



PRESIDENT'S REPORT

Flora of North America Association: Help Keep Data Up to Date

Luc Brouillet, FNAA president

Several items in this issue describe our progress on making information available electronically, both content of published volumes and provisional treatments. I wanted to remind you that, in addition to this botanical content, we try to make available as much information as possible regarding the policies and procedures of the project. You will find instructions for authors, guidelines for requesting a microgrant, and other helpful information at www.fna.org, under “The Flora: for contributors and reviewers.” When you are uncertain, please consult this information. If a procedure is not detailed in there, please consult Dr. Zarucchi, your lead editor, or myself, as to proper procedure before proceeding.

Secondly, the quality of geographic and ecologic data in the flora relies heavily on the regional review process, which involves the efforts of both reviewers and regional coordinators, all of which are volunteers. We recognize how busy these folks are, many either frantically

teaching during school terms or out in the field during breaks. Nonetheless, to avoid significant delays in treatment editing and processing, with the potential of production slippage, we need to try to speed up this process. Lead, taxon and technical editors cannot always pick up the pace to compensate. We need to all work together to reduce the slippage before it becomes too serious and impedes progress.

Thirdly, timely processing by taxon editors of manuscripts received is essential for the success of FNA, notably its productivity, and editors have recommitted to improving in this regard. We need to finish the volumes in as tight a schedule as possible, given the human factors involved.

I know all of our authors, reviewers, editors, and staff are working very hard. I would like to express to all my sincere thanks for all the work you are doing: the Flora would not exist without it.

FNA at Botany 2011 and the International Botanical Congress 2011

Nancy Morin

Botany 2011—FNA sponsored a workshop for authors and editors of floristic treatments, followed by tours of the Missouri Botanical Garden herbarium and library and a reception for participants and friends. The feedback on the workshop was good and thanks go to Luc Brouillet, Rich Rabeler, Jim Zarucchi, Cassandra Howard, Barney Lipscomb, Barbara Alongi, and Yevonn Wilson-Ramsey for making presentations; and to Jim Solomon and Doug Holland for leading tours of the herbarium and library, respectively.

We also had a table in the exhibit hall at Botany 2011, with new T-shirts and bandanas for sale. Thanks to everyone who helped at the table, especially Heidi Schmidt, Andrew Pryor, Cassandra Howard, Kristin Pierce, and Pat Harris.



International Botanical Congress 2011, Melbourne, Australia—James Macklin and Hong Cui each gave talks on their vision for,

and progress on, developing tools for presenting and using *Flora of North America north of Mexico* content. James presented remotely; his co-authors were Hong Cui, Robert Morris, and Paul Morris. He talked about using a Filtered Push network to manage knowledge from FNA as well as the many national and international sources of data on plants.

Hong Cui, our collaborator at the University of Arizona, gave a talk on fine-grained semantic markup of

descriptive data. She described the work she has done to develop supervised and unsupervised machine-learning methods to convert semi-natural language descriptions to structured digital formats. Her work on *Flora of North America north of Mexico* content proved to be applicable also to treatises on invertebrate paleontology and OCR'd documents from the Biodiversity Heritage

Library. She has developed algorithms that mark up a description sentence by sentence and also learn organ/structure names and character states.

Oxford University Press had a nice booth in the Exhibit Hall with samples of FNA volumes and order forms. We hope that FNA will reach new readers outside of North America as a result.

Focus On Student Contributors: Genevieve Walden and Rebecca Stubbs

Debra Trock, California Academy of Sciences

The production of treatments for the *Flora of North America north of Mexico* begins with all of the hard work done by the authors. While some contributors have been involved with this project for several years, we also have many students involved as authors or co-authors of some important taxa. This is the first time that we have focused on student contributors, and for our inaugural article we have two exceptional young women who are/were students of Dr. Robert Patterson at San Francisco State University (SFSU).

Genevieve Walden

Genevieve is originally from Fresno, California, and became interested in botany while working in the greenhouse at Fresno City College. After transferring to University of California-Davis, she continued to pursue her interest by working for Dr. Ellen Dean as a student assistant in the herbarium, mounting and filing plants and working with Ellen on a project involving

Lycianthes (Solanaceae). She was further inspired by field trips with the Davis Botany Club and her California floristics courses. Genevieve also spent some time working for Dr. Fred Hrusa (FNA southwest regional reviewer) at the California Department of Food and Agriculture, helping to identify quarantine specimens and doing some illustrations of *Salsola* for Hrusa's research.

Genevieve then did what a lot of students have to do—get a full-time job—even if it is not what they are interested in! She worked for a while in a water ecology lab at Davis, all the time thinking about botany and how she could get back to doing what she really loved. So, she took some additional classes and applied to graduate school at SFSU where, as she puts it, “Dr. Patterson was nice enough to take a chance on me.”

Sometimes “taking a chance” pays off big time, and Bob found a gem in Genevieve. He had several students working on different sections in the genus *Phacelia*, but Genevieve wanted to tackle the entire genus and ask the “big” questions. She finished her M.S. at SFSU this past spring and is currently working on the tribe Phacelieae in Dr. Bruce Baldwin's lab at UC Berkeley for her dissertation. I'll let Genevieve tell you about her enthusiasm in her own words:

Phacelia is a great genus, with wonderful diversity and lots of species that seem to be narrowly restricted or edaphic endemics to limestone or serpentine or gypsum, and almost half of the species occur in California—so it is great to study the genus here! There are three federally endangered species, one threatened species and one species is a candidate for federal protection. Most of the species [ca. 200] are in North America, with a few in South America [8–10], and it will be great to have a chance to do field trips to Chile and Argentina. There are really little plants, like *P. tetramera* or big plants like *P. grandiflora* with wonderful showy corollas, or *P. tanacetifolia*, which has big bunches of inflorescences, that is used in apiculture as a pollinator attractant.

The only problem is that some of the species have glandular or stinging trichomes that I am allergic to, and they itch a lot like poison oak. But they are so pretty! [A true botanist!]

Working on FNANM has provided the opportunity to dive into type specimens, synonyms, and the variations

The Flora of North America (FNA) project is a cooperative program to produce a comprehensive account of the plants of North America north of Mexico. The *FNA Newsletter* is edited by Barney Lipscomb, Newsletter Editor, Botanical Research Institute of Texas, with the assistance of Kristin Pierce, Assistant Editor, Missouri Botanical Garden. The newsletter is published twice a year by the Flora of North America Association to communicate news about the FNA project and other topics of interest to North American floristic researchers. For more information, please see the FNA website, www.fna.org.

