

CURRICULUM VITAE

Mary E. Rice
Smithsonian Marine Station at Fort Pierce
701 Seaway Drive
Fort Pierce, Florida 34949

EDUCATION:

A. B., Biology, Drew University, Madison, New Jersey (1947)

M. A., Zoology, Oberlin College, Oberlin, Ohio (1949)

Ph.D., Zoology, University of Washington, Seattle, WA (1966)

EMPLOYMENT:

Instructor of Zoology, Drew University, 1949-50

Research Associate, Department of Radiology, Columbia University, 1950-53

General Physiologist, National Institute of Arthritis and Metabolic Diseases, National Institutes of Health, 1953-55

Biologist, National Cancer Institute, National Institutes of Health, 1955-61

Graduate Teaching Assistant, University of Washington, Seattle, Washington, 1961-66

Curator/Research Zoologist, Department of Invertebrate Zoology, National Museum of Natural History, Smithsonian Institution, Washington, DC, 1966-02

Director, Smithsonian Marine Station at Fort Pierce, Florida 1981-02.

Senior Research Scientist Emeritus, Smithsonian Marine Station, 2002–present.

PROFESSIONAL APPOINTMENTS AND HONORS:

Chairman, Division of Invertebrate Zoology, American Society of Zoologists, 1975-76

President, American Society of Zoologists, 1979

Past-President, Policy Committee, American Society of Zoologists, 1980-present

Member-at-Large, American Association for Advancement of Science, Biological Sciences Committee, Section G, 1984-88

President, American Microscopical Society, 1999

Past-President, American Microscopical Society, 2000-01

National Science Foundation Advisory Panel, Systematic Biology Program, 1977-78

Committee on Marine Invertebrates, National Academy of Sciences, 1976-81

Elected Fellow, American Association for the Advancement of Science, 1978

Alumni Achievement Award in Sciences, Drew University, 1980

National Research Council, Graduate Fellowship Program, Biological Sciences, 1982-3

Overseers' Committee for the Department of Organismic and Evolutionary Biology, Harvard University, 1982-88

Phi Beta Kappa, Drew University, 1988

Who's Who in Science and Engineering, 1991-05

Scientific Advisory Council, Perry Foundation Marine Science Institute, 1998–00.

EDUCATIONAL ACTIVITIES:

Adjunct Associate Professor, University of Miami, 1968-74

Adjunct Associate Professor, George Washington University, 1970-75

Affiliate Professor of Biology, George Mason University, 1994-00

Graduate Faculty, Florida Institute of Technology, 1996-00

Supervisor for 30 postdoctoral fellows

Advisor for 8 short-term graduate fellows

Committee member for 13 doctoral candidates (10 universities), including invited opponent at University of Gothenburg

Head of Smithsonian's collaborative program with Indian River Community College and St. Lucie County School District for dual enrollment courses in marine sciences

Initiator and Supervisor, Smithsonian Marine Ecosystems Exhibit, Fort Pierce, Florida.

GRANTS AND CONTRACTS:

Past Sponsored Research:

1968-69 Smithsonian Research Foundation, \$15,500, Systematics, development and larval biology of sipunculids of the Caribbean.

1970 Smithsonian Foreign Currency Program, \$45,055, International Symposium on the Biology of the Sipuncula and Echiura, Kotor, Yugoslavia.

1977 As co-organizer of a Symposium on Settlement and Metamorphosis of Marine Invertebrates and as principal investigator on grant requests, I was the recipient (through the American Society of Zoologists) of three grants in support of the Symposium from: Office of Naval Research (\$8,045). National Science Foundation (\$2,000), American Society of Zoologists (\$1,000).

1984 Co-PI (1 of 3) with Florida Institute of Technology, National Science Foundation, Seawater, Wet-Laboratory for FIT Indian River Marine Science Center.

1986 National Science Foundation, Division of International Programs, \$3,619, Studies on the development and reproduction of subantarctic sipunculans. In collaboration with Universidad Nacional de La Plata, Argentina.

Recent and Current Grants and Contracts:

1998 National Science Foundation (\$347,650, 4 years), Co-PI with Craig Young, Harbor Branch Oceanographic Institution, Reproductive responses to phytodetrital pulses in deep-sea invertebrates with seasonal and continuous breeding.

1997-98 Indian River Lagoon Program, EPA/NEP, (\$25,929), Co-PI with A. Hines, G. Ruiz, and J. Dineen. Indian River Lagoon Species Inventory.

