

CURRICULUM VITAE
(December 2017)

Daniel Wu Fong
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Education

B.A. Zoology. University of California, Berkeley, CA. 1975.
M.S. Zoology. University of Oklahoma, Norman, OK. 1980.
Ph.D. Ecology and Evolutionary Biology. Northwestern University, Evanston, IL. 1985.

Employment History

Midwest Research Institute, Kansas City. Junior Biologist. 1975-77.
University of Oklahoma. Graduate Teaching Assistant. 1977-80.
Northwestern University. Graduate Teaching Assistant. 1980-84.
University of Minnesota - Duluth. Lecturer. 1984-85.
Rocky Mountain Biological Laboratory, Gothic, CO. Instructor. Summer, 1985.
Northwestern University. Post-doctoral Trainee. 1985-87.
American University, Department of Biology:
 Post-doctoral Research Associate. 1987-88.
 Assistant Professor, non-tenure track appointment. 1988-90.
 Assistant Professor, tenure track appointment. 1990-94.
 Associate Professor. 1994-present.
 Chair. 1995-97.
 Environmental Studies Program Director. 1992-94; 1997-2001.
 Graduate Program Director. 2013-present.
Visiting Scholar, University of Maryland – College Park, 1994-95.
Visiting Scholar, University of California – San Diego. 2001-02.

Publications (last five years)

Books, Book Chapters & Edited Volumes:

- Fong, D.W.**, Megan L. Porter, and M.E. Slay. 2012. *Cave Life of the Virginias: A Field Guide to Commonly Encountered Species*. Biology Section, National Speleological Society, Special Publication 1.
- Fong, D.W.** 2012. *Gammarus minus* as a model system for the study of evolution. In: pp. 341-347, D.C. Culver and W.B. White (eds.), *Encyclopedia of Caves, 2nd Edition*. Elsevier Academic Press, Burlington, Massachusetts.
- Fong, D.W.**, D.C. Culver, G. Veni, and S. Engel, Editors. 2013. *Carbon and Boundaries in Karst*. KWI Special Publication 17, Karst Waters Institute, Leesburg, VA.
- Culver, D.C., and **D.W. Fong**. 2017. Terrestrial Fauna of the Greenbrier Karst. In, W.B. White (ed.), pp. 371-383, Chapter 17, *Caves and Karst of the Greenbrier Valley, West Virginia. Caves and Karst Systems of the World*. Springer International Publishing.
- Fong, D.W.**, and D.C. Culver. 2017. The Subterranean Aquatic Fauna of the Greenbrier Karst. In, W.B. White (ed.), pp. 385-397, *Caves and Karst of the Greenbrier Valley, West Virginia. Caves and Karst Systems of the World*. Springer International Publishing.

Articles in Refereed Journals:

- Aspiras, A.C.*, R. Prasad, **D.W. Fong**, D.B. Carlini, and D.R. Angelini. 2012. Parallel reduction in expression of the eye development gene hedgehog in separately derived cave populations of the amphipod *Gammarus minus*. *Journal of Evolutionary Biology* 25:995-1001.
- Carlini, D.B.*, S. Satish, and **D.W. Fong**. 2013. Parallel reduction in expression, but no loss of functional constraint, in two opsin paralogs within cave populations of *Gammarus minus* (Crustacea: Amphipoda). *BMC Evolutionary Biology* 13:89. DOI: 10.1186/1471-2148-13-89.
- MacAvoy, S.E., A. Braciszewski, E. Tengi, and **D.W. Fong***. 2016. Trophic plasticity among spring versus cave populations of *Gammarus minus*: examining functional niches using stable isotopes and C/N ratios. *Ecological Research* 31:589-595. DOI: 10.1007/s11284-016-1359-6.
- Niemiller, M.L.*, M.L. Porter, J. Keany, H. Gilbert, **D.W. Fong**, D.C. Culver, C. Hobson, K.D. Kendall, M.A. Davis, and S.J. Taylor. 2017. Evaluation of eDNA for groundwater invertebrate detection and monitoring: a case study with endangered *Stygobromus* (Amphipoda: Crangonyctidae). *Conservation Genetics Resources*. <https://doi.org/10.1007/s12686-017-0785-2>.
- Carlini, D.B.*, and **D.W. Fong**. 2017. The transcriptomes of cave and surface populations of *Gammarus minus* (Crustacea: Amphipoda) provide evidence for positive selection on cave downregulated transcripts. *PLoS ONE* 12(10): e0186173. <https://doi.org/10.1371/journal.pone.0186173>
- Bilandžija, H, M. Laslo, M.L. Porter, and **D.W. Fong***. 2017. Melanization in response to wounding is ancestral in arthropods and conserved in albino cave species. *Scientific Reports* 7:17148. <https://doi.org/10.1038/s41598-017-17471-2>.

