
Joel H. Nitta, Ph.D.

Postdoctoral Research Fellow
Department of Plant Research
National Museum of Nature and Science, Japan
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Education

Harvard University
Ph.D. in Organismic and Evolutionary Biology, November 2016
Advisor: Charles C. Davis
Ph.D. Thesis: Ecology and Evolution of the Ferns of Moorea and Tahiti, French Polynesia

University of Tokyo
Master of Science in Biological Sciences, March 2010
Advisor: Motomi Ito
Master's Thesis: Reticulate evolution in the *Crepidomanes minutum* species complex (Hymenophyllaceae)

University of California, Berkeley
Bachelor of Arts in Integrative Biology and Japanese Language, May 2007
Advisor: Brent D. Mishler
Highest Honors in Integrative Biology
Highest Distinction in General Scholarship

Research and Teaching Experience

Postdoctoral Research Fellow, November 2016 – Present
Department of Plant Research, National Museum of Nature and Science, Japan
Using next-generation DNA sequencing to reconstruct the evolutionary history of the *Thelypteris angustifrons* fern species complex.

Curatorial Fellowship, January 2016 – June 2016
Harvard University Herbaria
Updated organization of pteridophytes to reflect current understanding of phylogeny.

Graduate Student Instructor, Spring 2013 and Spring 2014
Harvard University
Taught lab section of OEB 52, Biology of Plants.

Moorea Biocode Field Staff, June 2007 – August 2011
Moorea Biocode Project
Oversaw collection of all fern species on island of Moorea, French Polynesia. Developed guide and key to Moorean ferns (<http://ucjeps.berkeley.edu/moorea/>).

Honor's Thesis, September 2006 – May 2007
Mishler Lab, Integrative Biology, UC Berkeley

Completed honor's thesis, "The Filmy Ferns of Moorea, French Polynesia: A Case Study in Integrative Taxonomy."

Undergraduate Research Apprentice, January 2006 – August 2006

Undergraduate Research Apprentice Program (URAP)

O'Grady Lab, Environmental Science, Policy, and Management, UC Berkeley

Conducted phylogenetic analysis of evolutionary history and biogeography of endemic Hawaiian *Dicranomyia* (craneflies).

Biology Tutor, January 2006 – May 2006

Student Learning Center, UC Berkeley

Tutored students in general biology and received training to lead study groups.

Honors and Awards

Japan Society of the Promotion of Science Postdoctoral Fellowship Grant (\$21,000)

National Science Foundation Doctoral Dissertation Improvement Grant (\$13,000)

Garden Club of America Award in Tropical Botany (\$5,500)

American Society of Plant Taxonomists Research Grant for Graduate Students (\$850)

Systematics Association Systematics Research Fund (\$2,350)

Society of Systematic Biologists Graduate Student Research Award (\$1,900)

University of Tokyo Academic Research Grant, International (\$1,500)

Japanese Government (Monbukagakusho: MEXT) Scholarship

Phi Beta Kappa Society

Departmental Citation, Integrative Biology, UC Berkeley

Regents and Chancellor's Scholar, UC Berkeley

Publications

Nitta, J.H., Amer, S., Davis, C.C. *Microsorium* × *tohieaense* (Polypodiaceae), a new hybrid fern species from French Polynesia, with implications for the taxonomy of *Microsorium*. In Prep.

Nitta, J.H., Watkins, J.E., Holbrook, N.M., Wang, T.W., Davis, C.C. Intergenerational niche differentiation in filmy ferns (Hymenophyllaceae). In Prep.

Zhou, X.-M., Zhang, L., Chen, C.-W., Li, C.-X., Huang, Y.-M., Chen, D.-K., Lu, N.T., Cicuzza, D., Knapp, R., Luong, T. T., **Nitta, J.H.**, Gao, X.-F., Zhang, L.-B. 2017. A plastid phylogeny and character evolution of the Old World fern genus *Pyrrosia* (Polypodiaceae) with the description of a new genus: *Hovenkampia* (Polypodiaceae). *Molecular Phylogenetics and Evolution*. 114: 271-294.

Nitta, J.H., Meyer, J.-Y., Taputuarai, R., Davis, C.C. 2017. Life cycle matters: DNA barcoding reveals contrasting community structure between fern sporophytes and gametophytes. *Ecological Monographs*. 87 (2): 278 – 296.

Pinson, J.B., Chambers, S.M., **Nitta, J.H.**, Kuo, L.Y., Sessa, E. 2017. The separation of generations: Biology and biogeography of long-lived, sporophyte-less fern gametophytes. *International Journal of Plant Sciences* 178 (1): 1 – 18.

Pouteau, R., Meyer, J.-Y., Blanchard, P., **Nitta, J.H.**, Terorotua, M., Taputuarai, R. 2016. Fern species richness and abundance are indicators of climate change on high-elevation islands: Evidence from an elevational gradient on Tahiti (French Polynesia). *Climatic Change* 138 (1-2): 143 – 156.

