Dendrological Union, the Scottish Garden Society, and the International Camellia Society.

Exhibits and Displays:

For the first time in a number of years the Arboretum did not participate in the Spring Flower Show of the Massachusetts Horticultural Society. Impending changes in the physical plant necessitated commitment of labor and the requirements of greenhouse space for research materials and experiments in progress did not permit the forcing of trees and shrubs in time for the Spring Show. A demonstration of mulching materials similar to that shown at the Massachusetts Spring Flower Show last year was exhibited for the 19th American Horticultural Congress held in the Commodore Hotel in New York in September.



Opening Plenary Session of the X International Botanical Congress held in Usher Hall, Edinburgh, Scotland, August, 1964. Jalmar photograph.

Open houses were held in Weston and in Jamaica Plain during the spring. The Massachusetts Horticultural Society, in awarding a gold medal to the Arnold Arboretum, requested our participation in a program of open gardens of award winners. For this two-day activity the staff prepared special exhibition cases, including new kodachrome transparency displays and demonstrations relating to plant exploration, the preparation of herbarium specimens, and techniques of plant identification.

Mr. Heman Howard prepared a special set of display photographs of the Larz Anderson collection of bonsai of the Arnold Arboretum. The set of photographs, showing individual specimens, as well as the methods of housing and displaying the bonsai, is available on loan. During the year these photographs were displayed for a special exhibit of the Garden Club of America in the Goldsmith Civic Garden Center in Memphis, Tennessee.

Dr. Hu prepared and exhibited a colorful demonstration concerned with

the lines of evolution in the genus *Ilex*, the hollies, at the X International Botanical Congress at Edinburgh.

Travel and Exploration:

The X International Botanical Congress in Scotland afforded staff members attending the opportunity of taking part in tours to various botanical gardens and of visiting herbaria and botanical institutions. Mr. Green worked at the herbaria of Kew and the British Museum (Natural History) both before and after the Congress. Dr. Howard travelled to Denmark, Germany, France, and Belgium following the Congress, visiting gardens and herbaria in each country before returning to the institutions in London en route home. Dr. Hu received a special grant from the research funds of Sigma Xi which permitted her to study material of *Ilex* in herbaria in London and Edinburgh, as well as Munich, Vienna, Berlin, Göttingen, Leiden, and Brussels. Dr. Nevling received a travel grant from the National Science Foundation through an award committee of the American Institute of Biological Sciences which enabled him to observe curatorial procedures at the major herbaria in England and Scotland, the Netherlands, and France. Dr. Schubert worked in the herbaria in London, and in Edinburgh during the Congress. Dr. Wood made an extensive trip through Europe before the Congress visiting gardens in Italy, Germany, Austria, France, and Switzerland and making photographs of plants to be used in his course in plant taxonomy. He examined material in the herbaria in



Field work in the Luquillo Mountains in eastern Puerto Rico. Sir George Taylor, Director, Royal Botanic Gardens, Kew; Dr. Richard Howard; and Mr. Roy Woodbury, of the University of Puerto Rico. October, 1964. From a Kodachrome by Anstiss B. Wagner.

London, Paris, Geneva, and Copenhagen, and solved many problems which had arisen from his studies of the flora of the southeastern United States.

Drs. Howard, Nevling, and Wood made trips to Puerto Rico in programs of teaching and research. Materials for anatomical and cytological studies were collected as well as specimens for special illustrations. Dr. Howard attended a meeting of the Council of the Association for Tropical Biology in Caracas, Venezuela. With the cooperation of botanists of the Instituto Botánico materials for petiolar studies were collected in the Parque Henri Pittier and in the Botanical Garden.

Mr. Hosmer was able to collect material of plants worthy of trial in the Boston area in several locations in Afghanistan.

During the spring and early summer of 1965 Dr. Wyman is spending several months in Europe to obtain plants thought to be new to the United States and to be hardy out-of-doors at the Arnold Arboretum. These plants have been sought from the native floras, as well as in introduced and cultivated collections in botanic gardens, arboreta, private gardens, and nurseries.

The Arboretum has agreed to share the expenses of several expeditions or to purchase herbarium collections or seeds from botanists of other institutions. During the year support was afforded expeditions in Turkey, Guatemala, Puerto Rico, South Africa, and Western Australia.