1998 Atherton Seidell Grant (\$17,750), Co-PI with A. Hines, G. Ruiz, and J. Dineen. Indian River Species Inventory.

1999-01 St. John's Water Management District (\$32,000), Co-PI with A. Hines, G. Ruiz, and J. Dineen. Indian River Species Inventory

1999-00 St. Lucie County Board of Commissioners (\$15,000). Indian River Species Inventory

1998-00 Link Foundation (\$15,000 for each of three years). Graduate Fellowship Program for Smithsonian Marine Station.

2000-02 Florida Marine Research Institute (\$124,800) Research and public outreach program

SELECTED INVITED TALKS/LECTURES 1995-2001:

1995 Kristineberg Marine Station, Sweden on dissertation defense, re: Taxonomy and Biology of Sipunculans.

- 1995** International Conference on Invertebrate Reproduction, Santa Cruz, CA, Observations on reproduction, development and population biology of *Phascolosoma turnerae*, a deep-sea sipunculan.
- 1995-98** Lectures on Sipunculans in Invertebrate Zoology Course, Harbor Branch Oceanographic Institution.
- 1998** International Bioerosion Workshop, Harbor Branch Oceanographic Institution.
- 2001** Past-Presidential Address, American Microscopical Society
- Numerous lectures** in the Treasure Coast community: Stuart Sailfish Club, Rotary Club, Kiwanis Club, AAUW, Audubon Society, Chamber of Commerce, Environmental Studies Center, etc.

PUBLIC PROGRAM ACTIVITIES 1995-2001

Coordinated numerous displays and exhibits on the Treasure Coast, extending southward to Fort Lauderdale and northward to Melbourne and Orlando.

Conducted numerous tours of SMS facilities and research for the public, including conservation and educational groups.

1996-97 Public ceremonies related to SMS acquisition of property

1998 Ceremony for SMS groundbreaking

1999 Open House at Dedication Ceremony of new SMS building

Participated in community activities:

St. Lucie Research and Education Coalition

Higher Education Task Force

Planning Group for FAU/St. Lucie County Marine Science Campus

Collaborative education programs

Smithsonian Marine Ecosystems Exhibit

PUBLICATIONS:

- 1951** Scott G.T., Jacobson, M.A., Rice M.E. The influence of glycolytic factors on the potassium and sodium content of *Saccaromyces cerevisiae*. Archives of Biochem. 30: 282-291
- 1957** Webster S. H., Rice M. E., Highman B., Von Oettingen W. F. The toxicology of potassium and sodium iodates: Acute toxicity in mice. J. Pharm. Exper. Therapeutics 120: 171-178.
- 1957** Shelton E., Rice M E. Comparison of the reduction of two tetrazolium salts with succinoxidase activity of tissue homogenates. J. Nat. Cancer Inst. 18: 117-125.
- 1958** Shelton E., Rice M E. Studies on mouse lymphomas. II. Behavior of three lymphomas in diffusion chambers in relation to their invasive capacity in host. J. Nat. Cancer Inst. 21: 137-161.
- 1958** Shelton E, Rice M E. Studies on mouse lymphomas: III. Behavior of tumor and non-tumor cell populations during growth of three ascites lymphomas. J. Nat. Cancer Inst. 21: 163-191.
- 1958** Shelton E, Rice M E. Measurement of the average and total cell volume during the growth of ascites tumors. J. Nat. Cancer Inst. 21: 961-971. .
- 1959** Shelton E, Rice M E. Relation of invasive capacity to passage of lymphocytic cells through cellulose membranes filters. Nature 184: 479-480. (with Shelton, E.)
- 1959** Webster S H, Rice M E, Highman B, Stohlman E F. The toxicology of potassium and sodium iodates. II. Subacute toxicity of potassium iodate in mice and guinea

