



**Allen G. Collins**

Zoologist, National Systematics Lab of NOAA's Fisheries Service  
Curatorial Responsibilities for Medusae & Glass Sponges  
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## Curriculum Vitae

(last update: Feb, 2008)

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### EDUCATION

#### University of California at Berkeley

Department of Integrative Biology

Dissertation Title: The Early History of Animals

Major Professor: James W. Valentine

Degree and Date: PhD, 1999

#### Marine Biological Laboratory, Woods Hole

Molecular Evolution Workshop

Summer 1995

#### Amherst College

Majors: Mathematics and Economics

Degree and Date: BA, 1987

### PEER-REVIEWED PAPERS

40. Evans NM, Lindner A, Raikova EV, Collins AG & P Cartwright. 2008. Phylogenetic placement of the enigmatic parasite, *Polypodium hydriforme*, within the Phylum Cnidaria. *BMC Evolutionary Biology* 8:139.
39. Collins AG Bentlage B, Lindner A, Lindsay D, Haddock D, Jarms G, Norenburg JL, Jankowski T & P Cartwright (in press) Phylogenetics of Trachylina (Cnidaria: Hydrozoa) with new insights on the evolution of some problematical taxa. *Journal of the Marine Biological Association of the UK*.
38. Kilvington CC, Collins AG, Kowevich IA, Pyataeva SV & EA Robson (in press) *Protohydra leuckarti* near Plymouth. *Journal of the Marine Biological Association of the UK*.
37. Dohrmann M, Janussen D, Reitner J, Collins AG & G Woerheide (in press) Phylogeny and Evolution of Glass Sponges (Porifera, Hexactinellida). *Systematic Biology*.
36. Lewis C, Kubota S, Migotto AE & AG Collins (in press) Clarification of Development, Morphology, and Sexual Behaviour in *Carybdea sivickisi* (Cnidaria: Cubozoa) in Seto, Wakayama, Japan. *Proceedings of the Seto Marine Biological Laboratory*.
35. Tabachnick KR & AG Collins. 2008. Glass sponges (Porifera, Hexactinellida) of the northern Mid-Atlantic Ridge. *Marine Biology Research* 4: 25-47.
34. Jankowski T, Collins AG & R Campbell. 2008. Global diversity of inland water cnidarians. *Hydrobiologia* 595: 35-40.
33. Cartwright P, Halgedahl SL, Hendricks JR, Jarrard RD, Marques AC, Collins AG & BS Lieberman. 2007. Exceptionally Preserved Jellyfishes from the Middle Cambrian. *PLOS One* 2: 1-7.
32. Daly M, Brugler MR, Cartwright P, Collins AG, Dawson MN, Fautin DG, France SC, McFadden CS, Opresko DM, Rodriguez E, Roman SL & JL Stake. 2007. The phylum Cnidaria: A review of phylogenetic patterns and diversity 300 years after Linnaeus. *Zootaxa* 1668: 127-182.  
Detailed authorship within:  
Collins AG. Cubozoa, pp. 151-152.  
Cartwright P & AG Collins. Hydrozoa, pp. 153-168.  
Collins AG. Staurozoa, pp. 171-173.
31. Cartwright P & AG Collins. 2007. Fossils and phylogenies: Integrating multiple lines of evidence to investigate the origin of early major metazoan lineages. *Integrative and Comparative Biology* 47: 744-751.
30. Lutz RA, Collins AG, Annis ER, Reed AJ, Bennett K, Halanych KM & RC Vrijenhoek. 2006. Stauromedusan populations inhabiting deep-sea hydrothermal vents along the southern East Pacific Rise. *Cahiers de Biologie Marine* 47: 409-413.

