



## Annual Report 1971-1972

TO THE PROVOST OF THE UNIVERSITY:

SIR,

A bequest from the estate of [James Arnold](#) was accepted by the President and Fellows of Harvard College in 1872, and so began the Arnold Arboretum. With the permission of the Corporation, 1972 was designated the Centennial Year, and a special program was planned for a week in May for which invitations were sent to botanists and horticulturists throughout the world. Approximately 700 persons accepted the invitation and attended one or more events or spent the full week in the Centennial program. Twenty-seven states, 10 foreign countries, 46 organizations, and 69 institutions were represented by the guests.

The program offered guided tours of the Arnold Arboretum facilities and collections in Jamaica Plain, Weston and Cambridge. Headquarters for the program were at the Sheraton-Plaza Hotel, where a formal banquet was held, as well as a day-long symposium with 12 papers given on the topic, "The Potential of Arboreta and Botanical Gardens."

During the week special lectures were offered, at the Harvard Business School, to the Friends and to the public. Registrants had their choice of three days of either botanical or horticultural tours of native vegetation or private gardens in eastern Massachusetts. An exhibit of botanical books, treasures from the Arnold Arboretum library, was displayed in Houghton Library, and a special booklet, *Early Botanical Books*, was published to accompany the display.

A color film on the Arnold Arboretum was prepared for a premiere showing during the week and is available now for rent. The film explains the activities, goals and resources of the Arboretum and its staff. At a final buffet supper held at the Arboretum in Jamaica Plain, awards of Jewett prizes were made to four horticulturists. Although the staff attempted to dissuade our colleagues and related organizations from the presentation of greetings, many brought them anyway, and these symbols of appreciation and respect were gratefully received.

The program could not have been accomplished without the participation and cooperation of many volunteers, representative leaders of whom formed a Centennial Committee under the chairmanship of Admiral Harry Hull of Manchester, Massachusetts. Organized into subcommittees, these individuals assumed responsibility for various aspects or days of the program, and arranged for the guides and the hospitality extended. A finance

subcommittee undertook with success the task of raising sufficient funds to cover the expenses of the program. Miss Harmony Clement served as staff coordinator. The staff is grateful for all this support.

Especially noteworthy was the excellent publicity obtained, not only during the week, but before and after the celebration. Many magazine articles, TV and radio spot features and announcements, and especially a feature section of the *Boston Globe* drew attention to the celebration and the grounds.

Visitations to the collections increased several fold. Displays of photographs and sometimes plant material, historical or current, were presented in Widener Library, the Boston Public Library and many suburban libraries, Holyoke Center, Boston City Hall, and the Arnold Arboretum administration building. Requests for these displays have now been received from other botanical gardens and arboreta, and several traveling displays have been created by Miss Pamela Bruns of the staff.

As a part of the Centennial, the staff wished to emphasize the historic and present role of the Arnold Arboretum in the introduction and distribution of plants. Through the cooperation of William Flemer of the Princeton Nurseries, seedlings of *Cercidiphyllum japonicum* were grown and distributed to all members of the Friends of the Arnold Arboretum. A large balled shrub or tree was offered to every garden club in New England, and 153 organizations accepted the gift for ceremonial planting in a conspicuous public spot. Considerable newspaper publicity resulted from this cooperative effort.

Every college and university in the United States with a department of botany or horticulture was offered a gift plant of educational or teaching value. This offer was accepted by 112 institutions. Finally, every botanical garden and arboretum in the International Directory of Botanical Gardens was offered propagating material of some classic type plant within the Arboretum collections. To the present, 600 propagules have been sent to 70 institutions, and a backlog of requests remains to be filled at the proper season for taking such cuttings in Massachusetts and for the receipt of cuttings in diverse geographic and climatic areas. Special plants offered to Boston area organizations were accepted by such groups as the Museum of Science, the Public Garden, Case Park in Weston, and the Boston Center for the Performing Arts.

Several organizations holding annual meetings in the Boston area asked for special programs or guided tours of the Arnold Arboretum during the year. Knowing that such requests are frequent and often beyond the capabilities of the staff, we solicited volunteers to serve as guides within the Arnold Arboretum collections. These guides received special instructions in 15 four-hour sessions over a period of seven months. After practice talks and runs with the staff as an audience, the volunteer guides were used regularly on tours. Throughout our activities we have gained immeasurably from their assistance to the staff in many service roles. It is impossible to list here all the individuals who contributed so significantly to the success of the

program. We can only indicate our deep gratitude. It is equally difficult for me to do justice to the credit due the staff.

