

## CURRICULUM VITAE

### Ronald S. Burton

#### Education:

Degrees:	Stanford University	B.S. Biological Sciences, 1976
	(1972-1976)	M.S. Biological Sciences, 1976
	Stanford University	Ph.D. Biological Sciences, 1981
	(1977-1981)	

#### Current Position:

Professor, Marine Biology Research Division, Scripps Institution of Oceanography, University of California, San Diego, 1995-present.

#### Professional Experience:

Director, Marine Biology Research Division, Scripps Institution of Oceanography, University of California, San Diego, 2000-2012.  
Head, Biology Section, Scripps Institution of Oceanography, UCSD, 2004-2012.  
Associate Professor, Marine Biology Research Division, Scripps Institution of Oceanography, University of California San Diego, 1992-1995.  
Associate Professor of Biology, University of Houston, 1987-1992.  
Assistant Professor of Biology, University of Pennsylvania, 1981-1987.

#### Honors and Awards:

1976 Phi Beta Kappa, Stanford University.  
1976 B.S. Degree with Departmental Distinction, Stanford University.  
1990 Outstanding Educator (Teaching Award), University of Houston.  
2003 Presidential Lecture Series, Florida International University.  
2005 Vice Presidential Symposium, American Society of Naturalists.  
2007. Mentor Recognition Award, UCSD  
2011 Plenary Speaker: Ocean Acidification Principal Investigators' Meeting, Woods Hole.  
2012 University of British Columbia, Zoology Annual Symposium, Student Invited Speaker.

#### Teaching:

**ESYS 101: Environmental Biology** – Core biology course for the Environmental Systems major UCSD. Co-developer of the course and co-taught it every year since 2001. Enrollments of up to 200 students/year.

**SIO 132/BIEB 132: Introduction to Marine Biology, UCSD.** Co-developer of course and co-instructor every year since 2004. Enrollments of up to 300 students/year.

#### Lectures at Selected Symposia and Workshops:

1993. California Cooperative Fisheries Investigations (CalCOFI) Symposium: Genetics of Organisms of the California Current, Lake Arrowhead, CA.  
1994. RIDGE Workshop: Dispersal, Gene Flow and Larval Biology at Deep-Sea Hydrothermal Vents. South Lake Tahoe, CA.

- 1995. Keystone Symposium: Molecular Approaches to Marine Ecology and Evolution, Santa Fe, NM.
- 1995. Invited Graduate Tutorial: Biochemical Physiology and Evolution (a six lecture mini course), Department of Biology, Wake Forest University, North Carolina.
- 1998. Symposium on Evolution of Physiological Adaptations, Society for Integrative and Comparative Biology, Boston.
- 1999. Symposium on Physics, Dispersal and Genetic Tools for Studying Marine Meta-populations, Western Society of Naturalists, San Diego (co-organizer).
- 1999. California Sea Urchin Fishery Workshop, Sea Grant Extension. Santa Barbara.
- 1999. NSF - NCEAS Working Group on Recruitment in Open and Closed Marine Populations, Santa Barbara.
- 2001. Abalone Management and Recovery Plan Advisory Panel, California Department of Fish and Game, 2001-2002.
- 2002 White Abalone (an endangered species) Recovery Team, National Marine Fisheries Service, 2002-2008
- 2003. Zia Symposium Invited Speaker, New Mexico State University, Las Cruces, NM.
- 2005. Vice-Presidential Symposium, American Society of Naturalists, Fairbanks, AK.
- 2006. Black Abalone Workshop, Southwest Fisheries Science Center, La Jolla, CA.
- 2007. Symposium Speaker: 10th Congress of the European Society for the Study of Evolution, Uppsala, Sweden.
- 2011. Symposium Speaker: 12th Congress of the European Society for the Study of Evolution, Tübingen, Germany.
- 2011. Plenary Speaker, Ocean Acidification Principle Investigator's Workshop, Woods Hole, MA.
- 2011. Zoology Department Student-Elected External Speaker, University of British Columbia, Vancouver.
- 2013. Distinguished Speaker: Smithsonian Tropical Research Institute, Panama.

