

John Anthony Cigliano, Ph.D.

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EDUCATIONAL BACKGROUND

Ph.D. Biology, Boston University (Boston, MA), 1994

Dissertation: *The behavior and ecology of the mudflat octopus* (*Octopus bimaculoides*)
and the pygmy octopus (*Octopus* spp.). Advisor: Dr. Frederick E. Wasserman

B.S. Biology-Geology, University of Rochester (Rochester, NY), 1985

RESEARCH & ACADEMIC INTERESTS

Marine conservation • Conservation of marine fisheries • Effect of global climate change and ocean acidification on marine populations and communities • Conservation education

POSITIONS (MOST RECENT)

Professor of Biology, Director of Environmental Conservation (formerly Biodiversity & Conservation Biology) and Academic Coordinator of the Hawk Mountain Program, Department of Biological Sciences, Cedar Crest College, Allentown, PA, 2011-Present

Associate Professor of Biology, Director of Biodiversity & Conservation Biology Program and Academic Coordinator of the Hawk Mountain Program, Department of Biological Sciences, Cedar Crest College, Allentown, PA, 2011-2013

Associate Professor of Biology and Chair, Department of Biological Sciences, Cedar Crest College, Allentown, PA, 2008-2011

Associate Professor of Biology, Director of Biodiversity & Conservation Biology Program and Academic Coordinator of the Hawk Mountain Program, Department of Biological Sciences, Cedar Crest College, Allentown, PA, 2006-2008

Assistant Professor of Biology, Director of Biodiversity & Conservation Biology Program and Academic Coordinator of the Hawk Mountain Program (tenure track), Department of Biological Sciences, Cedar Crest College, Allentown, PA, 2000-2006

ADDITIONAL POSITIONS (MOST RECENT)

Governor, Society for Conservation Biology, 2014-Present

President, Marine Section, Society for Conservation Biology, 2014-Present.

President-elect, Marine Section, Society for Conservation Biology, 2013-2014

Co-chair, International Marine Conservation Congress, Glasgow, Scotland UK, 2012-2014

Co-chair, Program Committee, International Marine Conservation Congress, Glasgow, Scotland UK, 2012-2014

Chair, International Congress for Conservation Biology, Society for Conservation Biology, Baltimore, MD USA, 2012-2013.

Board of Directors, Friends of Allentown Parks, 2012-Present
 Board of Directors, Lehigh Valley Zoological Association, 2012-Present
 Board of Directors (Finance Officer), Marine Section, Society for Conservation Biology, 2011-Present.
 Co-organizer, International Marine Conservation Think Tank, Marine Section, Society for Conservation Biology, Auckland, New Zealand, 2009-2011.
 Co-Chair, Scientific Program Committee, 2nd International Marine Conservation Congress, Marine Section, Society for Conservation Biology, Victoria, B.C. Canada, 2009-2011.
 Research Committee, Lehigh Valley Zoo, 2010-Present
 Chair, 1st International Marine Conservation Congress, Marine Section, Society for Conservation Biology, Fairfax, VA USA, 2006-2009.
 Board of Directors (Science & Education coordinator), Marine Section, Society for Conservation Biology, 2004-2008.
 Member, Marine Section, Society for Conservation Biology, 2002-Present.
 Research Advisor, Center for Marine Resource Studies-School for Field Studies, South Caicos, Turks & Caicos Islands, 2004
 Board of Advisors, Bahamas Environmental Resource Center, Andros Island, The Bahamas, 1997-2002

GRANTS (MOST RECENT):