29. Medina M, Collins AG, Takaoka TL, Kuehl JV & JL Boore. 2006. Naked Corals: Skeleton Loss in Scleractinia. *Proceedings of the National Academy of Sciences, USA* 103: 9096-9100.
28. Van Iten H, De Moraes Leme J, Simoes MG, Marques AC & AG Collins. 2006. Reassessment of the phylogenetic position of conulariids (?Ediacaran-Triassic) within the subphylum Medusozoa (phylum Cnidaria). *Journal of Systematic Palaeontology* 4: 109-118.
27. Collins AG, Schuchert P, Marques AC, Jankowski T, Medina M & B Schierwater. 2006. Medusozoan phylogeny and character evolution clarified by new large and small subunit rDNA data and an assessment of the utility of phylogenetic mixture models. *Systematic Biology* 55: 97-115.
26. Collins AG, Bentlage B, Matsumoto GI, Haddock SHD, Osborn K & B Schierwater. 2005. Solution to the phylogenetic enigma of *Tetraplatia*, a worm-shaped cnidarian. *Biology Letters* 2: 120-124.
25. Collins AG, Cartwright P, McFadden CS & B Schierwater. 2005. Phylogenetic context and basal metazoan model systems. *Integrative and Comparative Biology* 45: 585-594.
24. Tomassetti P, Voigt O, Collins AG, Porrello S, Pearse VB & B Schierwater. 2005. Placozoans (*Trichoplax adhaerens* Schulze, 1883) in the Mediterranean Sea. *Meiofauna Marina* 14: 5-7.
23. Collins AG & M Daly. 2005. A new deepwater species of Stauromedusae, *Lucernaria janetae* (Cnidaria, Staurozoa, Lucernariidae), and a preliminary investigation of stauromedusan phylogeny based on nuclear and mitochondrial rDNA data. *Biological Bulletin* 208: 221-230.
22. Collins AG, Winkelmann S, Hadrys H & B Schierwater. 2005. Phylogeny of Capitata (Cnidaria, Hydrozoa) and Corynidae in light of mitochondrial 16S rDNA data. *Zoologica Scripta* 34: 91-99.
21. Voigt O, Collins AG, Pearse VB, Pearse JS, Hadrys H & B Schierwater. 2004. Placozoa – no longer a phylum of one. *Current Biology* 14: R944-R945.
20. Silberman JD, Collins AG, Gershwin L, Johnson PJ & AJ Roger. 2004. The ellobiopsis *Thalassomyces* is an alveolate. *Journal of Eukaryotic Microbiology* 51: 246-252.
19. Marques AC & AG Collins. 2004. Cladistic analysis of Medusozoa and cnidarian evolution. *Invertebrate Biology*. 123(1): 23-42.
18. Waggoner BM & AG Collins. 2004. *Reductio ad absurdum*: Testing the evolutionary relationships of Ediacaran and Paleozoic problematic fossils using molecular divergence dates. *Journal of Paleontology* 78: 51-61.
17. Medina M, Collins AG, Taylor J, Valentine JW, Lipps JH, Amaral-Zettler L & ML Sogin. 2003. Phylogeny of Opisthokonta and the evolution of multicellularity and complexity in Fungi and Metazoa. *International Journal of Astrobiology* 2: 203-211.
16. Medina M & AG Collins. 2003. The role of molecules in understanding molluscan evolution. pp. 14-44. In: *Molecular Systematics and phylogeography of Mollusks*. Lydeard C & DR Lindberg, eds., Smithsonian Institution Press, Washington DC.
15. Winkel KD, Hawdon G, Fenner P, Gershwin L, Collins AG & J Tibballs. 2003. Jellyfish antivenoms: past, present and future. *Journal of Toxicology–Toxin Reviews* 22: 115-127.
14. Roy K, Collins AG, Becker BJ & E Begovic. 2003. Anthropogenic impacts and decline in body size of rocky intertidal gastropods in southern California. *Ecology Letters* 6: 205-211.
13. Collins AG. 2002. Phylogeny of Medusozoa and the evolution of cnidarian life cycles. *Journal of Evolutionary Biology* 15: 418-432.
12. Castilla JC, Collins AG, Meyer C, Guíñez PR & DR Lindberg. 2002. Recent Introduction of the ecologically dominant tunicate *Pyura praeputialis* (Urochordata, Pyuridae) to Antofagasta, northern Chile. *Molecular Ecology* 11: 1579-1584.
11. Gershwin L & AG Collins. 2002. A preliminary phylogeny of Pelagiidae (Cnidaria, Scyphozoa), with new observations of *Chrysaora colorata* comb. nov. *Journal of Natural History* 36: 127-148.
10. Collins AG & JW Valentine. 2001. Defining phyla: evolutionary pathways to metazoan body plans. *Evolution & Development* 3(6): 432-442.
9. Medina M, Collins AG, Silberman JD & ML Sogin. 2001. Evaluating hypotheses of basal animal phylogeny using complete sequences of large and small subunit rRNA. *Proceedings of the National Academy of Sciences, USA* 98: 9707-9712.
8. Hamilton H, Caballero S, Collins AG & RL Brownell, Jr. 2001. Evolution of river dolphins. *Proceedings of the Royal Society: Biological Sciences* 268: 549-556.
7. Collins AG. 2000. Towards understanding the phylogenetic history of Hydrozoa: hypothesis testing with 18S gene sequence data. *Scientia Marina* 64 (Sup. 1): 5-22.

