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Connecticut College Arboretum

New London, Connecticut

ANNUAL REPORT 1990

PROGRAMS

Thanks to a hard-working and creative Program Committee (Sally Taylor, Carol King, Emily Wharton, and Susan Olmstead), 1990 was a groundbreaking year for Arboretum educational offerings. Some of the year's highlights were a well attended Garden History Lecture Series with talks on ancient Mediterranean and Roman Gardens and a comparison of Chinese and Japanese garden styles; our first summer programs; a lecture on *Sacred Mountains of the World* by author and scholar Edwin Bernbaum; a series of lectures and displays for EARTH DAY 20; a symposium on *Critical Wetlands Issues for the 1990s* with 160 participants; a horticultural symposium — *Nature's Way in the Garden: Environmentally Sound Gardening Practices* — which drew 75 people; guided walks to plant collections, ponds, salt marshes, and forests; and an educational workshop for local Tree Wardens.

In October the Arboretum hosted an annual regional professional meeting for the American Association of Botanical Gardens and Arboreta. The Connecticut College Arboretum, active in the AABGA for the past five years, took its turn at offering a

two-day series of lectures, workshops and tours for public garden administrators, landscape architects, horticulturists and professors from New York, New Jersey, and all the New England states. Featured speakers included Arboretum Research Director William A. Niering on *The Botanical Effects of Global Warming* and Jeanne Shelburn ('74) on the restoration of Harkness Memorial Park in Waterford, Connecticut.

Plans for the coming year include

A view of the Caroline Black Garden, which was established by the Botany Department in 1921. The five acres of landscape plantings are maintained by the Arboretum for teaching and enjoyment.



another series of winter Sunday afternoon lectures; trips to Garden in the Woods in Framingham, Massachusetts, and the Brooklyn Botanic Garden; workshops on Tree Planting, Dyeing with Native Plants and tours of local landscape designers' home gardens.

PLANT COLLECTIONS

Consolidating and integrating the recently added Gries Memorial Conifer Collection and Klagsbrun Memorial Garden into the annual maintenance cycle were important features of 1990. New plantings in the Klagsbrun Garden and Legume Collection included Red Bud (*Cercis canadensis*), Shademaster Honeylocust (*Gleditsia triacanthos f. inermis* 'Shademaster'), False Indigo (*Amorpha fruticosa*), Wild Senna (*Cassia hebecarpa*), Blue False Indigo (*Baptisia australis*), and False Lupine (*Thermopsis caroliniana*). Other natives added to the plant collections were Franklin Tree (*Franklinia alata*), a Fringe Tree

Connecticut College Arboretum

(*Chionanthus virginicus*) in memory of Roy J. Taylor, American Smoketree (*Cotinus obovatus*), and Summersweet (*Clethra acuminata*).

Many thanks to Mr. and Mrs. Arthur Manthome of Woodstock, Connecticut, for their generous donation of over thirty species of wildflowers. The plants were propagated by Art and were planted in the Arboretum Wildflower Gardens and the Gries Conifer Collection meadow.

All of the Arboretum Collections,

the Caroline Black Garden and the Botany Department Greenhouses received special attention before the October AABGA meeting. Sheila Wertheimer Associates were contracted with for a very successful maintenance sweep through the Caroline Black Garden during which the start of a new *Spiraea* collection was planted. Next year's plans for the Black Garden include an "Autumn Interest" bed near the Vinal Cottage driveway.

The Arboretum staff serves in an advisory capacity for the Campus Grounds Department. In 1990 we helped establish a lovely ornamental grass-dominated garden at the College main entrance in memory of Dorothy Desiderato. We also worked with alumni and other donors to select trees for memorial plantings on campus and advised the grounds crew on mitigating construction damage to specimen trees.

SPECIAL PROJECTS

New Garage

In October 1990, the Arboretum received a \$49,000 grant from the Norcross Wildlife Foundation to build a maintenance and storage facility in the Arboretum Plant Collection Area. Director Dreyer spent much of 1990

acting as general contractor for the project. Special thanks go to Henry Resnikoff of Essex who volunteered his construction expertise to ensure the finest quality workmanship and the best value for our investment.

The attractive two-story building is constructed of white pine in log-cabin style with a gambrel roof and

is located near Gallows Lane along the driveway to Buck Lodge. For the first time in the Arboretum's sixty-year history, the equipment used to maintain the plant collections and other College lands are in a building specifically built for that purpose and conveniently located in the work area.

