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Academic Positions

2013- Associate Professor, Dept. of Biology, University of Hawai'i at Mānoa
2010-2013 Associate Professor, Dept. of Biological Sciences, Clemson University
2005-2010 Assistant Professor, Dept. of Biological Sciences, Clemson University
2002-2005 Assistant Professor, Department of Marine Sciences, University of North Carolina at Chapel Hill

Professional Preparation

2000-2002 Postdoctoral Fellow, Natural History Museum of Los Angeles County
1998-2000 Postdoctoral Fellow, Friday Harbor Laboratories, University of Washington
1997-1998 Postdoctoral Fellow, Smithsonian Tropical Research Institute, Panama
1991-1997 PhD in Population Biology, University of California at Davis
1987-1991 BSc with Honors in Zoology, University of Alberta

Fellowships and Awards

2000-2002 Keck Postdoctoral Fellowship, Natural History Museum of Los Angeles County
1998-2000 Friday Harbor Laboratories (University of Washington) Postdoctoral Fellowship
1997-1998 Smithsonian Tropical Research Institute Postdoctoral Fellowship
1994-1996 Sir James Loughheed Pre-doctoral Fellowship
1993-1995 Natural Science and Engineering Research Council Pre-doctoral Fellowship

Research Areas and Interests

- Biogeography and evolution
- Population genetics, phylogeography, and speciation
- Molecular phylogenetics and evolution
- Conservation biology
- Forensic analysis and tracking of seafood products

Grant Support

University of Hawaii Sea Grant College Program (2018-2020). “Growth optimization and survival of the bleaching-resistant coral genus *Pavona* for reef restoration in Hawai'i" (**\$45,256**)

National Science Foundation, Program in Biological Oceanography (2014-2016). “RAPID: Tracking Recovery from the 2014 Coral Bleaching Event in Hawaiian Waters: Water Quality Gradients, Ecological Factors, and Reef Resilience to Climate Change,” co-PIs: C. Hunter, R. Gates, and A. Moran (**\$163,308**).

National Science Foundation, Program in Biological Oceanography (2010-2015). “Gene Flow and Divergence Across the Equatorial Tropical Marine Barrier: Past, Present and Future,” co-PI: A. Moran (**\$568,245**).

National Science Foundation, Program in Biological Oceanography (2006-2010). “Phylogeography of a Regional Fauna: Rocky Shores of the North Pacific” (**\$495,545**).

National Science Foundation, Program in Phylogenetic Systematics (2004-2007). “Neogene Caribbean Biotic Turnover and the Evolutionary Significance of Geminate Species Separated by the Isthmus of Panama” (**\$295,986**).

National Science Foundation, Program in Biological Oceanography (2004-2005). “SGER: Can Larval Dispersal Be Directly Measured? Development of Calcein-based Marking Techniques for Characterization of Planktotrophic Larval Dispersal Shadows” (**\$44,470**). Co-PI: A. L. Moran.

National Science Foundation Dissertation Improvement Grant (1996-1998), Program in Phylogenetic Systematics. “A Phylogeographic Analysis of Speciation: the Evolution of Reproductive Isolation in the Snail Genus *Nucella*” (**\$9,568**).

Publications: Peer-reviewed Journals

Marko, P. B., Zaslavskaya, N. I. 2019. Geographic origin and timing of colonization of the Pacific Coast of North America by the rocky shore gastropod *Littorina sitkana*. PeerJ 7:e7987.

Moran, A. L., Harasewych, M. G., Miller, B. A., Woods, H. A., Tobalske, B. W., & **Marko**, P. B. 2019. Extraordinarily long development of the Antarctic gastropod *Antarctodomus thielei* (Neogastropoda: Buccinoidea). *Journal of Molluscan Studies*.

Sale T. M., **Marko** P. B., Oliver T. M., Hunter C. L. 2019. Assessment of acclimatization and subsequent survival of corals during repeated natural thermal stress events in Hawai'i. *Marine Ecology Progress Series* 624: 65-76.

Nichols, P. N, **Marko**, P. B. 2019. Rapid assessment of coral cover from environmental DNA in Hawai'i. *Environmental DNA* 1:40-53.

