

CURRICULUM VITAE – 27 Jan 2010

KENNETH J. SYTSMA

Professor of Botany
University of Wisconsin
Madison, WI 53706

Areas of Interest

Phylogenetics of flowering plants; adaptive radiations of island, tepui, and Andean flora; molecular and morphological evolution of Myrtales, Ericales, Brassicales, Campanulales and commelinoid monocots with emphasis on Onagraceae, Combretaceae, Capparidaceae, Bromeliaceae, Rapateaceae, Lobeliaceae; biogeography of disjunctions; phylogeography of rare or invasive species; floristics and biogeography of Great Lakes flora; pollination biology; theory of evolution – biological, philosophical, and religious implications

Positions

1994-	Professor of Botany University of Wisconsin, Madison
2004-2008	co-Chair of Biology Major University of Wisconsin, Madison
2006-2007	Acting Director, Wisconsin State Herbarium
1998-2001	Chair of Botany University of Wisconsin, Madison
1993-1997	Acting Director University of Wisconsin Herbarium, Madison
1990-1994	Associate Professor of Botany University of Wisconsin, Madison
1985-1990	Assistant Professor of Botany University of Wisconsin, Madison
1983-1985	Post-doctoral Researcher Genetics Department University of California, Davis
1979-1983	Fellow, Washington University, St. Louis
1980-1981	Curator, Summit Herbarium (Missouri Botanical Garden) Panama City, Panama
1976-1979	Assistant Curator, Clarence R. Hanes Herbarium Western Michigan University, Kalamazoo

Education

1983	Ph.D.	Washington University, St. Louis, MO	Systematic and Evolutionary Biology
1979	M.A.	Western Michigan University, Kalamazoo (cum laude)	Botany, Ecology
1976	B.S.	Calvin College Grand Rapids, MI	Biology

Dissertations

- Ph.D. *Evolution and Biosystematics of the Lisianthus skinneri (Gentianaceae) species Complex in Central America*. Peter H. Raven and Barbara A. Schaal, co-advisors.
- M.A. *A Vegetational Analysis of a Wetland Complex in Southwestern Michigan*. Richard W. Pippen, advisor.

Honors and Awards

- 2008- Associate Editor, *Journal of Botany*
- 2003-2005 Vilas Award, University of Wisconsin, Madison
- 2001 Distinguished Alumni Award, Western Michigan University
- 1999-2006 Associate Editor, *Plant Systematics and Evolution*
- 1998-2001 Chair, Botany Department, University of Wisconsin, Madison
- 1993-1997, 2006- Director, University of Wisconsin Herbarium, Madison
- 1987 Young Scientist Award (XIV International Botanical Congress, Berlin)
- 1987 Botanical Society of America Travel Award (to present paper at the XIV International Botanical Congress)
- 1986 George R. Cooley Award (the outstanding ASPT contributed paper presented at the 1986 AIBS annual meeting)
- 1985- Assistant Professorship, Botany Department, University of Wisconsin, Madison
- 1983-1985 NSF Postdoctoral
- 1979-1983 Washington University Fellowship
- 1976-1979 Western Michigan University Assistantship
- 1972-1973 Freshman Honors Scholarship, Calvin College

Grants Awarded

- 2009-2011 NSF Dissertation Improvement Grant – Ben Grady (\$10,429 for Edaphic endemism in *Eriogonum* (Polygonaceae): a molecular phylogenetic approach)
- 2009-2011 NSF Dissertation Improvement Grant – Bryan Drew (\$14,214 for Systematics, evolution, and biogeography of *Lepechinia* (Lamiaceae))
- 2008-2009 Hilldale/Holstrom Undergraduate/Faculty Research Fellowship (for Phylogenetics placement and horizontal gene transfer in the holoparasite *Mitrastema*); with Tom Kleist)
- 2004-2009 NSF: Tree of Life (\$180,000 [UW portion] for Resolving the Angiosperm Tree and 12 of its Thorniest Branches)
- 2005-2007 NSF Dissertation Improvement Grant – Jay Walker (\$10,000 for Systematics of *Salvia* sect. *Audibertia*, subg. *Calosphace*, and related Meriandreae)
- 2006-2007 Hilldale/Holstrom Undergraduate/Faculty Research Fellowship (for Testing Different Phylogenetic Histories in *Clarkia*); with Cody Williams)
- 2000-2006 NSF Grant (\$250,000 for Molecular Phylogenetics and Biogeography of Endemic Elements of the Guayana Highland Flora; coPI with P. Berry, T. J. Givnish)
- 2003-2005 Vilas Award (\$25,000 for Molecular Phylogenetics, Speciation, and Genomics in *Clarkia* (Onagraceae))
- 2003-2004 Hilldale/Holstrom Undergraduate/Faculty Research Fellowship (for Genetic Analysis of Invasive Purple Loosestrife); with Nic Jelinski)
- 2000-2002 Smithsonian Mellon (\$96,050 for Evolution and Historical Biogeography of Onagraceae Tribes Onagreae, a Major Lineage Derived from the Madro-