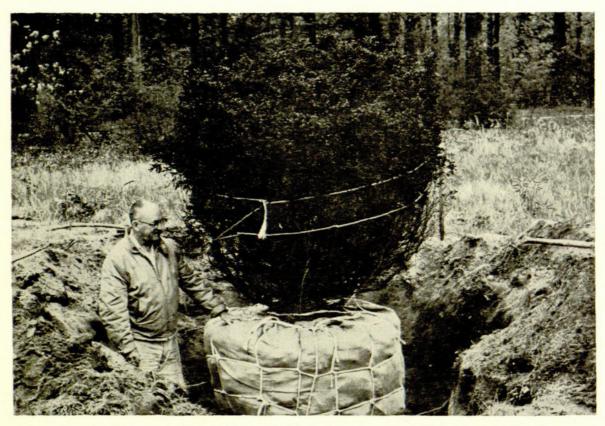
Gifts and Grants:

During the fiscal year 1963–64, property belonging to the Bussey Institution was taken by the Commonwealth of Massachusetts by right of eminent domain. On this property were the old buildings forming the greenhouse complex of the Arnold Arboretum. The value of the buildings alone was credited to the Arboretum shortly before June 30, 1964, when the sum of \$14,806.69 was added to the principle of the Bussey Fund for the Arnold Arboretum (1903), for that portion of the net proceeds of the Bussey Institution land settlement. This transaction was not recorded in sufficient time to be included in the Director's Report of the appropriate fiscal year.

The Friends of the Arnold Arboretum renewed their gifts during the year, and these funds were assigned as usual to an account for work on the grounds in Jamaica Plain or for activities in the horticultural department and the greenhouses. We are grateful for the generous and loyal financial support of the Friends for the work of the staff. A record of the gifts is published quarterly in the "Gifts to Harvard," and the complete fiscal review is published annually in the Financial Report to the Board of Overseers of Harvard College.

Gifts of materials for the horticultural collections, the library, the herbarium, or special research purposes were many and have, in general, been noted in the appropriate section of this report. Special gifts included a collection of orchid plants from Mr. and Mrs. Robert Preston for research projects and for teaching; a number of plants or propagation materials

from the hollies of the late Wilfred Wheeler made possible through the Massachusetts Audubon Society; a large gift of special lily bulbs from the Ofuna Botanical Garden in Kanagawa-Ken, Japan; a very old and large *Taxus baccata* 'Adpressa' from Mr. Harry W. Fowle; a large number of books from the estate of Mrs. Susan McKelvey; many kinds of records



An old specimen of *Taxus baccata* 'Adpressa' prepared for transplanting to a location near the Dana Greenhouses in Jamaica Plain. This plant was the gift of Mr. Harry W. Fowle, shown in the photograph by Heman Howard.

and files from Mr. Seth Kelsey. We are grateful for these and smaller gifts of similar nature.

Publications:

Four numbers of the *Journal of the Arnold Arboretum* were issued during the fiscal year under the editorial direction of Dr. Schubert. The numbers contained 462 pages and 21 articles, primarily by members of the staff. We welcome the first half of the series of letters from Charles Sprague Sargent to the Louisiana botanist, Reginald Somers Cocks, which have been edited by Professor Joseph Ewan of Tulane University. Publication of the remainder of the series of letters will be in the current volume of the *Journal*. The full series will be available as a single bound reprint.

Two large manuscripts were completed during the year and submitted for publication as independent studies. A cumulative index to the nine volumes comprising Urban's *Symbolae Antillanae* was prepared by Miss Sutton and Miss Carroll. It will be published in August by the Arboretum. An encyclopedic bibliography of the medicinal and poisonous plants of

southeastern Asia was completed by Dr. Perry and is being considered by a private publisher.

Since volumes 1–10 of the *Journal of the Arnold Arboretum* have long been out of print and the supply of many single numbers has been exhausted, the available back numbers were sold during the year to the Kraus Reprint Corporation, 16 East 46th Street, New York, N.Y. 10017, under a contract to reprint the first twenty volumes and all out-of-print numbers, and to offer all for sale.

The bibliography which follows lists 76 articles and books by members of the staff which were published during the past fiscal year.

