

KENNETH A. HAYES, PhD

UNIVERSITY OF HAWAII • CENTER FOR CONSERVATION RESEARCH & TRAINING
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EDUCATION

- Postdoctoral **Smithsonian Institution**, US National Museum of Natural History, Washington, DC
 2009-2010 Advisor: E.E. Strong
- PhD 2009 **University of Hawaii Manoa**, Honolulu, Zoology with Ecology, Evolution, &
 Conservation Biology Specialization, Advisor: R.H. Cowie
- MS 2003 **University of South Florida**, Tampa, Zoology, Advisor: S.A. Karl
- BS 1999 **University of South Florida**, Tampa, Biology, Advisors: J.L. Simon & J.R. Garey

PROFESSIONAL APPOINTMENTS

- 2010 - Present **Assistant Research Faculty** - University of Hawaii, Pacific Biosciences
 Research Center, Honolulu, HI
- 2010 - Present **Research Collaborator** - Smithsonian Institution, US National Museum of
 Natural History, Washington, DC
- 3/2010 - 5/2010 **Assistant Research Affiliate** - University of Hawaii, Pacific Biosciences
 Research Center, Honolulu, HI
- 3/2010 - 11/2010 **Encyclopedia of Life Rubenstein Fellow** (Mentor: Dr. Ellen E. Strong)
- 3/2009 - 2/2010 **Postdoctoral Research Fellow** - Smithsonian Institution, US National Museum
 of Natural History, Washington, DC (Advisor: Dr. Ellen E. Strong)
- 2003 - 2009 **Graduate Research Assistant** - University of Hawaii, Center for Conservation
 Research & Training, Honolulu, HI
- 2002 - 2003 **Research Staff** - Florida Marine Research Institute, Harmful Algal Blooms, St.
 Petersburg, FL.
- 1999 - 2002 **Graduate Teaching Assistant** - University of South Florida, Department of
 Biology, Tampa FL.

IN REVIEW AND IN PREP PUBLICATIONS

- 24 **Hayes, K.A.**, R.H. Cowie, S.C. Thiengo and E.E. Strong. *In Review*. Comparing apples to
 apples: clarifying the identities of two highly invasive Neotropical Ampullariidae
 (Caenogastropoda). *Biological Journal of Linnean Society*
- 23 Durkan, T.H., N.W. Yeung, W.M. Meyer, **K.A. Hayes** and R.H. Cowie. *In Prep*. Micromollusk
 sampling: assessment of biodiversity survey approaches. *Biodiversity and Conservation*
- 22 Yeung, N.W., W.M Meyer, **K.A. Hayes**, C.T. Tran, J.R. Kim, T.J. Skelton, and R.H. Cowie. *In
 Prep*. Distribution and spread of alien snails and slugs in high elevation agricultural sites in
 Hawaii. *Journal of Pest Science*

- 21 Meyer, W.M., **K.A. Hayes** and N.W. Yeung. *In Prep.* Molecular systematics of *Euglandina rosea*: A failed biocontrol by any other name is still called *E. rosea*. *Diversity and Distributions*
- 20 **Hayes, K.A.**, S.C. Thiengo and R.H. Cowie. *In Prep.* Phylogeny, morphology and species limits of Neotropical apple snails (Caenogastropoda: Ampullariidae). *Molecular Phylogenetics and Evolution*
- 19 **Hayes, K.A.**, S.C. Thiengo and R.H. Cowie. *In Prep.* Comparative phylogeography of two species of *Pomacea*.
- 18 Thiengo, S.C., **K.A. Hayes**, A. Mattos, M.A. Fernandez and R.H. Cowie. *In Prep.* On the identity of two New World ampullariids, *Pomacea lineata* and *Pomacea figulina*. *ZooTaxa*
- 17 Kim, J.R., **K.A. Hayes**, N.W. Yeung and R.H. Cowie. *In Prep.* Systematics and distribution of veronicellid slugs in the Main Hawaiian Islands. *Pacific Science*
- 16 Meyer, W.M., **K.A. Hayes**, N.W. Yeung, C.T. Tran, J.R. Kim, T.J. Skelton and R.H. Cowie. *In Prep.* Distribution, abundances and impacts of alien snails and slugs on low elevation (< 500 m), disturbed habitats in Hawaii. *Biological Invasions*