Tertiary Flora; coPI with W. Wagner et al.; money funneled through Smithsonian)

2000-2002 NSF Dissertation Improvement Grant - Jocelyn Hall (\$10,000 for Floral Evolution and Systematics of the Plant Family Capparaceae)

2000-2001 Hilldale/Holstrom Undergraduate/Faculty Research Fellowship (for Using novel genome painting techniques to study polyploidy and chromosome evolution in *Clarkia* (Onagraceae); with Jeffrey Morawetz)

2000 NSF REU (\$5,000 for Construction of a *Brodiaea* BAC library for FISH/GISH studies of chromosome evolution)

1999-2001 NSF Dissertation Improvement Grant - Chris Pires (\$10,000 for Integrating Biosystematics and Phylogenetics: Floral Diversity, Polyploidy, and Serpentine Endemism in Themidaceae)

1995-1998 NSF Grant (\$160,000 for Molecular Evolution, Adaptive Radiation and Geographic Speciation in the Hawaiian Lobelioids; coPI with T.J. Givnish)

1994-1998 NSF Grant (\$185,000 for Molecular Systematics and Adaptive Radiation in Myrtales; PI)

1995-1997 NSF Dissertation Improvement Grant - Molly Nepokroeff (\$10,000 for Evolution of Breeding Systems in Hawaiian *Psychotria*: A Phylogenetic Approach)

1995-1997 NSF Dissertation Improvement Grant - Michelle Zjhra (\$10,000 for Phylogeny and Adaptive Radiation of Bignoniaceae in Madagascar)

1994-1996 NSF Dissertation Improvement Grant - Harvey Ballard (\$10,000 for Phylogenetic Relationships, Infrageneric Classification and Character Evolution in *Viola* (Violaceae); coPI with R.R. Kowal)

1993-1995 NSF Grant (\$120,000 for Molecular Systematics of the Rapateaceae and Allied Monocot Families; coPI with T.J. Givnish)

1992-1993 NSF REU Supplement (\$5,000 for DNA Sequencing to Assess Generic Relationships within Rapateaceae of the Guayana Shield; coPI with T.J. Givnish)

1992 NSF REU Supplement (\$5,000 for DNA Sequencing to Evaluate Putative Rapid Speciation in *Clarkia* sect. *Rhodanthos* in California)

1991-1994 NSF Grant (\$274,102 for Molecular Systematics in Epilobieae, Onagraceae and Myrtales)

1991-1993 NSF Dissertation Improvement Grant - William Hahn (\$16,500 for Molecular and Morphological Analysis of *Caryota* (Palmae))

1991 NSF Supplementary Grant - William Hahn (\$2,550 for Field Trip to VietNam)

1990-1992 NSF Grant (\$125,000 for Molecular Evolution in *Brocchinia*, Pitcairnioideae, and Allied Monocots; coPI with T.J. Givnish as PI)

1990 NSF REU Supplement (\$4,000 for Molecular Evolution in *Brocchinia*; coPI with T. Givnish)

1990 Nave Fund (\$4,000 for Molecular Evolution in the Family Bromeliaceae and Field Collection in the Guayana Shield; with T.J. Givnish)

1989-1991 NSF Dissertation Improvement Grant - Karen K. Nakasone (\$7,715 for Molecular Phylogenetics of *Phlebia* (Basidiomycotina) and Related Genera)

1989-1991 NSF Grant (\$37,365 for Cladistic Analyses of *Viburnum* based on Molecular Characters; subcontract PI with M. Donoghue as coPI)

