International Bryozoology Association

Bulletin

Volume 16 Number 3 December 2020

Copyright © 2019 by the International Bryozoology Association.

Antonietta Rosso, President
Catherine Reid, Secretary
Abigail Smith, Treasurer
ISSN 1941-7918

Comments regarding this Bulletin should be addressed to the IBA Secretary: catherine.reid@canterbury.ac.nz
Copies of the Bulletin are archived at the Natural History Museum London.

Further information at http://www.bryozoa.net/iba/index.html

FROM THE TREASURER

FINANCIAL REPORT, END OF YEAR 2020

The IBA operates over approximately 3-year financial periods. The current period began on 1 June 2019, at which time we had $1234 NZD in our accounts.
Since then we have received income of $11,810, which includes 30 donations, interest, fundraising, conference profits from Liberec and Melbourne, and a returned student travel grant. Council expenditure of $211 has included credit card processing fees and small local taxes.

Our balance in December 2020 is $12,833 NZD, which is currently equivalent to about 7500 Euro, 9100 USD, and 6750 GBP.

This is enough money for four or five good-sized student travel grants. It would be wonderful to be able to support more young people getting to IBA conferences – if you would like to donate to the IBA, please find the donation form on our website: http://bryozoa.net/iba/membership.html

Abby Smith

NEW MEMBERS

Juan López-Gappa - I am a researcher at the Argentine Museum of Natural Sciences (MACN), Buenos Aires, Argentina. My research interests are the taxonomy and ecology of marine Bryozoa of the southwest Atlantic, and the study of the fossil bryozoan faunas from the Paleogene and Neogene of Argentine Patagonia. lgappa@macn.gov.ar

NEWS FROM THE MEMBERSHIP

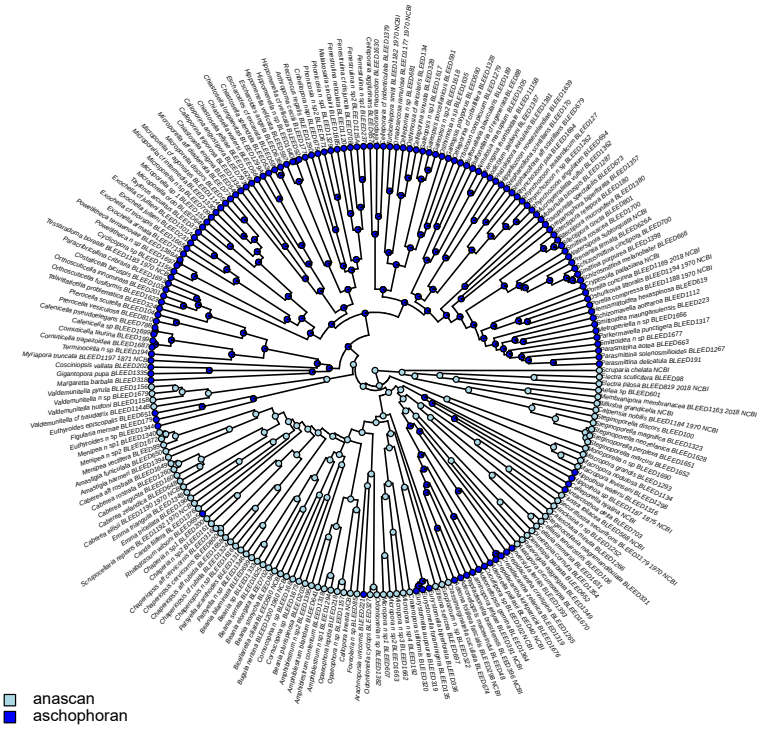
A very happy Kjetil Voje celebrating in the Botanical Gardens with the rest of the BLEEDers (only Emanuela's hand is visible, she can't wait to eat that delicious looking Norwegian dish)

Christmas Greetings from BLEED in Oslo – This has been a difficult and weird year, also for us at the Bryozoan Lab in Ecology, Evolution and Development (BLEED) at the Natural History Museum in Oslo. Luckily, Mali Ramsfjell has been able to work alone in the lab to continue SEM-ing cheilostomes, while other BLEEDers worked from home much of this year. We celebrated Kjetil Voje getting his ERC-Starting Grant (it's partially about cheilostomes) in the summer when we could gather safely outdoors.

