

CV: Bruce H. Robison

Present Position

Senior Scientist, Monterey Bay Aquarium Research Institute, 1987 –
MBARI Science Department Chair, 1991 - 1996
MBARI Research Division Chair, 2012 – 2016

Education

B.S., Biological Sciences, Purdue University, 1965
M.A., Marine Science, College of William & Mary: VIMS, 1968
Ph.D., Biological Oceanography, Stanford University, HMS, 1973
Certification: Scientific Research Pilot for ADS submersibles, 1982; 2000

Previous Positions

Woods Hole Oceanographic Institution, Woods Hole, MA
Postdoctoral Fellow, 1973.
Postdoctoral Investigator, 1974.
Marine Science Institute, University of California, Santa Barbara
Assistant Research Oceanographer 1974 - 1982
Associate Research Oceanographer 1982 - 1988.

Honors/Awards

Robia legula – a new genus of deep-sea anglerfish
Taonius robisoni – a new species of deep-sea squid
Paraphronima robisoni—a new species of deep-sea amphipod
Fellow, California Academy of Sciences, 1991
Antarctic Service Medal, 1992
Morris Scholar in Residence - University of Maryland, Horn Point, 1996
Monterey Bay National Marine Sanctuary, Science/Research Award, 1997
Fellow, American Association for the Advancement of Science, 1998
Marine Technology Society; Lockheed Martin Award for Ocean Science and Engineering,
2002
Chautauqua Institution of New York, Carnahan-Jackson Lecturer, 2003
University Distinguished Lecturer; Texas A&M University, 2006
Steinbach Visiting Scholar; Joint Program, Massachusetts Institute of Technology/Woods
Hole Oceanographic Institution, 2006
Resident Scholar; Rockefeller Foundation, Bellagio Center, Italy, for research on the
Conservation of Deep Pelagic Biodiversity, 2007
Ed Ricketts Memorial Award for Lifetime Achievement in the Field of Marine Sciences,
Monterey Bay National Marine Sanctuary, 2009
Research Associate, National Museum of Natural History, Smithsonian Institution, 2011—
present
Lawrence R. Blinks Memorial Lecturer. Hopkins Marine Station of Stanford University;

Selected Professional Activities (National/International)

- UNOLS Advisory Council, 1975-1985; Chairman, 1981 - 1983
 UNOLS Fleet Improvement Committee, 1987 - 1990
 UNOLS Submersible Science Study; Chairman, 1987 - 1990
 NSF - Polar Programs Advisory Committee, 1990 - 1993
 - Committee of Visitors, Polar Operations, 1992
 - Committee of Visitors, Polar Science, 1993
 NSF - Ocean Sciences/ACOS Strategic Planning Committee, 1991 - 1994
 National Academy of Sciences/NRC/Marine Board, Committee on Undersea Vehicles, 1992 – 1996
 National Academy of Sciences/NRC/Ocean Studies Board, Committee on Future Needs in Deep Submergence Science, 2003
 UJNR (U.S. - Japan) - Submersible Research Panel, 1994 - 2000
 Antarctic Research Vessel Oversight Committee - ASA/NSF, 1993 - 1997
 PICES (North Pacific Marine Science Organization) – Co-Chair, Working Group on Micronekton, 1998 – 1999
 Editorial Board: Marine Technology Society Journal, 1998 – 2005
 Co-Director – International Symposium on Bioluminescence & Chemiluminescence, 2000
 Scientific Standing Committee for the Polar Research Vessel/ARVOC/NSF, 2003 -- 2005
 International Advisory Board, Bermuda Underwater Exploration Institute, 1999 – present
 National Science Foundation: Design Review Panel for Woods Hole Oceanographic Institution's Replacement HOV (new ALVIN), 2009
 Advisory Board, Waitt Institute for Discovery, 2006-2010
 Science Advisory Board, Schmidt Research Vessel Institute, MSTF, 2009-2011
 Plenary presentation and Discussion Panel Speaker at the University of Sao Paulo's Conference On The Sea, – *Exploring the Deep Pelagic Realm*, Sao Paulo, Brazil, 2012.
 Plenary presentation – Joint meeting of the Australian Marine Sciences Association and the New Zealand Marine Sciences Society – Marine Extremes & Everything in Between: *Vertical displacement of mesopelagic animals by an expanding oxygen minimum zone*. Hobart, Tasmania, Australia, 2012
 Ocean Exploration 2020: A National Forum (panelist, session member, speaker). NOAA OE Program; Long Beach, CA, 2013
 Global Ocean Biodiversity Initiative -- Pelagic Biogeography Working Group; Glasgow, Scotland --*The Bathypelagic Community of Monterey Canyon*, 2013.
 Science Review Panel for CIOERT; the Cooperative Institute for Ocean Exploration, Research and Technology – HBOI, FAU, UNCW -- NOAA Program Office for Ocean Exploration and Research, 2015
 Schmidt Ocean Institute: Science Advisory Committee for development of their advanced, hybrid undersea research vehicle, 2015 – present
 GEOMAR: Helmholtz Centre for Ocean Research, Kiel, Germany
 o Technical & Logistics Centre Seminar – *21st Century Technologies for Midwater Research*, 2016