PEER-REVIEWED PUBLICATIONS

- 15 Karl, S.A. and **K.A. Hayes**. 2012. Extreme population subdivision in the Crown Conch (*Melongena corona*): Historical and contemporary influences. *Journal of Heredity*
- 14 **Hayes, K.A.**, N.W. Yeung, J.R. Kim and R.H. Cowie. 2012. New records of alien Gastropoda in the Hawaiian Islands: 1996-2010. *Bishop Museum Occasional Papers*
- 13 Christensen, C.C., N.W. Yeung and **K.A. Hayes**. 2012. First records of *Paralaoma servilis* (Shuttleworth, 1852) (Gastropoda: Pulmonata: Punctidae) in the Hawaiian Islands. *Bishop Museum Occasional Papers*
- 12 **Hayes, K.A.**, R.H. Cowie and S.C. Thiengo. 2009. A global phylogeny of apple snails: Gondwanan origin, generic relationships and the influence of outgroup choice (Caenogastropoda: Ampullariidae). *Biological Journal of the Linnean Society* 98:61-76.
- 11 **Hayes, K.A.**, R.H. Cowie, A. Jørgensen, R. Schultheiß, C. Albrecht and S.C. Thiengo. 2009. Molluscan models in evolutionary biology: Apple snails (Gastropoda: Ampullariidae) as a system for addressing fundamental questions. *American Malacological Bulletin* 27(1/2):47-58.
- 10 **Hayes, K.A.** and S.A. Karl. 2009. Phylogenetic relationships of crown conchs (*Melongena* spp.): the *corona* complex simplified. *Journal of Biogeography* 36:28-38.
- 9 Holland, B.S., C.C. Christensen, **K.A. Hayes** and R.H. Cowie. 2008. Biocontrol in Hawaii: A response to Messing (2007). *Proceedings of the Hawaiian Entomological Society* 40:81-83.
- 8 Cowie, R.H., **K.A. Hayes**, C.T. Tran and W.M. Meyer. 2008. The horticultural industry as a vector of alien snails and slugs: widespread invasions in Hawaii. *International Journal of Pest Management* 54(4):267-276.
- 7 **Hayes, K.A.**, R.C. Joshi, S.C. Thiengo and R.H. Cowie. 2008. Out of South America: Multiple origins of non-native apple snails in Asia. *Diversity and Distributions* 14(4):701-712.

- 6 Tran, C.T., **K.A. Hayes** and R.H. Cowie. 2008. Lack of mitochondrial DNA diversity in invasive apple snails (Ampullariidae) in Hawaii. *Malacologia* 50(1-2):351-357.
- 5 Meyer, W.M., **K.A. Hayes** and A.L Meyer. 2008. Giant African snail, *Achatina fulica*, as a snail predator. *American Malacological Bulletin* 24:117-119.
- 4 Cowie, R.H., **K.A. Hayes**, C.T. Tran and P. Levin. 2007. Distribution of the invasive apple snail *Pomacea canaliculata* (Lamarck) in the Hawaiian Islands (Gastropoda: Ampullariidae). *Bishop Museum Occasional Papers* 96:48-51.
- 3 **Hayes, K.A.**, C.T. Tran and R.H. Cowie. 2007. New records of alien Mollusca in the Hawaiian Islands: non-marine snails and slugs (Gastropoda) associated with the horticultural trade. *Bishop Museum Occasional Papers* 96:54-63.
- 2 Rawlings, T.A., **K.A. Hayes**, R.H. Cowie and T.M. Collins. 2007. The identity, distribution and impacts of non-native apple snails in the Continental United States. *BMC Evolutionary Biology* 7:97 [14 p.].
- 1 **Hayes, K.A.** and S.A. Karl. 2004. Characterization of microsatellite markers from the gastropod genus *Melongenina*. *Molecular Ecology Notes* 4:755-757.

BOOK CHAPTERS

- 5 Cowie, R.H. and **K.A. Hayes**. 2012 Apple snails. In: *A handbook of global freshwater invasive species* (ed. Francis, R.A.), p. 207-221. Earthscan, London and New York.
- 4 Thiengo, S.C, **K.A. Hayes**, A.C. Mattos, M.L.A. Fernandez and R.[H.] Cowie. 2011. A Família Ampullariidae no Brasil: Aspectos Morfológicos, Biológicos e Taxonômicos, In: *Tópicos em Malacologia. XIX ENCONTRO BRASILEIRO EM MALACOLOGIA*. p. 95-111. Orgs. M.L.A. Fernandez, S.B. Santos, A.D. Pimenta, S.C. and Thiengo. Editora Technical Books Rio de Janeiro.
- 3 Cowie, R.H., **K.A. Hayes** and S.C. Thiengo. 2006. What are apple snails? Confused taxonomy and some preliminary resolution In: *Global advances in ecology and management of golden apple snails*, (ed. R.C. Joshi and L.C. Sebastian), p. 3-23. Philippine Rice Research Institute, Muñoz, Nueva Ecija.
- 2 Levin, P., R.H. Cowie, J.M. Taylor, **K.A. Hayes**, K.M. Burnett and C.A. Ferguson. 2006. Apple snail invasions and the slow road to control: ecological, economic, agricultural and cultural perspectives in Hawaii. In: *Global advances in ecology and management of golden apple snails*, (ed. R.C. Joshi & L.C. Sebastian), p. 325-335. Philippine Rice Research Institute, Muñoz, Nueva Ecija.
- 1 Cowie, R.H. and **K.A. Hayes**. 2005. Invasive ampullariid snails: taxonomic confusion and some preliminary resolution based on DNA sequences. In: Chang, Y.-F. and Lai, P.-Y., eds. *Proceedings of the Asia-Pacific Economic Cooperation meeting on the management of the golden apple snail, National Pingtung University of Science and Technology, Pingtung, Taiwan, September 6-11, 2004*. Pingtung: National Pingtung University of Science and Technology.