Our museomics paper presented by Maja at the last IBA in Liberec "A molecular phylogeny of historical and contemporary specimens of an under-studied micro-invertebrate group" with Russell Orr as first author and our student Maja Sannum as second author and coauthors including Emanuela, Dennis, Hannah, Mathias (Obst), Mali and Abby and Lee Hsiang, is now published 10.1002/ece3.7042 and is Open Access. It has about 50 cheilostomes in it and the oldest sample is 150 years old (collected on the second FRAM expedition). There is hope for all those dried samples In collections!

We have also finally submitted the ms for our New Zealand tree (previewed in the figure) including 165 newly sequenced species, mostly collected by Abby, Hannah and Dennis and the crew at NIWA. To follow the NZ tree, many of you have been contacted by us (or will be so) as we are cleaning up our metadata for the "global" tree (probably about 650-750 taxa when done) that many you of have collected samples for. It has been (and will still be) a lot of work, but together, we can do this for IBA.

Merry Christmas and hoping for a much better 2021. Take care, stay safe and healthy from all of us in BLEED. – written by Lee Hsiang Liow



A sneak preview of a 200+ taxon cheilostome tree, mostly from New Zealand, with a "simple" binary trait plotted at the tips and reconstructed at the nodes.

Natural History Museum Publications in the Biodiversity Heritage Library - All titles published by the Natural History Museum have been brought together in one new collection in BHL. The list can be browsed here https://www.biodiversitylibrary.org/browse/collection/NHMPubs These include the pdf NHM catalogues of Gray, Busk, Gregory and also Brown's Tertiary NZ fauna.

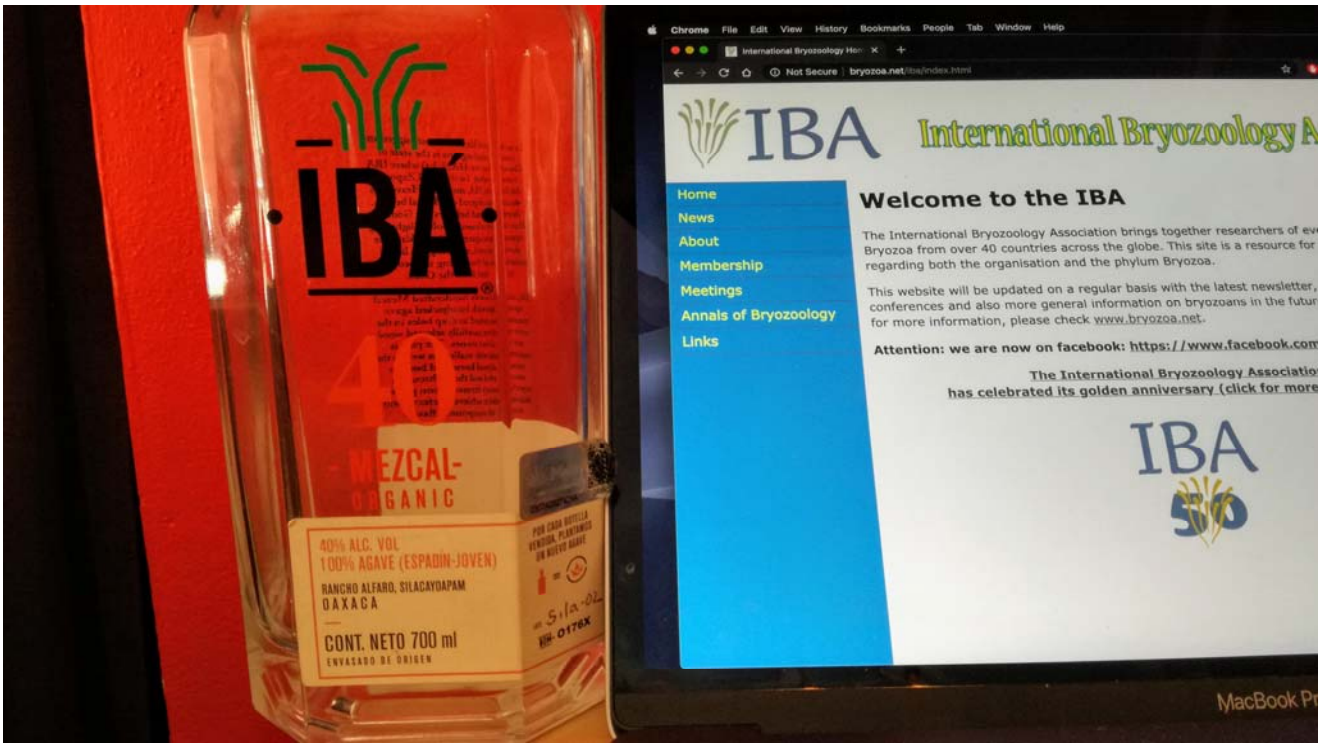
Interested in Reviewing Papers for the Journal of Paleontology? I was just appointed an Associate Editor for the Journal of Paleontology. That means I will be looking for paleontologists to review bryozoan manuscripts submitted to the journal. I would like to build a database of possible reviewers. So if you are interested, please send me a list of the taxonomic groups, geologic time periods, and/or geographic areas with which you are familiar. Thanks.
Marcus Key key@dickiinson.edu