Readers are invited to send appropriate news items to:
Barney Lipscomb, Newsletter Editor
Leonhardt Chair of Texas Botany
Botanical Research Institute of Texas
1700 University
Fort Worth, TX 76107-3400, USA
Items also can be sent by e-mail to: barney@brit.org or
Kristin.Pierce@mobot.org

in the collections and populations, and raised additional questions. It will be great to help resolve some of the difficulties in the genus with this treatment for FNANM, and I think there may be a few new species lurking about that deserve to be recognized, and maybe a few older names that can be celebrated once again for future work. Working on FNANM has been a great project, and the best learning experience for systematics and taxonomy I could have hoped for. Thanks for letting me participate.

Rebecca Stubbs

Rebecca did not grow up in a family that was big on outdoor activities. Rather, she developed an interest in, and a passion for, the natural world on her own. She started spending a lot of time outdoors and learning about plants however she could. She did not receive any botanical training at her undergraduate institution, so she began her master's program with less formal training than her colleagues did. She attributes her success to support and confidence from her mentors, especially Bob Patterson, and to her lab mates.

Rebecca is currently a master's student at SFSU. She spent her first semester there thinking about potential projects but unable to get really interested in any of them. Then she spent a summer on a trail crew in the eastern Sierra Nevada, which she found to be one of the most rewarding and enriching experiences in her life. Rebecca enjoyed spending the summer in one of California's most pristine natural areas and developed a passion for alpine plants. Once again, I'll let Rebecca tell you about her passion for plants in her own words:

It was up at these peaks that I first saw *Polemonium eximium* or sky pilot. Its advanced morphological characters, allowing it to thrive in such extreme conditions, immediately fascinated me. The more I learned about the genus the more intrigued I became, and by the end of the summer I was enthusiastic to return to school and begin my research.

I am honored to work on the treatment of *Polemonium* for FNANM. Through writing this treatment I have learned so much about the species of *Polemonium* that exist beyond the California Floristic Province, but of course the more I learn the more questions I have! For example, many species of *Polemonium* grow in montane habitats, which can result in speciation occurring in some populations. This often gives rise to endemics that are restricted to a single peak, but on the other hand, numerous populations on geographically separated mountains are astonishingly similar. *Polemonium* species occurring at lower elevations often vary geographically leading various authors to describe new taxa. Many of these geographically distinct populations appear to be local variants of a widely distributed species, resulting in multiple synonyms or subspecies of the original binomial. I could honestly talk endlessly about *Polemonium*, but a very brief synopsis follows: The new FNANM *Polemonium* treatment will potentially contain two new species; five rare, threatened, or endangered species; and endemics from at least three states.

After completing my master's I plan to pursue a doctorate in botany. I feel very fortunate to love what I do and have a passion for botany. I look forward to exploring many more mountain peaks and the fascinating plants that inhabit them!

I believe that the success of these two young scientists reinforces how important the role of teacher and mentor is in identifying the best and brightest, and getting young people interested in science. Many thanks to Bob Patterson, both for recognizing and mentoring these dedicated young botanists, and for encouraging them to become involved with the *Flora of North America*. It is great to have both Genevieve and Rebecca involved as authors and rewarding to know that they view their participation as an important and valuable step in their own promising careers.

FNA Support: Andrew W. Mellon Foundation

We are very pleased to announce that the Andrew W. Mellon Foundation has made a one-year grant of \$200,000 to the Flora of North America Association as part of its Global Plants Initiative (GPI). This Initiative is a collaboration of herbaria around the world making high resolution images of type specimens; the images and associated data are made available through the Plant Science component of JSTOR. This funding is not only critically important to our ability to finish the project but it has also made it possible for FNA content to be made available to a much larger audience electronically.

JSTOR programmers have now made content of *Flora of North America north of Mexico* Volume 19, the first volume of Asteraceae, available as a test, with the rest of the published content to be presented soon. The content can be accessed through <http://plants.jstor.org>, which has a search facility. A search for *Antennaria pulcherrima* returns links to all information available in JSTOR for that species, including FNA. On the right-hand side of the page there are links to journal content on the main JSTOR site that matches "*Antennaria pulcherrima*." Alternatively, FNA content can be accessed within <http://plants.jstor.org> by using a filter based on "collection" name (*Flora of North America* is considered a collection within JSTOR), or based on Resource Type (*Flora of North America* is considered a Reference Source). We are very excited to be able to reach new audiences with FNA content and to have the benefit of linking to literature sources held by JSTOR.—Nancy Morin

FNA Welcomes Three New Board Members

Dr. Elizabeth Zacharias received her Ph.D. in Integrative Biology at UC Berkeley in 2007. Her dissertation was on the systematics and evolution of North American *Atriplex* and related genera. She held a three-year research and curatorial appointment at Harvard University Herbaria and now is a research associate at UC Berkeley, where she is continuing her research on the systematics of Atripliceae (Chenopodiaceae). Elizabeth has broad botanical interests that include floristics of western North America, evolution of ecophysiology, halophyte ecology, genome evolution, and biodiversity conservation.

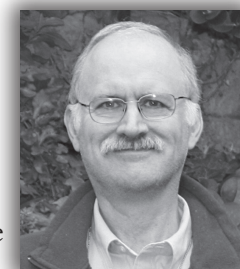


As the new team leader of the National Plant Data Team, which manages the USDA PLANTS database, Dr. Gerry Moore is now the FNA liaison to U.S. governmental agencies. He replaces Dr. J. Scott Peterson, who retired in 2009. Gerry was on staff at the Brooklyn Botanic Garden 2000 to 2011, most recently as BBG's Director of Science, where he was also the conservation



officer for the Center for Plant Conservation. He also served as the coordinator of BBG's New York Metropolitan Flora project. His research interests include the taxonomy of sedges, especially *Rhynchospora*, and *Rubus* (he is a co-author of *Rubus* for FNA Volume 9). He has been editor of BBG's journal *Urban Habitats* and *Bartonia* and he is nomenclature editor for *Taxon*. He serves on the Nomenclature Committee of the International Association of Plant Taxonomists. He received his Ph.D. in plant biology from Vanderbilt University in 1997.