1989 NSF REU Supplement (\$4,000 for Sequence Analysis of the rbcL Gene in the Onagraceae)

1989-1991 NSF Biological Instrumentation Program (55% of \$170,000 for Plant Growth Facility at the Department of Botany, University of Wisconsin-Madison; one of three co-PIs with T. Sharkey PI)

1989-1990 Wisconsin Alumni Research Foundation Grant (\$18,358 for Comparative Sequence Analysis of the Chloroplast *rbcL* Gene)

1989-1990	National Geographic Society (\$21,000 for Molecular Evolution, Adaptive Radiation, and Speciation in Hawaiian Lobelioids; coPI with T. J. Givnish)
1988-1990	NSF Dissertation Improvement Grant - James F. Smith (\$15,225 for Systematics and Evolution of <i>Columnnea</i> section <i>Pentadenia</i> (Gesneriaceae))
1988-1990	NSF Grant (\$74,718 for Molecular Evolution and Adaptive Radiation in the Bromeliad Genus <i>Brocchinia</i> ; coPI with T. J. Givnish)
1986-1989	NSF Grant (\$125,000 for Molecular Phylogenetics in Onagraceae)
1987-1988	Wisconsin Alumni Research Foundation Grant (\$6,480 for Molecular Phylogenetics in Onagraceae)
1987	Nave Fund (\$5,500 for Molecular Evolution in the Family Rapateaceae of the Guayana Shield; with T.J. Givnish)
1984-1985	NSF Post-doctoral Grant (with L.D. Gottlieb as PI; \$90,000)
1978	Sigma Xi National Grant-in-Aid (\$500)
1978	Western Michigan Biology Graduate Research Grant (\$1,000)
1977	Western Michigan Graduate College Research Grant (\$1,000)

Professional Affiliations

Botanical Society of America
 American Society of Plant Taxonomists
 Society for the Study of Evolution

Experience

2006-2007	Acting Director, Wisconsin State Herbarium
2004-2007	co-Chair of Biology Major, University of Wisconsin, Madison
2005	Exploration and plant collection of Lamiaceae in Argentina and Uruguay
1998-2001	Chair, Botany Department, University of Wisconsin, Madison
1998-1999	Instructor: tropical biology course in Hawaii
1998-2006	Associate Editor, <i>Plant Systematics and Evolution</i>
1994-	Full Professor, Botany Department, University of Wisconsin, Madison
1995-	Faculty, Au Sable Institute of Environmental Sciences, Michigan
1993-1997	Director, University of Wisconsin Herbarium
1996	Review panel for evaluating Royal Botanic Gardens, Kew
1995	Review panel for evaluating Biological Aspects of Conservation major, UW
1994-1995	Instructor: tropical biology course in Venezuela
1995-	Panel member in Systematic Biology Program, NSF
1991	Exploration and plant collection of Bromeliaceae in the tepuis of the Guayana Highlands of Venezuela
1990-1994	Associate Professor, Botany Department, University of Wisconsin, Madison
1990-1991	Nominations Committee, American Society of Plant Taxonomists
1989	Exploration and plant collection of Lobeliaceae and Goodeniaceae in the Hawaiian Islands
1988-1992	Editorial Board, Systematic Botany
1988	NSF Postdoctoral Grants Panel
1987	Exploration and plant collection of Bromeliaceae and Rapateaceae in the Guayana Highlands of Venezuela
1985-1990	Assistant Professor, Botany Department, University of Wisconsin, Madison
1983-1985	Post-doctoral Researcher, U California, Davis: Molecular Systematics of <i>Clarkia</i>
1981-1983	Teaching Assistant, Washington University
1980-1981	Resident Curator, Summit Herbarium, Panama
1980	Tropical Ecology course 80-3; Organization for Tropical Studies, Costa Rica

- 1978-1979 Field Assistant, botanical research in Michigan: Reproductive Barriers to Hybridization in *Aureolaria* (Scrophulariaceae)
 1978 Field Assistant, botanical research in Belize: Pollination Biology of *Costus*
 1977-1979 Assistant Curator, Clarence R. Hanes Herbarium, Western Michigan University
 1976-1979 Teaching Assistantship, Western Michigan University

Courses Taught

- Botany 400 — Plant Systematics (Fall, yearly)
 Botany 401 — Vascular Flora of Wisconsin (Spring)
 Botany 422 — Plant Geography (Spring)
 Botany 563 — Molecular Approaches in Systematics and Evolution (4 times)
 Botany 639 & 640 — Tropical Biology Field Course in Venezuela & in Hawaii (once each)
 Botany 940 — Systematics Seminar (Spring & Fall, yearly)
 Au Sable, MI — Field Botany (every summer)