- Marine Ecology Seminar – *Advances in Deep Pelagic Biology*, 2016

Gordon Research Conference on Ocean Biogeochemistry: Biogeochemistry at Marine Interfaces, Hong Kong University of Science and Technology, Hong Kong, China. *Large Organic Aggregates in Deep Water: Sources and Sinks*, 2018

Selected Professional Activities (Local)

Monterey Bay National Marine Sanctuary - Research Activity Panel, 1992 - 97
Friends of Hopkins Marine Station - Board of Directors, 1992 – 1999, 2021-
Friends of Moss Landing Marine Laboratories - Board of Directors, 1992 – 2000
Advisory Board, 2000 -- 2010
MBARI/Monterey Bay Aquarium - Joint Programs Committee, 1993 – 1998
John H. Martin Scholarship committee (MLML), 1996 – present
Golden State Waters Action Summit: San Francisco Bay and the World Ocean – Ocean
Exploration and Technology, 2016
Adjunct Professor - Moss Landing Marine Laboratories – CSU (2012 – present)

Publications

- Wulff, B.L., E.M. Wulff, B.H. Robison, J.K. Lowry, and H.H. Humm 1968. Summer marine algae of the jetty at Ocean City, Maryland. *Chesapeake Science*, 9(1):56-60.
- Robison, B.H. 1972. Distribution and ecology of the midwater fishes of the Gulf of California. *Copeia*, 1972 (3):448-461.
- Robison, B.H. 1973. Distribution and ecology of the midwater fishes of the eastern North Pacific Ocean. Ph.D. Thesis, Stanford University, 187 pp.
- Robison, B.H. 1973. A system for maintaining midwater fishes in captivity. *Journal of the Fisheries Research Board of Canada*, 30(1):126-128.
- Robison, B.H. 1975. Observations on living juvenile specimens of the slender mola, *Ranzania laevis* (Pisces, Molidae). *Pacific Science*, 29(1):27-29.
- Robison, B.H. 1976. Deep-Sea Fishes. *Natural History. American Museum of Natural History*, 85(7):38-46.
- Robison, B.H. 1977. A method for easing the launch and recovery of mouth-closing midwater trawls. *Deep-Sea Research*, 24:301-302.
- Siegel, J.A., T.W. Pietsch, B.H. Robison, and T. Abe 1977. *Squaliolus sarmenti* and *S. alii*, synonyms of the dwarf deep-sea shark, *Squaliolus laticaudus*. *Copeia*, 1977 (4):788-791.
- Backus, R.H., J.E. Craddock, R.L. Haedrich, and B.H. Robison 1977. Atlantic mesopelagic zoogeography. In: Fishes of the western North Atlantic. *Memoir, Sears Foundation for Marine Research*, 1(7):266-287.

