

ROY L. CALDWELL - CURRICULUM VITAE

Current Position: Professor, Department of Integrative Biology and Director, UC Museum of Paleontology, University of California at Berkeley

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Born: Cedar Rapids, Iowa, September 28, 1943

Family: Married, two children

Education: B.A. (Highest Distinction, Psychology and Zoology), University of Iowa, 1965
Ph.D. (Zoology), University of Iowa, 1969
Postdoctoral Fellow, Imperial College of Science and Technology, 1969-1970

Fellows: NSF Undergraduate Research Trainee, University of Iowa, 1963-64
NSF Graduate Fellow, University of Iowa, 1965-68
NSF Postdoctoral Fellow, Imperial College of Science and Technology, 1969-70

Honors: Fellow, California Academy of Sciences
Fellow, American Association for the Advancement of Science
Chancellor's Professor, U.C. Berkeley, 1998-2001

Positions: Assistant Professor of Zoology, University of California, Berkeley, 1970-76
Enewetok Marine Biological Lab. Visiting Research Scientist, 1971,1972,1974
Associate Professor of Zoology, University of California, Berkeley 1977-85
Visiting Research Scientist, Smithsonian Tropical Research Institute, 1977,1983
Director, Field Station for Behavioral Research, University of California, 1978-95
Professor of Zoology, University of California, Berkeley, 1985-89
Professor of Integrative Biology, University of California, Berkeley, 1989 -
Faculty Curator, University of California Museum of Paleontology, Berkeley, 1996-
Visiting Scientist, University of Queensland, St. Lucia, 2003-04
Interim Director, University of California Museum of Paleontology, 2005-2006
Director, University of California Museum of Paleontology, 2006-

Courses Taught: (University of California at Berkeley):

Lectures: Animal Behavior
Animal Biology: A Behavioral View (lower division, non-majors)
Animal Diversity
Ecological Aspects of Behavior

Field and Laboratory: Biology and Geomorphology of Tropical Islands (Moorea, French Polynesia)
Animal Behavior Laboratory

Seminars: Animal Behavior Seminar
Animal Behavior Research Reviews
Crustacean Behavior
Ecological Research Reviews
Freshman Seminar: Animal and Human Navigation

Societies: AAAS, American Society of Naturalists, Animal Behavior Society, International Society for Behavioral Ecology, Crustacean Society, Ecological Society of America, Phi Beta Kappa, International Society for Reef Studies, Sigma Xi, Society for the Study of Evolution, Western Society of Naturalists

Administration and Service (last 10 years):

Department: Chair, Department of Integrative Biology, 1994-99, 2002-03.

University: South Pacific Biological Station Advisory Committee, 1981-91, 95-2003
Diving Control Board, 1985 - ; Chairman, 1993 -
Committee on Animal Research Space Assignment, 1995 -
Valley Life Sciences Building Management Committee, 1995-98

Government: National Science Foundation Animal Behavior Panel, 2001, 2002

Editorial Boards: Evolution: Education and Outreach, 2007-

Marine Research Field Experience:

Belize, 1996
Bermuda Biological Station, 1966,68
Catalina Marine Laboratory, 1985,86
Caribbean Marine Biological Institute, Curacao, 1975
Chulalongkorn University Marine Station, Ang Hin, Thailand, 1973
Cook Islands, 2008
Cozumel, Mexico, 1988, 1994
Enewetok Marine Biological Station, 1971,72,74
Fiji, 1996
Florida Keys, National Underseas Research Center, Aquarius Habitat, 1995, 1999, 2001, 2002,
Gulf of California, 1971,72, 73
Guam, 1973, 86
Hawaii, 1972,73,75,84,85,90,92,93,96
Indonesia, 1995,97,98, 00
Moorea, Society Islands, 1980,88,91-98, 00-
Queensland, Australia, 1972,83, 86-91,94,97,98, 00, 02-04, 06
Phuket Marine Biological Station, 1973,74
Smithsonian Tropical Research Institute, Panama, 1976, 77, 79-83, 86-94

Tuamotus, French Polynesia, 1991,97, 98, 01, 02

Grants: (last 10 years, extramural)

In search of an Indonesian Coelacanth. National Geographic Society Research Grant, 1998

Animal plume-tracing behavior in wave-influenced flow domains. DOD Office of Naval Research (with K. B. Ward and M. Koehl), 1998-2001.

Dissertation Enhancement: Environmental factors influencing recovery of coral reefs damaged by destructive fishing practices, (with H. Fox), NSF, 1999-2001

Enhancing coral reef rehabilitation after destructive fishing practices. Nature Conservancy, 2000-05.