Kerry Barringer is curator of the Herbarium at Brooklyn Botanic Garden. He has published on a wide range of tropical and temperate families and contributed treatments of *Aristolochia* and the naturalized species of Thymelaeaceae to the Flora. He also studies the plants of the Northeast (North America) and makes detailed surveys of natural lands for state agencies and private conservation organizations. For the past few years, his fieldwork has concentrated on bryophytes and on the changing flora of the Northeast. Kerry is currently helping edit the Convolvulaceae and Gelsemiaceae for the Flora.



Advancing Digitization of Biological Collections (ADBC)–FNA Involvement

Rich Rabeler, University of Michigan

In 2010, the National Science Foundation announced the first round of competition for the Advancing Digitization of Biological Collections (ADBC) program, a 10-year effort to increase significantly the digital data and online documentation of the vast biological collections that are housed in United States institutions.

The first four grants in the program were announced this past July (see http://www.nsf.gov/news/news_summ.jsp?org=NSF&cntn_id=121015&preview=false).

These grants fund a “hub” at the University of Florida that will serve as the national resource center (see <http://idigbio.org/>) that will work initially with three collaborative Thematic Collection Networks (TCN). As a whole, digitization efforts among the TCNs involve 92 institutions in 45 states.

Two TCNs that were funded include plant collections. Six FNA board members are serving as co-principal investigators or leading subcontracts on these TCNs:

Plants, Herbivores and Parasitoids: A Model System for the Study of Tri-Trophic Associations—34 plant and insect collections.—Craig Freeman (KANU), Rob Naczi

(NY), Rich Rabeler (MICH), and Mike Vincent (MU)

North American Lichens and Bryophytes: Sensitive Indicators of Environmental Quality and Change— 60 bryophyte and lichen collections.—David Giblin (WTU) and Steffi Ickert-Bond (ALA)

For more information about the ADBC program, see <http://idigbio.org/contentnsf-adbc-program-information>.

FNA Website: Info for Volumes Under Production

The FNA website at www.fna.org holds a wealth of useful information, including information about future volumes. Follow the link for Future Volumes and select the Volumes under Production link for contact information on lead and taxon editors, authors, as well as families and genera included in each volume. There also are links to any provisional publications that have been posted. Information from published volumes can be accessed from the home page through the link FNA Online (http://www.efloras.org/flora_page.aspx?flora_id=1) to eFloras.org. Additional information is available for the Contributor's Guide and back issues of the newsletter.

California Academy of Sciences Named Lead Editorial Center

The California Academy of Sciences (CAS) has been named the Lead Editorial Center for Flora of North America Volume 15, under the supervision of co-lead editors Debra Trock and Nancy Morin, with Rebecca Peters as Technical Editor. Volume 15 will contain Boraginaceae, Hydrophyllaceae (provisionally kept separate from Boraginaceae), and Polemoniaceae. The CAS herbarium includes some 2 million plant specimens, with emphasis on vascular plants from North and Latin

America (particularly California and western and southern Mexico), centers of diversity for the Volume 15 families. Polemoniaceae is especially well represented. About 140,000 of their specimens have been databased and are available online. Stanford University's Dudley Herbarium was integrated with CAS collections in the 1960s. CAS is also the Lead Editorial Center for Volume 18, with Debra Trock as Lead Editor and Rebecca Peters as Technical Editor.

Missouri Botanical Garden Hires New Assistant Technical Editor for FNAA

Ariel Roads Buback has been hired as an independent contractor to fulfill the job of assistant technical editor at the Missouri Botanical Garden center for Flora of North America Association. It is anticipated that Ariel will work



closely with lead editor Richard Zander as Volume 28 moves through final editing and production.

Ariel worked briefly with FNAA in 2008 before joining Gateway Greening as the City Seeds Urban Farm Manager. She has since relocated from St. Louis to St. Joseph, MO. We are thrilled to have her back at the FNAA center.

FNA Board Approves Revised Provisional Treatment Guidelines

At the Board of Directors meeting on October 9, the FNA Information Technology Committee submitted a proposal modifying the requirements a manuscript must meet to qualify for posting as a provisional treatment on the FNA website (<http://fna.org>, The Flora: Provisional Publications). This proposal was accepted by the Board. A manuscript that meets the following conditions qualifies to become a provisional treatment if it has been:

- accepted and approved by the taxon editor as an official FNA submission;
- initially tech-edited;
- through regional review, with regional review comments and any additional tech-editing comments addressed by the author and corrections made to the manuscript;

- reviewed once by the bibliographic editor;
- approved by the author(s) and taxon editor for posting as a provisional publication; and
- each of the authors has returned a signed Memorandum of Co-operation (MOC).

Adopting this standard means that additional treatments can be posted. While the focus has been, with one exception, on posting families as they are completed, this has only worked for relatively small families. As an example, in Volume 17, the lone treatment before the recent board meeting was the Paulowniaceae, the only family that had been completed. Added in the last year is Volume 13: FNA Title: Escalloniaceae; Authors: Craig C. Freeman & Felipe Zapata.

Volume Updates

Volume 6 Update: *Robert W. Kiger*

Apodanthaceae: Ready for pages. **Begoniaceae:** Will be ready for pages once one query is resolved. **Bixaceae:** In nomenclatural review. **Calophyllaceae:** In nomenclatural review. **Cistaceae:** Still waiting for *Lechea*; expected soon. **Clusiaceae:** Returned to author for revisions. **Cucurbitaceae:** All reviews received; in tech and taxon edit. **Datisceae:** In nomenclatural review. **Droseraceae:** Returned to taxon editor. **Elatinaceae:** Returned to author for post-review revision. **Frankeniaceae:** Returned to author for revision. **Hypericaceae:** Returned to author

for post-review revision. **Malvaceae:** Still waiting for submission of *Tilia*, *Ayenia*, *Corchorus*, *Grewia*, and *Triumfetta*; expected soon. **Muntingiaceae:** Ready for pages. **Passifloraceae:** Ready for pages. **Podostemaceae:** Returned to author for revision. **Tamaricaceae:** Ready for pages. **Thymelaceae:** In tech edit. **Turneraceae:** Returned to author. **Violaceae:** Returned to taxon editor.

Volume 9 Update: *Luc Brouillet*

Picramniaceae, **Staphyleaceae**, and **Crossosomataceae**, the very small families in this volume, have been indexed and are ready to be put in pages. Nearly 60% of **Rosaceae**

has been indexed. The remaining 40% is accounted for almost entirely by *Crataegus*, with 172 species, and *Potentilla*, with 96 species; once final corrections are approved the family can be moved into pages. All illustrations are complete.