Left: *New Arboretum garage, Fall 1990.* Right: *Representatives of the Norcross Wildlife Foundation and some of the business people who together helped build the new garage. Left to right: Robert Sinclair, Arboretum Director Glenn Dreyer, William Marston, Ethel Stella, Richard Reagan, Lisa Monsam and Joseph Somers.*



Critical to the success of this building project was direct support in the form of discounts on services or materials from local businesses. The Arboretum extends sincere thanks to the following individuals and companies: Michael Slosberg, United Builders Supply (Quaker Hill); Larry Bentley, DiCesare-Bentley Engineers, Inc. (Groton); Alan Hull, Appleby and Cutone, Inc. (Old Saybrook); Joseph Somers, Timberlog Homes, Inc. (Colchester); Robert Sinclair, Timberlog Homes of Connecticut (Marlborough); William Marston, New London Door Company (New London). Connecticut College electricians Hobie Walton and Russell Bryant did an excellent job installing service and fixtures; James Luce and the College Grounds crew were also very helpful during construction.

The Pond

This has been a year of planning for the restoration of the Arboretum Pond, which has recently changed from being dominated by water lilies into a broadleaf cattail marsh. Visiting alumni have encouraged our staff to reestablish open water in this central feature of the plant collection area, created in the 1920s by damming a wetland. After attending the June Arboretum Wetlands Symposium, John W. Deering of Bethel, Connecticut, volunteered his expertise in pond restoration and management for our project. His collaboration has resulted in a long range plan which calls for immediate shallow dredging of the northern sector, and will accommodate periodic maintenance dredging thereafter. It is hoped that fund-raising for this project can begin in 1991.



Professor William Niering watches with students Dan Cramer ('92), Ben Gardner ('93), and Maria Recchia ('92) as DEP personnel light a controlled fire in an experimental field on the Avery Tract in April 1990.

RESEARCH

Fields on the Matthies and Avery tracts were subjected to controlled burns by Connecticut Department of Environmental Protection staff in April 1990. This represents the twenty-second year of continuous controlled burning research in the Arboretum. In addition to a long-term data base on the changes to plant populations and soils, these sites are an important teaching resource for biology courses.

Research Director William Niering continued his concentration on Wetlands Ecology with special emphasis on the effect of the rising sea level on tidal marsh vegetation. Professors Niering, Scott Warren and Paul Fell supervised six undergraduates collecting vegetation and animal data on the Barn Island Marshes during the summer.

Edward Schauster ('90), Scott Cave ('91) and Dawn Binder ('91) examined the impact of Meadow

Voles (*Microtus pennsylvanicus*) on the distribution and structure of salt marsh vegetation on the Mamacoke Natural Area. Supervised by Professor Robert Askins, the students covered the voles with fluorescent powder, released them, and came back at night with portable u.v. lights. The glowing trails through the marsh left by the rodents were marked with small flags, then mapped the following day. Results indicate that voles do influence marsh microtopography and vegetation patterns.

Reproductive success of forest birds in the Arboretum was the subject of a summer research project by Daniel Kluza ('91) and Molly Embree ('93). Once again the annual breeding bird census in the Bolleswood Natural Area was done by Professor Robert Askins and Wendy Dreyer.

Botany Professor M.J. Morse began studies with her students on the biochemical processes involved in the induction of heat during flowering of Skunk Cabbage (*Symplocar-*

pus foetidus) plants in the Arboretum. Originally working with the tropical Voodoo Lily (*Sauromatum guttatum*), she has expanded her focus to include other members of the Arum Family, such as our unusual native wetland plant with the odorous reputation.

Research on the biology of the Oriental and American bittersweet vines (*Celastrus orbiculatus* and *C. scandens*) continued this year with a project by senior Coralie Clement, who was the Arboretum summer

research fellow. Using a portable Infrared Gas Analyzer to measure CO₂ uptake from individual leaves, Coralie measured the photosynthetic rates of the two species in the Arboretum and at two other sites in southeastern Connecticut. This research, supervised by Botany Professor Scott Warren and Arboretum Director Dreyer, compares aspects of the two vines' physiology in the hope of understanding why the Oriental species is able to spread so rapidly in eastern North America, while the

native vine is relatively rare. Coralie, a French citizen, has developed the project into a Senior Honors Thesis for her biology major.

Zoology Department Geneticist Phillip Barnes and junior Scott Pearsall raised populations of fruit flies (*Drosophila melanogaster*) in a remote section of the Arboretum to study the role of environment in affecting the variation of morphological characteristics. Specifically, their experiment was designed to test the effect of seasonal temperature changes on the flight power output and associated morphological traits of flies grown outside compared to others raised in the laboratory at a constant temperature.