Biology of stomatopod Crustaceans: Aquarius Underwater Habitat, NURC/NOAA, 2001-02.

WWW.Evolution, (UCMP Instructional Grant), NSF, 2001-2004.

2009 Building an Understanding of Science (UCMP Instructional Grant) NSF, 2006-

A Workshop to Focus on Regional Strategies for Improving the Public Understanding of Science (UCMP Instructional Grant), NSF. 2008-2009.

Expanding and Sustaining Understanding Evolution, NSF 2008-2009

Building an Understanding of Science (competing supplement), NSF 2009-2011

Extending and enhancing Understanding Evolution for the undergraduate community (UCMP Instructional Grant) NSF, 2009-2012.

Previous Master's Students:

John Matusi. Reproduction in a cichlid fish. 1975.

Louise Kobuke. (Co-sponsor with H. Bern) Thyroxin levels in early developmental stages of Coho salmon (Oncorhynchus kisutch). 1985.

Michael Childress. Ecological and physiological factors influencing foraging by gonodactylid stomatopod Crustacea. 1990.

Peggy Chern. Stomatopod postlarval development. 1999.

James Jackson. Pygmy octopus behavior. 2001

Calida Martinez Crustacean behavior. 2006.

Emily Arnold. Fiddler crab ecology. 2007

Previous Ph.D Students:

Zuleyma Tang Martinez. (Cosponsor with S. Glickman, Department of Psychology). The role of individual odors in the social interactions of the mongolian gerbil (Meriones unguiculatus). 1974. (Current position: Professor, Department of Biology, University of Missouri - St. Louis)

Leslie Johnson. The role of agonistic behavior in the foraging strategies of Trigona bees. 1974. (Former position: Research Scientist, Princeton University)

Marjorie Reaka. The ecology and evolution of molting, life history patterns, and agonistic behavior in stomatopod crustaceans. 1975. (Current position: Professor, Department of Zoology, University of Maryland)

Robert Jackson. The evolution of courtship and mating tactics in a jumping spider Phidippus johnsoni (Araneae, Salticidae). 1976. (Current position: Professor, Department of Zoology, Univ. of Canterbury, Christchurch, New Zealand)

Nancy Knowlton. The behavior and ecology of the commensal shrimp Alpheus armatus, and a model for the relationship between female choice, female synchrony, and male parental care. 1978. (Current position: Sant Chair for Marine Science, Smithsonian Institution)

Marea Hatzios. Ecological correlates of aggression and courtship in the stomatopod Pseudosquilla ciliata. 1979. (Current position: Coastal Marine Resources Management Specialist, The World Bank, Washington, D.C.)

Kenneth Evans. Migration and reproduction in northern California field populations of the milkweed bug, Oncopeltus fasciatus. 1982. (High school biology teacher)

Kay Holekamp (Cosponsor with S. Glickman, Department of Psychology). Proximal mechanisms of natal dispersal in Belding's Ground Squirrel Spermophilus beldingi. 1983. (Current position: Associate Professor of Zoology, Michigan State University).

Richard Steger. The behavioral ecology of a Panamanian population of the stomatopod, Gonodactylus bredini (Manning). 1985. (Current position: School Chief Financial Officer)

Ilze Berzins. An investigation of the population dynamics, reproductive ecology, and resource utilization patterns of a guild of sand-burrowing amphipods, genus Orchestoidea. 1985. (Current position: Vice President of Biological Operations, The Florida Aquarium, Tampa)

Stephen Shuster. Reproductive biology of Paracerceis sculpta (Crustacea: Isopoda). 1987. (Current position: Professor, University of Northern Arizona).