- pigs. *Toxicology and Applied Pharmacology* 1: 87-95.
- 1959** Rice M E, Shelton E. Growth of normal peritoneal cells in diffusion chambers: A study in cell modulation. *Amer. Jour. of Anatomy* 105: 281-341.
- 1966** Rice M E. The Reproductive Biology and Development of Sipuncula. Ph.D. Thesis. University of Washington, Seattle. 322 pp.
- 1967** Rice M E. A comparative study of the development of *Phascolosoma agassizii*, *Golfingia pugettensis*, and *Themiste pyroides* with a discussion of developmental patterns in the Sipuncula. *Ophelia* 4 (2): 143-171.
- 1969** Rice M E. Possible boring structures of sipunculids. *Amer. Zool.* 9: 803-812.
- 1969** Rice M E. Review: Invertebrate Zoology, Second Edition. by Robert B. Barnes. In the *Quarterly Review of Biology* 44: 318-319.
- 1970** Rice M E. Asexual reproduction in a sipunculan worm. *Science*, 167: 1618-1620.
- 1970** Rice M E, Stephen A C. The type specimens of Sipuncula and Echiura Described by J. E. Gray and W. Baird in the Collections of the British Museum (Natural History). *Bull. of British Museum (Nat. Hist.)* 20(2): 49-72.
- 1971** Rice M E. Sipuncula of the coral and beachrock communities of the Maldive Islands (Abstract). Symposium on Indian Ocean and Adjacent Seas. Marine Biological Association of India, January 12-18, 1971.
- 1971** Kohn A J, Rice M E. Biology of Sipuncula and Echiura. *Bioscience* 21(12): 583-584. .
- 1972** Rice M E, Macintyre I G. A preliminary study of sipunculan burrows in rock thin sections. *Caribbean Journal of Science* 12 (1-2): 41-44.
- 1972** Rice M E, Putnam D S. A comparative study of the functional morphology of some pelagosphaera larvae (Sipuncula). (Abstract). *American Zoologist* 12 (4): 723.
- 1972** Rice, M E. Asexual reproduction in a sipunculan worm (Reprinted) In Taylor et al, *Spiralian Embryology*, pp. 179-183. MSS Information Corporation, New York.
- 1972** Rice, M E. Priapulida, Echiura. *McGraw-Hill Science Encyclopedia*.
- 1973** Rice, M E. Morphology, behavior, and histogenesis of the pelagosphaera larva of *Phascolosoma agassizii* (Sipuncula). *Smithsonian Contributions to Zoology*, Number 132: 1-51.
- 1974** Rice M E. Book Review: The Phyla Sipuncula and Echiura, by A. C. Stephen and S. J. Edmonds. *Quarterly Review of Biology* 49 (2): 160.
- 1974** Rice M E. Gametogenesis in three species of Sipuncula: *Phascolosoma agassizii*, *Golfingia pugettensis*, and *Themiste pyroides*. *La Cellule* 79 (2-3): 259-313.
- 1975** Rice M E. Chapter 4: Sipuncula. In A. C. Giese and J. S. Pearse, Eds., *Reproduction in Marine Invertebrates*. Volume II, Academic Press, pp. 67-127.
- 1975** Rice M E. Unsegmented Coelomate Worms. In R. I. Smith and J. T. Carlton, Eds., *Light's Manual: Intertidal Invertebrates of the Central California Coast*. Third Edition. Univ. of California Press, pp. 128-134.
- 1975** Rice M E, Todorovic M. Editors: *Proceedings of the International Symposium on the Biology of the Sipuncula and Echiura*. Volume 1. Naucno Delo Press, Belgrade, Yugoslavia, 355 pages.
- 1975** Rice M E. Observations on the development of six species of Caribbean Sipuncula with a review of development in the phylum. In M. E. Rice and M. Todorovic, Eds., *Proceedings of the International Symposium on the Biology of the Sipuncula and Echiura*. Vol. 1: 141-160.
- 1975** Rice M E. Survey of the Sipuncula of the coral and beachrock communities of the