The effects of ocean acidification on temperate marine rocky intertidal communities. Earthwatch Institute (~\$20-25,000 annually), 2014+
Testing the effectiveness of the Sapodilla Cayes Marine Reserve in protecting and replenishing queen conch populations. Earthwatch Institute (~\$20-25,000 annually), 2005-2008, 2010-2012
Expanding Research Opportunities for Undergraduate Women in the Sciences. Fund for the Improvement of Postsecondary Education (FIPSE) (\$100,000), 2011
Women First: Advancing First-Generation College Women as Leaders in Math and Science. NSF S-STEM. (\$598,000), 2009-2012 [Co-PI: L. Quarino]
Genetic connectivity of queen conch populations in Belize. Marine Managed Area Science Project, Conservation International. (\$30,000), 2007-2009 [Co-PI R.M. Kliman]

INVITED TALKS AND WORKSHOPS (MOST RECENT)

How Can You Best Contribute to Conservation? Insights from Marine Conservation, Citizen Science, and the Liberal Arts, 15 October 2014, Opening Plenary for 5th Annual Student Conference on Conservation Science-New York (SCCS-NY), American Museum of Natural History,
Mack Lipkin Man and Nature Series: "This Year In Conservation" 2014 Panel Discussion, 16 October 2014, 5th Annual Student Conference on Conservation Science-New York (SCCS-NY), American Museum of Natural History
Development of a Participatory Environmental Monitoring Program for Galapagos, The Galapagos National Park, June 25-29, 2012 (invited as expert on volunteer-based marine biodiversity monitoring).
Before and after in Belize: Testing a marine reserve. In: *From the forest to the ocean: how protected areas can positively impact species conservation.* Royal Geographical Society, London, 2012.

Queen Conch Earthwatch Project in Sapodilla Cayes Marine Reserve, Belize. In: Enhancing Biodiversity Conservation and Environmental Stewardship through Public Participation in Scientific Research, American Museum of Natural History. Co-sponsored by the American Museum of Natural History and The Ornithology Lab at Cornell University, 2011
Population assessment and movement of queen conch (Strombus gigas) in the Sapodilla Cayes Marine Reserve, Presented to the Belize Department of Fisheries, Managed Marine Area workshop (Sponsored by Conservation International), 2009
Long live the Queen (conch)? Boston Malacological Society, 2006

REVIEWS

Chapter reviews (Most Recent):

Courchamp, F., Berec, L, and Gascoigne, L. 2008. *Allee Effects in Ecology and Conservation*, Oxford University Press.
Hochberg, F.G. & Camacho-García, Y. *Mollusca: Cephalopoda*, 2008. In: *The Marine Biodiversity of Costa Rica, Central America. Monographiae Biologicae* vol. 86, Springer Verlag, Germany.
Doemerose, M. (ed.). 2007. *Treasures in the Sea: Our Bahamian Marine Resources.* American Museum of Natural History and The Bahamas Natural Trust.
Rose, M.R. and Mueller, L.D. 2006. *Evolution and Ecology of the Organism.* Pearson.

Journal reviews:

Animal Behavior, Bulletin of Marine Biology, Caribbean Journal of Science, Conservation Biology, Journal of Comparative Psychology, Journal of Freshwater Ecology, P.S.Z.N: Marine Ecology, Marine Ecology Progress Series, Journal of the Marine Biological Association, Marine Biology

Grant proposal reviews:

National Science Foundation, WC&PR Undersea Research Center, NOAA, New Hampshire Sea Grant, Pennsylvania Academy of Sciences

Professional Society Membership:

Society for Conservation Biology
Citizen Science Association

Publications (Peer Reviewed)

Cigliano, J.A. and Kliman, R.M. 2014. Density, age structure, and length of queen conch (*Strombus gigas*) in shallow-water aggregations in the Sapodilla Cayes Marine Reserve, Belize. *Caribbean Journal of Science*. 48(1): 18-30
Parsons, E.C.M., Favaro, B., Draheim, M., McCarthy, J.B., Aguirre, A., Bauer, A.L., Blight, L.K., Brix, K., Cigliano, J.A., Coleman, M.A, Côté, I.M., Fletcher, S., Foley, M.M., Jefferson, R., Jones, M.C., Kelaher, B.P., Lundquist, C., Nelson, A., Patterson, K., Ranft, S., Wright, A.J. 71 Questions of global importance for the conservation of marine biological diversity. Submitted to *Conservation Biology* 28(5): 1206–1214 □
Hines, E., Parsons, E.C.M, and Cigliano, J.A. 2011. Making Marine Science Matter: A Special Issue Highlighting the First International Marine Conservation Congress. *Bulletin of Marine Science*, 87(2): 161-164. (Introduction to special issue)