- Eldridge Adams. Aggression in a mangrove community of neotropical ants. 1987. (Current position: Professor, University of Connecticut).
- George Roderick. Ecology and evolution of dispersal in California populations of a salt marsh insect, Prokelisia marginata. 1987. (Current position: Professor, University of California, Berkeley).
- Nanette Chadwick. Competitive behavior and spatial distribution in a community of temperate anthozoans. 1988. (Current position: Professor, Auburn University).
- Charles Fox. Quantitative genetics of host plant specializations in seed beetles, 1993. (Current position: Professor, University of Kentucky).
- Margy Gassell. The behavioral ecology of two sympatric species of snapping shrimps in Hawai'i, Alpheus he'eia and Alpheus lobidens, 1994. (Current position: Hazardous substances scientist, California Environmental Protection Agency).
- Leif Saul. The ontogeny of agonistic behavior and ecology of immature jumping spiders (Phiddipus johnsoni), 1994. (Current position: Instructor, Univ. of Colorado)
- Mary Cheng. The reproductive biology of two species of pygmy octopuses, Hapalochlaea lunulata and Octopus bocki, 1996. (Current position: Scientific Consultant, Reed-Smith).
- Mark Erdmann. The ecology, distribution, and bioindicator potential of Indonesian coral reef stomatopod communities, 1997. (Current position: Senior Advisor to Conservation International's Marine Program, Indonesia).
- Pam Jutte. The ecology, behavior, and visual systems of Pullosquilla litoralis and P. thomassini, two monogamous species of stomatopod crustacean, 1997. (Current position: Adjunct Professor, Univ. of Charleston).
- Katherine Schafer. The ecology of an assemblage of gonodactylid stomatopods and pygmy Octopus in shallow sea grass beds in Belize, Central America, 2001. (Current position: Executive Director, Aquamarine Research).
- Helen Fox. Damage from blast fishing and ecological factors influencing coral reef recovery in Indonesian, 2002. (Current position: Marine Biologist, Conservation Biology Program, World Wildlife Fund).
- Kirsten Lindstrom. Aspects of the Behavior, Population Genetics, and Phylogeny of Stomatopod Crustaceans, 2003. Current Position: Associate Professor, Santa Rosa Community College).
- Christine Huffard. Behavior and ecology of Abdopus aculeatus from Sulawesi, Indonesia, 2005. (Current Position: Marine Research, Conservation International).
- Karen Osborn. Phylogenetics and ecology of pelagic munnopsid isopods (Crustacea, Asellota), 2007. (Current Position: Postdoctoral Scholar, Scripps Institute of Oceanography).

Becky Williams. Toxicity of octopus in the genus *Hapalochlaena*. 2008. (Current position: Postdoctoral Scholar, New Mexico State University)

Stephanie Bush. 2009. Defensive Behaviors of Deep-sea Squids: Ink Release, Body Patterning, and Arm Autotomy. (Current position: Postdoctoral Scholar, Univ. of Rhode Island)

Current Ph.D. Students:

Molly Wright (B.A. Bowdoin College), Stomatopod mating systems, PhD expected 2011.

Joey Pakes (B.A. Harvard University), Remipede biology, PhD expected 2012

Jean Alupay (B.A. U.C. Davis), Cephalopod behavioral ecology, PhD expected 2012

Jennifer Hofmeister (B.S., U. C. Los Angeles), Octopus behavior, PhD expected 2013

Postdoctoral Students:

Brent LaMon. 1982-84. NIMH Postdoctoral Fellow (Ph.D. City University of New York), neurobehavior of the stomatopod strike.

Mark Erdmann. 1997-2000. NSF Postdoctoral Fellow (Ph.D, University of California at Berkeley), use of stomatopods and other mobile invertebrates to monitor coral reef health in Indonesia.

Sheila Patek, 2001-04. Miller Postdoctoral Fellow (PhD. Duke University), Biomechanics of stomatopods.

Dustin Rubenstein, 2006-09, Miller Postdoctoral Fellow (PhD Cornell University), Eusociality in snapping shrimp.

Publications:

1967. Caldwell, R. L. and H. Dingle. The regulation of cyclic reproductive and feeding activity in the milkweed bug *Oncopeltus fasciatus* by temperature and photoperiod. Biol. Bull. 133:510-515.