- Caribbean Sea. In M. E. Rice and M. Todorovic, Eds., Proceedings of the International Symposium on the Biology of Sipuncula and Echiura. Vol. 1: 35-49.
- 1976** Rice M E. Sipunculans associated with coral communities. *Micronesica* 12 (1): 119-132.
- 1976** Rice M E. Larval development and metamorphosis in the Sipuncula. *American Zoologist* 16 (3): 563-572.
- 1976** Rice M E, Todorovic M. Editors: Proceedings of the International Symposium on the Biology of the Sipuncula and Echiura. Volume 2. Naucno Delo Press, Belgrade, Yugoslavia, 204 pages.
- 1976** Banta W C, Rice M E. A restudy of the Middle Cambrian Burgess Shale fossil worm, *Ottoa prolifica*. In M. E. Rice and M. Todorovic, Eds., Proceedings of the International Symposium on the Biology of the Sipuncula and Echiura. Naucno Delo Press, Belgrade, Yugoslavia. Vol. 2, pp. 79-90.
- 1978** Chia F S, Rice M E. Editors: Settlement and Metamorphosis of Marine Invertebrate Larvae. Elsevier North Holland, New York, 290 pages.
- 1978** Rice M E. Morphological and behavioral changes at metamorphosis in the Sipuncula.
In F. S. Chia and M. E. Rice, Eds., Settlement and Metamorphosis of Marine Invertebrate Larvae. Elsevier North Holland, New York, pp. 83-102.
- 1978** Rice M E, Murdoch J D. Influence of adults on metamorphosis of oceanic sipunculan larvae. (Abstract) *American Zoologist*, 18 (3): 665.
- 1979** Rice M E. Book Review: The Living Dock at Panacea by J. Rudloe. *BioScience* 29(5): 316.
- 1980** Rice M E. Chapter 19, Sipuncula and Echiura. In Intertidal Invertebrates of California, R. H. Morris, D. P. Abbott and E. C. Haderlie, Editors. Stanford University Press. pp. 128-134.
- 1981** Rice M E. Larvae adrift: patterns and problems in life histories of sipunculans. Past-Presidential Address, *American Zoologist*, 21(3): 605-619.
- 1981** Rice M E. Laboratory Animal Management: Marine Invertebrates. National Academy Press, Washington, D. C., 382 pp. (With Committee on Marine Invertebrates, Institute of Laboratory Animal Resources, Assembly of Life Sciences, National Research Council.)
- 1982** Rice M E, Macintyre I G. Distribution of Sipuncula in the Coral Reef Community In Klaus Ruetzler and Ian G. Macintyre, Eds., The Atlantic Barrier Reef Ecosystem at Carrie Bow Cay, Belize, 1. Structure and Communities. *Smithsonian Contributions to the Marine Sciences*, 12, pp. 311-320.
- 1982** Rice M E. Sipuncula. In Synopsis and Classification of Living Organisms. Ed., S. P. Parker. McGraw Hill, New York.
- 1983** Rice M E, Piraino J, Reichardt H F. Observations on the ecology and reproduction of the sipunculan *Phascolion cryptus* in the Indian River Lagoon. *Florida Scientist* 46 (3-4): 282-395.
- 1983** Rice M E. Chapter 13. Sipuncula. In K. G. Adiyodi and R. G. Adiyodi, Eds., Reproductive Biology of Invertebrates. Oogenesis, Oviposition, and Oosorption. Volume 1. John Wiley, London, pp. 283-296.
- 1983** Ruppert E E, Rice M E. Structure, ultrastructure, and function of the terminal organ of a pelagosphaera larva (Sipuncula). *Zoomorphology* 102: 143-163.

- 1984** Rice M E, Reichardt H. Larval development and metamorphosis of *Siphonosoma cumanense* (Keferstein, 1867) (Sipuncula). (Abstract). *American Zoologist* 24(3): 242.
- 1985** Rice M E. Sipuncula: Developmental evidence for phylogenetic inference. In S. Conway Morris, J. D. George, R. Gibson, and H. M. Platt, Eds., *Proceedings of the Symposium on Relations and Origins of Lower Invertebrates*. Oxford University Press, London. pp. 274-296.
- 1985** Rice M E. Description of a wood-dwelling sipunculan, *Phascolosoma turnerae*, new species. *Proceedings of the Biological Society of Washington* 98(1): 54-60.
- 1986** Rice M E. Factors influencing larval metamorphosis in *Golfingia misakiana* (Sipuncula). *Bulletin of Marine Science*, 39(2): 362-375.
- 1986** Rice M E. Phylum Sipuncula (Peanut Worms). In Ed. W. Sterrer, Ed., *Marine Fauna and Flora of Bermuda*. Wiley & Sons, Inc., pp. 224-228.
- 1987** Rice M E. Sipuncula. In Strathmann, M. F., *Reproduction and Development of Marine Invertebrates of the Northern Pacific Coast*. University of Washington Press, Seattle, pp. 196-204.
- 1987** Pilger, J F, Rice M E. Ultrastructural evidence for the contractile vessel of sipunculans as a possible ultrafiltration site. *American Zoologist* 27(4):152A (abstract).
- 1988** Rice M E. Observations on development and metamorphosis of *Siphonosoma cumanense* with comparative remarks on *Sipunculus nudus* (Sipuncula, Sipunculidae). *Bulletin of Marine Science* 42(1): 1-15.
- 1988** Rice M E. Chapter 32. Sipuncula. In R. P. Higgins and H. Thiel, Eds., *Introduction to the Study of Meiofauna*. Smithsonian Institution Press, Washington, DC, 355-356.
- 1988** Rice M E. Sipunculan associates of the deep-sea hydrocarbon seep community. (Abstract). *American Zoologist* 28(4): 788.
- 1989** Rice M E. Chapter 14. Sipuncula. In K. G. and Rita G. Adiyodi, Eds., *Reproductive Biology of Invertebrates, Vol. IV. Part A Fertilization, Development, and Parental Care*. Oxford and IBH Publishing Co., New Delhi, 263-280.
- 1989** Rice M E. Comparative observations gametes, fertilization, and maturation in sipunculans. 23rd European Marine Biology Symposium. Publishers: Olsen & Olsen, pp. 167-183.
- 1990** Scheltema R S, Rice M E. Occurrence of teleplanic pelagosphaera larvae of sipunculans in tropical regions of the Pacific and Indian Oceans. *Bulletin of Marine Science*, 47(1): 159-181.
- 1992** Rice M E, Pilger J F. Sipuncula. In K. G. Adiyodi and R. G. Adiyodi, Eds., *Reproductive Biology of Invertebrates, Vol. V*, pp. 187-191. *Sexual Differentiation and Behavior*. Oxford and IBH Publishing Co., New Delhi.
- 1993** Rice M E, Pilger J F. Chapter 10. Sipuncula. In K. G. Adiyodi and Rita G. Adiyodi, Eds., *Reproductive Biology of Invertebrates, Vol. VI, Part A*, pp. 297-310. *Asexual Propagation and Reproductive Strategies*. Oxford & IBH Publishing Co., New Delhi.
- 1993** Rice M E. Chapter 7. Sipuncula. In F. W. Harrison and M. E. Rice, Eds., *Microscopic Anatomy of Invertebrates, Vol. 12: Onychophora, Chilopoda, and Lesser Protostomata*, pp. 237-325. Wiley-Liss, Inc., New York.
- 1993** Reunov A, Rice M E. Ultrastructure Observations on Spermatogenesis in