Research Grants and Projects (last five years)

- “Evolutionary genetics of opsin visual pigment genes in cave and surface populations of the freshwater amphipod *Gammarus minus*.” \$10,161. 01/01/2011 – 12/31/2012. Cave Conservancy of the Virginias Research Grant. PI. Co-PI: David Carlini.
- “Analyses of the melanin pigment synthesis pathway in subterranean amphipods and isopods.” \$10,000. January 1, 2013 – June 30, 2014. Cave Conservancy Foundation Research Grant. PI.
- “Phylogeography of two subterranean amphipod species: the impact of phreatic and vadose habitats on gene flow.” \$10,990. January 1, 2015 – December 31, 2016. Cave Conservancy of the Virginias Research Grant. PI. Co-PI: Vincent Leray (graduate student).
- “Molecular genetic variation among *Lirceus usdagalun*, *L. culveri*, and *L. hargeri* populations using next generation sequencing methods. \$33,000. November 1, 2016 – January 31, 2018. United States Fish and Wildlife Service. PI. Co-PI: David Carlini.

Presentations at Professional Meetings (last five years):

- Fong, D.W.*** and K. Kavanaugh. “Population dynamics of a hypotelminorheic stygobiont, *Stygobromus tenuis potomacus*, over a two-year span.” Biology Session, National Speleological Society Convention, Lewisburg, WV. June 27, 2012
- Fong, D.W.** “Metabolic rate and behavioral response of a stygobiotic crustacean to different temperatures.” International Conference on Subterranean Biology 2012, Košice, Slovakia. Refereed. September 2-7, 2012.
- Fong, D.W.***, C. Seabolt and K. Esson. “Determinants of macroinvertebrate diversity in karst springs of the mid-Atlantic region, USA.” Karst Waters Institute International Conference on Carbon and Boundaries in Karst, National Cave and Karst Research Institute, Carlsbad, NM. January 7-11, 2013.
- Fong, D.W.***, D.B. Carlini and S. Satish. “Parallel reduction in expression without loss of function of two opsin paralogs within cave populations of the amphipod *Gammarus minus*.” The Crustacean Society. San Jose, Costa Rica. Refereed. 2013
- Laslo, M., B. Friedel and **D.W. Fong***. “How did the amphipod lose his pigment? Convergent evolution in subterranean amphipods.” Poster presentation by Laslo. The Crustacean Society. San Jose, Costa Rica. Refereed. 2013
- Slay, M.E*. and **D.W. Fong**. “Preliminary estimates of species detection probabilities for North American troglobionts. Biology Session, National Speleological Society Convention, Huntsville, AL. July, 2014.

