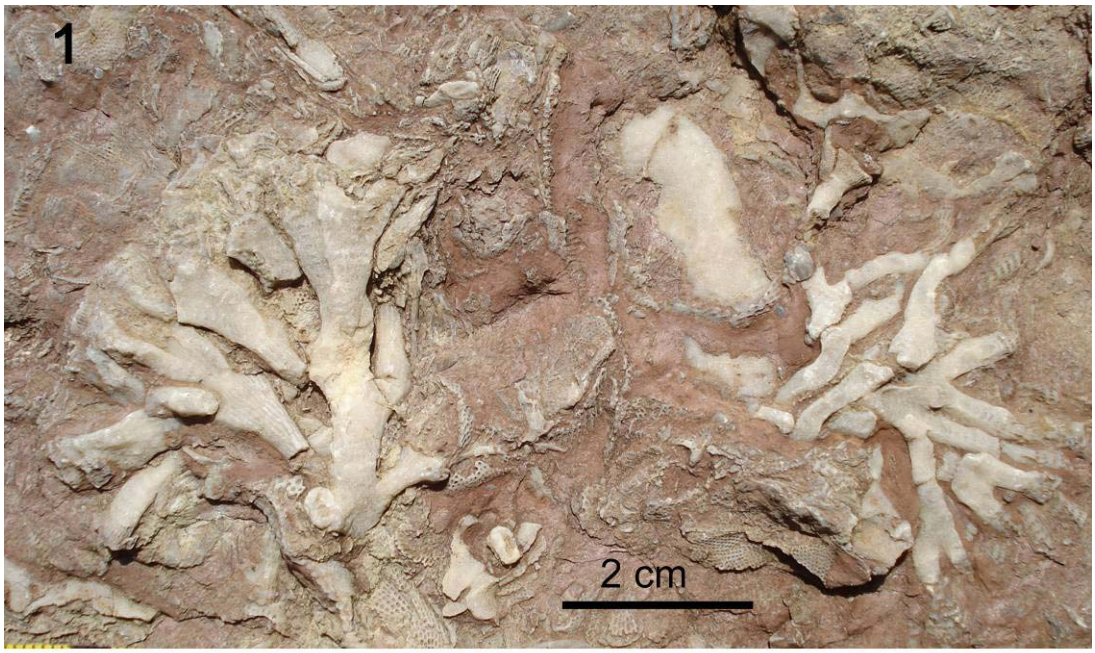
Paleozoic fenestrates are known to develop a variety of erect growth habits. Except for the encrusting genus *Schischcatella* Waschurova, 1964, members of this order formed erect colonies, most of which fit either reticulate (conical or fan-shaped) or more or less regularly pinnate patterns. A variation on conical growth habit consisting of the formation of sparse lateral zoarial branches was briefly described for the Permian polyporid *Bicorbis* Condra & Elias, 1945, and a similar morphology has been observed by Andrej Ernst in specimens of *Fenestrapora* Hall, 1885 from Germany (*pers. comm.*).

Suarez & McKinney (2010) reported *Bigeyina* (=*Cyclopelta* Bornemann, 1884) specimens from the Lower Devonian outcrop of Arnao (Asturias, NW Spain) consisting of a narrow cylindrical to conical base being distally divided into two or more elongated cones or cylinders. The number of divisions is highly variable, from relatively simple zoaria with few bifurcations to large-sized, bush-like zoaria with many branches. After a bifurcation, filial branches eventually widen, either to form a terminal cone-shaped end, or to get divided into new branches. Vesicular tissue commonly seals the inner space of the zoaria, reaching the outer surface up to the keel laths, and a deposit of laminar skeleton over the keel laths is formed in aged specimens, so only the terminal cones are functional for feeding. (See figures on the following page).

