

Volume 4, Number 1
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Nancy R. Morin and Judy Unger, co-editors

FLORA OF NORTH AMERICA NEWS

News from the Organizational Center

The *revised Guide for Contributors* was mailed to confirmed authors and reviewers early in February. Instructions and suggestions are presented in outline form, and we tried to address all of the questions that have arisen to date during preparation and evaluation of manuscripts.

At the end of January confirmed **Volume 2** authors were sent maps, sample annotation labels (two pads tucked in the bottom of the envelope), instructions for illustrations, lists of names accepted in their families in the 25 major regional floras listed in the Guide, and other necessary reference material needed to complete their treatments. **Volume 10** confirmed authors were sent the same packet of materials in late February.

If we missed you, or if your packet was incomplete, please let us know so that we can mail you the appropriate materials.

Letters of invitation were sent in early March to potential authors for smaller families in Volumes 4-8. Author assignments will again be discussed at the June editorial committee meeting. Please don't be shy about letting any one of the editors know about your interests if you would like to be considered for writing or reviewing a treatment.

We now have a **FAX machine** at FNA Central. If you need to send us something quickly, fax it to (314) 577-9558.

Staff changes

Laurie Klingensmith has moved to St. Louis from Las Cruces and is drawing illustrations for FNA from specimens as authors send information. Laurie is taking special care with maintaining records on the specimens used, so that the illustrations are properly vouchered. She is also experimenting with plate formats so that comparative details of many taxa can be shown on one plate.

Helen Dates has been promoted to Editorial Technician and continues her detailed work on the non-botanical editing of the manuscripts (and anything else the rest of us need her skills for). It's like having our own personal English teacher here at FNA Central.

Editorial Committee News

The Editorial Committee will hold its next meeting at University of Alberta, Edmonton, on June 2 and 3, 1990.

James E. Eckenwalder of the University of Toronto has agreed to edit Cupressaceae and Taxodiaceae for FNA. As you all know, John Thieret has been working hard on gymnosperm treatments for many months now. With Jim's help we will have a much better chance of meeting our revised deadline of *April 30* for having manuscript to Oxford University Press.

Another item of good news is that **Ivan Valdespina**, a graduate student working with John Mickel at New York Botanical Garden, has agreed to write Selaginellaceae.

ONGOING FLORISTIC PROJECTS

The manuscript of the second edition of **Flora Europaea** volume 1 was delivered to Cambridge University Press in June of 1989. The revision and editing was done by John Akeroyd at the University of Reading under a grant from the Linnean Society's Flora Europaea Trust Fund. Volume 1 includes Pteridophytes, Gymnosperms, and Salicaceae to Platanaceae. Since publication of the first edition of volume 1, over 200 new species and 140 new subspecies have been described, 25 species have been discovered as new to the area, and 34 new adventives have been found from families in that volume. The Flora Europaea Editorial Committee now consists of J. R. Akeroyd, F. A. Bisby, N. A. Burges (Chairman), A. O. Chater, J. R. Edmondson (Secretary), V. H. Heywood, S. L. Jury, D. M. Moore, and S. M. Walters. The committee will continue with the revision of further volumes of the Flora and, if sufficient funding is secured, the system of regional advisers will be reactivated. The new address for the Flora Europaea Secretariat is: Liverpool Museum, William Brown St., Liverpool L3 8EN. Tel. 051 207 0001 ext. 209.--summarized from *The Linnean* 6(1): 14, 1990.

NEWS AND NOTES

The city of **Austin** has donated a 60-acre **botanical garden** to the Texas Botanical Garden Society. The garden will be directed by Dr. E. Arthur Bell, who for seven years has been the director of the Royal Botanic Gardens, Kew. The technical director of the new garden is Dr. Marshall Johnston.

Arizona State University has announced the establishment of a Department of Botany, which will offer B.S., M.S. and Ph.D. Degrees in Botany and participate in B.S. and M.N.H.S. Degrees jointly with the Departments of Microbiology and Zoology. Also, a joint program offering M.S. and Ph.D. degrees in Molecular and Cellular Biology is being planned. The faculty invites interested students to contact them personally for information. In addition to newly expanded, modern laboratory facilities, the department has field access to desert, chaparral, and mountain communities through the Sierra Ancha Research station near Lake Roosevelt. Cooperative research with two USDA laboratories located three miles from campus is encouraged. The U.S. Forest Service also has a division of the Rocky Mountain Range and Experiment Station on campus and additional facilities are available at the Desert Botanical Garden located two miles from campus.

The **National Museum of Natural Sciences of Canada** has a new mailing address: P. O. Box 3443, Station "D", Ottawa, Canada, K1P 6P4. The herbarium is still at the same street address but the above should be used as its mailing address.

The **Carnegie Museum of Natural History** is presently conducting an inventory reduction sale of all available back issues of its scientific publications. These include *Annals of Carnegie Museum*, *Bulletin of Carnegie Museum of Natural History*, *Memoirs*, and *Special Publications of Carnegie Museum of Natural History*. These publication series include articles on botany as well as anthropology, entomology, herpetology, mammalogy, ornithology, paleontology, and other natural history disciplines. Request copies of the appropriate lists, stating your interests, from: Office of Scientific Publications, The Carnegie

Museum of Natural History, 4400 Forbes Ave., Pittsburgh, PA 15213-4080.