**Selected Invited University Talks:**

- 2001. University of Arizona
- 2002. University of South Florida
- 2003. University of Colorado
- 2003. San Diego State University
- 2004. Stanford University
- 2005. University of Michigan
- 2006. CICESE, Ensenada, Mexico
- 2006. University of Southern California
- 2007. Brown University
- 2007. University of California, San Diego
- 2010. University of California, Santa Barbara
- 2012. Indiana University

**Selected Contributed Talks:**

- 2006. Society for the Study of Evolution, Stony Brook, NY
- 2008. Network for Experimental Research on Evolution UC Irvine
- 2009. Society for the Study of Evolution, Moscow, Idaho

2009. Network for Experimental Research on Evolution UC Berkeley  
 2010. Society for the Study of Evolution, Portland, Oregon  
 2011. Society for the Study of Evolution, Norman, Oklahoma  
 2012. American Society for Limnology and Oceanography, Salt Lake City  
 2012. American Fisheries Society, San Diego  
 2012. Society for the Study of Evolution, Ottawa, Canada

### **Extramural Research Support:**

- NSF Program in Population Biology and Physiological Ecology. Research Grant, "Physiological and Fitness Effects of Enzyme Polymorphisms," (1982-1984).  
 NSF Program in Population Biology and Physiological Ecology. Research Grant, "Genetic Analysis of Physiological Phenotypes," (1985-1989).  
 NSF Program in Regulatory Biology. Research Grant, "Regulation of Proline Synthesis in Osmotic Response," (1988-1991).  
 NOAA Sea Grant Program (Texas). Research Grant, "Biochemical Genetic Analysis of Osmotic Response in Penaeid Shrimp," (1989-1991).  
 NSF Program in Functional Ecology. Research Grant, "Regulation of Proline Synthesis in Osmotic Response," (1992-1995).  
 NSF Population Biology Program. Research Grant, "Evolutionary Consequences of Restricted Gene Flow in a Marine Copepod," (1994-1998).  
 NSF Biological Oceanography Program. Research Grant, "Genetic Structure of Sea Urchin Populations Across a Biogeographic Barrier," (1995-1997).  
 NOAA Sea Grant Program (California). Research Grant, "Recruitment in Red Sea Urchins: a Population Genetic Approach" (1997-1999).  
 Marine Ecological Reserve Research Program (California). Research Grant. "Genetic Structure of Marine Invertebrate Stocks in California State Marine Ecological Reserves," (1997-1999).  
 NSF Population Biology Program (with joint funding from Biological Oceanography). Research Grant, "Genetic Analysis of Coadaptation and Hybrid Breakdown," (1999-2002).  
 MCBI (Marine Conservation Biology Institute). Research Grant, "Conservation Genetics of California Abalone: Establishing a Population Genetic Baseline," (2000-2004).  
 NOAA Sea Grant Program (California). Research Grant, "Recruitment in Red Sea Urchins: a Population Genetic Approach" (2000-2002).  
 NSF Major Research Instrumentation Grant. "Acquisition of Instrumentation for Marine Genomics and Proteomics." (2001-2004).  
 NOAA Sea Grant Program (California). Research Grant, "Conservation Genetics of California Abalone," (2002-2005).  
 NSF Population Biology Program (with joint funding from Eukaryote Genetics). Research Grant, "The Molecular Basis of Coadaptation and Hybrid Breakdown," (2003-2007).  
 NOAA Sea Grant Program (California). (PI, with three co-PIs) Research Grant, "Restoration of the Endangered White Abalone, *Haliotis sorenseni*: Resource Assessment, Genetics, Disease and Culture of Captive Abalone," (2004-2007).