This growth habit is certainly uncommon, and it had not been observed in previously described species of *Bigeyina*. This fact supports the need for preservation of the remarkable geological heritage of Arnao. The historical outcrops around this small village embrace a Lower Devonian succession with reefal episodes that has been studied for more than a century and played an important role in the definition of the Devonian lithostratigraphical units in the region. Also, an outcropping Carboniferous succesion thrusted by Devonian rocks held the oldest coal mine of Asturias, with facilities and some galleries now being restored for touristic purposes. A set of divulgation panels has been installed as a first stage for the improvement of the area as a cultural-touristic resort An old quarry left a good exposure of Emsian marls, which has been visited by scientists and students, but also by private collectors and sellers, which have caused severe damage mainly while extracting *Trybliocrinus* calyxes. The abundance and diversity of corals, brachiopods and crinoids has been known for years, but bryozoans have been pointed out as one of the outstanding values to claim for effective protection of this outcrop.

(Figures on the following page).

Figure captions:1. *Bigeyina* sp. Two branching zoaria preserved in red marls. 2. *Bigeyina* sp. A large-sized zoarium with multiple cylindrical branches.



Captain Scott and Ozone:
Environmental change and museum collections

John Jackson, 24 Feb 2011

Reprinted with permission from *Nature Plus*.

Just over one hundred years ago in Feburary 1911, Captain R.F. Scott RN received news from Roald Amundsen that he was intending to make a bid for the South Pole in competition with Scott's. Scott's expedition had a range of important scientific goals: the race for the Pole for which he is best known was only one of the objectives. The science involved resulted in a number of Antarctic collections, some of which are in the Museum today.

These collections have been used to show a dramatic doubling in the growth of bryozoans in Antarctic seas in the last twenty years. Bryozoans are tiny colonial animals that encrust rocks, algae and other objects beneath the sea, filtering food from the water. It is another use of older collections that could never have been anticipated at the time of collection, but shows the value and importance of these collections to modern science and current concerns.

Dr Piotr Kuklinski, a Scientific Associate of the Museum who works for the Polish Academy of Sciences Institute of Oceanography, has collaborated with other scientists from the British Antarctic Survey and US institutions to examine collections to tell how growth has changed over time and to suggest reasons why this might be happening.

They looked at a whole series of Antarctic collections in the Museum from 1909 to the 1930s, and other collections in the US and New Zealand up to the present day. The species *Cellarinella nutti* from the Ross Sea was used – it shows annual growth lines as the colony expands and so yearly growth can be measured. The growth measurements showed no particular change in rates of growth from 1890 to 1970, but there was a rapid increase in growth from the 1990s to the present day.

Why is this happening? Growth seems to be increasing because of increased availability of food – tiny single-celled plants known as phytoplankton. This increase would result from higher concentrations of phytoplankton or a longer growing season. Climate change? Probably not - the scientists point out that there is little evidence of changes to sea ice or water temperatures in the Ross Sea.

However, they do suggest that this may be linked to depletion of stratospheric ozone – the ozone holes that occur in the Antarctic summer. This could be causing stronger west winds that result in currents bringing in more nutrients to the area, in turn resulting in higher growth of plankton and higher growth of bryozoans. Our understanding of the detail of these questions helps refine our understanding of the Earth's carbon cycle, which is closely linked to our climate system.

The authors conclude 'Amundsen claimed that Scott's "*..British expedition was designed entirely for scientific research. The Pole was only a side-issue…*". Being first to reach the pole was foremost in fundraising and probably in Scott's thinking but coming second in the ensuing 'race' and dying there completely overshadowed the many scientific achievements of

the expedition. However, the baselines that they established and crucial subsequent curation may prove key to interpretation of trends with significance way beyond the polar regions.'

David K.A. Barnes, Piotr Kuklinski, Jennifer A. Jackson, Geoff W. Keel, Simon A. Morley, Judith E. Winston (2011) Scott's collections help reveal accelerating marine life growth in Antarctica. Current Biology - 22 February 2011 (Vol. 21, Issue 4, pp. R147-R148) doi:10.1016/j.cub.2011.01.033

Bulletin of Geoscience

Dear colleagues and friends

As a co-editor of Bulletin of Geoscience I turn to you with a kind request. Please consider whether it might be possible for you or your institution, to subscribe this journal for at least one year.

