



## Annual Report 1973-1974

TO THE PROVOST OF THE UNIVERSITY:

SIR,

The Arnold Arboretum has been described as "Boston's finest park" and an "oasis of beauty within the city." It is, but as events of the past year indicate clearly, it is not completely isolated but is affected directly by national and international trends as well as by those within the city and the University. Activities reflecting the past, developing in the present, and anticipating the future are all seen in a review of the past year. Four events, two negative and two positive, seem to stand out.

The national fuel crisis and inflation affected and continue to affect all of our operations. The difficulties the staff had in reaching the Arboretum, because of a shortage of gasoline, were paralleled in temperature reductions to conserve fuel in buildings and in greenhouses, and in the necessity for reduction of the use of gasoline-fueled equipment. Higher costs of supplies and shortages of materials have a direct impact on our operations.

A well-developed plan by the City of Boston to build a 1,200 student school on the South Street tract of the Arnold Arboretum came as a complete surprise to the staff. The University cooperated in our defensive action. We appealed to our federal representatives, and secured support from the National Park Service in view of the designation of the Arnold Arboretum as a National Historic Landmark. We are grateful, also, for the actions on our behalf by the Jamaica Plain organizations, our neighbors. After several meetings, the city officials agreed to look for an alternate site, and hopefully that crisis is over. The land involved has been a part of the Arnold Arboretum since 1923, and is essential as the only area for future development of the collections.

On the positive side, the financial and physical contributions of the Friends of the Arnold Arboretum have increased. With a special gift, the top of Bussey Hill was redesigned, and the landscaping and planting have been completed. An excellent educational film on Poisonous Plants was completed, again with contributions of the Friends. The Volunteers contributed hundreds of hours of talented labor from guiding tours to helping with staff projects. Along with all of this, an increase in staff research is evident in the larger number of scientific papers published by the staff.

Finally, we see a hoped-for solution to the crowded conditions and improper housing of books and specimens, and of staff, in the Harvard University Herbaria building in Cambridge. The University has agreed our needs are real, has authorized planning, and will support a search for funds to make an addition to the building. The years ahead offer a challenge and an opportunity for further development and contribution of the Arnold Arboretum.

#### STAFF

We report with regret the death of [Karl Sax](#) on October 10, 1973. Professor Sax was Professor of Botany, Emeritus, at Harvard, Director of the Arnold Arboretum from 1946 to 1954, and a member of the Arnold Arboretum staff from 1928 until his retirement in 1959. A biographical paper reviewing his many contributions in the botanical fields of cytology and genetics, in horticulture, and in demography, was published in the October 1974 issue of the [Journal of the Arnold Arboretum](#), and listed his 181 publications.

Through resignations we lost the services of Miss Nancy Page as Coordinator for Community Activities, and of Jack Link as Curatorial Assistant. John Dunn, of the grounds crew, reached retirement age during the year and, due to ill health, Harry Hill, a stalwart in the greenhouses, retired with a medical disability.

Miss Kathleen Clagett was appointed editorial assistant to help with the *Journal of the Arnold Arboretum*. Mr. Edward Flaherty replaces Jack Link, with responsibility for the labeling and records of the living collections.

Mr. Peter F. Stevens, a specialist on the flora of New Guinea and tropical Asia, joined the staff in October 1973 as Assistant Curator. In a joint appointment with the Gray Herbarium, Prof. Norton G. Miller of the University of North Carolina has been approved as Associate Professor and Associate Curator, the appointment to become effective early in 1975.

Mr. William Gillis received a special appointment as Research Fellow for the year to further his work on the vegetation of the Bahama Islands. Four Mercer Research Fellows for all or part of the year were Mr. Yin-Tse Lee (Taxonomy), Mr. Umesh Banerjee (Cytology and Palynology), Miss Martha Dahlen (Horticulture), and Mr. James Wolpert (Horticulture).

