



Bulletin

Volume 6 Number 3

October, 2010

News from the Membership
New Members
In Memoriam: Olgerts L. Karklins (1925-2010)
Kiel Photo Warehouse
Request for Ctenostome Photos
Minutes from the Advisory Council
Treasurers' Report
Fundraising
2010 Business Meeting Minutes
Election of IBA President-Elect
Alcyonidium from the *RV Littorina* Excursions
Bryozoans and Sea Level Rise
Larwood Meeting 2011
AustraLarwood Meeting 2011
Bryozoan Bookstall
Featured Journal Cover
Meetings and Conferences
Recent Publications

Copyright © 2010 by the International Bryozoology Association.
Eckart Håkansson, President
Timothy S. Wood, Secretary
Abigail Smith, Treasurer
ISSN 1941-7918

Comments regarding this Bulletin should be addressed to the IBA Secretary:
tim.wood@wright.edu

Further information at www.bryozoa.net/iba

News from the Membership

Françoise Bigey. Dear Friends, As you know, I left my academic duties in Paris University (Pierre & Marie Curie). Since, I joined the National Museum of Natural History as a volunteer in Paleontology. So, my official new title is 'Attaché au MNHN'. You could see my new affiliation in the documents of the last IBA Conference held in Kiel.. Now, I work (half-time) as a member of the curators team of Invertebrates fossils. Therefore, I may be of some help to colleagues interested in collections, as I have already done. My new email address is fpbigey@orange.fr.

Hans De Blauwe. After two Larwood meetings, this was my first IBA conference. It is so nice to meet all this people with the same passion: bryozoans! I am sure that our knowledge benefits from the talks and our personal communications resulting in collaborations. I learned about the aspect of bryozoology that keeps you busy. This resulted already in exchanging samples and literature. After my study of the Belgian bryozoans, I may enlarge my view and thanks to Urszula maybe even as far as Antarctica. I probably have access to a large sample from there soon.

I brought three copies of my book to the congress and they were gone within five minutes. I learned that some of you had difficulties in ordering my book in the past. You can order it by email at info@vliz.be.

Title: Mosdiertjes van de Zuidelijke bocht van de Noordzee: Determinatiewerk voor België en Nederland

Author: Hans De Blauwe

Published: 2009

Editor: Vlaams Instituut voor de Zee (VLIZ): Oostende, Belgium

ISBN 978-90-812-9003-6

445 pages

You can find additions to and errors in the book on my website:

<http://www.marinespecies.org/deblauwehans/errata.php>

Hope to meet you soon on the next meeting or congress, Hans

Steve Hageman announces that copies of the Boone Conference volume are still available. See Bryozoan Bookstall in this *Bulletin* issue for details. Contents of the volume were printed in the IBA Bulletin, which is available online at www.bryozoa.net.

Tatiana Michaevich. I presented an abstract at the XX Congress of Italian Ecological Society in Rome held on 27-30 September 2010. The topic of my relation was "Freshwater Bryozoa from Belarus, and ecology of *Plumatella fungosa* from the basin cooler of Berezovskaya Hydroelectric Power Station, Belarus"

Abby Smith. The IBA in Kiel was a fantastic conference. I enjoyed trying out my terrible German, I really loved having warm soft pretzels in the Natural History Museum, I ate way too many sausages. I reconnected with old friends and met some new ones, I introduced my

students to people they should know. I thought of new ideas and collaborations, I made progress in on-going projects with my co-authors, and I was fascinated by some of the great thinking and new ideas that are blooming all over the world in bryozoology. I bought chocolate, marzipan, and wine. Special memory: sitting outside a restaurant on a cobbled street in the mild summer air with friends and colleagues laughing and eating and listening to the huge stone clock ringing the hours.

Lais V. Ramalho. I am starting a post-doctorate in molecular studies. I will check the presence or absence of bryostatin (symbiont proteobacteria of *Endobugula* clade) in different species of *Bugula* from Rio de Janeiro State, using two different technical: molecular biology and chemical profile. This job will be realized at Universidade de São Paulo - Chemical Institute. Concomitant with this study I will continue to work at Museu Nacional (Rio de Janeiro), taking care of the Bryozoan collection.

Paul Taylor. Paul attended the Conference in Kiel despite the great concern of his daughter, Emma, who was being married August 7. It was allegedly for this reason that Paul snuck out of Kiel before the end of the conference and arrived home just in time for the wedding. An IBA surveillance camera caught this moment of Paul (as we've never seen him before) with Emma and her husband, Josh. On the right is daughter-in-law Kanako holding Paul's granddaughter. Congratulations to Emma and Josh!



Kevin Tilbrook. I had a great time in Kiel! It was so good to see so many old friends, and make so many new ones over those few days. It had been six years since I last saw most of you - far too long! And five years without a bryozoan-centric job - far, far too long! I wasn't sure how I would feel stepping back into the bryozoan world; I was nervous, and to a point, felt a bit of a fraud turning up after so much time out. How wrong was I!? I was welcomed back with open arms at every turn with so many wonderful comments. I honestly felt back in the fold, and I am delighted by how the research has come on and the calibre of the younger members - very exciting and much ground-breaking stuff.

To cap this euphoria, I have a new job! A job working on Bryozoa!! A job working on tropical south-west Pacific Bryozoa in Australia!?!? My ship really has come in. I have accepted the offer of the Curator role at the Museum of Tropical Queensland in Townsville, Queensland, Australia. I should be traveling over there next month (October) to work on the reef material collected in Aus by the CReefs project (something I have been involved with since its outset in 2006) as well as much tropical inter-reef and benthic survey material. AND I CAN'T WAIT!

What I will say now is that if anyone needs any help, any input, any material and they think I might be the person to contact, PLEASE do not hesitate to ask! I know what it is like to feel without an ally or sounding-board. Some might remember my slightly "bitter and twisted" diatribe from a few years ago, well I apologise as I realise most of you were just trying to keep your own jobs! But I promise to do what I can to help any of you. Let's try to foster more collaborative projects and make the IBA an even more cohesive organisation than it already is.

One last thing - did I mention I have a job so I am back!? See you all again soon, Kevin

Leandro M. Vieira. My first IBA was wonderful and the bryozoologists look like a family! I look to forward to seeing everyone again in next IBA conference.

After the IBA conference in Kiel I had the opportunity to visit Norway (Bergen and Stavanger) and the Lysen fjord region (it truly is one of most beautiful places I have ever seen). Since 17th August (after IBA Conference and the holiday in Norway) I have been working with the specimens of *Scrupocellaria* deposited at the Natural History Museum (London). I found several problems in this taxon, which also involve problems with generic definitions of other Candidae's genera. Mary S. Jones and I will try resolving part of these problems with the redescription of the type specimens of some type-species of genus. It's really amazing the diversity of this taxon (maybe taxa?) and resolve the taxonomic problems will be a challenge! I will be working here until November, when I go to Paris and stay there for one month. In Paris. I'll meet Dr. Jean Loup d'Hondt in the Muséum National d'Histoire Naturelle, to study the *Scrupocellaria* specimens!

Due high number of species known and described in the past, I would be very glad if anybody could help me with sending data or photos of any type specimen of *Scrupocellaria* deposited in any institutions! My email is leandromanizoni@gmail.com or leandromanizoni@hotmail.com

Thank you in advance!

Tim Wood. I am serving as a faculty member for 14 weeks on the Semester at Sea program operated by the University of Virginia. Our university ship, *M.V. Explorer*, embarked from Norfolk, Virginia August 23 and will arrive in San Diego December 13 after extended stays in 12 countries. Information about the voyage is updated regularly at www.semesteratsea.org. Internet services on board are extremely limited and glacially slow, which is my excuse for this issue of the *Bulletin* being so late.



New Members

Emanuela Di Martino. I am currently a Marie Curie Early Stage Researcher and I work at The Natural History Museum in London. Under the umbrella of the THROUGHFLOW PROJECT (Cenozoic evolution of the Indonesian throughflow) I will study the Cenozoic history of bryozoan biodiversity supervised by Paul Taylor for the next three years. Before I worked under Prof. Antonietta Rosso from the Catania University on Bryozoan biodiversity in submarine caves in three Italian marine protected areas.

