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PLANT MATERIAL INTRODUCED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, OCTOBER 1 TO DECEMBER 31, 1928 (NOS. 77596 TO 78508)

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INTRODUCTORY STATEMENT

This inventory for the period from October 1 to December 31, 1928, contains a large amount of material which was brought in for experimental purposes, and will affect the final cooperative experiments very little, if at all. This is largely true of the plants obtained by the various expeditions that have been in the field for specific purposes.

From R. K. Beattie, who is still in the Orient, have been received considerable collections of Japanese persimmon varieties (*Diospyros kaki*, Nos. 78487 to 78503), *Castanopsis* spp. (Nos. 78312 to 78316), and Japanese chestnuts (*Castanea crenata*, Nos. 78003 to 78031), as well as miscellaneous ornamentals and trees.

From the Brandes collecting trip in New Guinea has been brought back a large collection of sugarcanes (*Saccharum* spp., Nos. 77710 to 77816).

From Madagascar, Charles F. Swingle has brought back not only *Euphorbia intisy* (No. 78169), a source of rubber, but a large miscellaneous collection of other species, some of them possibly also sources of rubber, and others merely of interest as ornamentals. Among the latter the most curious and interesting are the Kalanchoes (Nos. 77907 to 77917, 78423 to 78438, and possibly others), which will probably be useful out of doors in the warmest parts of the United States and as pot plants throughout the rest of the country. This is particularly true at the present time when succulents are much in vogue.

A large collection of pineapples (*Ananas sativus*, Nos. 77629 to 77639) was brought together from the Philippine Islands, Federated Malay States, East Indies, and Porto Rico for the Hawaii Agricultural Experiment Station.

In addition there are numerous collections of ornamentals obtained mostly by purchase from European sources for comparative varietal studies. Among this group might be mentioned witch-hazel, flowering quince, ceanothus, lilac, philadelphus, box, deutzia, and clematis.

Of possible interest to physicians is the Siamese *Solanum sanitwongsei* (No. 77618), said to be valuable in the treatment of diabetes, and *Ephedra gerardiana* (No. 77607), and *E. distachya* (No. 77619), possible sources of ephedrine.

The botanical determinations have been made and the nomenclature determined by H. C. Skeels, who has had general supervision of this inventory.

KNOWLES A. RYERSON,

Principal Horticulturist, in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., January 4, 1930.

INVENTORY¹

77596. RHUS TRILOBATA Nutt. Anacardiaceae.

From Indian Head, Saskatchewan, Canada. Seeds presented by Norman Ross, chief of the tree-planting division of the Forest Nursery Station, through Knowles A. Ryerson, Bureau of Plant Industry. Received October 8, 1928.

An upright shrub, 2 to 4 feet high, native to Canada and the northern United States. It has three crenately lobed leaflets, inconspicuous yellowish flowers, and short panicles of bright-red fruits. These seeds were collected on a dry exposed hillside.

77597. CLEMATIS TANGUTICA (Maxim.) Korsh. Ranunculaceae.

Golden clematis.

From Dropmore, Manitoba, Canada. Seeds presented by F. L. Skinner. Received October 9, 1928.

A woody vine, climbing to 10 feet, native to northwest China, with once or twice pinnate leaves having lanceolate-serrate, bright-green leaflets and usually solitary bright-yellow flowers 4 inches across.

For previous introduction see No. 63353.

77598. AVENA SATIVA L. Poaceae.

Oats.

From Sporen, Germany. Seeds presented by Alfred Griesing. Received October 9, 1928.

Original *Griesings Sporen Winterhafer*.

77599. CITRUS MIARAY Wester. Rutaceae.

Miaray.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received October 9, 1928.

A handsome ornamental Philippine tree suggested as a stock for cultivated citrus fruits. It has slender drooping willowy branches, dark-green leaves, and fruits resembling the lime in appearance and flavor.

For previous introduction see No. 46732.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction, and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the identifications, therefore, must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in, so that definite identification can be made.

77600 to 77606.

From New Plymouth, New Zealand. Seeds purchased from Duncan & Davies. Received October 8, 1929.

77600. CLEMATIS INDIVISA Willd. Ranunculaceae.

A large woody climber, native to New Zealand, with three coriaceous ovate leaflets 4 inches long, and axillary panicles of large white flowers 4 inches across.

77601. COROKIA CHEESEMANII H. Carse. Cornaceae.

A slender twiggy evergreen New Zealand shrub up to 12 feet high, with spreading branches, oblong leaves an inch long, silvery tomentose beneath, small clusters of yellow flowers, and broadly oblong bright-red fruits a quarter of an inch long. The whole plant is somewhat like an evergreen *Cornus mas*.

77602. COROKIA COTONEASTER RAOU. Cornaceae.

A dense shrub, 4 to 8 feet high, native to New Zealand, with rigid tortuous branches, evergreen orbicular leaves an inch across suddenly narrowed into broad flat petioles, clusters of small yellow flowers, and red fruits.

For previous introduction see No. 72251.

77603. ELAEOCARPUS DENTATUS (Forst.) Vahl. Elaeocarpaceae.

A round-headed New Zealand tree up to 60 feet high, with a straight trunk sometimes 3 feet in diameter, alternate oblong coriaceous leaves 4 inches long, silky racemes of drooping white flowers half an inch across, and small ovoid purplish-gray fruits.

77604. ENTELEA ARBORESCENS R. Br. Tiliaceae.

A New Zealand shrub or small tree 20 feet high, with the growing parts covered with soft stellate hairs. The alternate cordate leaves, nearly a foot across, are

77600 to 77606—Continued.

on petioles 8 inches long; the white flowers, an inch in diameter, are in erect cymes, and the globose pods are covered with long rigid bristles.

For previous introduction see No. 51047.

77605. MELICOPE TERNATA Forst. Rutaceae.

A small much-branched New Zealand tree up to 20 feet high, with opposite leaves having three oblong leaflets 4 inches long, small panicles of greenish flowers, and small wrinkled fruits which open and display the shining black seeds.

77606. METROSIDEROS VILLOSA J. E. Smith. Myrtaceae.

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, white tomentose beneath, and terminal cymes of scarlet flowers, conspicuous for their long scarlet stamens as in the bottle-brushes.

77607. EPHEDRA GERARDIANA Wall. Gnetaceae.

From Chakrata, United Provinces, India. Seeds presented by R. N. Parker, forest botanist, Forest Research Institute and College, Dehra Dun. Received October 11, 1928.

A stiff erect leafless shrub, 2 to 4 feet high, native to India, with green branches, inconspicuous flowers, and bright-red fruits. A possible source of ephedrine.

77608 to 77612. EUCALYPTUS spp. Myrtaceae.

From Richmond, Australia. Seeds presented by F. H. Baker. Received October 6, 1928.

77608. EUCALYPTUS AMYGDALINA Labill. Messmate gum.

A variety of the almond eucalypt, which is a tall Australian tree up to 300 feet high, with lanceolate leaves 4 inches long, crowded umbels of small flowers, and hemispheric fruits a quarter of an inch broad. The leaves have a strong odor of peppermint and are rich in oil.

For previous introduction see No. 38723.

77609. EUCALYPTUS BOTRYOIDES J. E. Smith. Bangalay.

A tall handsome tree, native to Australia, with beautiful dark-green horizontal lanceolate leaves, umbels of small sessile flowers, and obovoid fruits. Used as a windbreak and as a shade tree. The wood is hard, tough, and durable.

77610. EUCALYPTUS LONGIROSTRIS F. Muell. (*E. rostrata* Schlecht., not Cav.). Creek gum.

A tall Australian tree up to 200 feet high, with smooth dark-gray bark, narrowly lanceolate leaves 6 inches or more long, stalked umbels of small flowers attractive to bees, and globular fruits with conical tops. The heavy red wood is durable both above and below the ground and is used for railroad ties, piles, and fence posts.

For previous introduction see No. 38725.

77608 to 77612—Continued.

77611. EUCALYPTUS PATENS Benth.

An Australian tree up to 100 feet high, with falcate-lanceolate leaves 6 inches long, short panicles of small flowers, and flat-topped globular fruits. The tough durable wood is used by wheelwrights.

For previous introduction see No. 76868.

77612. EUCALYPTUS VIMINALIS Labill. Manna gum.

A graceful Australian tree up to 300 feet high, with rough bark from which exudes the honeylike substance which gives the tree its name of manna gum. The leaves are lanceolate and falcate; the flowers are in threes and are attractive to bees; and the fruits are flattened globose with sharp-pointed tops. The wood is used only for rough building purposes.

For previous introduction see No. 38729.

77613 and 77614.

From Morden, Manitoba, Canada. Seeds and cuttings presented by W. R. Leslie, superintendent of the Experimental Station for Southern Manitoba, through Knowles A. Ryerson, Bureau of Plant Industry. Received October 15, 1928.

77613. ACER GINNALA Maxim. Aceraceae. Amur maple.

Seeds of a shrub or small tree up to 25 feet high, native to northeastern Asia, with lustrous dark-green 3-lobed serrate leaves, long-stalked panicles of yellowish flowers, and winged fruits, which are conspicuously red during the summer. The leaves turn bright red in autumn.

For previous introduction see No. 75664.

77614. SAMBUCUS RACEMOSA L. Caprifoliaceae. European red elder.

Cuttings of a variety of the red-berried elder with very finely dissected leaves.

77615. SPIRAEA FORMOSANA Hayata. Rosaceae. Spirea.

From Taiwan, Japan. Plants collected by H. H. Bartlett, director of the botanical gardens and arboretum of the University of Michigan, Ann Arbor, Mich. Received October 26, 1928.

A shrub up to 4 feet high, with ovate doubly serrate leaves and small pink flowers in compound corymbs. It is closely related to *Spiraea japonica* and may be only a form of that species. Native to Taiwan.

77616. CARPOTROCHE BRASILIENSIS (Raddi) Endl. Flacourtiaceae.

From Vicosia, Minas Geraes, Brazil. Seeds presented by P. H. Rolfs, Escola Superior de Agricultura e Veterinaria de Minas Geraes. Received January 17, 1927. Numbered in December, 1928.

A tropical tree native to central Brazil. A sirup said to cure leprosy and an ointment used for skin affections are prepared from the seeds.

For previous introduction see No. 74653.

77617. SACCHARUM OFFICINARUM L. Poaceae. Sugarcane.

77617—Continued.

From Santiago de las Vegas, Cuba. Cuttings presented by Dr. Gonzalo M. Fortun, director, Estacion Experimental Agronomica. Received October 25, 1928.

A Cuban variety.

77618. SOLANUM SANITWONGSEI Craib. Solanaceae.

From Bangkok, Siam. Seeds presented by Dr. A. Kerr, director of the botanical section of the Ministry of Commerce and Communications, through Prof. E. B. Babcock, College of Agriculture, University of California, Berkeley, and G. F. Reddish, Food, Drug, and Insecticide Administration. Received October and November, 1928.

A Siamese shrub about 3 feet high, with small racemes of bluish flowers and orange-colored fruits. It is said to be of value in the treatment of diabetes.

77619. EPHEDRA DISTACHYA L. (*E. vulgaris* Rich.). Gnetaceae.

Common jointfir.

From Taru Jabba, P. O. Peshawar, Northwest Frontier Province, India. Seeds presented by A. M. Mustafa, agricultural officer, through Renwick S. McNiece, American consul, Karachi, India. Received October 25, 1928.

A low-growing, rigid-tufted shrub, with erect green leafless branches and small red fruits. A possible source of ephedrine. Native to Europe and Asia.

For previous introduction see No. 77450.

77620. STYRAX OFFICINALIS L. Styracaceae. Snowbell.

From Brignoles, France. Seeds presented by Dr. R. Salgues, Director, Brignoles Botanic Station. Received October 24, 1928.

A handsome shrub or low tree, 20 feet high, with hairy, broadly oval leaves and numerous white flowers, about three-fourths of an inch long, in small clusters. It is native to Europe and Asia Minor.

For previous introduction see No. 66969.

77621. CHAMAEDOREA TEPEJILOTE Liebm. Phoenicaceae. Palm.

From Zacuapam, Huatusco, Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received October 22, 1928.

A Mexican palm up to 10 feet high, with pinnate leaves about 4 feet long. The undeveloped flowers are eaten as a vegetable.

For previous introduction see No. 68975.

77622 to 77624.

From Buitenzorg, Java. Seeds purchased from L. Koch, Chief, Plant Breeding Station. Received October 26, 1928.

77622. BRADBURYA PLUMIERI (Turp.) Kuntze (*Centrosema plumieri* Turp.). Fabaceae.

A tropical Brazilian ornamental vine with white and red flowers. Of value as a green manure.

For previous introduction see No. 72429.

77623. MIMOSA INVISA Mart. Mimosa-ceae.

77622 to 77624—Continued.

A bushy tropical Brazilian plant about 3 feet high, with feathery leaves and rose-colored flowers. It is used as a green manure.

For previous introduction see No. 69122.

77624. SHUTERIA VESTITA Wight and Arn. Fabaceae.

A slender leguminous vine, native to India, with trifoliate leaves and copious racemes of small reddish flowers. It is used as a green manure.

For previous introduction see No. 68039.

77625 and 77626. AMYGDALUS PERSICA NECTARINA Ait. Amygdalaceae. Nectarine.

From Sawbridgeworth, England. Plants purchased from Thomas Rivers & Son. Received October 22, 1928.

77625. Early Rivers. A variety with large fruits ripening the end of July.

77626. John Rivers. A seedling from Peregrine and Duke of York peaches. The fruits have very juicy flesh and a good flavor.

77627. PSORALEA BITUMINOSA L. Fabaceae. Scurf-pea.

From Santa Cruz, Tenerife, Canary Islands. Seeds presented by Dr. César Peraza. Received October 29, 1928.

A herbaceous perennial, native to the Mediterranean region, with trifoliate leaves and small bluish flowers in loose heads. Of value for green manure.

For previous introduction see No. 76765.

77628. TRIFOLIUM REPENS L. Fabaceae. White clover.

From Brooks, Alberta, Canada. Seeds presented by Augustus Griffin, of the Canadian Pacific Railway, through Knowles A. Ryerson, Bureau of Plant Industry. Received October 10, 1928.

A pink-flowered selection from ordinary white clover, made at Brooks, Alberta, by Augustus Griffin, who reports that it is very vigorous and is said to be replacing ordinary white clover in New Zealand because of its vigor and hardness.

77629 and 77630. ANANAS SATIVUS Schult. f. Bromeliaceae. Pineapple.

From the Philippine Islands. Cuttings presented by S. Youngberg, Director of the Bureau of Agriculture, Manila, at the request of F. G. Krauss, University of Hawaii, Honolulu. Received September 8, 1927. Numbered in November, 1928.

Material grown at the Lamao Experiment Station, Lamao, Bataan.

77629. Los Banos.

For previous introduction see No. 76198.

77630. Orion.

For previous introduction see No. 76197.

77631 to 77633. ANANAS SATIVUS Schult. f. Bromeliaceae. Pineapple.

From Kuala Lumpur, Federated Malay States. Suckers presented by B. Bunting, agriculturist of the Malay Depart-

77631 to 77633—Continued.

ment of Agriculture, at the request of F. G. Krauss, University of Hawaii, Honolulu. Received January 7, 1928. Numbered in November, 1928.

77631. *Comte de Paris.*

77632. *Montserrat.*

77633. *Singapore canning.*

77634 to 77638. ANANAS SATIVUS
Schult. f. Bromeliaceae. Pineapple.

From Pasar Minggoe, East Indies. Offsets obtained by F. G. Krauss, University of Hawaii, Honolulu. Received October 12, 1927. Numbered in November, 1928.

77634. *Mandaloeng.*

77635. *Montserrat.*

77636. *Noenggul.*

77637. *Ripley Queen.*

77638. *Smooth Cayenne.*

77639. ANANAS SATIVUS Schult. f.
Bromeliaceae. Pineapple.

From Mayaguez, Porto Rico. Slips presented by T. B. McClelland, horticulturist of the Porto Rico Agricultural Experiment Station. Received April 3, 1928. Numbered in November, 1928.

Cabezona. The largest variety in the world, with the possible exception of the King of Borneo. The record fruit here weighing about 14½ kilos. It is used in high-grade canning in the old Lajas district.

77640 and 77641. NOTHOFAGUS spp.
Fagaceae.

From Wellington, New Zealand. Seeds presented by G. Phillips Turner, Director of Forestry, State Forest Service. Received November 2, 1928.

77640. *NOTHOFAGUS FUSCA* (Hook. f.) Oerst.

Collected at the head of Lake Wakatipu, South Island. A New Zealand evergreen tree over 100 feet high, with zigzag branchlets, broadly ovate coarsely dentate leaves 1 to 2 inches long, and clusters of small nutlets resembling beechnuts.

For previous introduction see No. 75202.

77641. *NOTHOFAGUS MENZIESII* (Hook. f.) Oerst.

An evergreen tree, native to New Zealand, up to 80 feet high and 5 feet in diameter, with silvery white bark, coriaceous doubly crenate orbicular leaves half an inch long, and small fruits resembling beechnuts.

For previous introduction see No. 46644.

77642. ALSTONIA SCHOLARIS (L.) R. Br.
Apocynaceae.

From Medan, Sumatra. Seeds presented by J. A. Lürzing. Received July 7, 1928. Numbered in November, 1928.

A tropical Indian tree, 40 to 90 feet high, with whorls of four to seven obovate evergreen leaves 8 inches long, and cymes of greenish white flowers. The bitter milky

77642—Continued.

sap yields an inferior quality of gutta-percha, and an extract of the bark is used like quinine.

For previous introduction see No. 65247.

77643. ACTINIDIA CHINENSIS Planch.
Dilleniaceae. Yangtao.

From Seattle, Wash. Seeds presented by David Whitcomb. Received October 31, 1928.

An ornamental, deciduous climber native to Szechwan, China, which has attracted considerable attention because of the high quality of its fruits. The leaves have a plushlike texture and an unusual dark-green color, and their large size and regular spacing add to the beauty of the vine. The flowers are buff yellow to white, fragrant, often 1½ inches across, and are produced in great abundance. The ovoid to globose, russet-brown villous fruits are about 2 inches long. The flesh is green, resembling that of a gooseberry, but tempered with a flavor peculiarly its own. It can be used fresh or made into jam.

For previous introduction see No. 56608.

77644. THRIXINAX WENDLANDIANA Baccari.
Phoenicaceae. Palm.

From Little River, Fla. Seeds presented by Charles T. Simpson. Received October 18, 1928.

A Cuban palm with a slender graceful trunk, palmate leaves which are reflexed against the trunk in age, and greenish-brown fruits the size of a pea.

77645. ACER NIKOENSE (Miquel) Maxim.
Aceraceae. Nikko maple.

From Jamaica Plain, Mass. Seeds collected by Paul Russell, Bureau of Plant Industry, at the Arnold Arboretum. Received November 5, 1928.

A tree up to 50 feet high, native to Japan and central China, with attractive foliage which becomes brilliant red or purple in autumn.

77646. POPULUS ALBA NIVEA Ait.
Salicaceae. Poplar.

From France. Plants obtained by Ivar Tidestrom, Bureau of Plant Industry. Received November 10, 1928.

A form of the white poplar with lobed leaves which are densely silvery-white tomentose beneath.

77647. AESCULUS WILSONII Rehder.
Aesculaceae.

From Jamaica Plain, Mass. Plant presented by E. H. Wilson, Arnold Arboretum, through Paul Russell, Bureau of Plant Industry. Received November 12, 1928.

An ornamental tree, 75 feet high, native to Szechwan and Hupeh, China. It is closely allied to *Aesculus chinensis*, from which it differs only in a few minor characters. The leaves are downy when young, and the white flowers are borne in racemes which sometimes become 16 inches long. The burs are rough but not spiny.

For previous introduction see No. 56390.

77648. POPULUS TREMULA L.
Salicaceae. European aspen.

77648—Continued.

From Versailles, France. Plants obtained by Ivar Tidestrom, Bureau of Plant Industry. Received November 12, 1928.

A European tree up to 90 feet high, with a round open head and thin, gray-green suborbicular crenate leaves, tomentose when unfolding, but soon glabrous. This is the true *Populus tremula*. Most of the plants called *P. tremula* in North America are not that species.

77649. CEREUS EMORYI Engelm. Cactaceae. Cactus.

From Mexico. Seeds collected by Peter D. Barnhart, Los Angeles, Calif. Received November 8, 1928.

A golden-spined cactus growing on the west coast of Lower California.

77650. CASTANEA PUMILA (L.) Mill. Fagaceae. Chinquapin.

From Savannah, Ga. Seeds purchased by B. T. Galloway, Bureau of Plant Industry. Received October 2, 1928.

A variety of unusual size, obtained in the market, said to be abundant in the vicinity of Savannah. The tree grows to a height of 30 to 40 feet, and should prove useful as a stock.

77651. LILIUM sp. Liliaceae. Lily.

From Chosen. Bulbs obtained by R. K. Beattie, Bureau of Plant Industry. Received October 1, 1928.

No. 702. Collected by Rikimatsu Takagi at the Koryo Forest Experiment Station, about 25 miles northeast of Heijo.

77652 and 77653. PRUNUS spp. Amygdalaceae.

From Yokohama, Japan. Seeds purchased from Herbst Bros., agents, T. Sakata & Co. Received October 9, 1928.

77652. PRUNUS SERRULATA SACHALINENSIS (Schmidt) Mak. (P. sargentii Rehder). Sargent cherry.

Seeds said to be from the northern, more hardy form of the yamazakura (mountain cherry).

77653. PRUNUS SUBHIRTELLA Miquel. Higan cherry.

Seeds said to be from the pendulous variety of this species. Usually only a small percentage of such seedlings will show the pendulous habit.

77654 to 77656.

From Jerusalem, Palestine. Presented by Col. E. R. Sawyer, Director, Department of Agriculture, Forests, and Fisheries. Received October 5, 1928.

77654. IRIS BISMARCKIANA Regel. Iridaceae.

Roots of a herbaceous perennial native to Palestine. The stem is 18 inches high, the lanceolate leaves 8 inches long, and the single large flower has orbicular standards veined sky blue on a creamy ground and orbicular yellowish falls densely spotted with purple brown.

77655. IRIS SISYRINCHIUM L. Iridaceae.

Bulblets of a perennial, a foot high, native to southern Europe. It has two linear leaves and several flowers with

77654 to 77656—Continued.

erect lanceolate pale-lilac standards and spatulate lilac falls with a yellow oblong spot.

77656. ORNITHOGALUM sp. Liliaceae.

Seeds of a form native to the vicinity of Jerusalem. Ornithogalums are bulbous perennials with narrow leaves and scapes bearing racemes of white, yellowish, or reddish flowers.

77657 to 77659. FICUS spp. Moraceae.

From Manila, Philippine Islands. Seeds presented by Arthur Fischer, Director, Bureau of Forestry. Received October 1, 1928.

77657. FICUS CALOPHYLLOIDES Elmer.

A large spreading tree, 70 feet high and 4 feet in diameter, native to the Philippines, with elliptic leaves 5 inches long and flattened globose yellowish-brown fruits.

77658. FICUS CONORA King.

A tree, native to New Guinea, with softly pubescent branchlets, lanceolate entire leaves 7 inches long, pubescent beneath, and turbinate fruits an inch in diameter, borne on long flexuose leafless branches arising at the base of the trunk.

77659. FICUS RIBES Reinw.

A small Malayan tree with alternate glabrous entire oblanceolate leaves 3 to 5 inches long, and small fruits, less than a quarter of an inch in diameter, borne on slender leafless branches at the base of the trunk.

For previous introduction see No. 50397.

77660. DANTHONIA PILOSA R. Br. Poaceae. Grass.

From Wellington, New Zealand. Seeds presented by Wright, Stephenson & Co. Received October 5, 1928.

A perennial Australian grass said to be excellent for pasture. It seeds freely and gives good fodder in early spring. This grass does well on dry clay hills or stony flats and is considered especially good for sheep.

For previous introduction see No. 76012.

77661 to 77690.

From Orleans, France. Plants purchased from Léon Chenault & Son. Received October 31, 1928.

77661. CARYOPTERIS MONGHOLICA Bunge. Verbenaceae.

A Mongolian shrub with nearly entire linear-lanceolate leaves 1 to 2 inches long and axillary cymes of violet-blue flowers in late summer. It resembles *C. incana*, but is of rather coarser habit.

For previous introduction see No. 76053.

77662. CARYOPTERIS TANGUTICA Maxim. Verbenaceae.

A spreading, deciduous shrub 3 to 5 feet high, rather similar to the preceding, native to northwestern China, with drooping branches, coarsely crenate ovate leaves an inch long, gray tomentose beneath, and axillary cymes of deeply 2-lipped small brilliant-blue flowers.