Any director who wanted such a program could not have had more support than was given by the staff of the Arnold Arboretum in honoring its 100 years. The regular work of the Arnold Arboretum was maintained during the year, and its details form the remainder of this report.

#### STAFF

Three resignations were accepted during the year. Dr. Thomas Elias, who had been working with Dr. Wood on the preparation of a generic flora of the Southeastern United States, accepted a position January 1, 1972, as dendrologist of the Cary Arboretum being developed by the New York Botanical Garden. Mr. C. Robert Long, librarian of the Arnold Arboretum and the Gray Herbarium, also accepted a position in the library of the New York Botanical Garden. Mrs. Heidi Duda, cataloguer on a joint appointment, resigned to work elsewhere in the Harvard libraries.

Dr. Carroll E. Wood, Jr., was appointed Professor of Biology at Harvard while retaining his title and role as a curator of the Arnold Arboretum. Miss Nancy Page, Mercer Research Fellow for part of the year, was appointed Coordinator for Community Activities at the Arboretum.

Dr. Lorin I. Nevling, Jr., assumed additional responsibilities for curating the collections of the Farlow Herbarium while its director is on sabbatical leave. He has been given a special title of Coordinator of Botanical Systematic Collections.

Honors and awards came to three staff members. [Mr. Alfred Fordham](#) was honored by the International Plant Propagators Society with their Award of Merit. This award is presented only occasionally to "exceptionally gifted propagators in very special recognition of skills in plant propagation." [Dr. Donald Wyman](#), horticulturist emeritus, was honored twice. At the American Horticultural Congress held in Milwaukee he was awarded the Liberty Hyde Bailey Medal, the highest award of the Society.

In the spring, Swarthmore College honored him by presenting him a medal and a cash award, the Arthur Hoyt Scott Garden and Horticultural Award. They noted this was to "a man whose devotion to horticulture has been absolute." Dr. Richard Howard received the gold medal of the Garden Club of America at the annual meeting in Memphis, Tennessee, with a citation for eminence as a botanist, horticulturist, educator, and author. Professor Charles Sargent received the first award of this medal, and Dr. Wyman has also been a recipient. Dr. Howard was also elected vice-president and president-elect of the American Association of Botanical Gardens and Arboreta.

With the appointment of Miss Nancy Page as Coordinator for Community Activities for the Arboretum staff, we have been able to centralize the requests for staff assistance on

ecological problems and neighborhood beautification projects. Miss Page was appointed a member of the City of Cambridge Conservation Committee, and is chairman of the Cambridge Tree Committee. The city plans associated with the proposed Kennedy Library have included a proposal for a parking garage under the Cambridge Common, and the beautification of Harvard Square. Miss Page has worked with [Dr. Weaver](#) and [Miss Ida Hay](#) of the staff in a survey of the common trees of Boston, which led to the special article in *Arnoldia* on Boston trees. This has been reprinted as a separate presentation for distribution to the city schools. Further work is in progress on the common plants other than trees. A national committee was established to commemorate the birth of [Frederick Law Olmsted](#), and a local area credited to Olmsted's design was proposed as the Olmsted Park District. The staff was requested to survey, map and name the significant trees within this area.

The staff has cooperated with many groups, as indicated in the last report, but new ones are formed every year. Additional organizations requesting our assistance this year were Neighborhood Youth Corps in Roxbury, Somerville, Charlestown and Chelsea. Schools were also concerned, and help was offered the Massachusetts College of Art, the St. Francis de Sales School, and the Hurley School. We have also worked with the Boston Transportation Planning Review Committee; the BRA Tai-Tung project in Chinatown; the [City of Boston Department of Parks and Recreation](#); and the Metropolitan District Commission, in offering instructional programs for residents or employees.

Dr. DeWolf and Miss Page offered a special course for the Boston Society of Landscape Architects, at the Arnold Arboretum, under the title "Planting the City: Urban Stresses." Dr. Neviing served as chairman of a Cabot Estate advisory committee appointed by Mayor White of Boston.

