

Annals of Bryozoology 4

**Annals of Bryozoology 4:
aspects of the history of research on
bryozoans**

Edited by
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&
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International Bryozoology Association
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This volume is dedicated with affection to Tim Wood,
a recent long-term Secretary of the International Bryozoology Association

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Cover illustrations

Front: Septoporidae (Order Fenestrata) from the Mississippian and Pennsylvanian (Carboniferous) of Illinois, USA. Plate 64 from E.O. Ulrich (1890) Palaeozoic Bryozoa. *Illinois Geological Survey* 8: 283–688.

Back: Portion of a plate from Alicide d'Orbigny's *Paléontologie française* (1850–1852) showing the Cretaceous bryozoan *Retepora royana*.

Background: Structure of *Flustra* from Robert Hooke's *Micrographia* (1665).

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PREFACE

Bryozoans are complex colonial invertebrates, that have a long geological range of nearly 500 million years, and which are today still found in most marine and freshwater ecosystems.

This volume contains a collection of twelve papers that reflect the diversity of topics in the study of living and fossil Bryozoa, as well as the different backgrounds and interests of bryozoologists themselves. It is the fourth in a series that began publication in 2002, and with this current volume the total length extends to just over 1,300 pages.

A number of papers published here were presented at the conference of the International Bryozoology Association held in Catania in 2013. The editors gratefully acknowledge the support of the conference-host Antonietta Rosso, and all her colleagues in allowing these papers to appear here. The *Annals of Bryozoology* series depends on the scholarship of its contributors and they did not disappoint in delivering a cache of high quality papers for this volume.

The papers in this volume cover a diversity of topics from biography and assessments of research contributions; curation, museum collections and conservation methods; cruises and collecting; utilization of collections for research on climate change; and bryozoological illustration.

Collecting and documentation has been a long-time passion for many naturalists, and their findings have continued to fascinate both scientists and members of the general public for centuries. The paintings by the Vienna-based artist Giorgio Liberale, executed in the 1560s as part of a commission for Ferdinand II, Archduke of Austria, show two modern cyclostome bryozoans. The background to this commission and the work itself is described by Xenia Ostrovskaya and her father Andrew Ostrovsky.

Much research material has been collected since the rise in oceanographic research in the mid-nineteenth century. Nearly every European power, whether they had a marine coastline or not, promoted marine research expeditions. The Krusenstern Expedition sailed from 1803 to 1806 and was sponsored by authorities in Russia. The significance of the several bryozoan genera named that are based on material collected on this cruise is documented by Abigail Smith and her co-authors. Bryozoology in South Africa has been advanced by numerous such marine expeditions and these are discussed by Melissa Boonzaaier and her co-authors. They note that while a large number of taxa are known, the influence of Eurocentric taxonomic determinations mean that much research is required to adequately document the true bryozoan diversity from these southern oceans.

Many museum collections have suffered calamitous loss or complete destruction during times of war: a suite of important fossil marine reptiles was lost during World War II when Bristol was bombed. At much the same time the Geologische Staatsinstitut in Hamburg was consumed by fire after intensive bombing raids over Berlin, and the large bryozoan collection assembled by Ehrhard Voigt was destroyed, or at least thought to have been. Thanks to the painstaking work of Silviu Martha and colleagues in the Senckenberg

Institute a number of Voigt's early type specimens have been identified and the story of their dispersal unraveled. On occasion the location of a specific collection is unknown and only comes to light thanks to chance or following a systematic search through a museum holding. The celebrated Russian bryozoologist German Kluge is remembered for his considerable output, and thanks to the diligence of Andrei Grischenko, an important collection of Kluge's bryozoans has been identified in Perm.

The collections of the Natural History Museum, London are perhaps globally unrivalled, and reexamination by Helena Fortunato and Mary Spencer Jones of collections of the rather common bryozoan *Flustra* made over the last 200 years, have shown that these specimens afford the opportunity to document changes in climate during that time. Consuelo Sendino has documented the methodologies utilized by William Dickson Lang when he prepared some of his bryozoans mounted in wooden cavity slides. His use of a blue pigment, presumably to get an even surface tone prior to photographing the material, has resulted in some important surface features becoming obscured, and this reduces the ability of a modern taxonomist to reevaluate the material adequately. Modern cleaning methods have been applied to specimens with encouraging results.

The life and work of a number of naturalists are closely documented in this volume. Two English-born zoologists from very different educational backgrounds both found employment in Ireland for a time, and while there conducted surveys of the modern marine bryozoans. James Edwin Duerden was a mill-worker in Burnley who was awarded a scholarship in London and ultimately became a professor of Zoology in South Africa. His research interests changed as his career progressed: he was an expert on fossil and living corals, ostriches, and ultimately wool. His contemporary Albert Russell Nichols was a Mathematics student in Cambridge who spent his whole career in the National Museum of Ireland where he was primarily responsible for the development and curation of the collections of molluscs, echinoderms and bryozoans. In the US Benjamin Harrison Grave carved out a successful academic career. He was a dedicated teacher, and published on a diverse range of zoological topics including in bryozoology and ornithology. During the mid-twentieth century the pioneering freshwater and later marine bryozoologist Mary Dora Rogick overcame social and family difficulties to follow a similar academic path by dint of very hard work, allied to a sound scientific intellect.

The contributions of Jeremy Jackson to marine science are legendary, and in a short paper his colleague Alan Cheetham discusses his contributions to the testing of the evolutionary mechanism Punctuated Equilibrium.

We dedicate this volume to Tim Wood, a long-time Secretary of the International Bryozoology Association and currently President-elect, and the leading expert on freshwater bryozoans.

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& Mary Spencer Jones (Natural History Museum, London)

28th November 2014