

## **CURRICULUM VITAE**

Damon P. Little

The New York Botanical Garden  
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## **APPOINTMENTS:**

2008–present. Doctoral Faculty The Graduate School and University Center of The City University of New York (New York, New York).

2007–present. Assistant Curator of Bioinformatics. Lewis B. and Dorothy Cullman Program for Molecular Systematics. The New York Botanic Garden (Bronx, New York).

2007–present. Montgomery Botanical Research Fellow. Montgomery Botanical Center (Coral Gables, Florida).

2004–2007. Postdoctoral Research Associate. Lewis B. and Dorothy Cullman Program for Molecular Systematics. The New York Botanic Garden (Bronx, New York). Supervisor: D. Wm. Stevenson.

## **EDUCATION:**

1998–2005. Cornell University (Ithaca, New York). Ph.D. program in systematic botany. Dissertation: Evolution and circumscription of the true cypresses (Cupressaceae: *Cupressus* and *Callitropsis*): a combined molecular and morphological approach. Committee: Jeff J. Doyle (representing the plant molecular biology minor), Melissa A. Luckow (representing the plant anatomy minor), Kevin C. Nixon (committee chair, representing plant systematics), Quentin D. Wheeler (representing the comparative zoology minor).

1994–1998. University of Vermont (Burlington, Vermont). Bachelor of Science specializing in botany.

## **PROGRAMMING AND SCRIPTING LANGUAGES:**

BASH, C, C++, PERL, R, and SQL.

## **CONTRIBUTED PAPERS—REGULAR PUBLICATIONS:**

Little, D. P. In preparation. A monograph of *Callitropsis* (including *Xanthocyparis*) and *Cupressus* (Cupressaceae). To be submitted to Systematic Botany Monographs.

Little, D. P. In preparation. Isolation and characterization of polymorphic microsatellite loci in *Callitropsis* (Cupressaceae). To be submitted to Conservation Genetics.

Salazar, J., D. P. Little, and A. Jaramillo. In preparation. A phylogenetic analysis of Canellaceae based on morphology and DNA sequences. To be submitted to Systematic Botany.

Chen, S. and D. P. Little. In preparation. Plastid inheritance in *Callitropsis* (Cupressaceae). To be submitted to Canadian Journal of Forest Research. [high school student co–author]

Little, D. P. Submitted. A unified index of sequence quality and contig overlap for DNA barcoding. Bioinformatics.

Lee, E. K., A. Cibrián-Jaramillo, S.-O. Kolokotronis, M. S. Katari, A. Stamatakis, M. Ott, J. Chiu, D. Little, D. Stevenson, R. McCombie, R. Martienssen, G. Coruzzi, and R. DeSalle. Submitted. Functional phylogenomics of the seed plants. *PLoS Biology*.

Little, D. P. Submitted. DNA barcode sequence identification incorporating taxonomic hierarchy and within taxon variability. *BMC Bioinformatics*.

Rothman, N. J. and D. P. Little. Submitted. The origin of *Cupressus ×notabilis* revisited. *Botany*. [undergraduate student co-author]

Schulz, C., D. P. Little, D. Wm. Stevenson, A. Nowogrodzki, and D. Paquiot. Accepted. Growth and care instructions of a new model species—the lycophyte *Selaginella apoda*. *American Fern Journal*.

Hall, G. S., J. S. Peters, D. P. Little, and A. G. Power. Accepted. Plant community diversity influences vector behavior and *Barley yellow dwarf virus* population structure. *Plant Pathology*.

Griffith, M. P., M. A. Calonje, D. Wm. Stevenson, C. E. Husby, and D. P. Little. Accepted. Time, place, and relationship: cycad phenology in phylogenetic and biogeographic context. *Proceedings of Cycad 2008*.

Little, D. P., P. Thomas, H. T. Nguyen, and L. K. Phan. In press. Before it had a name: diagnostic characteristics, geographic distribution, and the conservation of *Cupressus tonkinensis* (Cupressaceae). *Brittonia*.

Schulz, C., D. P. Little, D. Wm. Stevenson, D. Bauer, C. Moloney, and T. Stützel. 2010. An overview of the morphology, anatomy, and life cycle of a new model species—the lycophyte *Selaginella apoda* (L.) Spring. *International Journal of Plant Sciences* 171 (7): 693–712. [cover illustration]

Cibrián-Jaramillo, A., J. E. De la Torre-Bárcena, E. K. Lee, M. S. Katari, D. P. Little, D. W. Stevenson, R. Martienssen, G. M. Coruzzi, and R. DeSalle. 2010. Using phylogenomic patterns and gene ontology to identify proteins of importance in plant evolution. *Genome Biology and Evolution* 2: 225–239.