Interest in beautification and a concern for environmental problems spread to Harvard University as well. Students requested that the University concern itself with recycling of dormitory waste, dogs in the yard, and problems of grass and trees. The result of their interest was the formation of a "Green Committee."

Dr. Howard represented the Arboretum in the study sessions, and a redesign and planting of the area around Thayer Hall was completed before Commencement. The Arnold Arboretum supplied the landscaping plant materials.

During the year special publicity drew the attention of the public to the Boston Poison Center operated by the hospitals of Boston. All calls concerning plant materials are referred to the Arboretum during working hours, and to individual staff members during the evening.

Identifications of plant specimens and problems of cultivation, maintenance, and plant diseases continue and have increased in the public's greater awareness of the Arnold Arboretum following the Centennial publicity.

## HORTICULTURE

Much effort was devoted to improving the appearance of the grounds at Jamaica Plain and Weston for the Centennial visitors. Unhappily, the weather was not cooperative. A dry fall, with a late freeze, was followed by a mild winter, causing apprehension among the staff regarding the development of bloom. Normal fall planting from the nursery collection was curtailed, with 21 taxa added to the grounds in the fall and only 125 in the spring. The spring planting was largely in the dwarf or slow-growing conifer grouping in the greenhouse area. Spring can only be described as wet and cold - the only week of sunshine was that of the Centennial program. The grounds, however, had been enhanced with the addition of over 2,000 bulbs planted around the administration building and on the hillside nearby by volunteers from Mr. Hebb's gardening classes and the staff. Their spectacular bloom in the spring drew admirers, and not vandals, to our surprise.

New identification signs of letters carved in large planks were erected along Route 1 and at the entrance gates on the Arborway within the Arboretum grounds.

As the Centennial week began, the lilacs were mostly in tight bud, but the following five days of sunshine opened the flowers so that a good display was evident on the closing day and the week-end.

The card catalogues containing records of the plants within the collections of the Arnold Arboretum were incorporated into the data files of the Plant Records Center of the American Horticultural Society. After considerable work in preparation by Messrs. Hebb and Link, the records were all microfilmed by the Records Center staff, and the data processed for computer sorting. Printouts of these records in several programs are now on hand. The goal of the Plant Records Center is to process the records of all gardens in North America, and eventually to have a comprehensive inventory of the horticultural collections in one master file. The microfilm of our current records offers additional protection to our collections because of its separate storage. With the aid of the computer, additions, deletions, corrections, and new printouts permit us to have an up-to-date record of the living collections.

Work has begun on a new edition of Rehder's *Manual of Cultivated Trees and Shrubs* through the kindness of an initial gift of an anonymous donor. Dr. Stephen Spongberg will be the principal scholar and coordinate the work of others toward the planned revision.

The Arnold Arboretum has in its endowment a fund established in memory of James R. Jewett. According to the terms of the gift, prizes are to be awarded occasionally for work on the improvement of beach plums or other small native or introduced fruit or nut bearing plants. During the Centennial program four prizes were awarded: to Dr. George Darrow of Beltsville, Maryland; Dr. Richard A. Jaynes of New Haven, Connecticut; Mr. E. M. Meader of Rochester, New Hampshire; and Dr. George R. Slate of Geneva, New York. The contributions of these four men were considered meritorious, and appropriate to the terms of the Jewett fund.

Unauthorized driving of cars, motorcycles and bicycles within the Arboretum continues to plague us, is a hazard to visitors, and even results in damage to collections. Any enforcement of the Park Department regulations by the Boston Police is sporadic or lacking. Thus additional driving gates have been locked during the year in an attempt to control a potentially dangerous condition. A private detective agency has been hired again to patrol the grounds in the evening hours in order to offer a modicum of control and protection to visitors and plantings.

Nevertheless, 17 vandal fires occurred on the grounds, five of which caused damage to collections. The administration building was broken into twice during the spring on weekends, with resulting thefts of personal items and desk equipment. A policy of establishing locks on fire doors now divides the building into smaller segments, but causes inconvenience to staff members who wish to work weekends or evenings.