Sally Rouse. I have recently completed my MSc on Scottish bryozoans with Jo Porter and Mary Spencer Jones. At the moment, we are in the process of building a scratchpad website on British bryozoans.

I am currently focusing on ctenostomes and attempting to create a page for each species. I am trying to source information and images on ctenostomes and I am hoping that IBA members might be able to help.

Any images would be welcome, particularly in-situ photos or images showing key diagnostic features. In terms of text I have the following headings to fill in: diagnostic description, morphology, genetics, growth, molecular biology, species associations, ecology, habitat, distribution, reproduction and evolution. Plus some other additional fields. In the future we will be moving on to cheilostomes and cyclostomes and also adding fossil Bryozoa

People can contact either me (sally.rouse@zsl.org) or Mary with questions or any information they want to send.

Thamasak Yeemin. I am a marine biologist from Marine Biodiversity Research Group, Ramkhamhaeng University, Bangkok, Thailand (www.thaicoralreef.in.th). Our research group has worked on various aspects of marine biology, particularly coral reef ecosystems in the Gulf of Thailand and the Andaman Sea. We have recently started research on marine bryozoans, especially in coral reefs. We have collected many bryozoan specimens from various locations in Thai waters. The first aim of our research project is to study on marine bryozoan diversity in order to provide baseline data for Thailand. We need collaboration with bryozoan taxonomists who can guide us for identifying bryozoan specimens. We plan to work on ecology of bryozoans on coral reef habitats, with particular reference to competition with juvenile coral colonies. I would be happy to learn much more about marine bryozoans from the IBA members in the near future.

Favia Teles de Santana. I am a biologist graduated from Universidade Federal de Sergipe (UFS). I am working with Dra. Lais V. Ramalho (Museu Nacional, Rio de Janeiro) and Dra. Carmen R. P. Guimarães (Universidade Federal de Sergipe). My studies include the identification, description and distribution of recent marine bryozoans from Sergipe Continental shelf (northeast Brazil) in cooperation between UFS and Museu Nacional). This study is very important for the comprehension of an important area of oil production and it can to become the base to future searches about environmental management. We believe the majority of these species that will be described will become the first records to this area or

new species to science such as recently published (Santana et al, 2009 – Zootaxa). All material studied is being stored in the Bryozoan Collection of the Museu Nacional (Rio de Janeiro).

Consuelo Sendino. I am currently collaborating with Paul Taylor to investigate symbiosis between conulariids and bryozoans. Symbiotic associations between bryozoans and other metazoans are common and can be recognized in fossils when they involve skeletal intergrowth. But it is also possible to interpret symbiosis in specimens preserved as external moulds as a result of overgrowth by bryozoans. This overgrowth pattern strongly suggests a life association. CT scanning of the specimen allows us to examine more fully how the bryozoan colony bioimmured the conulariids, preserving them in high fidelity. The photo on the right is one we also presented in Kiel.



In Memorium: Olgerts L. Karklins (1925-2010)

Timothy R. Smith

Olgerts L. Karklins, 85, a retired geologist with the U.S. Geological Survey and longtime member of the IBA, died July 11 at his home in Potomac, Maryland after a heart attack following chemotherapy. He had lung and bone cancer.

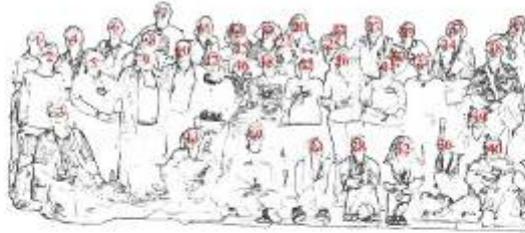
Olie conducted USGS field studies, dating rock formations by studying the fossils embedded within them. He joined USGS in 1963 and retired around 1990.

Olgerts Longins Karklins was born in Tukums, Latvia. During World War II he dug defensive trenches in Germany as a forced laborer. After the war he worked as a coal miner in England and came to the United States in 1953. He received a bachelor's degree in geology from Columbia University in 1957. He received a Master's degree (1961) and a doctorate (1966), both in geology from the University of Minnesota.

Survivors include his wife of 54 years, Vija Lejnicks Karklins of Potomac, and a daughter, Ieva O'Rourke of McClean, Virginia.

Conference Photos

LEFT SIDE



RIGHT SIDE



Key to Conference Photo

1	Timothy Wood	40	Rolf Schmidt
2	Beth Okamura	41	Consuelo Sendino
3	Joachim Scholz	42	Giampietro Braga
4	Matthias Obst	43	Philip Bock
5	Yvonne Bone	44	Oscar Reverter-Gil
6	Alexander Gruhl	45	Antonietta Rosso
7	Piotr Kuklinski	46	Facelucia Souza
8	Norbert Vavra	47	Carlos López-Fé
9	Eckart Hakansson	48	Mary Sears
10	Pierre Moissette	49	Judith Winston
11	Chiara Lombardi	50	Herwig Heidl
12	Urzula Hara	51	Francoise Bigey
13	Kamil Zagorsek	52	Marcus Key
14	Helena Fortunato	53	Julia Cáceres
15	Steve Hageman	54	Franziska Bitschofsky
16	Amalia Herrera	55	Catherine Reid
17	Mary Spencer Jones	56	Björn Berning
18	Maja Novosel	57	Andrew Ostrovsky
19	Christine Davis	58	Kevin Tilbrook
20	Andrea Waeschenbach	59	Karin Hoch Fehlauer-Ale
21	Michael Winson	60	Dennis Gordon
22	Ji Eun Seo	61	Masato Hirose
23	Helen Jenkins	62	Blanca Figuerola
24	Hanna Hartikainen	63	Patrick Wyse Jackson ⁶⁴
25	Hans Arne Nakrem	65	Scott Lidgard
26	Emmy Wöss	66	Thomas Schwaha
27	Ernest Gilmour	67	Lais Ramalho
28	Joanne Porter	68	Matthew Dick
29	Priska Schäfer	69	John Ryland
30	Michael Toma	70	Jeremy Jackson
31	Abigail Smith	71	Zoya Tolokonnikova
32	Jennifer Loxton	72	Judith Fuchs
33	Nina Denisenko	73	Anna Koromyslova
34	Mark Wilson	74	Loa Ramalho
35	Caroline Buttler	75	Paul Taylor
36	Sally Rouse	76	Andrej Ernst
37	Javier Souto	77	Hans de Blauwe
38	John Bartley		
39	Leandro Vieira		

Not shown: Roger Cuffey, Aaron O'Dea

Kiel Photo Warehouse

Andrej Ernst first, I would like to thank to all who came to our conference in Kiel! I hope we could manage the organization that all participants were satisfied, and enjoyed the meeting and Kiel and vicinities as well. I was quite busy during the conference, so I had no time for a regular photographic survey. Nevertheless, I could catch some moments, which you can find here:

http://www.gpi.uni-kiel.de/~ae/fotos/iba_2010/iba_2010.html

I have also posted a printable version of the group photograph and some bryozoan images from the material brought by participants of the *Littorina* excursion (*Electra*, *Alcyonidium*, *Bowerbankia*).

