

Case Western Reserve University – Department of Biology
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EDUCATION

Ph.D, Plant Biology and Conservation, Northwestern University and Chicago Botanic Garden

(Evanston, IL, USA), 2017. Advisor: Dr. Nyree Zerega

Dissertation: Evolutionary transitions: pollination biology and domestication in *Artocarpus* (Moraceae)

Teaching Certificate, 2016: Searle Center for Advancing Teaching and Learning; Center for the Integration of Teaching, Research, and Learning

J.D., Benjamin N. Cardozo School of Law (New York, NY, USA), 2004, *magna cum laude*

Order of the Coif (legal honor society); Member, *Cardozo Law Review*

B.A., English, Columbia University (New York, NY, USA), 2001, with departmental honors

APPOINTMENTS

Singapore Botanic Gardens (Singapore): **Research Fellow**, January 2020–present; **Flora of Singapore Fellow**: November 2018.

The Morton Arboretum (Lisle, IL, USA): **National Science Foundation Postdoctoral Research Fellow in Biology**, January 1, 2018–January 31, 2020. Advisor: Dr. Andrew Hipp; co-advisor, Dr. Robert Raguso (Cornell University); **Research associate**: 2018–present

Case Western Reserve University (Cleveland, OH, USA): **Adjunct Assistant Professor of Biology**: 2019–present.

Chicago Botanic Garden (Glencoe, IL, USA): **Research Associate**: 2019–present.

The Field Museum of Natural History (Chicago, IL, USA): **Scientific Affiliate**, 2013–present.

PUBLICATIONS (*undergraduate student, **high school student)

Gardner, E.M., D. Arifiani, and N.J.C. Zerega. *Accepted pending revisions*. *Artocarpus bergii* (Moraceae): a new species in the breadfruit from the Moluccas. *Systematic Botany*.

Gardner, E.M., M. Garner, R. Cowan, S. Dodsworth, N. Epitawalage, D. Arifiani, S. Sahromi, W.J. Baker, F. Forest, O. Maurin, N.J.C. Zerega, A. Monro, and A.L. Hipp. *Accepted pending revisions*. Repeated parallel losses of inflexed stamens in Moraceae: phylogenomics and generic revision of the tribe Moreae and the reinstatement of the tribe Olmedieae (Moraceae). *Taxon*. Preprint available at: <https://doi.org/10.1101/2020.04.08.030452>

Gardner, E.M. and N.J.C. Zerega. *In press*. Flora of Singapore precursors: updates to the Singaporean taxa of *Artocarpus* J.R. Forst. & G. Forst. subgenus *Pseudojaca* Trécul (Moraceae). *Gardens' Bulletin Singapore* 72(2).

Gardner, E.M., A. Chaveerach, R. Sudmoon, and N.J.C. Zerega. *In press*. Two new species of *Artocarpus* (Moraceae) from Vietnam and Thailand. *PhytoTaxa*.

Gardner, E.M., A. Monro, and N.J.C. Zerega. *In press*. Proposal to reject the name Antiarideae. *Taxon*.

Hale, H., **E.M. Gardner**, J. Viruel, L. Pokorny, and M.G. Johnson. 2020 Strategies for reducing per-sample costs in target capture sequencing for phylogenomics and population genomics in plants. *Applications in Plant Sciences* 8: e11337. <https://dx.doi.org/10.1002%2Faps.3.11337>

Zerega, N., **Gardner, E.**, Wan Zakaria, W. & Ahmad Puad, A.S. 2019. *Artocarpus annulatus*. *The IUCN Red List of Threatened Species* 2019: e.T86528602A86528612. <http://dx.doi.org/10.2305/IUCN.UK.2019-2.RLTS.T86528602A86528612.en>

Zerega, N.J.C., and **E.M. Gardner**, 2019. Delimitation of the new tribe Parartocarpeae (Moraceae) is supported by a 333-gene phylogeny. *Phytotaxa* 388(4): 253–265. <https://www.mapress.com/j/pt/article/view/phytotaxa.388.4.1>

Jiang, X.L., **E.M. Gardner**, H.H. Meng, M. Deng, G.B. Xu. 2019. Land bridges in the Pleistocene contributed to flora assembly on the continental islands of South China: insights from the evolutionary history of