Bibliography of the Published Writings of the Staff and Students July 1, 1964-June 30, 1965

- Bailey, Irving W. Comparative anatomy of the leaf-bearing Cactaceae, XII. Preliminary observations upon the structure of the epidermis, stomata, and cuticle. Jour. Arnold Arb. 45: 374–389. 1964.
- ———. Comparative anatomy of the leaf-bearing Cactaceae, XIII. The occurrence of water-soluble anisotropic bodies in air-dried and alcohol-dehydrated leaves of *Pereskia* and *Pereskiopsis*. Jour. Arnold Arb. 46: 74–85. 1965.
- BARANOV, Andrey I. A contribution to the knowledge of life history of Commelina communis. Quart. Jour. Taiwan Mus. 17: 81-113. 1964.
- ——. A new perennial garden onion from N. E. China. Quart. Jour. Taiwan Mus. 17: 77-79. 1964.
- ——. On the perianth and seed characters of *Chenopodium hybridum* and *C. gigantospermum*. Rhodora **66**: 168–171. 1964.
- ———. Preparation of dried vegetable marrows for winter use in north Manchuria. Econ. Bot. 19: 68, 69. 1965.
- To the project of standardization of botanical terminology. Taxon 14: 63-65. 1965.
- ——— (with Howard, Richard A). The Chinese bush cherry Prunus tomentosa. Arnoldia 24: 81–86. 1964.
- Brizicky, George K. A further note on Ceanothus herbaceus versus C. ovatus. Iour. Arnold Arb. 45: 471-473. 1964.
- The genera of Vitaceae in the southeastern United States. Jour. Arnold Arb. 46: 48-67. 1965.
- Dudley, Theodore R. Studies in *Alyssum*: near eastern representatives and their allies, II. Section *Meniocus* and Section *Psilonema*. Jour. Arnold Arb. 46: 181-217. 1965.
- Synopsis of the genus Alyssum. Jour. Arnold Arb. 45: 358-373. 1964.
 Synopsis of the genus Aurinia in Turkey. Jour. Arnold Arb. 45: 390-400. 1964.
- & Ball, Peter W. Alyssum L. [The account of]. In: Flora Europaea 1: 297-304. 1964.
- FERGUSON, IAN KEITH. The genera of Valerianaceae and Dipsacaceae in the southeastern United States. Jour. Arnold Arb. 46: 218-231. 1965.
- FORDHAM, ALFRED J. Germination of woody legume seeds with impermeable seed coats. Arnoldia 25: 1-8. 1965.

- ——. Germination of woody plant seeds. Horticulture 42(9): 18-20, 38. 1964.
- ——. How dwarf conifers were developed. 94th New England Spring Flower Show Program: 33, 53. 1965.
- Propagation of Prunus tomentosa. Arnoldia 24: 86, 87. 1964.
- Questions and answers on chemical weed control. Am. Nurseryman 121(8): 58-60. 1965.
- ——. An unusual witches'-broom on *Pinus strobus*. Int. Pl. Prop. Soc. Comb. Proc. 13: 117–119. 1965.
- Gómez Pompa, Arturo. A new *Diospyros* from the Misantla Region in Mexico. Jour. Arnold Arb. 45: 464-470. 1964.
- Graham, Shirley A. The genera of Rhizophoraceae and Combretaceae in the southeastern United States. Jour. Arnold Arb. 45: 285-301. 1964.
- Wood, Carroll E., Jr. The genera of Polygonaceae in the southeastern United States. Jour. Arnold Arb. 46: 92-121. 1965.
- Green, Peter S. Additions and corrections to species section in "Modern Roses 6." 1965.
- Newsl. Am. Assoc. Gard. Arb. 62: 15-17. 1965; Chron. Hort. 5: 3. 1965; Taxon 14: 134, 135. 1965.
- ——. The olive family in cultivation. Arnoldia 25: 13–27. 1965.
- HOWARD, RICHARD A. The Director's Report. The Arnold Arboretum during the fiscal year ended June 30, 1964. Jour. Arnold Arb. 45: 474-492. 1964.
- Polygonaceae. In: Flora of Trinidad and Tobago 2(7): 481-498. 1964.
- Susan Delano McKelvey, 1883-1964. Jour. Arnold Arb. 46: 45-47. 1965.
- Arnoldia 24: 81-86. 1964.
- Hu, Shiu-Ying. Other uses of day-lilies. Gard. Jour. N. Y. Bot. Gard. 14: 223-226, 228. 1964.
- ——. Uses of day-lilies. Herb Grower 17(4): 11–17. 1965.
- Whence the Chinese generic names of orchids? Am. Orchid Soc. Bull. 34: 518-521, 1965.
- NEVLING, LORIN I., Jr. Cytological evidence for the hybrid status of Daphne × mantensiana. Baileya 12: 134–136. 1964.
- _____. IOPB chromosome number reports II. Taxon 13: 205. 1964.
- A preliminary report on Funifera. Jour. Arnold Arb. 46: 232-241.
- —— (with Allen, Caroline K., & Rogers, David J.). Robert Everard Woodson, Jr. (1904–1963). Brittonia 17: 1-11. 1965.
- SANDERS, MARY E. (with Franzke, Clifford J.). Classes of true-breeding diploid mutants obtained after colchicine treatment of sorghum line Experimental 3. Bot. Gaz. 125: 170-178. 1964.
- ——. Mutants from an asynaptic strain of line Experimental 3. Sorghum Newsletter 7: 60-62. 1964.
- Jour. Bot. **52**: 211–221. 1965.
- SAX, KARL. The population problems. Topic 4: 5-19. 1964.
- The stimulation of plant growth by ionizing radiation. Rad. Bot. 3: 179-186, 1963.