The greenhouse staff carried an extra heavy responsibility during the Centennial year. The special effort to distribute plants to members of the Friends, to colleges, clubs, and other botanical gardens was supplemented with extra activities. Special gift plants were prepared for visiting groups. Packages of pretreated seeds were included in table envelopes for the participants in the Centennial banquet. In preparing plants for mailing, and in filling seed envelopes, the staff was aided materially by a dedicated group of volunteers.

We continued to receive requests for propagating material from plants within our living collections for culture or research by individuals or institutions. During the year, 141 shipments were made of 652 taxa to 12 countries. We received 179 shipments of 794 taxa from 24 countries, largely in response to our requests for seeds to add taxa to our own collection or for the research of the staff.

The greenhouses are always open to professional visitors and to scheduled classes from Harvard or other colleges. Thirteen colleges scheduled one or more classes in the greenhouse during the year. One day a week the greenhouses are open to the general public. The volunteer guides have been most helpful in answering the telephone or instructing the public on these open days.

#### CASE ESTATES

The 110-acre property in Weston is an isolated but significant part of the operation of the Arnold Arboretum. It serves as a nursery and growing area for young plants, and a reserve area for taxa which cannot be accommodated within the Jamaica Plain collections. The Case Estates are used for education programs and for demonstrations as well. Classes and lectures are offered on a regular basis in Weston. The number of visitors during the year increased noticeably, and auto traffic on the gravel driveway caused us to have this area hard topped. The available water supply has proved inadequate in recent years.

When the town of Weston was installing new water mains on Wellesley Street, we used the opportunity to install a new 8-inch water line to the property. When time and money permit, feeder lines can be added to the individual nursery areas.

The town of Weston has plans to widen Wellesley Street fronting most of the Case Estates. This will result in a loss of land and necessitate the moving or abandonment of several stone walls and of some spectacular row plantings. In anticipation of this future action, we have begun barrier plantings in several areas.

The pruning demonstration area received needed attention this year when three talented students from the University of Massachusetts were available for summer employment. Older reserve collections also received much-needed pruning.

A volunteer group of eight graduates of Mr. Hebb's practical gardening class contributed many hours of additional work on the low maintenance garden, the ground cover plots, and the demonstration beds. A gift of plants from Mr. and Mrs. Paul Rogers of Charlton, Massachusetts, formed the nucleus of an herb demonstration area which received a favorable reaction from participants in the annual meeting of the American Herb Society, held in part at the Case Estates.

To honor the Centennial of the Arnold Arboretum, the garden clubs of Weston commissioned Mr. John Wacker to landscape a small area near the Case Estates, which was formally dedicated as Case Park. The Arboretum was able to supply some of the plants chosen for the planting.

#### HERBARIUM

A new program has been established by the National Science Foundation to support curatorial activities of systematic collections of national significance. An application for support was submitted jointly on behalf of the Arnold Arboretum, the Botanical Museum, the Farlow Herbarium and the Gray Herbarium.

Dr. Lorin Nevling was indicated as the principal investigator. In March we received notice that a grant of \$180,000 was approved for the first year of five years of support. The Arnold Arboretum portion of the grant will be used during the first year to reduce the backlog of unmounted and therefore unavailable herbarium specimens; to increase the curatorial staff; to repair and rebind classical volumes in the library; to purchase additional library stacks; and to contribute toward general supplies and postage. If additional space becomes available, future grants will be used to purchase herbarium cases. Portions of the grant to be applied to the other organizations will be used in comparable ways.

The total herbarium of the Arnold Arboretum reached 971,248 specimens on June 30, 1972, of which 149,057 represent cultivated plants housed in Jamaica Plain. Specimens accessioned during the year totaled 11,312, and 15,128 were mounted. New specimens came from Asia, the United States and Canada, tropical America, Europe and Africa.

The increase in activity of mounting collections also increases the storage problem in the Harvard University Herbaria. Nearly 50% of the steel herbarium cases are now surmounted by two units of cardboard storage cases for herbarium specimens. This must be considered a temporary measure, for access to the specimens in the cardboard boxes requires the use of ladders and an additional amount of personnel time. The arrangement is far from satisfactory.

