

CURRICULUM VITAE

MICHAEL ERIC ANDERSON

Nationality: United States of America

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FIELDS OF INTEREST

The systematics and natural history of fishes; the reproductive ecology and behavior of fishes; marine community ecology; deep-sea biology; environmental biology; fish palaeontology; the history and philosophy of science.

CURRENT RESEARCH AREAS

Systematics and ecology of zoarcoid and other deep-sea fishes; systematics of western Indian Ocean fishes; the evolution and zoogeography of deep-sea fish communities; natural history of selected shore and slope-dwelling fishes; palaeoichthyology of Gondwanan faunas.

EDUCATION

1964-1966. University of the Pacific, Stockton, California. Biology major.

1966-1971 (part time). University of California, Berkeley. Zoology major.

1971-1973. California State University, Hayward. B.A. in Biological Sciences, June, 1973.

1973-1977. Moss Landing Marine Laboratories, California State University and Colleges, Moss Landing. M.A. degree, "The systematics and natural history of the deep-sea fish, *Lycodapus mandibularis* Gilbert in California waters," June, 1977.

1977-1983. Virginia Institute of Marine Sciences, College of William and Mary, Gloucester Pt., Virginia. Ph.D. degree, "On the anatomy and phylogeny of the Zoarcidae (Teleostei: Perciformes)," August 1984.

EMPLOYMENT

1973-1974. Graduate Teaching Assistant, Moss Landing Marine Laboratories in ichthyology, marine vertebrate zoology and oceanography.

1974-1976. Research Assistant, Steinhart Aquarium, San Francisco, California (based at

Moss Landing Marine Laboratories. Deep-sea biology program.
Summer, 1976. Visiting Researcher, British Columbia Provincial Museum, Victoria, B. C., Canada. Fish systematics and ecology; field collections with SCUBA.

1976-1977. National Sea Grant technician, Moss Landing Marine Laboratories. Shipboard equipment technician.

1977-1981. Graduate Research Assistant, NSF deep-sea fish community program, Virginia Institute of Marine Science; J. A. Musick, principal investigator.

1978-1983. Graduate Assistant Curator of Ichthyology Museum, Virginia Institute of Marine Science (part time) and laboratory instructor in ichthyology (part time).

1983-1989. Senior Curatorial Assistant and Research Biologist (part time), Department of Ichthyology, California Academy of Sciences, San Francisco.

1986. Lecturer, Department of Biology, San Francisco State University. Taught Comparative Vertebrate Zoology, Biol. 492.

1989-2006. Senior Ichthyologist, J.L.B. Smith Institute of Ichthyology, Grahamstown, South Africa.

TEACHING AREAS

Ichthyology, systematic biology, vertebrate anatomy, marine ecology, general evolution, deep-sea biology; biogeography.

HONORS AND AWARDS

1977. Predoctoral research grant, \$885, from the Southern Regional Education Board, Atlanta, Georgia. Study in museums of the U. S. and Canada.

1978. Predoctoral research grant, \$5,400, from the Smithsonian Oceanographic Sorting Center, Washington, D.C. Study in museums of Europe and the USSR.

1979. Invited speaker to the US/USSR Workshop on the Systematics of Cold Water Fishes, University of Maine, Orono, 4-6 August. Part of the US/USSR Cooperation in Studies of the World Oceans, 1975-1980, sponsored by the National Marine Fisheries Service, National Science Foundation and the Soviet Government.

1983. Invited speaker to the Symposium on Early Life History Studies of Fishes, La Jolla, California, 14-18 August. Sponsored by the National Marine Fisheries Service and the American Society of Ichthyologists and Herpetologists.

1984. Research Grant, \$11,840, from the Smithsonian Oceanographic Sorting Center, Washington, D. C. Studies on Zoarcidae of the Southern Ocean in conjunction with the U. S. Antarctic Research Program.

1986. Invited participant and discussant to the Workshop on the Evolution of Gadiform Fishes, Los Angeles, California, 17-20 January. Sponsored by the Los Angeles County Museum of Natural History.

1986. Invited participant to the Symposium on Deep-Sea Fishes, annual meeting, American Society of Ichthyologists and Herpetologists, Victoria, B. C., Canada, 15-21 July. Session chairman.

1987. Invited researcher, Zoological Institute and P. P. Shirshov Institute of Oceanology, Academy of Sciences, USSR, Leningrad and Moscow, 20 August-19 September.

1988. Invited researcher, Faculty of Fisheries, Hokkaido University, Hakodate, Japan, 17 May-7 June.

1988. California Academy of Sciences Ichthyology Department Fellowship, \$20,000, sponsored by W. I. Follett, August 1988-January 1989.

1989. Invited participant to the symposium: "Systematics and Evolution of Deep-Sea Fishes" at the Third Indo-Pacific Fishes Conference, Wellington, New Zealand, 27 November-1 December.

1991. Foundation for Research & Development (FRD) grant, R9 000, from Africa Science Interaction Centre to host Dr. Germán Pequeño, Director of the Laboratory of Zoology, Universidad Austral de Chile, Valdivia, for 2 week study visit to marine biological facilities in SA (Cape Town, Port Elizabeth, Grahamstown).

1992. FRD grant, R9 500, Visiting Scientist Fellowship from Science Liason Centre, to host Dr. Tomio Iwamoto, California Academy of Sciences, for 6 week visit to study collections of deep-sea fishes in Grahamstown and Cape Town.

1993. Invited participant to the symposium: "Systematics and Evolution of Deep-Sea Fishes" at the Fourth Indo-Pacific Fishes Conference, Bangkok, Thailand, 28 November--4 December.

1994. FRD grant, R5 000, Visiting Scientist Fellowship, to host Dr. John A. Long, Curator of Earth and Planetary Sciences, Western Australian Museum, for 5 week visit to study collections of fish fossils in Grahamstown.

1994. FRD grant, R9 100, Special Merit Award to continue excavation of the Grahamstown Devonian fossil site.

1994. Smithsonian Institution (USA) research grant (\$2,500 = R9175) for study on the systematics of deep-sea fishes in U.S. collections.