Aaron O'Dea

Photos from the Kiel conferences can be viewed at

<http://picasaweb.google.com/aaronodea/IBAKiel2010#slideshow/5504941994950786738>

Rolf Schmidt. I've put the three movies of the X-Ray Tomography scans through a *Siphonicytara* colony that wouldn't play in Kiel up on Youtube. The urls are:

Frontal: <http://www.youtube.com/watch?v=Cd1phbiOzN0>

Basal: <http://www.youtube.com/watch?v=4xbQWXQFc5E>

Lateral: <http://www.youtube.com/watch?v=smzJkYxgFnk>

Request for Ctenostome photos

(See "Sally Rouse" in the New Members section of this Bulletin)

IBA Summary of Income and Expenditure 2007-2010

Abby Smith, IBA Treasurer

(All amounts in NZD = 0.5€ and 0.7 USD)

Income	<u>2007 to 2010</u>	<u>2004 to 2007</u>
Subscriptions (N = 60)	\$4,403.50	\$6,836.50
Transfer to savings	\$5,000.00	\$ 0.00
Donations (N = 18)	\$ 990.14	\$ 0.00
Interest	\$ 614.94	\$ 0.00
Total Income	\$11,008.58	\$6,836.50
Expenditure		
Bank & merchant fees, tax	\$ 479.64	\$1,312.31
Transfer to savings	\$5,000.00	\$ 0.00
Council administration	\$ 645.77	\$ 0.00
IBA awards	\$7,835.76	\$ 0.00
Total Expenditure	\$13,961.17	\$1,312.31

IBA Donation-o-Meter

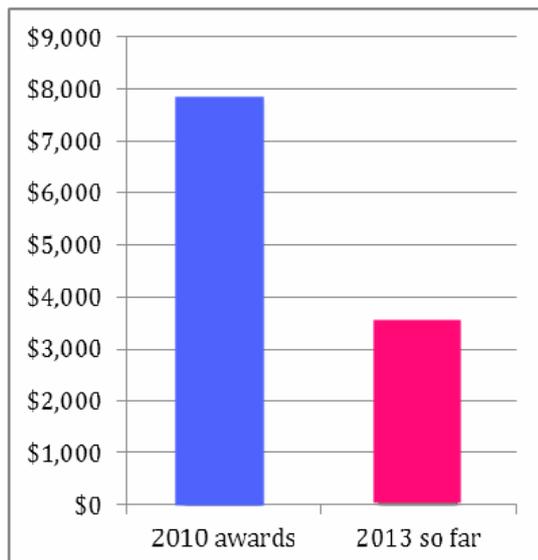
Abby Smith, IBA Treasurer

In 2010 we were able to give four travel awards totaling \$7836 NZD, most of which was funded by income from donations and membership fees paid by IBA members.

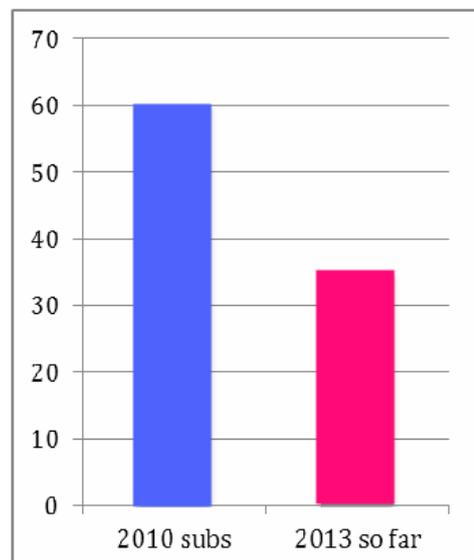
Now the only source of income the IBA receives is donations from its members. We hope to use these donations to fund travel grants to the next conference, so the larger they are, the more generous we can be.

Can we do better in 2010-2013?

Money (in NZD) given as travel awards in 2007-2010 and amount raised by donations so far in 2010-2013.



Number of members who paid fees (in 2007-2010) or made donations (in 2010-2013 so far) to IBA.



Minutes of the Advisory Council Meeting

The IBA Advisory Council met in Kiel on Tuesday, August 3, 2010. These minutes record a summary of the items discussed.

1. **Treasurer's report.** We have a current (30 June) balance of \$4,370.76 New Zealand dollars (1 NZD = € 0.5 and \$0.7). There was some discussion of whether the IBA should underwrite the triennial conferences, so if the conference loses money the IBA could help bail it out. The consensus was that we need to be very careful *not* to have any firm written commitment on this. Of course, we might offer to help out if necessary, but it is up to the conference host to price the event correctly.
2. **Nominations.** A nominating committee was formed to solicit nominations for Advisory Council and IBA officers. Kevin Tilbrook and Scott Lidgard volunteered for this job.
3. The **Larwood Committee** was formed to judge student poswers and presentations for the Larwood Awards. Beth Okamura, Judy Winston, Kamil Zakorsek volunteered for this difficult job. It was strongly recommended that next time the IBA President (Eckart) appoint the Larwood Committee *before* the opening of the conference, and that we know in advance which of the presenters are listed as students.
4. **Chile.** Abby suggested we find out from Juan Cancino and Hugo Moyano what they need that we can supply. Books? Reprints? Specimens? Patrick Wyse Jackson will head up this effort with assistance from Aaron O'Dea..
5. **Website:** Rolf Schmidt will remove any email references to IBA members on the website. We should have an inquiry form so anyone can get information (from the IBA Secretary) without compromising his email address. Roger Cuffy reported that he had received an unsolicited proposal of friendship from an unknown woman in India who claimed she had found his email address on the IBA website. We need to be vigilant about protecting the email addresses of all IBA members.
6. **Fund raising.** What is the best way to raise money for IBA scholarships? Most Council members liked the idea of an annual appeal for voluntary donations, but a few thought this is too risky, we should have regular fees. Finally we decided to go with the annual appeal, at least for a trial year and see how it goes. Marcus Key agreed to lead this effort.
7. **Scratchpad.** Scott Lidgard announced that we will move forward with putting taxonomic data on Scratchpad, including a lot of information already on the Bryozoa Home Page.

Minutes prepared by Tim Wood, IBA Secretary

IBA Business Meeting Minutes

Friday, August 6, 2010

1. IBA President Judy Winston opened the meeting with an observance to honor members deceased since the conference in Boone. These are

Yousef Ahmed	1966-2008
David Brown	1916-2009
Gisela Illies	1926-2008
Lin-Huang Lu	1933-2007
Geneviève Lutaud	1926-2008
John Utgaard	1938-2009

2. Judy recognized the many members who had joined the IBA since the 2007 conference in Boone.

Yousef Ahmed	Somaye Mohammadpour
Franziska Bitschofsky	Heather Moore
Elisa Bone	Thomas Schwaha
Julia Cáseres	Sudathip Seansupha
Eugenio Fernández-Pulpeiro	Mary Sears
Karin Hoch Fehlauer-Ale	Caroline Sogot
Santosh Jagadeeshan	Noga Sokolover
Helen Jenkins	Javier Souto Derungs
Anna Koromyslova	Zoya Tolokonnikova
Grace Lim-Fong	Andrea Waeschenbach
Jennifer Loxton	Michał Zatoń
Rory Milne	

3. Treasurer Abby Smith presented the Treasurer's Report (see separate item elsewhere in the *Bulletin*).

4. Judy next recognized elected members of the IBA Advisory Council and thanked them for their service.

Elected for 2004-2010

Aaron O'Dea
Beth Okamura
Maria Cristina Orellana
JoAnn Porter
Priska Schäfer
Kevin Tilbrook

Elected for 2007-2013

Caroline Buttler
Andrej Ernst
Scott Lidgard.
Laís Ramalho
Ariunchimeg Yarinpil
Kamil Zagorsek

For the past three years, according to the IBA Constitution, the Advisory Council has also included:

Judy Winston, IBA President
Eckart Håkansson, IBA President-Elect
Paul Taylor, Past President
Patrick Wyse Jackson, Proceedings Facilitator
Tim Wood, Secretary
Abby Smith, Treasurer

Steve Hageman, Past Conference Host
Rolf Schmidt (*ex officio*, IBA webmaster)

5. Rolf Schmidt introduced Melbourne as the official venue for the IBA conference in 2016, hosted by the Victoria Museum.
6. Judy Winston announced winners of the 2010 Larwood Awards:
Best student poster: Thomas Schwaha
Best student presentation: Judith Fuchs

Both recipients received a €60 cash award, certificate, and a volume of proceedings from the previous IBA conference.

7. The Nominating Committee of Scott Lidgard and Kevin Tilbrook announced winners of the Advisory Council election: Andrea Waeschenbach, Masato Hirose, Maja Novosel, Björn Berning, Pierre Moissette, and Piotr Kuklinsky. Their terms will be 2010-2016.