Agriculture Canada has, for the past 20 years, been developing a permanent collection of taxonomically significant reprints on vascular plants, particularly those concerned with classification rather than theoretical topics. They wish to remind colleagues of their continued interest in receiving such reprints. Please send to Mr. F. J. Beales, Curator, Vascular Plant Reprint Collection, Biosystematics Research Centre, William Saunders Building - Agriculture Canada, Ottawa, Ontario, Canada K1A 0C6.

The Davies Herbarium (DHL), University of Louisville, has resumed normal operation after a two year hiatus. The herbarium has moved to a new facility and now has ample space in which to carry out a full range of herbarium functions. A small endowment has been obtained, and this provides adequate funding for general operating expenses. The herbarium contains approximately 35,000 specimens of vascular plants of Kentucky and the southeastern United States. Voucher specimens from systematic studies of *Malacothrix* (Asteraceae: Lactuceae) are also housed at **DHL**. Inquiries concerning loan of specimens or visits to the facility should be addressed to W. S. Davis, Curator, Department of Biology, University of Louisville, Louisville KY 40292. 502/588-6771.

Loy R. Phillippe (Ph.D. 1978, University of Tennessee, Knoxville) is now Collections Manager of the vascular plant (170,000+ specimens) and fungi (50,000+ specimens) herbaria at the **Illinois Natural History Survey**, Champaign, Illinois. The vascular plant collection is primarily from Illinois. The fungi collection is well represented from throughout the United States and Canada with major emphasis on plant pathogenic fungi of the Midwest. The fungi collection also contains some fungi from the neotropics. Colleagues are encouraged to request loan material for appropriate research projects. --Loy R. Phillippe

John B. Nelson (Ph.D. 1982, Florida State University) is now Curator of the **Andrew Charles Moore Herbarium** of the University of South Carolina. Currently, **USCH** has exceeded 50,000 accessioned specimens, mostly vascular plants of South Carolina and the southeastern U.S.A., and also including a large collection of mosses. Colleagues are encouraged to request loan material for appropriate research projects, and we anticipate accelerating our exchange program in the coming years.--John B. Nelson

Patricia Barlow at **University of New Mexico** is making good progress with gathering botanists' BITNET addresses. For a list write her at Department of Biology, University of New Mexico, Albuquerque, NM 87131, (PBARLOW@UNMB). Timothy K. Lowrey is now settling in at University of New Mexico Department of Biology.

CONSERVATION NEWS: Two Lilies are Endangered

Lemon lily, *Lilium parryi*, is an attractive, intriguing, and commercially valuable member of Arizona's flora. Lemon lily is a showy herbaceous perennial that can reach a height of 40 inches. The leaves are lance-shaped and arranged in whorls or alternately along the stem. The flowers look just like an Easter lily flower, except that *Lilium parryi* flowers are lemon yellow and have red spots in the throat. In addition to its southeastern Arizona locations, lemon lily also occurs in the mountains of

southern California.

A variety of threats faces this species. Because the plants are so attractive, commercial collectors take the plants and seed for artificial propagation. Collection not only reduces the already small population sizes but also disturbs the fragile habitat. Trampling by visitors interested in seeing this species in the wild could also be a problem. In the past, catastrophic flash flooding has nearly eliminated two populations. Some biologists believe that wildfires contribute to the severity of the flooding. Perhaps some controlled burns will be necessary to reduce the potential effects of fires. Diversion of water for human uses away from the habitat and placer mining may cause the loss of populations. The Coronado National Forest, the Nature Conservancy, and the Fish and Wildlife Service are working cooperatively to develop a management plan for this species. -- from an article by Sue Rutman, in **The Plant Press**, Vol.13 No.3, 1989

If there is a fate worse than death, it may have befallen a population of western lily (*Lilium occidentale*). Standing 2 1/2 to 3 1/2 feet tall and bearing nodding crimson to deep-red flowers with greenish centers and maroon spots, western lily is one of the Pacific Northwest's most beautiful flowers. One of 42 historically known populations of this rare and elegant species now lies entombed under the agent of its extinction, a public restroom. The restroom serves visitors to an Oregon state park's main attraction, a botanical garden.

Although few populations of western lily have met such an ignominious demise, many have disappeared or are in decline as a result of increasing human disturbance of their coastal bogland habitats. Of the species' historically known populations--all situated in extreme northwest California or extreme southwest Oregon--at least nine are extinct, at least seven are declining, and at least eight face imminent extinction, according to a January 1989 report by Stewart T. Schultz of the University of British Columbia. --from an article by Russell D. Stafford, in **Plant Conservation**, Vol.4 No.4, 1989.