- Phascolion cryptum* (Sipuncula). Transactions of the American Microscopical Society 112(3): 195-207.
- 1993** Rice M E. Two New Species of *Phascolion* (Sipuncula: Phascolionidae) from Tropical and Subtropical Waters of the Central Western Atlantic. Proceedings of the Biological Society of Washington 106(3): 591-601.
- 1995** A Survey of the Sipuncula of the Indian River Lagoon. Bulletin of Marine Science 57(1): 128-135. (with Julianne Piraino and Hugh F. Reichardt).
- 1995** Ruppert E E, Rice M E. Functional organization of dermal coelomic canals in *Sipunculus nudus* (Sipuncula) with a discussion of respiratory designs in sipunculans. Invertebrate Biology 114(1): 51-63.
- 1999** Staton J, Rice M E. Genetic differentiation despite teleplanic larval dispersal: allozyme variation in sipunculans of the *Apionsoma misakianum* species-complex. Bulletin of Marine Science 62(2):467-480.
- 1999** Rice M E. Sipuncula. Encyclopedia of Reproduction, Volume 4. Academic Press, pp 493-497.
- 2001** Pechenik, J, Rice M E. Influence of delayed metamorphosis on postsettlement survival and growth of the sipunculan *Apionsoma misakianum* . Invertebrate Biology 120(1):50-57.
- 2002** Jaeckle J, Rice M E. Phylum Sipuncula. Chapter 19. pp 375-396. In Eds. C. M. Young, M. A. Sewell and M. E. Rice, Atlas of Marine Invertebrate Larvae. Academic Press.
- 2002** Young, C M, Sewell M A, Rice M E. Editors: Atlas of Marine Invertebrate Larvae. Academic Press. 626pp.
- 2004** Schulze A, Rice M E. Sipunculan Diversity at Twin Cays, Belize with a Key to the Species. 9pp. Atoll Research Bulletin No. 521.
- 2007** Rice M E. Sipuncula and Echiura. In The Light and Smith Manual: Intertidal Invertebrates from Central California to Oregon. 4th revision. pp.288-292. Ed. J. Carlton. Berkeley, University of California Press.
- 2009** Schulze A, Rice M E. Musculature in sipunculan worms: ontogeny and ancestral states. Evolution and Development 11(1):97-108.
- 2009** Kawauchi G Y, Rice, M E. Two new species of *Nephasoma* (Sipuncula: Golfingiidae) from the western Atlantic Ocean. Proceedings of the Biological Society of Washington 122(1):1-13.
- 2009** Schulze A, Rice M E. *Nephasoma pellucidum*: A model species for sipunculan development? 1In Smithsonian Marine Science Symposium, Eds. M.A.Lang, I.G.Macintyre and K.Rützler. Smithsonian Contributions to the Marine Sciences, 38:209-218.
- 2009** Rice M E. Sipuncula of the Gulf of Mexico. pp. 803-808. In Gulf of Mexico. Origin, Waters, and Biota, Vol.1, Biodiversity. Eds. D. L. Felder and D. K. Camp. Texas A&M University Press.