1967. Dingle, H. and R. L. Caldwell. Multimodal interneurons in cockroach cerebrum. Nature 215:63-64.

1969. Caldwell, R. L. A comparison of dispersal strategies in two species of milkweed bug, *Oncopeltus fasciatus* and *Lygaeus kalmii*. Ph.D. Thesis, University of Iowa.
1969. Caldwell, R. L. and J. P. Hegmann. Heritability of flight duration in the milkweed bug, *Lygaeus kalmii*. *Nature* 223:91-92.
1969. Dingle, H. and R. L. Caldwell. The aggressive and territorial behavior of the mantis shrimp *Gonodactylus bredini* Manning (Crustacea: Stomatopoda). *Behaviour* 33:115-136.
1969. Dingle, H., R. L. Caldwell, and J. B. Haskell. Temperature and circadian control of cuticle growth in the bug *Oncopeltus fasciatus*. *J. Insect Physiol.* 15:373-378.
1971. Dingle, H. and R. L. Caldwell. Temperature and reproductive success in *Oncopeltus fasciatus*, *O. unifaciatellus*, *Lygaeus kalmii*, and *L. turcicus*. *Ann. Ent. Soc. Amer.* 64:1171-1172.
1972. Caldwell, R. L. and M. A. Rankin. Juvenile hormone mimic effects on flight in the milkweed bug *Oncopeltus fasciatus*. *Gen. Comp. Endocrinol.* 19:601-605.
1972. Dingle, H. and R. L. Caldwell. Reproductive and maternal behavior of the mantis shrimp *Gonodactylus bredini* Manning (Crustacea: Stomatopoda). *Biol. Bull.* 142:417-426.
1972. Rankin, M. A., R. L. Caldwell, and H. Dingle. An analysis of a circadian rhythm of oviposition in *Oncopeltus fasciatus*. *J. Exp. Biol.* 56:353-59.
1973. Dingle, H., R. C. Highsmith, K. E. Evans, and R. L. Caldwell. Interspecific aggressive behavior in tropical reef stomatopods and its possible ecological significance. *Oecologia* 13:55-66.
1974. Caldwell, R. L. A comparison of the migratory strategies of two milkweed bugs, *Oncopeltus fasciatus* and *Lygaeus kalmii*. In: *Experimental Analysis of Insect Behaviour* (L. Barton Browne, ed.), Springer-Verlag, New York.
1974. Caldwell, R. L. and M. A. Rankin. Separation of migratory from feeding and reproductive behavior in *Oncopeltus fasciatus*. *J. Comp. Physiol.* 88:383-94.
1975. Caldwell, R. L. and H. Dingle. Ecology and evolution of agonistic behavior in stomatopods. *Naturwissenschaften* 62:214-22.
1975. Dingle, H. and R. L. Caldwell. Distribution, abundance, and interspecific agonistic behavior of two mudflat stomatopods. *Oecologia* 20:167-78.
1976. Caldwell, R. L. and H. Dingle. Stomatopods. *Scientific American*, 1976, pp. 80-89.
1977. Caldwell, R. L. and H. Dingle. Variation in agonistic behavior between populations of the stomatopod, *Haptosquilla glyptocercus*. *Evolution* 31:221-24.

1977. Dingle, H., R. L. Caldwell, and R. B. Manning. Stomatopods of Phuket Island, Thailand. Phuket Marine Biological Center Research Bulletin 20:1-20.
1978. Dingle, H. and R. L. Caldwell. Ecology and morphology of feeding and agonistic behaviour in mudflat stomatopods (Squillaidae). Biol. Bull. 155:134-49.
1979. Caldwell, R. L. Cavity occupation and defensive behaviour in the stomatopod *Gonodactylus festae*: Evidence for chemically mediated individual recognition. Anim. Behav. 27:194-201.
1979. Caldwell, R. L. A unique form of locomotion in a stomatopod - backward somersaulting. Nature 282:71-73.
1979. Caldwell, R. L. and J. Dingle. The influence of size differential on agonistic encounters in the mantis shrimp, *Gonodactylus viridis*. Behaviour 69:255-64.
1979. Aller, T. and R. L. Caldwell. An investigation on the possible presence of an aggregation pheromone in the milkweed bugs *Oncopeltus fasciatus* and *Lygaeus kalmii*. Physiol. Entomol. 4:287-90.
1979. Aller, T., D. Hirai, and R. L. Caldwell. A comparison of the correcting behavior exhibited by two milkweed bugs, *Oncopeltus fasciatus* and *Lygaeus kalmii*. Physiol. Entomol. 4:136-39.
1980. Caldwell, R. L. Stomatopods. In: Intertidal Invertebrates of California by Morris, R. H., D. P. Abbot, and E. C. Haderlie. Stanford University Press, Stanford, CA.
1981. Caldwell, R. L. and K. Lamp. Chemically mediated recognition by the stomatopod *Gonodactylus bredini* of its competitor, *Octopus joubini*. Mar. Behav. Physiol. 8:35-41.
1982. Caldwell, R. L. Interspecific chemically mediated recognition in two competing stomatopods. Mar. Behav. Physiol. 8:189-97.
1982. Lidicker, W. Z. Jr. and R. L. Caldwell, Eds. Dispersal and Migration, Hutchinson Ross Publishing Company, Stroudsburg, PA.
1983. Berzins, I. K. and R. L. Caldwell. The effect of injury on the agonistic behavior of the stomatopod, *Gonodactylus bredini* (Manning). Mar. Behav. Physiol. 10:83-96.
1983. Hatzios, M. E. and R. L. Caldwell. Role reversal in courtship in the stomatopod *Pseudosquilla ciliata* (Crustacea). Anim. Behav. 31:1077-87.
1983. Steger, R. and R. L. Caldwell. Intraspecific deception by bluffing: A defense strategy of newly molted stomatopods (Arthropoda: Crustacea). Science 221:558-60.
1984. Montgomery, E. L. and R. L. Caldwell. Aggressive brood defense by females in the stomatopod *Gonodactylus bredini*. Behav. Ecol. Sociobiol. 14:247-51.