1996. FRD grant, R8 000, Visiting Scientist Fellowship to host Dr. John A. Long, Western Australian Museum, for 4 week visit to study collections, attend field trip and conference in Grahamstown, Western Cape Province, and Johannesburg.

1998. FRD grant, R9 480, Science Liaison, to join international team of deep- sea scientists to study biology of Haakon Mosby Mud Volcano and Knipovich Ridge sites in Arctic Ocean.

2001. Invited session chairman to Symposium on Deep-Sea Fishes at the Sixth Indo-Pacific Fishes Conference, Durban, South Africa, 21-25 May.

EXPEDITIONARY EXPERIENCE

Primarily concerned with the collection and study of marine fishes, shipboard hydrographic and electronic operations and gear operations. Days at sea, 1972- 2004: 694.

1972-1976. Monthly teaching and research cruises, Monterey Bay, California. R/V ARTEMIA and R/V OCONOSTOTA. Party chief or gear handler.

1974-1976. Steinhart Aquarium Midwater Maintenance Program cruises (32) on Monterey Bay, California. Cruise leader.

Feb. 1974. R/V CAYUSE cruise C7401D. La Paz, Mexico to San Diego, California. Midwater trawling, hydrographic sampling for trace metals in plankton. John Martin, chief scientist. Technician.

Sept. 1974. R/V YAQUINA cruise Y7409CC. California Current area off Oregon. Midwater trawling and sonic scattering experimentation. W. G. Percy, chief scientist. Technician.

Mar. 1975. USNS DE STEIGUER cruise 1211-75. Off Monterey Bay, California. Deep-sea bottom trawling, Robert Andrews, chief scientist. Party chief.

Nov. 1975. USNS DE STEIGUER cruise 12X2-76. Off Monterey Bay. Deep-sea bottom trawling and rock dredging, Robert Andrews, chief scientist. Party chief.

Aug. 1976. R/V NESIKA cruise 76-3 (Canada). Inshore waters of southern British Columbia. SCUBA collection of marine organisms. Alex E. Peden, chief scientist. Research Assistant.

Mar. 1977. R/V VELERO IV cruise CY-77. Southern California Bight and Channel Islands. Deep-sea bottom trawling, oceanographic sampling, heavy metals analysis. John Martin, principal investigator. Technician.

Feb.-Mar. 1978. R/V COLUMBUS ISELIN cruise CI-7801. Hatteras Abyssal Plain, Bermuda Rise area. Deep-sea trawling, oceanographic sampling. John A. Musick, chief scientist. Technician.

Sept. & Dec. 1979. R/V VIRGINIAN SEA cruises VS 7901 & VS-7902. Mid- Atlantic Bight. Deep-sea trawling, open ocean longlining. John A. Musick, principal investigator. Co-cruise leader.

Oct.-Nov. 1979. FFS ANTON DOHRN cruise 213-3 (Fed. Repub. of Germany). Continental slope, Woods Hole, Mass. to Cape Canaveral, Fla. Exploratory gear development, fish ecology, oceanographic sampling. Matthias Stehmann, chief scientist. Technician.

May 1980. R/V ALBATROSS IV cruise A-8005. Nantucket Shoals and adjacent areas. National Marine Fisheries Service, Woods Hole, Mass., survey. Technician.

Aug.-Sept. 1980. R/V COLUMBUS ISELIN cruise CI-8007. The Bahamas and adjacent abyssal plains. Deep-sea trawling and oceanographic sampling. John A. Musick, chief scientist. Technician.

Nov.-Dec. 1981. USNS BARTLETT cruise 1301-82. Caribbean Sea. Deep-sea trawling, box coring. Michael D. Richardson, chief scientist. Technician.

May, July & Nov. 1984. R/V CAYUSE cruises SIO-1, 2, 4. Slope off Pt. Sur, California. Deep-sea trawling, bottom camera operations. Waldo Wakefield, chief scientist. Party chief.

Jan. 1985. R/V ATLANTIS II cruise 112-19. Basins off southern California and Baja California, Mexico. Robert Carney, chief scientist. Deep-sea trawling and laboratory experiments on the physiology of holothurians. Observer and recorder, DSRV ALVIN dive 1508 to 1720 meters depth, West Cortes Basin.

Nov. 1988-Jan. 1989. R/V VITYAZ' cruise 17 (Academy of Sciences, USSR). Southwestern Indian Ocean off Madagascar, southern Africa and Mauritius. Nikolai V. Parin, chief scientist. Deep-sea trawling, scuba diving and trap collections. Invited scientist.

Aug. 1990. RS AFRICANA cruise 084. Northwestern Cape Province, South Africa. Johan Augustyn, chief scientist. Community structure analysis of outer shelf/upper slope bottom fishes; hake biomass survey. Invited scientist.

May 1991. Submersible JAGO dives off mothership DEEP SALVAGE I. Eastern Cape Province, South Africa. M.N. Bruton and H. Fricke, co-chief scientists. Diving studies for film-making and direct observation of community structure of outer shelf fishes and macroinvertebrates. Part of dive team off Chalumna River; leg 2, survey of 16-31 May.

Feb. 1992. FRS AFRICANA cruise 100. Western Cape Province, South Africa. Dr. Ian Wilkinson, chief scientist. Hake biomass survey and deep-sea trawls to middle-slope depths. Invited scientist.

Oct. 1992. SA AGULHAS cruise T-92 (shakedown). SW of Cape Town, South Africa. Dr. J. Lutjeharms and A. Robertson, co-chief scientists. Gear trials. Invited scientist.

Jan. 1994. FRS AFRICANA cruise 118. Western Cape Province, South Africa. Dr. Ian Wilkinson, chief scientist. Hake biomass survey (trawls to mid-slope depths). Invited scientist.

Jan. 1995. FRS AFRICANA cruise 128. Western Cape Province. Dr. Rob Cooper, chief scientist. Hake biomass survey. Invited scientist.

Sept. 1996. Geological Survey expedition. Western Cape Province. Dr. John Almond, team leader. Fossil fish collecting in the Klipbokkop, Adolphspoort and Floriskraal Formations

(Devonian and Carboniferous). Co-organizer.

Jan. 1997. FRS AFRICANA cruise 139. Western Cape Province. Dr. Rob Tilney, chief scientist. Hake biomass survey. Invited scientist.