- Quercus championii*. *Molecular Phylogenetics and Evolution* 132: 36–45.
<https://doi.org/10.1016/j.ympev.2018.11.021>
- Gardner, E.M.**, R.J. Gagné, P.E. Kendra, W.S. Montgomery, R.A. Raguso, *T.T. McNeil, and N.J.C. Zerega. 2018. The sweet smell of deceit: pollination of jackfruit (*Artocarpus heterophyllus*, Moraceae) by a new species of gall midge, *Clinodiplosis ultracrepidata* sp. nov. (Diptera:Cecidomyiidae). *Int. J. Plant Sciences* 179 (5): 350–367. <http://doi.org/10.1086/697115>
- Kates, H.R., M.G. Johnson, **E.M. Gardner**, N.J.C. Zerega, and N.J. Wickett. 2018. Allele phasing has minimal impact on phylogenetic reconstruction from targeted nuclear gene sequences in a case study of *Artocarpus* (Moraceae). *Am. J. Bot.* 105 (3): 404–416. <https://doi.org/10.1002/ajb2.1068>
- Wang M.H., **E.M. Gardner**, R. Chung, C.M. Yee, L.S. Leong, A.R. Milan, J.T. Pereira, and N.J.C. Zerega. 2018. Origin and diversity of cempedak, an underutilized fruit tree crop, *Artocarpus integer* (Moraceae). *Am. J. Bot.* 105(5):898-914. <https://doi.org/10.1002/ajb2.1094>
- Villaverde, T., L. Pokorny, S. Olsson, M. Rincon, M.G. Johnson, **E.M. Gardner**, N.J. Wickett, J. Molero, R. Riina, I. Sanmartin. 2018. Bridging the micro-macro evolutionary gap: target enrichment with chloroplast skimming solves phylogenetic relationships within the Rand Flora *Euphorbia balsamifera*. *New Phytologist* 220(2):636-650. <https://doi.org/10.1111/nph.15312>
- Gardner, E.M.**, *P. Sarraf, E.W. Williams, and N.J.C. Zerega. 2017. Phylogeny and Biogeography of *Maclura* (Moraceae) and the origin of an anachronistic fruit. *Molecular Phylogenetics and Evolution* 117: 49–59.
<https://doi.org/10.1016/j.ympev.2017.06.021>
- Williams, E.W., **E.M. Gardner**, *R. Harris III, A. Chaveerach, J.T. Pereira, and N.J.C. Zerega. 2017. Out of Borneo: Biogeography, phylogeny, and divergence date estimates of *Artocarpus* (Moraceae). *Annals of Botany* 119(4): 611–627. <https://doi.org/10.1093/aob/mcw249>
- Tandang, D.N., E.R. Tadosa, and **E.M. Gardner**. 2017. *Sloetia* (Moraceae): a new generic record for the Philippines. *Telopea* 20: 69–73. <http://dx.doi.org/10.7751/telepea11387>
- Gardner E.M.**, M. Johnson, D. Ragone, N. Wickett, and N.J.C. Zerega. 2016. Low-coverage, whole-genome sequencing of *Artocarpus camansi* (Moraceae) for phylogenetic marker development and gene Discovery. *Applications in Plant Sciences* 4(7): apps.1600017. <https://dx.doi.org/10.3732/apps.1600017>
- Johnson M., **E.M. Gardner**, J. Shaw, Y. Liu, R. Medina, B. Goffinet, N.J.C. Zerega, and N. Wickett. 2016. HybPiper: extracting phylogenetic datasets from high-throughput sequencing reads using targeted bait capture. *Applications in Plant Sciences* 4(7): apps.1600016. <https://dx.doi.org/10.3732/apps.1600016>
- Gardner E.M.** and R. Meyer. 2015. Extended Economic Botany Avenues at the BSA. *Plant Science Bulletin* 61: 128–129.
- Gardner E.M.**, K.M. Laricchia, *M. Murphy, D. Ragone, B.E. Scheffler, S. Simpson, E.W. Williams, N.J.C. Zerega. 2015. Primer Note: Chloroplast microsatellite markers for *Artocarpus* (Moraceae) developed from transcriptome sequences. *Applications in Plant Sciences* 3(9):1500049.
<http://dx.doi.org/10.3732/apps.1500049>
- Zerega, N.J.C., G. Ravikanth, **E.M. Gardner**, K. Laricchia, T. Melhem, M. Wang, C. E. Witherup, S. Setty, M.I. Zuberi, M.R. Jagdish, and D. Ragone. 2014. New genomic resources to understand genetic diversity and promote crop improvement of jackfruit (*Artocarpus heterophyllus*), breadfruit (*A. altilis*), and other under utilized *Artocarpus* crops. *Proceedings of the International Symposium on Jackfruit (Artocarpus heterophyllus) and Breadfruit (Artocarpus altilis Fosberg) of the Tropics*.
- Gardner E.M.** 2004. To Defer or Not to Defer: Judicial Review of Zoning Board Decisions in New York, *Cardozo Public Law Policy & Ethics Journal* 2:421-460.