Aaron O'Dea - I had lunch at a café in Bologna recently and noticed this bottle of Mezcal and its striking similarities to the IBA logo! Do you think they were inspired by our organisation?
Reading the back blurb suggests not:

"In the local Zapotec dialect, IBA, meaning Heaven, is where a legend of Mezcal begins. One legend believes the Gods of Heaven released a bolt of lightning upon an agave plant, cooking the pina (root), releasing the liquid inside and thus giving the people an elixir from the Gods."

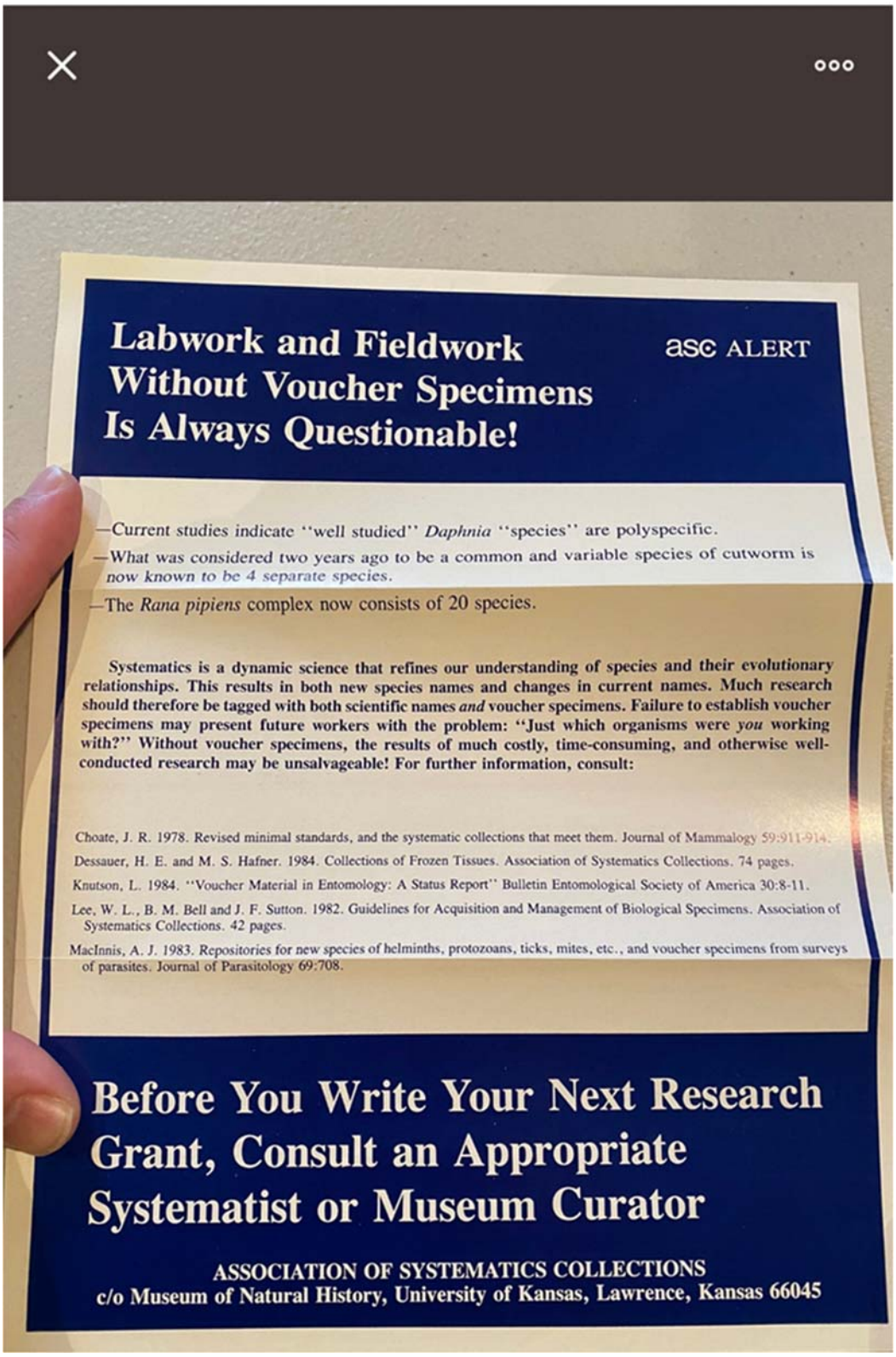
No mention of the subtle systematic problems in Ordovician trepostomes, the causes of the repeated and independent evolution of free-living cheilostomes, or the problem of gelatinous brain-blob phylactomates for power plant outlets. But perhaps after a glass of the stuff the drinker is enlightened?