6. Collins AG, Lipps JH & JW Valentine. 2000. Modern mucociliary gliding trails and the body plans of Neoproterozoic trace-makers. *Paleobiology* 26: 47-55.
5. Valentine JW & AG Collins. 2000. The significance of moulting in ecdysozoan evolution. *Evolution & Development* 2(3): 152-156.
4. Collins AG. 1999. Molecules and evolutionary history. In Springer D & J Scotchmoor (eds.) *Evolution: investigating the evidence. Paleontological Society Papers*, vol. 3.
3. Collins AG. 1998. Evaluating multiple alternative hypotheses for the origin of Bilateria: An analysis of 18S rRNA molecular evidence. *Proceedings of the National Academy of Sciences, USA* 95: 15458-15463.
2. Waggoner BM & AG Collins. 1995. A new chondrophorine (Cnidaria, Hydrozoa) from the Cadiz Formation (Middle Cambrian) of California. *Palaeontologische Zeitschrift*. 69: 7-17.
1. Valentine JW, Collins AG & CP Meyer. 1994. Morphological complexity increase in metazoans. *Paleobiology* 20: 131-142.

#### **OTHER PUBLICATIONS** (Invited, Web Pages with Significant Content, etc.)

- Collins JA & AG Collins. 2005. Systematics as a hypothesis-based science and its fundamental role in understanding oceans. *Oceans 2005 MTS/IEEE Proceedings* 2: 1395-1402.
- Collins AG & L-a Gershwin. 2005. Mayor's work on medusae: Still the best! pp. 37-38 In: Shinn EA & WC Jaap, *Field Guide to the Major Organisms and Processes Building Reefs and Islands of the Dry Tortugas: The Carnegie Dry Tortugas Laboratory Centennial Celebration (1905-2005)*.
- Collins AG. 2002. Review: *Introduction to the Invertebrates* by J. Moore. *EcoScience* 9: 416-7.
- Collins AG & J Johnson. 2000. Phylogeny in a Nutshell. (<http://paleobio.org/Ed/nutshell/nutshell.html>)
- Collins AG. 1999. Sponges and sponge-like organisms. In R. Singer (ed.), *Encyclopedia of Paleontology*. Fitzroy Dearborn Publishers, Chicago and London.
- Collins AG. 1999. Evolutionary trends. In R. Singer (ed.), *Encyclopedia of Paleontology*. Fitzroy Dearborn Publishers, Chicago and London.
- Lipps JH, Collins AG & MA Fedonkin. 1998. Evolution of biological complexity: Evidence from geology, paleontology, and molecular biology. In R. B. Hoover (ed.) *Instruments, Methods, and Missions for Astrobiology, Proceedings of SPIE*, Vol. 3441.
- Collins AG & K Roy. 2002. Conservation and Biodiversity of the Rocky Intertidal of Southern California. ([www.biology.ucsd.edu/labs/roy/CBRISC/](http://www.biology.ucsd.edu/labs/roy/CBRISC/)).
- Collins AG & Others. 1994-2000. University of California Museum of Paleontology ([www.ucmp.berkeley.edu](http://www.ucmp.berkeley.edu)), numerous pages, including:  
 Metazoa (/phyla/phyla.html) (with Waggoner BM & B Speer),  
 Porifera (/porifera/porifera.html),  
 Ctenophora (/cnidaria/ctenophora.html) (with Waggoner BM & L Gershwin),  
 Cnidaria (/cnidaria/cnidaria.html) (with Waggoner BM),  
 Placozoa (/phyla/placozoa/placozoa.html),  
 Brachiopoda (/brachiopoda/brachiopoda.html),  
 Phoronida (/brachiopoda/phoronida.html),  
 Vendian animals (/vendian/critters.html) (with Waggoner BM & B Speer),  
 Phylogenetic Systematics (/clad/clad4.html) (with Guralnick RP & B Speer),  
 the Cambrian Period (/cambrian/camb.html) (with Waggoner BM),  
 the Vendian Period (/vendian/vendian.html) (with Waggoner BM).