MANUSCRIPTS IN REVIEW (available upon request)

- Gardner, E.M.**, M.G. Johnson, J.T. Pereira, A.S.A. Puad, N.J. Wickett, and N.J.C. Zerega. *In review*. Paralogs and off-target sequences improve phylogenetic resolution in a densely-sampled study of the breadfruit genus (*Artocarpus*, Moraceae). *Systematic Biology*. Preprint available at <https://doi.org/10.1101/854232>
- Gardner, E.M.**, L. Audi, Q. Zhang, H. Sauquet, A. Monro, and N.J.C. Zerega. *In review*. Phylogenomics of *Brosimum* Sw. (Moraceae) and allied genera, including a revised subgeneric system. *Taxon*. Preprint available at: <https://doi.org/10.1101/2020.05.15.098566>

- Gardner, E.M.** *In review*. HerbChomper: a new tool for trimming poorly-aligned ends from DNA sequences. *Bioinformatics*.
- Meerow, A.W., **E.M. Gardner**, and K. Nakamura. *In review*. Phylogenomics of the Andean tetraploid clade of the American Amaryllidaceae (subfamily Amaryllidoideae): unlocking a polyploid generic radiation abetted by continental geodynamics. *Frontiers in Plant Sciences*.
- Dickinson, L.; H. Noble; **E.M. Gardner**, A.S.A. Puad, W.N.F. Wan Zakaria, and N.J.C. Zerega, *In review*. Genetic diversity and structure among populations of the critically endangered *Artocarpus annulatus* F.M. Jarrett, a crop wild relative of jackfruit (*A. heterophyllus* Lam.). *PeerJ*.

GRANTS, FELLOWSHIPS, AND AWARDS

- 2019, Singapore Botanic Gardens Ethnobotany Fellowship: Integrating western and indigenous science: ethnobotany and ethno-taxonomy of Moraceae in Sarawak (SGD 59,744, January 1–September 30, 2020)
- 2019, European Commission, Synthesys+ Fellowship: Revisionary systematics in Moraceae (travel+lodging+subsistence, November 2019)
- 2018, Singapore Botanic Gardens, Flora of Singapore Fellowship (SGD 3,958, November 2018)
- 2017, National Science Foundation Postdoctoral Research Fellowship in Biology: Convergent evolution of biotic pollination in wind-pollinated angiosperm lineages: a functional and genomic exploration of a rare transition (\$138,000, Jan. 1, 2018–Jan. 31, 2020, DBI-1711391), **Lead PI: Elliot Gardner**, co-sponsors: Dr. Andrew Hipp (The Morton Arboretum) and Dr. Robert Raguso (Cornell University); collaborators: Dr. Chuck Cannon (The Morton Arboretum), Dr. Ángela Cano (Cambridge University Botanic Garden)
- 2017, Botanical Society of America, travel grant for XIX International Botanical Congress (\$2,400)
- 2016, Northwestern University, The Graduate School, Conference Travel Grant (\$600)
- 2015, Mohamed bin Zayed Species Conservation Fund, Conservation plan and IUCN Red List Assessment for *Artocarpus annulatus*, a wild relative of jackfruit, an underutilized tree crop (Lead PI: N. Zerega; **Co-PIs: E. Gardner**, A. Shafreena, J. Linton, \$6,000).
- 2015, National Science Foundation: Doctoral Dissertation Improvement Grant: Evolutionary transitions: pollination biology and domestication of *Artocarpus* (Moraceae) (PI: N. Zerega, **Co-PI: E. Gardner**, \$17,882, Aug. 1 2015–July 31, 2017, DEB-1501373)
- 2015, Institute for Sustainability and Energy, Northwestern University, Graduate Student Research Grant: Basic science for a sustainable future: the genome of breadfruit's wild relative (\$4,673)
- 2015, Northwestern University Plant Biology and Conservation Research Grant: Scent-mediated pollination in *Artocarpus* (\$700)
- 2015, Economic Botany Section, Botanical Society of America, Student Travel Award (\$300)
- 2015, American Society of Plant Taxonomists, Student Travel Award (\$300)
- 2015, 2016, Northwestern University Plant Biology and Conservation Travel Grant (\$500)
- 2014, Garden Club of America / Pollinator Partnership Centennial Pollinator Fellowship: Pollination Biology of *Artocarpus* (\$4,000)
- 2014, Dr. John N. Nicholson Fellowship, Northwestern University, 2014-2015 (tuition plus stipend)
- 2014, Botanical Society of American Graduate Student Research Grant: Pollination biology of domesticated *Artocarpus* (\$500)
- 2014, Northwestern University Plant Biology and Conservation Research Grant: Pollination biology of *Artocarpus* (\$750)
- 2014, Northwestern University Plant Biology and Conservation Travel Grant (\$500)
- 2014, American Society of Plant Taxonomists, Student Travel Award (\$300)
- 2013, 2014, Honorable mention, Northwestern University Science and Society scientific images contest
- 2013, Systematics Research Fund Grant (Linnean Society / Systematics Association): Population genetics and species limits of *Artocarpus odoratissimus* (L970), 2013
- 2013, American Society of Plant Taxonomists Graduate Student Research Grant: Population genetics and species limits of *Artocarpus odoratissimus* (\$800), 2013
- 2013, American Society of Plant Taxonomists, Student Travel Award (\$300)
- 2013, Torrey Botanical Society Student Training Fellowship (\$1,000 for tropical botany field course)