Invited National and International Symposia (recent)

- 2009 Angiosperm Tree of Life, Botanical Society of America, Snowbird, UT
 2006 Evolution of Ericales, Botanical Society of America, Chico, CA
 2005 Keynote Address, XVII International Botanical Congress, Vienna
 2005 Recent Advances in Angiosperm Phylogenetics, XVII International Botanical Congress, Vienna
 2003 Keynote Address, Argentina/Chile Botanical Society Congress, San Luis
 2002 Tropical Intercontinental Disjunctions, Madison, WI
 2000 Plant Systematics: a Half-Century of Progress and Future Challenges, Portland, OR
 1999 The Order Myrtales (organizer), XVI International Botanical Congress, St. Louis
 1998 Second International Conference on the Comparative Biology of Monocots, Sydney, Australia [presented by T.J. Givnish].
 1995 “Adaptive Radiation and Molecular Phylogenetic Data” (co-organizer), McGill University, Montreal
 1995 International Symposium ‘Monocotyledons: Systematics and Evolution’, Royal Botanic Gardens, Kew

Graduate Students

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|------------------|------------|---|
| Randy L. Smith | M.S. 1988 | Chloroplast DNA-based phylogeny of <i>Populus</i> (Salicaceae). |
| James F. Smith | Ph.D. 1991 | Biosystematics and evolution in <i>Columnea</i> (Gesneriaceae). |
| Karen Nakasone | Ph.D. 1991 | Molecular systematics of the basidiomycete <i>Phlebia</i> using mitochondrial DNA. |
| Molly Nepokroeff | M.S. 1992 | Biosystematics of axillary inflorescenced <i>Psychotria</i> in Central America. |
| William Hahn | Ph.D. 1993 | Monograph and molecular systematics of <i>Caryota</i> (Palmae). |
| Elena Conti | Ph.D. 1994 | Molecular systematics of Myrtales and related families. |
| Timothy Evans | Ph.D. 1995 | Systematics of the Commelinaceae and Commelinales. |
| Molly Nepokroeff | Ph.D. 1997 | Molecular systematics and evolution of breeding systems in <i>Psychotria</i> (Rubiaceae) in Hawaii. |
| Michelle Zjhra | Ph.D. 1998 | Molecular systematics of Bignoniaceae in Madagascar. |
| Aaron Rodriguez | Ph.D. 1999 | Ecology and molecular systematics of <i>Tigridia</i> (Iridaceae). |
| Celeste Raker | M.S. 1999 | Taxonomy of wild potatoes. |

Sky Feller	M.S. 2000	Conservation and evolution of the threatened <i>Gnaphalium saxicola</i> (Asteraceae) in Wisconsin
Chris Pires	Ph.D. 2000	Phylogenetics and biosystematics in the <i>Brodiaea</i> (Themidaceae) complex.
Jocelyn Hall	Ph.D. 2003	Systematics and floral evolution of Capparaceae and other core Brassicales
Jay Walker	Ph.D. 2006	Phylogenetics and floral evolution in neotropical <i>Salvia</i> (Lamiaceae)
Marie Trest	M.S. 2007	Phylogenetics and species concepts in the lichens <i>Everniastrum</i> lichen complex (co-advised with A. Gargas)
Rachel S. Jabailly	Ph.D. 2009	Phylogenetics, biogeography, and radiation in <i>Puya</i> (Bromeliaceae)
Josh Sulman	M.S. 2010	Phylogeny and ecology of <i>Sparganium</i> – the bur reeds
Bryan Drew	Ph.D. candidate	Phylogenetics and biogeography of <i>Lepechinia</i> (Lamiaceae)
Brent Berger	Ph.D. candidate	Phylogenetics and evolution of Combretaceae
Ben Grady	Ph.D. candidate	Evolution and radiation of serpentine endemics in <i>Eriogonum</i> (Polygonaceae)

