

## Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.



Not a X N

**PLANT INTRODUCTIONS**  
**TWENTY NINTH**  
**ANNUAL DESCRIPTIVE LIST**  
**Season 1940-41**

Containing Descriptions of the More Important  
Introduced Plants Now Ready  
for Listed Experimenters

Division of Plant Exploration and Introduction  
Bureau of Plant Industry  
United States Department of Agriculture  
Washington, D. C.

All plants sent out by this Division to experimenters are inspected at the Plant Introduction Gardens by officers of the Bureau of Entomology and Plant Quarantine. At the time this Annual List goes to press the inspection has not been made. It is possible, therefore, that quarantine regulations may prevent the sending out of a few plants herein described.

## PLANT INTRODUCTIONS

Experimenters will please read carefully this introductory note before sending in their requests for plant material.

This, the Twenty-ninth Annual List of Plant Introductions, contains descriptions of many new and rare plants, not yet widely tested in this country. The available information concerning some of them is meager, and it is therefore impossible to speak with assurance regarding their value, their cultural requirements, and their adaptability to the various climates and soils of the United States.

These plants have been imported because it is believed some direct or indirect use can be made of them. They are first placed at the disposal of the experts engaged in plant breeding, crop acclimatization, and horticultural investigations generally in the United States Department of Agriculture and the State Experiment Stations. Some of them have been grown in sufficient quantity, however, so that they can be distributed to some private experimenters who have the facilities to test them carefully. The List is therefore sent to those who have qualified as experimenters with the Division of Plant Exploration and Introduction, and who have indicated a willingness to care for material sent them.

Accompanying this Annual List are complete Check Lists showing all plants available for distribution at the several Plant Introduction Gardens during the season 1940-41 and the Garden from which available. Applicants for material should fill out all blanks at the top of the Check List of each garden from which they request plants, place a mark to the left of the P. I. (Plant Introduction) number of each plant desired, and return the lists promptly to this Division. Items marked with an asterisk (\*) are available in somewhat larger numbers, for propagating purposes, to interested nurserymen having exceptional facilities.

It should be distinctly understood that the Division does not agree to supply all the plants requested. It reserves the right to limit the number or to withhold the entire request of any experimenter in order that it may place the material according to its best judgment.

The shipping season extends, as a rule, from December 1 to April 1. While it may not always be practicable to ship plants at the time preferred by experimenters, it is much desired that when such preference exists it be indicated in the space provided for it at the head of the Check List.

These plants are placed in the hands of experimenters with the understanding that reports on their behavior will be sent to this Division from time to time, particularly noting their flowering, fruiting, hardiness, utilization, and any other interesting features. Reports should be prepared (preferably, but not necessarily, on regular forms) and sent, without special request, whenever in the judgment of the experimenter the plant has reached a stage that makes a report worth while; usually, however, unless the plant has flowered or died, reports should not be made within the first year or two. Regular report forms will be furnished by this Division, upon request. When all the plants of any P.I. number have died, this should be reported promptly by letter, with the cause of death indicated when known. It is expected that experimenters will keep their plants labeled at all times, and keep accurate charts showing the location and P.I. number of each one. Failure to comply with these directions will be considered sufficient reason for a discontinuance of the cooperative relation.

It will be necessary for experimenters to preserve and refer to the Annual Lists of Plant Introductions or to the Inventories published by the Division, for information regarding the plants. Each Inventory lists the seeds and plants imported during a period of three months. Its object is to serve as an historical record; it is not printed immediately following the arrival of the plants, but eighteen to twenty-four months later. The edition is limited and it cannot be supplied to all experimenters. This makes essential the preservation of the Annual Descriptive List as a work of reference, and the Division desires to urge upon its cooperator the importance of this step. Unless the Annual Lists are preserved, the Division later will be flooded with inquiries from persons who have received plants and who desire information concerning them. Answering such inquiries involves much unnecessary labor and expense.

For convenience in using the descriptive list, after each description is given in parenthesis the name of the garden or gardens at which the plants are being grown.

Descriptive List.

Numbers preceding plant names are P. I. numbers, and  
in correspondence concerning any plant, both  
number and name always must be given.

Nurserymen please see statement at end of paragraph 3 of  
introductory note, concerning items marked with  
an asterisk (\*).

124956. ABELIA. VAR. EDWARD GOUCHER. (Caprifoliaceae.) A variety of Abelia grown from a cross between A. grandiflora and A. schumannii, made at Glenn Dale, Md., by the late Edward Goucher, Bureau of Plant Industry. The features of both species are effectively combined in this variety. In habit of growth, climatic adaptability, and in free-flowering characteristics it much resembles A. grandiflora. In the large tubular lavender-pink flowers, it resembles A. schumannii. At Washington the plants are at least as hardy as A. grandiflora. For trial from Pennsylvania southward and on the Pacific coast or wherever A. grandiflora succeeds. (Glenn Dale, Md.)

136841-2-3. ACACIA ARGYROPHYLLA. (Mimosaceae.) From South Australia. Collected at Milang and presented by J. Howard Johnson, St. Peters. An evergreen spreading shrub or small tree, 12 to 20 feet high, with crooked trunk and branches. It grows in poor sandy soil with a limestone subsoil. Native to Australia. The phyllodes are obliquely obovate or oblong, rather broad, obtuse or mucronulate, silvery-silky, sometimes turning golden yellow, mostly  $\frac{3}{4}$  to  $1\frac{1}{2}$  inches long. The yellow flower heads are few and short, in axillary racemes or solitary, and the pods are linear to narrow-elliptical. The wood is said to be used only for fuel. For trial in southern California and southern Florida. (Chico, Calif.)

123145. ACACIA CONCINNA. From India. Collected at Madras by Walter Koelz, Bureau of Plant Industry. Sikaka. A large, woody, and very prickly climber with bipinnate leaves of 12 to 16 pinnae, 2 to 3 inches long, and small cream-colored to pink flowers in heads. The fruits are widely used as a hair dressing in India. Native to tropical Asia. For trial in the warmer parts of California, the Southwest, and the Gulf region. (Chico, Calif.)

132795. ACACIA KOA. Koa. From Hawaii. Presented by L. W. Bryan, Board of Commissioners of Agriculture and Forestry, Hilo. A large spreading tropical tree up to 60 feet high, native to the Hawaiian Islands. The coriaceous falcate phyllodes are 5 to 7 inches long, and the small white flowers are in globular heads gathered into axillary racemes. The wood, which is called Hawaiian mahogany, is excellent for veneers, and the bark is used for tanning. The plants will be ready in the late spring. For trial in southern California and southern Florida. (Chico, Calif.)

122767. ACACIA SP. From India. Collected at Calcutta by Walter Koelz, Bureau of Plant Industry. A shrub 8 feet high. The acacias from this region usually have pinnately compound foliage and showy, often fragrant, flowers. For trial in southern California and southern Florida. (Chico, Calif.)

122768. ACACIA SP. From India. Collected at 5,000 feet altitude at Bandrole, Kulu, Punjab, by Walter Koelz, Bureau of Plant Industry. A bushy tree of medium size, growing in semiarid situations. For 2 weeks in the spring it is covered with small heads of fragrant yellow flowers. For trial throughout the South. (Chico, Calif.)
136845. ACACIA SP. From South Australia. Collected at Milang and presented by J. Howard Johnson, St. Peters. A bushy, wide-spreading tree, 12 to 20 feet high, called "coastal wattle." It is said to cover a considerable area of sandhills, directly on the coast and a few miles inland, on the Southern York Peninsula. The trunk and limbs are crooked and never more than 4 or 5 inches in diameter; the lower branches sweep the ground. The foliage of entire leaflike blades is reported to be silvery green and the flowers to be in racemes. The wood is used only for fuel. (Supply very limited.) For trial in mild localities in southern California. (Chico, Calif.)
136846. ACACIA SP. From South Australia. Collected at Milang and presented by J. Howard Johnson, St. Peters. A small tree similar to the preceding (P. I. No. 136845) and understood to vary only in minor respects. For trial in southern California and the mildest parts of the Gulf region. (Chico, Calif.)
18578. ACER TRUNCATUM. (Aceraceae.) Maple. From China. Presented by Prof. Hsen-Hsu Hu, Fan Memorial Institute of Biology, Peiping. An attractive round-headed tree up to 25 feet high. The deeply 5-lobed leaves, truncate at the base, are 3 to 4 inches across, and the greenish-yellow flowers, borne in erect corymbs, are followed by winged fruits about 1 inch across which spread nearly at right angles. For trial in the upper South and the milder parts of the Northern States. (Chico, Calif.)
134050. AERIA ATTENUATA. (Phoenicaceae.) Palma de Coyor. From Puerto Rico. Presented by Claud L. Horn, Agricultural Experiment Station, Mayaguez. The tallest of the Puerto Rican palms, reaching a height of 60 to 100 feet. Its pinnate foliage resembles that of the royal palm but is shorter; the trunk never exceeds 6 to 8 inches in diameter. This palm, also known as the Coyure, is found only on limestone hills and usually feeds upon nothing but the humus collected in the cracks of these rocks. The large bunches of orange-red berries the size of a small cherry are very attractive and in Puerto Rico are fed to chickens and pigs. For trial in the warmest localities of southern Florida and southern California. (Glenn Dale, Md.)
116854. AGASTACHE CANA.\* (Menthaceae.) From Texas. Presented by Miss Ruth Yeates, El Paso. An attractive herbaceous perennial, woody at the base, that forms a compact clump of 15 to 25 stems about 2 feet high. The gray-green leaves are narrow-ovate and delightfully scented. Only a slight touch or wind movement is necessary to release the fragrance. The purple-crimson flowers, in compact pyramidal panicles about a foot long, are borne well above the foliage, from midsummer to frost. For trial in all but the coldest states. (Glenn Dale, Md.)
133413. AGASTACHE CANA. From Arizona. Collected at Hillsboro Canyon by L. N. Goodding, Soil Conservation Service. Same description as for preceding (P. I. No. 116354). (Glenn Dale, Md.)
139448. AGASTACHE VERTICILLATA.\* From New Mexico. Collected in the Animas Mountains by L. N. Goodding, Soil Conservation Service. A perennial about 30 inches tall, flowering the first year from seed. The ovate, gray-green leaves have a pleasant



mint-like fragrance. The light purple-magenta flowers, in a dense compound-terminal pedunculate raceme, are borne throughout the summer. Their effect is greatly enhanced by the persistent calyces of almost the same tone of magenta purple which make older plants, with clumps of stems, especially effective throughout the last half of the season. For trial in all but the coldest parts of the country. (Glenn Dale, Md.)

21969. ALBIZZIA KALKORA. (Mimosaceae.) From China. Collected near Boshan, Shantung, by F. N. Meyer, Bureau of Plant Industry. An ornamental tree up to 30 feet high, with bipinnate leaves with oblong leaflets  $\frac{3}{4}$  to  $1\frac{1}{2}$  inches long and cream-colored flower heads. The tree has proved hardy at Asheville, N. C. For trial from southern Virginia to the Gulf and on the Pacific coast. (Savannah, Ga.)

138691. ALBIZZIA KALKORA. From North Carolina. Presented by Wm. A. Knight, Biltmore, from a tree originally sent out by the Bureau of Plant Industry. Same description as for the preceding (P. I. No. 21969). (Glenn Dale, Md.)

136847. ALBIZZIA SP. From South Australia. Collected at Milang and presented by J. Howard Johnson, St. Peters. A shrub or small tree 10 to 12 feet high, with yellow flower heads up to 3 inches long by  $1\frac{1}{2}$  inches in diameter. It was found growing on a reclaimed swamp in which the soil is said to be very saline and to be subject to overflow at times. The seeds, which are reported sometimes to be eaten by the aborigines, are said when broken and moistened to give off an offensive odor. For trial in southern California and the milder parts of the Gulf region. (Chico, Calif.)