1985. Caldwell, R. L. A test of individual recognition in the stomatopod *Gonodactylus festae*. *Anim. Behav.* 33:101-106.
1986. Caldwell, R. L. The deceptive use of reputation by stomatopods. In: *Deception: Perspectives on Human and Non-Human Deceit*. R. W. Mitchell and N. S. Thompson, eds., State University of New York Press, pp. 129-145.
1986. Caldwell, R. L. Withholding information on sexual condition as a competitive mechanism. In: *Behavioral Ecology and Population Biology*. L.C. Drickamer, ed., Privat, Toulouse. pp 83-88.
1987. Caldwell, R. L. Assessment strategies in stomatopods. *Bull. Mar. Sci.* 41:135-50.
1988. Caldwell, R. L. Interspecific interactions among selected intertidal stomatopods. In: Behavioral Adaptation to Intertidal Life, G. Chelazzi and M. Vannini, eds., NATO ASI Series A: Life Sciences Vol. 151:371-85. Plenum Press, New York.
1988. Cronin, T. W, J. N. Nair, R. D. Doyle, and R. L. Caldwell. Ocular tracking of rapidly moving visual targets by stomatopod crustaceans. *J. exp. Biol.* 138:155-79.
1989. Caldwell, R. L., G. Roderick, and S. Shuster. Studies of predation by *Gonodactylus bredini*. In: E. A. Ferrero, (ed.) [R. B. Manning, M. L. Reaka, W. Wales, coeds.] "Biology of Stomatopods", Collana UZI: Selected Symposia and Monographs, Mucchi Editore, Modena (Italy), pp. 117-131.
1989. Full, R. J., R. L. Caldwell, and S. W. Chow. Smashing energetics: prey selection and feeding efficiency of the stomatopod, *Gonodactylus bredini*. *Ethology* 81:134-47.
1989. Jackson, J. B., J. D. Cubit, B. D. Keller, V. Batista, K. Burns, H. M. Caffey, R. L. Caldwell, S. S. D. Garrity, C. D. Getter, C. Gonzalez, H. M. Guzman, K. W. Kaufman, A. H. Knap, S. C. Levings, M. J. Marshall, R. Steger, R. C. Thompson, and E. Weil. Ecological effects of a major oil spill on Panamanian coastal marine communities. *Science*, 243:37-44.
1989. Shuster, S. M. and R. L. Caldwell. Male defense of the breeding cavity and factors affecting the persistence of breeding pairs in the stomatopod, *Gonodactylus bredini* (Crustacea: Hoplocarida). *Ethology* 82:192-207.
1990. Caldwell, R. L. and M. J. Childress. Prey selection and processing in a stomatopod crustacean. In: Behavioral Mechanisms of Food Selection, R.N. Hughes, ed. NATO ASI Series, Series G: Ecological Sciences, Vol. 20:143-64, Springer-Verlag, Berlin.
1990. Adams, E. S. and R. L. Caldwell. Deceptive communication in asymmetric fights of the stomatopod crustacean *Gonodactylus bredini*. *Anim. Behav.* 39:706-16.
1991. Caldwell, R. L. Variation in reproductive behavior in stomatopod crustacea. In: Crustacean Sexual Biology, R. Bauer and J. Martin, eds., Columbia University Press, pp. 67-90.