Honorary appointments were approved for Mrs. Ara Derderian (Honorary Curator of the Bonsai Collection), Miss Stephanie Sutton (Honorary Research Fellow) and Mr. Arturo Gómez Pompa (Honorary Research Associate in the Gray Herbarium and the Arnold Arboretum).

Special honors came to two staff members. [Donald Wyman](#), Horticulturist Emeritus, was honored by his alma mater, The Pennsylvania State University, with a "Distinguished Alumni Award." The University noted his "scientific skill and award winning research on woody plants and... his ability to translate that skill to popular use... helping the world to bloom in beauty." Prof. Richard Howard was honored at the annual meeting of the National Council of State Garden Clubs with the presentation of the "Gold Seal," the highest award offered by the Council.

## COMMUNITY SERVICE

During the past year an attempt was made to have one person coordinate all community requests for horticultural information and plants. Miss Nancy Page, who represented the Arboretum in this capacity, resigned during the year, and the role she played has been distributed among other staff members while the position is being reconsidered. During the fall of 1973 Miss Page attempted to coordinate the distribution of plants from the Arboretum nursery which were surplus to our immediate needs. She worked with eight groups in the South End, Back Bay, East Boston and Dorchester, where theoretical as well as practical information was needed. For each group it was necessary to check the site, discuss the materials suitable for the area and the purpose, and give instruction in methods of moving, replanting and caring for the plants chosen to improve the local environment.

The Arboretum was asked by the Exploring Division, Boy Scouts of America, to offer an Explorer Post in forestry and horticulture. Miss Page and Mrs. Ida Burch agreed to coordinate a program involving work at the Arboretum, including lectures and demonstrations by other staff members, and visits to other appropriate areas or organizations. Since the programs were held afterschool and on weekends, a considerable dedication was required by both the leaders and the participants.

Staff members have participated in other community programs in the three localities in which the Arboretum is represented. Mr. Gordon DeWolf has been a member of the Horticulture Planning Committee of Friends of the Public Garden, and had a voice in a public controversy over replanting of American elms on the Commonwealth Avenue mall. A diversified planting originally suggested by Charles Sargent seems even more appropriate today. Mr. George Pride serves on the Building Committee of the Franklin Park Zoo, and other staff members have offered suggestions on plants to be used in the proposed new environmental units. The Boston Conservation Commission plans to start a municipal composting program, and asked the Arboretum for advice and guidance. Several staff members served as judges at the Massachusetts Horticultural Society flower show, and that of the Worcester County Horticultural Society; and for the Dorchester-Roxbury 4-H show, as well as for science fairs held in three cities. Miss Page and Mr. Robert Hebb worked with the planning group of the City of Boston Park Department in midwinter, teaching principles of vegetable gardening to community leaders who work with the applicants for land to garden.

Active discussions of the role of women in American society have taken place nationally and locally in the past year. Miss Bernice Schubert served on the Steering Committee of Women Employed at Harvard. Another group, planning a program in the Hynes Auditorium in Boston with much local participation, asked the Arboretum to have an exhibit of poisonous plants.

Within the University every year, the Arboretum, as specified in our indenture, makes surplus plants available to the Department of Buildings and Grounds. Mr. Richard Weaver and

Mrs. Burch are completing a requested survey of the plantings of the Business School area, supplying correct identifications for the specimens.

#### HORTICULTURE

The Arnold Arboretum, to most people, is a collection of flowering trees and shrubs. It is the primary duty of the staff to maintain this collection and, in fact, the major part of the budget is so allocated. Although one expects such a collection to be static, there is a significant amount of replanting and replacement necessary. Trees have a life span, and as older ones become dangerous or stag headed through disease or storm damage, they may be propagated and replaced by younger specimens. Unfortunately, not all young plants placed on the grounds prove hardy, and death of specimens may be due to dryness or to cold. Records are kept of such losses, and the same plant species may be tried another time from a different source or in a different location. Accidental destruction of young plants does happen, and the theft of small plants is a fact of life.