Volumes 10 and 11 Update: *James L. Zarucchi*

Proteaceae (TE: Leila Shultz): treatment delivered by Peter Weston and in initial manuscript preparation.

Buxaceae (TE: Geoff Levin): treatment by Dave Boufford is in post-review stage. **Gunneraceae** (TE: Leila Shultz): treatment by Gordon Tucker is in post-review stage.

Haloragaceae (TE: Leila Shultz): treatment prepared by M.S. Alix and R.W. Scribailo is submitted and in pre-review editing. **Combretaceae** (TE: Dave Boufford): treatment by Walter Judd is in post-review stage. **Lythraceae** (TE: Dave Boufford): treatment prepared by Shirley Graham (and co-author for *Trapa* is C. Barre Hellquist), and is currently in post-review stage. **Myrtaceae** (TE: Dave Boufford): treatment by Leslie Landrum is in post-review stage. **Melastomataceae** (TE: Dave Boufford): treatment by Guy Nesom is in post-review stage. **Fabaceae** (co-TEs: Jay Raveill and Mike Vincent): 852 of the 1374 species have been delivered to date, and treatments with a total of 583 species have been sent for review. **Surianaceae** (TE: Luc Brouillet): treatment by James L. Pringle is in post-review stage. **Polygalaceae** (TE: Jackie Poole): treatment prepared by J. Richard Abbott has been submitted to the taxon editor and is in pre-review stage. **Elaeagnaceae** (TE: Gordon Tucker): treatment prepared by L. Shultz and W.A. Varga is in post-review stage.

Volume 12 Update: *Geoffrey A. Levin and Lynn Gillespie*

Zygophyllaceae (TE: Geoff Levin): treatment by Duncan Porter of the entire family has been submitted and is in preparation for review. **Rhamnaceae** (TE: Deb Trock): treatments by four authors, covering the entire family, are back from review and in preparation to send to the authors. **Celastraceae** (TE: Dave Boufford, Elizabeth Wells): treatments by Ma Jin-shuang (ten of 12 genera) are in review (the remaining 2 genera, formerly in Parnassiaceae, have been through review and revision previously). **Oxalidaceae** (TE: Gordon Tucker): treatment by Guy Nesom of the entire family is out for review.

Euphorbiaceae (TE: Lynn Gillespie, Geoff Levin): treatments of *Argythamnia* by Yocupitzia Ramírez-Amezcuca and *Stillingia* by Michael Huft have been received and are in preparation for review, treatments of *Bernardia* by Mark Mayfield and *Cnidoscolus* by Geoff Levin are out for review, and treatments of *Astraea* and *Croton* by Ben van Ee and Paul Berry and of *Ricinus* by Lynn Gillespie went through review and are in preparation to send back to the authors. Noteworthy are major changes to

Croton taxonomy reflecting the authors' recent revisionary research and Ramírez-Amezcuca's conclusion that *Ditaxis* (and *Chiroptalum*, which is questionably in the flora area) are phylogenetically nested within *Argythamnia* and therefore should be treated as a single genus.

Loasaceae (TE: Geoff Levin): treatment of the entire family by Larry Hufford, Josh Brokaw, and John Schenk is with the authors after preliminary editorial review. Their treatment of *Mentzelia* includes many innovations resulting from their recently completed revision of the genus. **Eucommiaceae** (TE: Geoff Levin): treatment by Mike Vincent of the entire family went through review and is in preparation to return to the author.

Volume 13 Update: *Luc Brouillet*

Volume 13 will contain 13 families and 153 genera. 34% of the genera have been submitted and 30% are in review or revision; 35% of the species have been submitted and 23% are in review or revision.

Nitrariaceae (TE: G. Levin) has completed regional review. **Sapindaceae** (TE: A. Weakley) *Aesculus* and *Ungnadia* are ready for review. *Acer*, from deceased author Delendick, is being revised to conform to FNA guidelines. **Burseraceae** (TE: G. Levin) is in regional review. **Anacardiaceae** (TE: L. Brouillet): regional review is complete, comments compiled, to be sent back to the authors shortly. **Simaroubaceae** (TE: L. Brouillet): not yet submitted. **Meliaceae** (TE: L. Brouillet): regional review complete, comments compiled; one genus will need to be added (author has been informed). Compiled comments and corrections to be sent back to the author shortly.

Rutaceae (TE: N. Morin): Authors have been secured for most genera and are actively working on their treatments. Drafts of *Citrus*, *Dictamnus*, *Phellodendron*, *Triphasia*, and *Tetradium* have been submitted. **Geraniaceae** (TE: G. Tucker): *Geranium* and *Pelargonium* have been submitted and are being prepared for review. **Araliaceae** (TE: L. Brouillet & G. Levin): *Hydrocotyle* is in regional review. **Apiaceae** (TE: L. Brouillet & G. Levin): The largest (63% of species of the volume) and most difficult family, given a dearth of specialists in North America and worldwide (at least, that are able or ready to prepare manuscripts for FNA): 77% of species have been assigned; 19.7% have been submitted. Many introduced genera are being treated and few remain to be assigned. The difficulty lies with the numerous indigenous genera. A generic template has been prepared and distributed to authors, which should help harmonization. **Escalloniaceae** (TE: R. Rabeler): the treatment is provisionally published. **Pittosporaceae** (TE: R. Rabeler): the treatment is provisionally published. **Balsaminaceae** (TE: B. Ford): the treatment is in regional review.

Volume 14 Update: *Robert W. Kiger*

Volume 14 will comprise eight families: Apocynaceae, Convolvulaceae, Gelsemiaceae, Gentianaceae, Hydroleaceae, Loganiaceae, Solanaceae, and Sphenocleaceae. Janet Sullivan has several Solanaceae manuscripts working as well as Kerry Barringer who is working with some from the Convolvulaceae.

Two families in hand: **Convolvulaceae:** treatments being reviewed by taxon editor. **Solanaceae:** 15 treatments in hand and in regional review.

Volume 15 Update: *Nancy R. Morin*

Fouquieriaceae: the treatment of this iconic family has been completed and ready to go for a long time.