1991. Caldwell, R. L. Individual recognition and suppression of aggression against former mates in *Gonodactylus bredini* (Crustacea: Stomatopoda). *Memoirs of the Queensland Museum* 31:214.
1991. Steger, R. and R. L. Caldwell. Reef flat stomatopods. In: Long-term assessment of the oil spill at Bahia Las Minas, Panama, interim report, volume II: technical report. Keller, B. D. and J.B.C. Jackson, eds. OCS Study MMS 90-0031. U.S. Department of Interior, Minerals Management Service, Gulf of Mexico OCS Regional Office, New Orleans, La., pp. 97-119.
1992. Caldwell, R. L. Recognition, signalling and reduced aggression between former mates in a stomatopod. *Anim. Behav.* 44:11-19.
1992. Roderick, G. K. and R. L. Caldwell. An entomological perspective on animal dispersal. In: Animal Dispersal: small mammals as a model. N.C. Stenseth and W.Z. Lidicker, eds. Chapman and Hall, London, pp. 274-290.
1993. Cronin, T. W., N. J. Marshall, and R. L. Caldwell. Photoreceptor spectral diversity in the retinas of squilloid and lysiosquilloid stomatopod crustaceans. *J. Comp. Physiol. A.* 172: N3:339-350.
1993. Full, R., K. Earls, M. Wong, and R. Caldwell. Locomotion like a wheel? *Nature* 365:495.
1993. Steger, R. and R. Caldwell. Reef Flat Stomatopods. In: Long-term assessment of the oil spill at Bahia Las Minas, Panama, synthesis report, volume I: executive summary. Keller, B. D and J.B.C. Jackson, eds, OCS Study MMS 93-0048. U.S. Department of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, La. pp. 43-51.
1993. Steger, R. and R. Caldwell. Reef Flat Stomatopods. In: Long-term assessment of the oil spill at Bahia Las Minas, Panama, synthesis report, volume II: technical report. Keller, B. and J.B.C. Jackson, eds, OCS Study MMS 93-0048. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, La. pp. 293-359.
1994. Cronin, T. W., N. J. Marshall, and R. L. Caldwell. The intrarhabdomal filters in the retinas of mantis shrimps. *Vision Research* 34:279-291.
1994. Cronin, T.W., N.J. Marshall and R.L. Caldwell. The retinas of mantis shrimps from low-light environments (Crustacea, Stomatopoda, Gonodactylidae). *J. Comp. Physiol. A* 174:607-619.
1994. Cronin, T. W., N.J. Marshall, R.L. Caldwell, and N. Shashar. Specialization of retinal function in the compound eyes of mantis shrimps. *Vision Res.* 34:2639-2656.
1994. Fox, C. W. and R. L. Caldwell. Host-associated fitness trade-offs do not limit the evolution of diet breadth in the small milkweed bug *Lygaeus kalmii* (Hemiptera: Lygaeidae). *Oecologia* 97:382-389.

1995. Cronin, T. W., N. J. Marshall, R. L. Caldwell, and D. Pales. Compound eyes and ocular pigments of crustacean larvae (Stomatopoda and Decapoda, Brachyura). *Mar. Fresh. Behav. Physiol.* 26:219-231.
1996. Cronin, T.W., N.J. Marshall, and R.L. Caldwell. Visual pigment diversity in two genera of mantis shrimps implies rapid evolution (Crustacea: Stomatopoda). *J. Comp. Physiol. A*, 179:371-384.
1997. Erdmann, M.V. and R. L. Caldwell. Stomatopod crustaceans as bioindicators of marine pollution stress on coral reefs. *Proc. 8th Int. Coral Reef Sym*, 2:1521-1526.
1998. Erdmann, M.V, R. L. Caldwell, and M K. Moosa. Indonesain 'king of the sea' discovered. *Nature* 395:335.
1998. Jutte, P.A., T.W. Cronin, and R.L. Caldwell. Photoreception in the planktonic larvae of two species of *Pullosquilla*, A lysiosquilloid stomatopod crustacean. *J. Exp. Biol.*, 201 N17:2481-2487.
1998. Jutte, P.A., T.W. Cronin, and R.L. Caldwell. Vision in two sympatric species of *Pullosquilla* (Stomatopoda, Lysiosquilloidea) living in different depth ranges. *Mar. Fresh. Behav. Physiol.* 31:231-250.
1999. Erdmann, M. V., R. L. Caldwell, S. L. Jewett and A. Tjakrawidjaja. The second recorded living coelacanth from north Sulawesi. *Env. Biol. Fishes*, 54: 445-451.
1999. Holder, M.T., M.V. Erdmann, T.P. Wilcox, R.L. Caldwell and D.M. Hillis. Two Living Species of Coelacanths? *Proc. Nat. Acad. Science* 96:12616-12620.
2000. Caldwell, R. L. and R. B. Manning. A new dwarf pseudosquillid of the genus *Raoulserenea* from French Polynesia (Crustacea, Stomatopoda). *Zoosystema*, 22:106-106.)
2000. Cheng, M.W. and R. L. Caldwell. Sex determination and mating in the blue-ringed octopus, *Hapalochlaena lunulata*. *Anim. Behav.* 60:27-33.
2000. Cronin, T.W., N.J. Marshall and R. L. Caldwell. Spectral tuning and the visual ecology of mantis shrimps. *Phil. Trans. R. Soc. Lond. B.* 355:1263-1267.
2001. Cronin, T.W., N.J. Marshall and R. L. Caldwell. Tunable colour vision in a mantis shrimp. *Nature* 411:547-548.
2002. Cronin, T. W. and R. L. Caldwell. Tuning of photoreceptor function in mantis shrimp species occupying a range of depths. II. Filter Pigments. *J. Comp. Physiol. A*, 188:187-97.
2002. Cronin, T. W., R. L. Caldwell and M. V. Erdmann. Tuning of photoreceptor function in mantis shrimp species occupying a range of depths. I. Visual Pigments. *J. Comp. Physiol. A*, 188:179-86.