The Bulletin is the first (and up to now the only) journal in Czech to be listed in WOS and has Impact factor (currently 0,98 – see the web page http://www.geology.cz/bulletin/). Currently we are under tremendous financial pressure, due to a financial restriction from our government and the "global crisis"). However, we maintain our policy of providing free pdf of all published articles following this general idea: Science itself (and the results as papers) are already financed by government money (grants, projects, etc.), so why tolerate the private publishers profiting from science results already paid for? Therefore we do not want to be a member of Springer or Francis & Taylor or any other similar commercial publishing houses.

If you have further questions or/and would like to subscribe the journal, do not hesitate to contact me.

Many thanks for your kind and great help in advance

With very best wishes

Kamil Zágoršek
kamil.zagorsek@nm.cz

Treasurer's Report

The IBA accounts have received donations totaling NZD$4015 since the conference in Kiel, from 42 members. Thank you very much for your generosity. We can still use more! If we had as much as $6000, we would be able to give 3 really substantial travel grants for the conference in Catania. To make a donation, download the form from the IBA website, or contact the treasurer for further information: abby.smith@otago.ac.nz. THANK YOU.

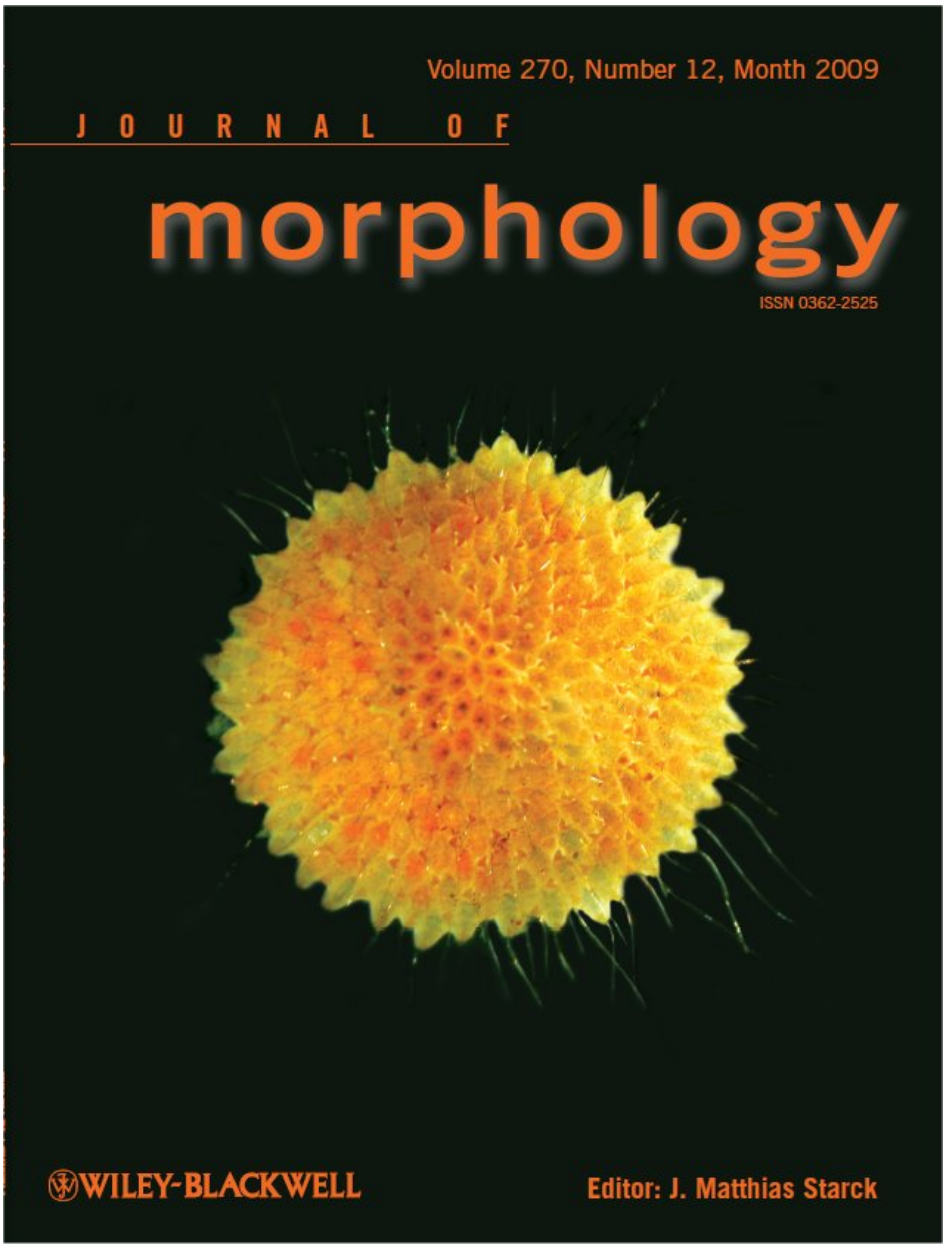
Australarwood – Kaikoura 2011