Hollingsworth, P. M., L. L. Forrest, J. L. Spouge, M. Hajibabaei, S. Ratnasingham, M. van der Bank, M. W. Chase, R. S. Cowan, D. L. Erickson, A. J. Fazekas, S. W. Graham, K. E. James, K.-J. Kim, W. J. Kress, H. Schneider, J. van Alphen Stahl, S. C. H. Barrett, C. van den Berg, D. Bogarin, K. S. Burgess, K. M. Cameron, M. Carine, J. Chacón, A. Clark, F. Conrad, D. S. Devey, J. J. Clarkson, C. S. Ford, T. A. J. Hedderson, M. L. Hollingsworth, B. C. Husband, L. J. Kelly, P. R. Kesanakurti, J. S. Kim, Y. D. Kim, R. Lahaye, H.-L. Lee, D. G. Long, S. Madriñán, O. Maurin, I. Meusnier, S. G. Newmaster, C.-Wu Park, D. M. Percy, G. Petersen, J. E. Richardson, G. A. Salazar, V. Savolainen, O. Seberg, M. J. Wilkinson, D.-K. Yi, and D. P. Little. 2009. A DNA barcode for land plants. *Proceedings of the National Academy of Sciences* 106 (31): 12794–12797.

Martin, C. V., D. P. Little, R. Goldenberg, and F. A. Michelangeli. 2008. A phylogenetic evaluation of *Leandra* (Miconieae, Melastomataceae): a polyphyletic genus where the seeds tell the story, not the petals. *Cladistics* 24 (3): 315–327.

Hall, G. S. and D. P. Little. 2007. Relative quantitation of virus population size in mixed genotype infections using sequencing chromatograms. *The Journal of Virological Methods* 146 (1–2): 22–28.

Sass, C., D. P. Little, D. Wm. Stevenson, and C. D. Specht. 2007. DNA Barcoding in the Cycadales: testing the potential of proposed barcoding markers for species identification of cycads. *PLoS ONE* 2 (11): e1154.

Douglas, A. Wm., D. Wm. Stevenson, and D. P. Little. 2007. Ovule development in *Ginkgo biloba* L. with emphasis on the collar and nucellus. *International Journal of Plant Sciences* 168 (9): 1207–1236. [cover illustration]

Little, D. P., R. C. Moran, E. D. Brenner, and D. Wm. Stevenson. 2007. Nuclear genome size in *Selaginella*. *Genome* 50 (4): 351–356. [cover illustration]

Little, D. P. and D. Wm. Stevenson. 2007. A comparison of algorithms for identification of specimens using DNA barcodes: examples from gymnosperms. *Cladistics* 23 (1): 1–21. [cover illustration]

Little, D. P. 2006. Evolution and circumscription of the true cypresses (Cupressaceae: *Cupressus*). *Systematic Botany* 31 (3): 461–480.

Davis, J. I, K. C. Nixon, and D. P. Little. 2005. The limits of conventional cladistic analysis. pp. 119–147 in V. A. Albert, ed. *Parsimony, Phylogeny, and Genomics*. Oxford: Oxford University Press.

Little, D. P., A. E. Schwarzbach, R. P. Adams, and C. F. Hsieh. 2004. The circumscription and phylogenetic relationships of *Callitropsis* and the newly described genus *Xanthocyparis* (Cupressaceae). *American Journal of Botany* 91 (11): 1872–1881.

Little, D. P. 2004. Documentation of hybridization between Californian cypresses: *Cupressus macnabiana* × *sargentii*. *Systematic Botany* 29 (4): 825–833.

Tehler, A., D. P. Little, and J. S. Farris. 2003. The full-length phylogenetic tree from 1551 ribosomal sequences of chitinous fungi. *Mycological Research* 107 (8): 901–916.

Little, D. P. and D. S. Barrington. 2003. Major evolutionary events in the origin and diversification of the fern genus *Polystichum* (Dryopteridaceae). *American Journal of Botany* 90 (3): 508–514.

#### **CONTRIBUTED PAPERS—COMPUTER PROGRAMS:**

Little, D.P. 2010. B: an index of sequence quality and contig overlap for DNA barcoding. Program distributed by the author <http://www.nybg.org/files/scientists/dlittle/B.html>.