RECENT PUBLICATIONS

CAMBRIDGE UNIVERSITY PRESS has pamphlets available entitled "New and Recent Books in Plant Science and Agriculture." One of the many interesting books they list is **Americans and Their Forests**, A Historical Geography, by Michael Williams, University of Oxford. In this magisterial and unprecedented book, Michael Williams tells us the meaning of the forest in American history and culture; he describes and analyzes the clearing and use of the forest from pre-European times to the present, and he traces the subsequent regrowth of the forest since the middle of the twentieth century. (excerpted from the pamphlet) 1988, 736 pp., 33247-8, hardcover, List: \$49.50, Discount: \$39.60.

Herbs, Spices, and Medicinal Plants: Recent Advances in Botany, Horticulture, and Pharmacology Volume 4 Edited by Lyle E. Craker and James E. Simon, is available from Oryx Press in Phoenix, Arizona (1-800-457-ORYX). Topics include: Botanical Nomenclature of Medicinal Plants; Excerpts of the Chinese Pharmacopoeia; and Phytogeographic and Botanical Considerations of Medicinal Plants in Eastern Asia and Eastern North America. November 1989, 272 pages, 6 x 9, clothbound, illustrated, ISBN 0-89774-363-6, \$69.50

Ferns and Fern Allies of Canada, by William J. Cody and

Donald M. Britton. Canadian Government Publishing Centre, Ottawa, Canada K1A 0S9, paperbound. English version: ISBN 0-660-13102-1, 430 pp.; French version: ISBN 0-660-92527-3, 452 pp. Either available in Canada for \$38.50 + \$2.75 (Canadian), elsewhere for \$46.20 + \$2.75 (U.S.). This marvelous new book, available in identical French and English versions, is a must for the libraries of all botanists interested in North American pteridophytes. Beyond being the only detailed account of the species of ferns and fern allies growing in Canada, the book provides a summary of the systematic research on each group, with an extensive bibliography. At the same time a lengthy, comprehensive introduction explains to the amateur or neophyte not only the standard "how to use this book," but also the basics of biosystematics and how information from a variety of sources affects the systematics and nomenclature of taxa. The keys and descriptions are simple and clear and the glossary, distribution maps, and numerous drawings should prove a great help to users. For those seeking more detailed knowledge not found in most floras, the often lengthy discussions of alternative taxonomic interpretations, hybridization, and the compilation of cytological information will prove invaluable.

Unfortunately, the manuscript was completed in 1983. This delay in publication necessitated a second, explanatory introduction to be added, which includes examples of changes in our knowledge of Canadian pteridophytes not in the main portion of the text. A second, lengthy bibliography of references published since 1983, not referenced in the text, supplements the already extensive literature cited. Although for most genera the refinements in our understanding of Canadian ferns during the past seven years will not detract from the usefulness of the treatments, in a few groups, such as *Botrychium*, the existing text requires extensive revision. However, in spite of the numerous studies involving taxa growing in Canada that have appeared of late, it is amazing how well the text has already withstood the test of time, during the years prior to publication. This excellent book is clearly more monographic in nature than most floristic works and the authors should be congratulated on their insightfulness and achievement. --reviewed by G. Yatskievych (Missouri Botanical Garden).

Intermountain Flora Volume 3, Part B--The Fabales, by Rupert C. Barneby, chronologically the fourth volume to appear in the series, includes a synoptical key to the families of the Fabales, illustrations for all the 286 species treated, and 27 nomenclatural innovations. (27 December 1989; ISBN 0-89327-346-5; Clothbound, Acid-free paper; x, 280 pp. U.S. Orders: \$61.65; Non-U.S. Orders: \$63.20, includes postage and handling.) Rupert C. Barneby is a recognized authority on the Leguminosae, among whose previous landmark contributions are the "Atlas of North America Astragalus" (1964, 1188 pp.), "Dalea Imagines" (1977, 892 pp.), and "The American Cassiinae" (1982, 918 pp.). He has received the Distinguished Service Award of The New York Botanical Garden (1965), the Henry Allan Gleason Award of The New York Botanical Garden (1980), and the Asa Gray Award of the American Society of Plant Taxonomists (1989).

Flowering Plants, Nightshades to Mistletoe, by Robert Mohlenbrock, is the sixth volume to be published in The Illustrated Flora of Illinois series. 240 pp, ISBN 0-8093-1567-X, \$40 plus \$2 postage and handling. Order from Southern Illinois University Press, P.O. Box 3697, Carbondale, Illinois 62902-3697. 618/453-6633; fax 618/453-1221.

The Vascular Flora of Isla Socorro, Mexico, by Geoffrey A. Levin and Reid Moran, has just been published by the San Diego Natural History Museum. It is 71 pp., paper bound, \$11.00 plus \$1.50 postage and handling in the U.S., \$2.50 outside the U.S. The San Diego Society of Natural History Botanical Publications includes other books of general interest, such as Gould and Moran's *The grasses of Baja California, Mexico*. To order or to request a list of publications write Library, San Diego Natural History Museum, P.O. Box 1390, San Diego, California 92112.

Pembina Hills Flora, by H. H. Marshall. 83 pp, illustrated, \$10.95 each plus \$3.00 for postage and handling. Order from Morden and District Museum, Inc., P. O. Box 728, Morden, Manitoba, Canada R0G 1J0. 204/822-4150.