Apr. 1997. FRS AFRICANA cruise 144. Southern Cape coast. Dr. David Japp, chief scientist. Groundfish survey. Invited scientist.

June-July 1997. Western Australian Museum expedition. Kimberley District, WA, Australia. Dr. John A. Long, team leader. Fossil fish collecting in the Gogo and Sadler Formations (Devonian). Invited scientist.

June-July 1998. AKAD. MSTISLAV KELDYSH cruise 40. Central Norway, Barents, Greenland seas. Co-party cruise of Russian Academy of Sciences, U.S. Naval Research Laboratory, GEOMAR (Germany), University of Bergen and University of Oslo (Norway). Submersible dives on Haakon Mosby Mud Volcano, Knipovich Ridge, Vestnesa Bank. Invited scientist; diver on Knipovich Ridge (3600 m depth).

January-February 1999. FRS AFRICANA cruise 150. Cape west coast. Dr. Robin W. Leslie, chief scientist. Groundfish survey. Invited scientist.

January 2000. RV DR. FRIDTJOF NANSEN cruise NAN01. Cape west coast. Dr. Rob Tilney, chief scientist. Groundfish survey. Invited scientist.

February 2001. RV DR. FRIDTJOF NANSEN cruise NAN04. Cape west coast. Dr. Marek Lipinsky, chief scientist. Groundfish survey, experimental deepwater trawling. Invited scientist.

May-July 2004. R/V NATHANIEL B. PALMER cruise NBP 04-04. Subantarctic Atlantic. Dr. H. William Detrich, chief scientist. Fish and invertebrate sampling. Invited scientist.

SCIENTIFIC PUBLICATIONS

1974. Anderson, M. E. & G. M. Cailliet: Crab and snailfish commensalism in Monterey Bay. *Underwater Nat.* 8 (3): 29-31.

1975. Cailliet, G. M. & M. E. Anderson: Occurrence of the rare prowlfish, Zaprora silenus Jordan, 1896, in Monterey Bay, California. *Calif. Fish & Game* 60 (1): 61-62.

1975. Anderson, M. E. & G. M. Cailliet: Occurrence of the rare North Pacific frostfish, Benthodesmus elongatus pacificus Parin & Becker, 1970, in Monterey Bay. *Calif. Fish & Game* 60 (3): 149-152.

1976. McCosker, J. E. & M. E. Anderson: Aquarium maintenance of mesopelagic animals: a progress report. *Bull. So. Calif. Acad. Sci.* 75 (2): 211-219.

1977. Anderson, M. E.: Range extension of two marine fishes to the Monterey Bay area.

Calif. Fish & Game 63 (2): 132-133.

1978. Anderson, M. E.: Notes on the cephalopods of Monterey Bay, California, with new records for the area. *The Veliger* 21 (2): 255-262.

1978. Peden, A. E. & M. E. Anderson: A systematic review of the fish genus Lycodapus (Zoarcidae), with descriptions of two new species. *Can. J. Zool.* 56 (9): 1925-1961.

1979. Anderson, M. E., G. M. Cailliet & B. S. Antrim: Notes on some uncommon deep-sea fishes from the Monterey Bay area, California. *Calif. Fish & Game* 65 (4): 256-264.

1979. Belman, B. W. & M. E. Anderson: Aquarium observations on feeding by Melanostigma pammelas (Pisces, Zoarcidae). *Copeia* 1979 (2): 366-369.

1980. DeMartini, E. E. & M. E. Anderson: Comparative survivorship and life history of painted greenling (Oxylebius pictus) in Puget Sound, Washington, and Monterey Bay, California. *Environ. Biol. Fish* 5 (1): 33-47.

1981. Anderson, M. E.: Aspects of the natural history of the midwater fish, Lycodapus mandibularis (Zoarcidae) in Monterey Bay, California. *Pacific Sci.* 34(2): 181-184.

1981. Anderson, M. E. & C. L. Hubbs: Redescription and osteology of the northeastern Pacific fish Derepodichthys alepidotus (Zoarcidae). *Copeia* 1981 (2): 341-352.

1981. McAllister, D. E., M. E. Anderson & J. G. Hunter: Deep water eelpouts (Zoarcidae) from Arctic Canada and Alaska. *Can. J. Fish. Aquat. Sci.* 38: 821-839.

1981. Peden, A. E. & M. E. Anderson: Lycodapus (Pisces: Zoarcidae) of eastern Bering Sea and nearby Pacific Ocean, with three new species and a revised key to the species. *Can. J. Zool.* 59: 667-678.

1982. Anderson, M. E.: A new eelpout (Teleostei: Zoarcidae) from the eastern tropical Pacific Ocean. *Bull. Mar. Sci.* 32: 207-212.

1982. Anderson, M. E.: Revision of the fish genera Gymnelus Reinhardt and Gymnelopsis Soldatov (Zoarcidae), with two new species and comparative osteology of Gymnelus viridis. *Publ. Zool., Natl. Mus. Canada* (17): 1-76.

1984. Anderson, M. E.: Zoarcidae: development and relationships, *in*, W. J. Richards et al., (eds.), *Ontogeny and Systematics of Fishes*. *Amer. Soc. Ich. Herp., Spec. Publ.* (1): 578-582.

1986. Anderson, M. E.: Family Zoarcidae. *FAO Species Ident. Sheets for Fishery Purposes: Areas 48, 58, 88*. *FAO, United Nations, Rome*.

1986. Anderson, M. E., R. E. Crabtree, H. J. Carter, K. J. Sulak & M. D. Richardson: Distribution of demersal fishes of the Caribbean Sea found below 2,000 meters. *Bull. Mar. Sci.* 37 (3): 794-807.

