

Caitlin M. Baker, Ph.D.

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EDUCATION

Harvard University, Cambridge, MA September 2014 – May 2020
Ph.D., Organismic and Evolutionary Biology

Macalester College, St. Paul, MN September 2008 – May 2012
B.A. with honors, Biology (major), Geology, Geography (minors)
Phi Beta Kappa, magna cum laude

RESEARCH EXPERIENCE

University of Wisconsin–Madison September 2020 – Present
Madison, WI

NSF Postdoctoral Fellow: development and behavior of sexually dimorphic structures in *Phalangium opilio*; eye development and loss in Israeli cave arachnids; population genomics of Israeli cave arachnids

Harvard University September 2014 – August 2020
Cambridge, MA

Dissertation: “Phylogenetics and biogeography of soil invertebrates across Gondwana”

National Museum of Natural History, Smithsonian Institution July 2012 – July 2014
Washington, DC

Research Technician, Laboratories of Analytical Biology: DNA barcoding of animals & plants; scanning electron microscopy technician

Macalester College May 2011 – July 2012
St. Paul, MN

Honors Thesis: “Molecular phylogenetics and biogeography of the mite harvestmen genus *Austropurcellia* (Opiliones: Cyphophthalmi) in the Wet Tropics of Australia”

PUBLICATIONS

In preparation, in review, or in press

Baker, C. M., Buckman-Young, R. S., Giribet, G. (In preparation). It’s the cute ones you have to watch out for: phylotranscriptomic analysis of velvet worms (phylum Onychophora) and the continued recalcitrance of Peripatidae.

Derkarabetian, S., **Baker, C. M.**, Giribet, G. (Accepted). Complex patterns of Gondwanan biogeography revealed in a dispersal limited arachnid (Opiliones: Triaenonychidae). *Journal of Biogeography*.

Tardelli Canedo, P., **Baker, C. M.**, Morisawa, R., Pessereau, E. J., Boyer, S. L. (In press). Phylogeography of *Neopurcellia salmoni*, a widespread mite harvestman from the South Island of New Zealand, with the first report of male polymorphism in the suborder Cyphophthalmi. *Journal of Arachnology*.

Giribet, G., **Baker, C. M.**, Sharma, P. P. (In press). A revised phylogeny of the New Caledonian endemic genus *Troglosiro* (Opiliones: Cyphophthalmi: Troglosironidae) with the description of four new species. *Invertebrate Systematics*.

Derkarabetian, S., **Baker, C. M.**, Hedin, M., Prieto, C., Giribet, G. (In press). Phylogenomic reevaluation of Triaenonychoidea (Opiliones: Laniatores), and systematics of Triaenonychidae, including new families, genera, and species. *Invertebrate Systematics*.

Published articles

Santibáñez-López, C. E., Aharon, S., Ballesteros, J. A., Gainett, G., **Baker, C. M.**, González-Santillán, E., Goodman, S. M., Harvey, M. S., Hassan, M. K., Monod, L., Ojanguren-Affilastro, A., Ravel, R. J., Pinto-da-Rocha, R., Zvik, Y., Gavish-Regev, E., Sharma, P. P. (2020). Phylogenomics of scorpions reveal the evolutionary history of mammal-specific sodium channel toxins. *bioRxiv*.

Baker, C. M., Sheridan, K., Derkarabetian, S., Pérez-González, A., Vélez, S., Giribet, G. (2020). Molecular phylogeny and biogeography of the temperate Gondwanan family Triaenonychidae (Opiliones: Laniatores) reveals pre-Gondwanan regionalization, common vicariance, and rare dispersal. *Invertebrate Systematics*, 34(6), 637–660.

Baker, C. M., Boyer, S. L., Giribet, G. (2020). A well-resolved transcriptomic phylogeny of the mite harvestman family Pettalidae (Arachnida, Opiliones, Cyphophthalmi) reveals signatures of Gondwanan vicariance. *Journal of Biogeography*, 47(6), 1345–1361.

Mapalo, M. A., Arakawa, K., **Baker, C. M.**, Persson, D. K., Mirano-Bascos, D., Giribet, G. (2020). The unique antimicrobial recognition and signaling pathways in tardigrades with a comparison across Ecdysozoa. *G3: Genes, Genomes, Genetics*, 10(3), 1137–1148.

Giribet, G. & **Baker, C. M.** (2019). Further discussion on the Eocene drowning of New Caledonia: Discordances from the point of view of zoology. *Journal of Biogeography*, 46(9), 1912–1918.

Giribet, G., Buckman-Young, R. S., Sampaio-Costa, C., **Baker, C. M.**, Benavides, L. R., Branstetter, M. G., Daniels, S. R., Pinto-da-Rocha, R. (2018). The *Peripatos* in Eurogondwana? – Lack of evidence that southeast Asian onychophorans walked through Europe. *Invertebrate Systematics*, 32(4), 842–865.