NOAA Sea Grant Program (California). (co-PI with P. Hastings, PI) Research Grant, "Establishing a DNA Sequence Database for California Marine Fishes," (2004-2006, renewed to 2007).

NSF Biological Oceanography Program. Research Grant, (PI, with Brian Palenik co-PI). "Development of High Throughput Analysis of Plankton Communities," (2005-2008).

NSF Evolutionary Processes Cluster, Research Grant, "The Molecular Basis of F2 Hybrid Breakdown," (2007-2010).

NOAA Sea Grant Program (California). Research Development Grant, " Assessing Connectivity of Red Urchin Populations Using New Genetic Tools" (2007-2008).

NOAA Sea Grant Program (California). Research Grant, " High Throughput Molecular Identification of Fish Eggs and Larvae" (2010-2012).

NSF Evolutionary Processes Cluster, Research Grant, "The Molecular Basis of F2 Hybrid Breakdown," (2010-2013).

NOAA Sea Grant Program (California). Research Grant, " Molecular Identification of Fish Eggs and Larvae: Enhancing the Value of Ichthyoplankton Surveys in Monitoring and Management" (2012-2014).

NSF IOS Organism-Environmental Interactions and OCE Biological Oceanography Research Grant: "Collaborative Research: Ecological genomics of stress response in an intertidal copepod," (2012-2015) (S. Edmands, USC and C. Willett, Univ. N. Carolina, collaborators).

#### **Professional Activities:**

Advisory Panel: Abalone Recovery and Management Plan, California Dept Fish and Game, 2000-2001.

Advisory Panel: White Abalone (an endangered species) Recovery Team, National Marine Fisheries Service, 2002- 2008.

Associate Editor: EVOLUTION (1999- 2001)

Associate Editor: Journal of Experimental Marine Biology and Ecology (1995-2005).

Editorial Advisor: Marine Ecology - Progress Series (1991- present).

NSF Panel Member, eight panels in five different programs (1989-2011).

Grant reviews for: NSF (Programs in Evolutionary and Ecological Physiology, Biological Oceanography, Population Biology, Systematic Biology, Cellular Biochemistry), NIH (NIGMS), California Sea Grant, Maryland Sea Grant, Louisiana Sea Grant, Washington State Sea Grant, Whitehall Foundation, Research Corporation, Smithsonian Institution, Research Grants Council (Hong Kong).

Manuscript reviews for: Proceedings of the National Academy of Sciences, USA, Evolution, Genetics, Science, Nature, The American Naturalist, Marine Biology, Marine Ecology-Progress Series, Ecology, Journal of Marine Research, Journal of Experimental Marine Biology and Ecology, Biological Bulletin, Zoological Journal of the Linnaean Society, Annals of the Entomological Society, Limnology and Oceanography, Journal of the Marine Biological Association of the U.K., Sarsia, Marine Ecology, Molecular Ecology, Journal of Evolutionary Biology

#### **Major University Service, UCSD:**

Graduate Fellowship Subcommittee, Academic Senate (1997-2005)

Marine Biology Curricular Group Coordinator (1996-2000)  
 Chair, Marine Biology Search Committee (recruited N. Knowlton/J. B.C. Jackson)  
 SIO Interdisciplinary Search Committee (recruited E. Sala)  
 Director, Marine Biology Research Division (2000- 2012)  
 Biology Section Head (2004-2012)  
 SIO Director Search Committee (2005) (recruited Tony Haymet)  
 Chair SIO Faculty Search Committee, (Biology Section), 2009. (recruited A. Hamdoun)  
 Revelle College Provost Search Committee (2008-09)  
 Interim Director, California Sea Grant College Program, (9/2010-12/2010).  
 Chair, Search Committee, Director, California Sea Grant College Program 2010 (hired J.E. Eckman)  
 Executive Vice Chancellor's Committee for Review of Dean, Division of Biology, UCSD, Committee Member (2012)  
 SIO Director Search Committee (2013)