Little, D. P. 2009. Simple pairwise matching for DNA barcoding. Program distributed by the author <http://www.nybg.org/files/scientists/dlittle/PWG.html>.

Little, D. P. 2009. BRONX: Barcode Recognition Obtained with Nucleotide eXposés. Program distributed by the author <http://www.nybg.org/files/scientists/dlittle/BRONX.html>.

Little, D. P. 2007. degenbar: a simple SIDE (Sequence IDentification Engine). Program distributed by the author <http://www.nybg.org/files/scientists/degenbar.html>.

Little, D. P. 2007. DOME ID (Diagnostic Oligo Motifs for Explicit IDentification): a simple SIDE (sequence identification engine). Program distributed by the author <http://www.nybg.org/files/scientists/dlittle/dome.html>.

Little, D. P. 2007. ATIM (Alignment-free Tree-based Identification Method): a simple SIDE (sequence identification engine). Program distributed by the author <http://www.nybg.org/files/scientists/dlittle/atim.html>.

Little, D. P. and G. S. Hall. 2006. polySNP: an analysis tool for quantitative sequencing. Program distributed by the authors <http://staging.nybg.org/polySNP.html>.

Little, D. P. 2005. 2xread: a simple indel coding tool. Program distributed by the author <http://www.nybg.org/files/scientists/2xread.html>.

#### **CONTRIBUTED PAPERS—SELECTED CONFERENCE PRESENTATIONS:**

Little, D. P. and D. Wm. Stevenson. 2010. DNA barcoding gymnosperms: a tool for automated plant identification. Annual meeting of the American Society of Plant Taxonomists.

Little, D. P. 2009. Of plants & fungi. Third International Barcode of Life Conference.

Little, D. P. 2009. The other 30%: the search for improbable paradoxical sequences. Third International Barcode of Life Conference.

Little, D. P., J. Deutsch, A. Dutton, S. Margheim, R. Peery, L. A. Raubeson, and D. Wm. Stevenson. 2008. Cycads in the gymnosperm tree of life. Annual meeting of the American Society of Plant Taxonomists.

Little, D. P. and D. Wm. Stevenson. 2008. Cycads in the gymnosperm tree of life. VIII International Cycad Conference.

Little, D. P. and D. Wm. Stevenson. 2008. DNA barcoding in cycads: progress and problems. VIII International Cycad Conference.

Little, D. P. 2007. Diagnostic characteristics, habitat specificity, and the conservation of *Cupressus tonkinensis* (Cupressaceae). Annual meeting of the American Society of Plant Taxonomists.

Little, D. P. and K. C. Nixon. 2007. Speed and accuracy in sequence alignment. Annual meeting of the Willi Hennig Society.

Little, D. P. 2006. Evolution and circumscription of the true cypresses (Cupressaceae: *Cupressus*). 17<sup>th</sup> International Symposium of Biodiversity and Evolutionary Biology.

Little, D. P. and D. Wm. Stevenson. 2006. A comparison of algorithms for identification of specimens using DNA barcodes: examples from gymnosperms. Annual meeting of the Willi Hennig Society.

Little, D. P. and D. Wm. Stevenson. 2006. A comparison of algorithms for identification of specimens using DNA barcodes: examples from gymnosperms. Annual meeting of the American Society of Plant Taxonomists.

Little, D. P. 2006. Transfusion tracheid pitting in Cupressoideae with particular attention to *Callitropsis* and *Cupressus* (Cupressaceae). Annual meeting of the American Society of Plant Taxonomists.

Little, D. P. 2003. Preliminary documentation of hybridization between species of New World *Cupressus* (Cupressaceae). Annual meeting of the American Society of Plant Taxonomists.

Nixon, K. C. and D. P. Little. 2003. The use of optimality criteria in DNA sequence alignment and its application in a new computer program. Annual meeting of the American Society of Plant Taxonomists.

Nixon, K. C. and D. P. Little. 2003. The use of optimality criteria in DNA sequence alignment and its application in a new computer program. Annual meeting of the Willi Hennig Society.

Little, D. P. 2002. Phylogeny and species circumscription in Cupressoideae (Cupressaceae) with special reference to *Cupressus*. Annual meeting of the American Society of Plant Taxonomists.

Little, D. P. and K. C. Nixon. 2002. Speed, efficiency, and more data in cladistic analysis. Annual meeting of the American Society of Plant Taxonomists.