- O’Dea A, Aguilera O, Aubry M-P, Berggren WA, Budd AF, Cione AL, Coates AG, Collins LS, Coppard SE, Cozzuol MA, de Queiroz A, Duque-Caro H, Eytan RI, Farris DW, Finnegan S, Gasparini GM, Grossman EL, Johnson KG, Keigwin LD, Knowlton N, Leigh EG, Leonard-Pingel JS, Lessios HA, **Marko** PB, Norris RD, Rachello-Dolmen PG, Restrepo-Moreno SA, Soibelzon E, Soibelzon L, Stallard RF, Todd JA, Vermeij GJ, Woodburne MO, Jackson JBC. 2017. Building Bridges. Response to Erkens and Hoorn: “The Panama Isthmus, ‘old’, ‘young’ or both?” *Science Advances* 3 e1602321.
- O’Dea A, Aguilera O, Aubry M-P, Berggren WA, Budd AF, Cione AL, Coates AG, Collins LS, Coppard SE, Cozzuol MA, de Queiroz A, Duque-Caro H, Eytan RI, Farris DW, Finnegan S, Gasparini GM, Grossman EL, Johnson KG, Keigwin LD, Knowlton N, Leigh EG, Leonard-Pingel JS, Lessios HA, **Marko** PB, Norris RD, Rachello-Dolmen PG, Restrepo-Moreno SA, Soibelzon E, Soibelzon L, Stallard RF, Todd JA, Vermeij GJ, Woodburne MO, Jackson JBC. 2016. Formation of the Isthmus of Panama: Response to Jaramillo et al. *Science Advances* 2 e1600883.
- O’Dea, A., Lessios, H. A., Coates, A. G., Eytan, R. I., Restrepo-Moreno, S. A. , Cione, A. L., Collins, L. S., de Queiroz, A., Farris, D. W. , Norris, R. D., Stallard, R. F., Woodburne, M. O., Aguilera, O., Aubry, M.-P., Berggren, W. A., Budd, A. F., Cozzuol, M. A., Coppard, S. E., Duque-Caro, H., Finnegan, S., Gasparini, G. M., Grossman, E. L., Johnson, K. G., Keigwin, L. D., Knowlton, N., Leigh, E. G., Leonard-Pingel, J. S., **Marko**, P. B., Pyenson, N. D., Rachello-Dolmen, P. G., Soibelzon, E., Soibelzon, L., Todd, J. A., Vermeij, G. J., Jackson, J. B. C. 2016. Formation of the Isthmus of Panama. *Science Advances* 2 e1600883 DOI: 10.1126/sciadv.1600883.
- Marchant, S., Moran, A. L., **Marko**, P. B. 2015. Out of the tropics or trans-tropical dispersal? The origins of the disjunct distribution of the gooseneck barnacle *Pollicipes elegans*. *Frontiers in Zoology* 12: 39 doi: 10.1186/s12983-015-0131-z.
- Crickenberger, S., Walther, K., Marchant, S., **Marko**, P. B., Moran, A. L. 2015. Population-dependent acclimatization capacity of thermal tolerance in larvae of the rocky-shore barnacle *Pollicipes elegans*. *Invertebrate Biology* 134: 291-302.
- Marko**, P. B., Eytan, R. I., Knowlton, N. 2015. Do large molecular sequence divergences imply an early closure of the Isthmus of Panama? *Proceedings of the National Academy of Science USA* doi:10.1073/pnas.1515048112.
- Marko**, P. B., Carrington, E., Rosa, R., Giomi, F., Troschinski, S., Melzner, F., and B. A. Seibel. 2015. Symposium on “Climate Change and Molluscan Ecophysiology” at the 79th Annual Meeting of the American Malacological Society. *American Malacological Bulletin* 33: 121-126.
- Wells, C. N., **Marko**, P. B., Tonkyn, D. W. 2015. The phylogeographic history of the threatened Diana fritillary, *Speyeria diana* (Lepidoptera: Nymphalidae): with implications for conservation. *Conservation Genetics* 16: 703-716.
- Marko**, P. B., Moran, A. L., and N. I. Zaslavskaya. 2014. Phylogenetics of the gastropod genus *Nucella* (Neogastropoda, Muricidae): Species identities, timing of diversification, and correlated patterns of life-history evolution. *Journal of Molluscan*

Studies 80: 341-353.