129184. ALNUS SP. (Betulaceae.) From China. Presented by the Lu-Shan Arboretum and Botanic Garden, Lu Shan, Kiukiang. The seedlings have attractive, glossy, elmlike leaves but the mature habit of the plant is unknown. For trial in all but the warmest and coldest parts of the United States. (Glenn Dale, Md.)

135790. AMORPHA BRACHYCARPA. (Fabaceae.) From Massachusetts. Obtained from F. W. Schumacher, Boston. A slender erect shrub 2 to 3 feet high, somewhat like Amorpha nana, native to Missouri. The pinnate leaves with crowded small leaflets are rather numerous. The small bright violet-blue flowers are in dense spikelike racemes arranged like panicles terminating the stems. It gives promise as one of the more attractive members of the genus. (Supply limited.) For trial throughout the United States. (Glenn Dale, Md.)

122063. AMORPHOPHALLUS BULBIFER. (Araceae.) From India. Collected near the Rangit River, Darjeeling District, at an altitude of 2,000 feet, by Walter Koelz, Bureau of Plant Industry. A summer-growing aroid with one or two large bright-green leaves on terete, conspicuously mottled petiole 2 or 3 feet long. The blade is more or less dichotomously decompound with long narrow lobes, in the axils of which large globose cormels are formed. The adult corm attains a diameter of several inches. For luxuriant tropical effects this is an unusually desirable plant. For trial throughout the Southern United States. (Glenn Dale, Md.)

101289. AMPHICOME ARGUTA. (Bignoniaceae.) From New Zealand. Obtained from A. Wilkinson, Tauranga. A low herbaceous perennial, not over 3 feet high, native to northern India. The compound leaves are made up of 5 to 9 deeply serrate lanceolate leaflets 2 inches long and the rose-colored funnel-shaped flowers, 1 inch long, are

borne in terminal racemes 6 to 8 inches long. For trial in the middle part of the California coast and in the Gulf region. (Chico, Calif.)

124982. ANTIDESMA PLATYPHYLLUM. (Euphorbiaceae.) From Cuba. Received from F. G. Walsingham, Atkins Institution of the Arnold Arboretum, Cienfuegos. A tree 20 to 30 feet high, native to the Hawaiian Islands. The subcoriaceous, ovate to obovate leaves are 3 to 5 inches long and the small flowers are followed by flattened suboblique red fruits about one-half inch long. For trial in the warmest parts of Florida and Southern California. (Glenn Dale, Md.)

108298. ARBUTUS ANDRACHNE. (Ericaceae.) From Greece. Collected at Athens by H. L. Westover and C. R. Enlow, Bureau of Plant Industry. An ornamental evergreen tree 10 to 30 feet high, native to Asia Minor. The oval dark-green glossy leaves are up to 4 inches long, and the terminal panicles of small white flowers are succeeded by edible orange-red fruits, one-half inch in diameter. For trial in the milder parts of the Southwest and the Gulf region. (Chico, Calif.)

122226. ARBUTUS ANDRACHNE. From Turkey. Collected between Haydarpasha and Shile by H. L. Westover and F. L. Wellman, Bureau of Plant Industry. Same description as for the preceding (P. I. No. 108298). (Chico, Calif.)

105930. ARISAEMA AMBIGUUM.\* (Araceae.) From India. Collected at Nachar, Rampur, Basahr, by Walter Koelz, Bureau of Plant Industry. A summer-growing aroid with 2 or 3 large 7-lobed bright-green leaves on conspicuously mottled petioles, about 3 feet long. The corm develops to a diameter of at least 4 inches. It is similar in growth habit to P. I. No. 122063, Amorphophallus bulbifer, and like it, effective in its luxuriant foliage. Small corms survived the severe winter of 1939-40 at Glenn Dale, but failed to produce good plants. For trial throughout the southern United States. (Glenn Dale, Md.)

119219. ARISAEMA AMBIGUUM. From India. Collected by Walter Koelz, Bureau of Plant Industry. Same description as for preceding (P. I. No. 105930). (Glenn Dale, Md.)

119220. ARISAEMA AMBIGUUM. From India. Collected near Kulu, Kulu, Punjab, by Walter Koelz, Bureau of Plant Industry. Same description as for P. I. No. 105930. (Glenn Dale, Md.)

106462. ARUM MACULATUM. (Araceae.) From the Soviet Union. Presented by the Institute of Subtropical Cultures, Sukhum, Transcaucasia, through the Institute of Plant Industry, Leningrad. An arum from Asia Minor, about a foot high, with about 6 broadly hastate-sagittate leaves, unspotted in these plants. The erect spathe, about 12 inches long, and 4 inches across, is oblong ovoid, white within, and pale green without. It usually appears in late March or early April out-of-doors. It should be useful for naturalizing along streams and in bog gardens. For trial in all but the coldest and hottest parts of the country. (Glenn Dale, Md.)

98257. ARUNDO PLINII. (Poaceae.) From Algeria. Presented by Dr. R. Maire, University of Algiers. This bamboo-like reed is much smaller than Arundo donax, and has upright leaves. It is native to the Mediterranean region and, in Algeria, is much used as a windbreak and for the making of shading mats by vegetable growers. (Supply

very limited.) For trial in the milder parts of California and the Southwest and in the Gulf region. (Chico, Calif.)

23014. ASPARAGUS SP.\* From China. Collected at Hangchow, Chekiang, by Frank N. Meyer, Bureau of Plant Industry. A very small evergreen asparagus, attaining ordinarily a height of only 3 to 5 inches. It is used as a border along paths in small gardens and requires a shady situation. The plant endures light frosts without injury. Recent experiments indicate that it may prove useful for pot culture provided it is kept moist and moderately cool and, especially, that it is kept very cool during the development of the new shoots. Under ordinary room temperatures the new shoots become "leggy" and spoil the symmetry of the cluster of plants in the pot. For trial in the middle and lower South and in southern California and elsewhere indoors. (Savannah, Ga.)

129189. BAUHINIA SP. (Caesalpiniaceae.) From China. Collected near Opie Hsien, Szechwan Province, by Yu-shin Liu of the Lu-shan Arboretum and Botanical Garden. A shrubby bauhinia with moderately large leaves. (Supply limited.) For trial in the warmest parts of Florida, the Gulf coast, and California. (Glenn Dale, Md.)

128898. BEGONIA SUTHERLANDI.\* (Begoniaceae.) From Pennsylvania. Presented by Mrs. J. Norman Henry, Gladwyne. A tuberous begonia, with slender, bright red-purple stems 1 to 2 feet high, translucent ovate-lanceolate leaves, the blades about 5 inches long, and axillary and terminal cymes of many orange flowers, each about an inch in diameter. Native to damp shady places at altitudes of 3,500 to 5,000 feet, in Natal. (Glenn Dale, Md.)

130480. BETULA UTILIS.\* (Betulaceae.) Birch. From China. Collected in Yunnan by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. A tree 40 to 60 feet high, with red-brown trunk and branches, and bark which peels off in papery flakes. It is native to subtropical regions of the Himalayas. The oval, coarsely toothed, sharp-pointed leaves, 3 inches long, are dark green above and paler beneath. In winter the orange-chocolate color of the twigs is very striking. For trial in all but the coldest parts of the country. (Glenn Dale, Md.)

131057. BOLTONIA LAUTUREANA. (Asteraceae.) From Manchuria. Collected at Harbin, by B. V. Skvortzov. A herbaceous perennial with erect, branching stems not over 2 feet high, leathery lanceolate leaves and small panicles of pale-lavender flower heads about 1½ inches across, in late August. Besides inherent merit, it would undoubtedly be of value to breeders. Native to northeastern China. For trial throughout the Northern States. (Glenn Dale, Md.)

133843. CAESALPINIA MEXICANA. (Caesalpiniaceae.) From Texas. Presented by Peter Heinz, Brownsville. A vigorous unarmed shrub or small tree with bipinnate leaves of rich green. The leaflets are obovate-oblong, about 1 inch long. The flowers are rather large, bright yellow, with long showy stamens, and are borne in very long racemes. For trial throughout the lower South and the Southwest. (Glenn Dale, Md.)

118761. CALLISTEMON CITRINUS. (Myrtaceae.) Bottlebrush. From California. A selection made at the Plant Introduction Garden, Chico, Calif., from second-generation seedlings of a plant grown in New South Wales as Callistemon "hortensia." The present

plant is a shrub 5 to 6 feet high, with a profusion of flowers with long, handsome, very dark-red stamens, the flowers being arranged along the leafy stems in the familiar bottlebrush form. It is hardier than most other callistemons, having been uninjured by a temperature of 24° F. For trial in the milder parts of California and the Gulf region. (Chico, Calif.)

101202. CALOTHAMNUS LONGISSIMUS. (Myrtaceae.) From Australia. Presented by Edwin Ashby, Blackwood, South Australia. A low spreading evergreen shrub with softly pubescent, corky branches. The leaves are terete, from 6 to 12 inches long, glabrous and dark green. The small flowers embedded in the swollen corky stems have long brilliant stamens. It has proved tolerant of high temperatures at Chico, California, but the plants froze to the ground at a temperature of 12° F. For trial in the warmer parts of California and the Southwest. (Chico, Calif.)

113760. CASSIA EREMOPHILA. (Caesalpiniaceae.) From Australia. Presented by the Director, Melbourne Botanic Garden and National Herbarium, South Yarra, Victoria. A handsome shrub 5 feet high, with leaves made up of two pairs of narrow leaflets, and yellow flowers. The leaves and pods are said to be eaten by stock. For trial in the milder parts of California and the Southwest and in the Gulf region. (Chico, Calif.)

139560. CASTANOSPERMUM AUSTRALE. (Fabaceae.) Moreton-Bay-chestnut. From Florida. Presented by David K. Stabler, Mountain Lake Park, Lake Wales, through J. B. Berry, Waverly, Fla. A large and beautiful leguminous tree, native to Queensland and New South Wales, with large evergreen pinnate leaves having 11 to 15 broad thick entire leaflets, and racemes of yellowish-green flowers which later become yellow to deep orange. The thick short subcylindric pods are 6 to 8 inches long by about 2 inches in diameter and contain 3 to 5 large seeds resembling chestnuts, that are poisonous. For trial in southern and central Florida and southern California. (Savannah, Ga.)

136848. CASUARINA GLAUCA. (Casuarinaceae.) From South Australia. Collected at Milang and presented by J. Howard Johnson, St. Peters. A handsome Australian shade tree 60 to 70 feet high, usually straight, and of rapid growth. It is known locally as "swamp she-oak." The timber is red, beautifully marked, hard and tough, and is used there for cabinet work. In periods of drought the foliage is used for stock feed. When trees are cut down, young growth shoots up quickly from the stump. This tree grows in the coastal districts, marshy country, and frequently in land submerged with tidal water. For trial in southern California and southern Florida. (Chico, Calif.)

136849. CASUARINA SP. From South Australia. Collected at Milang and presented by J. Howard Johnson, St. Peters. A tree 35 feet high with a straight trunk 12 to 14 inches in diameter at about 20 years of age. The very slender foliage is eaten greedily by livestock. For trial in southern California and southern Florida. (Chico, Calif.)

120280. CHAMAEDOREA SP. (Phoenicaceae.) Palm. From British Honduras. Obtained from William A. Schipp, botanical collector, Corozal. A handsome small palm with rich glossy green pinnatisect leaves. Offshoots are produced at the base, so that in time dense clumps are formed. The growth is slow, indicating that the plant is suited to conservatory use. For trial under glass or in the warmest parts of southern United States. (Glenn Dale, Md.)

126975. CHAMAEDOREA SP. Palm. From Mexico. Presented by Wm. MacDougal, San Miguel Chimalapa, Oaxaca. A handsome slender palm, the canelike trunk with joints 2 to 4 inches long, with glossy green, somewhat short-pinnate leaves having 5 or 6 rather broad tapering pinnae on each side of the midrib. It is probably related to Chamaedorea concolor. For trial under glass or in the warmest parts of southern United States. (Glenn Dale, Md.)