- ——. The world's exploding population. Perspectives Biol. & Med. 7: 321–330. 1964.
- —— & Sax, Hally J. The effect of chronological and physiological aging of onion seeds on the frequency of spontaneous and X-ray induced chromosome aberrations. Rad. Bot. 4: 37–41. 1964.
- —— & SCHAIRER, LLOYD. The effect of chronic gamma irradiation on apical dominance of trees. Rad. Bot. 3: 283–285. 1963.
- Schubert, Bernice G. (with Smith, Lyman B.) Nuevas especies peruanas de la familia Begoniaceae. Publ. Mus. Hist. Nat. Lima Bot. 17: 1–19. 1964.
- Schwarten, Lazella. Bibliography. In: Howard, Richard A. Susan Delano McKelvey, 1883–1964. Jour. Arnold Arb. 46: 47. 1965.
- —— (with Rogerson, Clark T., Rickett, H. W. & Beckett, Herman). Index to American botanical literature. Bull. Torrey Club. 91: 338–360, 418–437, 513–533. 1964; 92: 74–97, 146–168, 225–243. 1965.
- Srivastava, Lalit. M. Anatomy, chemistry, and physiology of bark. Int. Rev. Forestry Res. 1: 203–277. 1964.
- Wood, Carroll E., Jr. (with Graham, Shirley A.). The genera of Polygonaceae in the southeastern United States. Jour. Arnold Arb. 46: 91-121. 1965.
- —— (with Moore, Harold E., Jr.). Dates of publication of the journal Linnaea: further evidence. Jour. Arnold Arb. 46: 68–73. 1965.
- Wyman, Donald. The American holly in the United States. XVIth Int. Hort. Congress Proc. 1962. 4: 342-344. 1964.
- ——. The American Horticultural Society. XVIth Int. Hort. Congress Proc. 1962. 5: 769-771. 1964.
- The Arnold Arboretum: Patron to American horticulture. Am. Nurseryman 120(2): 8. 1964.
- ——. Arboretums and botanical gardens in North America. Chron. Hort. 4: 34–36. 1964.
- -----. Bonsai at the Arnold Arboretum. Arnoldia 24: 101-104. 1964.
- ——. Castanea, Juglans offer little for landscape use. Am. Nurseryman 120(5): 11, 90-95. 1964.
- -----. Clematis repays extra care with abundant beauty. Am. Nurseryman 120(1): 15, 72-81. 1964.
- ——. Fast growing trees. Am. Home 67(8): 100, 101. 1964.
- -----. Fastigiate trees. Am. Hort. Mag. 43: 199-206. 1964.
- ——. Few buddleias of value for ornamental planting. Am. Nurseryman 120(3): 11, 77-80. 1964.
- ——. A few evergreen trees. Am. Nurseryman 120(9): 13, 60-65. 1964.
- ——. A further group of foliage trees. Am. Nurseryman 121(11): 10, 11, 78-83, 1965.
- ——. The gardeners' pocketbook. Viburnum opulus 'Roseum'. Am. Hort. Mag. 44: 115, 116. 1965.
- ——. Ground covers. Horticulture 43(1): 24–27. 1965.
- The hardiest azaleas. Am. Nurseryman 121(1): 14, 15, 62-81. 1965.
- ——. The hardiest rhododendrons. Am. Nurseryman 121(9): 12, 13, 88-94. 1965.
- The hardy shrub althaeas (Hibiscus syriacus). Soc. Hort. Res. II. 4: 183-187. 1964.
- ——. Lilies in their order of bloom. Arnoldia 24: 89-95. 1964.
- ——. Make room for birch trees. Pop. Garden. 16: 32, 33, 56. 1965.