1986. Anderson, M. E.: Zoarcidae; Parabrotulidae, *in*, M. M. Smith & P. C. Heemstra

- (eds.), *Smiths' Sea Fishes*. MacMillan South Africa, Ltd., Johannesburg: 342-343.
1988. Anderson, M. E.: Eucryphycus, a new genus of California eelpout (Teleostei: Zoarcidae) based on Maynea californica Starks and Mann, 1911. *Proc. Calif. Acad. Sci.* 45 (5): 89-96.
1988. Anderson, M.E.: Studies on the Zoarcidae of the southern hemisphere. I. The Antarctic and subantarctic regions. *Biol. Antarctic Seas XIX; Antarct. Res. Ser.* 47: 59-113.
1988. Anderson, M. E.: Studies on the Zoarcidae of the southern hemisphere. II. Two new genera from temperate South America. *Proc. Calif. Acad. Sci.* 45 (11): 267-276.
1988. Zorzi, G. D. & M. E. Anderson: Records of the deep-sea skates Raja (Amblyraja) badia Garman, 1899 and Bathyraja abyssicola (Gilbert, 1896) in the eastern North Pacific, with a new key to California skates. *Calif. Fish & Game* 74 (2): 87-105.
1988. Anderson, M.E. & A. E. Peden: The eelpout genus Pachycara (Teleostei: Zoarcidae) in the northeastern Pacific Ocean, with descriptions of two new species. *Proc. Calif. Acad. Sci.* 46 (3): 83-94.
1989. Anderson, M. E. & R. H. Rosenblatt: Pacificogramma stepanenkoi Kharin, 1983 (family Grammatidae), a junior synonym of Pronotogrammus multifasciatus Gill, 1863 (family Serranidae). *Calif. Fish & Game* 75(2): 124-125.
1989. Anderson, M. E.: Records of rare eelpouts of the genus Lycodapus Gilbert in the North and southeastern Pacific Ocean, with an addition to the California marine fish fauna. *Calif. Fish & Game* 75(3): 148-154.
1989. Anderson, M. E.: Revision of the eelpout genus Pachycara Zugmayer, 1911 (Teleostei: Zoarcidae), with descriptions of six new species. *Proc. Calif. Acad. Sci.* 46 (10): 221-242.
1990. Follett, W.I. & M.E. Anderson: Esselenia, a new genus of pricklebacks (Teleostei: Stichaeidae), with two new species from California and Baja California Norte. *Copeia* 1990 (1): 147-163.
1990. Anderson, M.E.: Studies on the Zoarcidae (Teleostei: Perciformes) of the southern hemisphere. III. The southwestern Pacific. *J.L.B. Smith Inst. Ichthyol., Spec. Publ.* (50): 1-17.
1990. Anderson, M. E.: Zoarcidae, *in*, O. Gon & P. C. Heemstra (eds.), *Fishes of the Southern Ocean*. J.L.B. Smith Inst. of Ichthyol., Grahamstown: 256-276.
1990. Anderson, M.E.: Origin and evolution of the Antarctic Ichthyofauna, *in*, O. Gon & P.C. Heemstra (eds.), *Fishes of the Southern Ocean*, J.L.B. Smith Inst. of Ichthyol., Grahamstown: 28-33.
1990. Zorzi, G.D. & M.E. Anderson: Summary of records of the deep-water skates, Raja (Amblyraja) badia Garman, 1899 and Bathyraja abyssicola (Gilbert, 1896), in the eastern North Pacific. *NOAA Tech. Rept.* 90: 389-390.

1991. Anderson, M.E. & A.E. Gosztanyi: Studies on the Zoarcidae (Teleostei: Perciformes) of the southern hemisphere. IV. New records and a new species from the Magellan Province. J.L.B. Smith Inst. of Ichthyol., Ichthyol. Bull. 55: 1-16.

1991. Anderson, M.E.: Studies on the Zoarcidae (Teleostei: Perciformes) of the southern hemisphere. V. Two new species from the Weddell Sea, Antarctica. *Cybium* 15 (2): 151-158.

1991. Anderson, M. E. & A. J. Almeida: Zoarcidae, *in*, J. C. Quero et al. (eds.), Check-list of the Fishes of the Eastern Tropical Atlantic, II. UNESCO, Paris: 888-890.

1992. Anderson, M. E.: Studies on the Zoarcidae (Teleostei: Perciformes) of the southern hemisphere. VI. Review of the genus Ophthalmolycus Regan, 1913, with description of a new species from Chile. J.L.B. Smith Inst. Ichthyol., Spec. Publ. (53): 1-10.

1992. Anderson, M. E.: A new sandperch, Parapercis maritzi, from South Africa. *So. Afr. J. Zool.* 27 (4): 151-155.

1993. Iwamoto, T., W.N. Eschmeyer & M.E. Anderson: Wilbur Irving Follett, Jr., 10 March 1901--13 March 1992 and Lillian J. Dempster, 6 Jan. 1905--28 April 1992 (obituaries). *Copeia* 1993(1): 266-272.

1994. Anderson, M.E. Systematics and osteology of the Zoarcidae (Teleostei: Perciformes). J.L.B. Smith Inst. Ichthyol., Ichthyol. Bull. 60: 1-120.

1994. Iwamoto, T. & M.E. Anderson. Review of the grenadiers (Teleostei: Gadiformes) of southern Africa, with descriptions of four new species. J.L.B. Smith Inst. Ichthyol., Ichthyol. Bull. 61: 1-28.

1994. Anderson, M.E.: Studies on the Zoarcidae (Teleostei: Perciformes) of the southern hemisphere. VII. A new species of Dieidolycus Anderson, 1988 from the Bismarck Sea. *Recs. Austral. Mus.* 46(2): 121-124.

1994. Anderson, M.E., N. Hiller & R.W. Gess. The first Bothriolepis-associated Devonian fish fauna from Africa. *So. Afr. J. Sci.* 90: 397-403.

1995. Anderson, M.E. The eelpout genera Lycenchelys Gill and Taranetzella Andriashev (Teleostei: Zoarcidae) in the eastern Pacific, with descriptions of nine new species. *Proc. Calif. Acad. Sci.* 49(2): 55-113.

1996. Anderson, M.E. "Mechanics and Physiology of Animal Swimming," ed. by L. Maddock, Q. Bone and J.M.V. Rayner [review]. *So. Afr. J. Zool.* 31(2): 92.

1996. Anderson, M.E. "Deep-Water Fisheries of the North Atlantic Oceanic Slope," ed. by A.G. Hopper [review]. *Hydrobiologia* 337: 192-193.