138632. CHAMAEDOREA SP. Palm. From Guatemala. Collected at Alta Verapaz and Peten by O. F. Cook, Bureau of Plant Industry. A handsome slender palm resembling the preceding (P. I. No. 126975), but with somewhat narrower pinnae. For trial under glass or in the warmest parts of southern United States. (Glenn Dale, Md.)

116998. CHAMAELAUCIUM UNCINATUM. (Myrtaceae.) From California. Presented by Eric Walther, Golden Gate Park, San Francisco. A very attractive heathlike shrub 6 feet or more high, native to Western Australia, with opposite hook-shaped linear leaves, nearly an inch long, and small terminal corymbs of cream-colored to pink flowers. It is erect and bushy in habit and the leaves are lemon scented when bruised. Cuttings root with some difficulty, and propagation is more easily effected by seed. For trial in mild-wintered regions from central California to Texas. (Chico, Calif.)

130882. CHRYSALIDOCARPUS LUCUBENSIS.\* (Phoenicaceae.) Beccari palm. From Puerto Rico. Presented by the Agricultural Experiment Station, Mayaguez. A tall and very beautiful palm; native to Madagascar, with a rather robust trunk with enlarged base, elongate pinnate leaves composed of rigid swordlike segments up to 3 feet in length, and obovate fruits about half an inch long. It is a particularly handsome palm when about 10 or 12 feet high. For trial in the warmest localities of the Southwest and the Gulf region and in conservatories elsewhere. (Glenn Dale, Md.)

135575. CLEMATIS BREVICAUDATA.\* (Ranunculaceae.) From Manchuria. Collected along a mountain stream near Macershan, E. Harbin, by B. V. Skvortzov. A vigorous climbing vine, native to China and Manchuria, with bipinnate, coarsely toothed leaves. The small white flowers, which come in late summer, are in loose cymes on slender axillary pedicels. The achenes have rather short plumose styles, whence the specific name. For trial throughout the United States. (Glenn Dale, Md.)

136043. COLUTEA SP. (Fabaceae.) From Afghanistan. Collected at an altitude of about 8,500 feet, at Burchao Pass, by Walter Koelz, Bureau of Plant Industry. A spreading shrub to 8 feet high. The coluteas are grown for their conspicuous inflated pods which hang on throughout the winter. The yellow or brownish-red flowers, in midsummer, are attractive. It is said that cattle browse the leaves of this species in the fall. For trial from Washington and Philadelphia southward. (Glenn Dale, Md.)

129990. CORIARIA SP.\* (Coriariaceae.) From China. Collected near Chungtien, Haba, Yunnan, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. The coriarias are shrubs or herbeaceous perennials with attractive foliage and habit of growth. A number of long arching branches are produced at the crown. The showy fruits, which may be red, yellow, or black, constitute the chief ornamental feature of this genus. For trial in the Southern States and on the Pacific coast. (Glenn Dale, Md.)

111353. *CORNUS KOUSA CHINENSIS*.\* (Cornaceae.) From China. Presented by H. H. Chung, National Wu Han University, Wuchang, Hupeh. A Chinese dogwood which becomes about 25 feet high, with glossy dark-green, elliptic-ovate leaves nearly 8 inches long. The flower heads, which appear in June after the leaves, are enclosed by a showy involucre, 2 or 3 inches across, composed of white, pointed bracts; the globose pinkish fruiting heads are about an inch across and are edible. The Chinese form produces larger bracts than the better-known type form. For trial in all but the colder States. (Glenn Dale, Md.)

56304. *COTONEASTER BUXIFOLIA VELLAEA*. (Malaceae.) From western China. Collected by J. F. Rock, Bureau of Plant Industry. A handsome evergreen shrub of slow growth, forming low, dense, gray-green masses. In the fall, the plants are well filled with small dull-red berries, either solitary or in small axillary clusters. For trial in all but the coldest and hottest parts of the country. (Chico, Calif.)

122078. *COTONEASTER* SP. From India. Collected by Walter Koelz, Bureau of Plant Industry. Obtained at Darjeeling but grown at high altitudes in Sikkim. A very handsome evergreen cotoneaster with small red fruits. The small, pointed, closely spaced leaves are a pleasing gray-green. The very free branching and the wide spread of the branches combine to give this plant an attractive habit. For trial from Philadelphia southward. (Glenn Dale, Md.)

30249. *CRATAEGUS DOUGLASII*. (Malaceae.) From Sweden. Presented by Dr. Veit Wittrock, Botanical Gardens, Albano, Stockholm. A North American tree up to 40 feet high, with slender branches unarmed or with short spines; the leaves are ovate acute and nearly glabrous. The ovoid fruits are lustrous black, with sweet light-yellow flesh. For trial throughout the northern States. (Chico, Calif.)

130958. *CRATAEGUS DUROBRIVENSIS*. From England. Presented by the Royal Botanic Gardens, Kew. A shrub up to 18 feet high, with ovate leaves and many large showy flowers in compact corymbs. Native to northern United States. For trial in the northern States. (Chico, Calif.)

77674. *DEUTZIA WILSONI*. (Hydrangeaceae.) From France. Obtained from Leon Chenault & Son, Orleans. A deciduous shrub, native to central China, with chestnut-brown branchlets, elliptic leaves stellate pubescent beneath, and loose broad corymbs of white flowers each nearly an inch in diameter. This species grows more slowly and produces fewer stems from the crown than most members of the genus. For trial in all but the coldest and hottest sections of the country. (Glenn Dale, Md.)

78079. *DEUTZIA*. VAR. *DISCOLOR ELEGANTISSIMA*. From France. Obtained from E. Turbat and Co., Orleans. The rosy white flowers, about three-fourths of an inch across, are in many-flowered loose corymbs. The plants at maturity are about 4 feet high, and almost as wide. They are unusually compact for the genus. (Supply limited.) For trial in all but the hottest parts of the country. (Glenn Dale, Md.)

78124. *DEUTZIA*. VAR. *CRENATA EMINENS*. From France. Obtained from V. Lemoine & Son, Nancy. A variety with tall erect stems, dark-green foliage, and large pyramidal panicles of handsome flowers with reflexed glistening white petals. For trial in all but the hottest parts of the country. (Glenn Dale, Md.)

78127. DEUTZIA. VAR. CRENATA GRACILLIMA. From France. Obtained from V. Lemoine & Son, Nancy. A variety with loose panicles of large white flowers with slightly fringed petals. The plants are tall, with slender arching branches. For trial in all but the hottest parts of the country. (Glenn Dale, Md.)

78129. DEUTZIA. VAR. CRENATA LONGIPETALA. From France. Obtained from V. Lemoine & Son, Nancy. A hybrid of second generation from Deutzia crenata and D. vilmorinae. It forms a dense mass of erect stems which bear in late May, crowded panicles of large flowers with long fringed pure-white petals. For trial in all but the hottest parts of the country. (Glenn Dale, Md.)

78135. DEUTZIA. VAR. DISCOLOR CANDIDA. From France. Obtained from V. Lemoine & Son, Nancy. A cross between Deutzia scabra and a hybrid of D. lemoinei, bearing an abundance of large snow-white paniculate flowers. The mature plant is about 4 feet high and almost as broad. For trial in all but the hottest parts of the country. (Glenn Dale, Md.)

78136. DEUTZIA. VAR. DISCOLOR CONSPICUA. From France. Obtained from V. Lemoine & Son, Nancy. A hybrid between Deutzia sieboldiana and D. purpurascens, forming a dense clump, about 4 feet high, and almost as broad. The flowers are very pale pink in the bud and open to a lustrous white. For trial in all but the hottest parts of the country. (Glenn Dale, Md.)

78139. DEUTZIA. VAR. MONT-ROSE. From France. Obtained from V. Lemoine & Son, Nancy. A handsome novelty raised by crossing a pink form of Deutzia longifolia with D. discolor purpurascens. At maturity it is a large shrub. It differs from most other deutzias in its handsome large pink flowers in large trusses. (Supply limited.) For trial in all but the hottest parts of the country. (Glenn Dale, Md.)

78140. DEUTZIA. VAR. MAGICIEN. From France. Obtained from V. Lemoine & Son, Nancy. A most showy variety, from a cross of Deutzia longifolia and similar to the preceding (P. I. No. 78139), with panicles of very large flowers whose fringed petals are mauve pink, edged with white, and purplish underneath. For trial in all but the hottest parts of the country. (Glenn Dale, Md.)

62708. DEUTZIA SP. From England. Presented by Vicary Gibbs, Aldenham House Gardens, Elstree, Herts. A shrub of medium size with white, wavy-edged flowers in late May. It was introduced from China by the late Reginald Farrer. For trial in all but the hottest and coldest parts of the country. (Glenn Dale, Md.)

111773. DEUTZIA SP. From India. Presented by A. H. Lee, Bandrole, Kulu, Punjab, through Walter Koelz, Bureau of Plant Industry. A low shrub with broad ovate gray-green leaves. The flowers are unknown. For trial from Philadelphia southward. (Glenn Dale, Md.)

56117. DICHOTAMANTHES TRISTANIAECARPA. (Amygdalaceae.) From China. Collected west of Hoachao, at an altitude of 7,000 feet, by J. F. Rock, Bureau of Plant Industry. An ornamental spreading shrub, with dense foliage, reported to grow 15 feet high in its native habitat. At Chico, California, 15-year-old specimens are 9 feet high, with a spread of 11 feet. The lanceolate leaves are glabrous and somewhat glossy

above and tomentose beneath. The flowers are rather inconspicuous but are followed by attractive scarlet fruits 3/16 inch in diameter, in clusters of 3 or more. The plant bears a resemblance to some of the cotoneasters. With partial protection it has withstood a minimum temperature of 11° F. For trial in all but the warmest parts of the South and on the Pacific coast. (Chico, Calif.)

113762. DODONAEA TRIQUETRA. (Sapindaceae.) From Australia. Presented by the Melbourne Botanic Gardens, South Yarra. A large quick-growing, thickly branched, evergreen shrub, with light-green, glabrous but rough, lanceolate leaves 3 to 4 inches long, at first glossy but in age becoming covered with bloom which gives them a dull bluish-gray appearance. The small greenish flowers, in May, are followed by medium-sized, winged, persistent capsules. The shrub appears to be adapted for use as a low windbreak or hedge. It endures the high summer temperatures at Chico, Calif., and has withstood a minimum temperature of 26° F. uninjured. Propagation is by seed or softwood cuttings. For trial in the milder parts of California, the Southwest, and the Gulf region. (Chico, Calif.)

132026. EUCALYPTUS AMYGDALINA. (Myrtaceae.) Almond eucalyptus. From Australia. Presented by F. H. Baker, Richmond. Peppermint gum. An Australian tree up to 300 feet high, with lanceolate leaves 4 inches long, crowded umbels of small flowers, and hemispheric fruits one-quarter-inch broad. The leaves have a strong odor of peppermint and are rich in oil. The wood is useful for many purposes but is not strong. The tree is said to endure considerable frost. For trial in southern California and southern Florida. (Chico, Calif.)

133137. EUCALYPTUS BRIDGESIANA. From Australia. Obtained from A. Murphy, Woy Woy, New South Wales. A tree 80 to 100 feet high, with whitish-gray wrinkled or scaly bark. The leaves are lanceolate, 6 to 12 inches long, but on young trees they are ovate. The short-stalked flowers are in clusters of about 7, on axillary flattened peduncles. The timber is fairly hard, but not very strong or durable; it is used for inside work. Native to eastern Victoria and to New South Wales. For trial in southern California and the warmer parts of the Gulf region. (Chico, Calif.)

132627. EUCALYPTUS CORYMBOSA. Bloodwood. From Australia. Presented by F. H. Baker, Richmond, Victoria. A small tree with outer bark of trunk persistent, at first gray but later turning somewhat black. Leaves lanceolate, somewhat leathery. The yellowish-white, fragrant flowers, in large corymbs, are followed by fruits one-half inch wide. The brown or red wood is durable underground or in water but is inferior because of numerous gum veins. For trial in the coastal region of southern California and in southern Florida. (Chico, Calif.)