77661 to 77690—Continued.

For previous introduction see No. 62703.

77663 to 77667. CEANOTHUS spp. Rhamnaceae.

Half shrubby garden hybrids of various species of *Ceanothus* which are ornamental shrubs, flowering in late summer and autumn.

77663. CEANOTHUS sp.

Arnouldi. Flowers pale blue.

77664. CEANOTHUS sp.

Azureus Grandiflorus. Large azure-blue panicles.

77665. CEANOTHUS sp.

Jocelyn. Elegant dwarf panicles of bright-pink flowers.

77666. CEANOTHUS sp.

Lucie Simon. Flowers clear blue.

77667. CEANOTHUS sp.

Palmyre. A dwarf plant with globulous panicles of violaceous pink flowers.

77668 to 77672. CHAENOMELES LAGENARIA (Lois.) Koidz. (*Cydonia japonica* Pers.). Malaceae. Japan quince.

Ornamental shrubs with flowers varying from deep scarlet to white and opening early in the spring before the leaves.

77668. Apricot. A dwarf shrub with beautiful salmon-red flowers.

77669. Grenade. Large globular dark-crimson flowers.

77670. Nivalis. Flowers large and the whitest among the flowering quinces.

77671. Orange. Large, clear, orange-red flowers.

77672. Vermilion. Very large scarlet-vermilion flowers.

77673. DEUTZIA MYRIANTHA Lemoine. Hydrangeaceae.

A deciduous ornamental shrub of garden origin with ovate-lanceolate, long-pointed leaves and corymbs of white flowers nearly an inch across.

77674. DEUTZIA WILSONI Duthie. Hydrangeaceae.

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.

For previous introduction see No. 76186.

77675. DIPELTA FLORIBUNDA Maxim. Caprifoliaceae.

A deciduous ornamental shrub somewhat resembling *Kolkwitzia*, but larger in all its parts, 15 to 20 feet high, native to central China, with remotely toothed ovate leaves 2 to 4 inches long, and small racemes of fragrant pale-rose tubular flowers having orange-yellow throats.

77676. DIPTERONIA SINENSIS Oliver. Aceraceae.

A Chinese tree 30 to 40 feet high, with compound leaves made up of 9 to 13 ovate-serrate or 3-foliate leaflets 4 inches long, whitish flowers in panicles,

77661 to 77690—Continued.

followed by light-brown nearly orbicular winged fruits.

For previous introduction see No. 61979.

77677. EXOCHORDA GIRALDII Hesse. Rosaceae. Redbud pearlbush.

A slender spreading deciduous shrub 10 to 15 feet high, native to northwestern China. The petiole and ribs of the entire or slightly serrate oblong leaves are rosy purple as well as the young growths, and the large pure white flowers in terminal racemes appear in late spring.

77678. EXOCHORDA GIRALDII WILSONII Rehder. Rosaceae. Wilson pearlbush.

A central Chinese form of *Erochorda giraldii* with a more upright and vigorous habit and more flowers than the type. It is a slender spreading deciduous shrub about 10 feet high with oblong-elliptic, occasionally serrate leaves, and racemes of 6 to 10 pure-white flowers which are 2 inches across appearing in late spring.

For previous introduction see No. 65769.

77679 to 77683. HAMAMELIS spp. Hamamelidaceae. Witch-hazel.

77679. HAMAMELIS JAPONICA ARBOREA (Masters) Rehder.

A small deciduous Japanese tree up to 30 feet high, with nearly orbicular leaves 4 inches long and flowers having a deep vinous red reflexed calyx and golden-yellow petals. The flowers appear in winter, and the delicate petals are not injured by zero weather.

77680. HAMAMELIS JAPONICA ZUCCARINIANA (Ottolander) Gumbelton.

A form of the Japanese witch-hazel with more upright branches than the type, and calyx lobes greenish yellow inside and pale-yellow petals.

77681. HAMAMELIS MOLLIS Oliver. Chinese witch-hazel.

A deciduous shrub or small tree, native to central China, with densely tomentose branchlets, broadly ovate leaves 4 to 7 inches long, and flowers opening in winter having sepals rusty tomentose outside and purple inside while the petals are golden yellow with a reddish base. It is said to be the handsomest of the witch-hazels.

For previous introduction see No. 72873.

77682. HAMAMELIS RUBRA Hort.

A horticultural form described as having red-orange flowers.

77683. HAMAMELIS VERNALIS Sargent.

An upright deciduous shrub 6 to 8 feet high, native to Oklahoma, with obovate leaves 5 inches long and fragrant reddish flowers appearing in the spring. Secured for comparative study only.

77684. HYMENANTHERA CRASSIFOLIA Hook. f. Violaceae.

A dense half-evergreen New Zealand shrub about 6 feet high, with rigid branches, crowded obovate leaves an inch long, small yellow axillary flowers followed by globose white berries a quarter of an inch in diameter.

77661 to 77690—Continued.

77685 to 77687. *INDIGOFERA* spp. Fabaceae.

77685. *INDIGOFERA DECORA* ALBA Sargent.

A white-flowered form of *Indigofera decora*, which is a Chinese shrub about 2 feet high, with reddish-brown branchlets, 7 to 13 elliptic leaflets, and racemes of flowers 8 to 10 inches long.

77686. *INDIGOFERA HEBEPETALA* Benth.

A deciduous shrub, about 3 feet high, with 5 to 11 broadly ovate leaflets 3 inches long, and dense racemes nearly a foot long of pea-shaped flowers having crimson standards and rose-colored wings and keels.

77687. *INDIGOFERA POTANINII* Craib.

A deciduous upright shrub, native to northwestern China, with five to nine oblong leaflets an inch long and racemes of small bright-rose flowers.

77688. *OSMANTHUS ARMATUS* Diels. Oleaceae.

An evergreen Chinese shrub up to 15 feet high, with opposite oblong spiny toothed leaves 4 to 6 inches long, axillary or terminal panicles of small fragrant white flowers and ovoid fruits.

77689. *OSMANTHUS SERRULATUS* Rehder. Oleaceae.

An evergreen Chinese shrub or small tree up to 35 feet high, with coriaceous obovate spiny serrulate leaves 3 to 5 inches long, panicles of fragrant white flowers, and black fruits. It is closely related to *Osmanthus fragrans*.

77690. *RHODODENDRON MACROSTEMON* Maxim. Ericaceae.

A low half-evergreen Japanese shrub with pubescent elliptic-oblong leaves half an inch long and salmon-red flowers an inch across having stamens twice as long as the corolla. It is closely related to *Rhododendron obtusum*.

77691. *CARICA PAPAYA* L. Papayaceae. Papaya.

From Honolulu, Hawaii. Seeds presented by J. M. Westgate, director, Hawaii Agricultural Experiment Station. Received November 5, 1928.

Solo. From the standpoint of the home gardener this is considered one of the best of the papayas. Although small, its qualities of texture and flavor give it first rank.

For previous introduction see No. 76495.

77692. *VICIA PICTA* Fisch. and Mey. Fabaceae. Vetch.

From Kharkof, Russia. Seeds presented by Prof. D. C. Vilensky, Ukraine Institute of Applied Botany. Received November 5, 1928.

A biennial vetch, native to Armenia, of value there as a cover crop.

77693 to 77698.

From Amani, Tanganyika Territory, Africa. Seeds presented by the superintendent of plantations, East African Agricultural Research Station. Received October 12, 1928.

77693 to 77698—Continued.

77693. *ERYTHRINA TOMENTOSA* R. Br. Fabaceae.

A tree native to South Africa, up to 20 feet high, with thick, rough, prickly bark. The long-stemmed, trifoliate leaves, 10 to 14 inches long and wide, are densely hairy on both surfaces, and the bright-crimson flowers are borne in many-flowered spikelike clusters. The woody pods, velvety on the surface, are alternately swollen and contracted, which gives them a bizarre appearance.

For previous introduction see No. 56187.

77694. *ERYTHRINA VELUTINA* Willd. Fabaceae.

A spiny tree, native to Venezuela, up to 30 feet high, which, while leafless, bears large masses of rosy red flowers. The leaves are compound with three cordate triangular entire leaflets.

77695. *GREVIA CALYMMATOSEPALA* Schum. Tiliaceae.

A woody climber, native to tropical Africa, which reaches to the tops of the tallest trees. It has oblong to elliptic leaves 3 to 8 inches long and short racemes of small pinkish-white flowers.

77696. *HIBISCUS SCOTTI* Balf. f. Malvaceae.

A large shrub or small tree, native to the island of Socotra, with ovate leaves either entire, toothed, or lobed and flowers, 3 to 4 inches across, bright yellow with a carmine eye.

77697. *LANDOLPHIA* sp. Apocynaceae.

Landolphias are woody vines with opposite leaves and are a possible source of rubber.

77698. *MASCARENHASIA ELASTICA* Schum. Apocynaceae.

A tree, native to tropical Africa, with oblong coriaceous leaves 10 inches long, axillary and terminal cymes of pink or purple flowers, and smooth purplish-black fruits 3 to 4 inches long. This tree is a source of rubber, and the timber is also said to be excellent.

For previous introduction see No. 61498.

77699. *NEOGLAZIOVIA VARIEGATA* (Ar-ruda). Mez (*Billbergia variegata* Schult.) Bromeliaceae. Carao.

From Vicos, Minas Geraes, Brazil. Plants presented by P. H. Rolfs, Escola Superior de Agricultura e Veterinaria, through L. H. Dewey, Bureau of Plant Industry. Received October 7, 1927. Numbered in December, 1928.

The carao is a plant 4 or 5 feet high, of the same family as the pineapple, and is found wild in the caatingas, or dry regions, of eastern Brazil. The natives extract the fiber for the purpose of making baskets, ropes, and hammocks, but the amount obtained is not sufficient for export.

For previous introduction see No. 63868.

77700. *PRUNUS YEDOENSIS* Mats. Amygdalaceae. Yoshino cherry.

Trees growing at the United States Plant Introduction Garden, Chico, Calif., originally from Highland Park, Rochester, N. Y. Numbered in October, 1928.

77700—Continued.

P. I. G. No. 16826. Tree 3, rows 146 to 148, old test orchard. *Taizanfukun* (mountain snowcap). Trees erect, about 15 feet high, with dark-brown bark; flowers semidouble to double, pink, about an inch in diameter, often borne near the ends of the branches. Pedicels and calyxes more or less hairy.

For previous introduction see No. 76080.

77701 to 77707.

From Jamaica Plain, Mass. Seeds and scions collected at the Arnold Arboretum by Paul Russell, Bureau of Plant Industry. Received November, 1928.

77701 and 77702. *DIPelta FLORIBUNDA* Maxim. Caprifoliaceae.

For previous introduction and description see No. 77675.

77701. Seeds.

77702. Arboretum No. 15414. Scions.

77703. *LIGUSTRUM ACUTISSIMUM* Koehne. Oleaceae. Privet.

Arboretum No. 14973-1. Seeds of a loose-growing much-branched shrub 10 feet or less high, with spreading and curving branches and very narrow sharp-pointed leaves about 2 inches long. The white flowers are borne in dense nodding panicles about an inch long. This privet is native to Japan and China.

For previous introduction see No. 72874.

77704. *MALUS THEIFERA* Rehder. Malaceae. Tea crab.

Arboretum No. 7241. Seeds of a spreading tree about 25 feet high, with smooth dark-gray bark. The fragrant white or pinkish flowers, about 2 inches across, are in clusters of three to seven, and the fruits, about half an inch in diameter, are greenish yellow with red cheeks. A floriferous and handsome crab apple.

For previous introduction see No. 61983.

77705 and 77706. *PRUNUS SERRULATA* Lindl. Amygdalaceae. Oriental cherry.

77705. Arboretum No. 20135. *Masuyama*. Scions of a small spreading tree with reddish brown bark. The young leaves, which appear before the flowers fall, are brownish green. The flowers, deep pink in the bud, are semidouble, light pink with deeper pink toward the margins, and open rather flat. Compared with *Horinji*, a closely related variety, the flowers are slightly less double and are flatter when fully opened.

For previous introduction see No. 77264.

77706. Arboretum No. 7608-C. *Miyako* (beauty or prosperity). Scions of a tree of upright habit; bark dark brown; young foliage light brown; buds deep pink, truncate; flowers semidouble, opening rather flat, up to about 2 inches in diameter, almost white in center, becoming pink toward the fimbriate petal tips and on back, in drooping clusters. A very attractive variety.

For previous introduction see No. 77265.

77701 to 77707—Continued.

77707. *PRUNUS SUBHIRTELLA* Miquel. Amygdalaceae. Higan cherry.

Arboretum No. 3674. Scions of the so-called typical form of the Higan cherry, which is not known in the wild state. It is a rather low, wide-spreading tree with smooth gray bark. In early spring, before the leaves appear, the tree is hidden in a dense mass of very light pink flowers, slightly larger than those of the other Higan cherries. The small black fruits follow early in the summer.

77708. *ANNONA SPINESCENS* Mart. Annonaceae.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received November 9, 1928.

A spiny Brazilian shrub up to 15 feet high, with small leathery leaves and orange-red, heart-shaped fruits 3 inches long which are edible but insipid. The Philippine name is alagadisso.

For previous introduction see No. 37911.

77709. *CHIONANTHUS RETUSA* Lindl. Oleaceae. Chinese fringetree.

From Rochester, N. Y. Cuttings collected at Highland Park by Paul Russell, Bureau of Plant Industry. Received November 14, 1928.

A beautiful deciduous, hardy, ornamental tree bearing, during the spring, a multitude of white, deliciously fragrant flowers, with very narrow petals, followed in the autumn by masses of blue berries resembling wild grapes. This variety is considered by some to be superior to the Virginia fringetree (*Chionanthus virginica*) because of the whiteness and fragrance of its flowers and its more graceful habit.

For previous introduction see No. 65766.

77710 to 77816. *SACCHARUM* spp. Poaceae.

From New Guinea. Cuttings collected by E. W. Brandes, Bureau of Plant Industry. Received October and November, 1928.

77710 to 77781. *SACCHARUM OFFICINARUM* L. Sugarcane.

77710. No. 14. *Geni kom.*

77711. No. 15. *Geni kom.*

77712. No. 16. *Badoa kom.*

77713. No. 17. *Memeki kom.*

77714. No. 18. *Laguani keboli.*

77715. No. 19. *Doraki kom.*

77716. No. 20. *Koloa kom.*

77717. No. 27. *Lepesti kom.*

77718. No. 28. *Kemari kom.*

77719. No. 29. *Goru kom.*

77720. No. 30. *Voluma kom.*

77721. No. 31. *Gojaji.*

77722. No. 32. *Paluma.*

77723. No. 33. *Karuma.*

77724. No. 34. *Kaki haji.*

77725. No. 35. *Magi.*

77726. No. 36. *Mumudi.*

77727. No. 37. *Jovi-uru.*

77710 to 77816—Continued.

77728. No. 39. *Udebis*.
 77729. No. 40. *Mihaki*.
 77730. No. 41. *Towato*.
 77731. No. 42. *Hugija*.
 77732. No. 43. *Mehaki guwak*.
 77733. No. 46. *Kasimo*.
 77734. No. 47. *Buna wai*.
 77735. No. 48. *Goiva*.
 77736. No. 49. *Jahuni*.
 77737. No. 50. *Hinogoru*.
 77738. No. 51. *Mahi (Mah-l)*.
 77739. No. 52. *Serepi*.
 77740. No. 53. *Jarowa*.
 77741. No. 54. *Kasosoi*.
 77742. No. 56. *Badoaveo*.
 77743. No. 57. *Jare*.
 77744. No. 58. *Ubo em*.
 77745. No. 59. *Auna e belle*.
 77746. No. 61. *Sisiara*.
 77747. No. 62. *Suava bita*.
 77748. No. 63. *Gogi*.
 77749. No. 64. *Buna wai*.
 77750. No. 65. *Boraru*.
 77751. No. 66. *Badowai*.
 77752. No. 67. *Badowai*.
 77753. No. 68. *Naita*.
 77754. No. 69. *Gogi*.
 77755. No. 70. *Buna wai*. A striped cane.
 77756. No. 71. *Ai bai kina*.
 77757. No. 73. *Serebe*. A striped cane.
 77758. No. 74. *Gurutu*.
 77759. No. 76. *Erenai*.
 77760. No. 78. *Kiena*.
 77761. No. 79. *Baroko*.
 77762. No. 80. *Gurutu*.
 77763. No. 81. *Apia baina*.
 77764. No. 82. *Gauka*.
 77765. No. 83. *Giema arepa*.
 77766. No. 84. *Bogara umot*.
 77767. No. 85. *Jaroko*.
 77768. No. 86. *Moderr*.
 77769. No. 87. *Magi*.
 77770. No. 88. *Joda*.
 77771. No. 90. *Kani meta*.
 77772. No. 91.
 77773. No. 92 (2). *Wai no*.
 77774. No. 93. *Siriwo*.
 77775. No. 94. *Adema*.
 77776. No. 95. *Ruba ruba*.
 77777. No. 96. *Ara gojehi*.
 77778. No. 97. *Dai dabi*.
 77779. No. 98. *Geni kom*.

77710 to 77816—Continued.

77780. No. 99. *Wai no*.
 77781. No. 100.
 77782. *SACCHARUM SPONTANEUM* L. **Grass.**
 No. 101. A grass closely related to sugarcane.
 77783. *SACCHARUM* sp. **Grass.**
 No. 102. Probably a hybrid between *Saccharum spontaneum* and *S. robustum*.
 77784. *SACCHARUM* sp. **Grass.**
 No. 103. A new species of sugarcane.
 77785. *SACCHARUM* sp. **Grass.**
 No. 104. A new species of sugarcane.
 77786. *SACCHARUM* sp. **Grass.**
 No. 105. A new species of sugarcane.
 77787 to 77816. *SACCHARUM OFFICINARUM* L. **Sugarcane.**
 77787. No. 106. *Kinikomu*.
 77788. No. 107. *Kamli kom*.
 77789. No. 108. *Gao*.
 77790. No. 109. *Ra u rai*.
 77791. No. 110. *Paroa*.
 77792. No. 201.
 77793. No. 202.
 77794. No. 203.
 77795. No. 206.
 77796. No. 207.
 77797. No. 208.
 77798. No. 209.
 77799. No. 210.
 77800. No. 211.
 77801. No. 212.
 77802. No. 213.
 77803. No. 214.
 77804. No. 215.
 77805. No. 216.
 77806. No. 217.
 77807. No. 218.
 77808. No. 220.
 77809. No. 221.
 77810. No. 222.
 77811. *A*.
 77812. *B*.
 77813. *D*.
 77814. *E*.
 77815. *F*.
 77816. *G*.

77817. *VIBURNUM SARGENTI* FLAVUM Rehder. *Caprifoliaceae*.

From Rochester, N. Y. Cuttings collected by Paul Russell, Bureau of Plant Industry, at Highland Park. Received November 14, 1928.

A hardy ornamental shrub about 10 feet high, with gray bark, broadly oval coarsely dentate 3-lobed leaves, and numerous clusters of attractive yellow fruits in early autumn. A garden variety. The typical form is native to northeastern Asia.

77818. (Undetermined.)

From China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received November 19, 1928.

No. 16736. From the Litang River Valley, above Wachin monastery, Muli Territory, southwestern Szechwan, July, 1928. A curious lilylike plant 5 feet or more tall, bearing between 50 and 100 fragrant flowers about $1\frac{1}{2}$ inches long and of a most delicate mauve lavender. It grows in forest clearings at an altitude of 13,000 feet. Unlike true lilies, it has not 1 bulb but bears from 10 to 15 bulblets at the ends of the short roots.

77819 to 77870.

From Jamaica Plain, Mass., and Rochester, N. Y. Collected by Paul Russell, Bureau of Plant Industry. Received in November, 1928.

Seeds have been received unless otherwise stated.

77819 to 77855. From the Arnold Arboretum, Jamaica Plain, Mass. The numbers at the beginning of some of the descriptions refer to those of the Arnold Arboretum.

77819. *ACANTHOPANAX LEUCORRHIZUM* (Oliver) Harms. Araliaceae.

No. 10655. An ornamental shrub up to 12 feet high with prickly branches, digitately compound sharply serrate leaves, and small round black berries in numerous large pendulous umbels. Native to central and western China.

For previous introduction see No. 40710.

77820 to 77822. *ACER* spp. Aceraceae. **Maple.**

77820. *ACER ARGUTUM* Maxim.

No. 1796-2. A small, deciduous tree with erect branches and doubly serrate leaves 2 to 4 inches long. The greenish yellow flowers are produced during April before the leaves, and the keys are borne in hanging racemes. This tree is a native of the mountain woods of Japan and makes an elegant appearance with its pale-green leaves during the summer and its purplish-brown branches in the winter.

For previous introduction see No. 43676.

77821. *ACER GRISEUM* (Franch.) Pax. **Paperbark maple.**

A handsome western Chinese maple which becomes 30 feet high under favorable conditions. The leaves are trifoliate. The striking feature of this maple is the cinnamon-brown papery bark which flakes off like that of the river birch.

For previous introduction see No. 38992.

77822. *ACER TSCHONOSKII* Maxim.

No. 12577. A graceful shrubby tree 20 feet or less high, native to Japan. The leaves turn to bright yellow in the autumn.

77823. *CALLICARPA GIRALDIANA* Hesse. Verbenaceae.

No. 6712. A deciduous Chinese shrub 10 feet high, with membranous light-

77819 to 77870—Continued.

green leaves, cymes of pink flowers, and dense clusters of round berrylike violet fruits, which hang on after the leaves have fallen.

For previous introduction see No. 76183.

77824. *CARPINUS CORDATA* Blume. Betulaceae. **Hornbeam.**

No. 12971. A handsome hardy tree 40 feet or less high, with oval-oblong, acuminate leaves 3 to 6 inches long. Native to Japan and Manchuria.

For previous introduction see No. 71141.

77825. *CEPHALOTAXUS DRUPACEA SINENSIS* Rehd. and Wils. Taxaceae.

An ornamental evergreen yewlike shrub up to 12 feet high, with stiff spreading branches and sharp-pointed linear leaves about an inch long.

For previous introduction see No. 40018.

77826. *CORNUS KOUSA CHINENSIS* Osborn. Cornaceae.

No. 13123. A Chinese dogwood which becomes about 25 feet high, with dark-green leaves nearly 5 inches long and showy white flowers which appear in June after the leaves. The fruiting heads are globose, pinkish, and about an inch across.

77827. *COTONEASTER APICULATA* Rehd. and Wils. Malaceae.

No. 7275-B. A low wide-spreading shrub with closely overlapping branches forming a mound 2 or 3 feet high. The small oval dark-green leaves, which persist until winter, form an excellent background for the bright-scarlet berries in autumn. Native to western China.

For previous introduction see No. 76231.

77828. *DECAISNEA FARGESII* Franch. Lardizabalaceae.

A handsome shrub up to 15 feet high with large pinnate leaves 3 feet long, greenish flowers in long pendulous racemes, and deep-blue fruits 3 to 4 inches long. Native to western China.

For previous introduction see No. 62922.

77829. *EUONYMUS MAACKII* Rupr. Celastraceae.

A large shrub or small tree with narrowly oval leaves about 3 inches long and small clusters of pink, 4-lobed fruits which have orange-red arils. Native to northeastern Asia.

For previous introduction see No. 66567.

77830. *FRAXINUS BUNGEANA* DC. Oleaceae. **Ash.**

No. 14626-B. A hardy shrubby Chinese ash 15 feet or less high, said to grow well in dry rocky ground.

77831. *HAMAMELIS MOLLIIS* Oliver. Hamamelidaceae. **Chinese witchhazel.**

For previous introduction and description see No. 77681.

77819 to 77870—Continued.

77832. *ILEX SERRATA* Thunb. Aquifoliaceae. **Holly.**

No. 892-3. A slender ornamental deciduous shrub native to Japan, about 15 feet high, with oval, finely serrate leaves and small bright-red berries.

For previous introduction see No. 75716.

77833. *LESPEDEZA CYRTOBOTRYA* Miquel. Fabaceae.

No. 6000. A small deciduous bush-clover, native to Japan and Chosen, which bears racemes of rosy purple, pea-shaped flowers during midsummer.

For previous introduction see No. 76057.

77834. *LONICERA VILMORINII* Rehder. Caprifoliaceae. **Honeysuckle.**

No. 4801. An ornamental shrub up to 10 feet high, with arching branches, oblong leaves, and yellowish pink fruits. It is a hybrid between *Lonicera quinquelocularis* and *L. delex-calyx*.

77835 to 77837. *MAACKIA* spp. Fabaceae.

77835. *MAACKIA AMURENSIS* Rupr.