Polemoniaceae: Rebecca Stubbs (see separate article) has submitted a draft treatment of *Polemonium*. *Gymnosteris*, *Langloisia*, *Loeseliastrum*, and *Leptosiphon* are in hand. Other Polemoniaceae authors are hard at work. A draft of the family description and key to genera has been completed. **Hydrophyllaceae:** all but three genera have been submitted, and a draft of the family description and key to genera has been completed. We are *still* excited to have *Phacelia* in a late draft form. **Boraginaceae:** we now have many more genera with confirmed authors. Thanks to Richard Halse for taking on *Anchusa*, *Argusia*, *Buglossoides*, and *Pentaglottis*. Mike Simpson and Ron Kelley are brainstorming on how to manage the treatment of *Cryptantha*.

Volume 16 Update: *Nancy R. Morin and Alan Weakley*

Oleaceae and **Verbenaceae:** all have been submitted. Oleaceae has been reviewed and is in revision. Verbenaceae should be going out for review any minute. **Lamiaceae:** 49% of the genera and 41% of the species have been submitted. We were pleased to receive the treatment of *Stachys* from John Nelson.

Volume 17 Update: *Craig C. Freeman and Richard K. Rabeler*

What's exciting: as of Dec. 1, 2011, 57 of 101 treatments covering 506 species have been submitted; this equals 56% of the genera and 54% of the species. All treatments for **Paulowniaceae**, **Scrophulariaceae**, and **Tetrachondraceae** have been received, and most have been reviewed. Eight treatments have been sent for regional review since mid 2011: *Chaenorhinum*, *Chelone*, *Dopatrium*, *Nothochelone*, *Odontites*, *Polypremum*, *Rhinanthus*, and the family description for Tetrachondraceae. *Penstemon* will be distributed for regional review early in 2012. The only new submission since mid 2011 is *Bontia* (submitted by Scott Zona), but good progress was made on draft treatments for *Linaria*, *Mimulus* s.l., and *Pedicularis*. Following recently adopted guidelines, more than a dozen new manuscripts have been posted as provisional

publications on the FNA web site. Genera orphaned in 2011 have been reassigned to new authors: *Bellardia*, *Chloropyron*, *Cordylanthus*, *Dicranostegia*, *Limnophila*, *Orthocarpus*, *Parentucellia*, *Stemodia*, and *Triphysaria* to Elizabeth Zacharias, University of California, Berkeley, and *Littorella* and *Plantago* to Alexey Shipunov, Minot State University.

Volume 18 Update: *Debra K. Trock*

Rubiaceae (TE: Craig Freeman): treatments of 14 of 38 genera have been submitted and are in the hands of the taxon editor. Seven (7) small genera remain unassigned *Crucianella* (1), *Cruciata* (2), *Crusea* (1), *Diodia* (4), *Mitracarpus* (2), *Richardia* (2), and *Spermacoce* (9).

Lentibulariaceae (TE: Leila Shultz): entire family submitted and out for regional review. **Aquifoliaceae** (TE: Dave Boufford): Guy Nesom has a draft treatment prepared by Ross Clark, but no report on progress. **Campanulaceae** (TE: Lynn Gillespie): treatment for *Downingia* (13 species) was recently submitted by Lisa Schultheis and is in the hands of the Taxon Editor. **Diervillaceae** (TE: Jay Raveill): submitted. **Caprifoliaceae** (TE: Jay Raveill and Gordon Tucker): in process. *Symphoricarpos* submitted, initial editing completed, 02 version at MO. **Linnaeaceae** (TE: Jay Raveill and Gordon Tucker): family description and key to genera written. **Menyanthaceae:** treatment for the entire family was recently submitted by Nicholas Tippery and is undergoing initial technical editing.

Volume 28 and 29 Update

Bryophyte Editorial Center Update: *Richard H. Zander*
Volume 28 is nearing completion. The memorandum of understanding signed for sharing illustrations (same format as FNA) with the proposed *Illustrated Moss Flora of the Aleutian Islands* (funded by U.S. Fish and Wildlife Service) has resulted in 76 extra illustrations for this volume.

In Volume 28, a total of 98% of the genera and 98% of the species has been submitted, with 93% of the genera and 91% of the species completely done (ready to be sent to the tech editor or having already been sent). Introductory chapters for Volume 28 will be the Preface (R. Zander); Classification and Phylogeny of the Mosses (J. Shaw) now in final edit; and, Keys to the Genera of Mosses (D. Vitt and W. Buck), in progress. Taxon Editor Terry McIntosh continues “heavy lifting” with Brachytheciaceae and Mniaceae, difficult families. We hope to have an Errata page for Volume 27 included in Volume 28.

The website for the bryophyte volumes that mounts all treatments and illustrations after scientific review is at <http://www.mobot.org/plantscience/bfna/bfnamenu.htm>. The portion on the BFNA website allotted to Volume 27 has been shut down and readers rerouted to the eFlorae online version, and the same will occur for

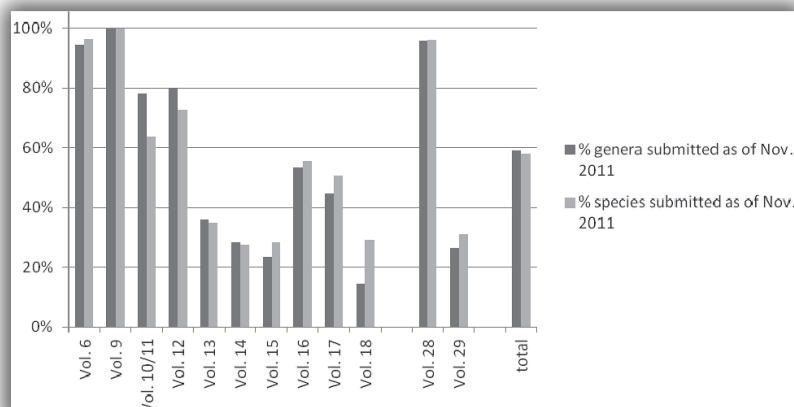
Volume 28 when the eFloras version (or an official FNA site version) is available.

Vol. 29, hepatics and hornworts: A total of 29% of the genera and 34% of the species are submitted, and 11% of the plates are finished. Authors have been apprised that their volume will be the focus of 2011 and thereafter. Vadim Bakalin (Institute of Biology and Soil Science,

Vladivostok) was at Missouri Botanical Garden in late 2010, working on orphaned hepatic groups he has recently agreed to do for FNA. This was his second visit, again funded by an FNA microgrant. He has submitted most of these treatments. He and his Korean student Choi Seung Se will visit in late 2012, when Choi will do *Porella*.

FNAA Manuscript Submission Progress Snapshot: How Are We Doing?