- Fong, D.W.***, M. Laslo and B.D. Friedel. "Suppression of melanin synthesis among subterranean amphipods from different habitats." Biology Session, National Speleological Society Convention, Huntsville, AL. July, 2014.
- B.D. Friedel*, J. Williams and **D.W. Fong**. "Mark-recapture population size estimates of *Stygobromus tenuis* in a hypotelminorheic habitat." Biology Session, National Speleological Society Convention, Huntsville, AL. July, 2014.
- Fong, D.W.***, H. Bilandzija and M. Laslo. "Evolution of melanin pigment loss in subterranean amphipods and isopods." The Crustacean Society. Sydney, Australia. July, 2015. (Refereed)
- Leray, V* and **D. W. Fong**. "The impact of epikartic and phreatic habitat on subterranean gene flow." Biology Session, National Speleological Society Convention, Waynesville, MO. July, 2015.
- Bilandzija, H.*, M. Laslo, **D. W. Fong**, and W. R. Jeffery. "Albinism and the conservation of pigment cells in cave animals." Astyanax International Meeting, Querétaro. Mexico. October, 2015.
- Fong, D.W.***, and M.J. Wanner. "Variation in phototactic behavior among surface and subterranean gammarid and crangonyctid amphipod species from different habitats. International Conference on Subterranean Biology 2016, University of Arkansas, Fayetteville, AR. June, 2016. (Refereed)

Editorial Activities (last five years):

Speleobiology Notes. Founder: 2008; Managing Editor: 2008-2012; Associate Editor: 2012-present.

Other Professional Activities (last five years):

Referee:

Reviewer of manuscripts for publication in Biology Letters, Ecology, Evolution, Freshwater Biology, Journal of Crustacean Biology, Journal of Cave and Karst Studies, Zoological Science, Hydrobiologia, Journal of Natural History, Molecular Ecology, Acta Carsologica, International Journal of Speleology, Ecohydrology.

Reviewer of grant proposals: Undersea Research Program of NOAA, National Science Foundation.

Consultant Activities:

Environmental assessments of type localities of *Stygobromus* amphipod species in the Mid-Atlantic region. (Under grant awarded to Megan Porter, University of Hawaii, and Michael Slay, The Nature Conservancy). 2014-2016.

Survey of seepage springs in Rock Creek National Park to confirm presence/absence of the federally endangered amphipod crustacean, *Stygobromus hayi*. U.S. Fish and Wildlife Service and National Park Service. 2016-2017.

Survey of seepage spring fauna in National Capital Park – East (NACE). National Park Service. 2015-2017

Professional Organization Membership, Activities, and Honors:

Cave Conservancy of the Virginias:

Board of Directors, 1992-2003: 2006-present

Nominations Committee, 1993-94.

Vice President, 1994-1999.

Membership Committee Chair, 2006-2013

Grants and Awards Committee Chair, 2013-present

Cave Conservancy Foundation:

Director, Undergraduate Cave and Karst Research Scholarship Program, 2016-present

Karst Waters Institute:

Board of Directors, 1991-1996:

Finance Committee Chair, 1994-96.

Treasurer, 1997-2007.

President, 2007-2012

Program Chair, International Conference on Boundaries and Carbon in Karst, January 7-11, 2013, National Cave and Karst Research Institute, Carlsbad, New Mexico

National Speleological Society:

Awards Committee, 1998-2012

Biology Section:

Treasurer, 1991-2005.

Editor of section newsletter, 1991-97.

Founding Editor of online journal, Speleobiology Notes, 2008.

Managing Editor of online journal, Speleobiology Notes, 2008-2013.

Co-convener, NSS Biology Section Stygobromus working group, October 14-18, 2012.
Fayetteville, Arkansas.

Program Chair, Biology Session, 1995 Convention, Blacksburg, VA.

Fellow of Society, 1996.

Organizer, John Holsinger Symposium. 2007 Convention. Marengo, Indiana.

Instructor, Cave Biology for Cavers Course. 2007 Convention. Marengo, Indiana.

International Society for Subterranean Biology

Organizing Committee Member and Program Chair, International Conference on Subterranean Biology, June 2016, University of Arkansas, Fayetteville, AR.

Scientific Committee Member, International Conference on Subterranean Biology, August 2018, University of Aveiro, Portugal.

The Crustacean Society

West Virginia Association for Cave Studies

Patronymous Honors:

Pseudotremia fongi Shear 2008 (Milliped in West Virginia)

Niphargus fongi Fišer and Zagmeister 2009 (Amphipod crustacean in Slovenia)

Monolistra fongi Prevorčnik and Verovnik 2010 (Isopod crustacean in Croatia)