124639. EUCALYPTUS GUNNII. Cider gum. From California. Presented by John McLaren, Superintendent, Golden Gate Park, San Francisco. The cider eucalypt is usually a scrubby tree up to 50 feet high, and grows at altitudes of 4,000 to 5,000 feet in Australia. In spring, the Tasmanians made a cider from the sweetish sap. The tree is also known as sugar gum because of the sweetness of its leaves, which are browsed readily by stock. The bark yields tannin, which, in a 12-weeks' process, colors leather light brown and makes it fairly flexible. It has stood 22° F. without injury and probably will withstand considerably lower temperatures. The species is well adapted to dry situations and has grown 7 feet a year on deep, sandy soil in Florida. For trial in the milder parts of California and the Southwest and in southern Florida. (Chico, Calif.)



132628. *EUCALYPTUS HAEMASTOMA*. From Australia. Presented by F. H. Baker, Richmond, Victoria. A large tree with smooth mottled bark and lanceolate falcate leathery leaves. The inconspicuous flowers are followed by fruits one-quarter inch across. The tree is said to thrive in poor sandy soil but not to be suited to dry interior valleys. The timber is inferior. For trial in southern California and southern Florida. (Chico, Calif.)

124640. *EUCALYPTUS PAUCIFLORA*. From California. Presented by John McLaren, Superintendent, Golden Gate Park, San Francisco. A high-mountain Australian tree, up to 100 feet high, with spreading branches, slender, somewhat pendulous twigs, and thick ovate-lanceolate or lanceolate leaves, 4 to 8 inches long. The outer bark is deciduous and the inner bark smooth and pale gray. The species has withstood a minimum temperature of 19° F. in southern California and may endure much lower. It is said to grow well in swampy lowlands. For trial in southern California and the warmer parts of the Gulf region. (Chico, Calif.)

132797. *EUCALYPTUS RUBIDA*. Candlebark gum. From Australia. Obtained from Percy Murphy, "Grandview," Woy Woy, New South Wales. An alpine or subalpine tree, 30 to 60 feet high, with smooth bark falling off in strips, found at altitudes of 1,000 to 5,000 feet in the cooler parts of Australia and in Tasmania. The narrow-lanceolate thickish leaves are equally dull green above and below, and there are three white flowers in solitary umbels. For trial in the milder parts of California and the Southwest and in the Gulf region. (Chico, Calif.)

114743. *EURYA ACUMINATA*. (Theaceae.) Collected in Szechwan Province, China, and presented by the Sun Yat-Sen Tomb and Memorial Park Commission, Nanking. A tender shrub up to 10 feet, with oblong-lanceolate leathery evergreen leaves of rich green color. The plants are always densely leaved. For trial in the warmest parts of the South and Southwest. (Glenn Dale, Md.)

77677. *EXOCHORDA GIRALDII*. (Rosaceae.) Pearlbush. From France. Obtained from Leon Chenault & Son, Orleans. A slender deciduous shrub 10 to 15 feet high, native to northwestern China. The large pure-white flowers, in racemes terminating short leafy shoots, appear in early spring. The exochordas are among the earliest plants to leaf out in the spring and the bright green of the new growth is a welcome sight. For trial in all but the warmest parts of the country. (Glenn Dale, Md.)

73983. *EXOCHORDA KOROLKOWI*. Turkestan pearlbush. From the Soviet Union. Presented by the Government Botanical Gardens, Nikita, Yalta, Crimea. A hardy upright slender-stemmed shrub up to 13 feet high, with racemes of showy white flowers 1½ inches in diameter. Native to Central Asia. Like the preceding, it is one of the earliest shrubs to leaf out in the spring. For trial in all but the warmest parts of the country. (Glenn Dale, Md.)

111595. *FICUS ARCHERI*. (Moraceae.) From Colombia. Collected at Granja, Department de Caucaz Papayan, by W. A. Archer, Bureau of Plant Industry. Uvillo. A large tree with thick, lustrous, leathery, oblong-obovate to elliptic-obovate leaves 2½ to 3½ inches long and red edible fruits about one-half inch in diameter. (Supply limited.) For trial in the warmest parts of the Southwest and of the Gulf region. (Chico, Calif.)

134204. *FLACOURTIA INDICA*. (Flacourtiaceae.) Ramontchi, or governor-plum. From India. Collected at Lahore, Punjab, by Walter Koelz, Bureau of Plant Industry. A large spiny evergreen shrub, native to the Philippine Islands. The white flowers are borne singly or in pairs in the leaf axils or at the ends of short branchlets. The rounded, dark purplish-red, edible sweet fruits, nearly an inch in diameter, contain a fleshy few-seeded pulp of pleasing flavor. They are usually eaten out-of-hand, though sometimes cooked; the seeds impart a pronounced flavor when cooked. The tree is dioecious, and the plants here offered are seedlings. For trial in central and southern Florida. (Glenn Dale, Md.)

136073. *FRAXINUS SP.* (Oleaceae.) Ash. From Afghanistan. Collected at an elevation of about 1500 feet near Balkh, by Walter Koelz, Bureau of Plant Industry. A quick-growing tree of good form, with 5-pinnate, coarsely toothed leaves. It may be of especial value in the warmer, drier regions of the Southwest. For trial from Philadelphia southward. (Glenn Dale, Md.)

125145. *GAULTHERIA PERPLEXA*. (Ericaceae.) From New Zealand. Received from Mrs. R. T. Richards, Canterbury. A small evergreen shrub, often procumbent, with narrow leaves up to one-half inch long and small solitary white flowers. Native to New Zealand. For trial in the middle California coast and the Gulf region. (Glenn Dale, Md.)

129227. *GAULTHERIA SP.\** From China. Collected at Mt. Omei, Szechuan Province, and presented by the Lu-Shan Arboretum and Botanic Garden, Lu Shan, Kiukiang. An erect species with large, pilose leaves. For trial throughout the South. (Glenn Dale, Md.)

67358. *GENISTA RADIATA*. (Fabaceae.) Broom. From England. Presented by the Director, Cambridge Botanic Garden, Cambridge. An attractive erect hardy shrub up to 30 inches high, with a somewhat rounded head, stiff evergreen branches, and simple or trifoliolate caducous leaves. The bright-yellow flowers, 3 to 10 in a head, are followed by oval silky pods. Native to southeastern Europe. For trial on the Pacific coast and in all but the warmest parts of the southern States. (Chico, Calif.)

130069. *GLYCYRRHIZA SP.* (Fabaceae.) From China. Collected by T. T. Yu, with the Yunnan Expedition of the Fam Memorial Institute of Biology and presented by the Arnold Arboretum, Jamaica Plain, Mass. An upright vigorous herbaceous perennial with pinnate leaves. The flowers and fruit are not known. Licorice is obtained from the roots of another species, *Glycyrrhiza glabra*. For trial from Philadelphia southward. (Glenn Dale, Md.)

129783. *HEBE RAKAIENSIS*. (Scrophulariaceae.) From New Zealand. Presented by the Botanic Gardens, Christchurch. A small rounded bush of compact habit, 2 to 5 feet high, with linear-oblong flat leaves about an inch long and white flowers in oblong dense clusters. For trial on the Pacific coast and all but the warmest parts of the South. (Chico, Calif.)

129784. *HEBE SALICIFOLIA*. From New Zealand. Presented by the Botanic Garden, Christchurch. An erect, much-branched shrub 3 to 10 feet, sometimes 15 feet high, with thin pale-green lanceolate or oblong-lanceolate leaves 2 to 6 inches long and

many small white to pale-bluish-purple flowers in slender racemes 3 to 10 inches long. Native to New Zealand. For trial in California and the Gulf region. (Chico, Calif.)

80002. HEDYCHIUM GHALII. (Zingiberaceae.) From India. Obtained from the Chandra Nursery, Bengal. A tropical herbaceous perennial with stoloniferous roots, suitable for planting in the colder regions if it is stored in a cool frost-free place during the winter. The plant grows best in a moist, partially shaded site, and is well adapted to water-side plantings. The stems are 2 to 4 feet high with alternate, closely spaced, linear-oblong leaves 10 to 12 inches long and 1 to 1½ inches wide. At Glenn Dale flowers are seldom produced. They are very sweet scented, marked with yellow, in terminal spikes about a foot long. For trial out-of-doors only in the warmer parts of the South unless the roots are stored over winter. (Glenn Dale, Md.)

78706. HEDYCHIUM SP. From India. Collected by Capt. F. Kingdon Ward in the Mishmi Hills, Assam, at an altitude of 6,000 feet, and presented by Major Lionel de Rothschild, London, England. Similar in most respects to Hedychium ghalii. The stems are 2 to 4 feet high, with alternate closely spaced oblong leaves 8 to 10 inches long and 2 to 3 inches wide. The terminal spikes of 8 to 10 flowers appear in September. Each flower has a slender orange-yellow tube, narrow white petals, and a white staminode about 1½ inches long and 1 inch wide, marked with orange-red at the base. There is no appreciable fragrance. For outdoor trial only in the warmer parts of the South unless the roots are stored over winter. (Glenn Dale, Md.)

100629. HIBISCUS HUEGELII. (Malvaceae.) From Australia. Presented by Edwin Ashby, "Wittunga," Blackwood, South Australia. A bushy evergreen shrub, native to Australia, with 3- to 5-lobed coarsely toothed leaves 1 to 3 inches long and large violet-purple flowers 4 to 5 inches across, with twisted petals, borne in May. Propagated vegetatively by softwood cuttings. For trial in southern California and southern Florida. (Chico, Calif.)

76345. HYMENANTHERA CRASSIFOLIA. (Violaceae.) From France. Presented by Vilmorin-Andrieux & Company, Verrieres-le-buisson, Seine-et-Oise. A dense half-evergreen drought-resistant shrub up to 6 feet high, often with branches prostrate, with crowded obovate leaves, small yellowish-white or brownish flowers and small berrylike white fruits. It is useful for edging, also as a pot plant, and when so used should be cut back heavily while young to induce free branching. The plant has withstood a temperature of 11° F. It is propagated easily by cuttings. Native to New Zealand. For trial in California and the Gulf States. (Chico, Calif.)

62810. ILEX SIKKIMENSIS. (Aquifoliaceae.) Holly. From India. Presented by the Lloyd Botanic Garden, Darjeeling. A moderately tall Himalayan tree with stout branches, broadly oblong, leathery, spinose-dentate leaves 5 to 6 inches long, and globular yellow berries. For trial in the milder parts of California and in the Gulf region. (Chico, Calif.)

77685. INDIGOFERA INCARNATA.\* (Fabaceae.) From France. Obtained from Leon Chenault & Son, Orleans. Var. Alba. A Chinese shrub, which in this climate is often herbaceous. Throughout the season it is a dense mass of rich green foliage, about 2 feet high, rather formal in habit. The racemes of showy white flowers, in May and early June, do not extend beyond the foliage, but they are borne in such masses that

they are very effective. The plant is readily propagated by cuttings or divisions. For trial throughout the country. (Glenn Dale, Md.)

126314. JUNIPERUS EXCELSA. (Pinaceae.) From Afghanistan. Collected by Walter Koelz, Bureau of Plant Industry, at an altitude of about 8,000 feet, near Khudikhal. A large tree, occasionally reaching a height of 60 feet, with a narrow-pyramidal head. The leaves are bluish green and nearly always scalelike, closely appressed to the slender branchlets. (Supply limited.) For trial in all but the hottest and coldest States. (Glenn Dale, Md.)

90104. KNIPHOFIA. VAR. SIR C. K. BUTLER. (Liliaceae.) From England. Obtained from Maurice Prichard & Sons, Ltd., Christchurch, Hants. The flowers, on stems about 3 feet tall, are produced throughout the summer. If the plants are stored over winter, this is one of the first varieties to flower. The buds are orange-scarlet, changing rapidly to sulfur-yellow flowers. For trial in all but the colder states, with protection or storage where the winters are severe. (Glenn Dale, Md.)