A small tree, native to eastern Asia, with orange-brown bark, dull-green compound leaves, and short erect clusters of small yellowish-white flowers.

For previous introduction see No. 65939.

77836. *MAACKIA AMURENSIS* BUERG. C. Schneid.

A variety, native to Japan, with pubescent leaflets.

77837. *MAACKIA CHINENSIS* Takeda.

No. 6962. A large leguminous tree up to 75 feet high, native to central China. The compound leaves consist of 11 to 13 oval leaflets 1 to 3 inches long. The white flowers, about half an inch long, are borne in racemes up to 8 inches long.

77838. *MALUS KANSUENSIS* (Batal.) C. Schneid. Malaceae.

No. 10096-B. A small tree, up to 25 feet high, native to northwestern China. The small flowers are white and the ellipsoid fruits, about half an inch long, are yellow or reddish.

For previous introduction see No. 72810.

77839 and 77840. *MALUS TORINGOIDES* (Rehder) Hughes (*M. transitoria toringoides* Rehder). Malaceae.

A shrub or small tree, up to 25 feet high, with oval 4-lobed leaves, and handsome fruits about half an inch long, yellow, usually with a red cheek. Native to western China.

For previous introduction see No. 54092.

77839. No. 7186. Seeds.

77840. No. 17475. Scions.

77841. *MORUS ACIDOSA* Griffith. Moraceae. **Acid mulberry.**

A usually broad shrub 3 to 16 feet high, but occasionally a tree 25 feet

77819 to 77870—Continued.

high, found in Hupeh and Szechwan Provinces, China. The leaves are very variable in size and shape and are not used for feeding silkworms. The edible fruits, dark red or shining black, are very palatable.

For previous introduction see No. 66299.

77842. *PHELLODENDRON JAPONICUM* Maxim. Rutaceae. **Corktree.**

A tree native to Japan, up to 30 feet high, with dark-brown bark, compound leaves composed of 9 to 13 ovate, dull-green leaflets, and black fruits in panicles 2 to 3 inches across.

For previous introduction see No. 66936.

77843. *PSEUDOLARIX AMABILIS* (Nelson) Rehder (*P. kaempferi* Gordon). Pinaceae. **Goldenlarch.**

No. 3656. A deciduous tree, native to China, sometimes as much as 130 feet high, with long spreading branches pendulous at the extremities. The light-green leathery foliage turns a clear yellow in the autumn.

For previous introduction see No. 71981.

77844. *SORBUS ALNIFOLIA* (Sieb. and Zucc.) Koch. Malaceae. **Mountain-ash.**

An upright tree, 60 feet high, with a dense round head, attractive bright-green foliage, and clusters of small red and yellow fruits. Native to eastern Asia.

For previous introduction see No. 65693.

77845. *SORBUS COMMIXTA* Hedl. Malaceae. **Japanese mountain-ash.**

No. 2077-1. A shrub or tree, native to central and northern Japan, with bright-green serrate variable leaves usually composed of five or six pairs of glabrous leaflets. The white flowers are in terminal corymbs, and the bright-red, nearly globular fruits are about one-fourth of an inch in diameter.

For previous introduction see No. 43728.

77846 to 77848. *SYRINGA* spp. Oleaceae. **Lilac.**

77846. *SYRINGA KOMAROWI* C. Schneid.

A Chinese shrub up to 15 feet high, with ovate leaves 5 to 7 inches long and nodding crowded panicles of purple-pink flowers.

For previous introduction see No. 76599.

77847. *SYRINGA MEYERI* C. Schneid. **Meyer Lilac.**

A compact shrub up to 10 feet high, native to northern China, with small oval-elliptic leaves and dense panicles of violet flowers, which appear very early in the season.

77848. *SYRINGA PINETORUM* W. W. Smith.

No. 19140. A spreading shrub about 10 feet high, from southwestern China. The purplish flowers are borne in panicles about 5 inches long.

77819 to 77870—Continued.

77849. *TRIPTERYGIUM REGELII* Sprague and Takeda. Celastraceae.

A shrub about 5 feet high, with reddish brown warty branches, light green broadly oval leaves, and terminal panicles of small fragrant greenish-yellow flowers.

77850 to 77852. *VIBURNUM* spp. Caprifoliaceae.

77850. *VIBURNUM HUPEHENSE* Rehder.

No. 18020. A deciduous shrub, native to China, about 6 feet high, with broadly ovate, densely pubescent, dentate leaves 2 to 3 inches long, cymes of small white flowers, and clusters of ovoid red fruits.

For previous introduction see No. 76602.

77851. *VIBURNUM THEIFERUM* Rehder.

An upright deciduous shrub, about 12 feet high, with dark-green, oval-oblong leaves about 4 inches long and ovoid bright-red fruits. Native to central China.

For previous introduction see No. 67064.

77852. *VIBURNUM WRIGHTII* Miquel.

A handsome deciduous shrub, native to Japan, about 10 feet high, with broadly oval or nearly round leaves and showy red fruits. The leaves turn crimson in early autumn.

For previous introduction see No. 43736.

77853. *CYDONIA OBLONGA* Mill. (*Pyrus cydonia* L.). Malaceae. **Quince.**

Scions of a large-fruited variety.

77854. *MALUS THEIFERA* Rehder. Malaceae. **Tea crab.**

No. 17474. Scions.

For previous introduction and description see No. 77704.

77855. *PRUNUS INCISA* Thunb. Amygdalaceae.

Variety *Zansetsu*. Scions of an ornamental cherry, native to Japan, which is a large shrub, or sometimes a small tree, about 25 feet high. The flowers, which appear in drooping clusters before the deeply cut leaves, are white or rosy, with bright-red calyxes, and the anthers are bright yellow. The petals fall early, but the calyxes, which gradually grow brighter, remain on the young fruits for some time and are quite showy.

For previous introduction see No. 64669.

77856 to 77870. From Highland Park, Rochester, N. Y.

77856. *ACANTHOPANAX DIVARICATUM* (Sieb. and Zucc.) Seem. Araliaceae.

A large deciduous spreading shrub of vigorous habit, up to 10 feet high, with handsome dark-green leaves and spherical heads of inky black fruits. It is native to Japan and is very closely related to *Acanthopanax sessiliflorum*. Unlike the latter, this species has downy young shoots, and the lower surfaces of the leaves are also

77819 to 77870—Continued.

quite downy. It should probably prove hardy in all but the coldest parts of the United States.

For previous introduction see No. 75663.

77857. *ACANTHOPANAX LASIOGYNE* Harms. Araliaceae.

A prickly stemmed shrub up to 20 feet high, with light-gray branchlets, attractive compound leaves composed of three oblong leaflets, and umbels of small black berries. Native to western China.

77858. *CATALPA OVATA* Don. Bignoniaceae. **Japanese catalpa.**

An ornamental tree, native to Japan, up to 20 feet high, with large, broadly heart-shaped leaves often 3-lobed to 5-lobed, and fragrant yellow flowers, striped with orange and violet within, in many-flowered panicles 4 to 7 inches long.

For previous introduction see No. 62266.

77859. *COTONEASTER IGNAVA* E. L. Wolf. Malaceae.

A hardy ornamental shrub about 5 feet high, native to eastern Turkestan. The oval-orbicular leaves are about an inch long, and the dark-purple fruits are in rather dense pendulous clusters.

77860. *CRATAEGUS CHLOROSARCA* Maxim. Malaceae.

A small hardy pyramidal tree with dark-green triangular-oval leaves and black subglobose fruits about two-fifths of an inch in diameter. Native to Manchuria.

77861. *EVODIA HUPEHENSIS* Dode. Rutaceae.

A very common tree in the woodlands of western Hupeh, China, where it grows to a height of 20 to 40 feet. It has smooth, gray bark, spreading branches, and white flowers in large flat corymbs.

For previous introduction see No. 63357.

77862 to 77864. *LONICERA* spp. Caprifoliaceae. **Honeysuckle.**

77862. *LONICERA ORIENTALIS LONGIFOLIA* Dipp. (*L. kesselringii* Regel.).

A large deciduous shrub about 10 feet high, with oblong or lanceolate leaves up to 2½ inches long, small reddish flowers, and black fruits. Native to Kamchatka, Siberia.

For previous introduction see No. 41946.

77863. *LONICERA QUINQUELOCULARIS* Hardwicke.

An erect shrub, up to 15 feet high, with spreading branches, downy purplish young twigs, and dull-green broadly oval leaves. The flowers are creamy white, changing to yellow and the berries are translucent white.

For previous introduction see No. 40187.

77819 to 77870—Continued.

77864. *LONICERA WEBBIANA* Wall.

A stout shrub about 10 feet high, native to southeastern Europe and Afghanistan. The yellowish flowers, tinged with red, are followed by scarlet fruits.

77865. *SORBUS MATSUMURANA* Koehne. Malaceae.

An ornamental shrub or small tree, native to Japan, with compound leaves composed of 9 to 13 oblong dark-green leaflets and loose clusters of globular red fruits.

77866. *STEWARTIA PSEUDO-CAMELLIA* Maxim. Theaceae.

A handsome tree, native to Japan, up to 50 feet high, with erect branches and red bark. The thickish obovate-lanceolate leaves are bright green, and the large white flowers which resemble single camellias are borne in summer.

For previous introduction see No. 75693.

77867. *TILIA MIQUELIANA* Maxim. Tiliaceae.

A tree up to 40 feet high, cultivated as a shade tree in Japan. The oval-triangular, obliquely cordate, dark-green leaves are 2 to 5 inches long.

77868. *TILIA OLIVERI* Szyszyl. Tiliaceae.

A tree 50 feet high, with dark-green orbicular ovate leaves, white tomentose beneath, and small globose fruits. The pendulous cymes contain 7 to 20 small white flowers. Native to central China.

77869. *ZANTHOXYLUM BUNGEI* Planch. Rutaceae.

An ornamental deciduous shrub or small tree up to 20 feet high, armed with stout prickles about half an inch long. The shining green compound leaves consist of 7 to 11 oblong leaflets, and the small fruits are reddish. Native to northern and central China.

77870. *ZANTHOXYLUM SCHINIFOLIUM* Sieb. and Zucc. Rutaceae.

A graceful shrub, native to Japan, with attractive compound leaves and rather conspicuous clusters of greenish or brownish fruits in autumn.

77871. *SACCHARUM OFFICINARUM* L. Poaceae. **Sugarcane.**

From La Manuelita, Palmira, Colombia. Cuttings obtained from E. L. Anderson. Received November 22, 1928.

77872. *TREMA ORIENTALIS* (L.) Blume. Ulmaceae.

From Taiwan. Seeds collected by R. K. Beattie, Bureau of Plant Industry. Received November 9, 1928.

No. 728. Obtained from the Taihoku Forest Office, October 11, 1928. A small evergreen tree, native to southern Asia, with cordate-lanceolate crenate leaves 6 inches long, silvery pubescent beneath, and small clusters of inconspicuous flowers followed by small dry fruits. This tree is said to be of high tannin content.

77873. *HORDEUM BOGDAIN* Hort. Poaceae. **Grass.**

77873—Continued.

From Kharkof, Russia. Seeds presented by Prof. D. C. Vilenky, Ukraine Institute of Applied Botany. Received November 5, 1928.

Saline barley. A new species of grass related to barley, which seems to be suited to saline conditions.

77874 and 77875.

From Valki, Kharkof, Russia. Seeds presented by the agronomist in charge of alfalfa investigations, Station de l'Ukraine. Received November 14, 1928.

77874. *MEDICAGO SATIVA* L. Fabaceae. **Alfalfa.**

Variety from Kharkof.

77875. *ONOBRYCHIS VULGARIS* Hill (*O. viciifolia* Scop.). Fabaceae. **Sanfoin.**

Variety from Ukraina.

77876 to 77878. *AMYGDALUS PERSICA* L. Amygdalaceae. **Peach.**

From Pistoria, Tuscany, Italy. Plants purchased from Martino Bianchi. Received November 27, 1928.

These peaches are a cross between a hardy, late free-flowering Chinese peach and a variety Teton de Venus, originated in Tuscany, which ripens about the middle of August.

The trees are vigorous and bear heavy crops of fruit 3 to 4 inches in diameter. The flesh is greenish white, sweet and juicy, colored with carmine near the pit, from which it is easily removed.

77876. *Tos-China*. No. 1. Fruits ripen the last of September and continue through the first 10 days or so of October.

77877. *Tos-China*. No. 2. Fruits ripen during October.

77878. *Tos-China*. No. 3. Fruits ripen during November.

77879 to 77883. *AVENA SATIVA* L. Poaceae. **Oats.**

From Svalöf, Sweden. Seeds presented by A. Akerman, Sveriges Utsädesförening. Received November 23, 1928.

77879. *Seger* (victory).

77880. *Och eko* (echo). This variety was not bred at Svalöf, but came from the firm of W. Weibull, at Landskrona.

77881. *Guldregn I* (Goldenrain I).

77882. *Stjärn* (star).

77883. *Guldregn II* (Goldenrain II).

77884 to 77951.

From Madagascar. Seeds collected by Charles F. Swingle, Bureau of Plant Industry, and Dr. Henri Humbert, University of Algiers, Algeria. Received in November, 1928.

77884. *ACACIA MORONDAVENSIS* Drake. Mimosaaceae.

No. 5073. Upper Valley of Fihberena, August 2, 1928. A tropical ornamental tree about 65 feet high.

77884 to 77951—Continued.

77885 to 77894. *ALOE* spp. Liliaceae.77885. *ALOE ANDRINGITRENSIS* Perrier.

Botanic Garden, Tananarive, September 28, 1928. A stemless aloe, native to central Madagascar, with a rosette of 12 to 18 subfalcate leaves about 17 inches long. The leaves have horny margins and are armed with very small marginal spines. The dark orange-colored flowers are in dense racemes about 4 inches long.

77886. *ALOE CAPITATA* Baker.

Botanic Garden, Tananarive, September 28, 1928. An ornamental succulent with lanceolate leaves, less than 2 inches wide, narrowed gradually upward, and margined with spreading deltoid prickles. The yellow flowers are in headlike racemes of 30 or more flowers, on a peduncle less than a foot long. The inflorescence resembles that of *Aloe saponaria*.

77887. *ALOE CAPITATA QUARTZITICOLA* Perrier.

Botanic Garden, Tananarive, September 28, 1928. A stemless succulent plant with rather short thick leaves about 19 inches long, armed with stout red spines about two-fifths of an inch long. The yellow flowers are in a short dense head. This variety is native to quartzite regions in Madagascar.

77888. *ALOE VAOBEE* Decorse.

Botanic Garden, Tananarive, September 28, 1928. A large fleshy plant, native to sandy places in southwestern Madagascar. It becomes as much as 25 feet high, with incurved reddish spiny leaves up to 4 feet long and reddish-orange flowers in an erect head of 50 to 70 flowers.

77889. *ALOE* sp.

Between Betroka and Ihosy, September 19, 1928. Plant about 3 feet and inflorescence about 11 inches.

77890. *ALOE* sp.

La Table, Tullear, August 7, 1928.

77891. *ALOE* sp.

Ampanihy, September 3, 1928.

77892. *ALOE* sp.

Ampanihy, September 3, 1928.

77893. *ALOE* sp.

Diego Suarez, Montagne des Français, October 7, 1928.

77894. *ALOE* sp.

Mont Vatomavy, Ambositra, July 23, 1928.

77895. *ARISTOLOCHIA ACUMINATA* Lam. Aristolochiaceae.

La Table, Tullear, August 2, 1928. A vigorous ornamental vine native to the East Indies.

For previous introduction see No. 53612.

77896. *ASSONIA* sp. (*Dombeya* sp.). Sterculiaceae.

Valley of Fiherenana, August 3, 1928. An ornamental shrub or small tree native to Madagascar.

77884 to 77951—Continued.

77897. *BAPHIA CAPPARIDIFOLIA* Baker. Fabaceae.

No. 4026. Mananika, near Maevatanana, July 6, 1928. A shrub or tree, native to Madagascar, with slender branchlets, simple lanceolate leaves 2 to 3 inches long, and cymes of yellow flowers half an inch across.

For previous introduction see No. 77321.

77898. *CITRUS GRANDIS* (L.) Osbeck. Rutaceae. Grapefruit.

July 13, 1928. A variety with pink-fleshed fruits, about 20 inches in circumference, obtained in the market at Tananarive.

77899. *CITRUS* sp. Rutaceae.

Ivolena Experiment Station, Tamatave, October 2, 1928. *Vioangy*. Said to be an indigenous citrus plant.

77900. *COMBRETUM* sp. Combretaceae.

Diego Suarez, Montagne des Français, October 7, 1928. A climbing shrub with bright-red flowers.

77901 to 77904. *CRYPTOSTEGIA MADAGASCARIENSIS* Bojer. Asclepiadaceae. Madagascar rubbervine.

An important rubber plant occurring throughout a large portion of western Madagascar. There seems to be confusion between this and *Cryptostegia grandiflora*, which apparently is a more or less cosmopolitan species but which in Madagascar occurs only in the region south of Tullear. This plant is a shrub about 3 feet high, but occasionally it develops into a climber. The fibers of the plant are employed in making fishlines, and the Sakalavas recognize the plant as a source of an excellent cloth.

77901. Diego Suarez, Montagne des Français, October 7, 1928. *Lombira*.

77902. Andrahana village, north of Androka, August 24, 1928.

77903. Andrahana village, north of Androka, August 24, 1928.

77904. Upper Valley of Fiherenana, August 2, 1928.

77905. *EUPHORBIA* sp. Euphorbiaceae.

Beharahaka, between Androka and Ampanihy, August 29, 1928. *Hara-baka*. A tree about 25 feet high, with a large amount of latex which contains some rubber. This was the largest *Euphorbia* seen in Madagascar.

77906. *GONOCRYPTA* sp. Asclepiadaceae.

North of Tullear, August 6, 1928. A rubber-bearing vine very different from *kompitso* of Ampanihy and Behara.

77907 to 77917. *KALANCHOE* spp. Crassulaceae.77907. *KALANCHOE DAIGREMONTIANA* Hamet and Perrier.

Botanic Garden, Tananarive, September 28, 1928. A brownish-green succulent perennial native to Madagascar, becoming about 2 feet high. The leaves are petiolate, sometimes peltate, and the small deep-pink flowers are in lax terminal panicles.

77884 to 77951—Continued.

77908. *KALANCHOE GRANDIDIERI* Baill.

La Table, Tullear, August 7, 1928. An arborescent succulent plant, native to Madagascar, with a smooth stem 3 to 6 feet high. At the top of the stem a flower stalk, about 20 inches high, bears a panicle-like cluster of pendulous violet flowers.

77909. *KALANCHOE LAXIFLORA* Baker.

Botanic Garden, Tananarive, September 28, 1928. A fleshy perennial, native to Madagascar, with flowering stems 2 to 3 feet long and oblong crenate leaves about 3 inches long. The pale-yellow flowers two-thirds of an inch long are borne in large panicles a foot long.

77910. *KALANCHOE SUAREZENSIS* Perrier.

Botanic Garden, Tananarive, September 28, 1928. An erect fleshy biennial, native to Madagascar, about 2 feet high, with lanceolate leaves, up to 10 inches long, which bear bulblets at their tips. The flowers, with red calyxes and pink corollas, are in many-flowered panicle-like clusters.

77911. *KALANCHOE SYNSEPALA* Baker.

Botanic Garden, Tananarive, September 28, 1928. An erect succulent perennial, native to central Madagascar, with the lower leaves opposite, sessile, oblong-spatulate, and about 1½ inches long. The small reddish flowers are in dense terminal cymes.

77912. *KALANCHOE* sp.

Between Betroka and Ihosy, September 19, 1928. A species with brown leaves.

77913 and 77914. *KALANCHOE TUBIFLORA* Hamet.

An erect succulent perennial, about 2 feet high, native to Madagascar. The green cylindrical leaves, irregularly striped and blotched with reddish green, bear at the summit small oval-oblong lobes. At the approach of the wet season these lobes enlarge into pseudobulbils, by which the plant may be propagated. The red flowers are produced in a rather dense cluster terminating the stem.

77913. South of Betroka, on the highway to Antanimora, September 18, 1928.

77914. On the highway between Betroka and Ihosy, September 19, 1928.

77915. *KALANCHOE* sp.

South of Betroka, September 18, 1928. A species with large leaves.

77916. *KALANCHOE* sp.

Between Betroka and Ihosy, September 19, 1928. An ornamental succulent about a foot high. The leaves, with brownish-red margins, are about 6 inches in length.

77917. *KALANCHOE* sp.

Behara, September 10, 1928.

77918. *KIGELIA MADAGASCARIENSIS* Baker. Bignoniaceae.

94537—30—3

77884 to 77951—Continued.

Betioky, August 23, 1928. A shrub about 15 feet high, with showy red, pink, or orange flowers about 7 inches in diameter. This plant occurs widely throughout southern Madagascar. Although the plant itself is somewhat straggly looking, because of the enormous flowers which are borne in winter while there are no leaves, it presents a striking appearance.

77919. *KALANCHOE* sp.

Ampanihy, September 6, 1928. A shrubby succulent with thick fleshy ovate leaves having rust-colored tomentum above and silver below, both getting dingy with age. Native to Madagascar.

77920. *KALANCHOE LAXIFLORA* Baker.

Mont Vatovavy (Andohahano), northwest of the village of Adena, Ambositra, at an altitude of about 6,000 feet. Similar to 77909, but the stems, petioles, and leaf margins have a decided reddish tinge.

77921. *MARSDENIA VERRUCOSA* (Bojer) Decaisne. Asclepiadaceae.

These seeds were obtained either at Itrobeta. Ampanihy, where the cuttings [No. 78441] were collected, or near Tongobory, where specimens were obtained.

77922 to 77928. *MASCARENHASIA* spp. Apocynaceae.77922. *MASCARENHASIA ARBORESCENS* A. DC.

Hazondrano. Collected between Ambositra and Ihosy, July 27, 1928.

77923. *MASCARENHASIA* sp.

Ihosy, July 29, 1928. Hazondrano. A rubber-bearing shrub about 42 feet high, which is similar to No. 77928 but probably different.

77924. *MASCARENHASIA* sp.

Ihosy, September 20, 1928. This may be the same as No. 77923.

77925. *MASCARENHASIA* sp.

Majunga. This is not the true *Kompitso*.

77926. *MASCARENHASIA* sp.

Ampanihy, September 3, 1928. *Kompitso*. This species is similar to and perhaps identical with No. 78455, cuttings from Behara. On casual examination it seems to be much like *Mascarenhasia*, except that the seed pods of this are only about 3 inches long. Possibly this is actually *Gonocrypta grevei*, which is supposedly the plant in this region known as *Kompitso*. Considerable rubber is shipped out of Ampanihy each year, all of it being known as *Kompitso*, but the natives said that this contains a mixture of rubbers from various plants.

77927. *MASCARENHASIA* sp.

Betioky, August 15, 1928. Hazondrano.

77928. *MASCARENHASIA ARBORESCENS* A. DC.

Majunga, July 29, 1928. Hazondrano. This shrub is identical with that of No. 78443.

77884 to 77951—Continued.

77929. *MEGISTOSTEGIUM RETUSUM*
Hochr. Malvaceae.

South of Lake Tsimanampetsotsa. A tree, native to Madagascar, 12 to 15 feet high, with thick, tortuous branches, gray, wrinkled bark, clusters of broadly elliptic, whitish leaves at the ends of the branches, and axillary, solitary flowers about 2½ inches across.

77930. *PACHYPODIUM* sp. Apocynaceae.

Diego Suarez, Montagne des Français, October 7, 1928. A white-flowered, very thorny succulent ornamental, about 12 feet high, which is especially promising for rock gardens.

77931. *RUBUS* sp. Rosaceae.

Ambalavao, September 20, 1928. This, or a similar species, occurs throughout much of Madagascar.

77932. *SECAMONE* sp. Asclepiadaceae.

Ysalo, Ranohira, July 30, 1928. A rubber-bearing shrub.

77933. *SENECIO ANTANDROI* S. Elliott.
Asteraceae.

Upper Valley of Fiherenana, September 19, 1928. A shrubby composite, native to Madagascar, with subcylindrical leaves nearly 2 inches long, and small flower heads in lax corymbs.

77934. *SENECIO* sp. Asteraceae.

Between Betroka and Ihosy, September 19, 1928. An ornamental, native to Madagascar.

77935. *STEREOSPERMUM* sp. Bignoniaceae.

Upper Valley of Fiherenana, August 1, 1928. An ornamental tree, about 18 feet high, native to Madagascar.

77936. *STRYCHNOS* sp. Loganiaceae.

Obtained in the market at Maevatanana, July 6, 1928.