#### **POSITIONS HELD**

- Invertebrate Zoologist** (NOAA, National Marine Fisheries Service)  
 National Systematics Lab 2004 to present  
 Systematics of sponges and cnidarians
- Adjunct Scientist** (Smithsonian's National Museum of Natural History; NMNH)  
 Invertebrate Zoology 2004 to present
- Adjunct Professor** (University of Maryland at College Park)  
 Behavior, Evolution, Ecology and Systematics Program 2005 to present
- Adjunct Scientist** (University of Kansas Center for Research)

Kansas University Museum of Natural History 2005 to present  
**Research Scientist and Instructor** (TiHo Hannover)  
 ITZ-Ecology and Evolution 2002 to 2004  
 Phylogenetics, Evolution of Development, and Genomics of Early Diverging Animal Groups  
**Post-doctoral Researcher** (University of California, San Diego)  
 Section of Ecology, Behavior & Evolution 2001 to 2002  
 Conservation and Biodiversity of the Rocky Intertidal of Southern California  
**Post-doctoral Researcher** (UC Berkeley)  
 Department of Integrative Biology 1999 to 2001  
 Applying Knowledge of Extant Animals to Questions of Early Animal Evolution  
**Instructor of K-12 Teacher Workshops**  
 "Teaching Evolution Using Antibiotics, Avian Flu & More" November 2006  
 "Kujira - Identifying Mystery Meat with DNA Data" November 2006  
 "Teaching Evolution – the Nature of Science and VIST" November 2005  
 "What Did *T. rex* Taste Like? – Basics of Phylogenetics" November 2005  
 "Explorations Through Time – On-Line Lessons" February 2002  
 "Using Phylogenies to Test Biological Hypotheses" February 2002  
 "Phylogenies and Hypotheses" March 2000  
**Instructor for Graduate Seminar** (Universidade de São Paulo, Brazil)  
 "Phylogenetic Analysis with Molecular Data" August 2000  
**Systems Administrator** (UC Berkeley)  
 Museum of Paleontology 1998 - 1999, 1994  
 Maintenance and Development of Sun Microsystems Servers  
**Graduate Student Instructor** (UC Berkeley)  
 Department of Integrative Biology  
 Principles of Biodiversity Fall 1997  
 Invertebrate Zoology Spring 1995  
 Invertebrate Paleontology Fall 1992, 1993  
**Curatorial Assistant** (UC Berkeley)  
 Museum of Paleontology Summer 1997  
 Organization of Oversized Vertebrate Collections  
**Website Creator** (UC Berkeley)  
 Museum of Paleontology January 1997  
 Interactive Collections Availability List (ICAL)  
**Web Page Designer** (UC Berkeley)  
 Museum of Paleontology 1994, 1996 – 1997  
 Creation of Educational Content  
**Visiting Researcher** (Marine Biological Laboratory, Woods Hole MA)  
 Molecular Phylogenetics with Dr. Mitch Sogin 1995 - 1996  
**Database Developer** (UC Berkeley)  
 Museum of Paleontology Spring 1993  
 Survey and Database Pacific Rim Biodiversity Collections  
**Research Economist** (National Economic Research Associates, Inc.)  
 Support for Expert Witness Testimony 1987 – 1992