104977. KNIPHOFIA. VAR. PREZIOSA. From England. Obtained from Maurice Prichard and Sons, Ltd., Christchurch, Hants. One of the taller varieties, reaching a height of about 4 to 5 feet at its best. The flowers are scarlet with a rosy sheen, aging to soft yellow. For trial in all but the colder States, with protection or storage where winters are severe. (Glenn Dale, Md.)

111060. LEEA ASPERA. (Vitaceae.) From India. Presented by the Lloyd Botanic Garden, Darjeeling, at the request of the Director of the Botanical Survey of India, Calcutta. A shrubby perennial up to 4 feet high, with handsome pinnate foliage, and juicy black fruits the size of large currants, which are said to be eaten by the natives of India. Native to the Himalayas up to 6,000 feet altitude. For trial in the milder parts of California and in the Gulf region. (Chico, Calif.)

138686. LIGUSTRUM CILIATUM. (Oleaceae.) Privet. From Japan. Collected by P. H. Dorsett and W. J. Morse, in the Mowiyama Mountains, near Sapporo, Hokkaido. A low vigorous shrub with arching, sometimes almost horizontal, branches. The leaves are similar in size and shape to those of L. ovalifolium, but they do not possess the luster of that species. The plants are particularly showy in bloom, with the many dense racemes of white flowers. In the fall they are showy with numerous black fruits (large for the genus) that remain well into winter. (Glenn Dale, Md.)

116874. LONICERA MACRANTHA. (Caprifoliaceae.) From China. Collected in Hunan Province by C. S. Fan and Y. Y. Li and presented by the Arnold Arboretum and the University of Nanking. A vigorous twining honeysuckle, from subtropical parts of the Himalayas, with large hirsute persistent leaves and rather large white flowers  $1\frac{1}{2}$  to 2 inches long which fade to yellow. For trial from Washington southward. (Glenn Dale, Md.)

136084. LONICERA SP. From Afghanistan. Collected at Lorinj, at 8,000 feet altitude, by Walter Koelz, Bureau of Plant Industry. A shrub to 6 feet high with small ovate blue-green leaves. It seems most likely to be a small-leaved form of Lonicera tatarica. It bears great quantities of small orange-red berries in August. For trial throughout the United States. (Glenn Dale, Md.)

22982. LOROPETALUM CHINENSE. (Hamamelidaceae.) From China. Collected at Soochow, Kiangsu, by F. N. Meyer, Bureau of Plant Industry. Native name, Cho mei. An ornamental evergreen shrub, allied to the witch-hazel, sometimes growing into a small tree. It bears elliptical to ovate dark-green leaves about  $1\frac{1}{2}$  inches long and in early spring is covered with delightfully fragrant white flowers having slender strap-shaped petals half an inch long. It may be grown in a cool greenhouse, as well as out-of-doors where the winters are not too severe. It withstands summer heat in full sun at Chico, Calif., without irrigation. For pot culture a soil containing peat and sand is best. For trial out-of-doors from Philadelphia southward to the Gulf and on the Pacific coast. (Chico, Calif.)

76903. LUCULIA GRATISSIMA. (Rubiaceae.) From Gangtok, Sikkim, India. Presented by the forest manager of Sikkim. A Himalayan shrub up to 15 feet high, growing at altitudes of 4,000 to 5,000 feet, with opposite ovate leaves 6 inches long and many successive gorgeous rounded panicles of pink or rose-colored flowers in winter. A valuable plant for indoor culture and house decoration. For trial indoors or in southern California and southern Florida. (Chico, Calif.)

139483. LYCIUM HALMIFOLIUM. (Solanaceae.) From Nevada. Collected at Overton, by Percy Train, Bureau of Plant Industry. A bushy shrub up to 6 feet high, with spiny, pale-gray branches and gray-green lanceolate leaves about 1 inch long. The dull purple flowers are about an inch long and the small bright-orange berries are about  $\frac{1}{4}$  inch across. The berries are borne in great quantities and mature from midsummer until fall. The species is native to Europe and Asia but apparently it is established as an escape in Nevada. For trial throughout the United States, especially in the Southwest. (Glenn Dale, Md.)

139479. LYCIUM PALLIDUM. From Nevada. Collected at Overton by Percy Train, Bureau of Plant Industry. Similar to the preceding, except for its attractive and distinctive pale green-yellow flowers which are borne in great profusion. Fruiting seems to be uncertain in cultivation. For trial throughout the United States and especially in the Southwest. (Glenn Dale, Md.)

130714. MELALEUCA STYPHELIODES. (Myrtaceae.) From New Zealand. Received from V. Launder Millin, Napier. A tall Australian tree sometimes 80 feet high, with thick spongy bark. The leaves are very small, and the small creamy white flowers are in dense spikes about 2 inches long. For trial in the warmer parts of California and the Gulf region. (Chico, Calif.)

129255. MELASTOMA SP.\* (Melastomaceae.) From China. Collected on Mt. Omei, Szechwan Province, and presented by the Lu-Shan Arboretum and Botanic Garden, Kiukiang. The melastomas are small shrubs with large opposite, elliptic leaves and usually showy flowers of pink, magenta, or light purple. For trial in the lower South and on the Pacific coast. (Glenn Dale, Md.)

129789. METROSIDEROS TOMENTOSA. (Myrtaceae.) Iron tree. From New Zealand. Obtained from the Botanic Garden, Christchurch. A freely branching tree, native to New Zealand, up to 60 feet high and 4 feet in diameter, with coriaceous broadly ovate gray-green leaves, 2 inches long, tomentose beneath, and terminal cymes of flowers conspicuous for their long scarlet stamens as in the other bottlebrushes. For trial in the moister localities of southern California and in southern Florida. (Chico, Calif.)

114974. MORAEA IRIDIOIDES. (Iridaceae.) From Ceylon. Collected at Hakgala Gardens, Ceylon, by Walter Koelz, Bureau of Plant Industry. A very attractive relative of the iris with large clumps of irislike leaves with flower stalks to three feet. The flowers have blue-purple standards and white falls, marked with yellow, resembling Japanese iris in form. For trial in the lower South. (Chico, Calif.)

130156. MYRSINE SP. (Myrsinaceae.) From China. Collected at an altitude of about 7,500 feet, at Muli, N. E. Muli, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. A plant with attractive foliage. The closely-spaced, short-petioled leaves are glossy rich green. They are ovate, and about  $\frac{1}{2}$  inch long. The genus includes both trees and shrubs. No species has showy flowers. The present species appears to be a shrub. For trial throughout the South and Southwest. (Glenn Dale, Md.)

123884. NISSOLIA SCHOTTII. (Fabaceae.) From New Mexico. Collected by L. N. Goodding, Soil Conservation Service. A low climbing legume, woody at the base, usually found in the protection of trees. The small yellow flowers in late summer are in racemes. Native to Mexico and southwestern United States. (Supply limited.) For trial in the warmest parts of the South and Southwest. (Glenn Dale, Md.)

132873. OMANTHE COSTARICANA.\* (Phoenicaceae.) From Costa Rica. Presented by W. E. Klippert, Goodyear Rubber Co., San Jose. An attractive small tufted palm, sometimes 8 to 10 feet high, with striking clusters of bright-green foliage. The pinnae, 17 to 20 on a side, are similar to those of Neanthe bella. Native to Costa Rica. For trial in the warmest parts of the lower South and the Southwest or indoors as a conservatory or house plant. (Glenn Dale, Md.)

134361. ORMOSIA CALAVENSIS.\* (Fabaceae.) From the Philippine Islands. Presented by the Bureau of Forestry, Manila. Bahai. A large tropical tree with handsome pinnate leaves with 7 or 9 ovate leaflets. The violet-colored flowers are followed by small woody pods containing 2 or 3 coral-pink seeds. For trial only in the warmest parts of Florida and California. (Glenn Dale, Md.)

38184. PAULOWNIA FORTUNEI. (Scrophulariaceae.) From China. Collected at Chenkiao, Honan Province, by Frank N. Meyer, Bureau of Plant Industry. A handsome, large-leaved, deciduous tree 50 feet high, with terminal panicles 1 to  $1\frac{1}{2}$  feet long of fox-glovelike, light-purple, fragrant flowers, in April. The tree resembles the more common Paulownia imperialis but is less hardy. It has withstood uninjured, however, a minimum temperature of 12° F. at Chico, Calif. Propagation by seed or soft-wood cuttings. For trial in the milder parts of California and the Gulf region. (Chico, Calif.)

139480. PENSTEMON RUBICUNDUS. (Scrophulariaceae.) From Nevada. Collected by W. A. Archer, Bureau of Plant Industry, at an elevation of about 6,000 feet, in the Wassuk Mountains. A beautiful penstemon, closely related to Penstemon palmeri. Its broad leaves are gray green, with numerous teeth on the margins. The stems reach a height of about 3 feet under good conditions. The flowers are borne along the upper two-thirds, 2 to 4 in each axil of the bracts. The flowers are large for the genus, although not as large as those of P. palmeri. The color is rose, somewhat more

intense on the expanded limb of the corolla. The buds are appreciably darker. For trial from Washington southward. Special attention should be given to the selection of well-drained sites, which should be lightened by the addition of considerable sand. (Glenn Dale, Md.)

127055. PENTAS COCCINEA. (Rubiaceae.) From British East Africa. Obtained from the Mt. Elgon Nurseries, Kitale, Kenya. A showy undershrub of rapid growth with large bright-green leaves which are covered with short hairs. The long-tubed flowers are brilliant crimson; they are borne in umbel-like corymbs throughout the year. The flowers are dimorphic and the individuals with exserted styles are more showy than those with exserted stamens. There are indications that this will make a good pot plant, easily forced into flower for Christmas. For trial in the warmest parts of the South and the Southwest. (Glenn Dale, Md.)

78091. PHILADELPHUS. VAR. DAME BLANCHE. (Hydrangeaceae.) From France. Obtained from E. Turbat & Co., Orleans. This variety bears numerous panicles of creamy white, semidouble, fragrant flowers. At Glenn Dale, the plant is not as vigorous as most varieties but it is quite compact. For trial throughout the country. (Glenn Dale, Md.)

78102. PHILADELPHUS. VAR. PURPUREO-MACULATUS. From France. Obtained from E. Turbat & Co., Orleans. A hybrid of X *P. lemcinei* and *P. coulteri*. It has large cup-shaped, intensely fragrant, white flowers, spotted pale pink at the base. It has been of uncertain hardiness at Glenn Dale. At maturity the plants are somewhat smaller and more compact than in the more common varieties. For trial throughout the South. (Glenn Dale, Md.)

78105. PHILADELPHUS. VAR. SYBILLE. From France. Obtained from E. Turbat & Co., Orleans. A hybrid variety with large cup-shaped deliciously fragrant flowers, spotted pale pink at the base, on long curved branches. At Glenn Dale, this variety has not withstood cold winters as well as most other varieties. For trial throughout the South. (Glenn Dale, Md.)

123694. PHOENIX SP. (Phoenicaceae.) Palm. From India. Collected at Cuddapah, Madras Presidency, by Walter Koelz, Bureau of Plant Industry. A small ornamental palm growing 10 feet high but beginning to fruit at a height of 3 feet. (Supply very limited.) For trial in southern California and southern Florida or under glass. (Glenn Dale, Md.)

121975. PICEA SMITHIANA. (Pinaceae.) Himalayan spruce. From India. Collected at Kulu, Punjab, by Walter Koelz, Bureau of Plant Industry. The Himalayan spruce is a lofty tree found in the mountains of northwestern India at altitudes of 7,000 to 11,000 feet. The terminal, drooping, pale-green cones are 4 to 6 inches long, and the stiff, sharp, spirally arranged green leaves are crowded into hanging, tail-like twigs when young. The wood is extensively used for rough furniture and planking. For trial in all but the warmest and coldest parts of the United States. (Glenn Dale, Md.)