77937. *URENA LOBATA* L. Malvaceae.

Madriovalva, Valley of Betsiboka, July 5, 1928. *Tsikitenjy* (Malagasy); *pace* (French). An erect undershrub with cordate entire or lobed leaves 2 to 3 inches long, flowers an inch across, rose-red at the base, and small fruits armed with hooked bristles. The stems furnish a fiber used for bags and twine.

For previous introduction see No. 77325.

77938. *VERNONIA* sp. Asteraceae.

Amber Mountains, Diego Suarez, October 6, 1928. A plant about 6 feet high, with lilac flowers.

77939. (Undetermined.)

Between Betroka and Ihosy, September 19, 1928. A rubber-bearing climbing shrub.

77940. (Undetermined.)

Between Betroka and Ihosy, September 19, 1928. A rubber-bearing liane which is different from No. 77939.

77941. (Undetermined.)

Between Lake Tsimanampetsotsa and Itampolo, August 22, 1928. A rubber-bearing plant.

77884 to 77951—Continued.

77942. (Undetermined.)

Ampanihy, September 6, 1928. *Boka*. A rubber-bearing plant which furnishes a poor substitute for the good *kompitso* [No. 77926].

77943. (Undetermined.)

Ihosy, July 29, 1928. A rubber-bearing plant with large fruits. It may be the same plant as Nos. 78470 and 78472.

77944. (Undetermined.)

Amber Mountains, Diego Suarez, October 6, 1928. A yellow-flowered composite.

77945. (Undetermined.)

Amber Mountains, Diego Suarez, October 6, 1928. An ornamental blue-flowered subshrub about 3 feet high.

77946. (Undetermined.)

Diego Suarez, Montagne des Français, October 7, 1928. An ornamental shrub with orange flowers.

77947. (Undetermined.)

Ampanihy, September 7, 1928. *Alombora*. A leguminous tree about 45 feet high, the source of leety, of which a considerable quantity is shipped from Ampanihy to be used as a substitute for Japanese lac.

77948. *HIBISCUS SURATTENSIS* L. Malvaceae.

Anjouan, Mutsamudu, Comoro Islands. An ornamental malvaceous creeper with large orange and red flowers 4 inches in diameter.

77949. (Undetermined.)

La Table, Tullear, August 7, 1928.

77950. (Undetermined.)

Highway between Ihosy and Ambalavao, September 20, 1928. An ornamental shrub about 6 feet high, with orange-red flowers. It is very similar to No. 77951.

77951. *WOODFORDIA FRUCTICOSA PUNCTATA* (Buch.-Ham.) Koehne. Lythraceae.

Diego Suarez, Montagne des Français. An ornamental shrub about 6 feet high, with orange-red flowers. It is very similar to No. 77950.

77952. *FICUS ROXBURGHII* Wall. Moraceae. Fig.

From Orotava, Tenerife, Canary Islands. Plant presented by Juan Bollnaga, director of the Orotava Botanic Gardens, through Raleigh A. Gibson, American consul, Tenerife. Received July 14, 1928. Numbered in November, 1928.

A low spreading evergreen tree, native to India, 20 to 30 feet high, with broadly ovate-cordate entire or toothed leaves and russet-brown or purple fruits 2 inches in diameter.

For previous introduction see No. 77050.

77953 and 77954.

From Madagascar. Seeds collected by Charles F. Swingle, Bureau of Plant Industry, and Dr. Henri Humbert, University of Algiers, Algeria. Received in November, 1928.

77953 and 77954—Continued.

77953. (Undetermined.)

Upper Valley of Fihrenana. An ornamental, about 3 feet high, belonging to the mint family.

77954. (Undetermined.)

Southern Madagascar. An oil plant.

77955 to 77958.

From Manila, Philippine Islands. Bulbs presented by H. E. Stafford. Received November 27, 1928.

77955. *HIPPEASTRUM* sp.

Blue Nile.

77956. *HIPPEASTRUM* sp.

Iday. Double scarlet.

77957. *HAEMANTHUS MULTIFLORUS* Martyn.

Small scarlet.

77958. *HIPPEASTRUM* sp.77959. *MUCUNA BENNETTI* F. Muell. Fabaceae.

From Urika, Port Moresby, New Guinea. Seeds presented by George Moir Smith, London Missionary Society. Received July 13, 1928. Numbered in December, 1928.

D'Albertis creeper. A climbing vine with leaves made up of three ovate-lanceolate glabrous leaflets 3 to 5 inches long, and bearing short racemes of large showy scarlet flowers. It grows in New Guinea on the banks of rivers or in swampy places.

77960 to 77973.

From Briagolong, Gippsland, Victoria, Australia. Seeds presented by R. R. Penny, through C. R. Tillotson, Forest Service. Received November 14, 1928.

77960 to 77963. *ACACIA* spp. Mimosaceae.77960. *ACACIA GLAUDESCENS* Willd.

A tree, native to Australia, up to 50 feet high, with flowers in axillary spikes 1 to 2 inches long, and branchlets and phyllodes covered with an ashy gray pubescence.

For previous introduction see No. 75591.

77961. *ACACIA LONGIFOLIA FLORIBUNDA* (Vent.) F. Muell.

A shrub or small tree, native to Australia.

77962. *ACACIA PRUINOSA* A. Cunn.

An ornamental shrub or tree, native to Australia.

77963. *ACACIA SPECTABILIS* A. Cunn.

Mudgee acacia. An ornamental shrub or tree native to Australia.

77964. *BANKSIA COLLINA* R. Br. Proteaceae.

An evergreen shrub up to 12 feet high, native to Australia, with tomentose branchlets, linear leaves 2 to 3 inches long, white beneath, and terminal spikes of large greenish-yellow flowers.

77965. *DAVIESIA LATIFOLIA* R. Br. Fabaceae.

Wild hop. A glabrous shrub up to 5 feet high native to Australia, with

77960 to 77973—Continued.

coriaceous ovate-lanceolate entire leaves 3 inches long and short racemes of orange-yellow, pea-shaped flowers.

77966 to 77968. *EUCALYPTUS* spp. Myrtaceae.77966. *EUCALYPTUS CINEREA* F. Muell.

Silver stringybark. A moderate-sized tree, native to Australia, with whitish-brown bark, opposite cordate leaves 2 to 4 inches long, and terminal corymbs of small flowers, followed by small subglobose fruits.

77967. *EUCALYPTUS MUELLERIANA* Howitt. **Yellow stringybark.**

A tree, native to Australia.

For previous introduction see No. 38730.

77968. *EUCALYPTUS* sp.

An ornamental tree, native to Australia, with large red flowers.

77969. *GOODIA LOTIFOLIA* Salisb. Fabaceae.

An ornamental shrub, native to Australia, with three ovate leaflets and loose racemes of purple-spotted yellow flowers.

For previous introduction see No. 30017.

77970. *KENNEDIA MONOPHYLLA* Vent. (*Hardenbergia monophylla* Benth.). Fabaceae.

Purple coral pea. A vine, native to Australia, with single lanceolate leaflets, terminal panicles, and axillary racemes of flowers ranging from white through rose to purple.

For previous introduction see No. 76920.

77971. *LIVISTONA AUSTRALIS* (R. Br.) Mart. Phoenicaceae.

Australian fan palm.

Cabbage tree palm. A tall slender palm, 100 to 130 feet high and 12 to 18 inches in diameter. The moderately hard wood is light colored and is occasionally used for light construction. The leaves are used for baskets; and the unexpanded fronds, after being dipped in boiling water, are shredded and the fiber used in making hats resembling the Panama variety.

For previous introduction see No. 45092.

77972. *PROSTANTHERA ROTUNDFOLIA* R. Br. Menthaceae.

Purple mint bush. A bushy shrub, native to Australia, which is 7 feet high, with orbicular leaves less than half an inch long and small purplish 2-lipped flowers in close terminal racemes.

77973. *RICINOCARPUS PINIFOLIUS* Desf. Euphorbiaceae.

Bedding bush. A shrub 2 to 3 feet high, with linear sharp-pointed leaves having the edges rolled into the midrib, terminal clusters of small flowers, and globular spiny capsules. Native to Australia.

77974. *CORCHORUS CAPSULARIS* L. Tiliaceae. **Jute.**

From Monte Christi, Dominican Republic. Seeds presented by Theodore Harris.

77974—Continued.

through L. H. Dewey, Bureau of Plant Industry. Received November 30, 1928.

Bombai. A variety which was originated at the experiment station at Decca, India.

77975 to 77977. MAGNOLIA CAMPBELLII Hook. f. and Thoms. Magnoliaceae.

From Darjiling, India. Seeds presented by J. E. Leslie, Curator, Lloyd Botanic Garden. Received November 30, 1928.

A beautiful deciduous magnolia from the Himalayas, where it ascends to 8,000 feet above sea level. It reaches a height of 80 feet, has very dark bark, large elliptical dark-green leaves, and flowers 10 inches in diameter. This magnolia has flowered freely in southern France and Italy.

For previous introduction see No. 61771.

77975. A red-flowered variety.

77976. A pink-flowered variety.

77977. A white-flowered variety.

77978. ANANAS SATIVUS (L.) Schult. f. Bromeliaceae. **Pineapple.**

From Grenada, British West Indies. Cuttings presented by W. O'Brien Donovan, agricultural officer in charge, Department of Agriculture. Received December 3, 1928.

Black Antigua.

77979. BRADBURYA PUBESCENS (Benth.) Kuntz (Centrosema pubescens Benth.). Fabaceae.

From Peradeniya, Ceylon. Seeds purchased from the manager of the publication depot and central seed store of the Department of Agriculture. Received December 3, 1928.

A tropical American leguminous vine with trifoliate leaves and small yellowish flowers, which is used as a cover crop.

For previous introduction see No. 77293.

77980. MUSA GLAUCA Roxb. Musaceae. **Banana.**

From Medan, Sumatra. Seeds presented by J. A. Lörzing. Received July 7, 1928. Numbered in November, 1928.

An Indian banana with a trunk 10 to 12 feet high, short-petioled lanceolate leaves 4 to 5 feet long, and a drooping spike of small flowers and inedible fruits which are hidden by the large bracts.

For previous introduction see No. 67719.

77981. CALAMUS ORNATUS PHILIPPINENSIS Beccari. Phoenicaceae. **Palm.**

From Leyte, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received November 17, 1928.

Kalapi. A spiny climbing pinnate-leaved palm producing edible ellipsoid fruits 1½ inches long with pulp which cooks up into a sirup having a fine flavor.

77982 and 77983. CANARIUM OVATUM Engler. Balsameaceae. **Pili nut.**

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received December 3, 1928.

77982 and 77983—Continued.

A tree at times 130 feet high, with dark-green pinnate leaves over a foot long and triangular-pointed, brown, usually thick-shelled nuts inclosing a kernel which is covered with a thin shining black skin. The nuts are excellent when eaten raw or roasted, and are of high food value. Pili nuts as grown in the Philippine Islands are very variable in quality. These two varieties have such thin shells they may be cracked with a nutcracker.

For previous introduction see No. 61253.

77982. No. 1.

77983. No. 2.

77984. GOSSYPIUM OBTUSIFOLIUM AFRICANUM Watt. Malvaceae. **Cotton.**

From Madagascar. Seeds collected by Charles F. Swingle, Bureau of Plant Industry, and Dr. Henri Humbert, University of Algiers, Algeria. Received November, 1928.

No. 4429. Mananika, Valley of Betsiboka. A half-woody shrub, about 6 feet high, which differs from the Indian form in having more copious and finer wool. The flowers are yellow, changing to reddish. Native to tropical Africa.

For previous introduction see No. 77323.

77985 to 77987.

From Mount Silinda, Southern Rhodesia, Africa. Seeds presented by Dr. W. L. Thompson, American Board Mission in South Africa. Received November 15, 1928.

77985 and 77986. ELEUSINE CORACANA (L.) Gaertn. Poaceae. **Ragi.**

For previous introduction see No. 73172.

77985. *Mgoza.* This variety grows more rapidly than *Giant mgoza* [No. 77986.]

77986. *Giant mgoza.* A variety which grows 3 feet high and needs good soil, tropical weather, and a fairly long season.

77987. LOVOA SWYNNERTONII Baker f. Meliaceae.

Brown mahogany. A valuable Rhodesian timber tree, reaching a height of 200 feet and a diameter of 8 feet.

For previous introduction see No. 35459.

77988. GOSSYPIUM HERBACEUM L. Malvaceae. **Cotton.**

From Persia. Seeds obtained through the Turkestan Plant Breeding Station, Tashkent, by J. J. Thornber, College of Agriculture and Agricultural Experiment Station of the University of Arizona, Tucson. Received November 27, 1928.

Panbe.

77989 to 77992. LYCORIS spp. Amaryllidaceae.

From Yokohama, Japan. Bulbs purchased from the Yokohama Nursery Co. Received December 6, 1928.

77989. LYCORIS AUREA (L'Her.) Herbert.

A Chinese bulbous perennial with sword-shaped leaves which die down before the appearance of the golden-yellow

77989 to 77992—Continued.

flowers; the latter are 3 to 4 inches across, borne in an umbel on a scape 1 to 3 feet high.

For previous introduction see No. 77586.

77990. LYCORIS RADIATA (L'Her.) Herbert.

A Japanese bulbous perennial with bright-red flowers.

For previous introduction see No. 45527.

77991. LYCORIS SANGUINEA Maxim.

A Japanese bulbous perennial with linear leaves which die down before the red flowers appear in an umbel on a scape 12 to 18 inches high.

For previous introduction see No. 77587.

77992. LYCORIS SQUAMIGERA Maxim.

A Japanese bulbous perennial with linear leaves which die down before the appearance of the rosy lilac fragrant flowers.

For previous introduction see No. 77588.

77993 to 77995.

From China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received November 19, 1928.

77993. PRUNUS sp. Amygdalaceae.

No. 16139. A very common species on the hillsides of Mulli, below Muli Monastery, southwestern Szechwan, at altitudes between 9,000 and 9,600 feet. It is a shrub 6 to 8 feet high, branching from the base, with long whiplike branches. The large white flowers, very ornamental when in full bloom, are borne during May, and the oval red fruits are produced in August.

77994. PRUNUS sp. Amygdalaceae.

No. 17227. A species found wild in Yungning Territory, east of the Yangtze River, on the slopes of Gouwua, Yunnan, at an altitude of 9,000 feet. It is a tree 15 to 20 feet high, with oblong-serrate leaves and small edible brick-red fruits which are produced during May. It may prove to be a good stock plant.

77995. RUBUS sp. Rosaceae.

No. 17278. A species found in forests of fir and larch at an altitude of 13,500 feet on the snow mountain called La Chou Chou K'ha, south of Chungtien, September, 1928. It is a shrub 3 feet high, producing fairly large orange-red to red fruits which are edible and sweet.

77996. FICUS BELLENGERI C. Moore. Moraceae. Fig.

From Sydney, New South Wales, Australia. Seeds presented by Dr. G. P. Darnell-Smith, Director, Botanic Gardens. Received November 23, 1928.

A tall tree, native to New South Wales, with leathery ovate leaves 6 inches long, dark green above and light green beneath, and reddish fruits 2 to 3 inches in diameter.

77997. CORYNOCARPUS LAEVIGATA Forst. Corynocarpaceae. Karaka.

From Lisbon, Portugal. Seeds presented by Joaquim Rasteiro, Instituto Superior de Agronomia. Received December 4, 1928.

77997—Continued.

An ornamental tree, native to New Zealand, with a round crown and oblong evergreen leaves up to 7 inches in length. The small white flowers are in erect panicles about 4 inches high, and the oblong orange fruits are about an inch long. The flesh of the fruits is extremely poisonous, but the kernel is not; it was one of the staple articles of diet of the Maoris, the original inhabitants of New Zealand.

For previous introduction see No. 77184.

77998. DIGITARIA ERIANTHA STOLONIFERA Stapf. Poaceae. Grass.

From Pretoria, Union of South Africa. Plants presented by Dr. I. B. Pole Evans, chief of the Division of Botany, Horticulture, and Entomology of the Department of Agriculture, through H. N. Vinall, Bureau of Plant Industry. Received October 30, 1928.

Woolly finger grass, a native of South Africa, is essentially a dry-land grass; it prefers a loose sandy soil, but is also found in the hard red soil and occasionally in black turf. It does not do well in localities that have very moist winter conditions and does not take kindly to irrigation, except in localities where the rainfall is very low. This *Digitaria* is very palatable to stock of all kinds, equally so in winter and summer. In the summer it makes a mass of succulent green herbage and provides sufficient moisture and nourishment for stock; in the winter it becomes dried and sun cured, but the nourishment is still there, and, with the addition of a few cactus leaves for moisture, animals will keep in good condition on it throughout the dry frosty season.

77999. AMPELOCISSUS MARTINI Planch. Vitaceae.

From Mindoro, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received December 5, 1928.

Variety *Mindorensis*. An ornamental vine, native to the Philippine Islands, which should do well in the sandy soils in southern and central Florida. It makes a large tuberous root, and the vines, which are covered with stiff hairs, die annually after fruiting. The grapelike fruits make excellent jelly.

78000 to 78002. AVENA SATIVA L. Poaceae. Oats.

From Cambridge, England. Seeds presented by F. C. Hawkes, assistant director, National Institute of Agricultural Botany. Received December 4, 1928.

78000. No. 830. *Plentiful.*

78001. No. 1038. *Viking.*

78002. No. 1052. *Quite Content.*

78003 to 78031. CASTANEA CRENATA Sieb. and Zucc. Fagaceae. Japanese chestnut.

From Japan. Seeds obtained by R. K. Beattie, Bureau of Plant Industry. Received October and November, 1928.

Wild varieties unless otherwise stated.

78003. No. 703. Collected in Shizukuishi Mura, Iwate Gun, Iwate Ken, by Sai-chi Tanito, and forwarded by the Morioka National District Forest Bureau.

78003 to 78031—Continued.

78004. Nos. 704 to 711. Obtained at Takizawa, Takizawa Mura, Iwate Gun, Iwate Ken, through the Iwate Ken forester at Morioka.

78005. Nos. 712 and 715. From the Agricultural Association at Yatomi Mura, Gujo Gun, Gifu Ken.

78006. No. 713. Collected by Morisaburo Sasaki at Nakui Dake, Kaminakui, Nakui Mura, Sannohe Gun, Aomori Ken.

78007. No. 714. Collected by Morisaburo Sasaki at Nakui Dake, Kaminakui, Nakui Mura, Sannohe Gun, Aomori Ken.

78008. Nos. 716 and 717. Collected by Yamazaki Eirinsho in the Akasai National Forest at Okutani Mura Hara, Soshi Gun, Hyogo Ken.

78009. No. 718. Collected at Shimohara Mura, Masuta Gun, Gifu Ken, and sent by the Agricultural Association.

78010. No. 719. Collected by Morisaburo Sasaki in the forest belonging to the Tsugaru Daimyo, Hyakuzawa Mura, Naka Tsugaru Gun, Aomori Ken.

78011. No. 720. Collected by Morisaburo Sasaki in the Iwakiyama National Forest, Takaoka, Hyakuzawa Mura, Naka Tsugaru Gun, Aomori Ken.

78012. No. 721. Sent by Nichihara Eirinsho from Nichihara, Shimaie Ken.

78013. No. 721-A. Collected by Morisaburo Sasaki in the Iwakiyama National Forest, Takaoka, Hyakuzawa Mura, Naka Tsugaru Gun, Aomori Ken.

78014. No. 721-B. Sent by Nichihara Eirinsho from Nichihara, Shimaie Ken.

78015. No. 722. Collected at Ogura Yama, Chitose Mura, Naka Tsugaru Gun, Aomori Ken, and sent by Morisaburo Sasaki.

78016. No. 723. Collected at Orikasa Mura, Shimo Hei Gun, Iwate Ken, and sent by Gisaburo Takenchi, Director of Miyako Eirinsho, Iwate Ken.

78017. No. 724. Collected at Mizu Kiyo Daki, Nango Mura, Hirashi Usuki Gun, Miyazaki Ken, and sent by Mimitru Eirinsho, Miyazaki Ken.

78018. No. 725. Collected in Toyomane, Shimo Hei Gun, Iwate Ken, and sent by Miyako Eirinsho, Iwate Ken.

78019. No. 726. Sent by Shinsaburo Suda, Ginyose, Kyoto. A cultivated variety good for stock.

78020. No. 727. Sent by Shinsaburo Suda, Shino, Shino Mura, Minami Kuwada Gun, Kyoto Fu. *Imakita*. A cultivated variety good for stock.

78021. No. 728. Collected in Nishi Yasuniwa, Gosho Mura, Iwate Gun, and sent from Morioka Eirinsho.

78022. No. 729. Collected in the University Forest, Wakayama Ken, and sent by Doctor Ichikawa, Kyoto Imperial University.

78023. No. 730. Collected at Bonju Zau, Nozato, Nagahashi Mura, Kita Tsugaru Gun, Aomori Ken, and sent by Morisaburo Sasaki.

78024. No. 731. Sent by the Funatsucho Agricultural Association, Yoshi Gun, Gifu Ken.

78003 to 78031—Continued.

78025. No. 731-B. Sent by the Funatsucho Agricultural Association, Yoshi Gun, Gifu Ken.

78026. No. 732. A purely native Hokkaido variety collected in Kamidai, Mori Machi, Kayabe Gun, Oshima Province, Hokkaido, and sent by Tetsuyo Hironaka, Hakodate, Oshima. The local name is Kayabe guri.

78027. No. 733. A purely native Hokkaido variety collected at Kamidai, Mori Machi, Kayabe Gun, Oshima Province, Hokkaido, and sent by Tetsuyo Hironaka, Hakodate, Oshima. The nuts are larger than those of No. 732 [No. 78026], otherwise there is no apparent difference.

78028. No. 734. Sent by Morisaburo Sasaki, Hiroto, Fukaura Mura, Nishi Tsugaru Gun, Aomori Ken.

78029. No. 735. Collected in the No Kami National Forest, Sannai Zai, Iwami Sannai Mura, Kawabe Gun, Akita Ken, and sent by Cho Mishima, of Akita Eirinsho.

78030. No. 736. Collected in the No Kami National Forest, Sannai Zai, Iwami Sannai Mura, Kawabe Gun, Akita Ken, and sent by Cho Mishima, of Akita Eirinsho.

78031. No. 734-A. Sent by Morisaburo Sasaki, Hiroto, Fukaura Mura, Nishi Tsugaru Gun, Aomori Ken.

78032 and 78033.

From the Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received November 27, 1928.

78032. *SESBANIA CANNABINA* (Retz.) Poir. Fabaceae.

Jore-tore. From Manila. A tall upright leguminous herb growing in wet lands. It may have possibilities as a green-manure crop.

78033. (Undetermined.)

From Mindoro.

78034. *MALUS LEMOINEI* Hort. Malaceae.

From Woodbridge, England. Plants purchased from R. C. Notcutt. Received December 10, 1928.

An attractive flowering crab with dark bronze-colored foliage and single deep crimson flowers which are freely produced.

78035. *LAVANDULA SPICA* L. Menthaceae. Lavender.

From Montbrun, Drôme, France. Seeds presented by H. Reynaud & Sons through Fritzsche Bros., New York, N. Y. Received December 7, 1928.

Genuine French lavender.

78036. *MESEMBRYANTHEMUM ANGULATUM* Thunb. Aizoaceae.

From Paris, France. Seeds presented by Prof. D. Bois, Paris Museum of Natural History. Received December 5, 1928.

A herbaceous procumbent succulent with angular stems and branches, which is native to South Africa. The leaves are op-

78036—Continued.

posite on the stem, alternate on the branches, and are covered with minute white papillae.

For previous introduction see No. 75853.

78037. VIBURNUM PAUCIFLORUM Raf. Caprifoliaceae.

From Alaska. Obtained from Charles H. Flory, Commissioner of Alaska, through G. M. Darrow, Bureau of Plant Industry. Received December 7, 1928.

Collected near Sea Beach, Lynn Canal, Tongass National Forest, in October, 1928. A straggling Alaskan shrub, 3 to 5 feet high, with suborbicular 3-lobed leaves, cymes of white flowers, and edible red fruits. It is closely related to the European cranberrybush, *V. opulus*, and to the American cranberrybush, *V. trilobum*.

78038. EREMOCLOA ZEYLANICA Hack. Poaceae. Grass.

From Peradeniya, Ceylon. Seeds presented by the Director, Department of Agriculture. Received December 11, 1928.

A perennial grass, native to Ceylon, 12 to 18 inches high, with narrow leaves and slender spikes. Of possible value for lawns and pastures.

78039. CARICA PAPAYA L. Papayaceae. Papaya.

From Nairobi, Kenya Colony, Africa. Seeds presented by H. E. A. Durham, office of the chief accountant, General Post Office, through L. W. Kephart, Bureau of Plant Industry. Received December 11, 1928.

