A Mission Reaffirmed

Robert E. Cook, Director

The historical mission of the Arnold Arboretum has been captured in the story of E. H. “Chinese” Wilson, vividly recounted by Steve Spongberg in his wonderful book about botanical exploration, A Reunion of Trees. In a disastrous collision with a rockslide on a mountain trail in central China, Wilson suffered a severely broken leg that required three operations. Despite this, he managed to return to Boston with 1,285 packets of seeds and more than 50,000 pressed and dried herbarium specimens. As a result there grows today, on the south side of Bussey Hill, accession number 7272, a magnificent specimen of the Sand Pear (Pyrus pyrifolia) that first came to this country in seed lot 395 collected by Wilson near Ichang, China.

In 1988 the President and Fellows of Harvard College reaffirmed the historical mission of the Arboretum:

- To maintain and curate a documented collection of woody plants hardy in the Boston climate;
- To study such plants through maintenance of a library and herbarium for research and teaching;
- To give instruction, including public education, about the biology of trees.

The modern execution of this mission, and its roots in the heritage of Wilson, is embodied in the work of Dr. Jun Wen, a Putnam Research Fellow at the Arboretum. For the past two months she has been traveling in her native China to collect seeds, prepare herbarium specimens, and sample living tissue, which is frozen in liquid nitrogen for later analysis. These collections will complement comparable collections she gathered at the Arboretum last spring.

Dr. Wen is examining an old scientific problem: Why do so many species of plants native to eastern North America also have closely related sister species growing in eastern Asia? Is this an evolutionary coincidence, or were these species once part of widely distributed ancestors? With her collections of living tissue from the Arnold Arboretum and from distant locations in China, Dr. Wen will be using the techniques of molecular biology to isolate DNA from her specimens and compare the genes of these apparently closely related species. By combining these

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results with traditional morphological and paleobotanical evidence found in the herbarium and library collections of the Arboretum, she will be able to reconstruct the history of divergences that created these groups and come to a much more fundamental understanding of their evolutionary relationships.

Dr. Wen also collected and shipped seeds of a number of Asian species to the Arboretum, some of which have never been grown in this country before. Of special interest are propagules of *Aralia henryi* and *Halesia macgregorii*. They have been logged into our computer database for future germination and planting on the grounds. There, beside the original collections of Wilson, they will someday provide critical material for some other research project unseen by us today.

As we lay plans for the next quarter century at the Arboretum, we are continually returning to the fundamental importance of our collections, including the historic Olmsted landscape in which they are set. We shall maintain our traditional commitment to their exceptional care and curation. At the same time we are actively seeking new opportunities for the use of these collections that transcend our historical mission. As was the case with E. H. Wilson in the early years of this century, challenging opportunities, often in distant, unexplored regions of the world, will make the Arboretum an international leader in botanical research and education.

**A Federal Grant for LEAP**

*Duane Syverson*

The Arboretum has been awarded a $37,000 grant from the Dwight D. Eisenhower Math and Science Education Program for the teacher training component of the 1993 LEAP (Learning About Plants) Teacher Project. Allocated through the Massachusetts Higher Education Coordinating Council, this funding will support an expanded Arboretum commitment to improving the quality of science education in the Boston elementary schools. In collaboration with the Boston Public School Science Department, 25 teachers from twelve schools will be selected to participate in the 1993 summer workshop. These teachers will take part in an intensive study of botany, horticulture, and ecology that emphasizes the basic plant science concepts and hands-on learning strategies that underlie the LEAP curriculum. Participants will mentor others in their home schools, ultimately introducing the LEAP curriculum and related Arboretum resources to a total of 75 Boston teachers and their students.

**First Arboretum Deland Award**

Stuart Davies, a graduate student at Harvard University, has received the Arnold Arboretum’s Deland Award in support of his studies of the comparative systematics and ecology of tropical rainforest trees.

The Deland Award was recently established from a bequest of F. Stanton Deland, Jr., to support research on the biology of woody plants. Mr. Davies, the first recipient of the award, will combine ongoing field studies in Malaysia with research in the Harvard University Herbaria in Cambridge.
Completion of the Lilac Renovation

Peter Del Tredici

With the planting of eighty new accessions, the restoration of the lilac area, which was started over five years ago, has been completed. Most notable among the new additions are forty large specimens that were moved in from the Case Estates with the generous assistance of labor and equipment by Ollie Capizzi of Capizzi and Company of Acton, Massachusetts.