Post-Doctorals* and Faculty Visitors

Dr. Brian Husband	Molecular systematics of <i>Epilobium</i> and <i>Chamerion</i>
Dr. Shirley Graham	<i>rbcL</i> and <i>ndhF</i> sequencing of Lythraceae
Dr. James Rodman	Molecular phylogenetics of glucosinolate plants
*Dr. David Baum	Molecular phylogenetics in Epilobieae (Onagraceae)
*Dr. Charles Delwiche	Transition from Coleochaetales to land plants using chloroplast DNA sequence information
*Dr. William Alverson	Molecular phylogenetics of bombacoid Malvaceae
Dr. David Spooner	Molecular systematics and biogeography of <i>Solanum</i> sect. <i>Petota</i>
*Dr. Joachim Kadereit	Molecular phylogenetics of <i>Papaver</i>
Dr. Jorge Crisci	Phylogenetics of Onagraceae and Ericales
Dr. Liliana Katinas	Phylogenetics of Mutisieae and <i>Camissonia</i>
*Dr. Juerg Schoenenberger	Phylogenetics of Ericales

Papers submitted

Publications

Jabaily, R. S. and K. J. Sytsma. (in press). Phylogenetics of *Puya* (Bromeliaceae): placement, major lineages, and evolution of Chilean species. *American Journal of Botany*.

Iltis, H. H., J. C. Hall, and K. J. Sytsma. (in press). Studies in Cleomaceae I. On the separate recognition of Capparaceae, Cleomaceae, and Brassicaceae. *Annals Missouri Botanical Garden*.

Schönenberger J., M. von Balthazar, and K. J. Sytsma. 2010. Diversity and evolution of floral structure among early diverging lineages in the Ericales. *Philosophical Transactions of the Royal Society B* 365: 437-448.

- Havran, J. C., K. J. Sytsma, and H. E. Ballard. 2009. Evolutionary relationships, inter-island biogeography, and molecular evolution in the Hawaiian violets (*Viola*: Violaceae). *American Journal of Botany* 96: 2087-2099.
- Givnish, T. J., K. C. Millam, A. R. Mast, T. B. Paterson, T. J. Theim, A. L. Hipp, J. M. Henss, J. F. Smith, K. R. Wood, and K. J. Sytsma. 2009. Origin, adaptive radiation, and diversification of the Hawaiian lobeliads (Asterales: Campanulaceae). *Proceedings of the Royal Society of London, Series B* 276: 407-416.
- Angiosperm Phylogeny Group. 2009. An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG III. *Botanical Journal Linnean Society* 161: 105-121.
- Katinas, L., J. V. Crisci, R. S. Jabaily, C. Williams, J. Walker, B. Drew, J. M. Bonifacino, and K. J. Sytsma. 2008. Evolution of secondary heads in Nassauviinae (Asteraceae, Mutisieae). *American Journal of Botany* 95: 229-240.
- Walker, J. and K. J. Sytsma. 2007. Staminal evolution in the genus *Salvia* (Lamiaceae): molecular phylogenetic evidence for multiple origins of the staminal lever. *Annals of Botany* 100: 375-391.
- Chase, M. W., M. F. Fay, D. S. Devey, O. Maurin, N. Rønsted, J. Davies, Y. Pillon, G. Petersen, O. Seberg, M. N. Tamura, C. B. Asmussen, K. Hilu, T. Borsch, J. I. Davis, D. W. Stevenson, J. C. Pires, T. J. Givnish, K. J. Sytsma, S. W. Graham, M. M. McPherson, and H. S. Rai. 2006. Multi-gene analyses of monocot relationships: a summary. In: J. T. Columbus, E. A. Friar, C. W. Hamilton, J. M. Porter, L. M. Prince, and M. G. Simpson (eds.) *Monocots: Comparative Biology and Evolution* (3 volumes). Rancho Santa Ana Botanic Garden, Claremont, CA.
- Givnish, T. J., J. C. Pires, S. W. Graham, M. A. McPherson, L. M. Prince, T. B. Patterson, H. S. Rai, E. H. Roalson, T. M. Evans, W. J. Hahn, K. C. Millam, A. W. Meerow, M. Molvray, P. J. Kores, H. E. O'Brien, J. C. Hall, W. J. Kress, and K. J. Sytsma. 2006. Phylogeny of the monocots based on the highly informative cpDNA gene *ndhF*: evidence for widespread concerted convergence. Pp. 27-50 In: J. T. Columbus, E. A. Friar, C. W. Hamilton, J. M. Porter, L. M. Prince, and M. G. Simpson (eds.) *Monocots: Comparative Biology and Evolution* (vol. 1). Rancho Santa Ana Botanic Garden, Claremont, CA.
- Pires, J. C., I. J. Maureira, T. J. Givnish, K. J. Sytsma, O. Seberg, G. Petersen, J. I. Davis, and D. W. Stevenson. 2006. Phylogeny, genome size, and chromosome evolution in Asparagales. Pp. 285-302 In: J. T. Columbus, E. A. Friar, C. W. Hamilton, J. M. Porter, L. M. Prince, and M. G. Simpson (eds.) *Monocots: Comparative Biology and Evolution* (vol. 1). Rancho Santa Ana Botanic Garden, Claremont, CA.
- Givnish, T. J., K. C. Millam, P. E. Berry, and K. J. Sytsma. 2006. Phylogeny, adaptive radiation, and historical biogeography of Bromeliaceae inferred from *ndhF* sequence data. In: J. T. Columbus, E. A. Friar, C. W. Hamilton, J. M. Porter, L. M. Prince, and M. G. Simpson (eds.) *Monocots: Comparative Biology and Evolution* (3 volumes). Rancho Santa Ana Botanic Garden, Claremont, CA.
- Rodriguez, A. and K. J. Sytsma. 2006. Phylogenetics of the "Tiger-flower" group (Tigridieae: Iridaceae) based on molecular and morphological evidence. Pp. 412-424 In: J. T. Columbus, E. A. Friar, C. W. Hamilton, J. M. Porter, L. M. Prince, and M. G. Simpson (eds.) *Monocots: Comparative Biology and Evolution* (vol. 1). Rancho Santa Ana Botanic Garden, Claremont, CA.