Plant Taxonomy, the Systematic Evaluation of Comparative Data, by Tod F. Stuessy, has been published by Columbia University Press. 27 photographs and 120 line drawings, 512 pp. ISBN 0-231-06784-4. \$60.00, plus \$3.00 per book for shipping and handling. Order from Order Department, Columbia University Press, 136 South Broadway, Irvington, New York 10533.

Edible Wild Plants is a 60 minute video by Jim Duke and Jim Meuninck. It includes segments on identification, foraging tips, poisonous plants, ethnobotany, and recipes. Available from CRC Press Inc., 2000 Corporate Blvd., N.W. Boca Raton, Florida 33431 for \$49.95 (\$59.00 outside the U.S.).

The Hunt Institute for Botanical Documentation has recently published a **Register of Pennsylvania Biologists**, compiled and edited by T.D. Jacobsen. It includes four parts: The Register listing itself, and three indexes. The more than 540 descriptive entries are arranged alphabetically by surname and are indexed by specialty, institution, and geographic location within the state. The database will soon be available through the Carnegie Mellon University Library Information System (LIS), which can be accessed via the Internet, including NSF-Net and the Pennsylvania high-speed data communication network PREPnet (Pennsylvania Research and Economic Partnership Network). Order the printed **Register** from the Hunt Institute, Carnegie Mellon University, Pittsburgh, Pennsylvania 15213-3890; price \$10 prepaid, postpaid.

The European Garden Flora III, Dicotyledons (Part 1), Casuarinaceae to Aristolochiaceae, edited by S. M. Walters et al., has just been published by Cambridge University Press. 474 pp., with index and glossary. This series provides a "manual for the identification of plants cultivated in Europe, both out-of-doors and under glass." The careful, scholarly work that has gone into it results in volumes of very broad usefulness for general characterization of plants and for nomenclatural matters that are often especially difficult with cultivated plants. ISBN 0 512 36171 0. \$120.00.

Request for Information

The American Horticultural Society is compiling a new, expanded edition of *North American Horticulture, A Reference Guide*. To make this guide as complete as possible, they urge all readers to send them the names and addresses of local, state, and regional horticultural organizations and programs, including plant societies, trade associations, professional associations, conservation organizations, educational programs, significant plant collections, horticulture libraries and museums, and major

flower shows. One area of expansion intended for the upcoming edition will include historical horticultural displays, zoological parks with plant collections, and natural history museums with horticultural and botanical exhibits. Please send information to Tom Barrett, American Horticultural Society, 7931 East Boulevard Dr., Alexandria, Virginia 22308, 703/768-5700 or 1-800-777-7931.

UPCOMING MEETINGS

A special **Herbarium Curators' Meeting** will be held on Wednesday afternoon, August 8, 1990, during the annual meeting of the American Institute of Biological Sciences (AIBS) in Richmond, Virginia. This full afternoon session's topic will be **Herbarium Acquisitions and Exchange Policies: Where are we going?** Curators of collections from a variety of taxa, animals and vascular and nonvascular plants, will be asked to describe the policies and traditions followed in their own fields, and then the group will discuss institutional and community strategies for building research and archival collections that will meet the needs of those using them in the future. New opportunities for storing, using, and sharing data (e.g., computerization) and the old constraints of limited funding, space, and personnel will be discussed in an effort to reach, or develop a strategy for reaching, a community-wide consensus on policies and needs for this area of herbarium management. Such a consensus will then help funding agencies in setting priorities for distribution of funds. This meeting is for those using herbarium collections as well as for those managing them, and anyone interested is welcome to attend.

Designs for a Global Plant Species Information System is an international symposium to be held at the European Cultural Center of Delphi, Greece, on 12-16 October 1990, by the IUBS Commission for Taxonomic Databases (formerly Taxonomic Databases Working Group--TDWG), the Linnean Society, and the European Cultural Center of Delphi, and sponsored by the Commission of the European Communities and CODATA. The goal of this symposium is to develop a range of designs for a global species diversity information system for plants that will enable scientists in all countries to access information on the names, classification, and geographical distribution of all the world's plants. Sessions will be: (1) The demand for a global plant species information system; (2) Botanical decision making and data collection strategies; (3) Data structures and logical designs; (4) System configuration - machines and communications; and (5) Management, ownership, and funding. Each session will involve formal presentations as well as organized group discussions. There will also be demonstrations and poster sessions. For further details from the co-organizers, write: George F. Russell, Botany Department, NHB 166, Smithsonian Institution, Washington, D.C. 20560, U.S.A. or Frank A. Bisby, Biology Department, Building 44, University of Southampton, Southampton S09 5NH, England, United Kingdom.