Chen, C.W.*, **Nitta, J.H.***, Fanerii, M., Yang, T.Y.A., Pitisopa, F., Li, C.W., Chiou, W.L. 2015. *Antrophyum solomonense* (Pteridaceae), a new species from Solomon Islands, and its systematic position based on phylogenetic analysis. *Systematic Botany*. 40 (3): 645 – 651.

Ebihara, A., Yamaoka, A., Mizukami, N., Sakoda, A., **Nitta, J.H.**, Imaichi, R. 2013. A survey of the fern gametophyte flora of Japan: Frequent independent occurrences of noncordiform gametophytes. *American Journal of Botany*. 100 (4): 735 – 743.

Nitta, J.H., Ebihara, A., Ito, M. 2011. Reticulate evolution in the *Crepidomanes minutum* species complex (Hymenophyllaceae). *American Journal of Botany*. 98 (11): 1782 – 1800.

Nitta, J.H., Meyer, J.-Y., Smith, A.R. 2011. Pteridophytes of Mo'orea, French Polynesia: Additional new records. *American Fern Journal*. 101 (1): 36 – 49.

Ebihara, A., **Nitta, J.H.**, Ito, M. 2010. Molecular species identification with rich floristic sampling: DNA barcoding the pteridophyte flora of Japan. *PloS ONE*. 5 (12): e15136. doi:10.1371/journal.pone.0015136

Ebihara, A., **Nitta, J.H.**, Iwatsuki, K. 2010. The Hymenophyllaceae of the Pacific Area. 2. *Hymenophyllum* (excluding subgen. *Hymenophyllum*). *Bulletin of the National Museum of Nature and Science, Series B (Botany)*. 36 (2): 43 – 59.

Ebihara, A., **Nitta, J.H.**, Lorence, D., Dubuisson, J.-Y. 2009. New records of *Polyphlebium borbonicum*, an African filmy fern, in the New World and Polynesia. *American Fern Journal*. 99 (3): 200 – 206.

Nitta, J.H. and Epps, M.J. 2009. Hemi-epiphytism in *Vandenboschia collariata* (Hymenophyllaceae). *Brittonia*. 61 (4): 392 – 397.

Nitta, J.H. 2008. Exploring the utility of three plastid loci for biocoding the filmy ferns (Hymenophyllaceae) of Moorea. *Taxon*. 57 (3): 725 – 736.

Nitta, J.H. and O'Grady, P.M. 2008. Mitochondrial phylogeny of the endemic Hawaiian craneflies (Diptera, Limoniidae, *Dicranomyia*): implications for biogeography and species formation. *Molecular Phylogenetics and Evolution*. 46 (3): 1182 – 1190.

* equal contribution

Conference Presentations

Nitta, J.H., Nakato, N., Ebihara, A. 2017. Unraveling the evolutionary history of the *Parathelypteris angustifrons* species complex (Thelypteridaceae). 19th International Botanical Congress, Shenzhen, China.

Nitta, J.H., Watkins, J.E., Holbrook N.M., and Davis, C.C. 2017. Life in the canopy: Comparative and community phylogenetic analyses of epiphytic growth in ferns. 19th International Botanical Congress, Shenzhen, China.

Nitta, J.H., Meyer, J.-Y., Taputuarai, R., and Davis, C. 2017. *Tahichi, Moorea tou no shida shokubutsu gunshuu keisei: houshitai to haiguutai to no hikaku* (Fern community assembly on Moorea and Tahiti: comparing gametophytes and sporophytes). In Japanese. 16th Annual Meeting of the Japanese Society for Plant Systematics, Kyoto, Japan.

Nitta, J.H., Watkins, J.E., Holbrook N.M., and Davis, C. 2015. Comparative ecophysiology of the filmy ferns (Hymenophyllaceae) of Moorea, French Polynesia. Botanical Society of America Conference, Edmonton, Canada.

Nitta, J.H., Meyer, J.-Y., Taputuarai, R., and Davis, C. 2015. Life cycle matters: Divergent patterns of community structure between fern sporophytes and gametophytes. Next Generation Pteridology Conference, Washington, DC.

Nitta, J.H. and Davis, C. 2014. Investigating the role of a cryptic life stage in fern community assembly. Plant Biology Initiative Conference, Cambridge, MA.

Nitta, J.H. and Davis, C. 2012. Investigating drivers of community assembly in the ferns of Moorea, French Polynesia: An ecological and evolutionary approach. Plant Biology Initiative Conference, Cambridge, MA.

Nitta, J.H., Ebihara, A., Motomi, I. 2009. *Uchiwa-goke kinen shuugun ni okeru moujou shinka* (Reticulate evolution in the *Crepidomanes minutum* species complex). In Japanese. Species Biology Conference, Hachioji, Japan.

Journals Reviewed

Acta Botanica Gallica, American Fern Journal, American Journal of Botany, Annals of Botany, Australian Systematic Botany, Botanical Journal of the Linnean Society, Brittonia, Molecular Phylogenetics and Evolution, Plant Species Biology, Phytotaxa, PLoS ONE, Taxon

Professional Memberships

American Fern Society, American Society of Plant Taxonomists, Ecological Society of America, Japanese Society for Plant Systematics, Botanical Society of Japan

Professional Community Activity

2017 – Subject Editor, *Phytotaxa*