#### Outreach:

- 1) Scientific advisor/partner with the Ocean Discovery Institute of San Diego since 2007 (ODI is a 2012 winner of the *Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring from the Obama administration*). I developed a hands-on molecular biology exercise that is now delivered by ODI staff to over 500 fifth-grade students in underserved San Diego schools each year. Based on the concept of DNA "barcodes" students learn that every species has unique DNA sequences and that these sequences allow identification of odd-looking larval forms of a species or any tissues from that species – including fillets at a fish market!
- 2) Public lecture at the Birch Aquarium at Scripps, March 2007. Filmed and shown on university TV outlets throughout the country (available for streaming on <http://www.uctv.tv/search-moreresults.aspx?keyword=burton&x=0&y=0>, with over 155,000 views)
- 3) Public lecture for the San Diego Oceans Foundation, August 2009

#### Graduate Students:

M.Dill	M.S.	1983, now a teacher at a private high school
J. Chan	Ph.D.	1990, now Head of Global Bioinformatics, Syngenta.
J. Bishop	M.S.	1992, now a research scientist with a biotech firm.
L. Kordos	M.S.	1992, received Ph.D. in Environmental Science, Univ. Okla.
L. Calvache	M.S.	1992, now a technician with an environmental firm.
B. Lee	Ph.D.	1993, now a research scientist at M.D. Anderson Cancer Center.
H. Ganz	M.S.	1994, received Ph.D. in Ecology at Univ. of California, Davis.
D. Guay	M.S.	1997, now an instructor at Bowdoin College
P. Moberg	M.S.	1998, received MD at UCSF, practicing physician.
D. Hamm	M.S.	1999, now a research technician at Univ. of Washington.
J. Flowers	Ph.D.	2005, now a postdoc at New York University
K. Gruenthal	Ph.D.	2007, now Aquaculture Coordinator at Hubbs SW Research Institute.
C. Ellison	Ph.D.	2008, now a postdoc at Cornell
C. Benham	M.S.	2009, now a biologist at the Marine Mammal Facility, US Navy.
A. Yamamoto	M.S.	2010, research tech, San Diego Zoo Conservation Research Instit.

T. Boucher M.S. 2010  
C. Bonin Ph.D. 2012  
L. Gleason 3rd year Ph.D. student  
N. Pierce 3rd year Ph.D. student  
A. Harada 1<sup>st</sup> year Ph.D. student  
S. Tangwancharoen 1<sup>st</sup> year Ph.D. student

#### **Post-Doctoral Fellows:**

E. Goolish, 1/87 - 4/88, currently Director, NASA Exobiology Program.  
D. Brazeau, 10/89 - 1/93, now Res. Assist. Prof., SUNY Buffalo.  
S. Edmands, 3/94 - 6/96, now Assoc. Prof., Univ. of So. Calif.  
P. Rawson, 11/96 - 9/98, now Assoc. Prof., Univ. of Maine.  
E. Metz, 1/98 - 7/98, now Assoc. Prof., Humboldt State Univ.  
C. Lee, 2/98 - 6/00, now Assoc. Prof., Univ. of Wisconsin.  
F. Dufresne, 1/00 - 6/00, now Assist. Prof., Univ. of Quebec, Rimouski.  
C. Willett, 9/99 - 6/02, now Res. Assist. Prof., Univ. N. Carolina.  
J.S. Harrison, 9/03 - 6/06, now Assist. Prof. Georgia Southern Univ.  
X. Mayali, 9/07 - 6/09, now research scientist, Livermore National Lab  
S. Schoville, 2/10 - 3/11, now NSF Postdoc, Grenoble, France  
F. Barreto, 10/09 - present  
R. Periera, 10/11 - present

P. Blier, Visiting scholar (sabbatical) Univ. of Quebec, Rimouski. 1/2000 - 6/2000  
J. Geller, Visiting scholar (sabbatical) CSU, Moss Landing Marine Lab, 8/2003 - 6/2004.