2004, Dean's Scholarship, Benjamin N. Cardozo School of Law (\$20,000), 2001-2004
 2000, Richmond B. Williams traveling fellowship, Columbia University

CONFERENCE PRESENTATIONS

- Gardner, E.M.**, J.T. Pereira, A.S. Ahmad Puad, N.J.C. Zerega, and A.L. Hipp. A phylogenomic framework for revisionary work in Moraceae, with a focus on *Artocarpus*. Flora Malesiana Symposium 11, Brunei Darussalam, June 30–July 5, 2019.
- Gardner, E.M.**, N.J.C. Zerega, and A.L. Hipp. A densely-sampled phylogeny of the breadfruit and mulberry clades (Moraceae tribes Artocarpeae and Moreae): taxonomic and biogeographic implications from 333 genes. Latin American Botanical Congress, Quito, Ecuador, October 21–28, 2018.
- Gardner, E.M.**, A. Cano, R.A. Raguso, A.L. Hipp. The phylogeny and floral volatile chemistry of *Chamaedorea* (Palmae) provide insights into pollination transitions. Latin American Botanical Congress, Quito, Ecuador, October 21–28, 2018.
- Gardner, E.M.**, J.T. Pereira, A. Shafreena, and N.J.C. Zerega. Poster: The origin and diversity of tarap (*Artocarpus odoratissimus*, Moraceae), an underutilized tree crop from Borneo: insights from HybSeq and SSRs. XIX International Botanical Congress, Shenzhen, China, July 23–29, 2017.
- Gardner, E.M.**, M.G. Johnson, J.T. Pereira, R. Raguso, K. Skogen, N.J. Wickett, and N.J.C. Zerega. Phylogenomics of *Artocarpus* (Moraceae) from 333 nuclear genes: insights into pollination transitions. Botany 2016, Savannah, Georgia, July 30–August 3, 2016 (abstract available at <http://www.botanyconference.org/engine/search/index.php?func=detail&aid=791>)
- Gardner E.M.**, N.J.C. Zerega. 2015. Invited symposium lecture: Basic research with practical applications: Phylogenomics and pollination biology in a genus of underutilized tree crops (*Artocarpus*, Moraceae). Symposium: Underutilized Crops for a Secure and Green Future, Botany 2015, July 25–29, Edmonton, Alberta.
- Distefano I.L., **E.M. Gardner**, N.J.C. Zerega. W. Clement. 2015. Poster: Analysis of pollen morphology to predict pollination syndrome in *Artocarpus* (Moraceae). Botany 2015, July 25–29, Edmonton, Alberta.
- Gardner E.M.**, N.J.C. Zerega. 2014. Oral presentation: Population genetics and species limits of wild and cultivated *Artocarpus odoratissimus* Blanco (Moraceae): insights into the domestication of an underutilized crop. Botany 2014, Boise, Idaho, July 28–30, 2014.
- Gardner E.M.**, P. Sarraf, N.J.C. Zerega. 2013. Oral presentation: Phylogeny and Biogeography of *Maclura* Nutt. (Moraceae). Botany 2013, New Orleans, Louisiana, July 27–31, 2013.