The **1990 Triticeae Symposium** planned to be held at the annual AIBS meeting this summer has been canceled. A Triticeae Conference will be held in 1991 in Sweden. To receive more information about this, write Dr. Ole Seberg, Botanical Laboratory, University of Copenhagen, 140 Gothersgade, Copenhagen, Denmark.--M. E. Barkworth

The **Sixth Annual Southwestern Botanical Systematics**

Symposium will be held 25-26 May 1990. This year's topic will be "Disjunctions and Their Significance." Invited speakers include: Mary T. Kalin Arroyo, University of Chile; Daniel J. Crawford, Ohio State University; Hong De-Yuan, Academia Sinica, People's Republic of China; David F. Murray, University of Alaska; Clifford R. Parks and Margaret Hoey, University of North Carolina; and Kenneth J. Sytsma, University of Wisconsin. The evening address will be given by Charles B. Heiser, Jr., University of Indiana. The cost is \$40.00 (\$30.00 for students), and includes the Friday evening social, a box lunch, and Saturday dinner. To register, send your name, address, and phone number, with a check payable to: Rancho Santa Ana Botanic Garden, Systematics Symposium, 1500 N. College Avenue, Claremont, California 91711. For more information call 714/625-8767.

The **Spring Systematics Symposium**, Field Museum of Natural History, will be held Saturday, 12 May 1990 on Evolutionary Ethics. For registration information contact: Symposium Coordinator, Department of Biology, Field Museum of Natural History, Roosevelt Rd. at Lake Shore Drive, Chicago, IL 60604-2496. 312/922-9410 ext. 298.

A Workshop on Artificial Intelligence, Expert Systems, and Modern Computer Methods in Systematic Biology will be held 9-14 September 1990 at the University of California, Davis. There will be about 45 participants representing an even mixture of biologists and computer scientists. Hotel expenses, per diem, and travel will be paid for participants. Attendance is by invitation only. The workshop subject areas are: (1) Scientific workstations for systematics; (2) Expert systems, expert workstations, and other tools for identification; (3) Phylogenetic inference and mapping characters onto tree topologies; (4) Literature data extraction and geographical data; (5) Machine vision and feature extraction applied to systematics. To apply, please send the following information: (1) name, address, and phone number; (2) whether you apply as a computer scientist or as a biologist; (3) a short résumé; (4) a description of your previous work related to the workshop topic; (5) a description of your planned research and how it relates to the workshop; (6) whether you, as a biologist (or as a computer scientist), have taken or would like to take steps to establish permanent collaboration with computer scientists (or biologists). Mail to: Renaud Fortuner, ARTISYST Workshop Chairman, California Department of Food and Agriculture, Analysis & Identification, room 340, P. O. Box 942871, Sacramento, CA 94271-0001. Phone 916/445-4521. Fax: 916/322-5913 E-mail: rfortuner@ucdavis.edu. Applications received after 15 April 1990 will not be accepted.

The Society for Ecological Restoration will hold its second annual conference from 29 April through 3 May 1990. Of special interest to biologists is the **Symposium on Restoration and Recovery of Endangered Species** from 29 April to 2 May, 1990. This symposium, planned to complement advances in conservation biology, will address recovery and restoration issues that will be vital to achieving species conservation objectives of the future. Some topics of interest include: Prairie Restoration (book-writing session on grassland restoration techniques); Restoration and Recovery of Endangered Species; Federal plant recovery goals; Reproductive systems and rarity in plants; and Plant demographic factors. For information contact the Society for Ecological Restoration at University of Wisconsin Arboretum, 1207 Seminole Highway, Madison, WI 53711 (608)262-9547.

GRADUATE PROGRAMS

Students interested in doctoral studies in systematic botany should note that **Louisiana State University** offers graduate fellowship stipend awards in the amount of \$15,000 annually plus a waiver of tuition and most academic fees for up to four years in botany. Eligibility requirements include U.S. citizenship or permanent alien residence. Students interested in vascular plant biosystematics desiring more information and applications materials should contact Lowell E. Urbatsch, Department of Botany, Louisiana State University, Baton Rouge, LA 70803-1705, 504/388-8485, fax 504/388-6400.

The New York Botanical Garden offers several graduate fellowships in systematic botany and economic botany. Appointments begin July 1, or September 1 by special arrangement. Each fellow is expected to devote half-time to formal graduate study leading to a Ph.D. degree in Biology at Lehman College of the City University of New York and half-time to herbarium or laboratory assistance and to special assignments in systematic or other research in progress at the Botanical Garden. Send applications and requests for additional information to: Administrator of Graduate Studies, The New York Botanical Garden, Bronx, New York 10458-5126.

POSITIONS AVAILABLE

Effective immediately, the **Jepson Herbarium**, University of California at Berkeley, invites applications for a two-year, academic appointment as Project Manager to oversee completion of *The Jepson Manual: Vascular Plants of California*, a major, multi-authored, plant identification resource now in the eighth year of a ten-year preparation schedule. The primary tasks are to edit a portion of text submitted to *The Jepson Manual*, following existing approaches, concepts, and formats (85%) and, supported by administrative staff, to bear day-to-day administrative authority for the project (15%). Qualifications include substantial professional botanical experience (Ph.D. preferred), broad knowledge of California vascular plants and geography, skill in plant taxonomy and nomenclature, demonstrated ability as a scientific writer and editor, sympathy with orientation of technical material to non-technical users, word-processing ability, and well-developed interpersonal skills. Salary range is \$36,684 to \$58,308. The position will remain open until filled. Send a letter of application, curriculum vitae, and names of three references to Lincoln Constance, Search Committee Chairman, Jepson Herbarium, University of California, Berkeley, California 94720. An Equal Opportunity/Affirmative Action Employer.