Sharma, P. P., **Baker, C. M.**, Cosgrove, J. G., Johnson, J. E., Oberski, J. T., Raven, R. J., Harvey, M. S., Boyer, S. L., Giribet, G. (2018). A revised dated phylogeny of scorpions: Phylogenomic support for ancient divergence of the temperate Gondwanan family Bothriuridae. *Molecular Phylogenetics and Evolution*, 122, 37–45.

Giribet, G., Boyer, S. L., **Baker, C. M.**, Fernández, R., Sharma, P. P., de Bivort, B. L., Daniels, S. R., Harvey, M. S., Griswold, C. E. (2016). A molecular phylogeny of the temperate Gondwanan family Pettalidae (Arachnida, Opiliones, Cyphophthalmi) and the limits of taxonomic sampling. *Zoological Journal of the Linnean Society*, 178(3), 523–545.

Boyer, S. L., Markle, T. M., **Baker, C. M.**, Luxbacher, A. M., & Kozak, K. H. (2016). Historical refugia have shaped biogeographical patterns of species richness and phylogenetic diversity in mite harvestmen (Arachnida, Opiliones, Cyphophthalmi) endemic to the Australian Wet Tropics. *Journal of Biogeography*, 43(7), 1–12.

Kearns, A., Joseph, L., White, L. C., Austin, J. J., **Baker, C.**, Driskell, A. C., Malloy, J. F., Omland, K.E. (2015). Norfolk Island Robins are a distinct endangered species: ancient DNA unlocks surprising relationships and phenotypic discordance within the Australo-Pacific Robins. *Conservation Genetics*. 17(2).

Boyer, S. L., **Baker, C. M.**, Popkin-Hall, Z. R., Laukó, D. I., Wiesner, H. A., Quay, R. H. (2015). Phylogeny and biogeography of the mite harvestmen (Arachnida: Opiliones:

Cyphophthalmi) of Queensland, Australia, with a description of six new species from the rainforests of the Wet Tropics. *Invertebrate Systematics*, 29, 37–70.

FELLOWSHIPS, GRANTS, AND AWARDS

First Prize, Best Oral Presentation, 21 st International Congress of Arachnology	February 2019
NSF Graduate Research Fellowship	2015 – 2020
Second Prize, Best Oral Presentation, 20 th International Congress of Arachnology	July 2016
William R. Angell Foundation Prize for seniors majoring in Biology	May 2012
Best Talk in Session, Winchell Undergraduate Research Symposium	April 2012
Macalester College Dean's List	2008 – 2012

SCIENTIFIC EXPEDITIONS AND FIELDWORK

New Zealand, 5 weeks	January – February 2019
New Caledonia, 2 weeks	November 2018
New Zealand, 3 weeks	January 2016
Bimini, Bahamas, 3 weeks	June 2015
Northeast Queensland, Australia, 2 weeks	May – June 2012
Northeast Queensland, Australia, 2 weeks	June 2011

TEACHING EXPERIENCE

Harvard University, Cambridge, MA

Teaching Fellow, "Biogeography" September – December 2017

Teaching Fellow, "Foundations of Biological Diversity" September – December 2016

Macalester College, St. Paul, MN

Teaching Assistant, "Origins" (Non-majors biology) January – May 2012

Teaching and Lab Assistant, "Biodiversity and Evolution" January – May 2011,

September – December 2011

CONFERENCE PRESENTATIONS & SEMINARS

Society for Integrative and Comparative Biology 2020 (talk) January 2020
Austin, Texas, USA

Evolution 2019 (poster) June 2019
Providence, Rhode Island, USA

Macalester Biology Department Seminar (invited talk) April 2019
St. Paul, Minnesota, USA

21st International Congress of Arachnology (invited talk)* February 2019
Christchurch, New Zealand

Department of Organismic and Evolutionary Biology G4 Symposium (talk) April 2018
Cambridge, Massachusetts, USA

XXXVI Annual Meeting of the Willi Hennig Society (invited talk) August 2017
St. Petersburg, Florida, USA

17th International Congress of Myriapodology (talk) July 2017
Krabi, Thailand

20th International Congress of Arachnology (talk)* July 2016
Golden, Colorado, USA

1 st Joint Congress on Evolutionary Biology (poster) <i>Ottawa, Ontario, Canada</i>	July 2012
Winchell Undergraduate Research Symposium (talk)* <i>Northfield, Minnesota, USA</i>	April 2012
Macalester College Summer Research Symposium (poster) <i>St. Paul, Minnesota, USA</i>	October 2011

*Award received