INVITED PRESENTATIONS AND WORKSHOPS

- Invited participant: Workshop to Enhance Collaboration Between US & Indonesia in Biodiversity & Conservation Research. Bogor, Indonesia, July 15–18, 2019.
- E.M. Gardner** and S. Bellot, workshop co-instructors: Hyb-Seq target enrichment: a cost-effective method for phylogenomics. Flora Malesiana Symposium 11, Brunei Darussalam, July 3, 2019.
- A multidisciplinary approach to plant systematics, with a focus on the mulberry, oak, and palm families. Case Western Reserve University, Department of Biology Seminar Series, January 24, 2019.
- Diversity of the breadfruit genus (*Artocarpus*, Moraceae), and the intersection of indigenous and Western taxonomies. Singapore Botanic Gardens Speaker Series, November 16, 2018.
- Phylogenomics and pollination of *Artocarpus* (Moraceae): evolutionary transitions in the breadfruit clade. Oberlin College, September 14, 2018.
- Diversity and pollination of *Artocarpus* (Moraceae). Forest Research Centre, Sandakan, Sabah, Malaysia, May 8, 2018.

- Phylogenomics and pollination of *Artocarpus* (Moraceae): evolutionary transitions in the breadfruit clade. Singapore Botanic Gardens, April 25, 2018.
- A.S.A. Puad and **E.M. Gardner**. Integrating indigenous and Western taxonomies in phylogenetics: an example from a Bornean tree crop (*Artocarpus odoratissimus*, Moraceae). Chicago Plant Science Symposium (co-organizers R. Ree, P. Herendeen, **E.M. Gardner**), Field Museum of Natural History, April 8, 2018.
- Decolonizing Systematics? Indigenous Knowledge, Molecular Phylogenetics, and a Bornean Tree Crop. Interdisciplinary Symposium on the Southeast Asian Environment (co-organized by S.S. Puspita, **E.M. Gardner**, and B. Etherington). Northwestern University, March 6, 2018.
- Evolutionary transitions: phylogenomics and pollination of *Artocarpus* (Moraceae) (focus on phylogenetics). Herbarium Bogoriense, Indonesian Institute of Sciences (LIPI), Cibinong, West Java, Indonesia, February 8, 2018; Bogor Botanical Gardens, Bogor, West Java, Indonesia, February 9, 2018.
- L. Pokorny and **E.M. Gardner**, workshop co-instructors. HybSeq: a cost effective target enrichment method for phylogenomics. Universiti Malaysia Sarawak. Kuching, Sarawak, Malaysia, July 21, 2017.
- Wickett N.J., M.G. Johnson, and **E.M. Gardner**, workshop co-instructors. HybSeq: Wet-lab tips and dry-lab skills. Workshop at Royal Botanic Gardens, Kew. Richmond, United Kingdom, May 17–19, 2017. <https://github.com/mossmatters/KewHybSeqWorkshop>
- Phylogenomics and pollination biology of *Artocarpus* (Moraceae). Royal Botanic Gardens, Kew. Richmond, United Kingdom, May 17, 2017.
- Domesticating deliciousness: origins and diversity of *Artocarpus odoratissimus* (Moraceae), Plant Biology and Conservation Seminar Series, Chicago Botanic Garden, April 28, 2017.
- Phylogenomics of the breadfruit genus (*Artocarpus*, Moraceae), Plant Biology and Conservation Seminar Series, Chicago Botanic Garden, January 29, 2016.
- Pollination in the breadfruit genus (*Artocarpus*, Moraceae): from wind to insect (and back again?), Garden Club of Evanston, January 11, 2016.
- Phylogenomics and pollination of *Artocarpus* (Moraceae), presentation to the Chicago Botanic Garden board, Science and Education Committee, November 19, 2015.
- Phylogenomics and pollination in the breadfruits (*Artocarpus*, Moraceae), Morton Arboretum, November 10, 2015.
- Artocarpus* HybSeq workflow for samples of varying quality (fresh to herbarium), Field Museum of Natural History, October 2, 2015.
- The birds and the bees—and cockroaches? Pollination in a genus of tropical fruit trees (*Artocarpus*, Moraceae) Garden Club of America, Chicago Council annual meeting, Chicago Botanic Garden, February 18, 2015.
- Evolutionary transitions: pollination biology and domestication in *Artocarpus* (Moraceae), with a focus on underutilized crop species, Plant Biology and Conservation Seminar Series, Chicago Botanic Garden, October 30, 2014.