- Doukakis, P., Parsons, E. C. M., Burns, W. C. G., Salomon, A.K., Hines, E., and Cigliano, J.A. 2009. Gaining Traction: Retreading the Wheels of Marine Conservation. *Conservation Biology*, 23(4): 841–846.
- Hagenbuch, B.E., Bynum, N., Sterling, E., Bower, A. H., Cigliano, J. A., Abraham, B. J., Engels, C., Mull, J. F., Pierce, J. D., and Mayer, M. 2009. Evaluating a Multi-Component Assessment Framework for Biodiversity Education. *Teaching Issues and Experiments in Ecology*, Vol. 6, Research #3 [online]. <http://tiee.ecoed.net/vol/v6/research/hagenbuch/abstract.html>
- Cigliano, J.A. 2005. Metapopulations. *Network of Conservation Educators and Practitioners*, American Museum of Natural History, NY.
- Hersek, M.J, Frankel, M.A., Cigliano, J.A., and Wasserman, F.E. 2002. Cowbird parasitism of Ovenbirds in suburban forest fragments. *The Auk*. 119(1), 240-243.
- Cigliano, J.A. 1995. Assessment of the mating history of female pygmy octopuses and a possible sperm competition mechanism. *Animal Behaviour*, 49, 849-851
- Cigliano, J.A. 1993. Dominance and den use in *Octopus bimaculoides*. *Animal Behaviour*, 41, 677-684.
- Wasserman, F.E. & Cigliano, J.A. 1991. Song output and stimulation of the female white-throated sparrows. *Behavioral Ecology & Sociobiology*, 29, 55-59.

Guest Editor

- Cigliano, J.A., Parsons, E.C.M, and Oester, S. (editors). Making Marine Science Matter: A Special Issue Highlighting the 3rd International Marine Conservation Congress. *Ocean and Coastal Management*
- Hines, E., Parsons, E.C.M, and Cigliano, J.A. (editors). 2011. Making Marine Science Matter: A Special Issue Highlighting the First International Marine Conservation Congress. *Bulletin of Marine Science*, 87(2): 161-274.

Editorials

- Primack, R., Cigliano, J.A., and Parsons, E.C.M. 2014. Coauthors gone bad; how to avoid publishing conflict and a proposed agreement for co-author teams. *Biological Conservation* 176: 277–280
- Cigliano, J.A. 2014. Don't give equal time to climate change deniers. *Philadelphia Inquirer*

Publications in Review

- Cigliano, J.A., Meyer, R., Ballard, H.L., Freitag, A., Phillips, T.B., and Wasser, A. Making Marine and Coastal Citizen Science Matter. Submitted to *Ocean and Coastal Management*

Publications in Preparation

- Cigliano, J.A., Parsons, E.C.M., Favaro, B., Draheim, M., McCarthy, J.B., Lundquist, C., Patterson, K., Wright, A.J. In Prep. The kraken in the aquarium, or questions not being asked in marine conservation but should. Will be submitted to *Conservation Biology*

Publications (non-peer reviewed)

- Lundquist, C. and Cigliano, J.A. 2007. Big Blue Gets Its Due. *Conservation Biology*, 21(2): 560-561 [Book Review]

- Cigliano, J.A. 2000. A preliminary marine biodiversity survey of Andros Island. *Bahamas Journal of Science*, 7 (2), 51-54.
- Wasserman, F.E., Hersek, M.J., Frankel, M.A., Cigliano, J.A., Morimoto, D.C., Moran, J. 1998. Evolutionary lag in cowbird nestling recognition by ovenbirds. *Bird Observer*, 26 (5), 229-235.