Seeds taken from a fruit weighing 5 pounds, the approximate weight of each fruit on the tree. The tree has been grown in the coldest place in this vicinity, so that the seeds would have the best chance for success in the United States.

78040 to 78111.

From Orleans, France. Plants purchased from E. Turbat & Co. Received November 17, 1928.

78040 to 78050. BUXUS spp. Buxaceae. Box.**78040. BUXUS BALEARICA Willd.**

An evergreen shrub, 10 to 15 feet high, native to the Balearic Islands. The oblong leaves are 1 to 2 inches long and more than half an inch wide.

For previous introduction see No. 76557.

78041 and 78042. BUXUS MICROPHYLLA JAPONICA (Muell. Arg.). Rehder. Japanese box.

An evergreen shrub, native to Japan, up to 6 feet high with spreading branches and light-green, rounded-obovate cuneate leaves an inch or less long.

78041. Variety *aurea*.

78042. Variety *rotundifolia macrophylla*.

78043 to 78050. BUXUS SEMPERVIRENS L. Common box.

78043. *Angustifolia*. Lanceolate-oblong leaves.

78044. *Aurea variegata*. Leaves variegated with yellow or entirely yellow.

78040 to 78111—Continued.

78045. *Elegantissima variegata*.

78046. *Glauca*. Leaves glaucous, oval.

78047. *Handsworthii*. Shrub of upright habit with large dark-green leaves.

78048. *Navicularis*.

78049. *Pyramidalis variegata*. Upright pyramidal habit, with variegated foliage.

78050. *Salicifolia elata*. Spreading habit and narrow willowlike leaves.

78051 to 78066. CEANOTHUS spp. Rhamnaceae.

78051. *CEANOTHUS* sp.

Albert Pittet. Pink flowers.

78052. *CEANOTHUS* sp.

Albus plenus.

78053. *CEANOTHUS* sp.

Bijou. Clear lilac pink.

78054. *CEANOTHUS* sp.

Ceres. Pink flowers.

78055. *CEANOTHUS* sp.

Coquetterie. Brilliant rose-carmine flowers.

78056. *CEANOTHUS* sp.

George Simon. Lilac-rose flowers.

78057. *CEANOTHUS* sp.

Gladiateur.

78058. *CEANOTHUS* sp.

Gloire de Plantières. Azure-blue flowers.

78059. *CEANOTHUS* sp.

Gloire de Versailles. Deep azure-blue flowers.

78060. *CEANOTHUS* sp.

Ibis rose.

78061. *CEANOTHUS* sp.

Indigo. Indigo-blue flowers.

78062. *CEANOTHUS* sp.

Marie Simon. Flesh-colored flowers.

78063. *CEANOTHUS* sp.

Perle rose. Carmine-rose flowers.

78064. *CEANOTHUS* sp.

Pinguet Guindon. A vigorous sort with erect branches, large green leaves, and dense pyramidal trusses of dark carmine-lilac flowers which have deep-carmine pedicels.

78065. *CEANOTHUS* sp.

Richesse. Pure-rose flowers.

78066. *CEANOTHUS* sp.

Roseus carmineus. Carmine-pink flowers.

78067 to 78076. CHAENOMELES LAGENARIA (Lois.) Koidz. (Cydonia japonica Pers.). Malaceae. Japan quince.

78067. *Alba Plena*.

78068. *Boule de Feu*.

78040 to 78111—Continued.

78069. *Cardinalis*.78070. *Moerlosei*.78071. *Pyginea*.78072. *Rosea grandiflora*.78073. *Rubra grandiflora*.78074. *Sanguinea*.78075. *Simonsi*.78076. *Umbrillicata*.78077 to 78082. *DEUTZIA* spp. Hydrangeaceae.78077. *DEUTZIA VILMORINAE* Lemoine.

A shrub 4 to 6 feet high, of vigorous growth, with pure-white flowers nearly an inch across in loose clusters, suggestive of some of the smaller-growing kinds of *Philadelphus*, a resemblance which is increased by the lateness of its flowering period. It is native to China.

For previous introduction see No. 49944.

78078. *DEUTZIA* sp.

Crenata magnifica. Pure white, double flowers in short dense panicles nearly 2 inches long.

78079. *DEUTZIA* sp.

Discolor elegantissima. Open rosy white flowers about three-fourths of an inch across, in many-flowered loose corymbs.

78080. *DEUTZIA* sp.

Discolor floribunda. Flowers white, pink on the outside, in rather dense upright panicles.

78081. *DEUTZIA* sp.

Discolor grandiflora. Buds pink and flowers rosy white; similar to the preceding, but with looser panicles.

78082. *DEUTZIA* sp.

Discolor major. Large white flowers, rose tinged on the outside, about an inch across.

78083. *JASMINUM STEPHANENSE* Javit. Oleaceae. *Jasmine*.

A vigorous climbing shrub with terminal racemes of fragrant pink flowers. It is a hybrid between *Jasminum officinale* and *J. beesianum*.

78084. *LIGUSTRUM HENRYI* Hemsl. Oleaceae. *Privet*.

An ornamental evergreen shrub up to 12 feet high, with dark-green rounded-oval leaves 2 inches or less long, small white flowers in a pyramidal cluster, and blue-black berries. It is native to China.

78085 to 78106. *PHILADELPHUS* spp. Hydrangeaceae.78085. *PHILADELPHUS* sp.

Albatre. Very floriferous; pure-white flowers on gracefully arching stems.

78086. *PHILADELPHUS* sp.

Argentine. An erect shrub with fragrant, very double, white flowers 2 inches or more across.

78040 to 78111—Continued.

78087. *PHILADELPHUS* sp.

Banniere. Semidouble, snow-white flowers 2½ inches across.

78088. *PHILADELPHUS* sp.

Belle Etoile. A vigorous variety bearing an abundance of large, well-expanded, sweet-scented flowers which have milk-white petals with a purple blotch. This is said to be the showiest and hardest of the purple-eyed varieties.

78089. *PHILADELPHUS* sp.

Boule d'Argent. Double, fragrant flowers.

78090. *PHILADELPHUS* sp.

Bouquet Blanc. A tall shrub with large leaves and large dense compact clusters of double or semidouble flowers.

78091. *PHILADELPHUS* sp.

Dame Blanche. Numerous small panicles of creamy white, semidouble, fragrant flowers.

78092. *PHILADELPHUS* sp.

Enchantement. A variety bearing dense panicles of double white flowers of the most striking appearance on long erect branches.

78093. *PHILADELPHUS* sp.

Gerbe de Neige. Very fragrant single flowers.

78094. *PHILADELPHUS* sp.

Grandole. Double white flowers.

78095. *PHILADELPHUS* sp.

Glacier. Double white flowers in erect compact clusters, borne on stout erect stems.

78096. *PHILADELPHUS* sp.

Manteau d'Hermine. Double flowers.

78097. *PHILADELPHUS* sp.

Mont-Blanc. Single fragrant flowers, borne in great profusion.

78098. *PHILADELPHUS* sp.

Norma. Large semidouble flowers, almost completely covering the long slender arching branches.

78099. *PHILADELPHUS* sp.

Nuage rose. Flowers very large, white with rose-tinted center, sweetly fragrant.

78100. *PHILADELPHUS* sp.

Pavillon Blanc. Large single white flowers.

78101. *PHILADELPHUS* sp.

Perle Blanche.

78102. *PHILADELPHUS* sp.

Purpureo maculatus. A dwarf bush with large single flowers, white with a large rosy purple spot at the base of each petal.

78103. *PHILADELPHUS* sp.

Pyramidal. Double white flowers on erect branches.

78040 to 78111—Continued.

78104. PHILADELPHUS sp.

Rosace. An erect bush, with slender branches and double creamy white flowers, becoming pure white.

78105. PHILADELPHUS sp.

Sybille. Large cup-shaped flowers, white spotted pale pink at the base, on long curved branches.

78106. PHILADELPHUS sp.

Voie Lactée. Very large round, glossy, snow-white flowers.

78107. SARCOCOCCA HOOKERIANA (Hook.) Baill. Buxaceae.

An evergreen shrub 6 to 8 feet high, native to Afghanistan, with coriaceous lanceolate entire leaves 2 to 4 inches long, axillary racemes of small whitish fragrant flowers, and subglobose black fruits.

78108 to 78110. SKIMMIA spp. Rutaceae.

78108. SKIMMIA FOREMANII ROGERSII Rehder.

A rather small compact evergreen shrub with deep-green lanceolate leaves and small crimson berries. Of garden origin.

78109. SKIMMIA JAPONICA Thunb. (*S. oblata* C. T. Moore).

A dense evergreen shrub, 4 feet or less high, native to Japan. The leaves, crowded at the ends of the branches, are elliptic-oblong in shape, and the small yellowish and white flowers are followed by bright-red berries.

For previous introduction see No. 71985.

78110. SKIMMIA REEVESIANA RUBELLA (Carr.) Rehder (*S. rubella* Carr.).

This Chinese species is similar to *Skimmia japonica*, but is more dwarfed in habit. The dark-green leaves are narrow and acuminate, the white flowers are in oblong panicles, and the fruits are dull crimson. The variety differs from the species in having reddish peduncles, pedicels, and buds.

For previous introduction see No. 73448.

78111. SYRINGA SWEGINZOWII Koehne and Ling. Oleaceae. Chengtu lilac.

Variety *superba*. An attractive hardy lilac, about 10 feet high, native to western China. The dark-green, oval leaves are 2 to 4 inches long, and the fragrant, rosy lilac flowers are borne in June in terminal panicles up to 10 inches long.

For previous introduction see No. 63584.

78112 to 78160.

From Nancy, France. Plants purchased from V. Lemoine & Son. Received November 22, 1928.

78112. ABELIA GRAEBNERIANA Rehder. Caprifoliaceae.

A semideciduous shrub about 3 feet high, with oval or oval-oblong acuminate leaves 1 to 2 inches long, and bell-shaped flowers, an inch long, pink with yellow throats. Native to western China.

78113 to 78117. BERBERIS spp. Berberidaceae. Barberry.

78112 to 78160—Continued.

78113. BERBERIS AURICOMA Hort.

A hybrid between *Berberis vulgaris* and a choice variety of *B. thunbergii*, previously offered under the wrong name of *B. japonica flore luteo*. It is said to be a lovely shrub covered in the spring with a profusion of bright-yellow flowers.

78114. BERBERIS BREVIPANICULATA C. Schneid. Short-cluster barberry.

A deciduous species, native to western China, forming a dense erect bush with glaucous oblong leaves, graceful panicles, an inch long, of small pale-yellow flowers, and rosy red berries.

For previous introduction see No. 76556.

78115. BERBERIS GIRALDII Hesse.

A species with large deciduous bronze-red leaves, long drooping clusters of deep-yellow flowers, and compact bunches of scarlet berries. Native to north-central China.

For previous introduction see No. 66684.

78116. BERBERIS LEPTOCLADA Diels.

A low deciduous ornamental shrub of distinct glaucous coloring, with ellipsoid reddish berries. Native to China.

78117. BERBERIS sp.

Tengyueh. A species, as yet unidentified, collected near Tengyueh, Yunnan, China.

78118. CERCIS RACEMOSA Oliver. Caesalpiniaceae. Redbud.

A remarkable ornamental tree, native to China, with long pendulous racemes of silvery rose flowers.

78119 to 78121. CLEMATIS GRATA Wall. Ranunculaceae.

These hardy varieties were raised from seeds saved on *Clematis grata* (*Jouiniana*) without any artificial cross, and remind one much more of *Clematis davidiana* than of the plant from which they proceed. They have lost the character of climbers. The flowers, produced abundantly during September, are of a more or less vivid blue.

78119. Campanile. A handsome variety with tall panicles of hyacinth-shaped light azure-blue flowers.

78120. Côte d'Azur. A variety with glossy foliage, as in *Clematis tubulosa*, and panicles of deep azure-blue flowers produced in the form of small pyramids along all the branches.

78121. Oiseau bleu. A variety with small foliage. The upper part of the clump is covered with very light and elegant dichotomous panicles of flowers, azure lilac fading to pale pink lilac, which open in the shape of hyacinths, then take a starlike form.

78122 to 78141. DEUTZIA spp. Hydrangeaceae.

78122. DEUTZIA TAIWANENSIS (Maxim.) C. Schneid.

An attractive deciduous shrub, with slender branches, native to the moun-

78112 to 78160—Continued.

tains of Taiwan. The white or pinkish-white flowers, with conspicuous golden-yellow stamens, are in graceful racemes.

For previous introduction see No. 62707.

78123. *DEUTZIA* sp.

Crenata eburnea. A variety raised from *Deutzia crenata candidissima plena* crossed by *D. vilmorinae*, with graceful clusters of single white flowers.

78124. *DEUTZIA* sp.

Crenata eminens. A variety with tall erect branches, dark-green foliage, and large pyramidal panicles of handsome flowers with reflexed, glistening white petals.

78125. *DEUTZIA* sp.

Crenata erecta. A variety raised from *Deutzia crenata candidissima plena* crossed by *D. vilmorinae*, with upright branches and handsome pyramidal clusters of large single milk-white flowers.

78126. *DEUTZIA* sp.

Crenata formosa. A variety with large full double white flowers which have wrinkled and reflexed petals.

78127. *DEUTZIA* sp.

Crenata gracillima. A variety with loose panicles of large flowers which have slightly fringed white petals and pale-yellow anthers.

78128. *DEUTZIA* sp.

Crenata latiflora. The upright panicles contain 18 to 20 single white flowers which are 1½ inches in diameter.

78129. *DEUTZIA* sp.

Crenata longipetala. A hybrid of second generation from *Deutzia crenata* and *D. vilmorinae*. Its habit seems to indicate a possible consanguinity with *D. gracilis*. It forms a tuft of erect stems, with narrow leaves and crowded panicles of large flowers which have five long fringed pure-white petals.

78130. *DEUTZIA* sp.

Crenata magnifica. A variety with an abundance of handsome pure-white well-expanded flowers.

78131. *DEUTZIA* sp.

Crenata mirabilis. A hybrid of second generation from *Deutzia crenata* and *D. vilmorinae*. It is of very vigorous growth, with pure milk-white upright flowers, of the largest size, borne in enormous pyramidal panicles on long branches.

78132. *DEUTZIA* sp.

Crenata staphyleoides. A variety with large white flowers of unusual breadth, which remind one of the blossoms of *Staphylea*.

78133. *DEUTZIA* sp.

Crenata suspensa. The numerous white flowers, with reflexed petals, are borne on long drooping sprays and completely hide the foliage.

78112 to 78160—Continued.

78134. *DEUTZIA* sp.

Discolor arcata. A hybrid between *Deutzia scabra* and *D. purpurascens*. The well-expanded pure-white flowers are borne on long arched branches.

78135. *DEUTZIA* sp.

Discolor candida. A cross between *Deutzia scabra* and a hybrid of *D. lemoinei*, bearing an abundance of large snow-white panicle flowers.

78136. *DEUTZIA* sp.

Discolor conspicua. A hybrid between *Deutzia sieboldiana* and *D. purpurascens*, forming a clump of long arched branches with short corymbs of very pale-pink buds which change to a lustrous white when they open into well-expanded flowers.

78137. *DEUTZIA* sp.

Discolor fasciculata. A hybrid between *Deutzia scabra* and *D. purpurascens*. It makes a rounded bush bearing pale-pink flowers, with a crown of yellow stamens, on long arched branches.

78138. *DEUTZIA* sp.

Contraste. A superb variety raised from a cross of *Deutzia longifolia purpurea*, bearing beautiful panicles of large flowers with reflexed slightly fringed mauve-pink petals with a median purple streak on the outside.

78139. *DEUTZIA* sp.

Mont-Rose. A handsome novelty raised by crossing a pink form of *Deutzia longifolia* with *D. discolor purpurascens*. It forms a very graceful bush with large trusses of well-expanded mauve-pink flowers.

78140. *DEUTZIA* sp.

Magicien. A most showy variety likewise raised from a cross of *Deutzia longifolia*, with panicles of very large flowers whose waved and fringed petals are mauve pink, edged with white, and purplish underneath.

78141. *DEUTZIA* sp.

Longifolia purpurea. A tall form with deep-pink flowers.

78142. *DIERVILLA* sp. *Caprifoliaceae*.

Weigela.

Féerie. A shrub bearing an abundance of upright trusses of large self rose-pink flowers, during the middle of May, which completely hide the foliage.

78143. *DIERVILLA* sp. *Caprifoliaceae*.

Weigela.

Idéal. A beautiful shrub bearing, during May, erect or horizontal panicles of medium-sized flowers which are carmine rose with bright carmine on the outside.

78144 to 78146. *ILEX* spp. *Aquifoliaceae*.

Holly.

78144. *ILEX FARGESII* Franch.

A shrub with black bark, dull-green, narrowly oblong spiny evergreen leaves about 5 inches long, and globose red berries in small axillary clusters.

For previous introduction see No. 62723.

78112 to 78160—Continued.

78145. *ILEX PERNYI VEITCHII* (Veitch) Rehder.

A large-leaved form of *Ilex pernyi*, which is an evergreen shrub or small tree native to China, with crowded oval-rhombic spiny leaves, pale-yellow flowers, and red berries in dense sessile clusters.

78146. *ILEX WILSONII* Loes.

An ornamental evergreen shrub with broad spiny glistening green leaves. Native to China.

78147. *LONICERA PILEATA YUNNANENSIS* (Franch.) Rehder. Caprifoliaceae.

Honeysuckle.

A prostrate half-evergreen shrub with small boxlike foliage, inconspicuous yellow flowers, and clusters of dainty but not prominent violet berries. Native to southwestern China.

For previous introduction see No. 76584.

78148. *LOROPETALUM CHINENSE* (R. Br.) Oliver. Hamamelidaceae.

A somewhat tender, beautiful bushy evergreen shrub, native to China, about 5 feet high, with wiry hairy branches oval unsymmetrical leaves, and curious white witch-hazellike flowers during the early spring.

For previous introduction see No. 46424.

78149 to 78154. *PHILADELPHUS* spp. Hydrangeaceae.

78149. *PHILADELPHUS PEKINENSIS BRACHYBOTRYS* Koehne.

An ornamental deciduous shrub with long branches, thin elliptic pointed leaves, and fragrant flowers. Native to China.

For previous introduction see No. 53719.

78150. *PHILADELPHUS* sp.

Amalthée. A vigorous variety with long lustrous leaves and large flowers which are slightly blotched with pale pink.

78151. *PHILADELPHUS* sp.

Atlas. A handsome tall-growing sort with enormous flowers, over 2½ inches wide, which have broad milk-white petals.

78152. *PHILADELPHUS* sp.

Belle Etoile. For previous introduction and description see No. 78088.

78153. *PHILADELPHUS* sp.

Enchantement. For previous introduction and description see No. 78092.

78154. *PHILADELPHUS* sp.

Innocence. A variety with such an abundance of large single pure-white flowers borne on long arched branches that the bush has the appearance of snowy sheaves of blooms.

78155. *STYRAX HEMSLEYANA* Diels. Sty-
racaceae.

A handsome shrub or small tree, native to China, up to 20 feet high, with sharp-pointed obliquely oval leaves, and pure-white flowers nearly half an inch long, in racemes about 6 inches long.

78112 to 78160—Continued.

78156. *STYRAX JAPONICUM* Sieb. and Zucc. Styracaceae. Japanese snowbell.

Variety *Fargesii*. A handsome variety introduced from central China by the late Maurice de Vilmorin. It differs from the well-known type by its taller branches, more ample foliage, and larger pendulous flowers of a snowy whiteness.

78157 to 78160. *SYRINGA* spp. Oleaceae.

78157 and 78158. *SYRINGA SWEGINZOWII* Koehne and Ling. Chengtu lilac.

78157. A hardy ornamental shrub, native to China, about 10 feet high, with dark-green oval leaves 2 to 4 inches long, and terminal panicles, up to 10 inches long, of fragrant rosy lilac flowers which are borne during June.

For previous introduction see No. 63584.

78158. Variety *superba*.

For previous introduction and description see No. 78111.

78159. *SYRINGA TOMENTELLA* Bur. and Franch. (*S. adamiana* Balf. and Sm.). Felted lilac.

A recently introduced bushy shrub, similar to *Syringa wilsonii*, about 16 feet high, with elliptic leaves which are hairy beneath and long-branched spikes of fine mauve-pink flowers. This shrub is native to western China.

For previous introduction see No. 76276.

78160. *SYRINGA WOLFI* C. Schneid. Lilac.

An ornamental shrub recently introduced from Chosen. It is remarkable for its peculiar foliage and for its much-branched panicles of dark lilac-purple flowers.

78161 and 78162.

From Burnham Thorpe, Kings Lynn, England. Plants presented by Rev. Henry Hibberd. Received November 24, 1928.

These plants are from the garden formerly owned by the father of Lord Nelson.

78161. *LAVANDULA SPICA* L. Menthaceae. Lavender.

78162. *TAXUS BACCATA* L. Taxaceae. English yew.

78163. *ANANAS SATIVUS* Schult. f. Bromeliaceae. Pineapple.

A pineapple growing at the United States Plant Introduction Garden, Chapman Field, Coconut Grove, Fla. Numbered in December, 1928.

This pineapple is considered to be a natural hybrid between Smooth Cayenne and Red Spanish. The plant has many suckers, a multiple crown, and a long stem. The fruit appears to be of fair quality.

78164 to 78168.

From Japan. Seeds obtained by R. K. Beattie, Bureau of Plant Industry. Received December 18, 1928.

78164. *CASTANOPSIS CUSPIDATA* (Thunb.) Schottky. Fagaceae.

Japanese chinquapin.

Nos. 772 and 773. Collected in the National Forest, district of Miyakonojo

78164 to 78168—Continued.

Eirinsho, Miyazaki Ken, Kyushu, and sent by K. Okamura, November, 1928. *Itajiti*. An evergreen chinquapin much used in Japan for hedges, for which it seems admirably suited. The acorns, although small, have a sweet taste when baked like chestnuts, and when boiled or roasted they are sold in Japan for food. This tree is not hardy in the northern United States.

For previous introduction see No. 34642.

78165 to 78168. *QUERCUS* spp. Fagaceae. Oak.

These seeds were collected in Osuzu National Forest, Kawakita, Tsuno Machi, Koyu Gun, Miyazaki Ken, and sent by Mimitsu Eirinsho, November, 1928.

78165. *QUERCUS ACUTA* Thunb.

No. 776. *Aka gashi* [red oak]. An evergreen oak, native to Japan.

78166. *QUERCUS MYRSINAEFOLIA* Blume.

No. 775. *Shira gashi* [white oak]. A handsome evergreen oak, which is native to Japan, 30 to 40 feet high, with lanceolate-serrate leaves, 3 to 5 inches long, smooth and shining above and covered with a whitish bloom underneath. The ovoid acorns, nearly an inch long and one-third covered by the smooth cup, are borne in short spikes.

For previous introduction see No. 74222.

78167. *QUERCUS SESSILIFOLIA* Blume.

No. 774. *Tsukubane gashi*. An oak, native to Japan, with leathery sessile lanceolate leaves 2 to 4 inches long.

78168. *QUERCUS STENOPHYLLA* (Blume) Makino.

No. 777. *Urajiro gashi*. An oak with narrowly lanceolate long-pointed leaves 2 to 6 inches long. It is native to Japan.

78169. *EUPHORBIA INTISY* Drake. Euphorbiaceae.

From Madagascar. Plants collected by Charles F. Swingle, Bureau of Plant Industry, and Dr. Henri Humbert, University of Algiers, Algeria. Received in November, 1928.

North of Behara, on the road to Tranomaro, September, 1928. An arborescent succulent, about 12 feet high, native to southern Madagascar in regions of limited rainfall, occasional frost, and varied soil conditions. At one time it was the most important rubber plant of Madagascar, but it is now practically extinct commercially because of the lack of care used in harvesting the rubber. It has gray bark, dichotomous or somewhat whorled branches, and minute scattered leaves. The small inconspicuous greenish flowers are in very short cymes borne near the tips of the branches.

78170 to 78177.

From Berlin, Germany. Plants purchased from L. Späth. Received November 24, 1928.

78170. *MALUS* spp. Malaceae. Apple.

Oekonomierat Echter-meyer. An ornamental flowering variety.

78171 to 78177. *PRUNUS* spp. Amygdalaceae.

78170 to 78177—Continued.

78171. *PRUNUS BALDSCHUANICA* Regel.

A spreading shrub, native of Turkestan, closely resembling the flowering plum (*Prunus triloba*). The oblong or obovate leaves are acuminate, with rather large teeth.