2002. Huffard, C. L. and R. L. Caldwell. Inking in a blue-ringed octopus, *Hapalochlaena lunulata* (Quoy and Giamard, 1832), with a vestigial ink sac. *Pacific Science* 56:255-257.
2003. Cheroske, A. G., T. W. Cronin and R. L. Caldwell. Adaptive color vision in *Pullosquilla litoralis* (Stomatopoda, Lysiosquilloidea) associated with spectral and intensity changes in light environment. *J. Exp. Biol.* 206:373-379.
2003. Cronin T. W., N. Shashar, R. L. Caldwell, A.G. Cheroske and T. H. Chiou. Polarization vision and its role in biological signaling. *Integr. Comp. Biol.* 43:549-558.
2003. Cronin, T.W., N. Shashar, R. L. Caldwell, J. Marshall, A. G. Cheroske and T. Chiou. Polarization signals in the marine environment, In: Proc. SPIE Vol. 5158: Polarization Science and Remote Sensing; J. A. Shaw, J. S. Tyo; Eds, p. 85-92. SPIE Press, Bellingham, WA, USA.
2003. Fox, H. E., J. S. Pet, R. Dahuri, and R. L. Caldwell. Recovery in rubble fields: long-term impacts of blast fishing. *Marine Pollution Bulletin* 46:1024-1031.
2003. Fox, H. E., J. S. Pet, R. Dahuri, and R. L. Caldwell. Coral reef restoration after blast fishing in Indonesia. Proceedings of the 9th International Coral Reef Symposium, Bali, Indonesia. 23-27 October 2000. Vol 2, Pages 969-976.
2004. Danke, J., T. Miyake, T. Powers, , H. Shin, I. Bosdet, M. Erdmann, R. L. Caldwell and C. T. Amemiya. Genome resource for the Indonesian coelacanth, *Latimeria menadoensis*. *J. Exp. Zool.* 301A:228-234.
2004. Mazel, C. H., T.W. Cronin, R.L. Caldwell and N.J. Marshall. Fluorescent enhancement of signaling in a mantis shrimp. *Science* 303:51.
2004. Patek, S.N., W.L. Korff and R.L. Caldwell, Mantis shrimp strike at high speeds with a saddle-shaped spring. *Nature* 428: 819-820.
2005. Caldwell, R.L. An observation of inking behaviour protecting adult *Octopus bocki* from predation by Green Turtle (*Chelonia mydas*) hatchlings. *Pacific Science* 59:69-72.
2005. Chiou, T, T.W. Cronin, R.L. Caldwell and N.J. Marshall. Biological polarized light reflectors in stomatopod crustaceans. *Polarization Science and Remote Sensing II*. Edited by Shaw, Joseph A.; Tyo, J. Scott. Proceedings of the SPIE, 5888: 380-388.
2005. Fox, H. E., P. J. Mous, J. S. Pet, A. H. Muljadi and R. L. Caldwell. Experimental assessment of coral reef rehabilitation following blast fishing. *Conservation Biology* 19:98-107.
2005. Patek, S.N. and R. L. Caldwell. Extreme impact and cavitation forces of a biological hammer: strike forces of the peacock mantis shrimp (*Odontodactylus scyllarus*). *J. Exp. Biol.* 208:3655-3664.