SERVICE AND OUTREACH

Professional service

- Reviewer for *Systematic Biology*, *Systematic Botany*, *Systematic Botany Monographs*, *International Journal of Plant Sciences*, *Planta*, *Taxon*, *Phytotaxa*, *Plant Biology*, *Applications in Plant Sciences*, *Journal of the Botanical Research Institute of Texas*, *PeerJ*, and *Systematics and Biodiversity*.
- 2019–20, Graduate Student Awards Committee, Botanical Society of America
- 2015–17, Community Relations Officer, Economic Botany Section, Botanical Society of America: coordinate outreach and public relations to promote the interdisciplinary field of economic botany.
- 2015–present, Member, International Union for Conservation of Nature (IUCN) Species Survival Commission Global Tree Specialist Group

- 2014–15, Chicago Botanic Garden, Conservation Science Committee, Student Representative: served as student liaison to the garden's science department.
- 2014–15, Plant Biology and Conservation Student Journal Club, Northwestern University, co-chair: organized weekly student meeting to discuss recent scientific literature.
- 2013, Member, Graduate student focus group for Northwestern University Weinberg College of Arts and Science Strategic Plan

Community outreach

- 2019–2020: Contributed to public exhibits at the Singapore Botanic Gardens, Ethnobotany Centre: “The Ethnobotany of the jackfruit tree family” (2019–20) and “Rainforest Remedies” (2020–).
- 2015, 2017. Coordinated visit by 2nd grade class to Chicago Botanic Garden, presentation on pollination biology; presentation to 8th grade science class on pollination, with hands-on pollen microscopy activity, Hillel Torah North Suburban Day School, Skokie, Illinois
- 2013, 2014, Gallery opening for Northwestern University Science in Society's scientific images contest, Evanston Township High School: presented SEM images of *Artocarpus* pollen and discussed research with visitors
- 2014, Science Café at Museum of Science and Industry: interactive event for middle-school students focusing on wind and insect pollination (via NU Science in Society)
- 2014, Meet the Scientists event: ran interactive table exhibit based on *A. lanceifolius* image and pollination research at Evanston Public Library (via NU Science in Society)
- 2013, 2014, Chicago Botanic Garden, Plant Conservation Science Center Open House: ran table exhibit on underutilized crops and interacted with garden donors

TEACHING

Case Western Reserve University

- Spring 2019, USNA 289I, Organizing Life: biological classification in context. Seminar for non-specialists exploring biological classification and nomenclature in scientific, historical, and cultural contexts.

Northwestern University

- 2016–17, Searle Center for Advancing Teaching and Learning: Graduate Teaching Mentor, Teaching Certificate Program; workshop leader, “Active Learning in STEM.” Searle Center for Advancing Teaching and Learning.
- Fall 2016, BIO 342, Evolutionary Processes: Teaching Assistant
- Delivered lecture on geologic history of the earth; graded assignments and exams
- Spring 2016, BIO 316/PBBC 415, Spring Flora: co-primary instructor
- Teaching context for Searle Center for Advancing Teaching and Learning Teaching Certificate Program, 2015-2016
- Spring 2015, Spring 2017, BIO 316/PBBC 415, Spring Flora: Teaching Assistant
- Delivered lecture on monocot taxonomy, assisted in field activities, helped grade exams and projects
- Winter 2014, BIO 350/PBC 401, Plant Evolution and Diversity: Teaching Assistant
- Delivered lecture on eudicot diversity, helped set up labs, graded assignments and exams

Benjamin N. Cardozo School of Law

- Fall 2002–Spring 2003, Property Law: Teaching Assistant

STUDENTS MENTORED

- 2020–, Raihan Rashidah, MS student, Universiti Malaysia Sarawak (co-supervisor): leaf anatomy of *Artocarpus* in Sarawak.
- 2016–2019, Qian Zhang, PhD student, Université Paris-Sud (committee member): phylogenomics of the tribe Dorstenieae (Moraceae).
- 2016–2018, Lauren Audi, MSc student, Northwestern University (committee member): genetic diversity of Caribbean breadfruit.

