

Curriculum Vitae

Wenbin (Bean) Zhou

Ph.D.

email: wzhou10@ncsu.edu

homepage: wenbinzhou.wordpress.ncsu.edu

Department of Plant and Microbial Biology

North Carolina State University

Raleigh, NC 27695-7612

Research Interests

Evolutionary study of economically important woody plant biodiversity using a multidisciplinary approach integrating molecular systematics, biogeography, and population genomics using RAD-seq and target enrichment; with emphases on *Aesculus*, *Cornus*, *Nyssa*, *Hamamelis*, *Castanea*, *Torreya*. (Advisor: Dr. Jenny Xiang)

Familiar with R, python, SQL.

Education

Ph.D. 2021 North Carolina State University, NC, US, in Plant biology (Xiang Lab, advisor: Dr. Qiu-Yun Jenny Xiang)

M.S. 2016 Zhejiang University, Hangzhou, China, in Plant Systematics (Fu Lab, Advisor: Dr. Yunpeng Zhao)

B.S. 2013 Zhejiang A & F University, Hangzhou, China, in Bio-technology (Advisor: Dr. Bingsong Zheng)

Publications

(1) **Zhou, W.**, Soghigian, J. and Xiang, Q., 2021. A New Pipeline for Removing Paralogs in Target Enrichment Data. *Systematic Biology*. syab044.

DOI: [10.1093/sysbio/syab044](https://doi.org/10.1093/sysbio/syab044)

(2) **Zhou, W.**, Xiang, Q. and Wen, J., Phylogenomics, biogeography, and evolution of morphology and ecological niche of the eastern Asian-eastern North American *Nyssa* (Nyssaceae). *Journal of Systematics and Evolution*. DOI:10.1111/jse.12599 (corresponding author)

(3) Lindelof, K., Lindo, J.A., **Zhou, W.**, Ji, X. and Xiang, Q.Y., 2020.

Phylogenomics, biogeography, and evolution of the blue-or white-fruited dogwoods (*Cornus*)-insights into morphological and ecological niche divergence following intercontinental geographic isolation. *Journal of Systematics and Evolution*. DOI: 10.1111/jse.12676

(4) Wahlsteen, E., **Zhou, W.**, Xiang, Q. and Rushforth, K., 2020. Rediscovery of the lost little dogwood *Cornus wardiana* (Cornaceae)—its phylogenetic and morphological distinction and implication in the origin of the Arctic-Sino-Himalayan disjunction. *Journal of Systematics and Evolution*, DOI: 10.1111/jse.12576

(5) Dong, Y., Chen, S., Cheng, S., **Zhou, W.**, Ma, Q., Chen, Z., Fu, C.X., Liu, X., Zhao, Y.P., Soltis, P.S. and Wong, G.K.S., 2019. Natural selection and repeated patterns of molecular evolution following allopatric divergence. *Elife*, 8, p.e45199. DOI: 10.7554/eLife.45199

(6) Chen, C., Zheng, L., Ma, Q., **Zhou, W.**, Zhao, Y., Fu, C., 2019, Impacts of Domestication on Population Genetics of a Traditional Chinese Medicine, *Atractylodes*

macrocephala (Asteraceae), *Journal of Systematics and Evolution*, 57(3), pp.222-233. DOI:10.1111/jse.12446

(7) **Zhou, W.**, Ji, X., Obata, S., Pais, A., Dong, Y., Peet, R., Xiang, Q., 2018, Resolving relationships and phylogeographic history of the *Nyssa sylvatica* complex using data from RAD-seq and species distribution modeling, *Molecular Phylogenetics and Evolution*, 126, pp.1-16. DOI: 10.1016/j.ympev.2018.04.001

(8) Koch, M., Hohmann, N., Wolf, E., Rigault, P., **Zhou W.**, Kiefer, M., Zhao, Y., Fu, C., under review, *Ginkgo biloba*'s footprint of dynamic Pleistocene history dates back only 400,000 years ago and indicates multiple range expansions and retractions, *BMC Genomics*, 19(1), p.299. DOI: 10.1186/s12864-018-4673-2

(9) Guan, R., Zhao, Y., Zhang, H., Fan, G., Liu, X., **Zhou, W.**, Shi, C., Wang, J., Liu, W., Liang, X. and Fu, Y., 2016. Draft genome of the living fossil *Ginkgo biloba*. *Gigascience*, 5(1), p.49. DOI:10.1186/s13742-016-0154-1

(10) **Zhou W.**, Cheng Z., Zhao Y., Fu C., 2016. Contribution of environmental and genetic variation to chemical similarity of Maca (*Lepidium meyenii* Walp.). *Journal of Zhejiang University*, 42(6): 731-738. DOI: 10.3785/j.issn.1008-9209.2015.12.131.