- Marko**, P. B., Nance, H. A., van den Hurk, P. 2014. Seafood substitutions obscure patterns of mercury contamination in Patagonian toothfish (*Dissostichus eleginoides*) or “Chilean sea bass.” *PLoS ONE* 9: e104140.
- Popovic, I., Hart, M. W., **Marko**, P. B., and J. P. Wares. 2014. Selection and demographic history shape the molecular evolution of the gamete compatibility protein bindin in *Pisaster* sea stars. *Ecology and Evolution* 4: 1567-1588.
- Plough, L. V., Moran A. L. & P. B. **Marko**. 2014. Density drives polyandry and relatedness influences paternal success in the Pacific gooseneck barnacle *Pollicipes elegans*. *BMC Evolutionary Biology* 14: 81.
- Cox, L. N., Zaslavskaya, N. I., & P. B. **Marko**. 2014. Phylogeography and trans-Pacific divergence in *Nucella lima*. *Journal of Biogeography* 41: 615-627.
- Plough, L. V. & P. B. **Marko**. 2014. Characterization and development of microsatellite loci in the gooseneck barnacle, *Pollicipes elegans*, using next generation sequencing. *Journal of Heredity* 105: 136-142.
- Walther, K., Crickenberger, S. E., Marchant, S., **Marko**, P. B., and A. L. Moran. 2013. Thermal tolerance of larvae of *Pollicipes elegans*, a marine species with an antitropical distribution. *Marine Biology* 160: 2723-2732.
- Marko**, P. B. and A. J. Kohn. 2012. Symposium on “Molluscan Biogeography: Perspectives From the Pacific Ocean” at the 76th Annual Meeting of the American Malacological Society. *American Malacological Bulletin* 30: 159–161.
- Marko**, P. B. and M. W. Hart. 2012. Retrospective coalescent methods and the reconstruction of metapopulation histories in the sea. *Evolutionary Ecology* 26: 291–315.
- Marko**, P. B., Nance, H. A., and K. D. Guynn. 2012. Seafood mislabeling: A response to Mariani. *Frontiers in Ecology and the Environment* 10: 10-11.
- Marko**, P. B., Nance, H. A., and K. D. Guynn. 2011. Genetic detection of mislabeled fish from a certified fishery. *Current Biology* 21: R621-R622.
- Marko**, P. B. and M. W. Hart. 2011. The complex analytical landscape of gene flow inference. *Trends in Ecology and Evolution* 26: 448-456.
- Nance, H. A., Daly-Engle, T. S., & P. B. **Marko**. 2011. Demographic Processes Underlying Subtle Patterns of Population Structure in the Scalloped Hammerhead Shark, *Sphyrna lewini*. *PLoS ONE* 6: e21459.
- McGovern, T. M., Keever, C. A., Hart, M. W., Sasaki, C., & P. B. **Marko**. 2010. Divergence genetics analysis reveals historical population genetic processes leading to contrasting phylogeographic patterns in co-distributed species. *Molecular Ecology* 19: 5043-5060.
- Hart, M. W. & P. B. **Marko**. 2010. It’s about time: divergence, demography, and the evolution of developmental modes in marine invertebrates. *Integrative and Comparative Biology* 50, 643-661.