Publications (popular press)

- Cigliano, J.A. 2012. THE CONSERVATION COLUMN: Protecting marine biodiversity, *Sport Diver Magazine (U.K. edition)*. <http://www.sportdiver.co.uk/Ask-The-Experts/Photo-Workshop/THE-CONSERVATION-COLUMN-Protecting-marine-biodiversity>

Organized Sessions

- Cigliano, J.A., Ballard, H., Phillips, T. and Levenson, J. 2014, Making Marine Citizen Science Matter. *3rd International Marine Conservation Congress* [Symposium]
- Meyer, R., Freitag, A., Phillips, T., Ballard, H., Wasser, A., Levenson, J. and Cigliano, J.A. 2014. Making Marine Citizen Science Matter. *3rd International Marine Conservation Congress* [Focus Group]
- Foster, S., Vincent, A. and Cigliano, J.A. 2014. Moving beyond paper agreements: catalyzing conservation action by national governments. *3rd International Marine Conservation Congress* [Focus Group]
- Foster, S. and Cigliano, J.A. 2011. Integrating science and policy: how scientists can help the Convention on International Trade in Endangered Species (CITES) advance marine conservation. *2nd International Marine Conservation Congress* [Symposium]
- Cigliano, J.A. 2009. Symposium: Lessons Learned from the International Marine Conservation Congress and Future Directions in Marine Conservation. *23rd Annual Meeting of the Society for Conservation Biology* [Symposium]

Presentations (Last 5 years; Undergraduate students in bold)

- Cigliano, J. A. and Kliman, R. M. Making citizen science matter for queen conch (*Strombus gigas*) in Belize. *3rd International Marine Conservation Congress*
- Colangelo, J.** and Cigliano, J.A. 2014. The Effects of Ocean Acidification and raised ocean temperatures on *Fundulus heteroclitus* interactions with their prey. *Lehigh Valley Ecology and Evolution Symposium*.
- Groom, M., E. Sterling, A. L. Porzecanski, A. Bravo, N. Bynum, B. Abraham, J.A. Cigliano, L. Dávalos, C. Griffiths, D. Stokes, 2013. Cultivating Critical Thinking Skills Among Conservation Biology Students. *26th International Congress for Conservation Biology*
- Porzecanski, A.L., E. Sterling, N. Byrum, A. Bravo, R. Burks, A. Gómez, K. Landrigan, B. J. Abraham, G. Bowser, M. Cawthorn, J. A. Cigliano, L. M. Dávalos, D. S. Fernandez, L. Freeman, S. R. Ketcham, T. A. Langen, J. Linder, J. F. Mull, M. I. Palmer¹, D. Roon, Douglas Ruby, J. Singleton, T. Theodose and D. W. Vogler. 2013. Cultivating skills for 21st century professionals: Development & assessment of process skills in ecology and conservation biology. *2013 Meeting of the Ecological Society of America*.
- Lansberry, C.** and Cigliano, J.A. 2013. Dominance Hierarchy in the Mexican Grey Wolves (*Canis lupus baileyi*) at the Lehigh Valley Zoo. *Lehigh Valley Ecology and Evolution Symposium*.
- Welch, K.*** and Cigliano, J.A. 2012. Using niche modeling to predict possible geographic range shifts in *Strombus gigas* (queen conch) under various climate change scenarios.