Authors do a huge amount of work in order to prepare treatments for *Flora of North America*—reviewing literature, looking at specimens, doing some of that last-minute fieldwork, or finally getting that new species published. Once the treatments have been submitted, there are many, many steps required to complete work on each volume. From the point of view of monitoring our progress, however, the pivotal point is when



we receive the manuscript from the author. This chart shows the current status of manuscript submission for each volume. We hope there are lots of treatments that are *almost* finished, and we know that many of the manuscripts in hand are far along on the path to publication, but we

thought this chart would be of interest and a good way for readers to get a sense of our progress.

Electronic Resources

Panarctic Flora

The Panarctic Flora checklist 2011 version 1.0 is now online at <http://gbif.no/paf>. FNA authors working on genera with arctic components will find an accepted name, typification, synonyms, chromosome number(s), distribution, and, most importantly, notes that make clear the taxonomic problems for which consensus could not be achieved

The Jepson eFlora

An important advance in systematics of California plants: The Jepson eFlora is now on line. See <http://ucjeps.berkeley.edu/IJM.html>. The Jepson eFlora initially parallels the second edition of *The Jepson Manual, Vascular Plants of California*, which is the work of 300 authors and editors being published by the University of California Press. The eFlora includes all of the taxonomic treatments of the print Manual and has in addition treatments for taxa that were excluded from the print Manual because of doubts about naturalization status. Interactive distribution maps linked to specimen data from the Consortium of California

Herbaria are included. Words that were abbreviated to save space in the print Manual have been expanded. Keys are linked to the treatments to which they refer. Accepted names and synonyms can be searched for. The eFlora is linked to the Jepson Online Interchange, and from there to numerous electronic tools.

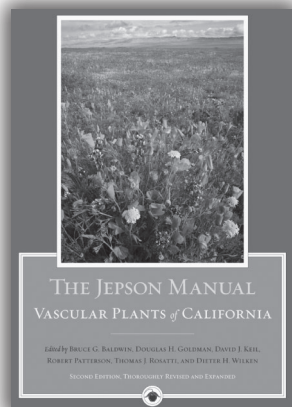
The Jepson Herbarium will work with the treatment authors and users to keep the eFlora in sync with advances in California botanical knowledge.

Updates in Guidelines for Publishing New Taxa

At the IBC nomenclature sessions held in Melbourne, Australia, in July, two important decisions were made involving publication of new taxa. For the first time, the *Code* will permit electronic-only publication of names of new taxa; no longer will it be required to deposit paper copies in libraries. Also, the requirement for a Latin validating diagnosis or description was changed to allow either English or Latin for these essential components of the publication of a new name.

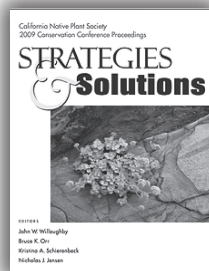
Publications

The Jepson Manual: Vascular Plants of California, second edition by Bruce Baldwin, Douglas H. Goldman, David Keil, Robert Patterson, Thomas J. Rosatti (eds.). Jan 2012. (ISBN 9780520253124, hbk.). University of California Press. (Orders: <http://www.ucpress.edu/>). \$100 (20% prepublication discount available using code 12W7351, discount available only for books shipped to North America, South America, Australia, and New Zealand). 1600 pp.



From the publisher: The second edition of *The Jepson Manual* presents updated taxonomy and distributions of 7600 species, subspecies, and varieties, two-thirds of which have been illustrated. A new chapter on geologic, climatic, and vegetation history of California joins the introductory chapters of the first edition.

Strategies & Solutions, the 2009 CNPS Conservation Conference by John W. Willoughby, Bruce K. Orr, Kristina A. Schierenbeck, and Nicholas J. Jensen (eds.). 2011. (ISBN-10: 0-943460-50-6; ISBN-13: 978-0-0943460-50-5, pbk.). California Native Plant Society Press (Orders: <http://www.cnps.org/>). \$65, 488 pp., 8.5" × 11".



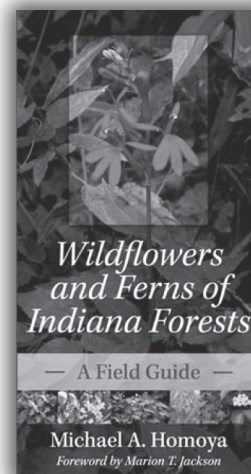
From the publisher: *Strategies & Solutions, the 2009 CNPS Conservation Conference*, brought together hundreds of botanical experts, artists, amateurs, students and policy makers. The Conference Proceedings compiles 51 papers on topics ranging from rare plant introduction, regional conservation planning, habitat restoration, and mapping the vegetation of California.

Field Manual of the Michigan Flora: A Comprehensive Field Guide to Michigan's Wild Growing Seed Plants by Edward G. Voss and Anton A. Reznicek. 2012. (ISBN 978-0-472-11811-3, hbk.). The University of Michigan Press, 839 Greene Street, Ann Arbor, MI 48104-3209. (Orders: <http://www.press.umich.edu/>). \$25, 1008 pp., 2,676 maps, 7" × 10".

From the publisher: *Field Manual of Michigan Flora* is the most up-to-date guide available for all seed plants

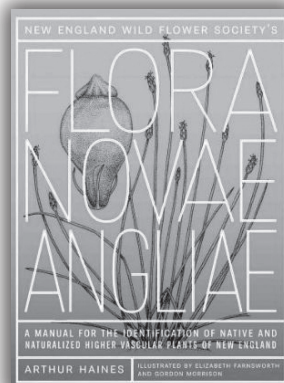
growing wild in Michigan. Significantly expanding and updating the three-volume *Michigan Flora* published four decades ago, the book incorporates the discoveries of numerous additional species, recent systematic research, and a vast trove of new information on the shifting distributions of Michigan species. It presents concise identification keys, information about habitats, and completely updated distribution maps for all the seed plants, native or naturalized, that have been recorded from the state, fully treating over 2,700 species. All non-native species are included with notes on their first discovery in the state and comments on invasive tendencies. Rare native species that appear to be declining or to have shrinking ranges are also noted. This book is an essential reference for anyone interested in appreciating Michigan's natural heritage and understanding our ever-changing environment.