- Nafpaktitis, B.G., R.H. Backus, J.E. Craddock, R.L. Haedrich, B.H. Robison, and C. Karnella 1977. Family Myctophidae. In: Fishes of the western North Atlantic. *Memoir, Sears Foundation for Marine Research*, 1(7):13-265.
- Robison, B.H. 1978. Lurkers of the deep: life within the ocean depths. David McKay Co., Inc., New York. 90 pp.
- Childress, J.J., A.T. Barnes, L.B. Quetin, and B.H. Robison 1978. Thermally protecting cod ends for the recovery of living deep-sea animals. *Deep-Sea Research*, 25:419-422.
- Robison, B.H. 1978. Reconnaissance survey of Santa Cruz Island. California State Water Resources Control Board, *Water Quality Monitoring Report*, 79-8, 109 pp.
- Robison, B.H. 1979. Reconnaissance survey of Anacapa Island. California State Water Resources Control Board, *Water Quality Monitoring Report*, 79-7, 39 pp.
- Lancraft, T.M. and B.H. Robison 1980. Evidence of post-capture ingestion by midwater fishes in trawl nets. *Fishery Bulletin*, 77(2):713-715.
- Cox, J.L. and B.H. Robison 1981. Reconnaissance survey of San Rosa Island. California State Water Resources Control Board, *Water Quality Monitoring Report*, 96 pp.
- Robison, B.H. and J.L. Cox 1981. Reconnaissance survey of San Miguel Island. California State Water Resources Control Board, *Water Quality Monitoring Report*, 102 pp.
- Robison, B.H. and R.E. Young 1981. Bioluminescence in pelagic octopods. *Pacific Science*, 35:39-44.
- Robison, B.H. and T.G. Bailey 1981. Sinking rates and dissolution of midwater fish fecal matter. *Marine Biology*, 65:135-142.
- Carey, F.G. and B.H. Robison 1981. Acoustically monitored diel behavior patterns of the swordfish *Xiphias gladius*. *Fishery Bulletin*, 79:227-292.
- Robison, B.H. and T.G. Bailey 1982. Nutrient energy flux in midwater fishes. Proceedings, Third Pacific Workshop on fish food habits studies. *University of Washington Press*, pp. 80-87.
- Robison, B.H. and J.E. Craddock 1983. Mesopelagic fishes eaten by Fraser's dolphin *Lagenodelphis hosei*. *Fishery Bulletin*, 81:283-289.
- Robison, B.H. 1983. Midwater biological research with the WASP ADS. *Marine Technology Society Journal*, 17:21-27.

- Robison, B.H. and T.M. Lancraft 1984. *Gorgasia barnesi* (Congridae, Heterocongrinae), a new garden eel from the Banda Sea. *Copeia*, 1984 (2):404-409.
- Allredge, A.L., B.H. Robison, A. Fleminger, J.J. Torres, J.M. King, and W.M. Hamner 1984. Direct sampling and in situ observation of a persistent copepod aggregation in the deep-sea. *Marine Biology*, 80:75-81.
- Robison, B.H. and T.M. Lancraft 1984. An upward transport mechanism from the benthos. *Naturwissenschaften*, 71:322-323.
- Robison, B.H. 1984. Herbivory by the myctophid fish, *Ceratoscopelus warmingii*. *Marine Biology*, 84:119-123.
- Torres, J.J., T.M. Lancraft, B.C. Weigle, T.L. Hopkins and B.H. Robison 1984. Distribution and abundance of fishes and salps in relation to the marginal ice-zone of the Scotia Sea. *Antarctic Journal of the United States*, 19:117-119.
- Bailey, T.G. and B.H. Robison 1986. Food availability as a selective factor on the chemical compositions of midwater fishes in the eastern North Pacific. *Marine Biology*, 91:131-141.
- Robison, B.H., S.V. Margolis and R.K. Zimmer-Faust. 1987. The wreck of the Pac Baroness: A copper spike for tracing biogeochemical signals off the California coast. *Eos*, 68:1687.
- Robison, B.H. 1989. Depth of occurrence and partial chemical composition of a giant squid, *Architeuthis*, off southern California. *Veliger*, 32:39-42.
- Widder, E.A., S. Bernstein, D.F. Bracher, J.F. Case, P. Hiller-Adams, K.R. Reisenbichler, J.J. Torres and B.H. Robison 1989. Bioluminescence in Monterey Canyon: image analysis of in situ video recordings from a midwater submersible. *Marine Biology*, 100: 541-551.
- Robison, B.H. and K. Wishner 1990. Biological research needs for submersible access to the greatest ocean depths. *Marine Technology Society Journal*, 24: 34-37.
- Robison, B.H. 1990. Report of the UNOLS Submersible Science Study Committee. University-National Oceanographic Laboratory System, 46 pp.
- Butler, J.L., W.W. Wakefield, P.B. Adams, B.H. Robison, and C.H. Baxter 1991. Applications of line transect methods to surveying demersal communities with ROVs and manned submersibles. *Proceedings, Oceans '91*, Vol. 2, pp 689-696.
- Reisenbichler, K.R. and B.H. Robison 1991. Deep sea diving from an armchair: using an ROV for mesopelagic research. *Proceedings, AAUS, 11th Annual Symposium*, pp. 75-78.
- Hamner, W.M. and B.H. Robison 1992. In situ observations of giant appendicularians in Monterey Bay. *Deep-Sea Research*, 39: 1299-1313.