The past year saw the addition of 1,810 plants to the grounds, representing the largest planting schedule for fall and spring ever attempted. A special gift enabled us to make often-contemplated changes in the area of Bussey Hill. We engaged Mr. Vincent Merrill, of the firm of Shurcliff, Merrill and Footit, to draw plans and supervise the project; and a contract was let to R.J. Delmonico Corporation, of Hull, Massachusetts, for the basic construction. Plantings were designed, in collaboration with the Arboretum staff, to have floral display through the growing season, but to feature a collection of summer blooming shrubs. Bussey Hill is the second highest point within the Arboretum, and offers vistas of Boston and of the Blue Hills. The completed area is extremely attractive, and is the first major renovation within the Arboretum in several decades.

We welcome visitors to the grounds which are open to the public from sunrise to sunset. During the summer months, these hours exceed the normal work schedule of the staff. Again this year we found it necessary to engage a private security guard for patrol four hours of the evening, seven days a week. During weekends in May, this protection was supplemented with two off-duty policemen on motorcycles. We do not appreciate the night time visitors or the picnickers who leave trash for the staff to assemble in spite of the large number of trash barrels we supply. Trash pickup, which ran at the rate of 100 man-days per year in 1960, has jumped to 479 man-days in 1973, the equivalent of one and one-half men full time, plus vehicles. Once this material is collected, the Arboretum must also hire disposal companies to remove it.

The lack of public toilet facilities remains a problem at the Arnold Arboretum. A survey by the Boston 200 bicentennial study groups indicates that this is true generally for all of Boston. We have rented two portable toilets, which have been placed within a locked fence enclosure in a secluded spot on the grounds. Although serviced regularly by the supplier, these are still subject to vandalism.

A small portion of land within the Arboretum is a pre-Revolutionary War cemetery, known as the Walter Street "Berrying" Ground. This is all that remains of the second oldest church in the Jamaica Plain area. Care of the cemetery was given to the Arboretum in 1923. The West Roxbury Historical Society, anticipating the national Bicentennial, proposed a new survey of the cemetery, and volunteers from that organization have polished the plaques and will recondition some of the stones.

During the fiscal year, 123 shipments of plant material, comprising 507 taxa, were sent to cooperating institutions, nurseries and individuals in the United States and nine other countries. A total of 143 shipments, consisting of 600 taxa, were received from twenty-three countries. Not all of the material acquired is destined for growth on the grounds. Many seed lists are received which contain offerings of scientific interest to staff members.

The Arnold Arboretum was the local host organization for the International Shade Tree Conference in August 1973. The group had an open-house day at the Arboretum, with a demonstration of tree maintenance equipment.

The Annual Meeting of the National Council of State Garden Clubs was held in Boston in the spring. Later Region One of the Garden Club of America met at the Arboretum for tours, talks and a luncheon. For the first time in many years, the Massachusetts Horticultural Society also offered a tour of the Arboretum for its members with staff of the Arboretum as guides.

Plant distribution to the Friends during the year consisted of two offerings. Surplus plants from the nurseries were distributed at the Case Estates in the fall. During the spring, small seedlings of *Maackia amurensis* were mailed to each Friend. Members of the Volunteers packaged the seedlings and took care of the mailing. The *Amur Maackia*, an Arboretum introduction, is a good summer flowering shade tree, rarely available in commercial sources.

#### CASE ESTATES

The Case Estates in Weston, Massachusetts, although separated physically from Jamaica Plain, are an integral part of our horticultural collections. Plants started from seed or by vegetative propagation in the greenhouses in Jamaica Plain are transferred, while of small stature, to the Case Estates, where they increase in size, are checked for identification, and are evaluated for their possible addition to the main collection in Boston. Staff members who live on the grounds offer surveillance of the Case Estates collections and supply guidance to visitors.