123244. PICEA SMITHIANA.\* Himalayan spruce. From India. Obtained through the Kulu Forest Service, Kulu, Punjab, by Walter Koelz, Bureau of Plant Industry. Same description as for preceding (P. I. No. 121975). (Glenn Dale, Md.)

101290. *PITTOSPORUM BUCHANANI*. (Pittosporaceae.) From New Zealand. Obtained from A. Wilkinson, Tauranga. A handsome evergreen shrub or small tree up to 20 feet high, native to New Zealand. The elliptic to lanceolate, membranous leaves, 2 to 5 inches long, are glabrous and glossy when mature and the small dark-purple flowers are borne in axillary clusters. For trial in California and the Gulf region. (Chico, Calif.)

105620. *PITTOSPORUM GLABRATUM*.\* (Pittosporaceae.) From China. Collected at an altitude of 1,100 feet near Ta Tseh Tsuen, Yung Hsien, Kwangsi Province, by Albert N. Steward and H. C. Cheo, University of Nanking. To the many useful evergreen pittosporums should be added this very handsome species from northeastern India and central China. It makes a large shrub or small tree about 10 feet high, well covered with glossy dark green leaves 3 to 5 inches long, and bears inconspicuous but fragrant yellow flowers followed by globose orange fruits that burst, exposing red seeds. Vegetative propagation is by terminal softwood cuttings. For trial in California and the milder parts of the southern States. (Glenn Dale, Md.)

111371. *PITTOSPORUM GLABRATUM*.\* From China. Presented by H. H. Chung, National Wu-Han University, Wuchang. Collected in western Hupeh. Same description as for the preceding (P. I. No. 105620). Plants of this introduction have withstood a maximum temperature of 113° F. and a minimum of 12° F., under lath at Chico, and appear to be suited to pot culture. (Chico, Calif.)

129798. *PRATIA TREADWELLII*. (Campanulaceae.) From New Zealand. Received from the Botanic Garden, Christchurch. A prostrate branching herbaceous perennial with stems  $\frac{1}{2}$  to 1 foot long, small dark-green broadly ovate leaves, and solitary white flowers, large for the genus, which are followed by purplish-red berries. Native to New Zealand. For trial on the Pacific coast and in the Gulf region. (Chico, Calif.)

132906. *QUERCUS GLAUCA*. (Fagaceae.) Blue Japanese oak. From South Carolina. Presented by Mrs. Julia Lester Dillon, Sumter. A handsome evergreen tree, native to Japan, 45 feet high, with ovate dentate leaves 3 to 5 inches long, usually rounded at the base, lustrous above and glaucous beneath. The ellipsoid acorns, nearly an inch long with cups saucer-shaped, or deeper, have several concentric silky pubescent rings. The tree is one of the hardier evergreen oaks, closely related to *Quercus myrsinaefolia*, almost as hardy, and is clearly distinguished from the latter only by the glaucous under surface of the leaves and the tendency toward rounded leaf bases. For trial throughout the South and on the Pacific coast. (Savannah, Ga.)

74222. *QUERCUS MYRSINAEFOLIA*. Oak. A handsome evergreen Japanese oak up to 40 feet high, differing from the preceding, *Quercus glauca*, mainly in having the leaves dull light green instead of glaucous beneath and having the leaf bases cuneate instead of rounded. It is considered to be somewhat hardier than *Q. glauca*. For trial from Philadelphia and the Ohio River southward and on the Pacific coast. (Savannah, Ga.)

128995. *QUERCUS SP.* (Fagaceae.) From China. Collected by R. C. Ching, in Opie Hsien, and presented by the Lu-Shan Arboretum, Kiukiang. A handsome evergreen oak with bright-green entire lanceolate leaves about 4 inches long. The plants are vigorous and apparently capable of withstanding considerable abuse. For trial from Washington, D. C. southward. (Glenn Dale, Md.)



128917. *RANDIA SP.\** (Rubiaceae.) From India. Collected at Londa, Bombay Presidency, by Walter Koelz, Bureau of Plant Industry. A small tree or shrub with attractive bright-green, glossy, finely pubescent leaves about 2 to 3 inches long. For trial in the warmest parts of Florida and the Southwest. (Glenn Dale, Md.)

99202. *RHAMNUS UTILIS*. (Rhamnaceae.) Buckthorn. From China. Collected at Tayohen, Kiangkouhsien, and presented by Albert N. Steward, University of Nanking, Nanking. A slender branched shrub up to 10 feet high, with narrow elliptic, yellowish-green leaves 3 to 5 inches long, small yellowish green flowers, and small black fruits. Native to central and eastern China. For trial in the South and the milder parts of the northern States. (Chico, Calif.)

126978. *RHAPIDOPHYLLUM HYSTRIX.\** (Phoenicaceae.) Needle palm. From Savannah, Georgia. Obtained by D. A. Bisset and other members of the Plant Introduction Garden at Savannah, Ga. An attractive hardy dwarf fan palm, native to the lowlands of South Carolina, Georgia, and Florida, but very local in its distribution. It is now quite rare, and appears to be approaching extinction as a wild plant. The 2- to 3-foot stems are erect or creeping, with leaves dark shiny green above and silvery gray beneath. Slender, sharp black spines up to a foot long, project from the trunk in every direction and also surround and protect the inflorescence. The staminate and pistillate flowers are borne on separate plants. At Glenn Dale, plants survived the severe winter of 1939-40 with the protection of leaf litter. For trial on the Pacific coast and in the Middle and South Atlantic and northern Gulf region. (Glenn Dale, Md., and Savannah, Ga.)

115811. *RHUS LANCEA*. (Anacardiaceae.) Sumac. From the Union of South Africa. Presented by the McGregor Museum, Kimberley. Karree-boom. A small bushy tree with gray bark and long-stemmed leaves with linear-lanceolate leaflets 4 to 6 inches long. It is a valuable hardwood tree for mild regions of limited rainfall. Native to the Cape of Good Hope. For trial in the warmer parts of the Southwest. (Chico, Calif.)

116756. *RIVINA HUMILIS*. (Phytolaccaceae.) Rouge-plant. From India. Collected at Saharanpur, by Walter Koelz, Bureau of Plant Industry. A small herbaceous shrub 1½ to 3 feet high, with spreading branches, long-petioled leaves 1 to 3 inches long, and numerous racemes of attractive red berries. Useful for planting as an annual border or as a potted plant for greenhouse use. For trial outside in California and the Gulf region and indoors elsewhere. (Chico, Calif.)

129769. *ROOSEVELTIA FRANKLINIANA*. (Phoenicaceae.) Palm. From Cocos Island. Collected on the Roosevelt Expedition by Dr. Waldo Schmitt of the United States National Museum. A tall handsome palm with a rigid, columnar trunk, the base rather abruptly thickened, and a crown of large pinnate leaves with many long and pendent pinnae. It is very similar in size and general appearance to the coconut palm. Native to Cocos Island, Pacific Ocean. For trial in the warmest localities of southern Florida and southern California. (Glenn Dale, Md.)

103395. *SALVIA BERTOLONII*. (Menthaceae.) From the Soviet Union. A perennial herb, hairy throughout, with large basal cordate-ovate crenate leaves, and tall branched racemes of reddish-violet flowers which come in early summer, and again in late August. It will deserve a place in the perennial garden. It is native to Dalmatia. For trial throughout the United States. (Glenn Dale, Md.)

126535. *SENECIO SALIGNUS*. (Asteraceae.) Collected near Patagonia, Ariz., and presented by Fred Gibson, Director, Boyce Thompson Southwestern Arboretum, Superior, Arizona. A handsome well-branched evergreen shrub which attains a height of about 8 feet. The golden-yellow flowers, in large terminal cymes, are produced in midwinter. For trial in the warmest parts of Florida, the Gulf coast, and the Southwest. (Glenn Dale, Md.)

132796. *SOPHORA CHRYSOPHYLLA*. (Fabaceae.) From Hawaii. Presented by L. W. Bryan, Board of Commissioners of Agriculture and Forestry, Hilo. An attractive native Hawaiian tree up to 30 feet high, with pinnate leaves with 13 to 20 obovate-oblong obtuse leaflets one-half to 1 inch long, tawny or grayish pubescent beneath, less so above, and pale-yellow flowers about an inch long, followed by 4-winged pods 4 to 6 inches long. For trial in southern Florida and southern California. (Chico, Calif.)

136022. *SOPHORA TETRAPTERA*.\* Fourwing sophora. From Chile. Presented by Professor G. Montero O., Temuco. Pelu. A handsome large shrub or small tree to 30 feet high, with slender spreading branches, found in sandy soil at the edge of woods. Its glossy, evergreen pinnate leaves have numerous small leaflets. The deep-yellow flowers, about 1½ inches long, in small axillary pendulous racemes in the spring, make it an attractive and desirable plant. For trial in the warmer parts of the South and Southwest. (Glenn Dale, Md.)

135625. *SORBARIA SORBIFOLIA STELLIPILA*.\* (Rosaceae.) From Manchuria. Collected in the mountains near Maoershan, E. Harbin, by B. V. Skvortzov. A small shrub, closely related to *Spiraea*, with pinnate leaves and sharply serrate lanceolate leaflets. The pure-white flowers in dense terminal panicles are produced in July and August, at a time when few shrubs are in flower. For trial throughout the country. (Glenn Dale, Md.)

78388. *SYCOPSIS SINENSIS*. (Hamamelidaceae.) From England. Obtained from G. Reuthe, Foxhill Hardy Plant Farm, Keston, Kent. A moderately hardy evergreen Chinese shrub or small tree to 25 feet high, with elliptic-lanceolate leaves 4 inches long, lustrous above and pale green beneath. The small heads of flowers, conspicuous only from their red anthers, are borne in February and March. Softwood cuttings root readily during the summer. As the plant commonly grows it makes a near shrub which should be quite useful from Tennessee southward. (Glenn Dale, Md.)

112091. *SYNCARPIA GLOMULIFERA*. (Myrtaceae.) Turpentine tree. From Africa. Received from the Forest Department, Kenya Colony, through the Atkins Institution of the Arnold Arboretum, Cienfuegos, Cuba. A tall slender evergreen tree of rapid growth, native to Australia, with broadly ovate opposite leaves 3 to 4 inches long, appearing as if in whorls from two pairs being close together. The small white flowers are in globular clusters of 6 to 10 on short peduncles at the base of the new shoots. The wood is said to be very valuable for posts and underground construction work and also for cabinet work. For trial in the coastal region of southern California and in southern Florida. (Chico, Calif.)

101179. *THRYALLIS GLAUCA*. (Malpighiaceae.) From the Union of South Africa. Presented by the Botanical Gardens, Kirstenbosch, Cape Colony, through Dr. C. S. Dolley, Nassau, Bahamas, B. W. I. A very pleasing ornamental shrub 6 to 8 feet high, of neat compact growth, with elliptical glaucous leaves about 2 inches long, and golden yellow flowers

nearly an inch across borne in small terminal racemes. The plant begins flowering while still small and branches dichotomously from the base of the panicles, continuing to branch and bloom until frost. It withstands temperatures down to about 26° F. Propagation is by seed or by soft wood cuttings taken in April. For trial in the milder parts of California, the Southwest, and the Gulf region. (Chico, Calif.)

105105. *TRADESCANTIA VIRGINIANA*.\* (Commelinaceae.) From England. Obtained from Maurice Prichard & Sons Co., Ltd. Purewell Giant. A strong-growing variety which reaches a height of about 18 inches. The flowers, of a medium mauve-blue, are rather larger than with most varieties and are borne in great abundance in late May and early June, and again in late summer under good conditions. For trial throughout the United States. (Glenn Dale, Md.)