- Matsumoto, G.I. and B.H. Robison 1992. *Kiyohimea usagi*, a new species of lobate ctenophore from the Monterey Submarine Canyon. *Bulletin of Marine Science*, 51: 19-29.
- Robison, B.H. 1992. Bioluminescence in the benthopelagic holothurian *Eynpniastes eximia*. *Journal of the Marine Biological Association of the United Kingdom*, 72: 463-472.
- Robison, B.H., K.R. Reisenbichler and S.A. Echemendy 1992. A scientific perspective on the merits of manned and unmanned vehicles. *Proceedings, Intervention/ROV '92*, pp. 485-489.
- Vecchione, M., B.H. Robison, and C.F.E. Roper 1992. A tale of two species: tail morphology in paralarval *Chiroteuthis*. *Proceedings of the Biological Society of Washington*, 105: 683-692.
- Robison, B. H. 1993. Midwater research methods with MBARI's ROV. *Marine Technology Society Journal*. 26: 32-39.
- Newman, J.B and B.H. Robison 1993. Development of a dedicated ROV for ocean science. *Marine Technology Society Journal*, 26: 46-53.
- Robison, B.H., 1993. New technologies for sanctuary research. *Oceanus*, 36:75-80.
- Robison, B.H. and H.G. Greene 1993. Geology and biology of North Pacific cold seep communities. *Geophysics News/1992*: 34-35.
- Kaufmann, R.S., K.L. Smith, Jr., R.J. Baldwin, R.C., Glatts, B.H. Robison and K.R. Reisenbichler 1995. Epipelagic communities in the northwestern Weddell Sea: results from acoustic, trawl and trapping surveys. *Antarctic Journal of the United States*, 28:138-141.
- Robison, B.H. 1995. Light in the Ocean's Midwaters. *Scientific American*, 273(1):60-64.
- Kaufmann, R.S., K.L. Smith, Jr., R.J. Baldwin, R.C. Glatts, B.H. Robison, and K.R. Reisenbichler 1995. The effects of seasonal pack ice on the distribution of macrozooplankton and micronekton in the northwestern Weddell Sea. *Marine Biology*, 124:387-397.
- Barry, J.P., H.G. Greene, D.L. Orange, C.H. Baxter, B.H. Robison, R.E. Kochevar, J.W. Nybakken, D.L. Reed, C. M. McHugh 1996. Biologic and geologic characteristics of cold seeps in Monterey Bay, California. *Deep-Sea Research*, 43:1739-1762.
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- Greene, H.G., J.P. Barry, J. Hashimoto, Y. Fujiwara, R.E. Kochevar and B.H. Robison 1997. A submersible-based comparison of cold-seep regions in Sagami and Monterey Bays. *JAMSTEC Journal of Deep Sea Research*, 13:395-415.