Requests for loans of herbarium specimens increased greatly during the year, reaching a point in excess of any demand since the early 1940's. No explanation is obvious. The combined herbaria filled requests for 201 loans to 88 institutions, 58 in the United States and 30 foreign. The average loan comprised 117 sheets. The staff asked for 45 loans from 16 United States and 12 foreign institutions, and the average loan received comprised 72 specimens. Student use represented 35% of the loans and 52% of the specimens. The figures are disproportionate due to the activities of Dr. Howard, who has received much old material of plants collected a century ago in the West Indies. These specimens, long stored unnamed in the Museum of Natural History in Paris, are offering fascinating bits of information on the dates of introduction of plants cultivated in the old botanic garden at Saint Pierre on Martinique, and at the Camp Jacobs experimental station on Guadeloupe. Many of the collectors are known, but some names new to West Indian botany appear on the collections, presenting biohistorical problems to be worked out in the future.

Monographic and floristic studies are the research interests of the herbarium staff. Dr. Hu spent part of the year in Hong Kong and the New Territories in continuation of her studies of that flora. Dr. Nevling made a short trip to Veracruz, Mexico, where his work on that flora is being done in cooperation with Dr. Arturo Gomez-Pompa of the University of Mexico and the staff of that institution.

Identifications and bibliographic work are completed in Cambridge. Dr. Carroll Wood and associates continue to prepare family treatments for a generic flora of the southeastern United States. Dr. Howard made a brief trip to St. Vincent in midwinter for material for his work on the Lesser Antilles. Publications derived from these studies are listed in the bibliography of the staff.

Renewed interest in the condition of the wood collection developed following the symposium paper of Dr. William Stern during the Centennial. Dr. Ralph Wetmore has written the history of the collection, which was accumulated primarily from the research of Professors Jeffrey, Wetmore and Bailey. This is recognized as the largest university-held collection, and is an adjunct to the systematic biological work of many University staff members.

Comparative and descriptive plant anatomy has been in a decline throughout the world in recent years. The wood collection has received a minimum of curatorial attention, and certainly its potential is no longer exploited. The NSF grant will permit additional curating, but there is a need for a scholar in this area, or at least a full-time curator-research assistant.

## LIBRARY

Mr. Charles Robert Long, librarian, jointly appointed by the Arnold Arboretum and the Gray Herbarium, resigned at the end of the fiscal year. Mrs. Patricia Hall, formerly at the Hilles Library of Radcliffe, was appointed to succeed him. Mrs. Heidi Duda, a joint appointee as cataloguer, also resigned at the end of the year.

The crowded conditions in the library in Cambridge were alleviated by the addition of sections of new stacks at the ends of rows, but at the expense of desk and reading space within the stack area. The entire library was shifted in a Herculean effort to use the new space. In a fundamental change, Princeton files were adopted for storage of reprints and pamphlets, especially in the monographic section.

In the Jamaica Plain library, Mrs. Sheila Geary completed the tasks of bringing the catalogue up to date, and of organizing the collection of nursery catalogues and publications on botanical gardens. New shelf lists have been completed in both libraries.

Funds from the Department of Health, Education and Welfare were available through the University under the MA-5 Program to teach basic clerical-library skills. One trainee was chosen to participate in the program of 200 hours per week of on-the-job training and 15 hours of formal instruction each week at the Personnel Department.

As of June 30, 1972, the catalogued collections of the Arnold Arboretum library contained 80,613 items. During the year 585 volumes were bound, rebound or restored. Part of this was accomplished with a matching fund grant from the Council on the Arts and Humanities of the Commonwealth of Massachusetts. A total of 16,458 cards were added to the files in an effort to increase the value of the card catalogue by cross references.

## EDUCATION

The educational activities of the Arboretum staff are many and varied. Two staff members are professors of biology, and two are lecturers within Harvard. Contact with students at Harvard is at both the undergraduate and graduate levels. All four staff members participated in Biology 397, a survey of research topics in biology offered for new graduate students. Dr. Schubert continued the guidance of the graduate program of Mr. Sousa Sanchez, and was appointed an undergraduate advisor. Drs. Schubert and Wood conducted the weekly seminars in botany held in the Harvard University Herbaria building.

Courses in botany, horticulture and natural history are offered to the public in Jamaica Plain and in Weston. The very practical courses in gardening techniques, maintenance of plants, and plant propagation continue to be the most popular. Field walks stressing identification and ecology are offered in the spring and fall.