Regards to all members,
Aaron



Dennis Gordon - the NIWA Marine Biodiversity group is going to promote this concept. Inter alia, Programme Leader Wendy Nelson will communicate it to the Royal Society of New Zealand, who have had a discussion group on biosystematics.

https://mobile.twitter.com/khelgen/status/12...



Labwork and Fieldwork Without Voucher Specimens Is Always Questionable!

asc ALERT

—Current studies indicate "well studied" *Daphnia* "species" are polyspecific.

—What was considered two years ago to be a common and variable species of cutworm is now known to be 4 separate species.

—The *Rana pipiens* complex now consists of 20 species.

Systematics is a dynamic science that refines our understanding of species and their evolutionary relationships. This results in both new species names and changes in current names. Much research should therefore be tagged with both scientific names *and* voucher specimens. Failure to establish voucher specimens may present future workers with the problem: "Just which organisms were *you* working with?" Without voucher specimens, the results of much costly, time-consuming, and otherwise well-conducted research may be unsalvageable! For further information, consult:

Choate, J. R. 1978. Revised minimal standards, and the systematic collections that meet them. Journal of Mammalogy 59:911-914.

Dessauer, H. E. and M. S. Hafner. 1984. Collections of Frozen Tissues. Association of Systematics Collections. 74 pages.

Knutson, L. 1984. "Voucher Material in Entomology: A Status Report" Bulletin Entomological Society of America 30:8-11.

Lee, W. L., B. M. Bell and J. F. Sutton. 1982. Guidelines for Acquisition and Management of Biological Specimens. Association of Systematics Collections. 42 pages.

MacInnis, A. J. 1983. Repositories for new species of helminths, protozoans, ticks, mites, etc., and voucher specimens from surveys of parasites. Journal of Parasitology 69:708.

Before You Write Your Next Research Grant, Consult an Appropriate Systematist or Museum Curator

ASSOCIATION OF SYSTEMATICS COLLECTIONS
c/o Museum of Natural History, University of Kansas, Lawrence, Kansas 66045

MEETING ANNOUNCEMENTS

~~AUSTRALARWOOD 10~~

~~Adventures in Southern Hemisphere Bryozoology~~

NOT THE AUSTRALARWOOD – A PROPOSAL

Given the difficulties with travel and New Zealand's closed borders, the proposal from Dunedin to host the Australarwood in early 2021 has been revised.