(11) Sun, Z.S., **Zhou, W.**, JIN, X., Ohi-Toma, T., Li, P. and Fu, C.X., 2016. A tale of two islands: parallel evolution of dwarfism in *Smilax biflora* (Smilacaceae). *Phytotaxa*, 245(2), pp.89-106. DOI: 10.11646/phytotaxa.245.2.1

(12) Shao, R., Shen, Y., **Zhou, W.**, Fang, J. and Zheng, B., 2013. Recent advances for plant ATP-binding cassette transporters. *Journal of Zhejiang AF University*, 30, pp.761-768.

Papers in prep.

(1) **Zhou, W.**, Xiang, Q. Phylogenomics and Biogeography of *Castanea* (Chestnuts) and *Hamamelis* (Witch-hazels) - Choosing between RAD-seq and Hyb-Seq data. *Molecular Phylogenetics and Evolution*. Under review.

(2) **Zhou, W.**, Harris, AJ, Xiang, Q. A practical approach for reducing missing data from allele dropout in RAD-seq for phylogenomics applied to an evolutionary and biogeographic study of *Torreya* (Taxaceae). In prep.

(3) **Zhou, W.** Shi, W., Xiang, Q. Pattern of Foliar Endophyte Diversity in Eastern Asia-eastern North America Disjunct Tree Species – Influences of Host Identity, Environment, Phylogeny, and Allopathic Divergence. In prep.

Abstracts of Talks and Posters at Important Conferences:

2021. **Zhou, W.**, Harris, AJ, Xiang, Q. An integrative approach to test biographical hypotheses in nutmeg yew (*Torreya*) and a practical method for reducing missing data from RAD-seq. Botany 2021, July 20, online. (Invited colloquium)

2020. **Zhou, W.**, Soghigian, J., Xiang, Q. A new approach for cleaning paralogs in Hybseq data from Angiosperm353 kit – application for the phylogenomic studies of *Castanea* and *Hamamelis* with comparison to RAD-seq data. Botany 2020, July 27-31, online. (Presentation)

2019. **Zhou, W.** and Xiang, Q. Phylogenomics, Biogeography, and Post-Isolation Divergence of Eastern Asia-North American Disjunct Genera *Castanea*, *Hamamelis*, *Nyssa*, and *Torreya* – Insights into Morphostasis. Botany 2019, July 27-31, Tucson, AZ, US. (Presentation)

2018. **Zhou, W.**, Wen, J., Xiang, Q. Phylogenomics of *Nyssa* from single-copy genes and Fluidigm sequencing – insights into biogeography and character evolution. Botany 2018. July 21-25, Rochester, MN, US. (Presentation)

2018. **Zhou, W.** and Xiang, Q. Species delineation & phylogenomics in an eastern Asian-eastern North American disjunct genus – *Nyssa*. 2018 Genomic Sciences Biomathematics Symposium, April. Raleigh, NC, US. (Presentation)

2017. **Zhou, W.**, Li, S., Xiang, Q. Understanding functional diversity and mechanisms of plant community assembly of eastern Asian and eastern North American disjunct forests through global secondary metabolite profiling: a test of HPLC-MS non-target method. XIX International Botanical Congress. July 23-29, Shenzhen, China. (Poster)

2016. **Zhou, W.**, Zhao Y., Koch M., Fu C. Plastid genomes revealed three lineages of *Ginkgo biloba* diverged in the mid- to late-Pleistocene. 27th NC Plant Molecular Biology Retreat. International Biogeography Society (IBS) Special Meeting. May 4-8, Beijing, China. (Poster)

Main awards:

2019.3-2020.3	Shiu-Ying Hu Student/Post-Doctoral Exchange Award (Arnold Arboretum) (\$5000)
2019.5	Charles W. Stuber Graduate Student Award at NC State (\$1000)
2019.4	ASPT Travel Grant for Botany 2019 in Tucson (\$335)
2018.7	Graduate Travel award from Plant & Microbial Biology at NC State (\$200)

Teaching Experience:

PB250 and PB200 Plant Biology lab in Plant & Microbial Biology at NC State.

PB403 Systematics Biology lab in Plant & Microbial Biology at NC State.