ABSTRACTS AND OTHER PUBLICATIONS

- 5 Cowie, R.H., **K.A. Hayes** and C.T. Tran. 2009. The horticultural industry as a vector of alien snails and slugs: results of surveys in Hawaii. The Western Society of Malacologists Annual Report 39 [2006]:12.
- 4 **Hayes, K.A.** 2009. Evolution, molecular systematics and invasion biology of Ampullariidae. Ph.D. Dissertation. University of Hawaii, Department of Zoology. Honolulu, HI.
- 3 Cowie, R.H., **K.A. Hayes**, C.T. Tran and W.M. Meyer III. 2008. Alien snails and slugs imported into Hawaii. *Aliens* 27:17.
- 2 **Hayes, K.A.** 2007. Neotropical species diversity: Apple snails as an informative system. *Unitas Malacologica Newsletter* 24(1):13-14.
- 1 **Hayes, K.A.** 2003. Phylogeography and Evolution of the Florida Crown Conch (*Melongena corona*). MS Thesis. University of South Florida. Tampa, FL.

RESEARCH EXPERIENCE*Research Projects*

- 2010 - Present Conservation, systematics and evolution of Hawaiian land snails.
- 2009 - Present Revisionary systematics of the Ampullariidae and comparative anatomy and phylogenetics of the lower Caenogastropoda (Mollusca: Gastropoda) Architaenioglossa (Ampullariidae, Cyclophoridae, Viviparidae) and the Campanilidae.
- 2006 - Present Distribution, abundance and conservation status of native land snails of Hawaii.
- 2004 - 2011 Distribution, abundances and impacts of alien land snails in Hawaii.
- 2004 - 2006 Apple snails in Hawaii: Mapping their distribution and assessing impacts.
- 2003 - 2009 Systematics, phylogeography, evolution and invasion biology of Neotropical apple snails.
- 2002 - 2003 Life-cycle studies of dinoflagellates, including *Karenia brevis* and phylogenetic relationships and taxonomic status of *Pyrodinium bahamense* subspecies and varieties.
- 1999 - 2003 Genetic analysis of the Florida Crown Conch (*Melongena corona*) populations throughout Florida and Alabama using microsatellites analysis and DNA sequences.

Research Cruises and Field Expeditions

- 2010 - 2012 Team leader and co-organizer for numerous field expeditions to document and collect native land snails throughout the Hawaii Islands - focusing heavily on remote and poorly surveyed areas
- 2004 - 2009 Team leader and co-organizer for one or more field expedition per year to remote regions of Brazil to collect native apple snails and document their distributions
- 2003 - 2008 Senior researcher, team leader and organizer of 75+ field expeditions to document and collect non-native snails throughout the Hawaiian Islands

- 2002 Research Scientist aboard RV Suncoaster in the Gulf of Mexico. Tracking and collecting Red Tide Bloom (*Karenia brevis*) data in coastal waters of Florida. Collected and processed water samples used in the development of molecular probes for *K. brevis*.
- 2002 AAUS research diver aboard RV Suncoaster in the Bahamas. Collection, preservation, and identification of reef fish and invertebrates for population and systematic studies conducted at USF and UF.
- 2001 Team member for field expedition to collect blood samples from gopher tortoises (*Gopherus polyphemus*) in the Florida Everglades for population genetics research by Tonia Schwartz and Dr. Stephen Karl (USF).
- 1999 - 2000 Field collection of Florida Lancelets for isolation and identification of developmental regulatory genes. Assisted in both fieldwork and laboratory experiments at USF in cooperation with the Max-Planck Institute Berlin, Germany.
- 2000 AAUS research diver aboard RV Bellows and RV Suncoaster in the Bahamas. Collection, preservation, and identification of reef fish and invertebrates for population and systematic studies conducted at USF and UF.
- 2000 AAUS research diver aboard RV Suncoaster in the Gulf of Mexico. Collection, preservation, and identification of polychaetes for Annelid genome project (USF).
- 1998 - 1999 Undergraduate research conducted in Dr. James Garey's lab at USF. Assisted with invertebrate identification and genetic analysis of various invertebrate relationships.