#### **Publications:**

1. Burton, R.S. 1979. Depth regulatory behavior of the first stage zoea larvae of the sand crab *Emerita analoga* Stimpson (Decapoda: Hippidae). J. Exp. Mar. Biol. Ecol. 37:255-270.
2. Burton, R.S., M.W. Feldman, and J.W. Curtsinger. 1979. Population genetics of *Tigriopus californicus* (Copepoda: Harpacticoida): I. Population structure along the central California coast. Mar. Ecol. Prog. Ser. 1:29-39.
3. Burton, R.S., M.W. Feldman and S.G. Swisher. 1981. Linkage relationships among five enzyme-coding gene loci in the copepod *Tigriopus californicus*: a genetic confirmation of achiasmatic meiosis. Biochem. Genet. 19:1237-1245.
4. Burton, R.S. and M.W. Feldman. 1981. Population genetics of *Tigriopus californicus*: II. Differentiation among neighboring populations. Evolution 35:1192-1205.
5. Burton, R.S. and M.W. Feldman. 1982. Population genetics of coastal and estuarine invertebrates: Does larval behavior influence population structure? In: V.S. Kennedy (ed.), Estuarine Comparisons, Academic Press, N.Y. pp. 537-551.
6. Burton, R.S. and M.W. Feldman. 1982. Changes in free amino acid concentrations during osmotic response in the intertidal copepod *Tigriopus californicus*. Comp. Biochem. Physiol. 73A:441-445.

7. Burton, R.S. and M.W. Feldman. 1983. Physiological effects of an allozyme polymorphism: glutamate-pyruvate transaminase and the response to hyperosmotic stress in the copepod *Tigriopus californicus*. *Biochem. Genet.* 21:239-251.
8. Burton, R.S. 1983. Protein polymorphisms and genetic differentiation of marine invertebrate populations. *Mar. Biol. Letters* 4:193-206 (Invited review).
9. Dill, M. M. and R.S. Burton. 1984. Genetics of mitochondrial glutamate-oxaloacetate transaminase (GOT-2) in *Tigriopus californicus*. *Biochem. Genet.* 22:339-347.
10. Burton, R.S. and S.G. Swisher. 1984. Population structure of the intertidal copepod *Tigriopus californicus* as revealed by field manipulation of allele frequencies. *Oecologia* 65:108-111.
11. Burton, R.S. 1985. Mating system of the intertidal copepod *Tigriopus californicus*. *Mar. Biol.* 86:247-252.
12. Burton, R.S. 1986. Evolutionary consequences of restricted gene flow in the intertidal copepod *Tigriopus californicus*. *Bull. Mar. Sci.* 39:526-535.
13. Burton, R.S. and A. La Spada, 1986. Trehalase polymorphism in *Drosophila melanogaster*. *Biochem. Genet.* 24:715-719.
14. Burton, R.S. and A.R. Place, 1986. Evolution of selective neutrality: further considerations. (Peer-reviewed letter to the Editor) *Genetics* 114:1033-1036.
15. Burton, R. S. 1986. Incorporation of <sup>14</sup>C-bicarbonate into the free amino acid pool during hyperosmotic stress in an intertidal copepod. *J. Exp. Zool.* 238:55-61.
16. Burton, R. S. 1987. Differentiation and integration of the genome in populations of *Tigriopus californicus*. *Evolution* 41:504-513.
17. Goolish, E. and R.S. Burton 1988. Prior exposure to osmotic stress enhances amino acid accumulation in the copepod *Tigriopus californicus*. *J. Comp. Physiol. B* 158:99-105.
18. Goolish, E. and R.S. Burton 1989. Energetics of osmoregulation in the intertidal copepod *Tigriopus californicus*. *Functional Ecology* 3:81-89.
19. Burton, R. S. 1990. Hybrid breakdown in developmental time in the copepod *Tigriopus californicus*. *Evolution* 44:1814-1822.
20. Burton, R. S. 1990. Hybrid breakdown in physiological response: a mechanistic approach. *Evolution* 44:1806-1813.
21. Burton, R. S. 1991. Regulation of proline synthesis during osmotic stress in the copepod *Tigriopus californicus*. *J. Exp. Zool.* 259:166-173.
22. Burton, R. S. 1991. Regulation of proline synthesis in osmotic response: effects of protein synthesis inhibitors. *J. Exp. Zool.* 259:272-277.
23. Chan, J. W. Y. and R. S. Burton 1992. Variation in alcohol dehydrogenase activity and flood tolerance in white clover, *Trifolium repens*. *Evolution* 46:721-734.
24. Burton, R. S. 1992. Proline synthesis during osmotic stress in megalopa stage larval of the blue crab, *Callinectes sapidus*. *Biol. Bull.* 182:409-415.
25. Bishop, J. S. and R. S. Burton 1993. Amino acid synthesis during hyperosmotic stress in *Penaeus aztecus* postlarvae. *Comp. Biochem. Physiol.* 106A:49-56.
26. Kordos, L. M. and R. S. Burton 1993. Genetic differentiation of Texas Gulf coast populations of the blue crab, *Callinectes sapidus*. *Mar. Biol.* 117:227-233.
27. Burton, R. S. and B.-N. Lee 1994. Nuclear and mitochondrial gene genealogies and allozyme polymorphism across a major phylogeographic break in the copepod *Tigriopus californicus*. *Proc. Nat. Acad. Sci. USA.* 91:5197-5201.