We are instead thinking about hosting the development of an IBA video resource -- where time zones and viruses don't matter. In fact, what we are proposing will provide a lasting record for bryozoologists of the future, and a helpful resource for new students and enthusiasts getting into the field.

We propose to set up **BryoTube: An On-Line Resource for Bryozoology**

This would be a closed YouTube channel, where only the people who have the link (members of the IBA) can find the videos. It is not intended to replace IBA in-person meetings, BryoTube is proposed to launch now because in-person gatherings are impossible, but we hope it will become complementary to in-person meetings.

We would invite various types of videos:

MasterClasses
In which experienced, renowned bryozoologists introduce and talk about their areas of specialisation – 10-30 minutes, recorded like an on-line lecture, using Zoom (or equivalent) and slides

Bryo-Bytes
In which bryozoologists from around the globe answer this question:
"What is the most important thing / the coolest thing about bryozoans?"
-- 1-2 mins, can use Zoom or camera, looking for enthusiasm

Bryo-Live
Fabulous videos of living bryozoans doing their thing
We could also accommodate slideshows of gorgeous bryozoans here as well
These don't have to be narrated but it would be good to have species identified if possible

Bryo-Tech
In which experts show us exactly how to do what they do (in the lab or field) – probably needs to be filmed by a second person with a digital camera – not a lecture, but a how-to video – could be quite a small thing

In each case we would ask for a short biography of the video author, to put in the comments.
It's possible that a feature of the IBA Bulletin might become "what's new on Bryo-Tube?"
I imagine that people could put this into their CV as a service, if not a peer-reviewed publication. Maybe as time goes by this kind of thing will become recognised…

We will launch the platform in February 2021, and in the meantime we would love to get feedback from the IBA about the idea and how to carry it out.

Abby Smith
(on behalf of the Dunedin bryo-research group)

IN MEMORIUM

A R D (TONY) STEBBING: 1942-2020

Tony Stebbing was born in Western Australia but the family returned to England in 1953, where Tony attended The King's School, Canterbury. Owing to family circumstances, he left school in 1958, without A-levels (necessary for university entrance). After working on the family farm for a time he gained employment at the MAFF Shellfish Laboratory, Burnham-on-Crouch, in southeast England. It was here that he developed the interest in marine biology that motivated the rest of his life. In 1964 he was admitted as a mature student to the University College of Swansea (now Swansea University), where the maritime location and professorial inclination encouraged Zoology courses to have a strong marine flavour. The exact circumstances of how he achieved this are unclear, but his case was argued by the then Professor of Zoology, Wyn Knight-Jones. That Knight-Jones himself had been on the staff of the Burnham laboratory in the immediate post-war years may well be significant. Certainly, the decision was vindicated when Tony graduated BSc with 1st class Honours in Zoology in 1967 (at a time when a 1st class degree was indeed a rare distinction).

I had been impressed by Tony's ability and was keen to take him on as a PhD student to follow my involvement with Bryozoa, and his interest took him to study the communities that developed on *Flustra foliacea* and on fucoid and laminarian algae. However, the chance discovery whilst visiting the Marine Biological Association (MBA) at Plymouth of the little-known *Rhabdopleura compacta* on disarticulated *Glycymeris* shells added a second theme to his studies. Tony was awarded his PhD in 1970, though I recall the external examiner questioning whether a thesis on a double theme was permissible! Building on contacts already established, Tony was awarded a post-doctoral fellowship at the Plymouth laboratory where he continued his research on algal-dwelling bryozoan communities. His publications include one in the Proceedings of the 2nd IBA Conference held at Durham in 1971. Studies on *Rhabdopleura* also continued, now in collaboration with eye-surgeon, poet and sometime zoologist Noel Dilly of St Thomas' Hospital, London.