Scott and Kevin further announced that Abby Smith and Tim Wood were the only candidates for the positions of Treasurer and Secretary, respectively, and they will continue with their responsibilities.

8. In her final official act as IBA President, Judy Winston transferred her title to Eckart Håkansson, now the new President of the International Bryozoology Association.
9. The business meeting of the 15th IBA Conference was adjourned.

Minutes prepared by Tim Wood, IBA Secretary

Election of the IBA President-Elect

While the IBA Secretary and Treasurer were elected at the IBA Conference in Kiel, it has become customary for all IBA members to participate in selecting the President-Elect through ballots submitted by email. This year Marcus Key and Patrick Wyse Jackson have accepted the invitation of the Nominating Committee to stand for election. Their profiles are printed below

Important instructions. To vote, IBA members should send an email message to the IBA Secretary, tim.wood@wright.edu, with the vote *embedded in the subject heading*.

Examples:

SUBJECT: IBA-Marcus or SUBJECT: IBA: Patrick

Do not write in the body of the text. Do not include attachments.

All votes received by October 31 will be counted and the results will then be announced.

Marcus M. Key, Jr.

Current position. Joseph Priestly Professor of Natural Philosophy, Department of Earth Sciences, Dickinson College, Carlisle, Pennsylvania, U.S.A.

IBA member since 1985

Research interests: Using extinct and extant bryozoans to address questions of functional morphology, epibiosis, and the evolution of skeletal isotopic composition.

Professional Activities related to the IBA:

- Advisory Council
- Larwood Award selection committee
- Co-editor of Boone 2007 conference volume
- Currently: IBA fund raising coordinator

Patrick Wyse Jackson

Current position: Senior Lecturer in Geology, Curator of the Geological Museum, and Fellow of Trinity College, Dublin, Ireland.

IBA member since 1987.

Research interests. Taxonomy, functional morphology and biology of Palaeozoic bryozoans, particularly those from the Ordovician and Mississippian (Lower Carboniferous).

Professional activities related to the IBA/

- Advisory Council
- Organized 1992 pre-conference field trip
- 2001 Dublin conference host
- 2006 Larwood conference host
- Co-editor of Dublin 2001 conference volume
- Co-editor of Chile 2004 conference volume
- Co-editor of *Annals of Bryozoology* 2002, and 2008, with 2 additional volumes to appear soon.

Other professional activities: Chair of the Treasurer Auditing Committee for the Paleontological Society; member of Phi Beta Kappa, Sigma Xi, Paleontological Society, Geological Society of America, Harrisburg Area Geological Society (held Secretary, Vice President, President offices), International Palaeontological Association, Society for Sedimentary Geology.

- Currently: Conference volume facilitator

Other professional activities: Past-President of the Dublin Naturalists' Field Club, the Irish Geological Association, and past-Chairman of the Geological Curators' Group. Edited the journal *The Geological Curator* for thirteen years and *Earth Sciences History*, the journal

Alcyonidium from the 15th IBA *RV Littorina* excursions

John Ryland and Joanne Porter.

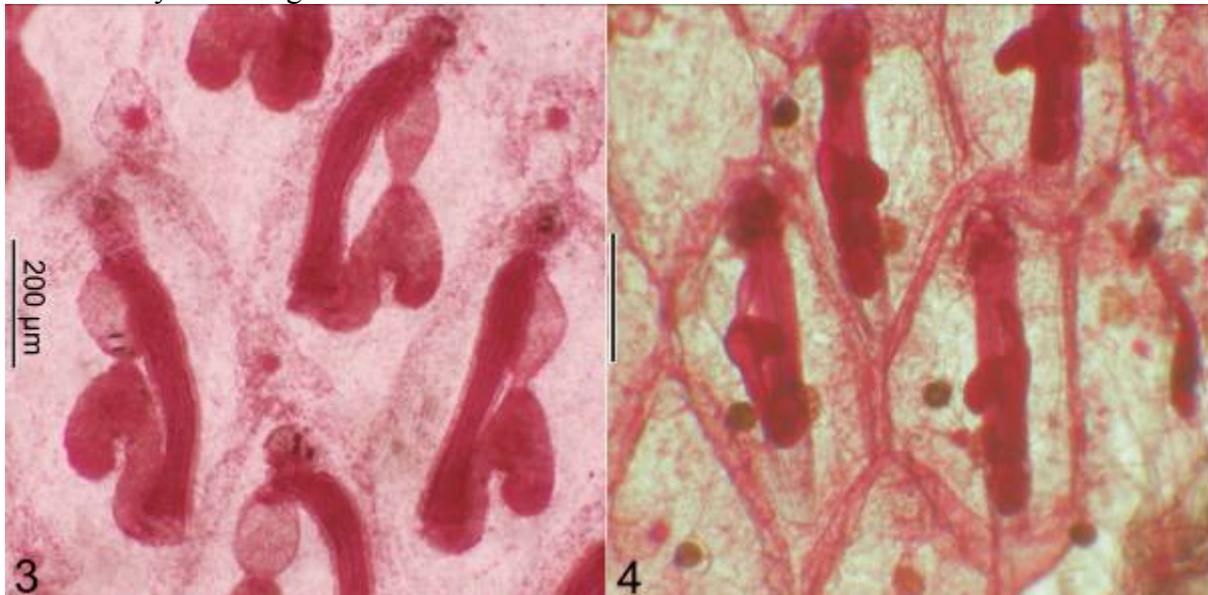
After the dampness of the outing to Lübeck the bright sun for the two ship excursions on Saturday 7th August was most welcome. Leaving the quay at the Institut für Meereskunde–Geomar we sailed for an hour or so up Kieler Förde before shooting the dredge on hard ground in 12-15m of water, where the salinity was about 24. The hauls were dominated by various red algae on which an *Alcyonidium* was abundant (Figs 1, 2; also Andrej Ernst's Bryozoa–Baltic Sea photos: www.gpi.uni-kiel.de/~ae/fotos/iba_2010/iba_2010.html), and formed conspicuous cylindrical incrustations, but cheilostomes were hard to find. Other *Alcyonidium* colonies were found on fragments of *Laminaria* frond (especially during the afternoon excursion) and on a broken glass bottle. These looked very different, forming smallish (1-2 cm diameter) unilamellar patches of youngish zooids, consistent with settlement last winter.



Microscopical examination was possible on return to the laboratory and, fortunately, the colonies on red algae were particularly cooperative, everting their lophophores in profusion. All counts were in the 14–16 range, consistent only with *A. mytili*. As would be expected with its winter breeding season, no inter-tentacular organs (ITOs) were observed (*A. mytili* is

oviparous), but the numerous counts leave no doubt of the correctness of the identification. Fewer counts were possible on the *Laminaria* colonies, but they too had 16 tentacles; the colony on the glass bottle remained stubbornly closed.

Nikulina & Schäfer (2006) had been unable to decide which species of the *Alcyonidium gelatinosum/mytili/polyoum* complex were present in the in Kiel Bay. Representative colonies on red algae, *Laminaria*, and a fragment of the glass bottle were brought back to Swansea. The colonies on glass and kelp, and some on the red algae, were fixed in Bouin's fluid, ultrasonically cleaned to remove loose particles, stained with borax carmine, dehydrated in ethanol series, and rendered transparent in HistoClear. Polypides in the colonies on *Laminaria*, presumed from the tentacle count to be *A. mytili*, had a long, slightly curved caecum as shown in foto 24 of Hans De Blauwe's recent book (2009) but those on glass were quite different, having the short rounded caecum characteristic of *A. gelatinosum* (and well illustrated—though wrongly identified—by Silbermann (1906)) (Figs 3, 4 respectively). *A. gelatinosum* is larviparous but, as a winter breeder, could not be expected to contain oocytes in August.



