

Hannah Marie Wood

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Professional Appointments

National Science Foundation Postdoctoral Fellow, Program: Intersections of Biology and Mathematical and Physical Sciences and Engineering. Department of Evolution and Ecology, University of California at Davis, and the Advance Light Source synchrotron, Lawrence Berkeley National Lab, Berkeley. Advisors: Peter Wainwright and Dilworth Parkinson. 2013 – present.

Postdoctoral Fellow. Center for Macroecology, Evolution and Climate and the Zoological Museum, University of Copenhagen, Denmark. Advisor: Nikolaj Scharff. 2012.

Education

Ph.D., Environmental Sciences, Policy and Management, University of California at Berkeley.
Advisor: Rosemary Gillespie and Charles Griswold. 2006-2011.

M.S., Ecology and Systematics, San Francisco State University & California Academy of Sciences Natural History Museum. Advisors: Greg Spicer and Charles Griswold. 2003-2005.

B.A., English Literature, emphasis in Post-Modern Literature, University of California at Berkeley. 1994-1999.

Publications

In review:

Wood, H.M., Parkinson, D.Y., Griswold, C.E., Gillespie, R.G., Elias, D.O. In Review. Need for speed: extremely rapid predatory strikes evolved repeatedly in trap-jaw spiders. *Proceedings of the National Academy of Sciences*. Submitted: November 21, 2014. In review: December 15, 2014

Accepted:

Wood, H.M., Gillespie, R.G., Griswold, C.E., Wainwright, P.C. Accepted. Why is Madagascar special? The extraordinarily slow evolution of pelican spiders (Araneae, Archaeidae). *Evolution*. Accepted: Nov 19, 2014

Published:

Wood, H.M., Gillespie, R.G., Griswold, C.E. 2013. Treating fossils as terminal taxa in divergence time estimation reveals ancient vicariance patterns in the Palpimanoid spiders. *Systematic Biology*. 62: 264-284.

Wood, H.M., Gillespie, R.G., Griswold, C.E. 2012. Phylogenetic placement of pelican spiders (Arachnida, Araneae), with insight into evolution of the "neck" and predatory behaviours of the superfamily Palpimanoidea. *Cladistics*. 28: 598-626.

Griswold, C.E., **Wood, H.M.**, Carmichael, A.D. 2012. The lace web spiders (Araneae, Phyxelididae) of Madagascar: phylogeny, biogeography and taxonomy. *Zoological Journal of the Linnean Society*. 164: 728-810.

Wood, H.M. 2008. A revision of the assassin spiders of the *Eriauchenius gracilicollis* group, a clade of spiders endemic to Madagascar (Araneae: Archaeidae). *Zoological Journal of the Linnean Society* 152:255-296.

Wood, H.M., Griswold, C.E., Spicer, G.S. 2007. Phylogenetic relationships within an endemic group of Malagasy 'assassin spiders' (Araneae, Archaeidae): ancestral character reconstruction, convergent evolution and biogeography. *Molecular Phylogenetics and Evolution* 45:612-619.

Reports:

Wood, H., Moore, V., Fenter, C., *Culpepper, M., *Nicolloff, J., Hafernicks, J. 2005. Bee Diversity in Restored Habitats in the Presidio San Francisco. Presidio Trust, San Francisco, CA.
<http://www.presidio.gov>. * = undergraduate.

Grants and Awards

2013. National Science Foundation Postdoctoral Fellow, \$123,000: “Function and rates of diversification in complex miniature structures: the trap jaw mechanism in spiders.” Fellowship awarded to perform synchrotron-based tomography scans of trap-jaw spider lineages in order to understand function and diversification of innovative trait.

2009. National Science Foundation Doctoral Dissertation Improvement Grant, \$14,645: “How ecological, behavioral and morphological traits have shaped diversification patterns in pelican spiders.” Grant awarded to tomography scan pelican spider fossils for incorporation into a phylogeny.

2008. National Science Foundation East Asian & Pacific Summer Institutes, New Zealand, \$7,500: “Ecological, behavioral, and biogeography patterns of New Zealand assassin spiders.” Grant awarded to perform research in a spider behavior lab in New Zealand in order to study natural history, prey choice and mouthpart function of trap-jaw spiders.

2008. Julius H. Freitag Fellowship, Organisms and Environment Departmental Award, \$1000

2006 – 20011. Walker Fund, Essig Museum of Entomology, \$1,000.

2006 – 20011. Exline-Frizzel Fund, California Academy of Sciences, \$2,500.

2007. Lewis and Clark Fund for Exploration and Field Research, American Philosophical Society, \$1,000. Grant awarded to collect in Australia for a month.

2004. Graduate Fellowship, California Academy of Sciences, \$12,000.

2003. Presidio Trust/Golden Gate National Recreation Area Grant, \$12,000.

2003. Robert K. Maxwell Scholarship, San Francisco State University, \$3,000.

Teaching and Mentoring Experience

2014. Advance Light Source, Lawrence Berkeley National Lab, mentored undergraduate student in processing and analyzing tomography scan data.

2014. Albany High School, Berkeley, presented my research, focusing on application of synchrotron-based X-ray tomography, to several AP physics classes.

2013. Presented my research to a community college biology class on the scientific method.

2013. University of California at Davis, Guest Lecture for introductory biology course: “Novel feeding mechanisms and unusual predatory behaviors in palpimanoid spiders.”