The Town Engineer of Weston and the Sidewalk Committee have completed their proposals for the widening of Wellesley Street. A plan acceptable to the staff has been recommended to the Harvard Corporation for cooperative action. The proposal will be presented to Weston residents for financing at a special town meeting in the fall.

## HERBARIUM

The herbarium of the Arnold Arboretum, a collection of dried plant specimens mounted on sheets of rag paper, is one of its major resources, along with the living collections and the library. The dried herbarium specimen is always available as a source of information, and is a record that a given plant was growing in a specific area; hence, it documents a geographic distribution. The dried specimen can be analyzed for chemical content, or reconstituted by being softened for a study of its structure or its internal anatomy.

The quality of the herbarium and its maintenance is a legacy to this generation of botanists and a reflection of the interest of the staff. The herbarium of the Arnold Arboretum is the fifth largest of all herbaria maintained by a university staff, and that part of it representing plants under cultivation in Jamaica Plain is the largest anywhere. The curating of this collection has been and is currently unexcelled. However, past reports of the director have called attention to the fact that the herbarium in Cambridge has grown beyond the capacity of the steel cases, which are considered to offer the best protection for such specimens.

Currently, 2,371 cardboard boxes are used to house mounted herbarium specimens of the Gray Herbarium and the Arnold Arboretum, and these represent the equivalent of 140 steel cases. The cardboard boxes are on top of cases throughout the herbarium. The boxes are not bug proof, therefore endangering the specimens. Ladders are required for the staff to reach the specimens so stored. The combination is inefficient, and an unsatisfactory housing of specimens.

Crowded conditions also exist in the library, and in both the library and the herbarium the staff has inadequate space in which to work. Students cannot be housed in the building, and the space for classes, laboratories and lectures has become inadequate. During the fiscal year the University administration authorized a further study of the situation, and with the cooperation of the University Planning Office, plans were drawn for an addition to the Harvard University Herbaria building. The proposed addition will cost two million dollars, with an additional million dollars required as an endowment for future maintenance. The University has agreed officially to support a drive for the necessary funds to make this addition of space and facilities. Even anticipating a successful appeal, the time required for architectural drawings and construction means that crowded conditions will exist for another five years.

A small increment of space will be available during the next fiscal year through the use of three rooms of the Museum of Comparative Zoology. These quarters are being renovated in equal thirds to house Prof. Carroll Wood and his associates working on the Generic Flora of Southeastern United States; the herbarium of the New England Botanical Club, a responsibility of the Gray Herbarium; and some portions of the combined herbaria. Access to this space will be possible on the third floor of the Harvard University Herbaria building.

A curatorial grant from the National Science Foundation has been in effect for two years, supplying funds for curatorial work in the Farlow Herbarium, the Botanical Museum, and

the Gray Herbarium and the Arnold Arboretum. A third year of support has been approved. The grant has been used to increase the mounting of specimens to reduce the backlog of stored, inaccessible collections in each of the four institutions, with funds available for retroactive binding of books, processing of herbarium loan requests, and services to other botanists for these collections of national significance.

During the year, 26,069 specimens were mounted for the Arnold Arboretum herbarium and inserted, bringing the total to 1,026,459, of which 154,044 represent plants under cultivation and housed in the Administration Building in Jamaica Plain. The Arboretum received 13,971 specimens by exchange, as gifts, as subsidy of collectors, or for identification. A total of 3,677 specimens were distributed in exchange or sent as gifts to other institutions. Loans numbering 176 from 57 institutions, and totaling 20,948 specimens, were borrowed: 92 loans totaling 11,735 specimens for students; and 84 loans totaling 9,213 specimens for 10 staff members. Requests to the combined herbaria for specimens to be loaned were filled as possible with 172 loans to 87 institutions, comprising 24,522 specimens. Of these, 54 requests were from institutions in the United States and 33 from institutions in 18 other countries. For the first time in several decades, communication has been re-established with scientists of the People's Republic of China. We have received publications, seed lists, and requests for photographs and specimens. In an exchange of herbarium specimens, the Arnold Arboretum received some from Academia Sinica and has sent comparable materials.