1996. Anderson, M.E. "The Rise of Fishes," by J.A. Long [review]. *Ichthos* (48): 21-23.

1997. Long, J.A., M.E. Anderson, R. Gess & N. Hiller. 1997. New placoderm fishes from the Late Devonian of South Africa. *J. Vert. Paleontol.* 17 (2): 253-268.

1997. Anderson, M.E. Notes on the genus Hymenocephalus Giglioli, 1884 (Teleostei: Macrouridae) in southern Africa. *Trans. Roy. Soc. So. Afr.* 51: 229-232.

1997. Anderson, M.E. & H. Bluhm. Description of a new species of Pachycara Zugmayer, 1911 from the abyssal southeastern Pacific and redescription of P. thermophilum Geistdoerfer, 1994, with a new key to the species. *Trans. Roy. Soc. So. Afr.* 51: 219-227.

1997. Springer, V.G. & M.E. Anderson. Catalog of type specimens of recent fishes in the National Museum of Natural History, Smithsonian Institution, 8: Suborder Zoarcoidei (Anarhichadidae, Bathymasteridae, Pholidae, Ptilichthyidae, Scytalinidae, Stichaeidae, Zoarcidae). *Smithson. Contr. Zool.* (589): 1-27.

1998. Anderson, M.E. A Late Cretaceous (Maastrichtian) galaxiid fish from South Africa. *J.L.B. Smith Inst. Ichthyol., Spec. Publ.* (60): 1-12.

1998. Anderson, M.E. & Germán Pequeño R. Studies on the Zoarcidae (Teleostei: Perciformes) of the southern hemisphere. VIII. A new species of the genus Dieidolycus from Tierra del Fuego. *J.L.B. Smith Inst. Ichthyol., Spec. Publ.* (61): 1-5.

1998. Anderson, M.E., J.E. Almond, F.J. Evans & J.A. Long. Devonian (Emsian-Eifelian) fishes from the lower Bokkeveld Group (Ceres Subgroup) of South Africa. *J. Afr. Earth Sci.* 27(1A): 7-8 (expanded abstract).

1999. Gebruk, A.V., E.M. Krylova, G.M. Vinogradov & E. Anderson. Report on the cold, gas-seeping underwater mud volcano "Haakon Mosby" (Norwegian Sea). In: G.G. Matishov (ed.), *Adaptations of animals and plants to the conditions of the Arctic Seas*. Russian Academy of Sciences, Murmansk: 25-28.

1999. Anderson, M.E., J.A. Long, R.W. Gess & N. Hiller. An unusual new fossil shark (Pisces: Chondrichthyes) from the Late Devonian of South Africa. *Recs. West. Austral. Mus., Suppl.* (57): 151-156.

1999. Anderson, M.E., J.A. Long, F.J. Evans, J.E. Almond, J.N. Theron & P.A. Bender. Biogeographic affinities of Middle and Late Devonian fishes of South Africa. *Recs. West. Austral. Mus., Suppl.* (57): 157-168.

1999. Anderson, M.E., J.E. Almond, F. J. Evans & J.A. Long. Devonian (Emsian-Eifelian) fish from the lower Bokkeveld Group (Ceres Subgroup), South Africa. *J. Afr. Earth Sci.* 29(1): 179-194.

1999. Anderson, M.E. History of the discovery of fossil fish in southern Africa. In: C. Macrae (Ed.), *Life etched in stone. Fossils of South Africa*, Geol. Soc. So. Afr., Johannesburg: 13.

1999. Anderson, E. Fishes of South Africa. In: C. Macrae (ed.), *Life etched in stone. Fossils*

of South Africa. Geol. Soc. So. Afr., Johannesburg: 136-139.

1999. Iwamoto, T. & M. E. Anderson. A new species of *Caelorinchus* (Macrouridae, Gadiformes, Teleostei) from the Indian Ocean. *Copeia* 1999(4): 1079-1083.

2000. Møller, P.R. & M.E. Anderson. Assignment of *Lycodes microcephalum* Jensen, 1902 to *Pachycara* Zugmayer, 1911 (Teleostei: Zoarcidae). *Cybium* 24(1): 61-65.

2000. Anderson, M.E. & A. A. Balanov. *Lycenchelys fedorovi*: a new species of eelpout (Teleostei: Zoarcidae) from the northwestern Pacific Ocean. *Copeia* 2000(4): 1056-1061.

2001. Anderson, M.E. & R.W. Leslie. Review of the deep-sea anglerfishes (Lophiiformes: Ceratioidei) of southern Africa. *J.L.B. Smith Inst. Ichthyol., Ichthyol. Bull.* 70: 1-32.

2001. Maisey, J.G. & M.E. Anderson. A primitive chondrichthyan braincase from the Early Devonian of South Africa. *J. Vert. Paleontol.* 21(4): 702-713

2002. Anderson, M.E. Perciformes: Zoarcoidei: Zoarcidae. *In: FAO Species Identification Guide...western central Pacific.* FAO, Rome: 3493-3494.

2002 Anderson, M.E. & D. Tweddle. A new species of *Physiculus* (Teleostei: Moridae) from the southeastern Atlantic. *Arch. Mar. Fish. Res.* 50(1): 17-22.

2002. Anderson, M.E. & H. Imamura. A new species of *Lycenchelys* (Perciformes: Zoarcidae) from the Pacific coast of northern Japan. *Ichthyol. Res.* 49(4): 355-357.

2003. Anderson, M. E. *Esselenichthys*: A new replacement name for *Esselenia* Follett and Anderson, 1990, junior homonym of *Esselenia* Hebard, 1920 (Orthoptera). *Copeia* 2003(2): 414.

2003. Anderson, M. E. Zoarcoidei (eelpouts and relatives). *In: Grzimek's Animal Life Encyclopaedia*, 2nd ed., vol. 4: Fishes I: 309-319.

2003. Anderson, M. E. & P. C. Heemstra. Review of the glassfishes (Perciformes: Ambassidae) of the western Indian Ocean. *Cybium* 27(3): 199-209.

2004. Anderson, M. E. & V. V. Fedorov. Family Zoarcidae Swainson, 1839 (eelpouts). *Annotated Checklists, Calif. Acad. Sc.* (34): 1-58.