TEACHING EXPERIENCE

Pedagogical training

- 2011 - 2012 Faculty Institutes for Reforming Science Teaching (FIRST IV) postdoctoral fellow: This is a NSF-funded teacher training program through Michigan State University. FIRST is a national network aimed at providing long-term professional development for biology faculty in learner centered teaching approaches. I am one of five postdoctoral fellows on a team designing and teaching a course titled Biology Across Disciplines: Advancing Science in Society. This is a Biological Science course for non-majors taught at each of the home institutes of the postdoctoral fellows in our team. Our course is designed using scientific teaching principles with a foundation of learning modules developed through backwards design. As a FIRST IV fellow, I also attend annual workshops focused on pedagogical techniques, course enrichment, teaching strategies, and professional development.

Courses taught as instructor of record

- 2012 Evolution for Everyone (Honors 491), Honors Program, University of Hawaii
- 2010 - 2011 Introduction to Research (Honors 495), Honors Program, University of Hawaii
- 2007 Population Genetics Primer, Graduate Student Seminar, University of Hawaii
- 2006 Molecular Systematics/Ecology Primer, Graduate Student Seminar, University of Hawaii

Courses taught as guest lecturer

- 2011 Conservation Genetics (HON491 Conservation Biology) University of Hawaii
 2000 - 2002 Advanced Invertebrate Zoology, University of South Florida, Tampa, FL.

Laboratory courses taught as graduate assistant

- 1999 - 2002 Biology labs at University of South Florida, Tampa, FL; Biology I - Cellular Processes, Biology II - Biodiversity, Cell Biology, Genetics, Advanced Invertebrate Zoology, and Molecular Systematics.

Undergraduate teaching experience

- 1998 Undergraduate Teaching Assistant - Advanced Invertebrate Zoology. USF Tampa, FL.

MENTORING

University of South Florida *Undergraduate:* Mathew Moody (2001 - 2002)

University of Hawaii *Undergraduates:* C.T. Tran (2004 - 2006), S. Arnasson (2007), J. Bedrosian (2007), J.R. Kim (2007 - 2009), C. Yee (2008 - 2011), .T.J. Skelton (2008 - 2010), K. Coleman (2011), T. Takebayashi (2011), D. Ressler (2011), T.H. Durken (2011-2012), A. Kong (2011)

Graduate Students: J.R. Kim (MS; 2009-2012), P.A. Curry (MS; 2010-2011), K. Podlacha (PhD; 2011)

Postdoctoral: N.W. Yeung (2010-2012)

GRANTS, SCHOLARSHIPS AND FELLOWSHIPS AWARDED (\$1,391,337)*Grants as Principle Investigator (\$735,377)*

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| 2012 | U.S. National Science Foundation: Research Experience for Undergraduates Supplement to Hawaiian land snail biodiversity: Systematics, phylogenetics and conservation status of a vanishing fauna. PI: K.A. Hayes , Co-PI: R.H. Cowie (DEB-1120906 supplement) | \$7500 |
| 2011 - 2014 | U.S. National Science Foundation: COLLABORATIVE RESEARCH: US-URUGUAY-BRAZIL IRES AMPLIFIED: Ampullariidae Model using Phylogeography, Laboratory Integration with Field Investigations into Ecology and Diversity PIs: R.L. Burks and K.A. Hayes Co-PIs: R.H. Cowie, M. Meerhoff, S.C. Thiengo. Collaborators: F. Scarabino, and C. Clavijo (OISE-1130694 - Total Award = \$149952) | \$77877 |
| 2011 - 2014 | U.S. National Science Foundation: Hawaiian land snail biodiversity: Systematics, phylogenetics and conservation status of a vanishing fauna. PI: K.A. Hayes , Co-PIs: R.H. Cowie, B.H. Holland, Senior Personnel: NW Yeung (DEB-1120906) | \$650000 |

Grants as Co-Principle Investigator or Senior Personnel (\$533,370)

2012	U.S. National Science Foundation: Research Experience for Undergraduates Supplement to REVSYS: A revision of New World Ampullariidae: an emerging model system in evolutionary biology and systematics training. PI: R.H. Cowie Co-PI: K.A. Hayes (DEB-0949061 supplement)	\$7500
2011	U.S. National Science Foundation: Research Experience for Undergraduates Supplement to REVSYS: A revision of New World Ampullariidae: an emerging model system in evolutionary biology and systematics training. PI: R.H. Cowie Co-PI: K.A. Hayes (DEB-0949061 supplement)	\$7500
2010	U.S. National Science Foundation Planning Grant: IRES AMPLIFIED Ampullariid model using phylogenetics, laboratory inquiry and field investigations into ecology and distribution. PI: R.L. Burks, Research Partners: K.A. Hayes , R.H. Cowie, M. Meerhoff, S.C. Thiengo, F. Scarabino, and C. Clavijo. (OISE-1013316)	\$18370
2010 - 2013	U.S. National Science Foundation: REVSYS: A revision of New World Ampullariidae – an emerging model system in evolutionary biology and systematics training. PI: R.H. Cowie, Co-PIs: K.A. Hayes , E.E. Strong and S.C. Thiengo. (DEB 0949061)	\$500000