78172. *PRUNUS BLIREANA* MOSERI Koehne.

A garden hybrid of the cherry plum with purple leaves and small light-pink flowers.

78173. *PRUNUS CERASIFERA* WOODII W. Wood (*P. cerasifera spaethiana* W. Wood).

A form of the cherry plum with leaves which remain dark purple all summer.

78174. *PRUNUS CERASUS SEMPERFLORENS* (Ehrh.) Koch. All Saints cherry.

A variety of the sour cherry which bears its flowers at the end of short leafy branchlets during the summer.

78175. *PRUNUS FRUTICOSA PENDULA* Dipp. Weeping bush cherry.

A form of the European bush cherry. It is a bushy shrub about 3 feet high with slender pendulous branchlets, dark glossy green oblong-elliptic leaves an inch long, single white flowers, and dark-red fruits in small umbels.

78176. *PRUNUS JACQUEMONTII* Hook. f.

A handsome Himalayan flowering shrub up to 12 feet high, with sharply serrate elliptic leaves 2 to 3 inches long, rose-colored flowers two-fifths of an inch across, and juicy red fruits.

78177. *PRUNUS JAPONICA* THUNBERGII Koehne.

A variety of *Prunus japonica* with cordate long-acuminate leaves having longer and more pointed teeth.

78178 to 78182.

From Japan. Seeds collected by R. K. Beattie, Bureau of Plant Industry. Received December 14, 1928.

78178. *ACANTHOPANAX RICINIFOLIUM* Seem. Araliaceae.

No. 779. Collected in the Teshio Second University Forest, Hokkaido Imperial University, and sent by Wasaku Ishio, Teshio Second University Forest, Hokkaido Imperial University, Toikanbetsu, Teshio Gun, Hokkaido, November, 1928. *Hariigiri*. A tree up to 90 feet high, native to eastern Asia. The large round leaves, sometimes a foot across, are divided into five to seven triangular serrate lobes; the white flowers are in large terminal clusters and are followed by small black fruits.

For previous introduction see No. 39586.

78179 and 78180. *PICEA GLEHNI* (Schmidt) Masters. Pinaceae. Saghalin spruce.

A handsome evergreen tree, native to Japan, up to 120 feet high, with lustrous brown or violet cones.

For previous introduction see No. 75405.

78179. No. 781. *Aka ezomatsu*. Collected in the University Forest, near Toikanbetsu, and sent by Wasaku

78178 to 78182—Continued.

Ishio, Teshio Second University Forest, Hokkaido Imperial University, Tolkanbetsu, Teshio Gun, Hokkaido, November, 1928.

78180. No. 782. *Aka ezomatsu*. Collected at Jozankei, near Sapporo, and sent by Otohiko Ito, Sapporo Hokkaido, November, 1928.

78181. *PRUNUS SERRULATA SACHALINENSIS* (Schmidt) Makino (*Prunus sargentii* Rehder). Amygdalaceae. Sargent cherry.

No. 780. Collected in Maruyama, near Sapporo, Hokkaido, and sent by Otohiko Ito, November, 1928. *Ezoyamazakura*. A tall handsome tree, native to northern Japan, up to about 80 feet high, with smooth, dark-brown bark and ovate or ovate-lanceolate, sharply serrate leaves. The single pink flowers are in few-flowered clusters, and the black fruits are about the size of peas. This wild Japanese cherry is considered by E. H. Wilson, Arnold Arboretum, Jamaica Plain, Mass., to be the parent of several of the finest double-flowering varieties of flowering cherries and also to be the most satisfactory stock on which to work these varieties.

For previous introduction see No. 77652.

78182. *PTEROCARYA SORBIFOLIA* Sieb. and Zucc. Juglandaceae. Wingnut.

No. 778. Collected in the National Forest in the Hamamachi Eirinsho district, and sent by Yoshikiyo Sugita, director of the Hamamachi Eirinsho, Kyoshu, Kumamoto Ken, November, 1928. *Nobu no ki*. A tree, native to Japan, nearly 100 feet high, with large compound leaves and long racemes of winged fruits.

For previous introduction see No. 75686.

78183. *PHAJUS TANKERVILLIAE* (Ait.) Blume. Orchidaceae.

From Takengon, Sumatra. Rhizomes collected by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May 14, 1926. Numbered in October, 1928.

No. 459. March 1, 1926. A vigorous orchid with rather coarse, erect leaves and stalks 30 to 36 inches high, bearing 14 to 18 flowers about 2½ inches in diameter. The petals are creamy white, more or less flushed with bronze. The lip is deeply flushed with bronze and with purple on the inner surface. The flowers are not fragrant.

78184 to 78236.

From Grahamstown, South Africa. Plants obtained from W. and C. Gowie, through Hugh Evans, Santa Monica, Calif. Received in November, 1928.

78184 to 78187. *ALOE* spp. Liliaceae.

78184. *ALOE CILIARIS* Haworth.

A fleshy plant, native to South Africa, with stems many yards long, terete branches, thick linear leaves 6 inches long, and lax racemes of bright-red flowers.

78185. *ALOE MYRIACANTHA* (Haw.) Roem. and Schult.

A fleshy plant with a rosette of 10 to 12 linear leaves, 6 inches long,

78184 to 78236—Continued.

mottled with white spots, and a dense cluster of curved tubular flowers on a stem a foot high. Native to South Africa.

78186. *ALOE TENUIOR* Haw.

A creeping succulent vine, native to South Africa, with terete branches striped with green, linear leaves 8 inches long, and racemes of pale-yellow flowers.

78187. *ALOE VARIEGATA* L.

A perennial, native to South Africa, with a leafy stem 6 to 9 inches high. The triangular ascending leaves, 2 to 5 inches long in three close oblique ranks, are green crossed by bands of elongated white blotches and have white, scarcely serrate margins. The flowering stem is about a foot high, bearing a raceme of red tubular flowers 1 to 2 inches long.

For previous introduction see No. 77219.

78188. *ANACAMPSEROS TELEPHIASTRUM* DC. Portulacaceae.

A succulent plant, native to South Africa, a few inches high, with thick orbicular leaves and panicles of reddish flowers.

78189. *APICRA DELTOIDEA* Baker. Liliaceae.

A succulent, a foot high, with thick deltoid leaves an inch long which are bright shining green without spots or tubercles, and lax racemes of whitish flowers. Native to South Africa.

78190. *CARALLUMA LUTEA* N. E. Brown. Asclepiadaceae.

A dwarf leafless succulent, native to South Africa, with crowded purple-mottled green stems 4 inches long, sharply four angled, and armed with stout horizontal teeth nearly half an inch long. The yellow flowers, in a cluster of 20 to 25, are 2 to 3 inches broad, and most of them open at the same time.

78191 to 78196. *COTYLEDON* spp. Crassulaceae.

78191. *COTYLEDON CRISTATA* Haw.

A nearly stemless succulent with petiolate cuneate leaves an inch long, and a stem, 8 inches high, about half of which bears tubular flowers. Native to South Africa.

78192. *COTYLEDON GRACILIS* Harvey.

A dwarf plant, 4 to 6 inches high, native to South Africa, with slender stems, spatulate leaves 1 to 2 inches long, and opposite terminal panicles of tubular flowers.

78193 and 78194. *COTYLEDON ORBICULATA* L.

A succulent plant up to 4 feet high, with opposite nearly circular mealy leaves which have red margins and panicles of large reddish flowers. Native to South Africa.

78193. No. 1. 78194. No. 2.

78195. *COTYLEDON* sp.

A succulent plant, native to South Africa, with usually fleshy leaves and reddish or yellowish flowers.

78184 to 78236—Continued.

78186. COTYLEDON sp.

A succulent plant, native to South Africa.

78197 to 78201. CRASSULA spp. Crassulaceae.

78197. CRASSULA FALCATA Willd.

A shrubby robust densely leafy succulent native to South Africa. The thick glaucous obliquely sword-shaped leaves, 3 to 4 inches long, are united at the base. The lower ones are reflexed and decrease in size upwards. The stem and leaves are finely granulated, giving the plant a frosted appearance. The bright crimson or rarely white flowers are in a much-branched panicle.

78198. CRASSULA PERFOLIATA L.

A shrubby succulent native to South Africa with thick glaucous connate leaves and cymes of bright-crimson flowers.

78199. CRASSULA ROSULARIS Haw.

A herbaceous succulent plant with radical strap-shaped leaves 3 to 5 inches long and scapellike peduncles a foot high, with cymes of small white flowers. Native to South Africa.

78200. CRASSULA sp.

A succulent plant, native to South Africa, with more or less fleshy leaves and white or red flowers.

78201. CRASSULA sp.

A succulent, native to South Africa.

78202. CYANASTRUM CORDIFOLIUM Oliver (*Schoenlandia gabonensis* Cornu). Haemodorumaceae.

A bulbous perennial, native to West Africa, with membranous cordate leaves 6 inches long, rising singly from the corymb, and blue flowers half an inch long in a bracted lax raceme.

78203. DUVALIA RECLINATA Haw. Asclepiadaceae.

A succulent leafless plant a foot long, with 4-angled to 5-angled stems, the angles being tuberculate toothed, and small clusters of chocolate-colored flowers. Native to South Africa.

78204 to 78209. GASTERIA spp. Liliaceae.

78204. GASTERIA BREVIFOLIA Haw.

A succulent herb, native to South Africa, with a very short leafy stem densely crowded with oblong glossy leaves 4 inches long and racemes of tubular red flowers an inch long.

78205. GASTERIA CROUCHERI (Hook f.) Baker (*G. natalensis* Baker).

A succulent, native to South Africa, with a short stem 1 to 2 inches long and a rosette of 12 to 18 lanceolate leaves 15 inches long, 3 inches broad, and an inch thick at the base, narrowed to a sharp point and marked with small greenish white spots.

78206. GASTERIA NITIDA (Salm-Dyck) Haw.

A succulent, native to South Africa, with a short stem, a rosette of thick fleshy lanceolate leaves 9 inches long, bright green with small white spots,

78184 to 78236—Continued.

and a peduncle a foot long bearing a lax raceme of red, white, and green flowers.

78207. GASTERIA sp.

A succulent herb, native to South Africa, with a rosette of strap-shaped leaves and lax racemes of usually red flowers.

78208. GASTERIA sp.

A succulent, native to South Africa.

78209. GASTERIA sp.

A succulent, native to South Africa.

78210 to 78217. HAWORTHIA spp. Liliaceae.

78210. HAWORTHIA ARACHNOIDES (Mill.) Haw.

A succulent, native to South Africa, with a very short stem and rosettes 3 to 4 inches across, of 30 to 40 thick lanceolate leaves, 2 inches long, having a long transparent awn and transparent teeth along the edges and keel.

78211. HAWORTHIA CYMBIFORMIS Haw.

A succulent with rosettes 3 to 4 inches broad, of 20 to 25 obovate leaves 2 inches long, pale green marked on the upper half with vertical lines of darker green. Native to South Africa.

78212. HAWORTHIA FASCIATA (Willd.) Haw.

A succulent, native to South Africa, with a short leafy stem forming a spiral rosette of ascending deltoid-lanceolate leaves having transverse bands of white tubercles. The rosy lined flowers are in a terminal raceme less than a foot high.

78213. HAWORTHIA REINWARDTI (Salm-Dyck) Haw.

A stoloniferous succulent, native to South Africa, with a leafy stem 6 inches high and 2 inches in diameter including the leaves. These are ascending, ovate-lanceolate, pale green when young, but turning reddish brown with age and having 9 to 11 vertical rows of raised white tubercles.

78214. HAWORTHIA TRANSLUCENS (Willd.) Haw.

A succulent, native to South Africa, with a rosette of ascending lanceolate pale-green leaves, 2 inches long, having a long transparent awn at the tip and margined with deltoid transparent teeth.

78215. HAWORTHIA sp.

A succulent, native to South Africa.

78216. HAWORTHIA sp.

A succulent, native to South Africa.

78217. HAWORTHIA sp.

A succulent, native to South Africa.

78218. HEURNIA sp. Asclepiadaceae.

A succulent, native to South Africa.

78219. HEURNIA sp. Asclepiadaceae.

A succulent, native to South Africa.

78220. ARGETA PETRENSIS N. E. Brown. Aizoaceae.

78184 to 78236—Continued.

A very dwarf stemless perennial which forms clumps of buttonlike growths, each one of which consists of two adpressed succulent leaves, surrounded and partly covered by the scarious vestiges of former leaves. Between them push up the solitary rosy asterlike flowers, nearly an inch in diameter. Native to South Africa.

78221. *CONOPHYTUM WIGGETAE* N. E. Brown. Aizoaceae.

A very small buttonlike perennial, succulent, native to South Africa, about one-third of an inch high and half an inch broad, elliptic to circular in outline, dull green, thickly marked with blackish dots, covered and surrounded by dry vestiges of leafstalks. The solitary flower pushes up through the central portion of the body.

78222. *CONOPHYTUM* sp. Aizoaceae.

One of the dwarf buttonlike conophytums, smaller in all dimensions than *Conophytum wiggetae* [No. 78221].

78223. *GLOTTIPHYLLUM ARRECTUM* N. E. Brown. Aizoaceae.

A low succulent with ascending light-green nearly cylindrical leaves 2 to 3 inches long, in pairs, the pairs set obliquely to one another. The bright-yellow flowers, 2 to 3 inches across, are nearly sessile and without odor. Native to South Africa.

78224. *HEREROA TUGWELLIAE* L. Bolus. Aizoaceae.

A low succulent plant, native to arid places in Cape Province, South Africa. It forms irregular rosettes about 4 inches across and nearly as high. The gray-green irregularly shaped leaves are variously molded for mutual accommodation, and the yellow asterlike flowers are about an inch wide.

78225. *MENTOCALYX MUIRII* N. E. Brown. Aizoaceae.

A stemless perennial succulent consisting usually of only one pair of opposite, unequal leaves. When young, these are erect and pressed together like an eagle's beak; when older they are spreading, thick and flat, and the larger is about 2 inches long. The solitary pure-white flower, 2 inches across, is borne in front of the leaves. Native to South Africa.

78226. *FAUCARIA TIGRINA* (Haw.) Schwan-tes. Aizoaceae.

A dwarf succulent forming close-tufted rosettes of short stems not over 6 inches high. The thick opposite leaves are crowded and are conspicuous for the flexible spines along the margins, giving the effect of open jaws noted in the name. The solitary yellow daisylike flowers are about 1½ inches across.

78227. *RIMARIA HEATHII* N. E. Brown. Aizoaceae.

A stemless succulent perennial, native to arid regions in South Africa, which forms a compressed-ovoid growth up to 2 inches in diameter and about an inch high, surrounded and partly covered by the remainder of former leaves. The solitary white daisylike flower is about 1½ inches across.

78228. *SENECIO RADICANS* (L. f.) Schultz Bip. (*Kleinia radicans* Haw.). Asteraceae.

78184 to 78236—Continued.

A succulent with creeping wing-angled stems 2 feet long, short erect branches, fleshy lanceolate leaves an inch long, and rayless flower heads. The leaves have a taste of turpentine and are eaten by the natives. Native to South Africa.

78229. *STAPELIA* sp. Asclepiadaceae.

A dwarf perennial succulent, native to South Africa.

78230. *STAPELIA* sp. Asclepiadaceae.

A dwarf perennial succulent, native to South Africa.

78231. *STRELITZIA ALBA* (L. f.) Skeels (*S. augusta* Travenf.). Musaceae.

A plant native to South Africa with woody stems up to 18 feet high, a cluster of oblong leaves 3 feet long, on petioles 6 feet long, at the summit of the stem, and pure-white flowers protruding from a purple spathe.

For previous introduction see No. 31860.

78232. *STRELITZIA REGINAE* Banks. Musaceae. Bird-of-paradise flower.

A plant, native to South Africa, with a creeping rhizome from which grow the bananalike leaves with petioles 4 feet long and lanceolate blades 2 feet long. The flowers are borne on a stalk 3 to 4 feet high and grow out from the margin of a purple-edged bright-green bract 8 inches long. The orange-yellow lanceolate sepals are 3 to 4 inches long, and the dark-blue arrow-shaped petals are 3 inches long.

For previous introduction see No. 76788.

78233. (Undetermined.)

78234. (Undetermined.)

78235. (Undetermined.)

78236. (Undetermined.)

78237 to 78239. *RHODODENDRON* spp. Ericaceae. Azalea.

From Tunbridge Wells, England. Plants purchased from R. Wallace & Co. Received December 7, 1928.

78237. *RHODODENDRON* sp.

Amoena pulchella.

78238. *RHODODENDRON* sp.

Spectabilis rosea.

78239. *RHODODENDRON* sp.

Sublanceolata.

78240. *CITRUS NOBILIS DELICIOSA* (Ten.) Swingle. Rutaceae.

Mandarin orange.

From Johannesburg, South Africa. Cuttings presented by John Bell & Co. Received December 8, 1928.

A variety which is sweeter and contains more juice than the tangerine.

78241 to 78243. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soybean.

From Russia. Seeds presented by Prof. J. A. Mirtoff, Director of the Russian Bureau of Agricultural Information in

78241 to 78243—Continued.

America, New York, N. Y., through W. J. Morse, Bureau of Plant Industry. Received December 20, 1928.

Varieties grown at the Ekaterinoslav Experiment Station.

78241. No. 57. **78243.** No. 61.

78242. No. 59.

78244. CEIBA ACUMINATA (S. Wats.)
Rose. Bombacaceae. **Pochote.**

From Guaymas, Sonora, Mexico. Seeds obtained from H. S. Bursley, American consul, Guaymas, through Henry C. A. Damm, American consul, Nogales, Sonora. Received December 20, 1928.

A close relative of the kapok tree (*Ceiba pentandra*), said to be a large or medium-sized tree with a greenish spiny trunk, compound leaves, and hard oblong fruits about 7 inches long, which contain whitish down used for stuffing pillows, life preservers, and for making candlewicks. It is native to western and southern Mexico.

For previous introduction see No. 76014.

78245 to 78254.

From Ukraina, Russia. Seeds presented by the Ekaterinoslav Experiment Station, through Prof. J. A. Mirtoff, director of the Russian Bureau of Agricultural Information, New York, N. Y. Received December 20, 1928.

78245 to 78248. HORDEUM spp. Poaceae.

78245. HORDEUM DISTICHON NUDUM L.
Two-rowed barley.

No. 0155.

78246 and 78247. HORDEUM VULGARE
PALLIDUM Seringe. Six-rowed barley.

78246. No. 2. *Grushvsky.*

78247. No. T-45.

78248. HORDEUM DISTICHON PALMELLA
Harlan. Two-rowed barley.

No. 0254.

78249 to 78252. TRITICUM AESTIVUM L.
(*T. vulgare* Vill.). Poaceae.
Common wheat.

78249. No. 040. Winter wheat.

78250. No. 058. Spring wheat.

78251. No. 065. Winter wheat.

78252. No. 071. Spring wheat.

78253 and 78254. TRITICUM DURUM Desf.
Poaceae. Durum wheat.

78253. No. 037. **78254.** No. 05.

78255. VOANDZEIA SUBTERRANEA (L.)
Thouars. Fabaceae.

From Kinda, Lulua, Katanga, Belgian Congo, Africa. Seeds presented by R. L. Smalley. Received December 21, 1928.

Nimu ya bukola. An erect variety about 9 inches high, with flowers which push into the ground, the fruits developing there close to the plant. It is planted about November and harvested during April. About 3 per cent have two seeds in a pod, and one plant yields between 30 and 40 pods. In Northern Rhodesia this variety is called "Grant's peanuts."

78256 to 78260.

From Mount Silinda, Southern Rhodesia, Africa. Seeds presented by Dr. W. L. Thompson, American Board Mission in South Africa. Received December 26, 1928.

78256. DIOSPYROS SENEGALENSIS Perr.
Diospyraceae. **Persimmon.**

A shrub or small tree, native to tropical Africa, with small edible fruits up to an inch in diameter, said to be of good flavor and sometimes called "monkey guavas."

For previous introduction see No. 70941.

78257. KHAYA NYASICA Stapf. Meliaceae.

The red mahogany is one of the most valuable timber trees of Rhodesia and is widely distributed over Mozambique. It is fairly rapid in growth, though not equal to some of the eucalypts in this respect. It is found most often growing near streams, and also occurs on high ground at a distance from water. The timber is very durable and is not attacked by white ants or borers.

For previous introduction see No. 59293.

78258. LOVOA SWYNNERTONII Baker f.
Meliaceae.

For previous introduction and description see No. 77987.

78259. PARINARI CURTELLAEFOLIUM
Planch. Rosaceae.

Sand apple. A small or medium-sized tree with elliptic-oblong, scabrid leaves, glabrescent above and tomentose beneath, which are 2 to 5 inches long. The tomentose flower panicles are 3 to 6 inches long. The drupe, about the size of an ordinary plum, has a mealy, not unpleasant taste.

For previous introduction see No. 52808.

78260. PTEROCARPUS ANGOLENSIS DC.
Fabaceae.

Bloodwood. An unarmed tree, native to the western part of central Africa, with alternate, unequally pinnate leaves, axillary or terminal racemes of flowers, and flat, 1-seeded almost round pods. The reddish wood is used in dyeing, and the bark contains a large quantity of tannin.

For previous introduction see No. 50178.

78261. FICUS VOLKENSII Warb. Mora-
ceae. **Fig.**

From Amani, Tanganyika Territory, Africa. Seeds presented by K. E. Toms, superintendent of plantations, East African Agricultural Research Station. Received December 27, 1928.

A shrub or small tree, native to tropical Africa, with narrow papery dull-green leaves and axillary fruits half an inch long. It is reported to yield the best bark cloth known in Uganda.

78262. ARRACACIA XANTHORRHIZA Bancroft (*A. esculenta* DC.). Apiaceae.
Arracacha.

78262—Continued.

From Mayaguez, Porto Rico. Tubers presented by T. B. McClelland, Porto Rico Agricultural Experiment Station. Received December 27, 1928.

A perennial, herbaceous plant closely related to the carrot. It grows about 3 feet high, with carrotlike foliage and small umbels of purple flowers. The large, fleshy roots are important food in parts of South America and Central America. They are eaten boiled like parsnips, or sliced raw and fried. Propagation is effected by making cuttings of the crown with a small piece of the root attached.

For previous introduction see No. 63580.

78263. ZEA MAYS L. Poaceae. Corn.

From Kinda, Lulua, Katanga, Belgian Congo, Africa. Seeds presented by R. L. Smalley. Received December 21, 1928.

A variety of corn with a harsh cob and grain which shells very easily. It is said to remain green a long time. There are occasionally a few black grains present. The natives recognize this as a distinct variety, but they plant it and use it as their other corn.

78264 to 78311. CLEMATIS spp. Ranunculaceae.

From Woking, Surrey, England. Plants purchased from George Jackman & Son, Woking Nurseries. Received December 27, 1928.

A collection of garden varieties of clematis.

78264. CLEMATIS sp.

Admiration. A climbing subshrubby variety bearing, between July and October, beautiful flowers which are deep salmon, edged with violet, shading off to a violet heliotrope, and white on the reverse side.

78265. CLEMATIS sp.

Ascottensis. A climbing variety with large azure-blue flowers borne during June and July.

78266. CLEMATIS sp.

Belle of Woking. A climbing variety with fine large double silvery gray flowers borne during June.

78267. CLEMATIS sp.

Blue Gem. A very choice climbing variety with large pale sky-blue flowers borne between July and October.

78268. CLEMATIS sp.

Coerulea odorata. An evergreen climbing variety with small reddish-violet flowers borne between July and October.

78269. CLEMATIS sp.

Comtesse de Bouchaud. A climbing variety with large beautiful satiny rose flowers borne between July and October.

78270. CLEMATIS sp.

Countess of Lovelace. A climbing variety with large double bluish-lilac rosette-shaped flowers borne during June and July.

78271. CLEMATIS sp.

Countess of Onslow. A climbing subshrubby variety bearing, between July

78264 to 78311—Continued.

and October, bright violet-purple flowers with a broad band of scarlet down the center of each petal.

78272. CLEMATIS sp.

Crimson King. A free-growing variety bearing, between July and October, beautiful bright-red flowers, shading off paler down the center of each sepal, with chocolate-colored stamens.

78273. CLEMATIS sp.

Duchess of Albany. A climbing subshrubby variety bearing, between July and October, delicate pale bluish-pink flowers with a deeper tinge down the center of each petal.

78274. CLEMATIS sp.

Duchess of Edinburgh. A climbing variety bearing large deliciously scented flowers during June and July. This is the best of the varieties bearing double pure-white flowers.

78275. CLEMATIS sp.

Duchess of Sutherland. A free-blooming variety bearing, between July and October, bright-red flowers shading off lighter down the center of the sepals.