Following his time at the MBA Tony was appointed to NERC's newly established Institute of Marine Environmental Research (IMER), fortuitously just opening in Plymouth, strictly on the understanding—so he told me—that he didn't work on Bryozoa! Instead, he turned his attention to hydroids, then much more easily cultured in the laboratory, using *Laomedea flexuosa* as his lab rat to investigate the effects of environmental contaminants on its growth, survival, and reproduction: numerous scientific papers were the result. One significant development from his studies was the discovery that very low doses of contaminant actually boosted growth, a phenomenon known as hormesis. This triggered an interest in growth processes that continued for the rest of his life. Also, his involvement

with hydroids led to his meeting Garth Chapman of Queen Elizabeth College, London, their collaboration resulting in the seminal paper *The modular habit—a recurring strategy* (1980). By the 1980s Tony was an internationally accepted authority on marine contaminants and toxicology, taking part in reviews for UNESCO, NERC, the International Council for the Exploration of the Seas (ICES) and the Bermuda government, and was a founding editorial member of the journal *Aquatic Toxicology*; he was also on the editorial panel of *Marine environmental research.* Then, in the 1990s he was first Manager and then Scientific Coordinator of NERC's Land-Ocean Interactive Study (LOIS). Sadly, at about this time Tony became seriously ill and retired in 1998, at the end of the LOIS.

After retirement, Tony continued as an Honorary Fellow at Plymouth Marine Laboratory (PML) into which IMER had been subsumed. He became first Director of, and later advisor to, the Centre for Climatic Change Forecasting and, among other interests, President of the Cornwall Wildlife Trust (1995–2002) where he was instrumental in the establishment of Looe Island as a nature reserve. The shallow, kelp-filled channel inshore of Looe Island, which is wadable at low water springs, shelters a rich marine fauna, including many bryozoans. Later, toward the end of his life, Tony developed protracted illness and finally succumbed to Covid-19 in May 2020. Fortunately, by then he had completed his magnum opus, *A cybernetic view of biological growth: the Maia hypothesis* published by Cambridge University Press (2011).

Tony was much more than a brilliant and highly respected biologist. He was generous, modest, and good company. Obviously I remember his time at Swansea best, though we met up regularly—usually for a pub lunch—whenever I visited Plymouth. I particularly recall our Zoology field trips to the west of Ireland in the late '60s, using facilities at University College Galway and their field station at Carna, where long days of marine biology were enlivened by the company of the inimitable Pádraig Ó Céidigh. Tony will be greatly missed by his many friends and colleagues; he is survived by his wife, Valerie, to whom I am indebted for her assistance with this obituary.

John Ryland

Selected publications

Stebbing A R D & Ryland J S. 1968. *Cribrilina punctata* (Hassall: 1841): application for designation under the plenary powers of a neotype (Polyzoa). *Bulletin of Zoological Nomenclature*, **25**: 62–64.

Stebbing A R D. 1970. Studies on *Rhabdopleura* and the Bryozoa. PhD thesis, University of Wales.

Stebbing A R D. 1971. The epizoic fauna of *Flustra foliacea* (Bryozoa). *Journal of the Marine Biological Association of the United Kingdom*. **51**: 281–300.

Stebbing A R D. 1971. Growth of *Flustra foliacea* (Bryozoa). *Marine Biology* **5**: 205–212.

Stebbing A R D & Ryland J S. 1971. Two little known bryozoans from the West of Ireland. *Irish Naturalist Journal*. **17**: 65–70.

Stebbing. A R D & Ryland J S. 1971. Settlement and orientated growth in epiphytic and epizoic bryozoans. *Proceedings of the 4th European Marine Biology Symposium*, 105–123.

Stebbing A R D. 1972. Preferential settlement of a bryozoan and serpulid larvae on the younger parts of *Laminaria* fronds. *Journal of the Marine Biological Association of the United Kingdom*. **52**: 765–772.

Stebbing A R D. 1973. Observations on colony overgrowth and spatial competition. *Proceedings of the 2nd International Conference on Bryozoa,* Durham: International Bryozoology Association, 173–183.