28. Burton, R. S. 1994. Inferring the genetic structure of marine populations: a case study comparing allozyme and DNA sequence data. *CalCOFI Reports* 35:52-60.
29. Ganz, H. H. and R. S. Burton 1995. Genetic differentiation and reproductive incompatibility among Baja California populations of the copepod *Tigriopus californicus*. *Mar. Biol.* 123: 821-827.
30. Trujillo-Ortiz, A, Burton, R. S., Delarosa-Velez, J., Correa-Sandoval, F. 1995. Genetic variation in two populations of the marine calanoid copepod *Acartia californiensis* Trinast. *Ciencias Marinas* 21:39-58.
31. Edmands, S., P. Moberg and R.S. Burton 1996. Allozyme and mitochondrial DNA evidence of population subdivision in the purple sea urchin, *Strongylocentrotus purpuratus*. *Mar. Biol.* 126:443-450.
32. Burton, R. S. 1996. Molecular tools in marine ecology. *J. Exp. Mar. Biol. Ecol.* 200: 85-101.
33. Burton, R. S. 1997. Genetic evidence for persistence of marine invertebrate populations in an ephemeral environment. *Evolution* 51:993-998.
34. Edmands, S. and R. S. Burton. 1998. Variation in cytochrome-c oxidase activity is not maternally inherited. *Heredity* 80: 668-674.
35. Burton, R.S. 1998. Intraspecific phylogeography across the Point Conception biogeographic boundary. *Evolution* 52:734-745.
36. Southward, A.J., R.S. Burton, S.L. Coles, P.R. Dando, R. DeFelice, J. Hoover, E. Parnell, T. Yamaguchi, and W.A. Newman. 1998. Invasion of Hawaiian shores by an Atlantic barnacle. *Mar. Ecol. Prog. Ser.* 165:119-126.
37. Burton, R.S., P.D. Rawson and S. Edmands. 1999. Genetic architecture of physiological phenotypes: empirical evidence for coadapted gene complexes. *Amer. Zool.* 39:451-462.
38. Trujillo-Ortiz, A., R.S. Burton, J. de la Rosa-Velez, and F. Correa-Sandoval. 1999. Interbreeding between two populations of *Acartia californiensis* (Copepoda: Calanoida): a laboratory study. *J. Mar. Biol. Assoc. UK*:79:945-948.
39. Edmands, S. and R.S. Burton 1999. Cytochrome-c oxidase activity in interpopulation hybrids of a marine copepod: a test for nuclear-cytoplasmic coadaptation. *Evolution* 53:1972-1978.
40. Moberg, P.E. and R.S. Burton 2000. Genetic heterogeneity among recruit and adult red sea urchins, *Strongylocentrotus franciscanus*. *Mar. Biol.* 136:773-784.
41. Rawson, P.D., D.A. Brazeau, and R.S. Burton 2000. Isolation and characterization of cytochrome c from the marine copepod *Tigriopus californicus*. *Gene* 248:15-22.
42. Burton, R.S. and M.J. Tegner 2000. Enhancement of red abalone (*Haliotis rufescens*) stocks at San Miguel Island: Reassessing a success story. *Mar. Ecol. Prog. Ser.* 202:303-308.
43. Hamm, D.E. and R.S. Burton 2000. Population genetics of black abalone, *Haliotis cracherodii*, along the central California coast. *J. Exp. Mar. Biol. Ecol.* 254:235-247.
44. Willett, C.S. and R.S. Burton 2001. Viability of cytochrome c genotypes depends on cytoplasmic backgrounds in *Tigriopus californicus*. *Evolution* 55:1592-1599.
45. Blier, P.U., F. Dufresne, and R.S. Burton 2001. Natural selection and the evolution of mtDNA-encoded peptides: evidence for intergenomic coadaptation. *Trends in Genetics* 17:600-606.
46. Hellberg, M.E., Burton, R.S., Neigel, J.E., Palumbi, S.R. 2002. Genetic assessment of connectivity among marine populations. *Bull. Mar. Sci.* 70(1) Suppl:273-290.