The staff is involved in many types of research projects, and those dependent on the herbarium are represented by floristic studies and monographs. Miss Shiu-Ying Hu is preparing a flora of Hong Kong and the New Territories. Prof. Wood and Mr. Kenneth Robertson continue work on a generic flora of the Southeastern United States. Prof. Howard is studying the vegetation of the Lesser Antilles, with the ultimate goal a flora of the area. Research Fellow William Gillis is working on a flora of the Bahama Islands, including the Turks and Caicos Islands.

Mr. Stephen Spongberg continues his work toward a revision of Rehder's *Manual of Cultivated Trees and Shrubs of Eastern United States*. Miss Schubert conducts special studies of the genera *Desmodium*, *Begonia* and *Dioscorea*. Mr. Lee is studying the Leguminosae of China. Mr. Stevens continues his studies of the Ericaceae, primarily of Asia, and is undertaking a revision of the genus *Calophyllum*. Mr. Weaver is investigating the tropical genera of the Gentianaceae.

Contributions of former staff members, representing work done while at the Arboretum, appeared during the year. Miss Dulcie Powell is the author of a study of the introductions and distribution of plants by Captain William Bligh in the voyage following the mutiny on the *Bounty*. Her study, entitled "*The Voyage of the Plant Nursery, H.M.S. Providence, 1791-1793*," was published by the Institute of Jamaica.

Before joining the Arboretum staff, Thomas Hartley collected extensively in Papua and New Guinea plant materials that were to be analyzed by chemists for the alkaloid content and

other significant constituents. Identifications were completed by work in the Arboretum herbarium, but publication was delayed until the chemists completed their work. The article, "*A Survey of New Guinea Plants for Alkaloids*," comprising 102 pages, and considering 2,301 species of 172 families, was published in the journal, *Lloydia*, by Hartley and four coauthors. This is a major addition to our knowledge of plant chemicals and their distribution in various plant families.

A former Mercer Research Fellow, S.M.A. Kazmi, of Pakistan, used the library of the Arnold Arboretum during his stay in Cambridge to prepare a comprehensive bibliography of literature on the flora of Pakistan. The fourth portion of his work entitled "*Bibliography on the Botany of West Pakistan and Kashmir*" has been published by Field Research Projects in Miami, Florida.

The National Science Foundation has a Special Foreign Currency Program for Research, Science Education, and Related Activities, which will consider research proposals from institutions in countries where U.S.-owned foreign currencies exist. Each organization applying must have a cooperating U.S. scientist or scientific organization. Two scientists in Pakistan submitted proposals related to the work of the Arnold Arboretum, and we have agreed to cooperate with them.

The University of Islamabad wishes to establish a University Herbarium, and to have the Arnold Arboretum assist in the identification and distribution of herbarium specimens. The Arboretum herbarium has a good representation of specimens from India, China and Malaysia, but few from Pakistan. We believe the cooperation will be mutually beneficial.

Mr. S.M.A. Kazmi, mentioned above, received approval for his proposal to collect and publish on the cultivated woody plants of Pakistan. Again, the Arboretum wishes such herbarium specimens and will cooperate in identification and distribution. Both projects, paid for in U.S.-owned Pakistani rupees, can progress without direct costs to the Arnold Arboretum.

#### LIBRARY

With regret we received the resignation of Mrs. Patricia Dick Hall, who, in a joint appointment with the Gray Herbarium, served as head librarian. A special search committee was appointed, including Miss Schubert and Mr. Sponberg of the Arboretum staff, to find and recommend a new librarian. Mrs. Lenore Dickinson was selected, and will assume her duties on September 1, 1974.

Mrs. Dickinson transferred from her position in the Divinity School library, and, being familiar with the Harvard library system, should make the transition with ease. The search committee will continue to function as a staff library committee to assist the librarian. The rapidly increasing costs of books and periodicals is of great concern. A greater coordination of purchasing within the Harvard libraries is developing so that duplication of general topic



volumes can be reduced. The proper selection of volumes within areas pertinent to the work of the staff can be a part of the responsibility of the library committee.