Stebbing A R D. 1973. Competition for space between the epiphytes of *Fucus serratus* L. *Journal of the Marine Biological Association of the United Kingdom.* **53**: 247–261.

Stebbing A R D & Ryland J S. 1973. *Flustra foliacea* and its community of epizoites. *Proceedings of the Challenger Society*. **4**: 164–165

Chapman G & Stebbing A R D. 1980. The modular habit—a recurring strategy. In: Tardent P & Tardent R, eds) *Developmental and cellular biology of coelenterates,* 157–162.

Stebbing A R D. 2011. *A cybernetic view of biological growth: the Maia hypothesis.* Cambridge University Press, 442 pp.

ANNALS OF BRYOZOOLOGY 7: CALL FOR PAPERS.

Annals of Bryozoology was first published in 2002 and to date six volumes have appeared. Volume 7 is in preparation and two contributions have been submitted. The editors, Patrick Wyse Jackson and Mary Spencer Jones, would be most interested to receive offers of further papers that could be included in this volume. It is anticipated that papers will be published online as soon as possible on the IBA webpage in a pre-publication electronic format and that the printed volume will appear in 2021 as early as possible. Papers of a historical nature, reviews of techniques, reviews of taxonomy, collection details etc are welcome. Please see the IBA webpage for past volumes which will give a flavour of contributions. Patrick and Mary are more than happy to discuss potential papers with you.

Patrick Wyse Jackson
Mary Spencer Jones

RECENT PUBLICATIONS

The following list includes bryozoan related works either published since the previous issue of the *IBA Bulletin* as sent in to the editor. As always, members are encouraged to support future compilations by continuing to send complete citations to the IBA secretary at any time. Accuracy of your citation is assured if sent in bibliographic format, if re-drafting is required by the editor accuracy is not guaranteed! Reprints will be gratefully received by the IBA archivist, Mary Spencer Jones.

Gordon, D. P., Sutherland, J. E., Perez, B. A., Waeschenbach, A., Taylor, P. D., & Di Martino, E. (2020). The bryozoan genus *Conopeum* (Electridae) in New Zealand, with description of a new species and discussion of the morphological and genetic characters of *Conopeum seurati* (Canu, 1928). Journal of Natural History, 54(15-16), 947-970.

Harmelin J.-G. 2020. The Mediterranean species of *Hornera* Lamouroux, 1821 (Bryozoa, Cyclostomata): reassessment of *H. frondiculata* (Lamarck, 1816) and description of *H. mediterranea* n. sp. Zoosystema 42 (27): 525-545. https://doi.org/10.5252/zoosystema2020v42a27. http://zoosystema.com/42/27 http://sciencepress.mnhn.fr/sites/default/files/articles/pdf/zoosystema2020v42a27.pdf

Key, M. M., Jr., Smith, A.M., Phillips, N, I., Forrester., J.L. Effect of removal of organic material on stable isotope values in skeletal carbonate from taxonomic groups with complex mineralogies. Rapid Communications in Mass Spectrometry 34: e8901. Doi: 10.1002/rcm.8901.

Mello, H., Smith A.M., Wood, A.C.L., Tidey, E. 2020. Enhanced biodiversity and abundance of benthic invertebrate macrofaunal in a New Zealand marine reserve. Aquatic Conservation: Marine and Freshwater Ecosystems 30: 1854-1867

Schwaha T, Grischenko AV, Melnik VP. 2020. Morphology of ctenostome bryozoans: 2. *Haywardozoon pacificum*, with implications of the phylogenetic position of the genus. Journal of Morphology. 2020;1–10. https://doi.org/10.1002/jmor.21272

Suárez Andrés, J. S., Sendino, C., & Wilson, M. A. (2020). Life in a living substrate: Modular endosymbionts of bryozoan hosts from the Devonian of Spain. Palaeogeography, Palaeoclimatology, Palaeoecology, 559, 109897.

Treibergs, K. A., & Giribet, G. (2020). Differential Gene Expression Between Polymorphic Zooids of the Marine Bryozoan *Bugulina stolonifera.* G3: Genes, Genomes, Genetics, 10(10), 3843-3857.