Postdoctoral Positions are available immediately at the **Joseph W. Jones Ecological Research Center** at Ichauway, a 28,000-acre reserve in southwest Georgia that contains perhaps the largest remnant of longleaf pine/wiregrass ecosystems and over 12 miles each of the blackwater Ichauway-Nochaway Creek and the brownwater Flint River. They seek individuals oriented to field environments with interest in plant, wildlife, or stream ecology. Applicants must have a Ph.D. Send inquiries and applications before 15 April 1990 to: Charles H. McTier, President, Robert W. Woodruff Foundation, Suite 1400, 230 Peachtree Street, N.W., Atlanta, Georgia 30303. Include names of three references and a brief description of the proposed work.

FLORA OF NORTH AMERICA FAMILIES ARRANGED BY VOLUME AND DEADLINE

Vol/C# Family Editor

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02	6	Magnoliaceae	Phipps
02	8	Annonaceae	Phipps
02	10	Canellaceae	Phipps
02	15	Calycanthaceae	Webster
02	17	Lauraceae	Webster
02	20	Saururaceae	Thieret
02	21	Piperaceae	Thieret
02	22	Aristolochiaceae	Thieret
02	23	Illiciaceae	Thieret
02	24	Schisandraceae	Thieret
02	25	Nelumbonaceae	Thieret
02	26	Nymphaeaceae	Thieret
02	28	Cabombaceae	Thieret
02	29	Ceratophyllaceae	Thieret
02	30	Ranunculaceae	Morin
02	32	Berberidaceae	Morin
02	34	Lardizabalaceae	Morin
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02	52	Cannabaceae	Shultz
02	53	Moraceae	Shultz
02	55	Urticaceae	Shultz
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02	59	Myricaceae	Boufford
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10	320	Limnocharitaceae	Thieret
10	321	Alismataceae	Thieret
10	322	Hydrocharitaceae	Thieret
10	323	Aponogetonaceae	Thieret
10	324	Scheuchzeriaceae	Thieret
10	325	Juncaginaceae	Thieret
10	326	Potamogetonaceae	Thieret
10	327	Ruppiaceae	Thieret
10	328	Najadaceae	Thieret
10	329	Zannichelliaceae	Thieret
10	330	Posidoniaceae	Thieret
10	331	Cymodoceaceae	Thieret
10	332	Zosteraceae	Thieret
10	334	Triuridaceae	Thieret
10	335	Arecaceae	Thieret
10	338	Araceae	Thieret
10	339	Lemnaceae	Thieret
10	341	Xyridaceae	Whetstone
10	342	Mayacaceae	Whetstone
10	343	Commelinaceae	Whetstone
10	344	Eriocaulaceae	Whetstone
10	349	Juncaceae	Phipps
10	351	Cyperaceae	Murray
10	354	Sparganiaceae	Thieret
10	355	Typhaceae	Thieret

10	356	Bromeliaceae	Thieret
10	358	Heliconiaceae	Thieret
10	359	Musaceae	Thieret
10	361	Zingiberaceae	Thieret
10	363	Cannaceae	Thieret
10	364	Marantaceae	Thieret
10	366	Pontederiaceae	Kiger

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10	367	Haemodoraceae	Kiger
10	369	Liliaceae	Kiger
10	370	Iridaceae	Kiger
10	371	Velloziaceae	Kiger
10	372	Aloeaceae	Kiger
10	373	Agavaceae	Kiger
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10	378	Smilacaceae	Kiger
10	379	Dioscoreaceae	Kiger
10	380	Burmanniaceae	Argus
10	382	Orchidaceae	Argus

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11	352	Poaceae	Estes
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03	64	Phytolaccaceae	Thieret
03	65	Achatocarpaceae	Thieret
03	66	Nyctaginaceae	Spellenberg
03	67	Aizoaceae	Thieret
03	69	Cactaceae	Straley
03	70	Chenopodiaceae	Shultz
03	71	Amaranthaceae	Thieret
03	72	Portulacaceae	Packer
03	73	Basellaceae	Thieret
03	74	Molluginaceae	Thieret
03	75	Caryophyllaceae	Straley
03	76	Polygonaceae	Straley
03	77	Plumbaginaceae	Straley

