

Coelenterate Biology 2003

Developments in Hydrobiology 178

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K. Martens

Coelenterate Biology 2003

Trends in Research on Cnidaria and Ctenophora

Proceedings of the 7th International Conference on Coelenterate
Biology, held at the University of Kansas, Lawrence, Kansas,
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Introduction and acknowledgements

This volume is organized, as was **the Seventh International Conference on Coelenterate Biology**, around six themes. All but one of the contributions on neurobiology were part of a symposium on that subject. Some of the contributions on Reproduction, Development, and Life Cycles were part of the symposium on Axial Patterning. Pioneers in Coelenterate Biology was the subject of a special session. Contributed papers organized around the theme of Ecology included those on Coral Reefs, which constituted the 2003 North American meeting of the International Society for Reef Studies (ISRS). The other two themes were Cnidaria, and Taxonomy and Systematics.

Three of the five presentations made in the session on Pioneers in Coelenterate Biology are published here. They provide a wonderful glimpse into the world of our science from the mid-19th century to the mid-20th century. Mary Arai describes the career of her countryman Fraser. Dale Calder's account shows that having an ICCB7 in the middle of North America is not so strange, following as it does in the tradition of Nutting. And George Mackie's vindication of Louis Agassiz's observations provide an ideal segue to the Symposium on the Neuroanatomy and Neurophysiology of Coelenterates.

The symposium has its own introduction, which summarizes the contents of the 15 papers presented in it, and highlights the variability in coelenterates that makes them so interesting and challenging to study. The *sine qua non* of cnidarians, cnidaria, continue to provide grist for our research mill. A theme of two of the papers about them in this volume is also variability – its extent in species and individuals. Other techniques applied to sorting out cnidarians and their relationships constitute the section on Taxonomy and Systematics. They range from x-rays to molecules, and show there is no substitute for the time-honored and time-consuming practice of detailed observation. Five of the 13 presentations in the symposium, plus one that one was not given as

part of the Axial Patterning symposium, constitute that section. Papers deal with pattern formation both within individuals and in the colonies that many of our marvelously varied animals form. Attention to detail is also evident in the closely-related section on Reproduction, Development, and Life Cycles. All four classes of Cnidaria are represented among those 11 papers; three of them deal with the seldom-studied Cubozoa. Martindale's plenary address and Boero's banquet talk (neither of which is published in this volume) converged on the idea that cnidarians are, deep down, bilateral and triploblastic, a theme that was echoed in some of developmental papers in the volume.

Of the presentations on Coral Reefs that extended through much of a day and a half, eight are published here. As is true of reefs themselves, the theme of variability is very much in evidence. As a sad sign of the times, half of them deal with effects of stress in the animals or detecting stress in the environment. The rest of the papers concerning Ecology run the gamut from freshwater to the deep sea, and include the only plenary address in the volume, Haddock's reflections on research on planktonic coelenterates.

The organizers of ICCB7 were repeatedly challenged about using the term 'coelenterate.' The reason for doing so is two-fold: for continuity of a tradition (see history below) and for inclusiveness, as I have just used it, to cover ctenophores (about which there were several presentations) as well as cnidarians.

Narrative of conference and acknowledgments

ICCB7 was held 6–11 July 2003 at the University of Kansas (KU), Lawrence, Kansas, USA. It began with a reception the evening of Sunday, 6 July, at the University of Kansas Natural History Museum. Sessions were held all day Monday, Tuesday, and Thursday, and the morning of Fri-

day the 11th. The meeting was followed by two days of workshops. In addition to the welcome reception, social events included a Kansas barbeque Tuesday evening and a banquet Thursday evening. Field trips were held on Wednesday.

The 197 registrants presented 139 oral presentations and 67 posters. A plenary talk was given each meeting day. They were, in sequence, 'Glowing gelata: bioluminescence and biodiversity of deep-sea ctenophores and cnidarians' by Steven H. D. Haddock, 'Reefs and organisms change but the play goes on: a billion years of reef evolution' by George D. Stanley, Jr., 'Cnidarians: degenerate triploblastic bilateralians' by Mark Q. Martindale (with co-authors Kevin Pang, Pat Burton, and John R. Finnerty), and 'The symbiotic condition: role of algae in cnidarian hosts' by Gisle Muller-Parker. The banquet talk presented, virtually, by Ferdinando Boero was 'Born to be triploblastic – and bilateral.' The symposium 'Neurobiology,' organized by Jane Westfall, was held Monday and Tuesday, and the symposium 'Axial patterning,' organized by Paulyn Cartwright, was held Thursday. The special session 'Pioneers in Coelenterate Biology' was held Friday morning.