## PROFESSIONAL SERVICES & SOCIETIES

**Editorial Board Member** of *Systematic Biology* and *Open Evolution*

**Referee** for manuscripts submitted to *Science*, *Proceedings of the National Academy of Sciences*, *Current Biology*, *Invertebrate Biology*, *Systematic Biology*, *Evolution*, *Biological Bulletin*, *Molecular Phylogenetics & Evolution*, *Journal of Evolutionary Biology*, *Invertebrate Zoology*, etc.

**Vice President** of the Hydrozoan Society

**Member** of the Society for Integrative and Comparative Biology, the Society of Systematic Biologists

## **AWARDS**

- NSF Grant, co-PI with M. Dawson (\$350,000): A Systematic Framework for Understanding Jellyfish Blooms and Invasive Species: Taxonomy of Semaestome Scyphomedusae (Cnidaria), through NSF's Revisionary Syntheses in Systematics Program, 2008-2010
- NSF Grant, co-PI with P. Cartwright, D. Fautin (\$1,610,000): Collaborative Research: An Integrative Approach to Investigating Cnidarian Phylogeny, through NSF's Assembling the Tree of Life Program, 2005-2009
- Scientific Achievement Award from the National Museum of Natural History, 2006
- Fellowship for scientists visiting the Bocas del Toro Station, Smithsonian Tropical Research Institute, Panama, 2004
- Deutsche Forschungsgemeinschaft (German Science Foundation) grant to support participation in the 7<sup>th</sup> International Conference on Coelenterate Biology, Lawrence KS, 2003
- NSF Grant, EAR-9814845, co-authored (non-PI) with JW Valentine and JH Lipps, 1999-2001
- Mary Otis Clark Award from the UC Berkeley Museum of Paleontology, 1999
- Best Student Poster, Integrative Biology and the Future Meeting at UCMP, 1998
- Paleontological Society Student Award, grant-in-aid of Paleontological Research, 1998
- Numerous small grants and awards to support travel and research from the UC Berkeley Department of Integrative Biology and the UC Berkeley Museum of Paleontology, 1992-1999

## **INVITED LECTURES**

- Keynote Lecture for Workshop "The emergence and evolution of uni- and multicellular life and the consequences for System Earth", Georg-August University of Göttingen, October 2007
- Seminar, NMNH Department of Paleobiology, Washington DC, October 2007
- Seminar, Smithsonian Environmental Research Center Seminar Series, Edgewater MD, September 2007
- Seminar, University of Kansas Natural History Museum, Lawrence KS, April 2007
- Seminar, University of Richmond Department of Biology, March 2007
- Symposium "Key transitions in animal evolution", Annual Meeting of the Society of Integrative and Comparative Biology, New Orleans LA, January 2007
- Seminar, Harvard University Department of Organismic & Evolutionary Biology, September 2006
- Seminar, Friends of the National Zoo, Washington DC, January 2006
- Seminar, University of Maryland Program in Behavior, Ecology, Evolution and Systematics, October 2005
- Seminar, University of Arkansas Department of Biological Sciences, April 2005
- Symposium "Model systems for the basal Metazoa", Annual Meeting of the Society of Integrative and Comparative Biology, New Orleans LA, January 2004
- Symposium "Life, the universe, and everything", 6<sup>th</sup> International Congress of Evolutionary and Systematic Biology, Patras Greece, September 2002
- Symposium "The Cambrian explosion: Putting the pieces together", Annual Meeting of the Society of Integrative and Comparative Biology, Anaheim CA, January 2002