



Department of Botany

Fall, 1999

College of Arts and Sciences

Volume 6, Issue 1

Oklahoma State University

Jim Ownby to Retire from OSU

Jim Ownby, Head of the Botany Department, announced in September that he will retire from OSU next May after 25 years on the faculty. He came to OSU from Colorado State in 1974, and joined the faculty following a year as Research Associate. During the early part of his career he studied metabolism and cell development in the filamentous blue-green algae *Anabaena*. In the mid-1980s Jim switched his research to stress physiology in plants, including aluminum toxicity, copper and

phosphorus deficiency, heat, and salinity. He published approximately 40 research papers, and trained 10 graduate students at the M.S. or Ph.D. level.

During his career Jim taught the introductory plant physiology course to about 2000 upperclassmen in the basic and applied sciences. Some of the students who took the course in the 1970s went on to distinguished careers in research and academics. Recent classes have included the sons and daughters of students who took the course many years ago, which Jim interpreted as a sign that it was time to move on.

He became Head of the Botany Department in 1993. During his term

as Head, the faculty increased from 6 to 9 full-time members, with a corresponding increase in the number of graduate students. Jim, who is 55, plans to devote his retirement years to travel and nature photography, in addition to restoring native prairie vegetation to a meadow on his property.

The new Dean of the College of Arts & Sciences, John Dobson, has decided to keep the Botany Department as a separate administrative unit. Becky Johnson was chosen from the ranks of the current faculty and will become the new Head of Botany in Summer 2000. A search has begun this fall for a new plant physiologist to assume teaching and research activities.

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Bluestem is published annually to inform alumni, faculty and friends about the issues, activities, and news of the Botany Department.

Comments and inquires should be directed to James D. Ownby, Editor, Botany Department, 104 LSE, Stillwater, OK., 405-744-5559 or Email jdownby@okstate.edu

New Faces: faculty and staff...

Joining us as a post-doctoral research fellow in Dave Meinke's lab is **Iris Tzafrir**. Iris, a native of Israel, received her Ph.D. in 1997 at Minnesota, where she studied badnaviruses, a group of double-stranded DNA viruses in plants. She went on to a post-doc in plant genomics at Monsanto before coming to OSU. Iris's husband Jonathan Shaver is on the faculty of the Plant and Soil Sciences Department.

Dr. **John Couch** is teaching Bill Henley's courses in biology and environmental science this year. John, a life-long resident of Stillwater, earned his Ph.D. in Environmental Science under Jim Shaw in Zoology in 1996. An avid birder, he is our local expert in identifying all the look-alike sparrows that winter in this area.



Iris Tzafrir



Dr. John Couch

Graduate and Undergraduate Student News

Janice Hironaka, who is pursuing a Ph.D. in Plant Sciences degree in Bill Henley's lab, continues to win awards and accolades. This year she received a Presidential Fellowship for Water, Energy, and the Environment from the Environmental Institute at OSU. This fellowship pays a monthly stipend for up to three years to support her research on extremophilic algae that grow in hypersaline environments at the Great Salt Plains in northern Oklahoma. Janice described some of the blue-green algae found there, which may be new to science, in a poster paper at the 16th International Botanical Congress in St. Louis in August of this year.

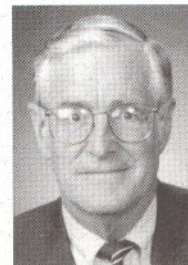
Adam Ryburn, Ron Tyrl's new M.S. student, used McPherson Funds for travel and fieldwork expenses at the Tallgrass Prairie Preserve in Osage County. Adam is studying the distribution of tallgrass prairie plants in an area that was polluted by an oil spill in 1991. He is also participating in an on-going project to study the reproductive status of pale purple coneflower, *Echinacea pallida*, in the tallgrass prairie.

Chris Sellers received his B.S. degree in Botany at OSU in 1998 and now has begun an M.S. program with Anne Cross. He used McPherson Fund support this past summer to study rates of nitrogen mineralization and carbon turnover at the same oil spill site that Adam Ryburn is studying at the Tallgrass Prairie Preserve. When these two finish, we should have a thorough understanding of the botany of oil spill sites.

Phillip Taylor is studying circadian rhythms that may regulate the synthesis and accumulation of secondary compounds in plants. He is measuring daily changes in vinblastine and vincristine in periwinkle, and hypericin in St. John's wort. Considering the current interest in pharmaceutical use of plants, this is a very promising area of research.

... and a new Dean

OSU's new Dean of the College of Arts & Sciences is **John Dobson**. John, earned a B.S. at MIT with a joint major in physics and history and later earned a Ph.D degree at Wisconsin in history. He eventually joined the history faculty at Iowa State, and was Interim Dean of the College of Liberal Arts and Sciences at ISU before coming to OSU in August.



Jon Dobson

Alumni notes and news

Oran Steffey (M.S. in Botany, 1950; Ph.D. in Botany in 1953 under Roy M. Chatters) lives in Ponca City. He is retired from Conoco, Inc., where he worked for many years as Health Physicist and Industrial Hygienist.

Ken McLeod (M.S. in Botany in 1971 under Jim McPherson) completed his Ph.D. at Michigan State in 1974. Since then, he has been at the University of Georgia Savannah River Ecology Laboratory, where wetland forest restoration is his specialty. He and wife **Judy**, who is a research coordinator at SREL, restored and live in an 1860s era farmhouse with pets and daughter Hayley, who is 11. Ken, who grew up in Stillwater, reports that he always drops by Eskimo Joe's and the Hideaway on return visits.