This meeting had been scheduled to run on the 7-9th March and although Kaikoura is some 200km from Christchurch the Australarwood had to be cancelled as a result of the Christchurch 6.3 aftershock. The scale of devastation in Christchurch meant city services were unavailable and ultimately our accomodation in Kaikoura become a temporary housing unit for displaced University of Canterbury staff. UC has resumed teaching from the 14th March, although in somewhat different facilities - many courses have taken lectures online and face to face meetings with classes are held in several marquees - until all buildings pass strigent safety checks prior to re-occupation. It is amazing what you can do when you need to. It is hoped that the Kaikoura Australarwood can be rescheduled for June 2011 although dates are yet to be confirmed.

Catherine Reid

Featured Journal Cover

Editor's Note: This page continues a series highlighting the covers of journals or magazines featuring bryozoans.



The cover image shows *Discoporella marcusorum.*

The photo is associated with the 2009 paper by Ostrovsky A.N., O'Dea A., Rodrígues F.:

Comparative anatomy of internal incubational sacs in cupuladriid bryozoans and the evolution of brooding in free-living cheilostomes.

*Journal of Morphology*270: 1413-1430.

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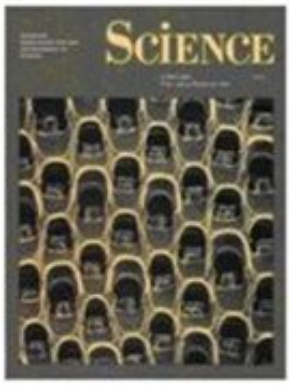
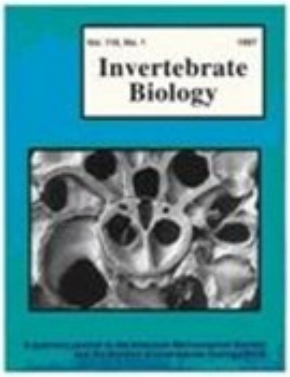
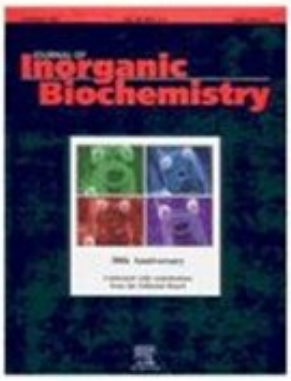
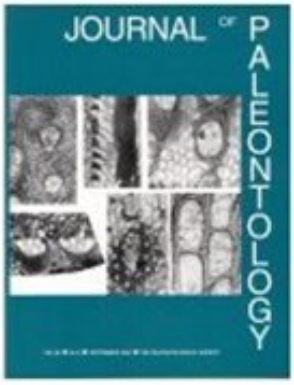
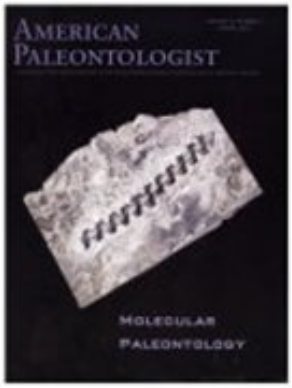
Previous journal covers featured in this series:











Upcoming Meetings and Conferences

Bryozoology

10th Annual Larwood Meeting
5-7 May 2011
Universidade de Santiago de Compostela
http://www.usc.es/congresos/larwood

Australarwood 2011
Rescheduled – possibly in June 2011
University of Canterbury Field Station at Kaikoura, New Zealand
catherine.reid@canterbury.ac.nz

16th IBA Conference
10-15 June, 2013, Catania, Italy
(Website not yet announced)

Paleontology

American Geophysical Union
2011 Fall Meeting
5-9 December, 2011, San Francisco, CA.
http://www.agu.org/meetings/

American Geophysical Union
2010 Ocean Sciences Meeting
20-24 February 2012, Salt Lake City, Utah USA

The Palaeontological Association
55th Annual Meeting 2011
(Not yet announced)

Tenth North American Paleontological Convention
Summer, 2013, (Venue not yet announced)

Geological Society of America Annual Meeting
9-12 October, Minneapolis, Minnesota USA
http://www.geosociety.org/meetings/2011/

Biology

Aquatic Invasive Species, 18th International Conference,
(Not yet announced)
http://www.icais.org/pdf/1st_annc_17th.pdf

12th International Coral Reef Symposium
July 9-13, 2012, Cairns, Australia.
http://www.coralcoe.org.au/icrs2012/NewsCoral2012/CoralNews.htm

Ecological Society of America, 96th Annual Meeting
August 7-12, 2011, Austin, TX..
http://www.esa.org/meetings/

International Council for the Exploration of the Sea
2010 Annual Science Conference
19-23 September, 2011 Gdansk, Poland
http://www.ices.dk/iceswork/asc/2011/index.asp

International Society of Limnology
Various meetings and workshops
http://www.limnology.org/links.shtml#meetings

Recent Publications

The following list includes works either published since the previous issue of the *IBA Bulletin* or else missed by previous issues. As always, members are encouraged to support future compilations by continuing to send complete citations to the IBA secretary at any time. Reprints will be gratefully received by the IBA archivist, Mary Spencer Jones.

Barnes, David K.A., Piotr Kuklinski, Jennifer A. Jackson, Geoff W. Keel, Simon A. Morley, Judith E. Winston. 2011. Scott's collections help reveal accelerating marine life growth in Antarctica. Current Biology - 22 February 2011 (Vol. 21, Issue 4, pp. R147-R148) doi:10.1016/j.cub.2011.01.033

Ben Ismaïl, D., O. K. Ben Hassine, G. Mascarell & J.-L. d'Hondt. 2009. Description d'un nouveau Bryozoaire (Cheilostomes) de Méditerranée Occidentale (Tunisie): *Parellisina curvirostris raibauti*, subsp. nov. Bull. Soc. zool. Fr., 134 (3-4) : 313-319.

Bone, E. K. and Keough, M. J. (2010), Competition may mediate recovery from damage in an encrusting bryozoan. Marine Ecology, 31: 439–446.

Bone, Elisa K. Bone and Michael J. Keough (2010). Does polymorphism predict physiological connectedness? A test using two encrusting bryozoans. Biological Bulletin 219: 220-230.

Cáceres Chamizo, J.P., A.N. Ostrovsky, and N. Vávra. 2010. Preliminary comparison of bryozoan collections from the Northern Indian Ocean and the Red Sea. – 52-53, 15th International Conference, Internat. Bryozoology Association, Program and Abstracts (= Schriften der GeoUnion Alfred-Wegener-Stiftung- vol. 2010/4), Christian-Albrechts-Universität zu Kiel.

Calder, Dale R. and Anita Brinckmann-Voss. 2011. Gustav Heinrich Kirchenpauer (1808-1887) of the City of Hamburg, and his research on hydroids and bryozoans. Zootaxa 2742L 49-59.

Clave-Pupion, B. 2011. Mémoires d'un géologue a travers son époque: Causeries avec le professeur Michel Vigneaux. Editions Terre et Océan, Bordeaux, 238 p.