2005. Anderson, M.E. Description of a new species of *Echiodon* (Teleostei: Carapidae) from the South Atlantic Ocean. *Zootaxa* 809: 1-5.

2005. Anderson, M.E. Three new species of *Microbrotula* (Teleostei: Ophidiiformes: Bythitidae) from the Indo-West Pacific. *Zootaxa* 1006: 33-42.

2005. Anderson, M.E., D.L. Stein & H.W. Detrich. Additions to the ichthyofauna of the Tristan da Cunha Group, South Atlantic Ocean. *Zootaxa* 1072: 27-33.

2005. Anderson, M.E. Food habits of some deep-sea fish off South Africa's west coast and

- Agulhas Bank. 1. The grenadiers. *Afr. J. Mar. Sci.* 27(2): 409-425.
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2005. Møller, P.D.R., J.G. Nielsen & M.E. Anderson. Systematics of polar fishes, *In*: Farrell, A.P. & J.F. Steffensen (eds.), *The Physiology of Polar Fishes*, Elsevier, Amsterdam: 25-78.
2006. Anderson, M. E. & M. M. Mincarone. Studies on the Zoarcidae (Teleostei: Perciformes) of the southern hemisphere. IX. A new species of *Pachycara* from the southwestern Atlantic. *Zootaxa* 1177: 21-26.
2006. Anderson, M.E. Studies on the Zoarcidae of the southern hemisphere. X. New records from western Antarctica. *Zootaxa* 1110: 1-15.
2006. Anderson, M.E. Studies on the Zoarcidae (Teleostei: Perciformes) of the southern hemisphere. XI. A new species of *Pyrolycus* from the Kermadec Ridge. *J. Royal Soc. New Zealand* 36(2): 63-68.
2006. Anderson, M.E. Studies on the Zoarcidae (Teleostei: Perciformes) of the southern hemisphere XII. Two new lycodine species from off Peru. *Species Diversity* 11(3): 183-190.
2006. Anderson, M. E. & D. L. Stein. Redescription of the rare ophidioid fish, *Holcomycteronus brucei*, from two new specimens from the Southern Ocean. *Polar Biol.* 29: 640-642.
2007. Shinohara, G. & M.E. Anderson. *Lycenchelys ryukyuensis* sp. nov. (Perciformes: Zoarcidae) from the Okinawa Trough, Japan. *Bull. Natl. Sci. Mus., ser. A.,* 33 (suppl. 1): 59-65.
2007. Anderson, M.E. Two new *Microbrotula* (Teleostei: Ophidiiformes: Bythitidae) from the southwestern Pacific Ocean, with a revised key to the species. *Species Diversity* 12: 1-8.
2007. Anderson, M.E. & F. Satria. A new subfamily, genus and species of pearlfish (Teleostei: Ophidiiformes: Carapidae) from deep water off Indonesia. *Species Diversity* 12: 73-82.
2008. Anderson, M.E. & H. Imamura. Two new gymneline eelpouts (Perciformes: Zoarcidae) from Hokkaido, Japan. *Bull. Natl. Mus. Nature Sci., ser. A (suppl.2)*: 59-67.
2008. Tweddle, D. & M.E. Anderson. A collection of marine fishes from Angola, with notes on new distribution records. *Smithiana, Bull.* 8: 3-24.
2008. Mincarone, M. M. & M.E. Anderson. A new genus and species of eelpout (Teleostei: Zoarcidae) from Brazil. *Zootaxa* (1852): 65-68.

2008. Anderson, M.E. A new genus with two new species of live-bearing brotulas (Teleostei: Ophidiiformes: Bythitidae) from southern Australia. *Species Div.* 13(2-3): 149-156.

2008. Jones, C.D., M.E. Anderson, A.V. Balushkin, G. Duhamel, R.R. Eakin, J.T. Eastman, K.L. Kuhn, G. Lecointre, T.J. Near, A.W. North, D.L. Stein, M. Vacchi & H.W. Detrich. Diversity, relative abundance, new locality records and population structure of Antarctic demersal fishes from the northern Scotia islands and Bouvetøya. *Polar Biol.* 31: 1481-1497.

2009. Anderson, M.E. Zoarcidae. *In*: K. Nakaya, M. Yabe & H. Imamura, C.M. Romero & M. Yoshida (Eds.). *Deep-Sea Fishes of Peru*, Japan Deep-sea Trawlers Assn. & Inst. Del Mar del Peru: 274-289.

2009. Anderson, M.E., D. Stevenson & G. Shinohara. Systematic review of the genus *Bothrocara* Bean, 1890 (Teleostei: Zoarcidae). *Ichthyol. Res.* 56: 172-194.

2012. Anderson, M.E. A new species of *Pachycara* Zugmayer (Teleostei: Zoarcidae) from off Monterey Bay, California, USA, with comments on two North Pacific *Lycenchelys* species. *Zootaxa* (3559): 39-43.

POPULAR ARTICLES

1973. Anderson, M.E. Coastwatch, California [Kaiser Refractories pollution]. *Underwater Naturalist* 8(2): 32-33.

1975. Anderson, M.E. Coastwatch, California [sea otters; Coastal Commission]. *Underwater Nat.* 9(1): 16-17.

1975. Anderson, M.E. Coastwatch, California [fishery conservation]. *Underwater Nat.* 9(2): 25.

1976. Anderson, M.E. Coastwatch, California [wetlands conservation; oil drilling legislation]. *Underwater Nat.* 9(3): 17-18.