47. Thorrold, S.R., Jones, G.P., Hellberg, M.E., Burton, R.S., Swearer, S.E., Neigel, J.E., Morgan, S.G., Warner, R.R. 2002. Quantifying larval retention and connectivity in marine populations with artificial and natural markers. *Bull. Mar. Sci.* 70(1) Suppl:291-308.
48. Flowers, J.M., S.C. Schroeter, and R.S. Burton. 2002. The recruitment sweepstakes has many winners: genetic evidence from purple sea urchins. *Evolution* 56:1445-1453.
49. Willett, C.S. and R.S. Burton 2002. Proline biosynthesis genes and their regulation in the euryhaline copepod *Tigriopus californicus*. *Comp Physiol Biochem B* 132:739-750.
50. Rawson, P.D. and R.S. Burton 2002. Functional coadaptation between cytochrome c and cytochrome c oxidase within allopatric populations of a marine copepod. *Proc Nat. Acad. Sci. USA* 99:12955-12958.
51. Angeloni, L., J.W. Bradbury, and R.S. Burton 2003. Multiple mating, paternity and body size in a simultaneous hermaphrodite, *Aplysia californica*. *Behav. Ecol.* 14:554-560
52. Willett, C.S. and R.S. Burton 2003. Environmental influences on epistatic interactions: viabilities of cytochrome c genotypes in interpopulation crosses. *Evolution* 57:2286-2292.
53. Willett, C.S. and R.S. Burton 2003. Characterization of the glutamate dehydrogenase gene and its regulation in a euryhaline copepod. *Comp Physiol Biochem B* 135: 639-646.
54. Willett, C.S. and R.S. Burton 2004. Evolution of interacting proteins in the mitochondrial electron transport system in a marine copepod. *Molec. Biol. Evol.* 21:443-453.
55. Burton R.S., E. C. Metz, J. M. Flowers, and C. S. Willett . 2005. Unusual structure of ribosomal DNA in the copepod *Tigriopus californicus*: intergenic spacer sequences lack internal sub-repeats. *Gene* 344:105-113.
56. Ellison, C.K. and R.S. Burton. 2005. Application of bead array technology to community dynamics of marine phytoplankton. *Mar. Ecol. Progr. Series* 288:75-85.
57. Gruenthal, K.M. and R.S. Burton. 2005. Genetic diversity and species identification in the endangered white abalone (*Haliotis sorenseni*). *Conservation Genetics* 6:929-939.
58. Harrison, J.S. and R.S. Burton. 2006. Tracing coadapted gene complexes to single amino acid substitutions. *Molec. Biol. Evol.* 23:559-564.
59. Rawson, P.D. and R.S. Burton. 2006. Molecular adaptation at the cytochrome c oxidase subunit 2 gene among divergent populations of the intertidal copepod, *Tigriopus californicus*. *J. Molec. Evol.* 62:753-764.
60. Flowers, J.M., and R.S. Burton. 2006. Ribosomal RNA gene silencing in inter-population hybrids of *Tigriopus californicus*: nucleolar dominance in the absence of inter-genic spacer repeats. *Genetics* 173:1479-1486.
61. Burton, R.S., C.K. Ellison and J.S. Harrison. 2006. The sorry state of F<sub>2</sub> hybrids: consequences of rapid mitochondrial DNA evolution in allopatric populations. *The American Naturalist* 168:S14-S24.
62. Ellison, C.K. and R.S. Burton. 2006. Disruption of mitochondrial function in interpopulation hybrids of *Tigriopus californicus*. *Evolution* 60:1382-1391.
63. Krug, P.J., R.A. Ellingson, R. Burton, and Á. Valdés. 2007. A new poecilognous species of sea slug (Opisthobranchia: Sacoglossa) from California: comparison with the planktotrophic congener *Alderia modesta* (Lovén, 1844). *J. Molluscan Studies* 73:29-38.
64. Pitombo, F.B. and R. S. Burton. 2007. Systematics and biogeography of Tropical Eastern Pacific *Chthamalus* with descriptions of two new species (Cirripedia, Thoracica). *Zootaxa* 1574:1-30.