Fellowships (\$70,594)

2011 - 2012	Fellowship from U.S. National Science Foundation FIRST IV: Faculty Institutes for Reforming Science Teaching: Focus on Postdoctoral Scholars. NSF CCLI - Phase III. PI: D. Ebert-May, CoPI: Terry Derting (DUE-0817224)	\$1094
2010	EOL Rubenstein Fellowship: Encyclopedia of life species pages for the Architaenioglossa (Gastropoda: Ampullariidae, Viviparidae, Cyclophoridae)	\$25000
2009 - 2010	Smithsonian Institution Postdoctoral Research Fellowship	\$44500

Travel grants (\$1,239)

2010	University of Hawaii, University Research Council Faculty Research Travel Award to participate in the international apple snail workshop in Argentina	\$1239
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Graduate student grants and fellowships (\$50,757)

2008	UH Dai Ho Chun Fellowship	\$10000
2008	Ecology, Evolution and Conservation Biology Travel Grant	\$1100
2007	UH Graduate Student Organization Travel Grant	\$1477
2007	Ecology, Evolution and Conservation Biology Research Grant	\$2500
2007	Unitas Malacologica Travel Grant for World Congress of Malacology	\$1100
2007	Ecology, Evolution and Conservation Biology Research Grant	\$2000
2006	Ecology, Evolution and Conservation Biology Research Grant	\$3000
2006	Ecology, Evolution and Conservation Biology Travel Grant	\$1000

2005	Ecology, Evolution and Conservation Biology Research Grant	\$4000
2005	Unitas Malacologica Student Research Award	\$1100
2005	Conchologists of America Research Award	\$1500
2005	UH Graduate Student Organization Travel Grant	\$1200
2005	Ecology, Evolution and Conservation Biology Travel Grant	\$1500
2005	American Malacological Society Student Research Award	\$1000
2004	Ecology, Evolution and Conservation Biology Research Grant	\$4000
2004	Ecology, Evolution and Conservation Biology Travel Grant	\$1500
2004	Western Society of Malacologists Student Research Grant	\$300
2004	Conchologists of America Research Award	\$1500
2004	Maybelle Roth Scholarship	\$5000
2003	USF, Biology Graduate Student Travel Award	\$180
2002	USF, Dept of Biology - Student Travel Award	\$250
2001	Conchologists of America Research Award	\$1500
2001	USF, Dept. of Biology – Student Travel Award	\$250
2000	Sigma Xi Grants-in-Aid of Research	\$300
2000	Lerner Grey Fund for Marine Research	\$2000
2000	American Malacological Society Student Research Award	\$1500

INVITED PRESENTATIONS (PRESENTER UNDERLINED)

- 18 Hayes, K.A. Caracóis como modelos na evolução e biologia da conservação. Presentation at Instituto Oswaldo Cruz, Rio de Janeiro, Brasil. 21 December 2011.
- 17 Hayes, K.A. Systematics and Evolution of the Ampullariidae. Presentation at Dirección Nacional Recursos Acuáticos (DINARA), Montevideo, Uruguay. 22 November 2010.
- 16 Hayes, K.A., R.H. Cowie, S.C. Thiengo, and E.E. Strong. Systematics and evolution of Neotropical apple snails (Caenogastropoda: Ampullariidae). POMACEA 2010, 4th International Workshop on the Biology of Ampullariidae, San Miguel de Tucumán, Argentina, 16 -20 November 2010.
- 15 Cowie, R.H., K.A. Hayes and S.C. Thiengo. Invasive apple snails: a review of their identity, spread and distribution. POMACEA 2010, 4th International Workshop on the Biology of Ampullariidae, San Miguel de Tucumán, Argentina, 16-20 November 2010.
- 14 Thiengo, S.C., K.A. Hayes, A.G. Schilithz, P.M. Coelho, M.A. Fernandez and R.H. Cowie. Morphology, taxonomy and distribution of the *Pomacea canaliculata* group (Ampullariidae) Brasil. POMACEA 2010, 4th International Workshop on the Biology of Ampullariidae, San Miguel de Tucumán, Argentina, 16-20 November 2010.
- 13 Cowie, R.H. and K.A. Hayes. Snails: Evolution, biodiversity and alien species. PBRC Biodiversity Seminar Series, Honolulu, HI, 5 April 2010.