- Robison, B.H., K.R. Reisenbichler, R. E. Sherlock, J.M.B. Silguero and F.P. Chavez 1998. Seasonal abundance of the siphonophore, *Nanomia bijuga*, in Monterey Bay. *Deep-Sea Research II* 45:1741-1752.
- Robison, B.H. 1999. Shape change behavior by mesopelagic animals. *Marine and Freshwater Behaviour and Physiology* 32:17-25.
- Hopcroft, R.R. and B.H. Robison 1999. A new mesopelagic larvacean, *Mesochordaeus erythrocephalus*, sp. nov., from Monterey Bay, with a description of its filtering house. *Journal of Plankton Research*, 21:1923-1937.
- Druffel, E.R.M. and B.H. Robison 1999. Is the deep sea on a diet? *Science* 284:1139-1140.
- Robison, Bruce and Judith Connor 1999. The Deep Sea. *Monterey Bay Aquarium Natural History Book Series*. Monterey Bay Aquarium Foundation. 80 pp.
- Silguero, J.M.B. and B.H. Robison 2000. Seasonal abundance and vertical distribution of mesopelagic calycophoran siphonophores in Monterey Bay, CA. *Journal of Plankton Research* 22:1139-1153.
- Robison, B.H. 2000. The coevolution of undersea vehicles and deep-sea research. *Marine Technology Society Journal* 33:65-73.
- Sherlock, R.E. and B.H. Robison 2000. Effects of temperature on the development and survival of *Nanomia bijuga* (Hydrozoa, Siphonophora). *Invertebrate Zoology* 119:379-385.
- Hunt, J.C., L. Zeidberg, W.M. Hamner, and B.H. Robison. 2000. The behaviour of *Loligo opalescens* (Mollusca: Cephalopoda) as observed by a remotely operated vehicle (ROV). *Journal of the Marine Biological Association of the United Kingdom* 80:873-883.
- Tamburri, M.N., M.N. Halt and B.H. Robison 2000. Chemically regulated feeding by a midwater medusa. *Limnology and Oceanography* 45:1661-1666.
- Harbison, G.R., G.I. Matsumoto and B.H. Robison. 2001. *Lampocteis cruentiventer* gen. nov., sp. nov.: A new mesopelagic lobate ctenophore, representing the type of a new family (Phylum Ctenophora (Class Tenticulata, Order Lobata, Family Lampoctenidae, fam. nov.)). *Bulletin of Marine Science* 68:299-311.
- Haddock, S.H.D., T.J. Rivers and B.H. Robison 2001. Can coelenterates make coelenterazine? Dietary requirements for luciferin in cnidarian bioluminescence. *Proceedings of the National Academy of Science* 98:11148-11151.
- Case, J.F., P.J. Herring, B.H. Robison, S.H.D. Haddock, L.J. Kricka, and P.E. Stanley, editors; 2001. *Bioluminescence and Chemiluminescence 2000*. World Scientific, Singapore, 517 pp.
- Robison, B.H. 2001. Essay: Water Column Life, pp. 98-99 In: Earle, S. *Atlas of the Ocean: The*

Deep Frontier. National Geographic Society, Washington, D.C. 192 pp.

Robison, B.H. 2002. Submersibles in oceanographic research, pp. 387-390 In: Benson, K.R. and P.F. Rehbock (eds) *Oceanographic History: the Pacific and Beyond. Proceedings of the Fifth International Congress on the History of Oceanography*. University of Washington Press, Seattle, 556 pp..

Robison, B.H. 2003. What drives the diel vertical migrations of Antarctic midwater fish? *Journal of the Marine Biological Association of the United Kingdom* 83:639-642.
DOI: <https://doi.org/10.1017/S0025315403007586h>

Robison, B.H., K.R. Reisenbichler, J.C. Hunt, and S.H.D. Haddock. 2003. Light production by the arm tips of the deep-sea cephalopod *Vampyroteuthis infernalis*. *Biological Bulletin* 205:102-109.

Robison, B. H. 2004. Deep pelagic biology. *Journal of Experimental Marine Biology and Ecology* 300(1-2):253-272.

National Research Council (NRC) 2004. Future Needs in Deep Submergence Science: Occupied and Unoccupied Vehicles in Basic Ocean Research. *National Academy Press*, Washington, D.C. (B. H. Robison was a member of the committee and co-author of the report).

Drazen, J. C. and B. H. Robison 2004. Direct observations of the association between a deep-sea fish and a giant scyphomedusa. *Marine and Freshwater Behaviour and Physiology* 37(3):209-214.