Little, D. P. 2000. Phylogenetic relationship and monophyly of *Cupressus* and *Chamaecyparis* (Cupressaceae): molecular and organismal evidence. *American Journal of Botany* 87 (6 supplement): 139.

### **SELECTED INVITED TALKS:**

2010. The evolutionary context of Tecate cypress: what we can learn from near relatives. Tecate Cypress Symposium.

2010. Red (*Thuja plicata*) and yellow cedar (*Callitropsis nootkatensis*): phylogeny, nomenclature, and organismal character evolution. A Tale of Two Cedars.

2009. DNA barcoding: a tool for automated plant identification. El Centro de Investigación Científica de Yucatán.

2009. DNA barcoding: a tool for automated plant identification. Rutgers University.

2009. Teenage mutant ninja conifers. American Conifer Society.

2009. treeBOL: a collaborative effort for plant DNA barcoding. MexBoL inaugural meeting.

2008. treeBOL: a collaborative effort for plant DNA barcoding. ARBoL inaugural meeting.

2008. Regions of DNA sequence that evolve like barcodes of life. Lehman College, City University of New York.

2008. treeBOL: a collaborative effort for plant DNA barcoding. New York State Genetics Task Force.

2007. DNA Barcode sequence identification incorporating taxonomic hierarchy and within taxon variability. Second International Barcode of Life Conference.

2007. Bayesian inference of phylogenetic trees. Cornell University.

2007. Evolution and circumscription of the true cypresses. Montgomery Botanical Center.

2007. Evolution and circumscription of the true cypresses. The New York Botanical Garden.

2006. A comparison of algorithms for identification of specimens using DNA barcodes. International DNA Barcode Conference, Paris Workshop for the Data Analysis Working Group.

2004. Evolution and circumscription of the true cypresses (*Cupressaceae: Cupressus*). University of Vermont, Department of Botany.

#### **PEER REVIEW:**

American Journal of Botany, Bioinformatics, BMC Bioinformatics, BMC Evolutionary Biology, Botanical Journal of the Linnean Society, Botanical Review, Botanical Studies, Brittonia, Economic Botany, Canadian Journal of Botany, Cladistics, Genetica, Heredity, International Journal of Plant Sciences, The Journal of the Torrey Botanical Society, Memoirs of The New York Botanical Garden, Mitochondrial DNA, Molecular Ecology Resources, Molecular Phylogenetics and Evolution, New Phytologist, Novon, Phytion, Plant Molecular Biology, PLoS ONE, Proceedings of the Academy of Natural Sciences, Science, SIDA Contributions to Botany, Systematic Botany, and Taxon.

#### **HIGH SCHOOL LEVEL MENTORING AND ADVISING:**

Mitamura, E. 2010. DNA barcoding the flora of the northeastern United States and Adjacent Canada. The Masters School.

Yeh, D. 2010. DNA barcoding the flora of the northeastern United States and Adjacent Canada. Herricks High School.

Shanker, J. 2008–2009. DNA barcoding of herbal supplements. Foxlane High School.

Chen, S. 2007–2008. Elucidating the mode of plastid inheritance in gymnosperms. Hunter Scholars Program.

Chen, S., E. Gould, D. Straus, and A. Tung. 2007. Elucidating the mode of plastid inheritance in gymnosperms. New York Academy of Science.

#### **UNDERGRADUATE LEVEL MENTORING AND ADVISING:**

Nguyen, H. U. 2010. DNA barcoding the flora of the northeastern United States and Adjacent Canada. San Jose State University.

Yuen, K. 2008. DNA barcoding the flora of the northeastern United States and Adjacent Canada. John Jay College of Criminal Justice.

Koenemann, D. M. 2008. Cycad phylogeny as inferred from whole plastid genome sequences. University of Vermont.

Rothman, N. 2008. The origin of *Cupressus ×notabilis* revisited. Vassar College.

### **GRADUATE LEVEL MENTORING AND ADVISING:**

Ahmad, A. 2009. Systematics of *Hymenocallis* Salisb. (Amaryllidaceae). Plant biology Ph.D. program. Committee member. City University of New York.

Arenas Díaz, E. D. 2013. DNA sequence alignment. Computer Science and Engineering Ph.D. program. Committee member. Universidad Nacional Autónoma de México.

Doyle, V. 2010. *Colletotrichum gloeosporioides* in eastern North America: patterns of dispersal, reproduction and population structuring in a plant-associated ascomycete. Plant biology Ph.D. program. Committee member. City University of New York.

Huang, Y.–Y. 2010. Molecular systematics of neotropical Lecythidaceae. Plant biology Ph.D. program. Committee member. City University of New York.