We have shown earlier (Ryland & Porter 2003; 2006, the latter with a map) that *A. polyoum* has a southerly distribution and does not occur in Denmark or the Baltic Sea, but that both *A. gelatinosum* and *A. mytili* were likely to be present in the Kattegat and the Baltic where the salinity exceeds 8-10, and so unlikely to occur east of Bornholm. Unfortunately, we overlooked some outlying records: (1) *A. gelatinosum* (with embryos) at Oskarshamn (57E16'N) on the east coast of Sweden (Silén 1943)—perhaps significantly for this and the next record, surface water of slightly higher salinity (7–8.5 rather than <7) flows southwards close to the Swedish coast (www.balticuniv.se/environmentalscience); (2) *A. gelatinosum* (with embryos) in shallow water on *Fucus* off Kalmar 56E39'N (Forsman 1956) but with much deeper records on rock or mussels from Christiansø (near Bornholm) which were more likely *A. mytili*; (3) a small colony (only 2.0 × 2.5 mm) on *Fucus* from near Rybachiy on the southern part of Kursk Spit (Kurskaja kosa) in the south-east (Androsova 1962: and our thanks to Mary Spencer Jones for obtaining this for us and Andrei Ostrovsky for translating the relevant part), where the species identity remains unknown. Borg (1930) cites nineteenth century records from the Trave estuary (Travemünde, seawards from Lübeck) and a salinity only just >1 (we wonder which species of *Alcyonidium* that would have been and if is still

there?). The IBA *Littorina* dredging has at least clarified the situation in one part of Kiel Bay. We conclude that the common *Alcyonidium* in the area off Kieler Förde where we dredged is *A. mytili*, with a single colony of *A. gelatinosum* found in one of the morning hauls. In addition to these, a single colony of the readily recognizable *A. hirsutum* was collected during the afternoon.

Morning dredge line: start 54E27.8'N, 10E14.1'E, end 54E27.6'N, 10E13.7'E.

Afternoon dredge line: start 54E25.5'N, 10E11.8'E end 54E27.6'N, 10E14.3'E.

References

- Androsova EI (1962) The Bryozoa of the Baltic Sea (in Russian). Zool. Zh. 41: 826-832
- Borg F (1930) Moostierchen oder Bryozoen (Ectoprocten). Tierw. Dts. 17: 25-142
- De Blauwe H (2009) *Mosdiertjes van de Zuidelijke Bocht van de Noordzee [Moss animals of the Southern Bight of the North Sea]*. Vlaams Instituut voor de Zee, Ostend
- Forsman B (1956) Notes on the invertebrate fauna of the Baltic. Ark. Zool., Stockh. AS, 9: 389-419
- Nikulina EA, Schäfer P (2006) Bryozoans of the Baltic Sea. Meyniana 58: 75-95
- Ryland JS, Porter JS (2003) The identity of *Alcyonidium gelatinosum* (Linnaeus, 1761) [Bryozoa: Ctenostomatida]. J. Nat. Hist. 37: 2179-2189
- Ryland JS, Porter JS (2006) The identification, distribution and biology of encrusting species of *Alcyonidium* (Bryozoa: Ctenostomatida) around the coasts of Ireland. Biol. Environ.- Proc. R. Irish Acad. 106B: 19-33
- Silbermann S (1906) Untersuchungen an den feineren Bau von *Alcyonidium mytili*. Arch. Naturg. 72: 265-310
- Silén L (1943) Notes on Swedish Marine Bryozoa. Ark. Zool., Stockh. 35A: 1-16

Tiny Antarctic creatures hint at sea level rise

Posted: Wed, 1 Sep 2010 under [Science in the News](#)

Oslo, Aug 31 Reuters

Tiny marine creatures found on the seabed on opposite sides of the vast West Antarctic ice sheet give a strong hint of the risks of sea level rise caused by climate change, scientists said on Tuesday.

The discovery of very similar colonies of bryozoans, animals that anchor themselves to the seabed, in both the Ross and Weddell Seas are a clue that the ice sheet once thawed and the seas were once linked, they said.

West Antarctica holds enough ice to raise world sea levels by between 3.5 and 5 metres if the sheet collapsed. Some scientists believe it may have vanished during a natural warm period within the last few hundred thousand years.

“It was a very big surprise,” said David Barnes, lead author of the study at the British Antarctic Survey, of the find of similar bryozoans 2400 km apart in seas on either side of the West Antarctic ice sheet, which is 2 km thick.

“The most likely explanation of such similarity is that this ice sheet is much less stable than previously thought and has collapsed at some point in the recent past,” he told Reuters. “And if the West Antarctic ice shelf has been lost in recent times we have to re-think the possibility of loss in future with climate change,” he said.

The bryozoans, sometimes called moss animals, are often microscopic as individuals but form colonies that can look like corals or some seaweeds. Those found were unlike others around the current coast of Antarctica.

WARM PAST

In a brief warm period about 125,000 years ago, world sea levels were about five metres higher than today and temperatures probably at least 4 degrees Celsius warmer. There have been several similar warm periods in the past million years.

The UN panel of climate scientists said in a 2007 report that average world temperatures could rise by between 1.1 and 6.4 degrees C by 2100, mainly because of a build-up of greenhouse gases from burning fossil fuels.

Reviews of the panel have endorsed its main findings despite errors such as an exaggeration of the thaw of the Himalayas. Experts on Monday called for an overhaul of its management. The Antarctic study, in the journal *Global Change Biology*, said that bryozoans were largely static and that their larvae, dispersed by currents, are short-lived and quickly sink.

With the huge ice sheet in the way, it was hard to explain how similar colonies could be in both the seas. But if the ice were destabilised it would open a passage through which currents might, over time, carry the larvae, Barnes said.

10th Larwood Meeting 2011



Organized by

Departamento
Antroploxía



de Zooloxía e
Física

Universidade de Santiago de Compostela
Spain

Thursday 5th – Saturday 7th May 2011
Santiago de Compostela, Spain

General information

The 10th Larwood Meeting will take place on 5th – 6th May 2011 in the Faculty of Biology, Universidade de Santiago de Compostela.

You can reach Santiago de Compostela by plane (recommended), by train or by car. There are also two other airports in Galicia (Vigo and Coruña), one hour from Santiago by bus.

Additionally, a one-day field trip is planned for Saturday 7th May.

Accommodation

A list of recommended hotels will be sent to participants later, but you can find yourself some information on the web site: <http://www.santiagoturismo.com/>

Abstracts

Abstracts must be submitted by 20th March 2011. They should be not longer than one page and written using the following format:

Title: In capitals and bold. Font: Times New Roman. Size: 14 pt.

Authors: Font: Times New Roman. Size: 12 pt.

Addresses: In italics. Font: Times New Roman. Size: 12 pt.

Text: Font: Times New Roman. Size: 12 pt. Spacing 1.5.

Please save the Abstracts as .doc files.

Posters

Vertical size: max. 100 cm. Horizontal size: max. 70 cm.

Fee

Regular fee: 50 €. Students: 30 €. To be paid at the conference.

Planning***Thursday, May 5:***

Presentations and Posters at the Faculty of Biology, Universidade de Santiago de Compostela. Full day.

Friday, May 6:

Morning: Presentations and Posters at the Faculty of Biology, Universidade de Santiago de Compostela.

Afternoon: Guided tour through the Cathedral. Free time to visit the old quarter. Larwood Meeting Dinner.

One-day field-trip, Saturday, May 7:

Sampling at the Ferrol Ría (one hour from Santiago): dredging and intertidal. Sorting of material in the lab of the Biological Marine Station at Ferrol.

Registration by 30th January 2011 to:

Javier Souto, Departamento de Zooloxía e Antropoloxía Física, Universidade de Santiago de Compostela. javier.souto@usc.es. Tel: office: +34 881813267 or +34 881813341. mobile: +34 699200436.

Oscar Reverter-Gil, Departamento de Zooloxía e Antropoloxía Física, Universidade de Santiago de Compostela. oscar.reverter@usc.es. Mobile: +34 647578487.

More details will appear on this web page: <http://www.usc.es/congresos/larwood>

AustraLarwood 2011

March 8-9 at Kaikoura – New Zealand

Australarwood 2011 is being hosted by the University of Canterbury, and will be held at the UC field station at Kaikoura. The field station will also double as accommodation (for which rates are minimal). Talks will be held on the 8th, and a field collection day in modern shallow marine sites around Kaikoura, followed by lab examination, will be held on the 9th. For the geologists amongst you there are some interesting, but bryozoan free, sites to examine around Kaikoura. Participants can meet in Christchurch on the 7th and travel as a group to Kaikoura.