114809. *TREMA VIRGATA*. (Ulmaceae.) From China. Presented by the Botanic Garden at Nanking. An evergreen small tree of rapid growth with glossy lanceolate celtis-like leaves about 5 inches long. Vegetative propagation may be difficult unless softwood cuttings are treated with a growth substance. For trial in the lower South. (Glenn Dale, Md.)

100632. *VIMINARIA DENUDATA*. (Fabaceae.) Rush-broom. From Australia. Presented by Edwin Ashby, "Wittunga," Blackwood, South Australia. An Australian shrub with rush-like stems up to 20 feet high, long wiry pendulous branches, leaves reduced to filiform petioles 6 to 9 inches long, and terminal racemes of orange-yellow flowers. (Supply very limited.) For trial in the warmest parts of the Southwest. (Chico, Calif.)

130431. *VITEX SP.*\* (Verbenaceae.) From China. Collected at Muli, Lilang, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology and presented by the Arnold Arboretum, Jamaica Plain, Mass. Species of this genus are usually large shrubs or small trees but there are some which grow into large trees. They may be either deciduous or evergreen. Some have showy flowers, usually white or lavender. The leaves of the present plants are opposite, digitately compound, and gray green. For trial throughout the South. (Glenn Dale, Md.)

63629. *XYLOSMA SENTICOSA*. (Flacourtiaceae.) From Canton, China. Collected by F.A. McClure, Bureau of Plant Industry. A very ornamental and shapely large shrub or small tree having dense glossy foliage. The species is dioecious, the pistillate plants producing an abundance of small, dark-red fruits which are borne in short-stemmed clusters along the branches. The plants here offered are staminate only and are of a thornless strain. For trial in the warmest parts of California and the Gulf region. (Chico, Calif.)

134312. *ZAMIA SP.* (Cycadaceae.) From Ecuador. Collected near Guayaquil, at the Hacienda Jesus Maria, on a forested cobbled terrace, at an altitude of about 300 feet, by Oscar Hought, International Petroleum Co., Guayaquil, and presented through E. P. Killip, United States National Museum. A cycad with a rather smooth light-gray trunk, at maturity 2 to 2½ feet high and 6 to 8 inches in diameter. The pinnate leaves have very spiny rachises and the margins of the pinnae bear spines about 1 to 1½ inches apart. The seeds are especially showy, about 1½ inches long, with a soft fleshy bright-red outer seed coat. For trial only in the warmer parts of Florida and California or under glass. (Glenn Dale, Md.)

B A M B O O S

For the convenience of experimenters, the bamboos of which plants are available are listed all together here. The shipping weight ranges usually from 1 to 2 pounds per plant. Bamboos in general require a moderately moist but well-drained soil, of good fertility. Attention of experimenters is directed to the fact that small bamboo plants, even more than most other plants, require frequent watering until well established; this means for at least 2 or 3 months after planting.

77010. ARUNDINARIA SP. From China. Collected at Taaihohhan, Anhwei Province, by F. A. McClure, Bureau of Plant Industry. Chinese name Liu chuk. A slow-spreading running bamboo with cylindrical solid or nearly solid culms up to 15 feet high, numerous small acutely ascending branches, and dark-green rather large drooping leaves up to 7 inches long by 3/4 to 1 inch wide. At Savannah this species spreads slowly, forming an unusually dense growth of attractive appearance. For trial from Philadelphia and the Ohio River southward to the Gulf and on the Pacific coast. (Savannah, Ga.)

93573. BAMBUSA LONGISPICULATA. (Poaceae.) From India. Presented by R. N. Parker, Forest Botanist, Forest Research Institute and College, Dehra Dun, United Provinces. A tropical clump bamboo growing to 50 feet high, with 10 to 12 leaves up to 9 inches long on a branchlet. For trial in the warmer parts of southern Florida and southern California. (Savannah, Ga.)

99289. BAMBUSA MULTIPLEX. Hedge bamboo. Presented by Jas. H. Wells, formerly of Baldwin, Fla., who obtained it from C. E. Pleas, Chipley, Fla. Variety Disticha striata. An oriental fern-leaved dwarf variety of the hedge bamboo in which the culms, or stems, are more or less pinkish, with slender green stripes. The varietal characteristics are somewhat unstable, however, and if small plants are grown in rich soil in the open there is a tendency to revert to the larger parent form; the striping of the culm then disappears and the foliage changes from the fern-leaf type. In its dwarf phase the plant grows about 6 feet high but in the reverted form it attains 15 feet or more. It endures temperatures down to about 16° F. with little or no injury to the foliage. For trial in the Gulf Region. (Savannah, Ga.)

80973. BAMBUSA TEXTILIS. From China. Presented by the Lingnan University, Canton. Chinese name Fan taan chuk. A bamboo from the northern and western parts of Kwangtung Province. It is a medium large, thin-walled, semihardy, clump bamboo, used chiefly by the Chinese for making steam-trays for restaurants. It is said to be too brittle for most weaving purposes or for making rope but it is extremely ornamental on account of the compact clump habit and the tall straight culms, which are gray with siliceous powder. The culms are naked of branches to a height of 12 to 15 feet in mature plantings. This bamboo has withstood a minimum temperature of about 17° F. with little injury to the foliage. For trial in the Gulf region and in the warmer parts of California. (Savannah, Ga.)

80875 and 110510. BAMBUSA TULDOIDES. Puntingpole bamboo. From China. Presented by Lingnan University, Canton. A handsome thick-walled bamboo probably up to 50 feet high, used in China for a variety of industrial purposes and especially for punting poles. (A form of this species which has long been known in Florida, under the

horticultural name *bambusa thouarsii*, is hardy down to 20° F.) Plants furnished in lots of 1 to 5. For trial in the southern parts of Florida and California and on the Texas coast. (Savannah, Ga.)

77013. *BAMBUSA VENTRICOSA*.\* Buddha bamboo. From China. Presented by Lingnan University, Canton. A clump-forming bamboo growing to about 25 feet high in the open but commonly grown by the Chinese as a pot or tub plant. Under this culture it is dwarfed to about 3 feet and the internodes of the culms and branches become swollen in a characteristic manner, to which fact is due the Chinese name Fut t'io chuk (Buddha's belly bamboo). The plant quickly loses its foliage in the dry atmosphere and deficient light of ordinary living rooms. The lanceolate leaves of the dwarfed plants are 1 to 4 inches long but on larger plants in the open the leaves are nearly twice as long. As grown in the open this bamboo is reported to have withstood temperatures down to about 20° F. with little or no injury. For trial outside in the milder parts of California and the Gulf region and elsewhere under glass. (Savannah, Ga.)

77014. *BAMBUSA* SP. From China. Presented by Lingnan University, Canton. Chinese name Koon yam chuk (goddess-of-mercy bamboo). A small, graceful, fern-leaved bamboo 5 to 10 feet high, of clump type, resembling the variety of *Bambusa multiplex* under P. I. No. 99289 in foliage characters but differing in being less stiffly erect and being perhaps slightly hardier. The leaves are extremely small and closely 2-ranked on slender branchlets or twigs which curl downward toward the tips in a characteristic manner. The entire plant is plain green. This handsome little bamboo is one of the hardiest of the clump type and at Savannah, Ga., has withstood temperatures as low as 15° F. It is commonly grown as a hedge in southern China and is said to respond admirably to pruning. It is also well suited for growing in individual clumps in the open or for pot culture in the moist atmosphere of the greenhouse. In the dry air and subdued light of living rooms, however, the foliage quickly turns yellow and falls. For trial outside in the South Atlantic and Gulf regions and in the milder parts of the Pacific coast, and under glass elsewhere. (Chico, Calif., and Savannah, Ga.)

124504. *DENDROCALAMUS STRICTUS*. (Poaceae.) From Florida. Presented by Julian Nally, Gotha. A tropical and subtropical clump bamboo, growing 50 feet or more high, with thick-walled or sometimes nearly solid culms, up to about 3 inches in diameter. The wood is dense and strong and it is reported that the so-called Calcutta fishing poles exported from India are of this species. The plants are injured or killed at a temperature of 26° or 27° F. For trial only in southern Florida or in protected situations in central Florida and southern California. (Supply limited.) Savannah, Ga.)

42659. *PHYLLOSTACHYS BAMBUSOIDES CASTILLONI*. (Poaceae.) Castillo bamboo. From Japan. Obtained from the Yokohama Nursery Co. A medium-sized ornamental variety of the giant timber bamboo, growing to about 30 feet high, with golden-yellow culms and branches with a conspicuous green stripe on the flattened side of each internode. The leaves occasionally bear narrow creamy-white stripes. The foliage is evergreen at temperatures down to about 5° F., but at a few degrees lower the plants are killed to the ground or severely injured. The plant spreads by vigorous underground rhizomes from which the new culms arise. It grows to full size only in grove form, in an area at least 30 feet across, and after 10 or more years. Artificial means are required to keep the grove within bounds. Culms 3 years old are useful for fishing poles,

plant stakes, etc. The edible young shoots, with characteristic smooth, spotted and blotched sheaths, appear in spring. Plants supplied in lots of 5 or more. The first season the plants should be grown  $1\frac{1}{2}$  to 2 feet apart in nursery row, in well-fertilized soil, and be freely watered in dry weather. In the late winter or early spring following, transplant with ball of earth to permanent situation, on good well-drained land, spaced 8 to 10 feet apart each way. Well-rotted manure or a good commercial fertilizer should be placed in the hole. New plants from rhizomes left in digging should appear in the nursery in spring and can be transplanted later. For trial from North Carolina to the northern Gulf region and on the Pacific coast. (Chico, Calif., and Savannah, Ga.)

75156. PHYLLOSTACHYS FLEXUOSA. Bamboo. From England. Presented by the Director, Royal Botanic Gardens, Kew. A rather small, hardy bamboo of the running type, native to China, which grows to a height of 16 feet or more. The linear-lanceolate leaves, usually 2 or 3 on a branchlet, are 2 to 4 inches long. The culms, when 3 years old, are useful for plant stakes, small fishing poles, etc. The cold resistance and cultural treatment required are the same as for Phyllostachys bambusoides castilloni (P. I. No. 42659) but the spacing of the plants in the permanent planting should be 6 to 8 feet. Plants will be furnished in lots of 5 or more. For trial on the Pacific coast and in the milder parts of the South. (Chico, Calif.)

73452. PHYLLOSTACHYS HENRYI. Henry bamboo. Originally collected in China by F. N. Meyer, Bureau of Plant Industry. The present plants are grown from material received from E. A. McIlhenny, Avery Island, La. This is a running bamboo of medium size, growing only to about 26 feet high but with diameters up to  $2\frac{1}{2}$  inches. It is said to be one of the most highly esteemed edible bamboos of China, the fresh shoots being entirely free from bitterness. The plants develop rapidly under favorable conditions and sometimes produce culms of maximum size within four years from planting. Culture same as for Phyllostachys bambusoides castilloni. Not less than 15 plants (shipping wt. 15-20 lbs.) sent to an experimenter. For trial, in grove form only, in all but the warmest parts of the South Atlantic and Gulf regions and on the Pacific coast. (Chico, Calif., and Savannah, Ga.)

49505. PHYLLOSTACHYS NIGRA. Black bamboo. Presented by the California Nursery Co., Niles, Calif. Blackspot. A bamboo from Japan, of rather slow-spreading habit, growing to about 25 feet high. The culms are at first green but later become increasingly spotted or blotched with black until nearly, but not quite, solid black. The leaves endure temperatures down nearly to 0° F. without serious injury. The habits of growth and the methods of culture and control are the same in general as for Phyllostachys bambusoides castilloni but the spacing in setting plants permanently should be 6 to 8 feet apart. This variety can be grown to full size in an area 20 to 25 feet across. The culms are useful for fishing poles, canes, plant stakes, etc. Plants will be sent in lots of 5 or more. For trial in the Pacific coast region and in all except the warmest parts of the Southern States. (Savannah, Ga.)