1976. Anderson, M.E. Coastwatch, California [coastal protection legislation]. *Underwater Nat.* 10(1): 22-23.

1977. Anderson, M.E. Coastwatch, California [ocean pollution]. *Underwater Nat.* 10(3): 24-25.

1989. Anderson, M.E. The state of deep-sea ichthyology in southern Africa. *Ichthos* (24): 5.

1990. Anderson, M.E. Indo-Pacific fish conference in New Zealand. *Ichthos* (25): 10.

1990. Anderson, M.E. Exploring the depths of the Indian Ocean. *The Phoenix* 3(3): 4-7.

1991. Anderson, M.E. First South African Paleozoic lungfish discovered at Grahamstown. *Ichthos* (29): 11-12.

1991. Anderson, M.E. Submersibles in marine biology. *Ichthos* (30): 14-15.

1992. Anderson, M.E. More fossil fishes from Grahamstown. *Ichthos* (33): 19.
1992. Anderson, M.E. Submersibles in deep-sea biology. *Underwater* (19): 18-21.
1992. Anderson, M.E. The Heidelberg discoveries. *Underwater* (19): 23-28.
1992. Anderson, M.E. New horizons in South African ichthyology. *Ichthos* (35): 21.
1992. Anderson, M.E. SA Navy in marine biology. *Navy News* 11: 13.
1995. Anderson, M.E. "Encyclopaedia of Fishes," edited by J.R. Paxton and W.N. Eschmeyer [review]. *Ichthos* (45): 18-19.
1995. Anderson, M.E. Fossil fishes at Grahamstown. *The Naturalist* 39(1): 26-27.
1995. Anderson, M.E. Grahamstown fossil fish update. *Ichthos* (47): 21-22.
1995. Anderson, M.E. Grahamstown: an important prehistoric site. *The Phoenix* 8(2-3): 17.
1995. Anderson, M.E. and J.A. Long. The ancient lagoon fishes of Grahamstown. *The Phoenix* 8(2-3): 23-25.
1996. Anderson, E. A fossil fish expedition to the Western Cape. *Ichthos* (51): 6-8.
1997. Anderson, E. Stalking fossil fishes in Australia. *Ichthos* (55): 2-3.
1998. Anderson, E. The myth of global warming. *Ichthos* (56): 10-11.
1998. Anderson, E. Deep-sea diving in the Arctic. *Ichthos* (59): 26-29.
2000. Anderson, E. New and rare deep-sea fishes. *Ichthos* (63): 8-9.
2000. Anderson, E. The early evolution of the lobe-fin fishes. *Ichthos* (63): 12-13.
2000. Anderson, E. Conference on fish palaeontology. *Ichthos* (64): 1-2.
2000. Anderson, E. The further evolution of lobe-fin fishes. *Ichthos* (64): 2-3.
2000. Anderson, E. Linefish stock protection – new regulations. *Ichthos* (64): 8.
2000. Anderson, E. Book reviews: *History of the coelacanth fishes*, by Peter L. Forey. *A fish caught in time*, by Samantha Weinberg. *Ichthos* (64): 16.
2000. Anderson, E. Obituaries: Keith Edward Banister, 28 Sep. 1941 – 28 June 1999. Peter Henry John Castle, 13 Feb. 1934 – 21 Dec. 1999. *Ichthos* (64): 17-18.
2001. Anderson, E. Fossil hunt reveals new discoveries. *Ichthos* (65): 4-5.

2001. Anderson, E. Conodonts — jawed vertebrates without jaws! *Ichthos* (65): 7.
2001. Fargher, L. & E. Anderson. Indonesian coelacanth fraud/ South African coelacanth population found. *Ichthos* (65): 8.
2001. Anderson, E. Indo-Pacific fish conference. *Ichthos* (66): 15.
2002. Anderson, E. The Western Indian Ocean Initiative. *Ichthos* (70): 9.
2002. Anderson, E. Glassies of the western Indian Ocean: a case of names. *Ichthos* (70): 11-12.
2003. Anderson, E. Aquatic biology at the Prince Edward Islands — SciFest lecture by Ofer Gon. *Ichthos* 71: 4.
2004. Anderson, E. Collecting trip to Bird Island. *Ichthos* 72: 2.
2005. Anderson, E. Fossil coelacanth identified. *Ichthos* 76: 2.
2005. Anderson, E. The seventh Indo-Pacific Fish Conference in Taiwan. *Ichthos* 76: 9.

MEMBERSHIP IN SCIENTIFIC SOCIETIES

American Society of Ichthyologists and Herpetologists, since 1975.

Society of Systematic Biology, 1976-2001.

American Society of Zoologists, 1978-1990.

Willi Hennig Society, 1984-1999.

Paleontological Society of Southern Africa, 1991-2001.

FOREIGN TRAVEL---COUNTRIES VISITED FOR SCIENTIFIC STUDY OR FIELD WORK.

AUSTRALIA: 1997. Collection of fossil fishes; museum research; conference.

BAHAMAS: 1978, 1980. Collection of deep-sea and shore fishes.

BERMUDA: 1978. Study & collection of fishes; based at National Aquarium.

CANADA: 1976, 1978, 1984. Museum research and shore fish collections.

CHILE: 2004. Field work, fish collections, 2004.

DENMARK: 1978, 1998, 2001. Museum research.

ENGLAND: 1978, 1989. Museum research.

FALKLAND ISLANDS: 2004. Freshwater and marine fish collections

FRANCE: 1978. Museum research.

GERMANY: 1978. Museum research.

JAPAN: 1988, 2005-06. Museum research, teaching and collection of shore fishes.

MADAGASCAR: 1988. Collection of deep-sea and shore fishes.
MAURITIUS: 1988, 1989. Collection of shore fishes.
MEXICO: 1974, 1985. Collection of deep-sea fishes; hydrographic surveys.
NETHERLANDS ANTILLES: 1981. Museum research and shore fish collections.
NEW ZEALAND: 1989. Museum research; conference.
NORWAY: 1978, 1998. Museum research, scientific expedition.
RUSSIA: 1978, 1987. Museum research.
SINGAPORE: 1989. Fisheries research and shore collections.
SOUTH AFRICA: 1989. Transfer to new research institution.
SOUTH GEORGIA: 2004. Marine fish collections.
TAIWAN: 2005: Scientific conference; field trips.
THAILAND: 1993. Scientific conference; field trips.
TRISTAN DA CUNHA: 2004. Marine fish collections.
U.S.A.: Previous residency. Research in 15 museums, 1972-1989, 1994, 2000, 2004.