- Annual Meeting of the Pennsylvania Academy of Science.* * Best undergraduate oral presentation award.
- Schwab, J. L.**, Cigliano, J.A. and Kliman, R.M. 2012. Gene sequencing of conch to test for possible hybridization between *Strombus gigas* and *S. costatus*. *Annual Meeting of the Pennsylvania Academy of Science.*
- Dechene, R.*** and Cigliano, J.A. 2012. The effect of diet on the survival and reproduction of the brown marmorated stinkbug, *Halyomorpha halys*. *Annual Meeting of the Pennsylvania Academy of Science.*
- Amber Funk*** and Cigliano, J.A. 2012. The effect of multiple stressors, increased temperature and acidification, on the growth and survival of the common periwinkle, *Littorina littorea*. *Annual Meeting of the Pennsylvania Academy of Science.*
- Schwab, J.L.**, Cigliano, J.A., Kliman, R.M. 2012. Genetic analysis of unusual conch collected in Belize. *Lehigh Valley Ecology and Evolution Symposium.*
- Dechene, R.*** and Cigliano, J.A. 2012. The effect of diet on the survival and reproduction of the brown marmorated stinkbug, *Halyomorpha halys*. *Lehigh Valley Ecology and Evolution Symposium.* * Best undergraduate poster presentation award.
- Amber Funk*** and Cigliano, J.A. 2012. The effect of multiple stressors, increased temperature and acidification, on the growth and survival of the common periwinkle, *Littorina littorea*. *Lehigh Valley Ecology and Evolution Symposium.* * Best undergraduate poster presentation award.
- Welch, K.** and Cigliano, J.A. 2012. Using niche modeling to predict possible geographic range shifts in *Strombus gigas* (queen conch) under various climate change scenarios. *Lehigh Valley Ecology and Evolution Symposium.*
- Porzecanski, A., Bravo, A., Sterling, E., Bynum, N., Abraham, A.B., Burks, R.L., Cawthorn, M., Cigliano, J.A., Dávalos, L., Fernandez, D.S., Freeman, L.S., Groom, M., Ketcham, S.R., Langen, T.A., Linder, J., Mull, J.F., Ruby, B., Theodose, T., and Vogler, D.W. 2012. How much can students gain in data analysis and critical thinking skills in one semester? *Annual Meeting Ecological Society of America*
- Porzecanski, A.L., Sterling, E., Byrum, N., Bravo, A., Burks, R.L. Gómez, A., Landrigan, K., Abraham, B.J., Bowser, G., Cawthorn, M., Cigliano, J.A., Dávalos, L.M., Fernandez, D.S., Freeman, L., Ketcham, S.R., Langen, T.A., Linder, J., Mull, J.F., Palmer, M.I., Roon, D., Ruby, D., Singleton, J., Theodose, T., and Vogler, D.W. 2011. Cultivating skills for 21st century professionals: Development & assessment of process skills in ecology and conservation biology. *Annual Meeting Ecological Society of America*
- Dewey, S., Christine, D.**, Cigliano, J.A. 2011. Determining the level of self-recruitment in *Strombus gigas* in the Sapodilla Cayes Marine Reserve, Belize. *Lehigh Valley Ecology and Evolution Symposium*
- Cigliano, J. A., **Dewey, S.**, and **Duffey, C.** 2010. Possible Self-Recruitment of Queen Conch (*Strombus gigas*) in the Sapodilla Cayes Marine Reserve, Belize. *Annual Meeting of the Society for Conservation Biology*
- Shively, L.** and Cigliano, J.A. 2010. The effect of temperature on survival of the brown marmorated stink bug, *Halyomorpha halys*. *Lehigh Valley Ecology and Evolution Symposium*
- Dewey, S., Duffey, C.**, and Cigliano, J.A. 2010. Possible Self-Recruitment of Queen Conch (*Strombus gigas*) in the Sapodilla Cayes Marine Reserve, Belize. *Lehigh Valley Ecology and Evolution Symposium*