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04	79	Paeoniaceae	Straley
04	85	Theaceae	Straley
04	94	Elatinaceae	Straley
04	97	Clusiaceae	Straley
04	98	Elaeocarpaceae	Spellenberg
04	99	Tiliaceae	Spellenberg
04	100	Sterculiaceae	Spellenberg
04	101	Bombacaceae	Spellenberg
04	102	Malvaceae	Spellenberg
04	104	Sarraceniaceae	Straley
04	106	Droseraceae	Straley
04	107	Flacourtiaceae	Thieret
04	109	Bixaceae	Thieret
04	109	Cochlospermaceae	Thieret
04	110	Cistaceae	Thieret
04	115	Violaceae	Hartman
04	116	Tamaricaceae	Thieret
04	117	Frankeniaceae	Thieret
04	120	Turneraceae	Thieret
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04	124	Caricaceae	Thieret
04	125	Fouquieriaceae	Thieret
04	127	Cucurbitaceae	Thieret
04	128	Datisceae	Thieret
04	129	Begoniaceae	Thieret
04	130	Loasaceae	Thieret
04	131	Salicaceae	Argus
04	133	Capparaceae	Shultz
04	134	Brassicaceae	Morin
04	135	Moringaceae	Shultz
04	136	Resedaceae	Shultz
04	138	Bataceae	Shultz
04	139	Cyrtillaceae	Packer
04	140	Clethraceae	Packer
04	142	Empetraceae	Packer
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04	146	Monotropaceae	Packer
04	147	Diapensiaceae	Packer
04	148	Sapotaceae	Phipps
04	149	Ebenaceae	Phipps
04	150	Styracaceae	Phipps
04	152	Symplocaceae	Phipps
04	153	Theophrastaceae	Hartman
04	154	Myrsinaceae	Hartman
04	155	Primulaceae	Hartman
04	162	Pittosporaceae	Hartman

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05	164	Hydrangeaceae	Phipps
05	166	Grossulariaceae	Phipps
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05	173	Saxifragaceae	Phipps
05	174	Rosaceae	Phipps
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05	177	Chrysobalanaceae	Phipps
05	180	Mimosaceae	Johnston
05	181	Caesalpinaceae	Johnston
05	182	Fabaceae	Spellenberg

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06	184	Proteaceae	Shultz
06	185	Podostemaceae	Shultz
06	186	Haloragaceae	Shultz
06	187	Gunneraceae	Shultz
06	189	Lythraceae	Boufford
06	192	Thymelaeaceae	Boufford
06	193	Trapaceae	Boufford
06	194	Myrtaceae	Boufford
06	195	Punicaceae	Boufford
06	196	Onagraceae	Boufford
06	198	Melastomataceae	Boufford
06	199	Combretaceae	Boufford
06	200	Rhizophoraceae	Phipps
06	202	Nyssaceae	Phipps
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06	204	Garryaceae	Phipps
06	207	Olacaceae	Boufford
06	209	Santalaceae	Boufford
06	211	Loranthaceae	Boufford

06	212	Viscaceae	Boufford
06	217	Rafflesiaceae	Boufford
06	219	Celastraceae	Boufford
06	220	Hippocrateaceae	Boufford
06	223	Aquifoliaceae	Boufford
06	229	Buxaceae	Webster
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06	232	Euphorbiaceae	Webster
06	233	Rhamnaceae	Johnston
06	235	Vitaceae	Johnston
06	240	Linaceae	Morin
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06	248	Staphyleaceae	Thieret
06	252	Sapindaceae	Morin
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06	254	Aceraceae	Thieret
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06	256	Anacardiaceae	Thieret
06	258	Simaroubaceae	Thieret
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06	263	Oxalidaceae	Straley
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07	288	Hippuridaceae	Packer
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08	299	Acanthaceae	Shultz
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08	305	Sphenocleaceae	Whetstone
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09	318	Asteraceae	
		Strother,Barkley,Brouillet	

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C# = Family number following A. Cronquist (1981) *An Integrated System of Classification of Flowering Plants*. New York. We simply numbered all families sequentially listed on pp. xiii to xviii. Family circumscription and placement may change in the future as volumes based on new data are prepared.

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10	323	Aponogetonaceae Thieret
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07	289	Callitrichaceae Packer
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08	317	Calyceraceae Whetstone

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04	133	Capparaceae	Shultz
08	313	Caprifoliaceae	Whetstone
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03	75	Caryophyllaceae	Straley
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02	29	Ceratophyllaceae	Thieret
03	70	Chenopodiaceae	Shultz
05	177	Chrysobalanaceae	Phipps
04	110	Cistaceae	Thieret
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04	97	Clusiaceae	Straley
04	109	Cochlospermaceae	Thieret
06	199	Combretaceae	Boufford
10	343	Commelinaceae	Whetstone
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06	203	Cornaceae	Phipps
05	171	Crassulaceae	Phipps
05	176	Crossosomataceae	Phipps
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07	280	Cuscutaceae	Spellenberg
10	331	Cymodoceaceae	Thieret
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04	128	Datisceae	Thieret
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04	78	Dilleniaceae	Straley
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04	149	Ebenaceae	Phipps
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04	94	Elatinaceae	Straley
04	142	Empetraceae	Packer
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05	182	Fabaceae	Spellenberg
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04	125	Fouquieriaceae	Thieret
04	117	Frankeniaceae	Thieret
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06	204	Garryaceae	Phipps
07	272	Gentianaceae	Argus
06	264	Geraniaceae	Straley
08	310	Goodeniaceae	Whetstone
05	166	Grossulariaceae	Phipps
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10	367	Haemodoraceae	Kiger
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10	358	Heliconiaceae	Thieret
06	253	Hippocastanaceae	Phipps
06	220	Hippocrateaceae	Boufford
07	288	Hippuridaceae	Packer
05	164	Hydrangeaceae	Phipps
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10	339	Lemnaceae	Thieret
07	284	Lennoaceae	Straley
08	303	Lentibulariaceae	Shultz
10	369	Liliaceae Kiger	
06	265	Limnanthaceae	Straley
10	320	Limnocharitaceae	Thieret
06	240	Linaceae Morin	
04	130	Loasaceae	Thieret
07	270	Loganiaceae	Argus
06	211	Loranthaceae	Boufford
06	189	Lythraceae	Boufford
M			
02	6	Magnoliaceae	Phipps
06	241	Malpighiaceae	Johnston
04	102	Malvaceae	Spellenberg
10	364	Marantaceae	Thieret
10	342	Mayacaceae	Whetstone
06	198	Melastomataceae	Boufford
06	260	Meliaceae	Thieret
02	35	Menispermaceae	Morin
07	281	Menyanthaceae	Argus
05	180	Mimosaceae	Johnston
03	74	Molluginaceae	Thieret
04	146	Monotropaceae	Packer
02	53	Moraceae Shultz	
04	135	Moringaceae	Shultz
10	359	Musaceae Thieret	
08	296	Myoporaceae	Shultz
02	59	Myricaceae	Boufford
04	154	Myrsinaceae	Hartman
06	194	Myrtaceae	Boufford
N			
10	328	Najadaceae	Thieret
02	25	Nelumbonaceae	Thieret
03	66	Nyctaginaceae	Spellenberg
02	26	Nymphaeaceae	Thieret
06	202	Nyssaceae	Phipps
O			
06	207	Olacaceae	Boufford