78276. CLEMATIS sp.

Duchess of York. A climbing subshrubby variety bearing, between July and October, delicate pale bluish-pink flowers with a deeper tinge down the center of each petal.

78277. CLEMATIS sp.

Duke of Edinburgh. A climbing variety bearing large violet-purple flowers between July and October.

78278. CLEMATIS sp.

Duke of Portland. A vigorous variety bearing, between July and October, lovely pale flesh-colored flowers with a crimson bar down the center of each sepal.

78279. CLEMATIS sp.

Empress of India. A variety bearing, between July and October, fine flowers which are light purple-violet with brown stamens and a deep-purple bar down the center of each sepal.

78280. CLEMATIS sp.

Fair Rosamond. A climbing variety bearing, during May and June, large bluish-white flowers with an indistinct wine-red bar.

78281. CLEMATIS sp.

Fairy Queen. A climbing variety bearing, between July and October, large pale flesh-colored flowers with a striking pink bar.

78282. CLEMATIS sp.

Flammula rosea purpurea. A climbing variety bearing between July and October, an abundance of small rosy purple sweet-scented flowers.

78283. CLEMATIS sp.

Grace Darling. A climbing subshrubby variety bearing, between July and October, an abundance of medium-sized, star-shaped, bright rosy carmine flowers.

78264 to 78311—Continued.

78284. CLEMATIS sp.

Jackmanni. A climbing variety bearing, between July and October, an abundance of violet-purple flowers which are usually large.

78285. CLEMATIS sp.

Jackmanni superba. A climbing variety bearing, between July and October, many large flowers which are very dark violet purple.

78286. CLEMATIS sp.

King Edward VII. A climbing variety bearing, between July and October, large puce-violet flowers with a crimson bar down the center of each sepal.

78287. CLEMATIS sp.

King George V. A vigorous variety bearing, between July and October, beautiful light flesh-colored flowers with a bright-pink bar down the center of each sepal.

78288. CLEMATIS sp.

King of the Belgians. A climbing variety bearing, between May and June, large light-mauve flowers with a deep-mauve bar.

78289. CLEMATIS sp.

Lady Betty Balfour. A strong-growing climbing variety bearing, between August and October, an abundance of large deep velvety purple flowers.

78290. CLEMATIS sp.

Lady Caroline Neville. A climbing variety bearing, between July and October, large French-white flowers with mauve bars.

78291. CLEMATIS sp.

Lady Northcliffe. A climbing variety bearing, between July and October, large beautiful deep lavender-tinted bright-blue flowers with a purple base and white stamens.

78292. CLEMATIS sp.

Lasurster. A climbing variety bearing large deep purplish-blue flowers between May and July.

78293. CLEMATIS sp.

Lord Neville. A climbing variety bearing large rich dark plum-colored flowers between July and October.

78294. CLEMATIS sp.

Marcel Moser. A climbing variety bearing, between July and October, large beautiful mauve-violet flowers with attractive red bars.

78295. CLEMATIS sp.

Miss Bateman. A climbing variety bearing, between May and July, large white flowers with chocolate-covered bars and red anthers.

78296. CLEMATIS sp.

Mrs. Bush. A climbing variety with large deep-lavender flowers borne between July and October.

78297. CLEMATIS sp.

Mrs. Cholmondeley. A climbing variety with large light-blue flowers borne between July and October.

78264 to 78311—Continued.

78298. CLEMATIS sp.

Mrs. George Jackman. A climbing variety bearing, during May and June, satiny white flowers with creamy bars.

78299. CLEMATIS sp.

Mrs. Hope. A climbing variety bearing, between June and October, mauve flowers with darker tinted bars.

78300. CLEMATIS sp.

Mrs. Spencer Castle. A climbing variety with an abundance of beautiful pale-pinkish heliotrope, prettily veined flowers, which are borne between July and October.

78301. CLEMATIS sp.

Nellie Moser. A climbing variety bearing, between July and October, large light-mauve flowers which have bright-red bars.

78302. CLEMATIS sp.

Otto Froebel. A climbing variety bearing, between July and October, very large grayish-white flowers.

78303. CLEMATIS sp.

Queen Alexandra. A climbing variety bearing, between July and October, large pale-lavender flowers with lilac-purple base, shading off to a silvery white down the center.

78304. CLEMATIS sp.

Robert Hanbury. A climbing variety bearing, between June and October, large bluish-lilac flowers flushed at the edge with red.

78305. CLEMATIS sp.

Sir Garnet Wolseley. A climbing variety bearing, during May and June, large flowers which have a bluish ground with an effective dash of bronze, and distinct bars of plum red.

78306. CLEMATIS sp.

Star of India. A climbing variety bearing, between July and October, an abundance of large reddish plum-colored flowers with red bars.

78307. CLEMATIS sp.

The Bride. An exceptionally free-flowering variety bearing, between July and October, fine pure-white flowers with yellow stamens.

78308. CLEMATIS sp.

Velutina purpurea. A climbing variety bearing, between July and October, an abundance of large blackish-mulberry flowers.

78309. CLEMATIS sp.

Viticella alba luxurians. A climbing variety bearing, between July and September, an abundance of large white flowers.

78310. CLEMATIS sp.

W. E. Gladstone. A climbing variety bearing, between July and October, large flowers which are a beautiful lilac and a lighter shade down the center.

78311. CLEMATIS sp.

William Kennett. A climbing variety bearing, between July and October, large deep-lavender flowers.

78312 to 78321.

From Japan. Seeds obtained by R. K. Beattie, Bureau of Plant Industry. Received December 27, 1928.

78312 to 78316. *CASTANOPSIS* spp. Fagaceae.78312. *CASTANOPSIS CUSPIDATA* (Thunb.) Schottky. Japanese chinquapin.

Nos. 783 and 784. Collected in the Takano National Forest, Takaiyama Mura, Kimotsuke Gun, Kagoshima Ken, and received by Kanoya Eirinsbo, Kimotsuke Gun, Kagoshima Ken, November, 1928.

For previous introduction and description see No. 78164.

78313 and 78314. *CASTANOPSIS KAWAKAMI* Hayata.

Collected at the Rengechi Forest Experiment Station, Taichu Province, Taiwan, at an altitude between 3,000 and 4,000 feet, November, 1928. The Japanese name is Okuri kashi, and the Taiwanese (Chinese) name is Toah-yokoratsu. A Japanese tree between 75 and 90 feet high.

78313. No. 789.

78314. No. 790. The same as No. 789 [No. 78313], but from a different lot of trees.

78315. *CASTANOPSIS STELLATO-SPINA* Hayata.

No. 791. Collected on Hihranza, a mountain 15 miles northeast of Kochun, near the southern end of Takao Province, November, 1928. *Togekuri kashi*. A Japanese evergreen tree.

78316. *CASTANOPSIS TAIWANIANA* Hayata.

No. 788. Collected at the Rengechi Forest Experiment Station, Taichu Province, Taiwan, at an altitude between 3,000 and 4,000 feet, November, 1928. The Japanese name is kuri kashi, and the Taiwanese (Chinese) name is chako.

78317. *FAGUS JAPONICA* Maxim. Fagaceae. Japanese beech.

No. 792. Collected by Seisho Nakayama in the Tokyo University Chichibu Forest, Chichibu Kyokuku, Saitama Ken, November, 1928. *Inu buna*. A Japanese tree up to 75 feet high, usually dividing at the base into several trunks. The ovate pointed leaves are 2 to 4 inches long, with slightly sinuate or entire margins, and the triangular nuts are one-fourth to three-fourths of an inch long.

78318. *FAGUS SIEBOLDII* Endl. Fagaceae. Siebold's beech.

No. 793. Collected by Seisho Nakayama in the Tokyo University Chichibu Forest, Chichibu Kyokuku, Saitama Ken, November, 1928. *Buna*. A tree, native to Japan, 90 feet high, with rhombic-ovate leaves, 2 to 4 inches long, having shallowly crenate margins.

78319 to 78321. *QUERCUS* spp. Fagaceae. Oak.78319. *QUERCUS GILVA* Blume.

No. 787. Collected in the Nagao National Forest, Yamada Mura, Kitamuro Gun, Miyazaki Ken, and received from Miyakonojo Eirinsbo, Kyushu,

78312 to 78321—Continued.

Miyazaki Ken, November, 1928. *Ichigashi*.

78320. *QUERCUS SESSILIFOLIA* Blume.

No. 785. Collected in the Nagao National Forest, Yamada Mura, Kitamuro Gun, Miyazaki Ken, and received from Miyakonojo Eirinsbo, Kyushu, Miyazaki Ken, November, 1928. *Tsu-kubane gashi*.

For previous introduction and description see No. 78167.

78321. *QUERCUS STENOPHYLLA* (Blume) Makino.

No. 786. Collected in the Nagao National Forest, Yamada Mura, Kitamuro Gun, Miyazaki Ken, and received from Miyakonojo Eirinsbo, Kyushu, Miyazaki Ken, November, 1928. *Urajiro-gashi*.

For previous introduction and description see No. 78168.

78322 and 78323. *SPATHODEA* spp. Bigoniaceae.

From Honolulu, Hawaii. Seeds presented by Harry Johnson, Johnson Water Gardens, Hynes, Calif. Received December 20, 1928.

These two varieties were collected by Otto Degener.

78322. *SPATHODEA CAMPANULATA* Beauv.

A tree, native to tropical Africa, up to 70 feet high, with dark-green pinnate leaves 1 to 2 feet long, and large panicles of scarlet flowers each 4 inches long. The unopened flowers contain a quantity of water, which has secured for it the name fountain tree in India, where it is cultivated as an ornamental shade tree. The whitish fluffy seeds fill a boat-shaped capsule which is 10 to 12 inches long.

For previous introduction see No. 53983.

78323. *SPATHODEA NILOTICA* Seem.

A shrubby tree up to 20 feet high, native to the northern part of tropical Africa. The leaves, which are opposite and composed of 9 to 15 leathery leaflets, are covered beneath with dense short hairs, and the scarlet flowers are in short terminal clusters. Both the leaves and flowers resemble those of *Spathodea campanulata*.

For previous introduction see No. 58467.

78324 to 78327. *RUBUS* spp. Rosaceae.

From Alnarp, Akarp, Sweden. Plants presented by Carl G. Dahl. Received December 3, 1928.

78324. *RUBUS GLANDULOSUS* Bellardi. Blackberry.

A blackberry for which a description is not available.

78325. *RUBUS HORRIDUS* Hartm.

A blackberry native to Sweden, with angular, very thorny stems, white flowers, and small black fruits.

78326 and 78327. *RUBUS PLICATUS* Weihe and Nees. Blackberry.

78326. From Karup, Denmark.

78327. From Sunne, Sweden.

78328 and 78329.

From Wellesley, Mass. Seeds presented by T. D. Hatfield, Hunnewell estate. Received December 28, 1928.

78328. CALLUNA VULGARIS (L.) Salisb.
Ericaceae. **Heather.**

A low evergreen shrub, native to Europe, 1 to 2 feet high, with small ovate leaves and dense racemes, 6 to 10 inches long, of rosy pink bell-shaped flowers.

78329. RHODODENDRON DAVIDSONIANUM
Rehd. and Wils. Ericaceae.
Davidson rhododendron.

A shrub up to 10 feet high, native to western China, with semievergreen oblong leaves 1 to 3 inches long, glaucous beneath, and terminal and axillary clusters of pink flowers an inch across, somewhat resembling those of the nearly related *R. mucronulatum*.

78330. ALBIZZIA LEBBECK (L.) Benth.
Mimosaceae. **Lebeck tree.**

From Summit, Canal Zone. Seeds presented by J. E. Higgins, Plant Introduction Garden. Received December 29, 1928.

A tree, native to tropical Asia, with doubly compound leaves made up of obliquely oval leaflets, axillary globular heads of greenish-yellow flowers, and long flat pods.

For previous introduction see No. 51902.

78331. MUCUNA BENNETTI F. Muell.
Fabaceae.

From Port Moresby, New Guinea. Seeds presented by L. P. B. Armit. Received December 29, 1928.

For previous introduction and description see No. 77959.

78332 to 78370.

From Chiddingfold, Surrey, England. Plants purchased from V. N. Gauntlett & Co. Received November 22, 1928.

78332. BAUERA RUBIODES Andrews. Grossulariaceae.

An attractive evergreen heathlike shrub, native to Australia, 4 to 5 feet high, with pink flowers resembling those of *Kalmia*.

78333. BERBERIS FALLENS Franch. Berberidaceae. **Barberry.**

A strong-growing deciduous shrub, 5 to 6 feet high, with bright-red bark, arching branches, and black fruits, the foliage assuming gorgeous tints in autumn. Native to southwestern China.

78334. BERBERIS RUBROSTILLA Chittenden. Berberidaceae. **Barberry.**

A hybrid shrub raised in the Royal Horticultural Society gardens. It has ovate spatulate spiny leaves and pendulous clusters of coral-red fruits which are produced in the autumn.

For previous introduction see No. 76340.

78335. CEANOTHUS sp. Rhamnaceae.

Carmino Gem. A new hardy variety bearing large trusses of lilac-carmino flowers. It thrives in well-drained rich soil and is often used for covering walls, buildings, etc.

78336. DESFONTAINEA SPINOSA Ruiz and Pav. Loganiaceae.

78332 to 78370—Continued.

A choice evergreen with hollylike foliage, bearing attractive trumpet-shaped, orange-scarlet, waxy flowers between July and October. It is of slow dense growth, but blooms in the young stage, and in time reaches a height of about 6 feet. It is generally hardy if given a sheltered position in half shade.

78337 to 78352. ESCALLONIA spp. Escalloniaceae.

78337. ESCALLONIA FLORIBUNDA H. B. K.

A distinct species bearing arching clusters of pure-white flowers between August and November. It is said to be hardy in seaside districts, and should be grown against a wall, where it forms a splendid evergreen covering.

78338. ESCALLONIA GLUTINOSA Phil.

A white-flowered variety of an evergreen shrub, native to Chile, with small sessile, thick, cuneate-lanceolate leaves about 7 inches long.

78339. ESCALLONIA LANGLEYENSIS Veitch.

A hardy shrub, 5 to 6 feet high, which has a graceful pendulous habit. It is covered with rich-red flowers during June and July, and is one of the finest of shrubs.

For previous introduction see No. 41962.

78340 and 78341. ESCALLONIA MACRANTHA Hook. and Arn.

78340. A shrub with deep shining green ornamental foliage and an abundance of rich-crimson trumpet-shaped flowers. It is used largely in seaside districts as a hedge plant, and also makes a fine wall plant.

78341. Variety *Ingramii*. A variety of erect habit, with an abundance of small bright-crimson flowers.

78342. ESCALLONIA ORGANENSIS Gardn.

A very rare species with glossy reddish foliage and beautiful coral-pink flowers in clusters resembling those of *Bouvardia*. It is suitable only for walls in mild localities.

78343. ESCALLONIA PTEROCLADON Hook.

A shrub of erect growth, 6 to 10 feet high, with white flowers borne on long spikes.

For previous introduction see No. 38759.

78344. ESCALLONIA PULVERULENTA (Ruiz. and Pav.) Pers.

A shrub with silvery gray foliage and white flowers.

For previous introduction see No. 36122.

78345. ESCALLONIA PUNCTATA DC.

A very scarce shrub, 4 to 5 feet high, with neat evergreen foliage and bright-red flowers which are distinct from all others.

78346. ESCALLONIA RUBRA (Ruiz and Pav.) Pers.

A dwarf prostrate shrub, with foliage similar to that of *E. macrantha*, and large rosy red flowers.

78332 to 78370—Continued.

78347. *ESCALLONIA VIRGATA* (Ruiz and Pav.) Pers.

Variety *philippiana*. A hardy evergreen bush with an abundance of fragrant white flowers borne late in the summer.

78348. *ESCALLONIA* sp.

Donardensis. A shrub of erect growth, 5 to 6 feet high, bearing, between July and September, flowers of a pale bluish color.

78349. *ESCALLONIA* sp.

Edinburgh. A beautiful shrub resembling *Escallonia langleyensis* in habit of growth. The rose-pink flowers are borne abundantly during July and August.

78350. *ESCALLONIA* sp.

Edinensis. A hybrid between variety *philippiana* (*Escallonia virgata*) and *E. punctata*. The small brilliant rose-pink flowers covering the branches are borne abundantly between July and September. This is an excellent plant for walls.

78351. *ESCALLONIA* sp.

Microphylla. A dense bush, 2 to 3 feet high, of dwarf habit, with bright-red flowers borne between July and September.

78352. *ESCALLONIA* sp.

Newryensis. A shrub, generally hardy, of erect habit, which grows 4 or 5 feet high. The flowers are a bluish pink.

78353 to 78355. *GAULTHERIA* spp. Ericaceae.

78353. *GAULTHERIA NUMMULARIODES* Don.

A rare shrub, about 6 inches high, with deep-green hairy leaves and white or pink flowers. Native to the Himalayas.

For previous introduction see No. 39015.

78354. *GAULTHERIA PYROLAEFOLIA* Hook. f.

A low evergreen shrub less than a foot high, with narrow-elliptic leaves an inch and a half long, and large blue-black berries. Native to the Himalayas.

78355. *GAULTHERIA VEITCHIANA* Craib.

A recently introduced evergreen shrub of dwarf habit, with oval, dark-green thick leaves, axillary racemes of white flowers, and indigo-blue berries. Native to China.

78356 and 78357. *GRISELINIA LITTORALIS* Raoul. Cornaceae.

An evergreen shrub, particularly fine in winter, which thrives in stiff soils, also under trees, and does well by the sea. It grows 5 to 6 feet high and as much in diameter, and has soft pale-green metallic foliage which droops gracefully. Native to New Zealand.

78356. The ordinary type.

78357. Variety *macrophylla*. This variety requires more warmth than the type.

78332 to 78370—Continued.

78358. *HYMENANTHERA CHATHAMICA* (F. Muell.) T. Kirk. Violaceae.

An evergreen shrub, native to New Zealand, with thick pale-green lanceolate leaves 5 inches long, numerous inconspicuous axillary flowers, and small white fruits.

78359. *KIRENGESHOMA PALMATA* Yatabe. Hydrangeaceae.

A rare herbaceous perennial, native to Japan, 2 to 4 feet high, with dark-green papery palmate hairy leaves and few-flowered panicles of bell-shaped yellow flowers. It should be planted in moist soil in the shade.

78360. *MARGYRICARPUS SETOSUS* Ruiz and Pav. Rosaceae.

A dwarf heathlike creeping evergreen shrub, about a foot high, with odd-pinnate leaves, very small greenish flowers, and showy white berries which persist for some time. Native to Peru.

78361. *OSMANTHUS ILICIFOLIUS* (Sieb.) Masters. Oleaceae.

Variety *purpurea*. An evergreen shrub with spiny leaves which, when young, are a rich dark purple, later becoming green with a purple tinge. The small flowers are fragrant, and the ovoid berries are bluish black.

78362 to 78364. *PERNETTYA* spp. Ericaceae.

78362. *PERNETTYA FURENS* Klotzsch.

An upright evergreen shrub, native to Chile, with oval leaves 1 to 2 inches long, dense racemes of small white flowers, and ornamental brownish-red fruits.

78363. *PERNETTYA MUCRONATA* (L. f.) Gaud.

Variety *alba*. A rare form with large white berries.

78364. *PERNETTYA* sp.

Davies hybrids. Berries of various colors, mixed.

78365. *PHILLYREA ANGUSTIFOLIA* L. Oleaceae. Narrowleaf phillyrea.

An evergreen shrub up to 10 feet high, native to the Mediterranean region, with linear-lanceolate leaves 2 inches long, and small white flowers in short axillary racemes, followed by purplish-black ovoid fruits.

78366. *PHOTINIA DAVIDSONIAE* Rehd. and Wils. Malaceae.

A handsome evergreen tree, 20 to 50 feet high, with dense foliage, native to Hupeh, western China. The leathery oblong or lanceolate leaves are up to 8 inches long, and the white flowers, nearly half an inch across, are in many-flowered terminal corymbs. The globose orange-red berries are about one-third of an inch in diameter.

78367. *RHODODENDRON* sp. Ericaceae. Azalea.

Butheana. A shrub bearing large white flowers during May.

78368. *SARCOCOCCA HOOKERIANA HUMILIS* (Stapf) Rehd. and Wils. Buxaceae.

A dwarf evergreen shrub 3 to 5 feet high, native to western China, with

78332 to 78370—Continued.

lanceolate coriaceous leaves 1 to 2 inches long, axillary racemes of small whitish flowers, and round black fruits.

78369. STRANVAESIA BENTHAMIANA (Hance) Merr. (*Photinia benthamiana* Hance). Malvaceae.

A Chinese evergreen shrub with leathery oblong red-tipped leaves and dense panicles of white flowers followed by orange or scarlet fruits.

78370. STRANVAESIA NUSSIA (Buch.-Ham.) Decaisne (*S. glaucescens* Lindl.). Malvaceae.

A rare evergreen Himalayan tree, reaching 20 feet when fully grown, with oblanceolate-serrulate leaves about 4 inches long, terminal clusters of white flowers borne during June, and pale-red subglobose berries produced in the autumn.

78371. GOSSYPIUM NANKING Meyen. Malvaceae. Cotton.

From Bangkok, Siam. Seeds presented by the Siamese Department of Agriculture, through Phya Vijitavongs, Siamese Minister. Received December 28, 1928.

The "Chinese" cotton of commerce is a delicately branched shrub with imperfectly cordate leaves and rufous velvet-coated seeds bearing a silky floss which is usually white in the better varieties, but may be reddish or khaki colored.

78372 to 78388.

From Keston, Kent, England. Plants purchased from G. Ruethe, Foxhill Hardy Plant Farm. Received November and December, 1928.

78372. CLETHRA DELAVAYI Franch. Clethraceae.

A shrub or small tree, native to China, up to 50 feet high, with red branchlets and oblanceolate leaves which are pubescent beneath. The fragrant white flowers differ from those of the American summersweet, *Clethra alnifolia*, in having red calyxes and in being in solitary axillary racemes, while the summersweet has the racemes grouped together to form a panicle.

78373. INDIGOFERA HEBEPETALA Benth. Fabaceae.

For previous introduction and description see No. 77686.

78374. PERNETTYA MAGELLANICA Hort. Ericaceae.

A dwarf evergreen ornamental shrub from the Strait of Magellan region of South America.

78375. PILBOSTEGIA VIBURNOIDES Hook. f. and Thoms. Hydrangeaceae.

A little-known evergreen climber, native to China, with thick lanceolate-elliptic opposite dark-green leaves about 5 inches long, and dense umbels of white flowers which resemble those of *Viburnum tinus*.

78376 to 78385. RHODODENDRON spp. Ericaceae. Azalea.

A collection of horticultural varieties of azaleas of dwarf habit, which are very free-flowering and hardy. They succeed in lime-free soil to which humus has been added.

78372 to 78388—Continued.

78376. RHODODENDRON sp.

Carminata splendens. Flowers a deep pink, of the general type of the Kurume azaleas.

78377. RHODODENDRON sp.

H. O. Carre. Flowers rich rosy red, of the Kurume type, with narrow lobes, giving a starry effect.

78378. RHODODENDRON sp.

Illuminata. Flowers rosy purple. The bush somewhat resembles *Rhododendron obtusum* var. *amoena* in habit.

78379. RHODODENDRON INDICUM (L.) Sweet.

Kokin-shita. A compact low-growing bush with narrow leaves, single scarlet flowers, of the general type of the plant known in trade as *Azalea macrantha*.

78380. RHODODENDRON INDICUM (L.) Sweet.

Macrantha. Flowers deep salmon. A late-flowering azalea of very compact habit, with narrow evergreen leaves.

78381. RHODODENDRON sp.

Mrs. Carmichael. Flowers rosy purple. A hybrid with growth somewhat like the Kurume azaleas, but much larger flowers, many of which show some petaloid development in the stamens.

78382. RHODODENDRON INDICUM (L.) Sweet.

Macrantha. Flowers rich orange. Resembles No. 78380 except in the hue of the flowers.

78383. RHODODENDRON sp.

Princess Maud. Flowers rosy pink, of the Kurume type.

78384. RHODODENDRON sp.

Rosea. Flowers rose pink.

78385. RHODODENDRON sp.

Splendens. Flowers soft rose pink, of the Kurume type.

78386. SARCOCOCCA HOOKERIANA Baill. Buxaceae.

For previous introduction and description see No. 78107.

78387. SARCOCOCCA RUSCIFOLIA Stapf. Buxaceae.

An evergreen shrub up to 6 feet high, native to central and western China, with lustrous dark-green ovate leaves, small racemes of whitish flowers, and dark scarlet fruits.