_	—. Mock oranges. Arnoldia 25: 29–36. 1965.
	—. The new hedge demonstration plot. Arnoldia 24: 97–100. 1964.
	120 (7): 13, 66–72. 1964.
_	
	37-42. 1964.
	RICHARD A. HOWARD, Director

The Board of Overseers of Harvard College Committee to Visit the Arnold Arboretum

HERMON D. SMITH, Chairman, Chicago, Illinois.

OLIVER WOLCOTT, Vice-Chairman, Hamilton, Massachusetts.

Mrs. George L. Batchelder, Jr., Beverly, Massachusetts.

Mrs. Ralph Bradley, Canton, Massachusetts.

Mrs. William H. Claflin, Belmont, Massachusetts.

WILLIAM J. DEVINE, Commissioner, City of Boston Department of Parks and Recreation.

HENRY F. Du Pont, Winterthur, Delaware.

JOHN M. Fogg, Jr., Philadelphia, Pennsylvania.

SETH L. KELSEY, Kennett Square, Pennsylvania.

HAROLD E. MOORE, JR., Ithaca, New York.

Francis W. Sargent, Boston, Massachusetts.

Mrs. Ellery Sedgwick, Beverly, Massachusetts.

Mrs. Homer N. Sweet, Weston, Massachusetts.

GEORGE TAYLOR, Kew, Surrey, England.

Mrs. G. Kennard Wakefield, Milton, Massachusetts.

Mrs. Charles D. Webster, New York, New York.

RICHARD P. WHITE, Washington, D.C.

Mercer Research Fellows during at least part of fiscal year 1964-1965

HERMANUS PHILIPPUS VAN DER SCHIJFF, University of Pretoria, South Africa.

ARTURO GÓMEZ POMPA, National University of Mexico, Mexico.

EDWARD M. MURRAY, Pennsylvania State University, University Park, Pennsylvania.

HANS U. STAUFFER, University of Zurich, Switzerland.

H.-Christian Friedrich, Botanical Garden, Munich, Germany.

MICHEL COLON, Royal School of Horticulture, Vilvorde, Belgium.

Staff of the Arnold Arboretum 1964–1965

RICHARD ALDEN HOWARD, Ph.D., Arnold Professor of Botany, Professor of Dendrology, and Director.

IRVING WIDMER BAILEY, S.D., Professor of Plant Anatomy, Emeritus. KARL SAX, S.D., Professor of Botany, Emeritus.

ANDREY I. BARANOV, Curatorial Assistant.

George Konstantine Brizicky, R.N.Dr., Botanist, Southeastern Flora Project.*

MICHAEL ANTHONY CANOSO, M.S., Senior Curatorial Assistant.*

HENRY DRAPER, Superintendent, Case Estates.

THEODORE ROBERT DUDLEY, Ph.D., Assistant Horticultural Taxonomist.

IAN KEITH FERGUSON, Ph.D., Botanist, Southeastern Flora Project.*

ALFRED JAMES FORDHAM, Propagator.

Peter Shaw Green, B.Sc., Horticultural Taxonomist.

WILLIAM ED GRIME, B.A., Curatorial Assistant.*

THOMAS GORDON HARTLEY, Ph.D., Assistant Curator.

HENRY BARNES HOSMER, LL.B., Research Associate.

HEMAN ARTHUR HOWARD, Assistant Horticulturist.

SHIU-YING HU, Ph.D., Botanist.

MARGARET CATHERINE LEFAVOUR, Herbarium Secretary.

LORIN IVES NEVLING, Jr., Ph.D., Associate Curator and Supervisor of the Herbaria.*

MARY ELIZABETH SANDERS, Ph.D., Research Associate.