- Cigliano, J.A. 2009. *Fisheries and Aquaculture in Lessons Learned from the International Marine Conservation Congress and Future Directions in Marine Conservation. Annual Meeting of the Society for Conservation Biology.*
- Cigliano, J.A., Bugler, B.S., **Miller, P.**, Ridlon, A., **Sandridge, M.**, **Vereneck, R.**, and Kliman, R. 2008. Population Assessment and Genetic Connectivity of Queen Conch (*Strombus Gigas*) Populations in Belize. *Annual Meeting of the Society for Conservation Biology.*
- Vereneck, R.M.**, Cigliano, J.A. and Kliman, R.M. 2008. DNA sequence variation at the COI locus of *Strombus gigas* and *S. costatus*. *Annual Meeting of Society for the Study of Evolution*
- Ketcham, S.R., Engels, C.A., Abraham B.J., Bynum, N., Cigliano, J.A, Mayer, M-A, Mooney, E.H., and Sterling, E. 2008. Evaluating learning gains from using biodiversity conservation teaching modules in undergraduate courses at five institutions. *Annual Meeting Ecological Society of America*
- Parker, S.** and Cigliano, J. 2008. Primary and Secondary Host Plants and the Effect of Feeding on Ornamental Houseplants on Growth of the Brown Marmorated Stinkbug, *Halyomorpha halys*. *Lehigh Valley Ecology and Evolution Society Annual Meeting*
- Mowl, E.** and Cigliano, J.A. 2008. Habitat Characteristic of juvenile Queen Conch *Strombus gigas* at Turneffe Atoll, Belize. *Lehigh Valley Ecology and Evolution Symposium*
- Winters, J.** and Cigliano, J.A. The effect of harvesting on queen conch (*Strombus gigas*) populations at Turneffe Atoll, Belize. *Lehigh Valley Ecology and Evolution Symposium*
- Vereneck, R.**, **Miller, Y.**, **Sandridge, M.**, Cigliano, J. and Kliman, R. 2008. Assessment of the genetic population structure of the queen conch, *Strombus gigas*. *Lehigh Valley Ecology and Evolution Symposium*
- Cigliano, J.A., **Sandridge, M.**, **Skinner, D.**, **Vereneck, R.**, Bugler, B.S., Ridlon, and R., Kliman, R. 2007. Pre-enforcement population assessment, movement, and genetic connectivity of queen conch (*Strombus gigas*) populations in Belize. *60th Annual Gulf and Caribbean Fisheries Institute Conference.*
- Cigliano, J.A., Bugler, B.S. and Ridlon, A. 2007. Pre-enforcement, baseline assessment of queen conch (*Strombus gigas*) populations in the Sapodilla Cayes Marine Reserve (Belize). *Annual Meeting of the Ecological Society of America*
- Vereneck, R.**, **Sandridge, M.**, **Miller, P.**, Cigliano, J. and Kliman, R. 2007. DNA sequence variation within and among populations of queen conch in Belize. *3rd International Conservation Genetics Symposium*
- Bower, A.H., Abraham, B.J., Cigliano, J.A., Engels, C., Hagenbuch, B.E, Ketcham, S.E., Mayer, M., Mull, J.F., Pierce, D., Rhode, J.M. and Zjhra, M. 2007. Emerging Tools in Teaching Biodiversity Across Disciplines. *Ecological Society of America Annual Meeting*
- Cigliano, J.A., Bugler, B.S., Ridlon, A. 2007. Pre-enforcement, baseline assessment of queen conch (*Strombus gigas*) populations in the Sapodilla Cayes Marine Reserve (Belize). . *Ecological Society of America Annual Meeting*
- Hagenbuch, B., Zjhra, M., Willson, S., Sterling, E., Rhode, J., Pierce, J. Palmer, M., Mull, J., Mayer, M., Ketcham, S., Gibbs, J., Engels, C., Cigliano, J.A., Bynum, N., Bower, A., Anthony, N., Abraham, B., Foster, M. 2007. Expanding assessment and learning in biodiversity conservation education: A methodological framework. *Ecological Society of America Annual Meeting*