Lancraft, T.M., K.R. Reisenbichler, B.H. Robison, T.L. Hopkins, and J. Torres 2004. A krill-dominated micronekton and macrozooplankton community in Croker Passage, Antarctica with an estimate of fish predation. *Deep-Sea Research II* 51:2247-2260.

Gutowska, M.A., J.C. Drazen, and B.H. Robison 2004. Digestive chitinolytic activity in marine fishes of Monterey Bay, California; *Comparative Biochemistry and Physiology, Part A* 139:351-358.

Seibel, B.A., S.K. Goffredi, J.J. Childress, E.V. Thuesen, and B.H. Robison 2004. Ammonium content and buoyancy in midwater cephalopods. *Journal of Experimental Marine Biology and Ecology* 313(2):375-387.

Robison, B.H. 2004. Book Review – Beyond the Outer Shores: The Untold Odyssey of Ed Ricketts, the Pioneering Ecologist Who Inspired John Steinbeck and Joseph Campbell, by Eric Enno Tamm. *American Scientist* 92(6):568-569.

Robison, B.H., K.A. Raskoff and R.E. Sherlock 2005. Ecological substrate in midwater: *Doliolula equus*, a new mesopelagic tunicate. *Journal of the Marine Biological Association of the United Kingdom* 85:655-663.

- Raskoff, K.A. and B.H. Robison 2005. A novel mutualistic relationship between a doliolid and a cnidarian, *Bythotiara dolioeques* sp. nov. *Journal of the Marine Biological Association of the United Kingdom* 85:583-593.
- Robison, B.H., K.A. Raskoff and R.E. Sherlock 2005. Adaptations for living deep: a new, bathypelagic doliolid from the eastern North Pacific. *Journal of the Marine Biological Association of the United Kingdom* 85:595-602.
- Hopcroft, R.R. and B.H. Robison 2005. New mesopelagic larvaceans in the genus *Fritillaria* from Monterey Bay, California. *Journal of the Marine Biological Association of the United Kingdom* 85:655-678.
- Widder, E.A., B.H. Robison, K.R. Reisenbichler and S.H.D. Haddock 2005. Using red light for in situ observations of deep-sea fishes. *Deep-Sea Research I* 52:2077-2085.
- Seibel, B.A., B.H. Robison and S.H.D. Haddock 2005. Post-spawning egg care by a squid. *Nature* 438:929.
- Robison, B.H., K.R. Reisenbichler and R.E. Sherlock 2005. Giant larvacean houses: rapid carbon transport to the deep sea floor. *Science* 308:1609-1611.
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- Bush, S.L. and B.H. Robison 2007. Ink utilization by mesopelagic squid. *Marine Biology* 152:485-494.
- Smith, K.L., B.H. Robison, J.J. Helly, R.S. Kaufmann, H.A. Ruhl, T.J. Shaw, B.S. Twining and M. Vernet 2007. Free-Drifting Icebergs: Hotspots of chemical and biological enrichment in the Weddell Sea. *Science* 317:478-482.
- Zeidberg, L. D. and B. H. Robison 2007. Invasive range expansion by the Humboldt squid, *Dosidicus gigas*, in the eastern North Pacific. *Proceedings of the National Academy of Sciences* 104:12948-12950.

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- Swift, H. F., W.M. Hamner, B.H. Robison and L.P. Madin. 2009. Feeding behavior of the ctenophore *Thalassocalyce inconstans*: revision of anatomy of the order Thalassocalycida. *Marine Biology* 156:1049-1056.
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- Robison, B.H. and W.M. Hamner 2009. Pocket Basins, and Deep-Sea Speciation. In: *Encyclopedia of Islands* (R. Gillespie & D. Clague, Eds) University of California Press, Berkeley; pp.755-757.
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- Robinson, C., D.K. Steinberg, T.R. Anderson, J. Aristegui, C.A. Carlson, J.R. Frost, J-F. Ghiglione, S. Hernandez-Leon, G.A. Jackson, R. Koppelman, B. Queguiner, O. Ragueneau, F. Rassoulzadegan, B.H. Robison, C. Tamburini, T. Tanaka, K.F. Wishner, and J. Zhang 2010. Mesopelagic zone ecology and biogeochemistry – a

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