- Marko**, P. B., Hoffman, J. M., Emme, S. A., McGovern, T. M., Keever, C., & L. N. Cox. 2010. The expansion-contraction model of Pleistocene demography: rocky shores suffer a sea change? *Molecular Ecology* 19: 146-169.
- Marko**, P. B. & A. L. Moran. 2009. Out of sight, out of mind: High cryptic diversity obscures the identities and histories of geminate species in the marine bivalve subgenus *Acar*. *Journal of Biogeography* 36: 1861-1880.
- Baldwin, W. S., **Marko**, P. B. & D. R. Nelson. 2009. The cytochrome P450 (CYP) gene superfamily in *Daphnia pulex*. *BMC Genomics* 10: 169-182.
- Nance, H. A., Daly-Engle, T. S., & P. B. **Marko**. 2009. New microsatellite loci for the endangered scalloped hammerhead shark, *Sphyrna lewini*. *Molecular Ecology Resources* 9: 955-957.
- Marko**, P. B. & K. B. Barr. 2007. Basin-scale patterns of mtDNA differentiation and gene flow in the Bay Scallop, *Argopecten irradians concentricus* Say. *Marine Ecology Progress Series* 349: 139-150.
- Marko**, P. B., Rogers-Bennett, L. & A. Dennis. 2007. Population structure and migration of lingcod (*Ophiodon elongatus*) inferred from mitochondrial DNA: limited dispersal of long-lived pelagic larvae? *Marine Biology* 150:1301-1311.
- Moran, A. L. & P. B. **Marko**. 2005. A simple technique for physical marking of marine bivalves. *Journal of Shellfish Research* 24: 567-572.
- Marko**, P. B. 2005. An intraspecific comparative analysis of character divergence between sibling species. *Evolution* 59: 554-564.
- Marko**, P. B., S. C. Lee, A. M. Rice, J. M. Gramling, T. M. Fitzhenry, J. S. McAlister, G. R. Harper, A. L. Moran. 2004. Mislabeling in a depleted reef fish. *Nature* 430: 309-310.
- Marko**, P. B. 2004. 'What's larvae got to do with it?' Contrasting patterns of post-glacial population structure in two benthic marine gastropods with identical larval dispersal capabilities. *Molecular Ecology* 13: 597-611.
- Marko**, P. B., A. R. Palmer, & G. J. Vermeij. 2003 Resurrection of *Nucella ostrina* (Gould, 1852), Lectotype Designation for *N. emarginata* (Deshayes, 1839), and Molecular Genetic Evidence of Pleistocene Speciation. *The Veliger* 46: 1-12.
- Marko**, P. B. 2002. Fossil calibration of molecular clocks and the divergence times of geminate species pairs separated by the Isthmus of Panama. *Molecular Biology & Evolution* 19: 2005-2021.
- Marko**, P. B. & A. L. Moran. 2002. Correlated evolutionary divergence of a mitochondrial protein and egg size across the Isthmus of Panama. *Evolution* 56:1303-1309.
- Marko**, P. B. & J. B. C. Jackson. 2001. Patterns of morphological diversity among Recent and fossil tropical American geminate bivalves in the family Arcidae. *Journal of Paleontology* 75: 590-606.

- Marko, P. B. & G. J. Vermeij.** 1999. Molecular phylogenetics and the evolution of labral spines among eastern Pacific ocenebrine gastropods. *Molecular Phylogenetics & Evolution* 13: 275-288.
- Marko, P. B.** 1998. Historical allopatry and the biogeography of speciation in the prosobranch snail genus *Nucella*. *Evolution* 52:757-774.
- Marko, P. B. & A. R. Palmer.** 1991. Responses of a rocky shore gastropod to the effluents of predatory and non-predatory crabs: avoidance and attraction. *Biological Bulletin* 181:363-370.

Book Contributions

- Marko, P. B.** 2019. Allopatry. Pp. 219-227 in *The Encyclopedia of Ecology, 2nd Edition* by B. Fath (ed.). Elsevier, Oxford, UK.
- Marko, P. B., Hart M. W.** 2018. Genetic analysis of larval dispersal and connectivity. Pp. 164-189 in *Evolutionary Ecology of Marine Invertebrate Larvae*, by T. J. Carrier, A. M. Reitzel, A. Heyland (eds.). Oxford University Press.
- Marko, P. B.** 2008. Allopatry. Pp. 131-138 in *The Encyclopedia of Ecology* by S. V. Jørgensen (ed.). Elsevier, Oxford, UK.
- Marko, P. B.** 2008. Sympatry. Pp. 3450-3458 in *The Encyclopedia of Ecology* by S. V. Jørgensen (ed.). Elsevier, Oxford, UK.