Wildflowers and Ferns of Indiana Forests: A Field Guide by Michael A. Homoya and foreword by Marion T. Jackson. 4 Nov 2011. (ISBN 978-0-253-22325-8, pbk.). Indiana Natural Science Series. University of Indiana Press, 601 N. Morton Street, Bloomington, IN 47404-3797. (Orders: 800-842-6796, Toll-Free Orders; <http://www.iupress.indiana.edu/>). \$22.95, 464 pp., 520 color illus., 40 b/w illus., 2 maps, 4.25" × 8.25".



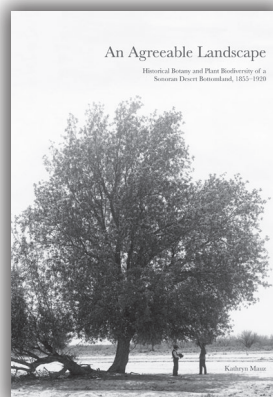
From the publisher: This beautifully illustrated guide identifies nearly 300 common plants in Indiana's most prominent ecosystem—the Eastern Deciduous Forest. For ease of identification, the plants are arranged by flower color or growth form, providing a convenient way to distinguish a great majority of plants in any given woodland. Generous treatment is given to all major vascular plant groups of the forest, such as wildflowers, ferns, shrubs, trees, grasses, and sedges. Michael A. Homoya not only helps with identification, but also offers information on a plant's habitat, flowering period, familial relationships, biology, and connections to Indiana. For the garden enthusiast and habitat restorer, there is a section on landscaping and natural community restoration using native forest plants.

New England Wild Flower Society's Flora Novae Angliae: A Manual for the Identification of Native and Naturalized Higher Vascular Plants of New England by Arthur Haines; illustrated by Elizabeth Farnsworth and Gordon Morrison. 31 Oct 2011. (ISBN 978-0-300-17154-9, hbk.). Yale University Press, P.O. Box 209040, New Haven, CT 06520-9040. (Orders: 203-432-0960; <http://yalepress.yale.edu/>). \$85, 1008 pp., 5945 b/w illus., 7" x 9".



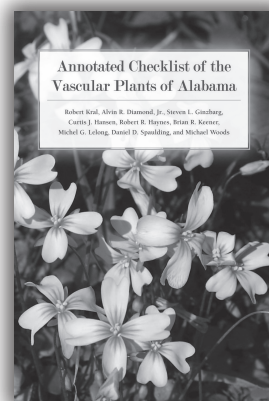
From the publisher: This comprehensive manual offers accurate, up-to-date, and clear information for identifying New England's remarkable array of tracheophytes (vascular plants, excluding mosses). With fully researched entries on some 3,500 native and nonnative species, the book is the first in decades to provide a complete and correct botanical reference for the region's noncultivated plants. The volume includes many new species not documented in New England before, while also excluding many species that have erroneously appeared in earlier manuals.

An Agreeable Landscape: Historical Botany and Plant Biodiversity of a Sonoran Desert Bottomland, 1855–1920 by Kathryn Mauz. 21 June 2011. (ISBN 13: 978-1-889878-35-5; ISSN 0833-1475; pbk.). SBM #35. Botanical Research Institute of Texas, 1700 University Dr., Fort Worth, Texas 76107-3400, U.S.A. (Orders: <http://www.brit.org/brit-press/books/sbm-35; orders@brit.org; 817-332-4441 x 33>). \$30, 234 pp., b/w and color fig., 6.5" x 9.5".

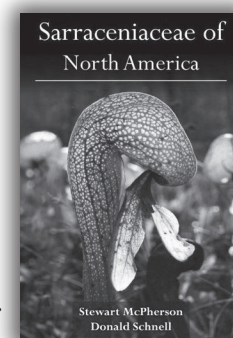


Annotated Checklist of the Vascular Plants of Alabama by Robert Kral, Alvin R. Diamond, Jr., Steven Ginzburg, Curtis J. Hansen, Robert R. Haynes, Brian R. Keener, Michel G. Lelong, Daniel D. Spaulding, Michael Woods. 8 August 2011. (ISBN 13: 978-1-889878-34-8; ISSN 0833-1475; pbk.). SBM #36. Botanical Research Institute of Texas, 1700 University Dr., Fort Worth, Texas 76107-3400, U.S.A. (Orders: <http://www.brit.org/brit-press/books/sbm-36; orders@brit.org; 817-332-4441 x 33>). \$18, 112 pp., 2 b/w figures, 1 map, 6.5" x 9.5".

From the publisher: *The Annotated Checklist of the Vascular Plants of Alabama* presents the first comprehensive statewide checklist of vascular plants for Alabama in over 100 years. Despite numerous county-level and regional plant checklists, Alabama has lacked a comprehensive and modern checklist or flora since Charles Mohr's 1901 publication of *Plant Life of Alabama*. This compilation is based on thousands of voucher collections made primarily by the authors over decades of field work in the state. This annotated checklist of vascular plants includes notes on rarity, nativity and selected synonyms. The combined total of 3,743 species and 1,120 genera in 204 families indicates considerable floristic variety and elevates Alabama high among states with great overall plant diversity. As plant research and discovery in Alabama continues forward, this list will serve as a baseline for understanding the diversity of plant life in the state and will prove useful to botanists, conservation biologists, ecologists and anyone interested in or working on vascular plants in Alabama.



Sarraceniaceae of North America by Stewart McPherson and Donald Schnell. November 2011. (ISBN: 978-0-9558918-6-1, hbk.). Redfern Natural History Productions, 61 Lake Drive, Hamworthy, Poole, Dorset BH15 4LR, ENGLAND, UK. (Orders: inside UK 01202 686585, outside UK +44 1202 686585, www.redfernnaturalhistory.com, sales@redfernnaturalhistory.com). £34.99, 808 pp., 571 images.



From the publisher: *Sarraceniaceae of North America* examines all species of *Darlingtonia* and *Sarracenia* from the United States and Canada, including eighteen new *Sarracenia* varieties and forms, one incompletely diagnosed *Sarracenia* taxon, and one new form of *Darlingtonia*.

This work is part of an exquisitely beautiful and uniquely detailed two volume monograph that provides the first complete study of the full diversity, ecology and taxonomy of all recognized species of the three genera of Sarraceniaceae (*Darlingtonia*, *Heliampora*, and *Sarracenia*).

Complete with up-to-date conservation assessments,

distribution maps and accounts of the diversity, wild ecology and habitats of all species, this monograph is a major and definitive taxonomic revision of all three genera of true pitcher plants of the New World.