There is no registration fee, and at this stage it is envisaged the Christchurch to Kaikoura shuttle will be covered by UC Geological Sciences. Christchurch has an international airport with good connections to Sydney and Melbourne and less frequent connection to North America. Please contact Catherine Reid on catherine.reid@canterbury.ac.nz for further information or to register your interest.

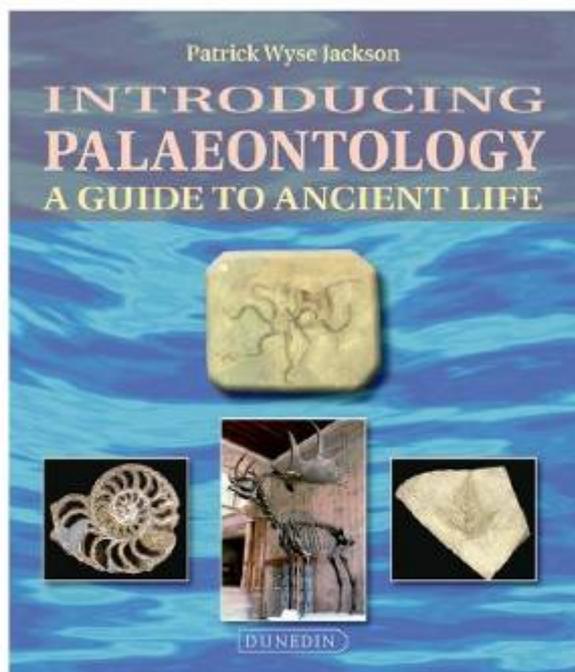
Message from the IBA Archivist

Within the NHM Bryozoa Archives, there is one cupboard dedicated for IBA materials. Over the years I have received material from various former IBA secretaries, such as Claus Nielsen and the late Nils Spjeldnaes, and I currently have a volunteer, Felicity, who is indexing this for us.

If any IBA member has correspondence, drawings, photographs, or anything else they feel should belong in the IBA or NHM Archives, then please send it to me at the address listed below. Also please keep sending reprints and PDFs in for the NHM Harmer library.

Mary Spencer Jones
Higher Invertebrates Division: Bryozoa & Entoprocta
Department of Zoology
Natural History Museum
Cromwell Road
London SW7 5BD
email: m.spencer-jones@nhm.ac.uk
tel: +44 (0)20 7942 5570

Bryozoan Bookstall



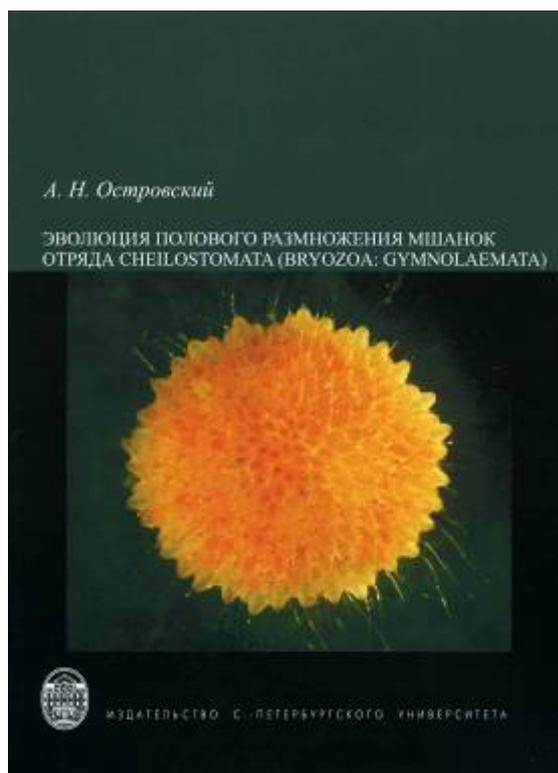
Patrick Wyse Jackson, 2010

Introducing Palaeontology - A Guide to Ancient Life

(Dunedin Academic Press, Edinburgh).
ISBN 13: 9781906716158.
Paperback, pp. viii+152. Price: £9.99.

Lavishly illustrated with photographs and explanatory diagrams *Introducing Palaeontology* provides a concise and accessible introduction to the science of palaeontology. The book is divided into two parts. The first explains what a fossil is; how fossils came to be preserved; how they are classified; and what information they can tell scientists about the rocks in which they are found.

The second part introduces the major fossil groups taking a systematic view from algae and plants, through the numerous examples of invertebrate animals, to the vertebrates and finally to man's ancestors. Technical terms are kept to a minimum and a glossary is provided. This volume is an ideal companion to an introductory university course or for the general public.



Ostrovsky A.N. 2009.

Evolution of the sexual reproduction in the bryozoan order Cheilostomata (Gymnolaemata).

St Petersburg State University.

ISBN 978-5-288-04992-7. 403 pp., 105 pls. [in Russian with English Summary].

See following pages for details

Summary

This monograph is devoted to a range of questions connected with evolution of reproductive patterns in Bryozoa in particular, and in marine invertebrates in general.

Despite two and half centuries of research, our knowledge of bryozoan reproduction is very incomplete and fragmented. This is in discord with the abundance and often dominance, of these colonial epibionts which are active filter-feeders in many marine benthic communities. In order to identify and to fill gaps in the knowledge, a comparative anatomical study of the processes of oogenesis, fertilization and brooding was undertaken considering more than 246 Recent and fossil bryozoan species from 142 genera belonging to 65 families of the bryozoan order Cheilostomata (class Gymnolaemata). As part of the study, major stages in the evolution of the sexual reproduction of cheilostomes are reconstructed and major trends are recognized with the overall aim of using the data obtained to clarifying the evolutionary history and phylogeny.

The history of studies on reproduction of Gymnolaemata is described in detail. The existence of three major reproductive patterns of Bryozoa is confirmed, and their detailed descriptions are given. A fourth reproductive pattern is described for the first time. It appears that placental analogies are much more common among Cheilostomata than has been previously accepted. A correlation between the type of oogenesis, ovarian structure and type of brooding is shown. Early precocious insemination is obligatory in brooders, and obviously triggers the onset of oogenesis. Stages in the evolution of internal insemination and placental brooding in Gymnolaemata are reconstructed. A comparison of cheilostome sexual reproduction with that of other invertebrates is made.

Different variants of the structure and development of cheilostome brood chambers are described. Their classification is developed and the terminology involved is clarified. Major trends in the evolution of brood chambers are recognized. Different scenarios to explain the independent evolution of brooding in the gymnolaemate bryozoan orders Ctenostomata and Cheilostomata are discussed.

A hypothesis is proposed to explain the evolutionary success of Cheilostomata through the evolution of new reproductive patterns, which in turn, could result in the evolution of endotrophic larvae and extraembryonic nutrition. It is suggested that lecithotrophy, brooding and placentation independently evolved within the order several times, and that brooding compensated the decrease of descendants during the transition to the new type of oogenesis and eventually to lecithotrophy. Abiotic and biotic factors that could have influence on the Upper-Cretaceous radiation of Cheilostomata are considered. Stages in the evolution of the sexual reproduction within different orders of the phylum Bryozoa are hypothesized, and similar patterns in other groups of marine invertebrates are analyzed.

It is suggested that changes in oogenesis leading to the progressive accumulation of nutrients in the oocytes and their enlargement, finely resulted in the transition from planktotrophy to lecithotrophy (from the first to the second reproductive strategy). Other consequences of the shift in oogenesis were gradual decrease of the oocytes in number, transition to their consecutive (asynchronous) maturation, changes in ovarian structure and a shorter duration of embryogenesis. Within Cheilostomata lecithotrophy and parental care independently evolved in the families Aeteidae, Scrupariidae, Calloporidae, Tendridae,

Thalamoporellidae and Alysidiidae, and also in '*Carbasea*' *indivisa* and, possibly, Belluloporidae. In all cases the ancestors were among non-brooding bryozoans with planktotrophic larvae (Malacostega). Brooding evolved each time when lecithotrophy originated, compensating the decrease of the descendants in number. Later placentation has been acquired resulting in another shift in oogenesis in some taxa: thus, the fourth and the third reproductive strategies evolved. The shift from intracoelomic to intraovarial fertilization occurred, and fertilization finely became a trigger of vitellogenesis. Origin of the nurse-cells could be a result of the early syngamy, preventing the cytokinesis of the oogonium.