2010 & 2011. University of California at Berkeley, Graduate Student Instructor, “Spider Biology”: ran laboratory where students learned to key out spiders and create a collection, and organized and participated in field trips.

2010. University of California at Berkeley, trained and mentored undergraduate, Julissa Lopez, in genetic sequencing techniques.

2005. California Academy of Sciences Natural History Museum Summer Systematics Institutes, trained undergraduate, Nibia Soto Rolon, on Scanning Electron Microscope, AutoMontage, and dissection techniques.

2003 – 2005. San Francisco State University, organized and trained four undergraduates in an inventory project examining the occurrence and abundance of native bees in restored sand dunes,

trained them in field techniques, advised them in their senior projects and trained them in collecting and preserving insects to create a permanent collection for the Golden Gate National Recreation Area.

2004. San Francisco State University, Graduate Student Instructor, "Insect Taxonomy": ran laboratory where students learned to key out insects and create a collection, and organized and participated in field trips.

2003. San Francisco State University, Graduate Student Instructor, "General Biology": ran laboratory for introductory biology course.

Undergraduates mentored:

Meghan Culpepper
Julissa Lopez
Jamie Nicoloff
Nibia Soto Rolon
Angela Rory
Andrew Trouette
Jason Zhang

Scientific Presentations

2014. Society for the Study of Evolution, Raleigh, North Carolina: "Why is Madagascar special? Diversification patterns in pelican spiders"

2013. Society for Integrative and Comparative Biology, Austin, Texas: "Evolution of a novel trait in pelican spiders"

2012. European Congress of Arachnology, Ljubljana, Slovenia: "Treating fossils as terminal taxa in divergence time estimation reveals ancient vicariance patterns in the Palpimanoidea spiders"

2012. Evolution, Ottawa, Canada: "Treating fossils as terminal taxa in divergence time estimation reveals ancient vicariance patterns"

2011. American Arachnology Society, Portland, Oregon, **awarded Best Student Presentation**: "The evolution of a complex, novel structure, the trap-jaw mechanism in spiders (Mecysmaucheniidae, Araneae) "

2010. Canadian Entomology Society, Vancouver, Canada: "Evolution of Stealth Versus Speed Strategies of Prey Capture in Pelican and Trap-Jaw Spiders (Araneae: Mecysmaucheniidae, Archaeidae)"

2010. International Congress of Arachnology, Siedlce, Poland, **awarded Best Student Presentation**: "Archaeid and mecysmaucheniid spiders: phylogeny, biogeography and evolution of the carapace shape"

2009. Evolution, Moscow, Idaho Presentation: "Assassin spiders: biogeography, morphological novelty and predatory behaviors"

2007. International Congress of Arachnology, Sao Pedro, Brazil Presentation: "Phylogenetic Relationships within an endemic group of Malagasy assassin spiders (Archaeidae, Araneae)"

International Field Expeditions

2013: Chile
2011: South Africa; New Zealand; Philippines
2009: Chile; Germany & Denmark; Australia
2008: Madagascar; New Zealand; Chile
2005: South Africa & Madagascar; New Zealand

Workshops

2011: Workshop in Applied Phylogenetics, Bodega Bay, CA

2011: Workshop in processing 3D tomography data, High Resolution X-ray CT Facility, Austin, TX

Academic Service

Reviewer: Systematic Biology, Molecular Phylogenetics and Evolution, Zookeys, Journal of Biogeography, Journal of Arachnology, African Invertebrates

Professional Affiliations: Society for the Study of Evolution; Society for Integrative and Comparative Biology; American Arachnological Society; International Society of Arachnology

Popular science articles:

2014. ScienceNews: “Pelican spiders: slow, safe assassins”; webpage:

<https://www.sciencenews.org/article/pelican-spiders-slow-safe-assassins>

2013. Contributed book section: “What on Earth?: 100 of our planet’s most amazing new species”

2012. Natural History Museum of Denmark Magazine, “Speciation on Madagascar: archaetid spiders”

2008. Live, California Academy of Sciences Magazine, “The Last Frontier”

2008. California Academy of Sciences' “Science Now” webpage:

www.calacademy.org/science_now/academy_research/assassin_spiders.php

2006. California Academy of Sciences Member Publication, “Tiny Assassins”

Outreach: public presentations, museum exhibits

2014. Talked about my research and being a woman in science to three groups of 8th graders from an all-girls middle school, Lawrence Berkeley National Lab, Advance Light Source Synchrotron

2013. Guided 7th and 8th graders on 3D computer software using my spider scans as example data, Lawrence Berkeley National Lab, Advance Light Source Synchrotron

2013. Involved in public display that shows 3D computer animations of tomography scans, including a spider scan and 3D printed model, Lawrence Berkeley National Lab, Advance Light Synchrotron

2012. Involved in creating public floor spider exhibit where my research is also presented at the Natural History Museum of Denmark

2010. Public floor presentation that is available online: “Assassin Spiders from Around the World,” online link: <http://video.calacademy.org/details/309>, California Academy of Sciences Natural History Museum

2009. Public presentation, “Cryptic Hunters” at the Bone Room natural history store in Berkeley

2009. Public presentation, "Cryptic Hunters: the tiny world of assassin spiders" at the California Academy of Sciences “Nightlife”