08	293	Oleaceae	Shultz
06	196	Onagraceae	Boufford
10	382	Orchidaceae	Argus
08	297	Orobanchaceae	Shultz
06	263	Oxalidaceae	Straley
P			
04	79	Paeoniaceae	Straley
02	38	Papaveraceae	Kiger
04	122	Passifloraceae	Thieret
08	300	Pedaliaceae	Shultz
03	64	Phytolaccaceae	Thieret
02	21	Piperaceae	Thieret
04	162	Pittosporaceae	Hartman
07	291	Plantaginaceae	Packer
02	44	Platanaceae	Phipps
03	77	Plumbaginaceae	Straley
11	352	Poaceae	Estes
06	185	Podostemaceae	Shultz
07	282	Polemoniaceae	Morin
06	245	Polygalaceae	Johnston
03	76	Polygonaceae	Straley
10	366	Pontederiaceae	Kiger
03	72	Portulacaceae	Packer
10	330	Posidoniaceae	Thieret
10	326	Potamogetonaceae	Thieret
04	155	Primulaceae	Hartman
06	184	Proteaceae	Shultz
06	195	Punicaceae	Boufford
04	145	Pyrolaceae	Packer
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R			
06	217	Rafflesiaceae	Boufford
02	30	Ranunculaceae	Morin
04	136	Resedaceae	Shultz
06	233	Rhamnaceae	Johnston
06	200	Rhizophoraceae	Phipps
05	174	Rosaceae	Phipps
08	311	Rubiaceae	Whetstone
10	327	Ruppiaceae	Thieret
06	261	Rutaceae	Thieret
S			
04	131	Salicaceae	Argus
06	209	Santalaceae	Boufford
06	252	Sapindaceae	Morin
04	148	Sapotaceae	Phipps
04	104	Sarraceniaceae	Straley
02	20	Saururaceae	Thieret
05	173	Saxifragaceae	Phipps
10	324	Scheuchzeriaceae	Thieret
02	24	Schisandraceae	Thieret
08	294	Scrophulariaceae	Shultz
06	258	Simaroubaceae	Thieret
06	230	Simmondsiaceae	Webster
10	378	Smilacaceae	Kiger
07	278	Solanaceae	Spellenberg
10	354	Sparganiaceae	Thieret
08	305	Sphenocleaceae	Whetstone
06	248	Staphyleaceae	Thieret
10	377	Stemonaceae	Kiger
04	100	Sterculiaceae	Spellenberg
04	150	Styracaceae	Phipps
04	152	Symplocaceae	Phipps
T			
04	116	Tamaricaceae	Thieret

04	85	Theaceae	Straley
04	153	Theophrastaceae	Hartman
06	192	Thymelaeaceae	Boufford
04	99	Tiliaceae	Spellenberg
06	193	Trapaceae	Boufford
10	334	Triuridaceae	Thieret
06	266	Tropaeolaceae	Straley
04	120	Turneraceae	Thieret
10	355	Typhaceae	Thieret
		U	
02	51	Ulmaceae	Shultz
02	55	Urticaceae	Shultz
		V	
08	315	Valerianaceae	Whetstone
10	371	Velloziaceae	Kiger
07	286	Verbenaceae	Straley
04	115	Violaceae	Hartman
06	212	Viscaceae	Boufford
06	235	Vitaceae	Johnston
		X	
10	341	Xyridaceae	Whetstone
		Z	
10	329	Zannichelliaceae	Thieret
10	361	Zingiberaceae	Thieret
10	332	Zosteraceae	Thieret
06	262	Zygophyllaceae	Thieret