Working with Tony Capizzi and a mechanical tree spade, Jim Nickerson and Bruce Munch of the Arboretum grounds crew dug the forty plants over a three-day period and moved them into Jamaica Plain on a flatbed truck. All were planted in their permanent locations within a week of being dug, no small task given that many of the plants weighed close to a thousand pounds.

A new bed containing seven cultivars recently introduced by the late Father John Fiala of Medina, Ohio, has also been established. All of the introductions selected for the display have spectacular flowers and appear to be fairly mildew resistant.

To round out the renovation, thirty lilac accessions from the Dana Greenhouse nursery were planted throughout the lilac area. In all, over one hundred plants were added to the collection, all within the space of six weeks, a remarkable feat considering that the Arboretum was packing up and moving during the same time period. A hearty congratulations to everyone who worked so hard.

The Arnold Arboretum has been awarded the City of Boston’s 1992 Award for Best Kept Neighbor in the Open Space category. The people responsible for keeping the Arboretum are, from left to right, top row: Bruce Munch, Pat Willoughby, Bob Farnqulotte, Jim Nickerson, Mike Gormley, Luis Colon, Julie Coop, Karl H. Homes; bottom row: Dave Moran, Jim Papargyris, Mark Walkama, Dennis Harris, Maurice Sheehan, and Don Garrick. Kenny Clarke is missing from the picture.

Karen Madsen has been appointed Editor of Arnoldia. She brings long experience in editing both books and periodicals and is an instructor in the Graduate Program in Landscape Design and History of the Radcliffe College Seminars. A past contributor to Arnoldia, Karen has participated in many of the courses and tours of the Arboretum. She will welcome your opinions and ideas as she begins work on the next issue.
Botany Courses at the Arboretum

Marcia Mitchell

bot•a•ny n. The division of biology that treats of plants with reference to their structure, functions, classification, etc.

Many people first encounter the Arnold Arboretum’s Living Collections on a casual stroll through the grounds. On subsequent visits, as they become familiar with the geography of the Arboretum’s 265 acres, they come to see the diversity of plant structures and the variations in form and texture. Some visitors remain quietly interested observers, content to pursue private thoughts or conversations as they walk the Arboretum’s roads. For other visitors, however, the initial contact with the Arboretum’s vast collection of woody plants is the beginning of a lifelong exploration. It is for these visitors that the Arboretum has long offered adult education courses in botany, as well as many courses in horticulture.

Through these courses, most designed to cover the planned material in six course sessions or fewer, adult students can gain a greater appreciation of the links between species of woody plants, and an understanding of the systems of classification by which plants are described. Some of the Arboretum’s botany courses are designed solely as classroom learning: many of these take place during the cold winter months. Others are planned around study of specimen trees and shrubs on the Arboretum’s grounds, and these are invariably some of the most popular courses offered in the Arboretum’s adult education program. For those who find that their curiosity is whetted by the display around them, the Arboretum’s botany courses will introduce the careful observer to new worlds of plant appreciation and enjoyment.

A Selection of Botany Offerings

BOT 131 Flora of New England: A Comprehensive Survey
This course provides an opportunity for the experienced plant enthusiast to gain a comprehensive knowledge of our native New England flora. Participants will learn the region’s major vascular plant families, including characteristic species and habitats.

BOT 100 Introduction to Botany
Designed as an introduction to botany for students new to the discipline, this course also serves as a refresher for those who feel the need to brush up on old skills. Among the topics to be explored are plant cells and tissues, cell division, plant anatomy and morphology, plant diversity, evolution, and ecology.

BOT 228 The Conifers
The conifers, or cone-bearing plants, are a major component of the New England landscape. We will discuss the natural history of conifers and learn how to recognize the native genera and species. Students will see what traits distinguish one conifer species from another, how conifers reproduce, and why conifers are such special plants.

Please call the Education Department, 524-1718, to request a course catalogue or to register for Arnold Arboretum Lilacs, recently moved in from the Case Estates, had to be planted with a backhoe.