The Arboretum is visited every semester by many different classes for teaching and laboratory exercises. One recently developed use is for field trips in the Freshman Focus course *Wilderness and Biological Diversity*, Humanities 100. Another was in Professor Askins' *Ornithology*, Zoology 244, in which each student was assigned a study plot in the Arboretum to monitor bird population changes and observe the behavior of selected species throughout the semester.

THE CONNECTICUT COLLEGE ARBORETUM MISSION STATEMENT

January 1, 1990

The Connecticut College Arboretum is owned by Connecticut College and operated for the benefit of the college and the community. The Arboretum functions in support of the college's mission by helping to prepare men and women for a lifetime of learning about and interacting with the natural world. The mission of the Connecticut College Arboretum is:

Teaching - To provide an outdoor laboratory for use by faculty and students in Botany, Zoology, Biology, Human Ecology and other departments. In both teaching and research, the Arboretum is a unique and valuable academic resource and support facility.

Research - To support and conduct research in a broad range of topics including ecology, field biology, conservation and natural history. Arboretum research emphasizes long-term studies.

Conservation - To provide stewardship of college lands by protecting, sustaining and enhancing biological diversity of large tracts of open space. The Arboretum also provides leadership statewide and beyond in conservation matters.

Collections - To maintain, develop and interpret well-documented plant collections for teaching, research, public education and enjoyment.

Recreation - To provide a place where people from the college and the community may enjoy passive recreation and where they may come to learn, reflect and renew themselves through contact with the natural world. The Arboretum enhances the quality of life for the college and the citizens of Southeastern Connecticut.

Public Education - To provide programs and publications about conservation, horticulture, gardening, botany and natural history which enhance people's understanding of the natural world and foster an understanding of the Arboretum's mission.

ADMINISTRATION

In January of 1990 the Executive Committee of the Connecticut College Board of Trustees accepted a Mission Statement for the Connecticut College Arboretum. Developed by Director Dreyer in consultation with Botany and Zoology faculty, it explains how the Arboretum serves the College's Mission and outlines the six functional areas in which the Arboretum operates: Teaching,

Annual Report 1990

Research, Conservation, Collections, Recreation and Public Education.

In Fall 1990, Glenn Dreyer began working on an "Issue Statement" concerning the Arboretum for inclusion in the Connecticut College Strategic Plan. He also worked closely with College Development Office staff on grant applications and other fund-raising projects.

Connecticut College and The Nature Conservancy, Connecticut Chapter, have reached an agreement which allows the Conservancy's 600-acre Burnham Brook Preserve in East Haddam to be used by the College for teaching and research. Biology faculty will serve on an Advisory Committee for the natural area preserve, and the Arboretum

will administer the arrangement and house the preserve's herbarium collection, scientific reports and other pertinent documentation. Already used by faculty and students for various studies, the Burnham Brook Preserve greatly increases the diversity of undisturbed habitats and wildlife populations available for educational use by the College.

STAFF

Botany Professor Sally L. Taylor retired at the close of the Spring 1990 semester, and her special efforts on behalf of horticulture and the Arboretum were recognized by the Connecticut Horticultural Society, which presented her with their prestigious Melquist Award. The trustees of Connecticut College, on the recommendation of the Botany Department and Arboretum, named a 24-acre tract of Arboretum land the *Sally Lockett Taylor Tract*. The northernmost parcel of Arboretum property between Bloomingdale and Old Norwich Roads in Waterford, it is also adjacent to Sally's home. Recently named the Arboretum's Education Coordinator, Sally Taylor plans to continue serving the Arboretum by organizing year-round educational programs.

Former Arboretum Directors Richard H. Goodwin and William A. Niering were honored at the 1990 annual meeting of The Nature Conservancy, Connecticut Chapter. Niering and Goodwin, nationally recognized conservationists, were two of the three original founders of the Chapter in 1970.

William Niering and Glenn Dreyer were asked by the Department of



Arboretum staff members Craig Vine and Jacklyn Haines provide horticultural maintenance for the Arboretum, the Caroline Black Garden and the Botany Department Greenhouses.

Environmental Protection to serve on a committee which reviewed a proposed State list of rare, threatened and special concern plant species. Glenn Dreyer was elected Vice President of the Connecticut Botanical Society in November.

Arboretum summer student interns for 1990 were John Fischer ('91) of Maplewood, N.J. and Jef-

ferey Reynolds ('93) of Norwich, Conn. Both worked very hard all summer with horticulturists Jackie Haines and Craig Vine learning all aspects of maintaining plant collections and natural areas. The contributions of John and Jeff and their predecessors are vital to our program.