Clements, D. & Taylor, P.D. 2011 [dated 2010]. Curation of complex palaeontological objects: a case study of densely encrusted cobbles from a Japanese Pleistocene locality. The Geological Curator 9(4): 229-235.

Dick MH, Mawatari SF, Sanner J, Grischenko AV 2011. Cribrimorph and other *Cauloramphus* species (Bryozoa: Cheilostomata) from the northwestern Pacific. Zoological Science 28: 134-147.

Ernst, A., Dorsch, T. & Keller, M. 2011. A bryozoan fauna from the Santa Lucia Formation (Lower – Middle Devonian) of Abelgas, Cantabrian Mountains, NW-Spain. Facies 57: 301-329.

Ernst, A. 2011. Cryptostome (ptilodictyine and rhabdomesine) Bryozoa from the Lower Devonian of NW Spain. Palaeontographica A, 293(4-6): 147-183.

Gontar, V. I. 2010. Representative of new genus *Lapidosella* from the Sea of Azov new species *Lapidosella ostroumovi* (Cheilosomata, Anasca) Gontar. Mir nauki, kultury i obrazovaniya, 2010:5(24), pp. 274-282 [in Russian].

Harmelin, Jean-Georges, Andrew N. Ostrovsky, Julia P. Cáceres-Chamizo, and Joann Sanner. 2011. Bryodiversity in the tropics: taxonomy of *Microporella* species (Bryozoa, Cheilostomata) with personate maternal zooids from India Ocean, Red Sea and southeast Mediterranean. Zootaxa 2798: 1-30.

d'Hondt, J.-L. 2010. Les allergies aux Bryozoaires. Arch. Sc. Nat. Phys. Math. Institut Grand-Ducal Luxembourg, N.S., 45 : 7-24.