The staff is often asked to present special lectures or seminars at other schools or for classes which visit the Arboretum. Approximately 80 lectures were given by the staff outside of

the Arboretum during the year. International coverage was obtained during the year when Dr. Howard made a special broadcast for the Voice of America program. Channel 2, the Boston educational television station, has prepared a film on the Arnold Arboretum under the guidance of Thalassa Cruso. This program, to be released to the educational network in November, was prepared with considerable assistance from many members of the staff.

The preparation of educational displays on the Arboretum for libraries in Massachusetts was part of the Centennial program. In addition, the Arboretum staff arranged displays of fruits for the fall show of the Massachusetts Horticultural Society and that of the Worcester County Horticultural Society.

At the Boston Spring Flower Show, the Arboretum exhibit featured the ornamental plants introduced first into cultivation by the Arnold Arboretum. Three educational displays of plant material appropriate to the Christmas season were staged at the administration building, the Massachusetts Horticultural Society, and the Boston Center for the Performing Arts.

Not the least of the educational activities involves the training of students in the regular work program of the Arboretum. We have in the past cooperated with several colleges offering work study programs. Students from such programs have been used in the herbarium or library or on the grounds. Applications from students have increased for employment as laborers on the grounds or for work in the greenhouses. The number that can be accommodated is limited by the supervision they require, and the amount of money available for temporary help, and not by the amount of work needed to be done. Priority is given to avowed students of horticulture or botany, which proves to be difficult when applied to needy Harvard-Radcliffe students. Those who are accepted for work in Jamaica Plain or Weston are required to attend two hours of formal lectures during the work week.

#### GIFTS AND GRANTS

The Arnold Arboretum has been particularly fortunate in the Centennial year to have generous support from the many Friends of the Arnold Arboretum, both in financial terms and in material gifts. Special appeals were made for funds to support the Centennial activities, to which individuals and corporations responded. We are exceedingly grateful to all. Gifts received over and above the actual costs of the Centennial will be capitalized as the Centennial Fund, the income to be used for the general purposes of the Arboretum. Regrettably, the University would not grant permission for a major fund drive to add professional people to the staff, to modernize the administration building, and to increase the operating budget of the Arboretum.

Two special funds were established by gifts from George R. Cooley and Mrs. Irving Fraim, the income to be used to support field work and travel. Support through gifts of the Massachusetts Society for the Promotion of Agriculture and the American Nurserymen's Association represented professional interest in our activities in the distribution of plants.

## PUBLICATIONS

Regular publications of the Arnold Arboretum are the [\*Journal of the Arnold Arboretum\*](#), with a distribution of 650, and [\*Arnoldia\*](#), with a circulation of 2,500. Dr. Bernice Schubert, with Ellen Bernstein as assistant, edited four issues of the *Journal* representing 621 pages - 24 articles by 29 authors. Arrangements have been made with Kraus Reprint Company to reprint and distribute volumes 46 through 50 so that all fifty volumes are again available. A special cover, "Century of Trees," was designed by Karen S. Velmure, and was used on the *Journal* during the Centennial year.

With regret and with thanks we accepted the resignation of Mrs. Helen Roca-Garcia as editor of *Arnoldia*. Mrs. Jeanne S. Wadleigh was appointed editor in June. Six numbers of *Arnoldia* contained 394 pages, with one extra large number devoted to colonial gardens. The demand for this number soon exhausted the supply, and arrangements were made for the text to be reprinted and issued in hard cover by the Barre Press during late 1972.

Two special publications were issued during the Centennial year. A descriptive Centennial program was compiled by members of the committee. A booklet entitled *Early Botanical Books* was prepared by Pamela Bruns, Beverly Croyle, Gordon DeWolf, Sheila Geary, Charles Long, Kenneth Robertson, Carol Shweder and Richard Weaver. This was designed to accompany an exhibit of unusual botanical volumes, but stands alone as a literary and bibliographic contribution. A new directional map to reach the Arnold Arboretum was prepared by Pamela Bruns for distribution through tourist information centers.

A more detailed report of the important records and activities of the staff of the Arnold Arboretum will be published in the November 1972 issue of *Arnoldia*. A complete list of the staff and a complete bibliography of the 60 publications of articles and books by the staff and the students during the academic year are included there.

RICHARD A. HOWARD, Director