- 12 Hayes, K.A., R.H. Cowie and S.C. Thiengo. Phylogeny, biogeography and morphology of Neotropical Apple Snails (Caenogastropoda: Ampullariidae). XXI Encontro Brasileiro de Malacologia, Rio de Janeiro, Brazil. 19-24 July 2009.
- 11 Hayes, K.A., R.H. Cowie, W.M. Meyer, N.W. Yeung, C.T. Tran and J.R. Kim. Introduction pathways, spread and impacts of alien snails and slugs in Hawaii. Presented as a workshop participant on snail and slug management in ornamentals in the Western U.S. at the 6th International Integrative Pest Management Symposium, Portland Oregon. 24-26 March 2009.
- 10 Hayes, K.A. and R.H. Cowie. Molluscan taxonomy in the 21st century: Examples from New World Ampullariidae. 74th Annual American Malacological Society meeting, Carbondale, IL., 29 June - 3 July, 2008.
- 9 Hayes, K.A., R.H. Cowie, W.M. Meyer, C.T. Tran and J.R. Kim. Introduction pathways, spread and impacts of alien snails and slugs in Hawaii. 89th Annual meeting of the American Association for the Advancement of Science, Pacific Division. Waimea, HI 15-20 June 2008. (**2nd Place AAAS Award of Excellence**)
- 8 Hayes, K.A., S.C. Thiengo, R.C. Joshi and R.H. Cowie. Alien ampullariids: Introductions, impacts and identities. Instituto de Biologia, Universidade Estadual de Campinas, Campinas, SP. Brazil. 9 November 2006.
- 7 Hayes, K.A., C.T. Tran and R.H. Cowie. The horticultural industry as a vector of alien snails and slugs: results of surveys in Hawaii. Invasive Gastropod forum at the 14th annual Hawaii Conservation Conference 26-28 July, 2006.
- 6 Hayes, K.A. and R.H. Cowie. (Oral) Apple snail invasions in Asia and beyond. VI Latin American Malacological Congress, 4-7 July 2005.
- 5 Cowie, R.H. and Hayes, K. A. Invasive ampullariid snails: taxonomic confusion and some preliminary resolution based on DNA sequences. Asia-Pacific Economic Cooperation meeting on the management of the golden apple snail, National Pingtung University of Science and Technology, Pingtung, Taiwan, 6-11 September 2004.
- 4 Hayes, K.A. Systematics, phylogeography, and evolution of Apple Snails (*Pomacea* spp.). Brazilian Malacological Society Meeting held at Rio de Janeiro State University (UERJ), 12 May 2004.
- 3 Hayes, K. The "Corona Complex": Evolution and Systematics. Monthly Meeting of Suncoast Conchologist Society. 1 April 2003.
- 2 Hayes, K. Conservation in the Marine Realm - What can molluscs tell us? Innerspace Explorers Dive Club Monthly Meeting. Tampa FL. 2 April 2002.
- 1 Hayes, K. Phylogeography of the "Corona Complex": Evolution at a Snail's Pace. University of Tampa Department of Biology Seminar. Tampa, Florida. 15 November 2001.

CONTRIBUTED PRESENTATIONS (PRESENTER UNDERLINED)