The Arboretum has two special endowment funds created by Charles S. Sargent and Mary R. Sargent for the purchase of books. At one time the income from these funds was sufficient to meet the annual needs for book purchase and book binding. At the present time, this income is less than half the annual cost of purchases alone, and the remainder is taken from unrestricted funds. A program of reconditioning historical volumes was aided again this year by the Massachusetts Council on the Arts and Humanities.

The holdings of the Library of the Arnold Arboretum were increased by 904 items to a total of 82,813 catalogued volumes. Currently, 641 periodicals are received by the Gray Herbarium and the Arnold Arboretum, forming a truly excellent library for botanical and horticultural research. Additional microfiche of herbaria and books are purchased jointly, with a current holding of 10,814 such items.

## EDUCATION

Education has many definitions, and the sharing of information or knowledge may be the common expression. The staff of the Arnold Arboretum does this formally and informally in daily activities. A living collection of labeled plants, open to the public, is a static method, as are various exhibits and displays in the Boston area. The staff answers questions by telephone and by letter, and teaches formal and informal classes, or conducts tours for visitors. The staff contributes to knowledge by public lectures, by television appearances, and through publications. Education is a major facet of the operations of the Arnold Arboretum and its staff.

During the spring semester, Prof. Carroll Wood offered Biology 103, an elementary course in the taxonomy of vascular plants. Three summer school classes were given by the staff, two in Jamaica Plain, and one in Florida and Massachusetts. Professors Wood and Howard taught S-105, Plants in the Tropics, using the Fairchild Tropical Garden in Coral Gables, Florida, as headquarters for three weeks of laboratory and field work, followed by a week in Cambridge using the herbarium and library. Biology S-109, Taxonomy of Cultivated Plants, was taught by Mr. Weaver, and S-110, Principles of Practical Horticulture by Mr. DeWolf, with both courses being held in the Administration Building in Jamaica Plain and on the grounds of the Arboretum. Prof. Howard, Miss Schubert and Prof. Wood supervised the work of graduate and undergraduate students in research courses, or served as advisors to undergraduate students in the Department of Biology. Mr. Spongberg was in charge of the seminar programs in systematic botany held in Cambridge.

Noncredit courses, consisting of lectures and laboratory work, are held in Jamaica Plain and in Weston.

The horticultural staff of the Arboretum prepared an exhibit on abnormal and dwarf conifers for the Spring Flower Show of the Massachusetts Horticultural Society, receiving five

major awards. Special exhibits were staged in three areas, the Peabody Mall, Brookline Village, and Boston Common, in conjunction with earth week programs in April. When the local merchants sponsored sidewalk educational exhibits and displays in Jamaica Plain, Mercer Fellow James Wolpert manned an exhibit of plant propagation using home materials.

Three exhibits were staged in the lecture room of the Administration Building: an exhibit of water color paintings by Catherine Hammond; painting sketches and photographs of East Africa by Karen Velmure, a member of the staff, and her husband; and an exhibit of poisonous plants prepared by the staff.

The Arboretum has offered guided tours to visiting groups, and most of these are conducted during the spring flowering season. Volunteers now have been trained to conduct tours for garden club groups. The Volunteers are effective in this role, and have relieved the staff for other duties. Other groups may require more highly trained leaders, or have special needs, and these are met by members of the staff. During the past year, classes from seventeen colleges visited the Arboretum for tours of the grounds, the greenhouses, and the herbarium, or for special lectures by the staff.

An educational film on Poisonous Plants was completed and released. Peter Chvany, who made the Centennial Film on the Arnold Arboretum, was also the producer and photographer for this film. Subsequently, the film has had a wide showing to hospitals in the Boston area and to many other organizations, including the Harvard 1974 summer school. An issue of *Arnoldia* was devoted to the topic of poisonous plants to supplement the information in the film.