65. Gruenthal, K.M., L.K. Acheson, and R.S. Burton. 2007. Evidence for low connectivity among populations of the red abalone (*Haliotis rufescens*) in California. *Marine Biology* 152:1237-1248.
66. Burton, R.S., R. J. Byrne and P. D. Rawson. 2007. Three divergent mitochondrial genomes from California populations of the copepod *Tigriopus californicus*. *Gene* 403:53-59.
67. Ellison, C.K. and R.S. Burton. 2008. Interpopulation hybrid breakdown maps to the mitochondrial genome. *Evolution* 62:631-638.
68. Gruenthal, K.M., and R.S. Burton. 2008. Genetic structure of natural populations of the California black abalone (*Haliotis cracherodii* Leach, 1814), a candidate for endangered species status. *J. Exp. Mar. Biol. Ecol.* 355:47-58.
69. Diaz-Viloria, N., R. Perez-Enriquez, G. Fiore-Amaral, R.S. Burton, and P. Cruz. 2008. Isolation and cross-amplification of microsatellites in pink abalone (*Haliotis corrugata*). *Molec. Ecol. Resources* 8:701-703.
70. Ellison, C.K. and R.S. Burton. 2008. Genotype-dependent variation of mitochondrial transcriptional profiles in interpopulation hybrids. *Proc Nat. Acad. Sci. USA* 105: 15831-15836.
71. Johnson, P.B., K. L. Martin, T. L. Vandergon, R. L. Honeycutt, R. S. Burton, and A. Fry. 2009. Microsatellite and Mitochondrial Genetic Comparisons Between Northern and Southern Populations of California Grunion (*Leuresthes tenuis*). *Copeia* 2009:465-474.
72. Burton, R. S. 2009. Molecular markers, natural history and conservation of marine animals. *BioScience* 59:831-840.
73. Mayali, X., B. Palenik, and R.S. Burton. 2010. Dynamics of marine bacterial and phytoplankton populations using multiplex liquid bead array technology. *Environmental Microbiology* 12:975-989.
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