2006. Cronin, T. W., R. L. Caldwell and J. Marshall. Learning in Stomatopod Crustaceans. *Int. J. Comp. Psych.* 19: 297-317.
2006. Patek, S.N. and R.L. Caldwell, The stomatopod rumble: sound production in *Hemisquilla californiensis*. *Mar. Freshwater Beh. Physiol.* 39:99-111.
2006. Fox, H. E. and R. L. Caldwell. Recovery from Blast Fishing on Coral Reefs: A Tale of Two Scales. *Ecological Applications.* 16:1631-1635.
2007. Caldwell, R.L. The Stomatopoda. In: *The Light and Smith Manual: Intertidal Invertebrates from Central California to Oregon, Fourth Edition*, J. T. Carlton, ed. University of California Press, Berkeley. pp. 630-631.
2007. Caldwell, R. L. Mantis Shrimp. In: *Encyclopedia of Tidepools and Rocky Shores*. M. W. Denny and S. D. Gaines, eds. University of California Press, Berkeley. pp. 341-344.
2007. Patek, S.N., B. N. Nowroozi, J. E. Baio, R. L. Caldwell, A. P. Summers. Linkage mechanics and power amplification of the mantis shrimp's raptorial strike. *J. Exp. Biol.* 210:3677-3688.
2008. Chiou, T. H, R. L. Caldwell, R. T. Hanlon and T. W. Cronin. Fine structure and optical properties of biological polarizers in crustaceans and cephalopods. *Proceedings of SPIE*, 6972: 1-10.
2008. Chiou T. H, S. Kleinlogel, T. Cronin, R. Caldwell, B. Loeffler, A. Siddiqui, A. Goldizen and J. Marshall. Circular polarisation vision in a stomatopod crustacean. *Current Biology* 18: 429-434.
2008. Huffard, C. L., R. L. Caldwell and F. Boneka. Mating behavior of *Abdopus aculeatus* (d'Orbigny 1834) (Cephalopoda: Octopodidae) in the wild. *Marine Biology* 154:353-362.
- 2008 Meunier, F.J., M. V. Erdmann, Y. F. and R. L. Caldwell. Can the comparative study of the morphology and histology of the scales of *Latimeria menadoensis* and *L. chalumnae* (Sarcopterygii: Actinistia, Coelacanthidae) bring new insight on the taxonomy and the biogeography of recent coelacanthids? *Geological Society, London, Special Publications*; v. 295; p. 351-360 doi:10.1144/SP295.17
2008. Huffard, C.L., R..L. Caldwell , N. DeLoach, D. W. Gentry, P. Humann, B. MacDonald, B. Moore, R. Ross, T. Uno, S. Wong. Individually Unique Body Color Patterns in Octopus (*Wunderpus photogenicus*) Allow for Photoidentification. *PLoS ONE* 3:e3732 1-5.
2009. Bush, SL, Robison, BH, & RL Caldwell. Behaving in the dark: locomotor, chromatic, postural and bioluminescent behaviors of the deep-sea squid *Octopoteuthis deletron* Young 1972. *Biological Bulletin.* 216: 7-22.

2009. Cheroske, A.G., T. W. Cronin, M.F. Kaminski and R. L. Caldwell. Adaptive signaling behaviour in stomatopods under varying light conditions. . Mar. Freshwater Beh. Physiol. 42: 219-232.
2009. Williams, B. L. and R. L. Caldwell. Intra-organismal distribution of tetrodotoxin in two species of blue-ringed octopuses (*Hapalochlaena fasciata* and *H. lunulata*). *Toxicon*, 54: 345-353.

In Press:

2009. Huffard, C.L., R.L. Caldwell and F. Boneka. Male-male and male-female aggression may influence mating associations in wild octopuses (*Abdopus aculeatus*). *J. Comp. Psych.* (in press)

Films:

1968. Dingle, H., R. L. Caldwell, and H. Schöne. Behavior of the mantis shrimp *Gonodactylus bredini*. Film produced by the Institute fur den Wissenschaftlichen Film, Gottingen, Germany (Encyclopedia Cinematographica).
1985. Fastest Claw in the West. Film produced by K. Smart, BBC Natural History Unit, Bristol, for 'Wildlife on One', BBC Television, London. (R. Caldwell, scientific advisor).
1990. Trials of Life, Episode 8, Fighting. Film produced by David Attenborough, BBC Natural History Unit, BBC Television, London. (R. Caldwell, scientific advisor).
1995. Animal Minds. Film produced by John Rubin, National Geographic Television. (R. Caldwell, scientific advisor).
1998. Mysteries of the Sea. Discovery Channel. (R. Caldwell, scientific advisor)
2004. Animal Cameras. Film produced by Tim Green, BBC Natural History Unit, BBC Television, London. (R. Caldwell, scientific advisor)

Popular Articles:

1985. Caldwell, R. L. Shrimp Surprise. *BBC Wildlife* 3:415-20.
1987. Caldwell, R. L. Fighting Shrimps. *Children's Britannica Yearbook*, pp. 85-87.
1991. Caldwell, R. L. Stomatopods: The better to see you with my dear. *Australian Natural History* 23:696-705.

2000. Caldwell, R. L. Death in a pretty package: the blue-ringed octopuses. *Freshwater and Marine Aquarium Magazine*, March, 2000.

Web sites Developed:

2005. Understanding Evolution. (<http://evolution.berkeley.edu/evolibrary/home.php>)
(P.I. heading UCMP team, NSF funded project)

2009. Understanding Science. (<http://undsci.berkeley.edu/index.php>)
(P.I. heading UCMP team, NSF funded project)