- Graham, S. A., J. Hall, S. Shi, and K. J. Sytsma. 2005. Phylogenetic analysis of the Lythraceae based on four gene regions and morphology. *International Journal of Plant Sciences* 166: 995-1017.
- Givnish, T. J., J. C. Pires, S. W. Graham, M. A. McPherson, L. M. Prince, T. B. Patterson, H. S. Rai, E. H. Roalson, T. M. Evans, W. J. Hahn, K. C. Millam, A. W. Meerow, M. Molvray, P. J. Kores, H. E. O'Brien, J. C. Hall, W. J. Kress, and K. J. Sytsma. 2005. Repeated evolution of net venation and fleshy fruits among monocots in shaded habitats confirms a priori predictions: evidence from an *ndhF* phylogeny. *Proceedings of the Royal Society of London, Biological Sciences* 272: 1481-1490.
- Schönenberger, J., A. A. Anderberg, and K. J. Sytsma. 2005. Molecular phylogenetics and patterns of floral evolution in the Ericales. *International Journal of Plant Sciences* 166:265-288.
- Givnish, T. J., K. C. Millam, T. M. Evans, J. C. Hall, J.C. Pires, P. E. Berry, and K. J. Sytsma. 2004. Ancient vicariance or recent long-distance dispersal? Inferences about phylogeny and South American-African disjunctions in Rapateaceae and Bromeliaceae based on *ndhF* sequence data. *International Journal of Plant Sciences* 165 (4 suppl.): S35-S54.
- Sytsma, K.J., A. Litt, M.L. Zjhra, J.C. Pires, M. Nepokroeff, E. Conti, Jay Walker, and P.G. Wilson. 2004. Clades, clocks, and continents: historical and biogeographical analysis of Myrtaceae, Vochysiaceae, and relatives in the southern hemisphere. *International Journal of Plant Sciences* 165 (4 suppl.): S85-S105.
- Conti, E., F. Rutschmann, T. Eriksson, K. J. Sytsma, and D. A. Baum. 2004. Response to Robert G. Moyle Calibration of molecular clocks and the biogeographic history of Crypteroniaceae: a reply to Moyle. *Evolution* 58: 1874-1876.
- Hall, J. C., H. H. Iltis, and K. J. Sytsma. 2004. Molecular phylogenetics of Core Brassicales, placement of orphan genera *Forchhammeria*, *Tirania*, *Emblingia*, and character evolution. *Systematic Botany* 29: 654-669.
- Walker, J.B, K.J. Sytsma, J. Treutlein, and M. Wink. 2004. *Salvia* (Lamiaceae) is not monophyletic: implications for the systematics, radiation, and ecological specializations of *Salvia* and tribe Mentheae. *American Journal of Botany* 91: 1115-1125.
- Zjhra, M. L., K. J. Sytsma, and R. Olmstead. 2004, Circumscription and placement of Malagasy Coleeae (Bignoniaceae). *Plant Systematics and Evolution* 245: 55-67.
- Berry, P.E., W.J. Hahn, K.J. Sytsma, J.C. Hall, and A. Mast. 2004. Phylogenetic relationships and biogeography of *Fuchsia* (Onagraceae) based on non-coding nuclear and chloroplast DNA data. *American Journal of Botany* 91: 601-614.
- Hipp, A. L, J. C. Hall, and K. J. Sytsma. 2004. Phylogenetic accuracy, congruence between data partitions, and performance of the ILD. *Systematic Biology* 53: 81-89
- Levin, R. A., W. L. Wagner, W. J. Hahn, P. C. Hoch, D. A. Baum, L. Katinas, E. A. Zimmer, and K. J. Sytsma. 2004. Paraphyly in tribe Onagreae: insights into phylogenetic relationships of Onagraceae based on nuclear and chloroplast sequence DNA. *Systematic Botany* 29: 147-164.