Cheilostome brooding chambers independently evolved several times from modified mural spines, kenozooids, outgrowths of the zooidal wall and, possibly, fertilization envelopes. Thus, suborder Neocheilostomina is considered as polyphyletic. In most cases the oecia of the ovicells are outgrowths of the zooidal wall, not kenozooids. Early evolution of the conventional oecia included curvature of the mural spines, their flattening, reduction in number as well as loss of joints and fusion. Further changes were intimately connected with the evolution of the complex frontal zooidal shields. Reconstruction of the oecial evolution confirmed that Lepraliomorpha is a polyphyletic group.

The major trends in the evolution of the ovicells were 1) integration of the zooids, forming the ovicell, 2) reduction of the ectooecial calcification, 3) reduction of the distal (ooecium-producing) zooid, 4) immersion of the brooding cavity, reduction of the ooecium and, as a result, origin of the internal brooding sacs, 5) changes in methods of the ovicell closure, and 6) origin of peristomial ovicells.

Evolution of Cheilostomata was accompanied by a progressive integration of the colonies that resulted in synchronized changes in the sexual structure of the colonies, including gametic maturation and spawning, evolution of sexual polymorphism and brooding morpho-functional modules (including ovicells). Origin of the sexual polymorphism and different variants of the colonial sexual structures occurred independently in different cheilostome groups.

Evolution of sexual reproduction in two gymnolaemate orders is characterized by many parallel trends. Also, viviparity accompanied by extraembryonic nutrition independently evolved in the stenolaemate order Cyclostomata and cheilostome family Epistomiidae.

Contents

Introduction.

Chapter 1. Reproductive strategies and patterns of Cheilostomata: general overview and comparative analysis.

1.1. History of studies on gymnolaemate gonado- and gametogenesis and fertilization.

1.2. Reproductive strategies and patterns of Bryozoa.

1.2.1. Sexual structure of colonies.

1.2.2. Position of gonads.

1.2.3. First reproductive pattern of Cheilostomata.

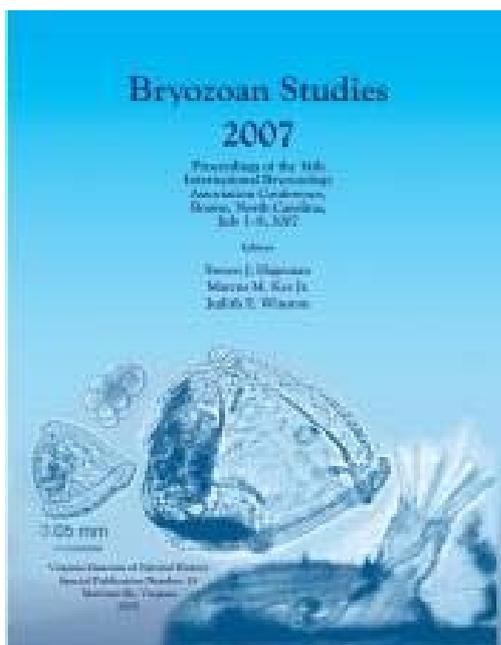
1.2.4. Second reproductive pattern of Cheilostomata.

1.2.5. Third reproductive pattern of Cheilostomata.

1.2.6. Fourth reproductive pattern of Cheilostomata.

- 1.2.7. Fifth reproductive pattern of Cheilostomata.
- 1.2.8. Fertilization.
- 1.3. Comparative analysis of reproductive patterns of Cheilostomata.
 - 1.3.1. Early oogenesis.
 - 1.3.2. Oogenesis in non-brooding species.
 - 1.3.3. Ovarian structure in brooding species.
 - 1.3.4. Comparative analysis of oogenesis in Cheilostomata.
 - 1.3.5. Placental brooding.
 - 1.3.6. Fertilization and its consequences.
 - 1.3.7. Oviposition.
 - 1.3.8. Evolution of intertentacular organ.
 - 1.3.9. Evolution of sexual zooidal polymorphism.
- Chapter 2. Brooding chambers in Cheilostomata: structure, development and evolution.
 - 2.1. History of studies on cheilostome brood chambers.
 - 2.2. Classification and terminology.
 - 2.3. Structure and development of brood chambers in Cheilostomata.
 - 2.3.1. Brood chambers in the family Calloporidae: basic type and diversity.
 - 2.3.2. Structure and development of ovicells in other cheilostome families.
 - 2.3.3. Internal brooding sacs.
 - 2.3.4. Bivalve ovicells.
 - 2.3.5. Acanthostegal brood chambers.
 - 2.4. Evolution of brooding in Cheilostomata.
 - 2.4.1. External membranous brooding sacs.
 - 2.4.2. Major hypotheses on the evolution of brooding in Cheilostomata.
 - 2.4.3. Early stages of ovicell evolution.
 - 2.4.4. Evolution of ovicells in the family Cribrilinidae.
 - 2.4.5. Evolution of ovicells in the genera *Monoporella* and *Macropora*.
 - 2.4.6. Acanthostegal brood chambers of Tendridae and ovicells of *Bellulopora*.
 - 2.4.7. Evolution of different variants of the complete ooecial fold and various types of the frontal shields.
 - 2.4.8. Major trends in the evolution of ovicells in Cheilostomata.
 - 2.4.9. Brood chambers of Scrupariidae, Thalamoporellidae and Alysidiidae.
- Chapter 3. Evolution of reproductive patterns in Cheilostomata: a hypothetical reconstruction.
 - 3.1. Changes in oogenesis as a major component of a transition towards new reproductive pattern and evolution of new larval type.
 - 3.1.1. Evolution of endotrophic larva as a result of changes in oogenesis.
 - 3.1.2. Other consequences of modification in oogenesis.
 - 3.2. Evolution of early fertilization and nurse-cells.
 - 3.3. Origin of placental brooding and evolution of fourth and third reproductive patterns.
 - 3.4. Causes, stages and consequences of transition to endotrophy in Cheilostomata.
 - 3.4.1. Early stages in evolution of new reproductive pattern.
 - 3.4.2. Fertilization and changes in oogenesis.
 - 3.4.3. Evolution of oviposition.
 - 3.4.4. Evolution of sexual reproduction in the bryozoan order Ctenostomata.
 - 3.4.5. External factors and Upper-Cretaceous diversification of Cheilostomata.
 - 3.4.6. Possible consequences of a transition to the new reproductive pattern.
 - 3.5. Evolution of sexual reproduction in Bryozoa.