The Organizing Committee of ICCB7 consisted of Daphne G. Fautin (Chair) (KU), Ann F. Budd (University of Iowa), Robert W. Bud-demeier (Kansas Geological Survey), Matthew Buechner (KU), Paulyn Cartwright (KU), Marymegan Daly (KU), Paul Enos (KU), Jane Westfall (Kansas State University), and Charles Wytenbach (KU).

The major financial contributors to ICCB7 were the US National Science Foundation, which provided grants to Daphne Fautin (DEB99-78106 and a supplement to it), Jane Westfall (IBN02-44459), and Paulyn Cartwright (333110), and Allen Press (which is located in Lawrence). Units of KU that contributed financially and in kind to ICCB7 were the Center for Research, Inc., the Department of Ecology and Evolutionary Biology, the Department of Geology, the Department of Molecular Biosciences, the Kansas Geological Survey, KU Bookstores, and the Natural History Museum and Biodiversity Research Center. Other contributors and sponsors were Eastman Kodak Company Scientific Imaging Systems, SpaceSaver/Delta Designs, Hirschfeld Instruments, Fisher Scientific, VWR International, Nalge Nunc Interna-

tional, ISRS, Free State Brewery (Lawrence), Ray's Liquor, HyVee, Office Depot, and H. Stevan Logsdon, wildlife artist.

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Proceedings

In addition to the contribution of registration fees to the production of this volume, US NSF grant IBN02-44459 to Jane Westfall helped pay for publication of papers that were part of the symposium 'Neuroanatomy and Neurophysiology of Coelenterates.' Ganesh Shankaran as well as students employed through Sloan Foundation funds awarded through the Census of Marine Life helped with the logistics of compiling the volume manuscripts.

Previous ICCBs and resulting volumes

3–4 March 1965 – The Zoological Society of London, UK

Organizing Committee: W. J. Rees (chair), Sir Fredrick Russell, C. F. A. Pantin, Cadet Hand, D. M. Ross.

Number of Attendees: 27

Proceedings: Rees, W. J. (ed.), 1966. *The Cnidaria and their Evolution*. Symposia of the Zoological Society of London 16. London: Academic Press. 449 pages.

16–19 October 1972 – Shirahama and Kushimoto, Japan

Organizing Committee: Tohru Uchida (chair), A. Brinckmann-Voss, G. O. Mackie, W. A. Müller, D. M. Chapman, S. Kawaguti, H. R. Randall, C. Edwards, H. Thiel, L. M. Passano, M. Tamasige, R. Weill, M. N. Arai, E. A. Robson, E. Harada, M. Yoshida, D. Ross

Number of Attendees: 46

Proceedings: Tokioka, Takasi (ed.), 1973. *Recent Trends in Research in Coelenterate Biology*. Publications of the Seto Marine Biological Laboratory 20. 793 pages.

10–13 May 1976 – University of Victoria, Victoria, BC, Canada

Organizing Committee: George O. Mackie (chair), Mary Needler Arai, Donald M. Ross

Number of Attendees: 139

Proceedings: Mackie, G. O. (ed.), 1976. *Coelenterate Ecology and Behavior*. New York: Plenum Press. 744 pages.

4–8 September 1979 – Interlaken, Switzerland

Organizing Committee: Pierre Tardent, Ruth Tardent (co-chairs), staff members and students of the Zoological Institute of the University of Zürich

Number of Attendees: 109

Proceedings: Tardent, P. & R. Tardent (eds), 1980. *Developmental and Cellular Biology of Coelenterates*. Amsterdam: Elsevier/North Holland Biomedical Press. 499 pages.

10–14 July 1989 – University of Southampton, UK

Organizing Committee: R. G. Hughes (chair), P. F. S. Cornelius, E. A. Robson, M. A. Carter, J. A. E. B. Hubbard, R. B. Williams

Number of Attendees: 250

Proceedings: Williams, R. B., P. F. S. Cornelius, R. G. Hughes & E. A. Robson (eds), 1991. *Coelenterate Biology: Recent Research on Cnidaria and Ctenophora*. Boston: Kluwer Academic Publishers. 742 pages.

16–21 July 1995 – The Leeuwenhorst Conference Center, Noordwijkerhout, The Netherlands

Organizing Committee: S. van der Spoel (chair), R. M. L. Ates, J. Bleeker, J. C. den Hartog, J. H. M. Kouwenberg, A. C. Pierrot-Bults, P. H. Schalk, R. W. M. van Soest, H. W. van der Veer, J. Vermeulen

Number of Attendees: 130

Proceedings: den Hartog, J. C., L. P. van Ofwegen & S. van der Spoel (eds), 1997. *Proceedings of the 6th International Conference on Coelenterate Biology*. Leiden, The Netherlands: Nationaal Natuurhistorisch Museum. 542 pages.