- Nepokroeff, M., K. J. Sytsma, W. L. Wagner, and E. A. Zimmer. 2003. Reconstructing ancestral patterns of colonization and dispersal in the Hawaiian understory tree genus *Psychotria* (Rubiaceae): a comparison of parsimony and likelihood approaches. *Systematic Biology* 52: 820-838.
- Evans, T. M., K. J. Sytsma, R. B. Faden, and T. J. Givnish. 2003. Phylogenetic relationships in the Commelinaceae: II. A cladistic analysis of *rbcL* sequences and morphology. *Systematic Botany* 28: 270-292.
- Angiosperm Phylogeny Group [APG]. 2003. An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG II. *Bot. J. Linn. Soc.* 141: 399-436.
- Levin, R. A., W. L. Wagner, P. C. Hoch, M. Nepokroeff, J. C. Pires, E. A. Zimmer, and K. J. Sytsma. 2003. Family-level relationships of Onagraceae based on chloroplast *rbcL* and *ndhF* data. *American Journal of Botany* 90: 107-115.
- Hall, J. C. K. J. Sytsma, and H. H. Iltis. 2002. Phylogeny of Capparaceae and Brassicaceae based on chloroplast sequence data. *American Journal of Botany* 89: 1826-1842.
- Conti, E., T. Eriksson, J. Schönenberger, K. J. Sytsma, and D. A. Baum. 2002. Early Tertiary "Out-of-India" dispersal of Crypteroniaceae: evidence from phylogeny and molecular dating. *Evolution* 56: 1931-1942.
- Sytsma, K. J., J. Morawetz, J. C. Pires, M. Nepokroeff, E. Conti, M. Zjhra, J. C. Hall, and M. W. Chase. 2002. Urticalean Rosids: circumscription, Rosid ancestry, and phylogenetics based on *rbcL*, *trnLF*, and *ndhF* sequences. *American Journal of Botany* 89: 1531-1546.
- Pires, J. C. and K. J. Sytsma. 2002. Evaluating the phylogenetic framework that has guided biosystematic research among *Brodiaea* and related lilioid monocots (Themidaceae). *American Journal of Botany* 89: 1342-1359.
- Delwiche, C. F., K. G. Karol, M. T. Cimino, and K. J. Sytsma. 2002. Phylogeny of the genus *Coleochaete* (Coleochaetales, Charophyceae) and related taxa inferred by analysis of the chloroplast gene *rbcL*. *Journal of Phycology* 38: 394-403.
- Berry, P. E., V. Savolainen, K. J. Sytsma, J. C. Hall, and M. W. Chase. 2001. *Lissocarpa* is sister to *Diospyros* (Ebenaceae). *Kew Bulletin* 56: 725-729.
- Pires, J. C., M. F. Fay, W. S. Davis, L. Hufford, J. Rova, M. W. Chase, and K. J. Sytsma. 2001. Molecular and morphological phylogenetic analyses of Themidaceae (Asparagales). *Kew Bulletin* 56:601-626
- Sytsma, K. J. and J. C. Pires. 2001. Plant systematics in the next 50 years—re-mapping the new frontier. *Taxon* 50: 713-732.
- Sytsma, K. J. and W. J. Hahn. 2000. Molecular systematics: 1997-1999. *Progress in Botany* 62: 307-339.
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