66784. PHYLLOSTACHYS NIGRA. Black bamboo. From China. Collected in a ravine on Peng Mountain, Lungtau Mts., in Kwangtung Province, and presented by Lingnan University, Canton. Willow black. A handsome variety differing from the preceding (P. I. No. 49505) in being more rapid spreading and in that the culms are not quite

so tall, that they become solid purplish black in the second year, and in having somewhat drooping foliage. In China no special use is made of the culms but they can be used for purposes for which much strength is not required. Culture is the same as for the preceding, P. I. No. 49505. Plants will be furnished in lots of 5 or more. For trial in all but the warmest parts of the Southern States and on the Pacific coast. (Savannah, Ga.)

75159. PHYLLOSTACHYS NIGRA. Black bamboo. From England. Presented by the Director, Royal Botanic Gardens, Kew. These plants probably represent the type of the species, which was originally described more than a century ago, from plants in the grounds of the London Horticultural Society. The culms, which become black in the second year, attain heights of up to 25 feet. The habits of growth and methods of culture and control of this bamboo are the same as for the preceding. For trial on the Pacific coast, in all but the warmest parts of the South, and in the milder parts of the Northern States. (Chico, Calif.)

24761. PHYLLOSTACHYS NIGRA HENONIS. Henon bamboo. From Japan. Originally obtained by Wm. D. Hills, Bureau of Plant Industry. The present plants are grown from material received from E. A. McIlhenny, Avery Island, La. Japanese name Hachiku. A hardy giant bamboo of running habit, ultimately producing culms 50 feet high and 3½ inches in diameter. The edible new shoots appear during April and May. The shoots are easily distinguished from those of other giant bamboos in that the sheaths which at first enfold them are unspotted mauve, with a small crinkly green reduced blade, at the apex of each sheath. This is considered the hardiest of the giant bamboos but it is more or less injured at temperatures lower than 0° F. Culture same as for Phyllostachys bambusoides castilloni, but in permanent planting the original spacing should be not less than 10 feet. Plants furnished in lots of 15 or more, for growing in grove form only. For trial in the milder parts of the Southern States, except southern Florida, and on the Pacific coast. (Chico, Calif., and Savannah, Ga.)

49357. PHYLLOSTACHYS SULPHUREA VIRIDIS. Green sulfur bamboo. From France. Presented by A. Robertson-Proschowsky, Nice. A Chinese bamboo of running habit, up to 45 feet high, with 2 to 3 leaves up to 5 inches long at the tips of the twigs, or branchlets. The culm sheaths are glabrous, smooth on the margins, the lowest ones, when fresh, brownish yellow and those higher on the culm gradually becoming yellowish green, all more or less blotched, spotted, or speckled with dark to light brown. As indicated by the name, this is a green-stemmed variety of the sulfur bamboo, Phyllostachys sulphurea. It grows considerably taller than the species and is believed to withstand somewhat lower temperatures—down nearly to 0° F. Culture the same as for P. bambusoides castilloni. For trial from southern Virginia to the northern Gulf region and on the Pacific coast. (Chico, Calif.)

77257. PHYLLOSTACHYS SULPHUREA VIRIDIS. Green sulfur bamboo. From France. Obtained from Gaston Negre, Generargues. Same description as for preceding (P. I. No. 49357). (Savannah, Ga.)

55713. PHYLLOSTACHYS SP. Bamboo. From China. Collected by F. N. Meyer, Bureau of Plant Industry. A hardy evergreen bamboo of running type, to 25 feet high. This species is easily distinguished from others of similar appearance by the yellowish color of the flattened sides of the internodes of culms and branches during the first year or two, while the rounded parts are green. Grows to full size only in grove form, in an area at least 25 feet across, and after several years. Culms useful for

plant stakes, fishing poles, etc. This bamboo was for a time sent out under the name Phyllostachys nevinii but is now considered to be of another, apparently undescribed, species. Its climatic and cultural requirements are the same as for P. bambusoides castilloni. Plants furnished in lots of 15 or more. For trial in the milder parts of the South, except southern Florida, and on the Pacific coast. (Savannah, Ga.)

116768. PHYLLOSTACHYS SP. Bamboo. From China. Collected by F. N. Meyer, Bureau of Plant Industry. (Formerly sent out under P. I. No. 23234.) A hardy running bamboo, to 25 feet high, with dense foliage. It resembles Phyllostachys aurea but there is never any crowding of the lower internodes of the culm as in that species. The conditions under which plants will be furnished to experimenters and the cultural requirements and uses of culms are the same as for P. bambusoides castilloni. (Chico, Calif., and Savannah, Ga.)

75149. PLEIOBLASTUS NAGASHIMA (*Arundinaria nagashima*). Bamboo. Presented by Royal Botanic Gardens, Kew, England. A small hardy running bamboo, ultimately producing culms about 2½ feet high, often with branches from the upper nodes and with lanceolate to oblong-lanceolate leaves 2 to 6 inches long. It is native to Japan. The plant is evergreen at temperatures down to about 5° F. and is attractive for mass planting as a ground cover, either in full sun or partial shade. On account of the hardiness and vigor of the underground parts of the plant, it may become weedy if the rhizomes are not prevented from spreading beyond the desired limit by a deep barrier of some sort. The small plants as received should be grown the first year in a nursery row and be freely watered, especially during the first two months. Early the next spring they may be transplanted, with a ball of earth, to the permanent situation, in good well-drained land; well-rotted manure or a good commercial fertilizer should be placed in the hole. Plants furnished in lots of 3 to 10. For trial in the middle and upper South and the mildest parts of the northern States. (Savannah, Ga.)

52673. PLEIOBLASTUS PUMILUS (*Sasa pumila*). Bamboo. From France. Presented by Vilmorin, Andrieux & Co., Paris. A dwarf hardy running bamboo, native to Japan, often growing only 6 to 10 inches high in warm localities but up to 2 feet in partial shade or in cooler regions. The narrow lanceolate leaves 1½ to 3½ inches long are borne 8 to 10 in number, near the tips of the culms and branches. The plant thrives in fairly moist soil and in suitable situations is useful as a ground cover. In drier locations the leaves tend to curl in hot dry weather. Because of its small size, grasslike leaves, and rampant underground rhizomes, the plant becomes a weed and is difficult to eradicate when it escapes. In proximity to a garden it is especially important to curb it. Plants furnished in lots of 3 or more. For trial in the milder parts of the northern States. (Savannah, Ga.)

75166. PLEIOBLASTUS PUMILUS (*Sasa pumila*). Bamboo. From England. Presented by the Director, Royal Botanic Gardens. Same description as for preceding (P.I. No. 52673). (Savannah, Ga.)

101174. PSEUDOSASA DISTICHA. (Poaceae.) Fern bamboo. From France. Obtained from V. Lemoine & Sons, Nancy. A dwarf bamboo of running habit, growing sometimes 3 to 5 feet high, with rather narrow leaves 2 to 4 inches long. The conspicuously 2-ranked leaf arrangement suggests the name fern bamboo. This attractive little species is a somewhat less rampant spreader than Pleioblastus pumilus. For trial in the upper South and the mildest parts of the northern States. (Savannah, Ga.)



110338. PSEUDOSASA DISTICHA. Fern bamboo. From England. Presented by the Director, Royal Botanic Gardens, Kew. Same description as for preceding (P. I. No. 101174). (Savannah, Ga.)

73962. SASA AUPEO-STRIATA. (Poaceae.) From Japan. Obtained from the Yokohama Nursery Company, Yokohama. A dwarf hardy running bamboo, 1 to 2 feet high, native to Japan. The lanceolate or narrow-lanceolate leaves,  $1\frac{1}{2}$  to 5 inches long, are usually yellowish striped in spring and early summer but mostly become plain green later. This handsome little species makes an exceedingly attractive ground cover in protected situations in regions where the minimum winter temperature is not much lower than 0° F. The leaves are often killed at temperatures several degrees higher but recovery of the plants in the spring is fairly rapid. Because of the vigor of the underground parts of the plant it may become weedy if the rhizomes are not prevented from spreading by a barrier of some sort. Plants furnished in lots of 3 to 10. For trial in the middle and upper South and on the Pacific coast. (Savannah, Ga.)

52670. SASA AURICOMA. Bamboo. Presented by Vilmorin, Andrieux, & Co., Paris, France. A dwarf hardy bamboo of the running type, 1 to 2 feet high, native to China and Japan. It is a strikingly handsome little species, having green-and-yellow striped leaves  $1\frac{1}{2}$  to 6 inches long and up to  $\frac{3}{4}$  of an inch wide. It is very similar to Sasa aureo-striata. Plants furnished in lots of 3 to 10. For trial in the middle and upper South and on the Pacific coast. (Savannah, Ga.)

75162. SASA CHRYSANTHA. Bamboo. Presented by the Director, Royal Botanic Gardens, Kew, England. A hardy Japanese bamboo of running habit, producing culms up to 5 feet high, with branches from the upper nodes and with lanceolate leaves 2 to 7 inches long. The plant is useful for mass planting and as a ground cover, either in full sun or in partial shade, and is evergreen at temperatures down to about 10° F. Even when killed back it recovers well in the late spring. Plants furnished in lots of 5. (Supply limited.) For trial in the middle and upper South and the mildest parts of the northern States. (Chico, Calif.)

52674. SASA PYGMAEA. Bamboo. Presented by Vilmorin, Andrieux & Co., Paris, France. One of the smallest known bamboos, often growing only 6 to 10 inches high. It is of the hardy running type and is a native of Japan. The leaves, 1 to 2 inches long, are green above and whitish pubescent beneath. The cold resistance of the plant is about the same as that of Sasa aureo-striata and the habits and cultural requirements are also much the same. Plants furnished in lots of 3 to 10. For trial in the middle and upper South and on the Pacific coast. (Savannah, Ga.)

75169. SASA SENANENSIS. From England. Presented by the Director, Royal Botanic Gardens, Kew. A handsome, large-leaved, running bamboo up to 6 feet high, with leaves sometimes as much as 21 inches long by  $3\frac{1}{2}$  inches wide. The plant is one of the most striking of the lower-growing bamboos and is evergreen at temperatures down nearly to 0° F. For trial in the Pacific coast region, the upper South, and the mildest parts of the Northern States. (Chico, Calif.)

52671. SEMIARUNDINARIA FASTUOSA (Arundinaria fastuosa.) (Poaceae.) Narihira bamboo. Presented by Vilmorin, Andrieux & Co., Paris, France. An exceptionally handsome, hardy bamboo up to 25 feet high, native to Japan. It is of running habit

but the rhizomes are less rampant than those of most hardy bamboos. The smaller culms are densely clothed for almost their entire length by the dark-green lanceolate leaves, which are up to 7 inches long and borne on numerous upright branches. Taller culms, as in other bamboos, are without branches on the lower part. An area at least 15 feet across is required for the ultimate production of full-sized culms. The plant withstands a minimum temperature of 0° F. with little injury to the foliage but is killed back to the ground at a few degrees lower. Young plants must be watered very frequently in dry weather during the entire first season. Plants furnished in lots of 1 to 5 or up to 15 where desired for propagation. For trial from Philadelphia southward and on the Pacific coast. (Chico, Calif., and Savannah, Ga.)

75157. SHIBATAEA KUMASACA. (Poaceae.) Bamboo. From England. Presented by the Director, Royal Botanic Gardens, Kew. Okamezasa. This odd little Japanese bamboo, which in the past has carried several different botanical names and which looks but little like a bamboo, grows 3 to 6 feet in height. It is of running habit but spreads rather slowly. The diminutive branches, usually five at a node, bear each a single, terminal, ovate-lanceolate, dark-green leaf 2 to 3 inches long and nearly an inch wide. The foliage is more or less injured at temperatures below 10° F. The culture is much the same as that of other running bamboos. (Savannah, Georgia.)

89716. SHIBATAEA KUMASACA. Bamboo. From England. Obtained from V. N. Gauntlett & Co., Ltd., Chiddingfold, Surrey. Same description as for preceding (P. I. No. 75157). (Savannah, Ga.)