Visually beautiful and comprehensive, these books

will appeal to both general readers and specialists who are interested in the natural history, diversity, ecology and relationships of *Darlingtonia*, *Heliamphora*, and *Sarracenia*.

OBITUARIES

Paul A. Fryxell

1927–2011

Paul Arnold Fryxell died in Claremont, California, on Monday, July 11, 2011, as a result of heart failure. He was born February 2, 1927 in Moline, Illinois, the son of Hjalmar Edward Fryxell and Hulda Eunice (Peterson) Fryxell. Residing in Texas from 1965 to 2005, later he and his wife moved to Claremont where he continued his botanical work at Rancho Santa Ana Botanic Garden. He is survived by his wife of 63 years, Greta Albrecht Fryxell, and their three children. There are also five grandchildren, five great-grandchildren, and six nephews.

Dr. Fryxell received his education at Moline High School and Augustana College in Rock Island, Illinois (class of 1949); subsequently he received the M.S. and Ph.D. degrees at Iowa State University. First employed by the New Mexico Agricultural Experiment Station (Las Cruces, New Mexico), he then taught (1955–1957) at the Municipal University of Wichita (Wichita, Kansas) in the Department of Botany and Bacteriology. Most of his professional career was spent as a research scientist with the Agricultural Research Service of the U.S. Department of Agriculture, first in Tempe, Arizona, and then at Texas A&M University in College Station, Texas. Upon retirement in 1994 he moved to Austin, Texas. He was appointed Honorary Curator at The New York Botanical Garden in 1993, and also that year accepted a position as Adjunct Professor (in the then Department of Botany) at the University of Texas. Most of his extensive plant collections are now housed at The New York Botanical Garden and the University of Texas. During World War II, he served in the Army Air Force (1945–1946), part of which time was spent in southern Germany (Bavaria) at the Oberpfaffenhofen Air Base, where he helped entertain war-weary troops by playing saxophone for the then popular “big band” music. Later, he received an honorable discharge and returned to his college education.

In his professional career, he published widely in the technical scientific literature, including more than 200 papers in scientific journals, several books (notably *The Natural History of the Cotton Tribe*, the *Malvaceae of Mexico*, and a monograph on *Pavonia*), and contributions to numerous floristic works (e.g., *Flora of the Lesser Antilles*, *Flora Meso-Americana*, *Flora Novo-Galiciana*, and others). He named more than 400 species of plants, many genera, and infrageneric taxa. He was author of treatments of most of Malvaceae for Volume 6 of *Flora of North America north of Mexico*.

He served as President of the American Society of Plant Taxonomists (1983–1984) and of the Society for Economic Botany (1988–1989). Named a Fellow of the American Association for the Advancement of Science and of the Texas Academy of Science, he was honored with the Cotton Genetics Research Award in 1967 and the Henry Allen Gleason Award in 1989 (for an outstanding recent publication in the field of plant taxonomy, plant ecology, or plant geography). Paul Fryxell was a Fulbright Scholar in 1993, studying in Argentina. His biography is listed in *American Men and Women of Science*, *Who's Who in the World*, and several similar biographical references.

Fryxell's research work took him to many parts of the world as a botanical explorer, including extensive work in Mexico and Australia and additional fieldwork in Central America, Venezuela, and Brazil. He specialized in the plant family Malvaceae and was sought after as a consultant for his expertise with this group of plants.

Paul Fryxell was an active member of Unitarian Universalist churches when he lived in Arizona, Texas, or California, serving in various capacities. Most recently he served as coordinator of the BUUK GRUUP of the Monte Vista Unitarian Universalist Congregation, a book club in which he enjoyed the lively discussions.

Edward E. Terrell

1923–2011

Dr. Edward Everett Terrell of Frederick, Maryland, passed away at Homewood Retirement Community on August 1, 2011. He and his wife lived in Silver Spring, Maryland for over 40 years before moving to Frederick.

Born on October 6, 1923 in Wilmington, Ohio, he was the son of the late Edward Everett Terrell Sr. and Susanna McKay Terrell.

He received an undergraduate degree from Wilmington College, a M.S. degree from Cornell University, and a Ph.D. degree from the University of Wisconsin. He taught biology at Pembroke State University and Guilford College in North Carolina. He retired after 25 years of service as a taxonomic botanist with the Agricultural Research Service of the U.S. Department of Agriculture,

Beltsville, Maryland. He continued botanical research after his retirement with the Department of Botany at University of Maryland and as a research collaborator with the Smithsonian Institution, Washington, D.C. He was a lead or contributing author for over 100 publications in botanical journals. He had completed treatments of seven genera in Rubiaceae for Volume 18 before his death.

He is survived by his wife of 60 years, Bessie Zimmerly Terrell, a son, a daughter, and four granddaughters.

Norton G. Miller

1942–2011

Norton Miller, a long-time associate with FNA as taxon editor and author of the bryophyte volumes, passed away recently. An obituary is planned for the next newsletter.

Meetings/Workshops

Ninth Arizona Botany Meeting

February 18, 2012

Arizona-Sonora Desert Museum (ASDM)

“Habitat and Rare Plant Conservation”

Hosted by ASDM, the Desert Botanical Garden, and the Arizona Native Plant Society with the goal of fostering cooperation and collaboration, and sharing ideas, among the many people who share an interest in the flora of Arizona and surrounding areas within the Southwest. The registration fee for the meeting is \$35 and will include an entrance pass to the Desert Museum, lunch, refreshments (coffee & tea), and a 10% discount at the Museum's Gift Shops. A reduced fee of \$15 is offered to undergraduate and

graduate students. Early registration for the meeting will be due by February 6. Late registration fee (after Feb 6) is \$45 (\$25 students). Registration will not be accepted after February 13, 2012. At a separate cost of \$18, a social hour will follow the afternoon sessions including a cash bar and dinner. Information, preliminary programs and registration materials will soon be posted on the ASDM website at <http://www.desertmuseum.org/azbotany_2012>http://www.desertmuseum.org/azbotany_2012.

Botany 2012—The Next Generation

July 7–11, 2012, Columbus, Ohio

Greater Columbus Convention Center, Columbus, Ohio
For more information visit <http://www.botanyconference.org/>

59th Annual Systematics Symposium, Missouri Botanical Garden

October 12–13, 2012, St. Louis, Missouri

With support from the National Science Foundation
Organizing committee: Nick Turland

For more information visit <http://www.mobot.org/MOBOT/research/symposium/welcome.shtml>