- 2018, Wan Nuur Fatiha, PhD candidate, Universiti Malaysia Sarawak: phylogenomics of *Rafflesia tuan-mudae* (Rafflesiaceae).
- 2017, Anita Fang and Sarah Park, Adlai E. Stevenson High School students: Insect visitors of *Artocarpus*.
- 2016–17, Imogene Asa, Northwestern University undergraduate: Diversity of *Artocarpus* insect visitors.
- 2015, Tashina McNeil, Lake Forest College undergraduate student: BIO 384/Chicago Botanic Garden Internship (co-author): Pollinator-exclusion study on *Artocarpus heterophyllus*.
- 2012–14, Paya Sarraf, Northwestern University undergraduate student: honors thesis co-mentor (co-author, 2017): Phylogeny and biogeography of *Maclura* (Moraceae).
- 2014, Matthew Murphy, Illinois College: Chicago Botanic Garden Research Experience for Undergraduates (REU) program (co-author, 2015): Microsatellite analysis of *Artocarpus odoratissimus*.
- 2014, Evana James, Chicago Public Schools (high school student): Chicago Botanic Garden College First program: Phylogenetics of *Artocarpus odoratissimus* and *A. integer*.
- 2013, Ryan Vlaar, Lake Forest College undergraduate student: Biol 384/Chicago Botanic Garden Internship: Phylogenetics of *Artocarpus odoratissimus*.

SOCIETY MEMBERSHIPS

- 2020–present, Fellow of the Linnean Society
- 2018–present, International Association for Plant Taxonomy
- 2013–present, Society for Economic Botany
- 2013–present, Society of Systematic Biologists
- 2012–present, American Society of Plant Taxonomists
- 2012–present, Botanical Society of America
- 2012–present, Systematics Association

OTHER PROFESSIONAL EXPERIENCE

- Research assistant, Plant Biology and Conservation R-code repository, 2015–16:** Design and implement departmental repository of code for statistical analyses
- Research assistant, Wagenius Lab, 2012:** Assisted with data collection for long-term population biology study of the narrow leaved coneflower (*Echinaceae angustifolia*)
- The Wolf Law Firm, LLC, North Brunswick, NJ, Associate Attorney, 2009–12:** Consumer-protection litigation.
- Dechert LLP, Princeton, New Jersey: Associate Attorney, 2005–2009:** Product liability litigation.
- Supreme Court of Texas, Austin, Texas: Law Clerk, 2004–2005:** Research and draft opinions for the Court.
- Innocence Project: student member, 2003-2004:** Litigation using DNA evidence to exonerate wrongfully convicted prisoners.
- Institute of Microbiology & Genetics, University of Verona, Verona, Italy, Research intern, 1998:** Conducted molecular research in a human genetics lab on a project searching for genes associated with asthma (PI: P.F. Pignatti).

FIELD EXPERIENCE

- Sabah, Malaysia** (June 2013, May 2014, June 2016, May 2018, September 2019), **Sarawak, Malaysia** (July 2016, July 2017, February 2020), **Bogor, Indonesia** (July 2016, February 2018), **Hong Kong, China** (June 2016), **Laguna, Philippines** (June 2016), **Miami, Florida** (March 2015, February 2016, February 2017, March 2018, March 2019), **Kauai and Maui, Hawai'i** (October 2015).
- Tropical Botany field course**, Miami, FL, Dr. W. Judd., University of Florida, July 2013.

PROFESSIONAL SKILLS

Lab skills: DNA extraction and quality control; PCR; Illumina library preparation and quality control; target enrichment; gas-chromatography/mass-spectrometry; operation of Shimadzu GC-MS, ABI 3730 sequencer, BioAnalyzer, Blue Pippin, and Illumina MiSeq.

Computer skills: broad proficiency in bioinformatics, including R and shell scripting; processing next-generation sequencing data from raw reads to finished alignments; phylogenetic analyses; population genetic analyses; comparative genomic analyses.

Field skills: identification of tropical plants in the field and herbarium; identification of insects to order; field collection of plant and insect specimens; field collection of volatile organic compound specimens; field experiments on pollination and plant-insect interactions; collection of living material for establishment of living collections.

LANGUAGES

Descending order of proficiency: Spanish, Hebrew, Russian, Italian, Malay/Indonesian, German