Conclusions, Summary, References



Complete your set!
Order a copy of the
2007 IBA Meeting Proceedings Volume
"Bryozoa Studies 2007" \$55.00
Virginia Museum of Natural History,
Special Publication #15
<http://www.vmnh.net/store.cfm?itemID=63>

Featured Journal Cover

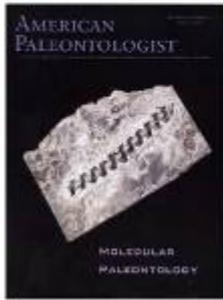
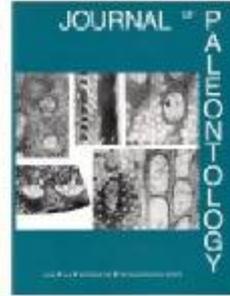
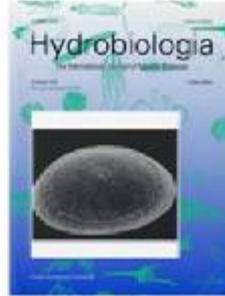
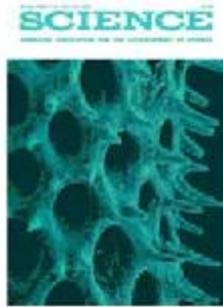
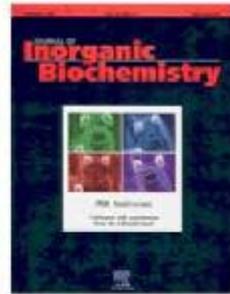
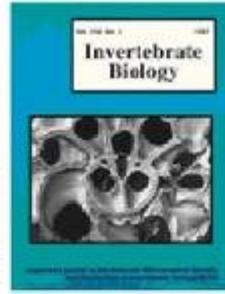
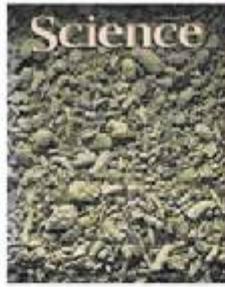
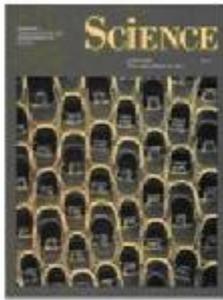
Editor's Note: This page continues a series highlighting the covers of journals or magazines featuring bryozoans.



ON THE COVER:) A new solitary entoproct found on a sponge, *Plakortis* sp., on a coral reef slope, Okinawa Island, Japan. This is the first report of a commensal entoproct from the Ryukyu Archipelago. In their article in this issue, T. Iseto et al. describe the new entoproct as *Loxosomella plakorticola* sp. nov. and provide details on its mode of attachment to the host, investigated through scanning and transmission electron microscopy. Photo by Dr. Tohru Iseto.

RELATED ARTICLE: Iseto, T. Sugiyama, N. Hirose, E. (2008) A new *Loxosomella* inhabiting a sponge from a reef slope in Okinawa Island, with special focus on foot structure (Entoprocta: Loxosomatidae). *Zool. Sci.* 25 : 1171-1178.

Previous covers in this series:



Upcoming Meetings and Conferences

Bryozoa

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

Australarwood 2011
8-9 March 2011
University of Canterbury Field Station at Kaikoura, New Zealand
catherine.reid@canterbury.ac.nz

Paleontology

American Geophysical Union
2010 Fall Meeting
13-17 December, 2010, San Francisco, CA.
(<http://www.agu.org/meetings/fm10/>)

American Geophysical Union
2010 Meetings of the America
8-13 August, 2010, Iguassu Falls, Brazil
<http://www.agu.org/meetings/ja10/>

The Palaeontological Association
54th Annual Meeting 2010, Ghent
17-20 December 2010, Ghent
http://www.palass.org/modules.php?name=annual_meeting&page=19

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

Geological Society of America Annual Meeting
31 October – 3 November 2010, Denver, Colorado USA
<http://www.geosociety.org/meetings/2010/>

Biology

Aquatic Invasive Species, 17th International Conference,
29 August – 2 September 2010, San Diego, CA USA
http://www.icaais.org/pdf/1st_annc_17th.pdf

12th International Coral Reef Symposium
June or July, 2012, Australia.

<http://coral.aoml.noaa.gov/pipermail/coral-list/2009-May/038801.html>

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
20-24 September, Nantes, France
<http://www.ices.dk/indexnofla.asp>

International Society of Limnology
August, 2010, Capetown, South Africa
<http://www.limnology.org/news/circular2008.pdf>

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.

- Bigey, Françoise P. 2010. Bryozoan diversity in the Devonian of France and bioevents. International Palaeontological Congress 3, London, June 28-July 3 2010 : 90
- Carter, M., Gordon, D.G. & Gardner, J.P.A. Polymorphism and vestigiality: comparative anatomy and morphology of bryozoan avicularia. *Zoomorphology*, 129: 195-211.
- Casacío, Silvio, Campbell Nelson, Paul Taylor, Miguel Griffin, and Dennis Gordon. 2010. West Antarctic Rift system: a possible New Zealand-Patagonia Oligocene paleobiogeographic link. *Ameghiniana (Rev. Assoc. Paleontol. Argentina)* 47(1): 129-132.
- Ernst, A. & Königshof, P. (2010): Bryozoan fauna and microfacies from a Middle Devonian reef complex (Western Sahara, Morocco). – *Abhandlungen der Senckenbergischen Naturforschenden Gesellschaft*, **568**: 1-91.
(<http://www.schweizerbart.de/publications/detail/artno/190956800>).
- Gordon, Dennis P. and Paul D. Taylor. 2010. New seamount- and ridge-associated cyclostome Bryozoa from New Zealand. *Zootaxa* 2533: 43-68.
- Lombardi, Chiara, Paul D. Taylor, and Silvia Cocito. 2010. Systematics of the Miocene-Recent bryozoan genus *Pentapora* (Cheilostomata). *Zoological Journal of the Linnean Society* 160: 17-39.
- Notteghem, Patrice. 2010. Évolution de la distribution de la Pectinatelle, *Pectinatella magnifica* (Leidy, 1851), Bryozoaire d'eau douce, en France et en Europe. *Rev. sci. Bourgogne-Nature*. 9/10-2009: 188-197.
- Ostrovsky A.N. 2009. *Lords of the abyss*. KMK Press, Moscow. 216 pp
- Ramalho, Laís, Guilherme Muricy, and Paul D. Taylor. 2008. Taxonomy of *Beania* Johnston, 1840 (Bryozoa, Flustrina) from Arraial Do Cabo, Rio De Janeiro State, Brazil. *Arquivos do Museu Nacional, Rio de Janeiro* 66(3-4): 499-508.
- Smith, A.M., Girvan, E. Understanding a bimineral bryozoan: skeletal structure and carbonate mineralogy of *Odontionella cyclops* (Foveolariidae: Cheilostomata: Bryozoa).

- Palaeogeography, Palaeoclimatology, Palaeoecology*, 289: 113-122, (2010) [DOI: 10.1016/j.palaeo.2010.02.022]
- Taylor, Paul D. 2010. Barremian bryozoans from Serre de Bleyton (Drôme, SE France). *Ann. Naturhist. Mus. Wien, Serie A.* 112: 673-700.
- Taylor, Paul D., Olev Vinn, Anatoliy Kudryavtsev, and J. William Schopf. 2010. Raman spectroscopic study of the mineral composition of cirratulid tubes (Annelida, Polychaeta). *Journal of Structural Biology* 171(3): 402-405.
- Tsyganov-Bodounov, A. & Skibinski, D.O.F., 2010. Confocal laser scanning microscopy method for in vivo bryozoan larvae identification. *Marine Biodiversity Records*, 3(-1).
- Vieira, Leandro M., Migotto, Alvaro E. & Winston, Judith E., 2010. *Marcusadorea*, a new genus of lepralioid bryozoan from warm waters. *Zootaxa*, 2348, 57-68.
- Vieira, Leandro M., Alvaro E. Migotto, and Judith E. Winston. 2010. Shallow-water species of *Beania* Johnston, 1840 (Bryozoa, Cheilostomata) from the tropical and subtropical Western Atlantic. *Zootaxa* 2550: 1-20.
- Vieira, Leandro M. and Dennis P. Gordon. 2010. *Eutaleola*, a replacement name for the homonym *Euteleia* (Bryozoa: Pasytheidae). *Zoologia* 27(4): 646-648.
- Wöss E.R., Zágoršek K. 2010. First records of freshwater Bryozoa (Phylactolaemata) from Kalimantan, island of Borneo, Indonesia. *Journal of the National Museum (Prague), Natural History Series* 179: 217-222.
- Zágoršek, Paul D. Taylor, and Radek Vodrážka. 2009. Coexistence of symbiotic hydroids (*Protulophila*) on serpulids and bryozoans in a cryptic habitat at Chrtníky (lower Turonian, Czech Republic). *Bulletin of Geosciences* 84(4): 631-636.
- Zatoń, Michał and Paul D. Taylor. 2009. Micoconchids (Tentaculita) from the Middle Jurassic of Poland. *Bulletin of Geosciences* 84(4): 653-660.