d'Hondt, J.-L. d'Hondt & G. Mascarell. 2010. Les Bryozoaires des îles Marquises (Polynésie Française). Première partie. Bull. Soc. Linn. Bordeaux, 145, N.S., 38 (2) : 203-219.
d'Hondt, J.-L. & G. Mascarell. 2010. Les Bryozoaires des îles Marquises (Polynésie Française). Deuxième partie. Bull. Soc. Linn. Bordeaux, 145, N.S., 38 (3): 317-336.
d'Hondt, J.-L. & J. Pagny 2010. Le Bryozoaire Tricellaria inopinata. In : Les espèces marines invasives en Bretagne. Bretagne-Environnement, Observatoire de la Biodiversité et du Patrimoine naturel en Bretagne (ed.) : 26-29 & 36-37.
Key, M. M., Jr., G. A. Schumacher, L. E. Babcock, R. C. Frey, W. P. Heimbrock, S. H. Felton, D. L. Cooper, W. B. Gibson, D. G. Scheid, and S. A. Schumacher. 2010. Paleoecology of commensal epizoans fouling *Flexicalymene* (Trilobita) from the Upper Ordovician, Cincinnati Arch region, USA. Journal of Paleontology. 84: 1121-1134.
Key, Marcus M., Jr., Patrick N. Wyse Jackson, and Louis J. Vitiello. 2011. Stream channel network analysis applied to colony-wide feeding structures in a Permian bryozoan from Greenland. Paleobiology 37(2): 287-302.
Ostrovsky, A.N., C. Nielsen, N. Vávra, and E.B. Yagunova. 2009. Diversity of brood chambers in calloporid bryozoans (Gymnolaemata, Cheilostomata): comparative anatomy and evolutionary trends. Zoomorphology, 128: 13-35.
Ostrovsky A.N., Porter J.S. 2011. Pattern of occurrence of supraneural coelomopores and intertentacular organs in Gymnolaemata (Bryozoa) and its evolutionary implications. Zoomorphology 130 (1): 1-15 (on-line).
Ostrovsky, A. N., J. Cáceres, A.N. Vávra. 2009. Bryozoan collections from the Red Sea, Maldives and Oman: current progress in identification. – p.7, IBA Larwood Meeting, Abstracts, Oslo, 21-23.May 2009.
Ostrovsky, A.N., Popov, I.Yu. 2011. Rediscovery of the largest population of the freshwater pearl mussel (*Margaritifera margaritifera*) in the Leningrad oblast (northwest Russia). Aquatic Conservation: Marine and Freshwater Ecosystems 21 (2):113–121 (on-line).
Reid, C.M. and James, N.P. (2010) Permian higher latitude bryozoan biogeography. Palaeogeography, Palaeoclimatology, Palaeoecology. vol 298 p.31-41.
Reid, C.M. (2010) Environmental controls on the distribution of Late Paleozoic bryozoan colony morphotypes: An example from the Permian of Tasmania, Australia. Palaios, vol 25 p.692-702.
Rust, S. and Gordon, D. 2011. Plio-Pleistocene Bryozoan faunas of the Wanganui Basin, New Zealand: stratigraphic distribution and diversity', New Zealand Journal of Geology and Geophysics, First published on: 25 January 2011 (First article) p 1-15.
Sanfilippo, R., A. Rosso, D. Basso, D. Violanti, I. DiGeronimo, R. DiGeronimo, F. Benzoni, E. Robba. 2011. Cobbles colonization pattern from a tsunami-affected coastal area (SW Thailand, Andaman Sea). Facies 57: 1-13.
Smith, A.M., Lawton, E.I. 2010. Growing up in the temperate zone: age, growth, calcification and carbonate mineralogy of *Melicerita chathamensis* (Bryozoa) in southern New Zealand. *Palaeogeography, Palaeoclimatology, Palaeoecology* 298: 271-277.0 [ISSN: 0031-0182; doi: 10.1016/j.palaeo.2010.09.033]
Suárez-Andrés, Juan Luis and Frank K. McKinney. 2010. Revision of the Devonian fenestrate bryozoan genera *Cyclopelta* Bornemann, 1884 and *Pseudoisotrypa* Prantl, 1932, with description of a rare fenestrate growth habit. Revista Española de Paleontologia 25(2): 123-138.
Suárez-Andrés, Juan Luis and Frank K. McKinney. 2010. Revision of the Devonian fenestrate bryozoan genera *Cyclopelta* Bornemann, 1884 and *Pseudoisotrypa* Prantl,

1932, with description of a rare fenestrate growth habit. Revista Española de Paleontología 25(2): 123-138.
Vávra, A. N. 2009.. Mediziner, Wissenschaftler und Künstler aus zwei Jahrhunderten – die Familie des August Emanuel Reuss. – 211 – 228, In: Seidl, J. (Hg.): Eduard Suess. Schriften des Archivs der Universität Wien, 14: 430 S., Vienna University Press, Wien.
Vávra, N. 2010. Response of Early Miocene Bryozoans to seaway connections and climatic changes: some possible generalizations. – 23-24, 15th International Conference, Internat. Bryozoology Association, Program and Abstracts (= Schriften der GeoUnion Alfred-Wegener-Stiftung- vol. 2010/4), Christian-Albrechts-Universität zu Kiel.
Vávra, N. and T. Pfister. 2010. Bryozoenfunde aus der Oberen Meeresmolasse (Burdigalium) um Bern, Schweiz. – Contributions to Natural History, 13: 19-35.
Winston, Judith. E. 2010. Life in the colonies: learning the alien ways of colonial organisms. Integrative and Comparative Biology Advance Access, October 7, 2010: 1-15. doi:10.1093/icb/icq146
Zágoršek, K., A.N. Ostrovsky, and N. Vávra. 2009. Superficial frontal calcification ("secondary calcification") on new Bryozoans from the Middle Miocene of Moravia (Czech Republic). –16-17, IBA Larwood Meeting, Abstracts, Oslo, 21-23.May 2009.
Záton, M., Machocka, S., Wilson, M.A., Marynowski, L. & Taylor. P.D. 2011. Origin and paleoecology of Middle Jurassic hiatus concretions from Poland. Facies 57: 275-300.