Huish, R. 2009. Ethnobotany and population genetics of sandal wood (*Santalum yasi*). Plant biology Ph.D. program. Committee member. City University of New York.

Meyer, R. 2010. Ethnobotany and systematics of eggplant. Plant biology Ph.D. program. Committee member. City University of New York.

Simpson, J. 2012. Gene flow in an urban reserve of *Arctomecon*, a rare and endangered genus of desert poppy (Papaveraceae). Plant biology Ph.D. program. Committee member. City University of New York.

### **FIELD EXPERIENCE:**

Alaska (1995, 2007, 2008), British Columbia (2008), Costa Rica (1999, 2005), Oregon (1999), California (2000, 2008), Nepal (2001), Arizona (2002), Mexico (2002, 2009), China (2002), New Jersey (2003), Argentina (2004), Vietnam (2005).

### **FUNDING:**

Campbell, L. M. and D. P. Little. Revised July 2010. National Science Foundation. SBB1: Phylogenetic systematics of Xyridaceae (Poales)—towards a monograph of the yellow-eyed grasses.

Ambrose, B., D. Wm. Stevenson, and D. P. Little. Submitted May 2010. National Science Foundation. Transforming *Selaginella apoda* into a major model system for evo–devo.

Irish, V. F., A. Litt, and D. P. Little. Submitted January 2010. National Science Foundation. GEPR: Regulation of fleshy versus dry fruit development in the Solanaceae.

Little, D. P. and G. Amato. 2010. Protecting biodiversity through training in DNA barcoding. Alfred P. Sloan Foundation.

Campbell, L. M. and D. P. Little. 2009. National Science Foundation. U.S.—Brazil research planning visit: Phylogenetic systematics of Xyridaceae (Poales)—towards a monograph of the yellow-eyed grasses (OISE 0943417).

Little, D. P. and A. Litt. 2009. National Science Foundation. MRI: Acquisition of a high performance computer cluster for The New York Botanical Garden (DBI 0922799).

Little, D. P. 2004. Cornell University, Bailey Hortorium. H. E. Moore fund.

Little, D. P. 2003. Cornell University, Einaudi Center. Lam family travel award.

Nixon, K. C. and D. P. Little. 2002. National Science Foundation. Doctoral Dissertation: Systematics of *Cupressus* and *Chamaecyparis* (DEB 0206092).

Little, D. P. 2001. Cornell University, Einaudi Center. Southeast Asia travel award.

Little, D. P. 2001. American Society of Plant Taxonomists. Graduate research award.

Little, D. P. 2000. Cornell University, Graduate College. Domestic research award.

Little, D. P. 2000. Cornell University, Bailey Hortorium. Clausen fund.

Little, D. P. 1997. University of Vermont. HELiX Undergraduate Research Mini Grant.

### **TEACHING EXPERIENCE:**

2010. Lecturer. City University of New York, Lehman College. Phytoinformatics (BIOL 79303). 1 semester.

2005, 2007, 2008. Lecturer. The New York Botanical Garden. Gymnosperm Morphology (BOT 443). 3 semesters.

2001, 2003. Teaching Assistant. Cornell University. Phylogenetic systematics (BioPI 440). 2 semesters.

1998–2000. Teaching Assistant. Cornell University. Introductory biology for majors (BioG 103–104). 4 semesters.

1998, 2000, 2005. Teaching Assistant. University of Vermont. Tropical Plant Systematics, Field Trip to Costa Rica (BOT 232). 3 trips.

1998. Teaching Assistant. University of Vermont. Flowering plant systematics (BOT 109). 1 semester.

### **TEACHING AWARDS:**

2003. Cornell University. Golden Apple teaching award.

### **UNDERGRADUATE HONORS:**

Dean's List (8 semesters), and Alpha Zeta First Year Proficiency Award.

### **UNDERGRADUATE AWARDS:**

Craig Parent, Teacher, and Student Association Continuing Education Scholarship (twice), Craig School Board Continuing Education Scholarship (twice), University of Vermont Grant, Vermont Bird & Botanical Club Annual Meeting Scholarship, Richard H. Holzer Memorial Foundation Scholarship (twice), New England Farm & Garden Association Scholarship (thrice), The Lucretia D. Jephson Education Trust Scholarship, Craig Teacher's Association Scholarship, Craig City School Board Scholarship, Alaska Native Sisterhood Scholarship, and Craig Moose Lodge Scholarship.