BERNICE GIDUZ SCHUBERT, Ph.D., Associate Curator and Editor.

LAZELLA SCHWARTEN, Librarian.*

STEPHANNE BARRY SUTTON, A.B., Business Secretary.

ROBERT GEROW WILLIAMS, B.S., Superintendent.

CARROLL EMORY WOOD, JR., Ph.D., Associate Curator.

DONALD WYMAN, Ph.D., Horticulturist.

^{*} Appointed jointly with the Gray Herbarium.

INDEX

Acacia angustissima, 429	Alyssum bungei, 195
Acanthopanax, 6	— calycinoides, 208
Acer, 124	— calycinum, 198
— drummondii, 25, 28, 31, 346–348	—— depressum, 203
— floridanum, 20–22, 27, 127, 346, 348,	— — minus, 203
360, 420	——— minus, 203
— leucoderme, 17, 21, 22, 27, 140	— — pumilum, 203
— negundo, 28	— campestre, 198
— — texanum, 345	— cassium, 213
— nigrum, 21, 22, 349	- chondrogynum, 213
— rubrum, 349, 418	- conglobulatum, 203
— — drummondii rotundata, 346, 348	— corningii, 212
— tomentosum, 347, 349, 351	— corsicum, 213
— — tridens, 346	- crenulatum, 213
— saccharinum, 417	— cupreum, 188, 189
- saccharum, 127, 346, 360	- damascenum, 197, 203-205
— — glaucescens, 420	- dasycarpum, 197, 207-210
—— glaucum, 346, 360	— dasycarpum, 208-210, 212, 213
— tridens, 348	— minus, 208, 210
Actaea alba, 428	— desertorum, 188, 213
Adelia, 412, 413	— — desertorum, 212
Adyseton calycinum, 199	— eriophyllum, 213
Aesculus austrina, 7	— erraticum, 199
— discolor mollis, 421	— filiforme, 212, 213
— pavia, 7, 15, 22, 420, 421	— floribundum, 213
— splendens, 18, 22	— giosnanum, 212
Alder, 26	— granatense, 197, 205
Alfaroa, 369, 372–373	— — sepalinum, 205
— costaricensis, 373	— — weilleri, 205
— costaricensis, 373, 407	- haussknechtii, 213
—— elongata, 373, 374, 407	- heterotrichum, 184, 195-196
— manningii, 373, 408	— hieronymii, 205
Alyssum: Near Eastern Representatives	- hirsutum, 192, 213
and Their Allies, Studies in, II. Section	- hispidum, 205
Meniocus and Section Psilonema, 181	— granatense, 205
Alyssum, 181–217	- homalocarpum, 197, 210
— sect. Meniocus, 183–196	- horebicum, 211
— sect. Psilonema, 196–212	- huetii, 184, 192-193, 212, 213
— aizoides, 212, 213	- kermanshahensis, 189
— algeriense, 205	— lepidotum, 212
— montanum, 205	- linearifolium, 185
— alyssoides, 197–203	linifolium, 183, 184-189
— alyssoides, 198–203	— — cupreum, 188
— conglobulatum, 203	— — linifolium, 185–188
—— depressum, 198, 203	— teheranicum, 185, 188-189
—— minus, 203	— marisii, 205
— pumilum, 203	- meniocoides, 189–191
— arvaticum, 199	— aureum, 191
— arvaticum, 199 — aurantiacum, 213	- minimum, 188
— aureum, 184, 191–192	- minutum, 212
— betpakdalense, 195	- murale murale, 213
— blepharocarpum, 184, 194, 196, 212	— mouradicum, 213
orepharocarpum, 104, 194, 190, 212	, , , ,



1965. "Index [Vol. 46]." *Journal of the Arnold Arboretum* 46(4), 493–503. https://doi.org/10.5962/p.324688.

View This Item Online: https://www.biodiversitylibrary.org/item/39781

DOI: https://doi.org/10.5962/p.324688

Permalink: https://www.biodiversitylibrary.org/partpdf/324688

Holding Institution

Missouri Botanical Garden, Peter H. Raven Library

Sponsored by

Missouri Botanical Garden

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: Arnold Arboretum of Harvard University

License: http://creativecommons.org/licenses/by-nc-sa/3.0/

Rights: https://biodiversitylibrary.org/permissions

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at https://www.biodiversitylibrary.org.