- 25 Hayes, K.A., E.E. Strong and R.H. Cowie. (Oral) Comparing apples to apples: Clarifying the identities of two New World ampullariids, *Pomacea canaliculata* and *Pomacea insularum*. 77th Annual Meeting of the American Malacological Society, 23-28 July 2011.
- 24 Hayes, K.A., E.E. Strong and R.H. Cowie. (Oral) Comparing apples to apples: Clarifying the identities of two New World ampullariids, *Pomacea canaliculata* and *Pomacea insularum*. World Congress of Malacology, Phuket, Thailand. 18-24 July 2010.
- 23 Yeung, N.W., K.A. Hayes, W.M. Meyer, C.T. Tran, J.R. Kim, T.J. Skelton and R.H. Cowie. (Oral) Searching high and low: Alien snails and slugs in the horticultural industry of Hawaii. World Congress of Malacology, Phuket, Thailand. 18-24 July 2010.
- 22 Kim, J.R., K.A. Hayes, N.W. Yeung and R.H. Cowie (Poster) Invasive veronicellid slugs in the main Hawaiian Islands. World Congress of Malacology, Phuket, Thailand. 18-24 July 2010.
- 21 Kim, J.R., K.A. Hayes, N.W. Yeung and R.H. Cowie. (Oral) The prevalence of *Angiostrongylus cantonensis* in the Main Hawaiian Islands. 17th annual Hawaii Conservation Conference 28-30 July 2009.
- 20 Yeung, N.W., K.A. Hayes, C.T. Tran, J.R. Kim, T.J. Skelton, W.M. Meyer and R.H. Cowie. (Poster) Introduction, spread and impacts of alien snails and slugs in Hawai'i. 17th annual Hawaii Conservation Conference 28-30 July 2009.
- 19 Cowie, R.H., K.A. Hayes, W.M. Meyer, C.T. Tran, J.R. Kim, T.S. Skelton and N.W. Yeung. (Oral) Introduction pathways, spread and impacts of snails and slugs in Hawaii. 2nd Annual Pacific Biosciences Research Center's Symposium on Biodiversity, 7 May 2009.
- 18 Thiengo, S.C., K.A. Hayes, A.C. Mattos, M.A. Fernandez and R.H. Cowie. (Oral) South American Ampullariidae: Morphology and taxonomy of the genus *Pomacea*. 2007 Ampullariidae Workshop, Mendoza, Argentina. December 2007.
- 17 Hayes, K.A. (Oral) Molecular Systematics and Evolutionary Patterns of Diversification in New World Ampullariidae. World Congress of Malacology, Antwerp, Belgium. 15-20 July 2007. **(Constance Boone Award)**
- 16 Thiengo, S.C., K.A. Hayes, A. Mattos, M.A. Fernandez and R.H. Cowie. (Oral) On the identity of two New World ampullariids, *Pomacea lineata* and *Pomacea figulina*. World Congress of Malacology, Antwerp, Belgium. 15-20 July 2007.
- 15 Hayes, K.A. (Oral) Genetic characterization of invasive apple snail populations: evidence of multiple introductions to SE Asia. 72nd Annual Meeting of the American Malacological Society, 29 July - 3 August, 2006. **(Constance Boone Award)**
- 14 Cowie, R.H., K.A. Hayes and C.T. Tran. (Oral) The horticultural industry as a vector of alien snails and slugs: results of surveys in Hawaii. 72nd Annual Meeting of the American Malacological Society, 29 July - 3 August, 2006.
- 13 Hayes, K.A. (Oral) Molecular systematics and comparative phylogeography of apple snails (*Pomacea* spp.): Misidentifications, multiple introductions and patterns of Neotropical diversification. University of Hawaii Ecology, Evolution, and Conservation Biology Evolunch seminar, 18 November 2005.

- 12 Hayes, K.A. (Oral) Preliminary phylogenetic assessment of invasive apple snails in Asia and beyond. 71st Annual Meeting of the American Malacological Society, 26-30 June 2005.
- 11 Hayes, K.A. (Oral) Once, twice, three times or more: Apple snail introduction(s) to S.E. Asia and the Pacific. 30th Annual Tester Memorial Symposium. 16-18 March 2005.
- 10 Hayes, K.A. (Oral) Systematics, Phylogeography, and Evolution of Apple Snails (*Pomacea* spp.). 70th Annual Meeting of the American Malacological Society, 31 July - 4 August 2004.
- 9 Hayes, K.A. (Oral) Phylogeography and Evolution of the Florida Crown Conch (*Melongena corona*). World Congress of Malacology, Perth, Australia. 11-16 July 2004.
- 8 Hayes, K.A. (Oral) Systematics, Phylogeography, and Evolution of Apple Snails (*Pomacea* spp.). World Congress of Malacology, Perth, Australia. 11-16 July 2004.
- 7 Hayes, K. (Oral) Systematics, Phylogeography, and Evolution of Apple Snails (*Pomacea* spp.). 29th Annual Tester Memorial Symposium. 11-12 March 2004.
- 6 Hayes, K. (Oral) Phylogeography and Evolution of the Corona Complex (*Melongena corona*). 29th Annual Tester Memorial Symposium. 11-12 March 2004.
- 5 Hayes, K. (Oral) Evolution of the “Corona Complex” in the genus *Melongena* (Gastropoda: Melongenidae). 69th Annual Meeting of the American Malacological Society. Ann Arbor, Michigan. 25-29 June 2003. (**Constance Boone Award**)
- 4 Hayes, K. (Oral) Evolution of the “Corona Complex” in the genus *Melongena* (Gastropoda: Melongenidae). 16th Annual Meeting of Florida Association of Benthologists. St. Augustine, Florida. 21 November 2002. (Best Oral Presentation by Student)
- 3 Hayes, K. (Oral) Evolution of the “Corona Complex” in the genus *Melongena* (Gastropoda: Melongenidae). 68th Annual Meeting of the American Malacological Society. Charleston, South Carolina. 3-7 August 2002. (**2nd Place – Best Student Presentation**)
- 2 Hayes, K. and S.A. Karl. (Oral) Evolution of the “Corona Complex” in the genus *Melongena* (Gastropoda: Melongenidae). 14th International Congress of UNITAS MALACOLOGICA (World Congress of Malacology). Vienna, Austria. 19-25 August 2001.
- 1 Hayes, K. and S.A. Karl. (Oral) Evolution of the “Corona Complex” in the genus *Melongena* (Gastropoda: Melongenidae): Preliminary microsatellite data. 9th Annual Florida Ecological and Evolutionary Symposium. Archbold Research Station, Lake Placid, Florida. 31 March 2001.