Invited Presentations Since 2005

- 2012 Department of Biology, University of Hawai'i at Mānoa
- 2010 Odum School of Ecology, University of Georgia
- 2010 Departmental Seminar, Department of Biology, University of South Carolina at Aiken
- 2010 Biogeography Symposium, American Malacological Society Annual Meeting, San Diego
- 2009 Third Conference on Shark Conservation: Fishermen and Research (co-authored with Holly Nance), La Paz, Mexico
- 2009 Speciation Symposium, American Malacological Society Annual Meeting, Ithaca, NY
- 2009 Departmental Seminar, Department of Biology, University of South Carolina
- 2008 Regional Meeting on the Conservation and Management of Shark Populations in the Eastern Pacific, Manta, Ecuador (co-authored with Holly Nance)
- 2008 Bay Scallop Symposium, National Shellfisheries Association Annual Meeting, Providence, RI
- 2008 Symposium on Marine Genomics, Annual Meeting of the SC Marine Genomics Consortium, Clemson University
- 2008 US FDA Symposium on Seafood Mislabeling, AOAC Southeast Region Annual Meeting, Atlanta, GA
- 2007 Departmental Seminar, Department of Forestry and Natural Resources, Clemson University

- 2006 Departmental Seminar, Department of Biology, College of Charleston
2005 Departmental Seminar, Department of Biology, Wright State University
2005 Departmental Seminar, Department of Biological Sciences, Clemson University

Other Presentations Since 2005

- 2016 EECB, University of Hawai'i at Mānoa
2011 International Symposium on Littorinid Biology and Evolution
2010 Society for the Study of Evolution (co-author on three presentations)
2010 Annual Meeting of the Society for Integrative and Comparative Biology, Seattle (co-author, two presentations)
2009 Annual Meeting of the Society for Integrative and Comparative Biology, Boston (co-author on four presentations)
2008 Annual Meeting of the Society for Integrative and Comparative Biology, San Antonio (co-author on three presentations)
2007 Annual meeting of the Society for Integrative and Comparative Biology, Phoenix
2006 Annual meeting of the Society of Ichthyologists and Herpetologists, New Orleans (co-authored with Holly Nance)

Teaching Experience

University of Hawai'i at Mānoa

Advanced Topics in Marine Biology: Fall 2013, 2018, 2019.
A capstone writing intensive capstone course for UHM marine biology majors.
Marine Ecology and Evolution: Spring 2014 – 2020.
Survey course in ecology and evolution for UHM Marine Biology undergraduate majors.

Clemson University

Evolutionary Biology: Spring 2010, 2011, 2012, & 2013; Fall 2012.
Biogeography: Spring 2006, 2007, & 2008; Fall 2009 & 2010.
Honors Biogeography: Spring 2006, 2007, & 2008; Fall 2009 & 2010.
Marine Biology: Fall 2011.
Molecular Ecology: Fall 2006 & 2008; Spring 2004.
Conservation Genetics: Fall 2007.

University of North Carolina at Chapel Hill

Marine Biology: Spring 2005.
Molecular Ecology: Spring 2004.
Oceanography for Non-Science Majors: Spring 2002 & Fall 2003.

Participation in Professional Societies

American Malacological Society
Society for the Study of Evolution
Society for Integrative and Comparative Biology (Lifetime Member)

Recent Service & Synergistic Activities

- Associate Chair for Instruction in the Department of Biology (2015-2019).
- Associate Editor, *Journal of Molluscan Studies* (2015-present).
- Current advisor for four UHM PhD students (Claire Lewis, Patrick Nichols, Taylor Ely).
- Service on four UHM departmental committees (GIC, GAC, GCC, MB Steering)
- Vice President (2010-2011), President-Elect (2011-2012), and President (2012-2013), American Malacological Society.
- Peer-reviewer for many journals, five NSF programs, National Geographic Grants in Aid of Research, and Fonds de recherche du Québec – Nature et technologies.

References

Richard Grosberg
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