Mike Hirst (B.S. in Biology in 1975, M.S. in Botany in 1978 under Jim McPherson) is Vice President and Manager of the Environmental Services Group at C. H. Guernsey & Co. in Oklahoma City. He is involved in environmental assessment and cleanups for private clients as well as governmental agencies. His work takes him all over the country and even to Hawaii and Guam. He and wife **Janet Smith Hirst** (B.S. in Biology, 1977) live in Edmond with daughter Haley, 18, and son Riley, who is 15.

Phil Gibson (B.S. in Botany in 1988) is currently Assistant Professor of Biology at Agnes Scott College in Decatur, Georgia. He and wife **Terri** had a family all at once this year. They are the proud parents of triplets, who arrived February 5, 1999. Maggie, Robbie, and Pete spent a month in the hospital but are now home and doing fine.

L. Alan Prather (M.S. in Botany in 1990 under Ron Tyrl) received his Ph.D. at UT-Austin in 1995. After a post-doctoral stint at the University of California at Irvine, he moved to Michigan State University, where he is Assistant Professor and Curator of the Herbarium. His research has progressed from the parasitic *Cuscuta* to the fully autotrophic Polemoniaceae, particularly floral morphology and pollination ecology of neotropical vines in the genus *Cobea*.

Kim Shannon (M.S. in Botany in 1997 under Ron Tyrl) has worked for the Oklahoma Chapter of The Nature Conservancy since she graduated. In 1998 she also began working with the Oklahoma Natural Areas Registry Program, a cooperative effort among TNC and various state agencies to encourage voluntary protection of unique natural features in the state by private landowners. Kim also finds time to teach an introductory ecology course at Tulsa Community College.

FacultyNotes

Anne Cross, who has learned what Oklahoma summers are like, spent much of hers in the Rocky Mountains.



Anne Cross

First came a course on stable isotopes, mainly ¹⁵N, at the University of Utah in June. In July she was back at the Sevilleta National Wildlife Refuge in New Mexico, conducting a re-sampling of ¹⁵N in the grassland soils along the Rio Grande river there. She has been involved in this project for 10 years.

Biao Ding traveled to the far ends of the earth, which seems to have been a theme for Botany faculty this past year. The highlight was a conference in Hong Kong, followed by an additional two weeks in China visiting labs and presenting seminars.



Biao Ding

Other excursions in the name of science were to Montreal, Washington D.C., and a Gordon Conference in New Hampshire. Biao's research program is really taking off. Three new grants were funded this year.

Bill Henley and family are spending the next year on sabbatical leave at Horn Point Laboratory, run by the University of Maryland Center for Environmental Studies. This facility, located on the Maryland eastern shore facing the Chesapeake bay, is rather isolated, which means that Bill should not be distracted from work.



Bill Henley

He and his host, Dr. Todd Cana, are using fluorescence microscopy and membrane-inlet mass spectrometry to study photosynthetic physiology in algae. Just after he left Stillwater, Bill received

the good news that his proposal to study halophytic algae at Great Salt Plains in northern Oklahoma had been funded by NSF's Life in Extreme Environments (LexEn) program.

Becky Johnson developed and now teaches a new upper-division course in ethnobotany. In September she presented a paper at the 1st International Ethnobotanical Congress in Costa Rica titled "Gathering the



Becky Johnson

Wary Fish," describing Native Americans' use of secondary compounds in Devil's Shoestring (*Tephrosia virginiana*) to stun fish. This past summer she ran two summer academies for high school students, funded through the Oklahoma Principals' Science Scholars program.

Dave Meinke completed a hectic year as Program Director for the NSF Plant Genome Program, during which time he helped establish national science policy in the emerging field of plant genomics. His right-hand person, post-doc **Chun-Ming Liu**, took a position at the Centre for Plant



Dave Meinke

Breeding and Reproduction in Wageningen, The Netherlands. The lab still managed to publish two research papers in the prestigious *Plant Journal*; Dave was also first author on a review paper in the genome issue of *Science*.

As if a sabbatical leave in Sweden and the Canary Islands weren't



Mike Palmer

enough, **Mike Palmer** also spent a week in Costa Rica collaborating with David Clark on vegetation analysis. He continued other projects in Minnesota and the

Tallgrass Prairie Preserve in Osage County. His wife **Sue McAlister** found kindred spirit bryologists in the Canary Islands, with whom she studied epiphytic mosses in the cloud forests of the Anaga massif.



Arnon Rikin

Arnon Rikin is collaborating with Laval Verhalen from the Plant and Soil Science Department on a study to develop cold-resistant lines of cotton. He is

also teaching his Plants and People course at OSU-Tulsa in the summer.

Ron Tyrl taught an Elderhostel in September on "Those Ubiquitous Grasses" at Lake Texoma. Next summer's big outing is a nine-day botanical adventure, "The Wildflowers of England," scheduled for June 10-18, 2000. Along with Thomas Cope of the



Ron Tyrl

Royal Botanic Gardens at Kew, Ron will lead excursions to the forests, grasslands, and marshes of southern England. Those interested in botanizing with Ron can get more information at the College of Arts & Sciences Extension website, <http://extension.okstate.edu/international/wildflowers>, or call 1-800-544-3350.

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Alumni information requested

The department is currently updating information from alumni. Please take a moment to complete the questionnaire and return it to the address above.

name

home address

home phone

current professional position

business address

business phone

additional education/degrees

achievements and awards