PROFESSIONAL SERVICE

- | | |
|----------------|--|
| 2011 - 2012 | Member of Scientific Committee of the International Congress of Medical and Applied Malacology (ICMAM) |
| 2011 | Member of National Science Foundation Phylogenetic Systematics Panel |
| 2011 | <i>Ad hoc</i> reviewer - National Science Foundation Dimensions of Biodiversity |
| 2011 - Present | Associate Editor <i>Biological Invasions</i> |
| 2010 - Present | Editorial Board of <i>Malacologia</i> |
| 2007 - 2009 | Counselor-at-large for American Malacological Society |

- 2006 Chair of organizing committee for student workshop at 72nd Annual Meeting of the American Malacological Society. 29 July - 3 August
- 2006 *Ad hoc* reviewer for Australian Government Antarctic Division grant proposals
- 2006 - 2007 Auditing and Budgeting committee of the American Malacological Society
- 2005 - 2007 Membership committee of American Malacological Society
- 2005 - 2007 Science Fair Judge for the Hawaii Association of Independent Schools (HAIS).
- 2007 - 2008 Judge for Hawaii State Science & Engineering Fair
- 2007 *Ad hoc* reviewer for the Hawaii Academy of Sciences' Pacific Symposium for Science and Sustainability proposals
- 2004 - 2005 Graduate Student Representative for Ecology, Evolution, and Conservation Biology Specialization Program at the University of Hawaii
- 2003 - Present Reviewer for 18 journals including: *American Malacological Bulletin*, *Journal of Biochemical Genetics*, *Biochemical Systematics and Ecology*, *Biodiversity and Conservation*, *Biological Invasions*, *Caribbean Journal of Science*, *Conservation Genetics*, *Diversity and Distributions*, *Freshwater Biology*, *Journal of Heredity*, *International Review of Hydrobiology*, *Malacologia*, *Journal of Molluscan Studies*, *The Nautilus*, *Philosophical Transactions of the Royal Society of London*, *Terrestrial Arthropod Reviews* and *Zoological Studies*
- 2006 *Ad hoc* reviewer for United States Department of Agriculture - Agriculture Research Services
- 2004 Organizing Committee for Student Forum at 70th Annual Meeting of the American Malacological Society. 31 July - 4 August
- 2004 Organizing Committee for 29th Annual Tester Memorial Symposium. 11-12 March
- 2001 Organizing Committee for the 9th Annual Florida Ecological and Evolutionary Symposium. 30 March - 1 April

PROFESSIONAL AFFILIATIONS

Sigma Xi

Unitas Malacologica

American Association for the Advancement of Science

American Malacological Society

Society for Integrative and Comparative Biology

Florida Association of Benthologists

American Microscopical Society

AWARDS AND HONORS

- 2008 Second Place AAAS Award of Excellence for Student Presentation – 89th Annual meeting of the AAAS Pacific Division
- 2007 Constance Boone Award for Best Student Presentation – Joint meeting of the American Malacological Society and the World Congress of Malacology
- 2006 Constance Boone Award for Best Student Presentation – 72nd Annual American Malacological Society Meeting
- 2004 Honorable Mention Student Presentation – 29th Annual Tester Memorial Symposium
- 2003 Constance Boone Award for Best Student Presentation – 69th Annual American Malacological Society Meeting
- 2002 Best Student Presentation – 16th Annual Florida Association of Benthologists Meeting
- 2002 Second Place Student Presentation – 68th Annual American Malacological Society Meeting
- 2005 Sigma Xi Induction
- 2000 Phi Kappa Phi Honor Society Induction
- 1998 Golden Key National Honor Society Induction

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- PhD Robert H. Cowie, Brian Bowen, Marta J. deMaintenon, Brenden Holland, David B. Carlon
- MS Stephen A. Karl, James R. Garey, Gordon A. Fox
- Scientific Christian Albrecht, Philippe Bouchet, Fred Brook, Silvana Burela, Romi Burks, Alfredo Castro-Vazquez, Carl C. Christensen, Timothy M. Collins, Vincent J. Costello, Philip C. Darby, Federico A. Dellagnola, Marcos Dreon, Victoria M. Frassa, Maximiliano Giraud-Billoud, Horacio Heras, Santiago Ituarte, Aslak Jørgensen, Ravindra C. Joshi, Eduardo Koch, Penny Levin, Pablo R. Martín, Keiichiro Matsukura, Aline C. Mattos, Wallace M. Meyer III, Amanda L. Meyer, Jean-Pierre Pointier, Jian-Wen Qiu, Timothy A. Rawlings, Roland Schultheiß, John Slapcinsky, Nicolás E. Tamburi, Silvana C. Thiengo, Chuong T. Tran, Israel A. Vega, Takashi Wada, Norine W. Yeung, Yoichi Yusa

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