## VOLUNTEERS

The contributions in service to the Arnold Arboretum, on the part of a faithful group of Volunteers, has been of tremendous significance. We can call on these willing people for regular duty or for special events, and their help is greatly appreciated.

Most of the tours of the grounds for garden clubs are now conducted by members of the Volunteers. They have helped in the library. They staff the open days at the greenhouse; help with general duties in plant propagation and the inventories of the nursery areas; collect and prepare herbarium specimens from plants on the grounds, and eventually file these in the herbarium; read proof and correct galleys of manuscripts; assist in revising our computer printout records of the living collections; catalogue and recondition the collection of kodachrome slides; and assist staff members in their research programs in various ways, from literature searches, and the preparation of illustrations, to making chromosome counts of seedlings and flowers. One of the permanent exhibits in the Administration Building is a collection of flowers and fruits attractively embedded in clear plastic. This is the continuing contribution of one Volunteer. The blocks are not only useful for teaching in classes and for plant identification, but also have been used in many temporary displays elsewhere.

## GIFTS AND GRANTS

The staff of the Arnold Arboretum is grateful to many individuals and organizations for gifts of money and of material objects which support our general activities. The members of the Friends of the Arnold Arboretum are regular contributors to an appeal for support. The basic fee for single membership was increased to \$15 this year, and the Friends responded in kind with many increasing their contributions in recognition of the fact that inflation affects the Arboretum as well as individual consumers. We are particularly appreciative of a gift from Mrs. Alan Cunningham which has been used to redesign and landscape the top of Bussey Hill, making it an attractive overlook of the grounds, with convenient benches and educationally useful plantings for many seasons of bloom. Memorial gifts are gratefully received, and are used as requested.

Memorial gifts were received in the names of Mrs. Peter Boshco, Loring Conant, Sr., Virginia S. Jewett, Lowell Trowbridge, and Mrs. Frances Williams. The film on Poisonous Plants was completed largely with gifts from the Friends of the Arnold Arboretum, but special gifts for this purpose were received from the George I. Alden Trust, and the Smith, Kline and French Laboratories.

The Massachusetts Council on the Arts and Humanities supported our program of rare book restoration. Mrs. Julian Hill donated a valuable printout of the living collections of the Barnard's Inn Farm. Books for the library collections were received from Mrs. Ara Derderian, Mr. Henry Landis, Q.C., Mr. Charles Mead, Mrs. Percy Merry, Mr. J. Newfield, and Mrs. Richard Warren.

We received two gifts in support of work toward a revision of Rehder's *Manual of Cultivated Woody Plants*, one from an anonymous donor, and one from the Rare Plant Group of the Garden Club of America.

A grant from the Tozier Fund was made to Miss Schubert for the purchase of a Polaroid MP-4 camera for staff use in the Herbaria Building in Cambridge.

## PUBLICATIONS

Four numbers comprise each volume of the [\*Journal of the Arnold Arboretum\*](#), and the four numbers issued during the fiscal year totaled 495 pages. Twenty-three articles, by 31 authors, were edited by Miss Bernice Schubert, with the aid of Miss Kathleen Clagett as editorial assistant.

An Index to Authors and Titles, Volumes 1 through 50, 1919-1969, for the *Journal* was compiled by a former editorial assistant, Ms. Ellen B. Bernstein. The Index, with an introduction by Miss Schubert comprising a history of the *Journal* and a table of publication dates, was issued as a separate publication of 74 pages in July of 1973.

*Arnoldia* is edited by Mrs. Jeanne Wadleigh, with the assistance of several staff members. The six numbers issued during the year totaled 268 pages.

Research papers and similar published contributions by the members of the staff comprised 51 books and articles printed in *Arnoldia*, in the *Journal of the Arnold Arboretum*, and in 19 other periodicals.

RICHARD A. HOWARD, Director