LIST OF TAXA DESCRIBED AS NEW TO SCIENCE

- 1) Lycodapus endemoscotus Peden & Anderson, 1978
- 2) Lycodapus pachysoma Peden & Anderson, 1978
- 3) Lycodapus leptus Peden & Anderson, 1981
- 4) Lycodapus poecilus Peden & Anderson, 1981
- 5) Lycodapus psarostomatus Peden & Anderson, 1981
- 6) Lycenchelys monstrosa Anderson, 1982
- 7) Gymnelus pauciporus Anderson, 1982
- 8) Gymnelopsis brevifenstrata Anderson, 1982
- 9) Eucryphycus Anderson, 1988, n. gen. (type species: Maynea californica Starks & Mann, 1911).
- 10) Seleniolycus Anderson, 1988, n. gen. (type species: Oidiphorus laevifasciatus Torno et al., 1977).
- 11) Dieidolycus leptodermatus Anderson, 1988
- 12) Lycenchelys nanospinata Anderson, 1988
- 13) Lycenchelys wilkesi Anderson, 1988
- 14) Oidiphorus mcallisteri Anderson, 1988
- 15) Letholycus Anderson, 1988, n. gen. (type species: Melanostigma microphthalmus Norman, 1937).
- 16) Letholycus magellanicus Anderson, 1988
- 17) Plesienchelys Anderson, 1988, n. gen. (type species: Ophthalmolycus stehmanni Gosztonyi, 1977).
- 18) Pachycara gymninium Anderson & Peden, 1988
- 19) Pachycara lepinium Anderson & Peden, 1988
- 20) Pachycara crossacanthum Anderson, 1989
- 21) Pachycara mesoporum Anderson, 1989
- 22) Pachycara pammelas Anderson, 1989
- 23) Pachycara rimae Anderson, 1989
- 24) Pachycara shcherbachevi Anderson, 1989
- 25) Pachycara sulaki Anderson, 1989
- 26) Esselenia carli Follett & Anderson, 1990, n. gen. & sp. (type).
- 27) Esselenia laurae Follett & Anderson, 1990

- 28) Pachycara garricki Anderson, 1990
- 29) Aiakas zinorum Anderson & Gosztonyi, 1991.
- 30) Lycenchelys xanthoptera Anderson, 1991
- 31) Pachycara goni Anderson, 1991
- 32) Ophthalmolycus chilensis Anderson, 1992
- 33) Parapercis maritzi Anderson, 1992
- 34) Dieidolycus adocetus Anderson, 1994
- 35) Caelorinchus simorhynchus Iwamoto & Anderson, 1994
- 36) Caelorinchus trunovi Iwamoto & Anderson, 1994
- 37) Nezumia umbracineta Iwamoto & Anderson, 1994
- 38) Ventrifossa mystax Iwamoto & Anderson, 1994
- 39) Lycenchelys callista Anderson, 1995
- 40) Lycenchelys chauliodus Anderson, 1995
- 41) Lycenchelys folletti Anderson, 1995
- 42) Lycenchelys hadrogeneria Anderson, 1995
- 43) Lycenchelys lonchoura Anderson, 1995
- 44) Lycenchelys pearcyi Anderson, 1995.
- 45) Lycenchelys pentactina Anderson, 1995
- 46) Lycenchelys peruana Anderson, 1995.
- 47) Pachycara nazca Anderson & Bluhm, 1997.
- 48) Bothriolepis africana Long, Anderson, Gess & Hiller, 1997.
- 49) Groenlandaspis riniensis Long, Anderson, Gess & Hiller, 1997.
- 50) Africanaspis doryssa Long, Anderson, Gess & Hiller, 1997, n. gen. et sp.
- 51) Stompooria rogersmithi Anderson, 1998, n. gen. et sp.
- 52) Dieidolycus gosztonyii Anderson & Pequeno, 1998.
- 53) Plesioselachus macracanthus Anderson, Long, Gess & Hiller, 1999.
- 54) Caelorinchus melanosagmatus Iwamoto & Anderson, 1999
- 55) Lycenchelys fedorovi Anderson & Balanov, 2000
- 56) Lycenchelys tohokuensis Anderson & Imamura, 2002
- 57) Physiculus cyanostrophus Anderson & Tweddle, 2002.
- 58) Esselenichthys n. gen. Anderson 2003 (Replacement name)
- 59) Echiodon atopus Anderson, 2005
- 60) Microbrotula bentleyi Anderson, 2005
- 61) Microbrotula polyactis Anderson, 2005
- 62) Microbrotula queenslandica Anderson, 2005
- 63) Pachycara alepidotum Anderson & Mincarone, 2005
- 64) Bothrocara nyx Stevenson & Anderson, 2005
- 65) Pyrolycus moelleri Anderson, 2006
- 66) Lycenchelys imamurai Anderson, 2006
- 67) Pachycara dolichaulus Anderson, 2006
- 68) Lycenchelys ryukyuensis Shinohara & Anderson, 2007
- 69) Microbrotula greenfieldi Anderson, 2007
- 70) Microbrotula punicea Anderson, 2007
- 71) Tetragondacnus spilotus Anderson & Satria, 2007
- 72) Lycenchelys novaezealandiae Anderson & Møller, 2007
- 73) Lycenchelys polyodon Anderson & Møller, 2007
- 74) Davidijordania yabei Anderson & Imamura, 2007
- 75) Bilabria gigantea Anderson & Imamura, 2007
- 76) Leucogrammolycus brychios Mincarone & Anderson, 2008

77) Anacanthobythites platycephalus Anderson, 2008

78) Anacanthobythites tasmaniensis Anderson, 2008

NEW TAXA NAMED IN HONOR OF M. E. ANDERSON

- 1) Linophryne andersoni Gon, 1992. Linophrynidae. Valid.
- 2) Thermarces andersoni Rosenblatt & Cohen, 1986. Zoarcidae. Jr. synonym of Thermarces cerberus Rosenblatt & Cohen, 1986.
- 3) Gymnelus andersoni Chernova, 1998. Zoarcidae. Jr. synonym of Gymnelus retrodorsalis Le Danois, 1913.
- 4) Pachycara andersoni Møller, 2003. Zoarcidae. Valid.
- 5) Dermatopsoides andersoni Møller & Schwarzhans, 2006. Bythitidae. Valid.
- 6) Ericandersonia sagamia Shinohara & Sakurai, 2006. Zoarcidae. Valid.
- 7) Ophthalmolycus andersoni Matallanas, 2009. Zoarcidae. Valid.
- 8) Microbrotula andersoni Schwarzhans & Nielsen, 2011. Bythitidae. Valid.