VOLUNTEERS

Volunteerism is the cornerstone of the Arboretum's educational programs. Thanks are due to the following members for offering their services to ensure our continued success: Sally Taylor, Emily Wharton, Judy Nickerson, Carol King, Jeanne Shelburn, Sheila Wertheimer, Kevin Lang, Susan Olmstead, Carol Hanby, Jackie Haines, Wendy Dreyer, Joan Kari, Jim Luce, Pam Hine, Sheri Confer, Terry Garfinkel, William Niering, Mark Braunstein, Scott Warren, Paul Fell, Robert Askins, and Terry Roper. Special thanks are due to Don McElreath of New London, who regularly volunteered with the Arboretum maintenance team and to Greg TeHennepe of Montville, who has spent many hours caring for the orchids and bromeliads in the Botany Greenhouse.

MEMBERSHIP AND GIFTS

Arboretum Membership at year's end was 398, including both individuals and organizations. Members' dues and contributions, special gifts, and program fees accounted for approximately one-half the Arboretum's total budget during the last fiscal year; another fifty percent is allocated through the College budgetary process. Members who donated to the Arboretum at the Supporting Level (\$100) or above during 1990 were Mr. & Mrs. Oakes Ames; Harold Arkava; Bridget Baird; Holly Bannister; Anne Bell; Eve Bogle; James Catterton; Irvin Chipperini; Neale Clapp; Kincaid Connell; Scott Dawley; Elizabeth Dodge; Ellen

Ebersole; Essex Land Conservation Trust; Katherine Finney; Mr. & Mrs. Richard Goodwin; Jonathan Graham; David Gries; Lincoln Gries; Margaret Hazlewood; Mrs. C.B. Jackson; Mrs. John Kashanski; Suzanne Klagsbrun; Peter Matthews; Sally Meyers; John O'Neill; Mrs. Rex Pinson; Mr. & Mrs. O.P. Robinson; Eunice & John Sutphen; Sylvan Nursery, Inc.; Sally Taylor; Mrs. John Taylor; Town & Country Gardens; Mr. & Mrs. J. Arthur Wheeler; Mrs. R.W. Woolworth; and Lucinda Young.

PUBLICATIONS

Arboretum Bulletin No. 31, *Birds of the Connecticut College Arboretum*, was published and mailed to members in May, 1990. Zoology Professor Robert Askins did a superb job of presenting the results of four decades of bird research by faculty, students and other dedicated birders.

Bulletin No. 32, *The Connecticut College Arboretum, Its Sixth Decade and a Detailed History of the Land*, by Dr. Richard H. Goodwin, was at the proof-reading stage by year's end. Printing and distribution during early 1991 is anticipated. A partially updated edition of the long out-of-print classic, *The Wild Gardener in the Wild Landscape*, by Warren G. Kenfield, will also be published by the Arboretum in 1991. Work is also proceeding on two manuscripts for future Arboretum Bulletins, one on dragonflies of southern New England and the other about the coastal geology of southern New England.

The Botany Department's Ornamental Plants and Landscape De-

sign class of 1989, aided by Sally Taylor, Glenn Dreyer and College Librarian Brian Rogers, prepared a brochure titled *A Guide to Trees and Shrubs Around the Charles E. Shain Library*. Available at the College Library front desk, the pamphlet contains a map, 23 plant descriptions, and a brief history of the Library and its plantings.

The following publications and reports by students, staff and faculty appeared in 1990. Copies may be obtained through the Arboretum Office.

Askins, R.A. 1990. Breeding bird census: Oak-hemlock forest, transition forest and thicket. *Journal of Field Ornithology* 61(Suppl.): 47-48,67.

Askins, R.A., J. F. Lynch, and R. Greenberg. 1990. Population declines in migratory birds in eastern North America. *Current Ornithology* 7: 1-57.

Cave, S. The effects of meadow vole (*Microtus pennsylvanicus*) on the salt marsh ecosystem. Individual Study, Fall 1990.

Dreyer, G.D. 1990. Connecticut's Notable Trees. *Memoirs of the Connecticut Botanical Society* No. 2. Second Edition. Covered Bridge Press.

Niering, W.A. 1990. Human impacts on the South Florida Wetlands: The Everglades and Big Cypress Swamp. In: *The Earth in Transition, Patterns and Processes of Biotic Impoverishment*. G. Woodwell, ed. Cambridge University Press.

Pearsall, S. Seasonal variation of morphological traits and flight metabolism in *Drosophila melanogaster*. Individual Study, Fall 1990.

Taylor, S.L. 1990. Killing woody vines. *Fine Gardening* 12: 12.

Taylor, S.L. and N. Beaubaire 1990. Why trees weep. *Fine Gardening* 12:44.