For previous introduction see No. 76595.

78388. SYCOPSIS SINENSIS Oliver. Hamamelidaceae.

A hardy evergreen shrub or small tree, native to China, 25 feet high, with elliptic-ovate leaves, 4 inches long, lustrous above and pale green beneath, and small heads of flowers with conspicuous red anthers.

For previous introduction see No. 76118.

78389. QUERCUS SESSILIFLORA Salisb.
Fagaceae. Durmast oak.

From Northwood, Middlesex, England.
Seeds presented by R. C. B. Gardner,
Received December 27, 1928.

These seeds were collected in Woburn Park, Bedfordshire, by permission of the Duke of Bedford. A large European tree closely related to the English oak, *Quercus robur*, with lustrous bright-green obovate leaves having five to nine pairs of rounded lobes and hemispheric cups which cover about one-third of the ovoid acorns.

78390 to 78393.

From China. Seeds collected by J. F. Rock,
National Geographic Society, Washington,
D. C. Received December 26, 1928.

78390 and 78391. PRIMULA spp. Primu-
laceae. Primrose.

Found in alpine meadows on Mount Lachouchou K'ha, northeast of Chung-tien, northwestern Yunnan, China, September, 1928.

78390. PRIMULA sp.

No. 17273. A herbaceous perennial 1 to 2½ feet high, with large purple flowers in double and triple tiers. Collected at an altitude of 12,000 feet.

78391. PRIMULA sp.

No. 17274. A herbaceous perennial 1 to 2 feet high, with pale-blue flowers in large tiers. Collected at an altitude of 14,000 feet.

78392. VACCINIUM sp. Vacciniaceae.

No. 17313. [Received without information.]

78393. (Undetermined.)

No. 17295. [Received without information.]

78394 and 78395.

From Dehra Dun, India. Seeds presented by R. N. Parker, forest botanist, Forest Research Institute and College. Received December 28, 1928.

78394. ACER PENTAPOMICUM J. L. Stewart. Aceraceae. Maple.

A medium-sized tree, native to the temperate slopes of the Himalayas in northwestern India, with gray or reddish twigs, 3-lobed cordate leaves 4 to 6 inches long, pale green on both sides, the lobes ovate and obtusely serrate. The glabrous fruits, an inch long, have slightly diverging veiny wings.

78395. CARPINUS FAGINEA Lindl. Fagaceae.

A moderate-sized Himalayan tree found between 4,000 and 7,000 feet altitude. It has tomentose branches, and the ovate doubly serrate falcate leaves are 3 to 5 inches long. The pubescent fruiting bracts, an inch long, are very unequal sided, the narrow side being entire and the other coarsely toothed.

78396. OLEA EUROPAEA L. Oleaceae.
Olive.

From Jerusalem, Palestine. Cuttings presented by A. Grasovsky, Department of Agriculture and Forestry. Received December 31, 1928.

From the Mount of Olives.

78397. THUJOPSIS DOLABRATA (L. f.)
Sieb. and Zucc. Pinaceae.

Hiba arborvitae.

From Japan. Seeds obtained by R. K. Beattie, Bureau of Plant Industry. Received December 27, 1928.

No. 794. Presented by Doctor Shirasawa, Director of the Forest Experiment Station, Meguro, Tokyo. A pyramidal Japanese conifer 50 feet high, with spreading frond-like branchlets, nodding at the ends, small glossy dark-green leaves having white patches below, and broadly ovoid cones less than an inch long. The wood is very resistant to decay and makes excellent poles and ties. This variety seeds but rarely, perhaps having only one good crop in 13 years.

78398 to 78412.

From Keijo, Chosen. Seeds presented by M. Towaza, Director of the Forestal Experiment Station. Received December 28, 1928.

78398. ABIES NEPHROLEPIS (Trautv.)
Maxim. Pinaceae. Fir.

A conifer, native to Siberia, up to 100 feet high, resembling the Siberian fir, *Abies sibirica*, but with rough bark, pubescent branchlets, shorter leaves, and smaller cones.

78399. ACER PSEUDO-SIEBOLDIANUM Komar.
Aceraceae. Maple.

A small maple, native to Manchuria, with cordate leaves divided into 9 to 11 lanceolate-serrate lobes, and corymbs of purple flowers.

For previous introduction see No. 75667.

78400. BETULA DAVURICA Pall. Betula-
ceae. Birch.

A tree up to 60 feet high, with wide-spreading branches and purplish-brown flaky bark. The broadly wedge-shaped leaves are 2 to 4 inches long and are dark green above with serrate margins.

For previous introduction see No. 57278.

78401. CORNUS COREANA Wanger. Corna-
ceae. Dogwood.

A tree native to Chosen, up to 60 feet high, with reddish-brown branchlets, dark-green elliptic leaves 3 to 6 inches long, loose clusters of small white flowers, and black fruits.

78402. JUNIPERUS RIGIDA Sieb. and Zucc.
Pinaceae. Needle juniper.

A graceful pyramidal shrub or small tree up to 30 feet high, native to eastern Asia. The branches are ascending and the branchlets pendulous; the spreading, linear-subulate, sharp-pointed leaves are an inch long; and the globose fruits, a quarter of an inch in diameter, are brownish black and covered with bloom.

For previous introduction see No. 57298.

78403. LARIX DAHURICA Turcz. Pinaceae.

Variety *coreana*. A form of the Dahurian larch, native to Chosen, which is a tree up to 100 feet high, with long horizontal branches, reddish or yellowish branchlets, bright-green flattened leaves, and ovoid cones an inch long.

78398 to 78412—Continued.

78404. *PICRA KOYAMAI* Shiras. (*P. koraiensis* Nakai). Pinaceae. Spruce.

A narrowly pyramidal tree 60 feet high, native to Japan and Chosen, with reddish-brown bloomy branchlets, compressed leaves half an inch long, with two white bands above, and pale-brown cylindric cones 2 to 3 inches long.

For previous introduction see No. 44397.

78405. *PINUS TABULAEFORMIS* Carr. (*P. leucosperma* Maxim.). Pinaceae. Chinese pine.

A pine, native to China, up to 75 feet high, with dark-gray bark on the trunk, red on the branches, and orange or grayish-yellow branchlets. The glaucescent leaves, usually two in a cluster, are stout and 3 to 6 inches long, and the ovoid cones, 2 to 4 inches long, are pale tawny yellow, changing to dark brown and persisting for several years.

78406 to **78409.** *PRUNUS SERRULATA* Lindl. Amygdalaceae. Oriental cherry.

Local strains to be grown for trial as stocks.

78406. Variety *compta*.

78407. Variety *intermedia*.

78408. Variety *Sontagia*.

78409. Variety *vercunda*.

78410. *PRUNUS SERRULATA PUBESCENS* Wilson. Amygdalaceae. Kasumi cherry.

A wild cherry from Japan; of possible use as a stock.

78411. *RHODODENDRON SCHLIPPENBACHII* Maxim. Ericaceae. Royal azalea.

A beautiful deciduous shrub 15 feet high, with large clear pink flowers appearing before the leaves in spring. The broadly obovate leaves, 2 to 4 inches long, are dark green above, paler beneath, and change to yellow, orange, and crimson in the autumn. Native to Manchuria, Chosen, and Japan.

For previous introduction see No. 71127.

78412. *SYRINGA OBLATA DILATATA* (Nakai) Rehder. Oleaceae. Lilac.

A loosely branched shrub up to 12 feet high, with ovate long-pointed leaves 6 inches long and loose clusters of pale purple-lilac flowers. Native to Chosen.

For previous introduction see No. 75782.

78413. *SANGUISORBA OBTUSA* Maxim. (*Potierum obtusum* Franch. and Sav.). Rosaceae.

From Woking, Surrey, England. Roots purchased from George Jackman & Sons, Woking Nurseries. Received December 29, 1928.

A herbaceous perennial about 3 feet high, with pinnately compound leaves having about six pairs of oblong serrate leaflets, and a much-branched flower stem bearing spikes, 3 inches long and an inch in diameter, of small bright rosy pink flowers. Native to Japan.

78414 to 78442.

From Madagascar. Plants, cuttings, and bulbs collected by Charles F. Swingle, Bureau of Plant Industry, and Dr. Henri Humbert, University of Algiers, Algeria. Received in November, 1928.

78414. *ALOE* sp. Liliaceae.

Diego Suarez, Montagne des Français, October 7, 1928. Leaves about 6 inches long, reddish to coppery red, over green.

78415 to **78417.** *CHRYSALIDOCARPUS* spp. Phoenicaceae. Palm.

Botanic Garden, Tananarive, September 28, 1928.

78415. *CHRYSALIDOCARPUS BARONII* Beccari.

A medium-sized palm, native to central Madagascar, with a cylindrical stem about 3 inches in diameter and regularly pinnate leaves, about 4 feet long, which have very narrow pinnae 16 to 18 inches long.

For previous introduction see No. 57214.

78416. *CHRYSALIDOCARPUS DECIPIENS* Beccari.

A stout palm with a thick cylindrical, ringed trunk and large pinnate leaves with very numerous segments up to nearly 3 feet long. Native to central Madagascar.

78417. *CHRYSALIDOCARPUS LUTESCENS* (Bory) Wendl. Yellow palm.

A palm, native to Madagascar, about 25 feet high, with a slender cylindrical ringed trunk about 3½ inches in diameter. The pinnate leaves, about 5 feet long, are composed of about 50 linear segments.

78418. *CISSUS* sp. Vitaceae.

No. 5148. Upper Valley of Fihierenana, near Tuliear, August 3, 1928.

78419 to **78421.** *CYNANCHUM* spp. Asclepiadaceae.

78419. *CYNANCHUM* sp.

Isalo, Ranohira, July 29, 1928. A succulent shrub which may be a source of rubber. The stems are covered with irregular rows of greenish horns, and the leaves, 6 to 8 inches long, with a pinkish base and petiole, are in a terminal whorl.

78420. *CYNANCHUM* sp.

Isalo, Ranohira, July 29, 1928. A succulent shrub with smooth-jointed stems and small scalelike leaves; it may be a source of rubber.

78421. *CYNANCHUM* sp.

Diego Suarez, Montagne des Français, October 7, 1928.

For previous introduction and description see No. 78419.

78422. *ISCHNOLEPES TUBEROSA* Jurr. and Perr. Asclepiadaceae.

No. 5011. Isalo, Ranohira, July 20, 1928. A somewhat fleshy shrub, about 4 feet high, with greenish flowers and large tubercles.

78423 to **78436.** *KALANCHOE* spp. Crassulaceae.

78414 to 78442—Continued.

78423 to 78425. *KALANCHOE* sp.

For previous introduction and description see No. 77919.

78423. Botanic Garden, Tananarive, September 28, 1928.

78424. Ampanihy, September 1, 1928.

78425. No. 4904. Ihosy, Ranohira, July 29, 1928.

78426. *KALANCHOE DAIGREMONTIANA* Ham. and Ferr.

For previous introduction and description see No. 77907.

78427. *KALANCHOE FEDTSCHENKOI* Ham. and Ferr.

Botanic Garden, Tananarive, September 28, 1928. A rather small succulent, about 10 inches high, with crenate rounded-oval leaves an inch and a half long, bluish green overcast with purple, and small purplish flowers in a loose cluster terminating the slender stem. Native to Madagascar.

78428. *KALANCHOE GASTONIS-BONNIERI* Ham. and Ferr.

Botanic Garden, Tananarive, September 28, 1928. During nonblooming periods this succulent, native to Madagascar, is a low plant with a very short stem and a rosette of light green crenate leaves, faintly dotted with darker green. From these crenations young plants evidently arise. When about to flower, the stem elongates to a height of nearly 2 feet, bearing at its summit a lax corymb of light-pink flowers.

78429. *KALANCHOE MINIATA* Hilsenb. and Boj.

Botanic Garden, Tananarive, September 28, 1928. An erect slender fleshy plant 1 to 2 feet high, native to Madagascar. The smooth green oval-obtuse leaves are up to 3 inches long with pink petioles and shallow crenate margins. The small flowers, bright red with fine brown spots, are in lax terminal panicles.

78430. *KALANCHOE PILOSA* Hort.

Botanic Garden, Tananarive, September 28, 1928. An ornamental fleshy perennial with very thick leaves, densely tomentose, with the hairs silvery except at serrations, where they are rusty brown.

78431. *KALANCHOE SYNSEPALA* Baker.

For previous introduction and descriptions see No. 77911.

78432. *KALANCHOE TUBIFLORA* Hamet.

Botanic Garden, Tananarive, September 28, 1928.

For previous introduction and description see No. 77913.

78433. *KALANCHOE ALICIAE* Hamet.

Botanic Garden, Tananarive, September 28, 1928. A succulent herbaceous ornamental with pink flowers; leaves opposite, cordate, with crenate margins, almost as downy as mullein, but the green of the leaf shows through.

78414 to 78442—Continued.

78434. *KALANCHOE DAIGREMONTIANA* Ham. and Ferr.

For previous introduction and description see No. 78426.

78435. *KALANCHOE ALICIAE* Hamet.

Ambositra, July 21, 1928.

For previous introduction and description see No. 78433.

78436. *KALANCHOE* sp.

Amber Mountains, Diego Suarez, October 6, 1928. Epiphyte growing on trees. A lax vine with opposite fleshy leaves three-fourths of an inch long, green with a line of red on the edges, and one or two marginal dentations. It roots at the nodes.

78437. *KITCHINGIA PELTATA* Baker.

Forest of Ambatofnandrano, on the road between Ambositra and Fianarantsoa, September 21, 1928. A succulent herbaceous ornamental with leaves petiolate, peltate, crenate, 2 to 3 inches long, green with red margins, and petioles and stems pink.

78438. *KALANCHOE ALICIAE* Hamet.

Between Andina and Ambositra, July 21, 1928.

For previous introduction and description see No. 78433.

78439. *LOMATOPHYLLUM OCCIDENTALIS* Perrier. Liliaceae.

Botanic Garden, Tananarive, September 28, 1928. An aloelike plant, sometimes stemless but usually with a stem up to 2 feet long, native to dry, sandy regions in Madagascar. The recurved leaves, about 3 feet long, have horny margins and deltoid spiny tips. The dense conical head is composed of 50 to 80 purple flowers.

78440. *LOMATOPHYLLUM ROSEUM* Perrier. Liliaceae.

Botanic Garden, Tananarive, September 28, 1928. A stemless, soboliferous plant with a rosette of lanceolate leaves, long attenuate from the base to the tips, about 1½ feet long, 1½ inches wide with obtusely serrate margins. The rosy flowers are in a rather dense raceme on a scape about a foot high. Native to rocky places in Madagascar.

78441 and 78442. *MARSDENIA VERRUCOSA* (Bojer) Decaisne. Asclepiadaceae.

Itrobeta, Ampanihy, August 30, 1928. Bokabay. A rubber plant of some importance in Madagascar, and especially interesting in that the rubber is almost entirely confined to the young fruits, making it unnecessary to injure the plant in collecting the rubber. The fruits are about 4 to 6 inches long.

78441. 78442.

78443 to 78466. *MASCARENHASIA* spp. Apocynaceae.

From Madagascar. Plants and cuttings collected by Charles F. Swingle, Bureau of Plant Industry, and Dr. Henri Humbert, University of Algiers, Algeria. Received November 20, 1928.

78443 and 78444. *MASCARENHASIA ARBORESCENS* A. DC.

78443 to 78466—Continued.

78443. Northeast of Majunga, near Belobaka, October 10, 1928. *Hazondrano*. A shrub about 18 feet high, formerly one of the most important sources of rubber in Madagascar, but now little used. The native name signifies a tree that grows near the water, and those growing in this region are found usually near the swamps.

78444. From Itrobeka, August 30, 1928. Possibly *kompitso*.

78445. MASCARENHASIA sp.

Between Andina and Ambositra, July 21, 1928. Possibly *kompitso*. It is probably identical with No. 78444.

78446. PACHYPODIUM sp. Apocynaceae.

A yellow-flowered, small-fruited, succulent shrub growing on rocks along the road between Ihosy and Ambalavao, September 20, 1928.

78447. PACHYPODIUM sp. Apocynaceae.

Growing on rocks on the road between Antanimora and Betroka, southeast of Bekily, September 18, 1928. A thorny succulent shrub, about 12 feet high, with few leaves, white flowers, and large fruits.

78448. RAVENALA MADAGASCARIENSIS Sonner. Musaceae. Traveler's-tree.

From Nossi Be, October 8, 1928. A magnificent tropical tree about 60 feet high with a palmlike trunk and banana-like leaves of gigantic size, arranged in two rows on opposite sides of the arboreous stem, giving one the impression of an immense fan. The leaves, when cut, yield an abundance of refreshing juice, with which travelers allay their thirst. The flowers are comparatively small, aggregated in the axils of the leaves. The arillus surrounding the beanlike seeds is of a beautiful ultramarine color and yields an essential oil. A dye is extracted from the capsules. Native to Madagascar.

For previous introduction see No. 42372.

78449. BULBINELLA sp. Liliaceae.

Collected about 50 feet from the seashore at Mombasa, Kenya, British East Africa, June 26, 1928. This plant has a rough bulbous root and leaves up to 8 inches long, green with irregular cross bars of darker green. No flowers yet, but apparently a spike with 10 to 20 flowers coming.

78450. SELAGINELLA sp. Selaginellaceae.

Growing with *Pachypodium* sp. [No. 78447] on the road between Antanimora and Betroka, southeast of Bekily, September 18, 1928.

78451. SENECIO ANTITENSIS Baker. Asteraceae.

Mont Antety, Ambositra, July 22, 1928. A much-branched bushy composite, native to Madagascar, with rather dense foliage. The small yellow flower heads are in lax corymbs.

78452. SENECIO BARORUM Humbert. Asteraceae.

No. 4957. Isalo, Ranohira, July 30, 1928. A glabrous shrub up to 8 inches high, with numerous elliptic or oblanceolate obtuse leaves and numerous

78443 to 78466—Continued.

flower heads in compact corymbs of variable size.

78453. (Undetermined.)

Upper Valley of Fiherenana, August 2, 1928. A rubber-bearing plant, native to Madagascar.

78454. (Undetermined.)

From Betioky, August 14, 1928. A rubber-bearing plant native to Madagascar.

78455. ANTHERICUM sp. Liliaceae.

From the grounds of the American Lutheran Mission, Behara, September 11, 1928. *Kompitso*. An important rubber-bearing plant of this region, native to Madagascar, with violet flowers.

78456 to 78459. (Undetermined.)

Amber Mountains, Diego Suarez, October 6, 1928. Orchids native to Madagascar.

78456. 78458.

78457. 78459.

78460. (Undetermined.)

Presented by F. W. DuCommun, Tamatave, October 2, 1928. A fern native to Madagascar.

78461. (Undetermined.)

Presented by F. W. DuCommun, Tamatave, October 2, 1928. A fern native to Madagascar.

78462 to 78464. (Undetermined.)

Plants native to Madagascar.

78462. From the grounds of the American Lutheran Mission, Behara, September 11, 1928. *Hoto*. An ornamental vine probably indigenous to Madagascar.

78463. Isalo, Ranohira, July 30, 1928.

78464. Isalo, Ranohira, July 30, 1928.

78465. (Undetermined.)

A species growing about 50 feet from the seashore at Mombasa, Kenya, British East Africa, June 26, 1928.

78466. (Undetermined.)

A shrub growing on the road between Antsirabe and Ambositra, July 20, 1928. Native to Madagascar.

78467. ACTINORHYTIS CALAPPARIA Wendl. and Drude. Phoenicaceae. Palm.

From Medan, Sumatra. Seeds presented by J. A. Lörzing. Received July 7, 1928. Numbered in December, 1928.

A robust East Indian palm 40 feet high, with a smooth stem conspicuously ringed, large pinnate leaves 9 feet long and 6 wide, and a large pendulous cluster of small flowers followed by ovoid red fruits 3 inches long.

For previous introduction see No. 67185.

78468 and 78469. BOUGAINVILLEA SPECTABILIS Willd. Nyctaginaceae.

From St. Croix, Virgin Islands. Cuttings presented by J. B. Thompson, Director of the St. Croix Experiment Station. Re-

78468 and 78469—Continued.

ceived March 27, 1928. Numbered in December, 1928.

An attractive crimson-flowered *Bougainvillea*.

For previous introduction see No. 64652.

78468. No. 1.

78469. No. 2.

78470 to 78473.

From Madagascar. Roots, cuttings, and tubers collected by Charles F. Swingle, Bureau of Plant Industry, and Dr. Henri Humbert, University of Algiers, Algeria. Received September, 1928. Numbered in December, 1928.

78470. (Undetermined.)

Roots of a twining, rubber-bearing vine with opposite linear, lanceolate leaves up to 5 inches long and axillary umbels containing up to 10 milkweedlike flowers which have greenish-brown outer segments and white centers. It is probably identical with No. 78472.

78471. *KALANCHOE ALICIAE* Hamet. Crassulaceae.

From the Forest of Ranomena, east of Ambositra, July 25, 1928.

For previous introduction and description see No. 78438.

78472. (Undetermined.)

Cuttings of a rubber-bearing liane with triangular fruits 8 inches long. It is probably identical with No. 78470.

78473. *PACHYPODIUM BREVICAULE* Baker. Apocynaceae.

No. 4620. Valley of Sahatany, between Antsirabe and Ambositra, July 20, 1928. Tubers of a yellow-flowered stemless succulent shrub which is highly ornamental and especially useful for rock gardens. It has dense clusters of prickles, oblong densely pilose leaves, and terminal cymes of tubular flowers. It is usually broader than it is tall, growing about 20 inches high and 3 feet wide. This plant is very peculiar in that it seems to "flow" over the rocks. It has no value as a source of rubber.

78474 to 78482.

From Kzyl Orda, Syr Daria, Russia. Seed: presented by Jules W. Rewiakin, manager of the division of seeds. Received December 28, 1928.

78474. *AMMODENDRON CONOLLYI* Bunge. Fabaceae.

An evergreen shrub with silky leaves, native to Siberia, used as a sand binder.

For previous introduction see No. 42679.

78475. *ANABASIS APHYLLA* L. Chenopodiaceae.

An upright shrub 2 feet high, native to the Mediterranean region, with green branches, scalelike leaves, and inconspicuous flowers. It is used as a sand binder.

78476 to 78478. *ARTEMISIA* spp. Asteraceae. Wormseed.

The three following names have been received as sources from which the drug *santonica* is secured. They are low straggly undershrubs, native to Turkistan, and are kept separate for botanical identification.

78474 to 78482—Continued.

78476. *ARTEMISIA CINA* Berg.

78477. *ARTEMISIA MARITIMA* L.

78478. *ARTEMISIA PAUCIFLORA* Weber.

78479. *CALLIGONUM APHYLLUM* (Pall.) Guerde. Polygonaceae.

A tall nearly leafless shrub, resembling *Ephedra* in habit, with 4-winged fruits. Native to Turkestan.

For previous introduction see No. 28975.

78480 and 78481. *HALOXYLON AMMODENDRON* (Meyer) Bunge. Chenopodiaceae. *Saxaul*.

A Persian shrub or tree up to 20 feet high, with a thick gnarled trunk, light-green branchlets, and small fruits with thin papery suborbicular wings.

For previous introduction see No. 31332.

78480. Variety *acutifolium*. A variety with triangular acute scalelike leaves.

78481. Variety *aphyllum*. A variety either leafless or with merely rudimentary leaves which are not triangular.

78482. *STIPA SPLENDENS* Trin. Poaceae. Grass.

A coarse grass 6 feet high, native to the steppes of western Asia, with dense nodding panicles a foot long. The tough leaves and stalks are used to make brooms.

For previous introduction see No. 36791.

78483 to 78486.

From Madagascar. Plants and cuttings collected by Charles F. Swingle, Bureau of Plant Industry, and Dr. Henri Humbert, University of Algiers, Algeria. Received in October and November, 1928.

78483. (Undetermined.)

78484. (Undetermined.)

78485. (Undetermined.)

78486. (Undetermined.)

Presented by F. W. DuCommun, Tamatave.

78487 to 78503. *DIOSPYROS KAKI* L. f. Diospyraceae. *Kaki*.

From Japan. Cuttings obtained by R. K. Beattie, Bureau of Plant Industry. Received February, 1928. Numbered in December, 1928.

78487 to 78497. From the Kyoto Agricultural Experiment Station, Kyoto, January, 1928.

78487. Nos. 500 and 501. *O gosho*. A late variety producing a good crop of deep-red fruits about $4\frac{1}{2}$ inches in diameter, which are nonastringent and very sweet.

78488. Nos. 502 and 503. *Hana gosho*. A medium to late variety producing a good crop of yellowish-red fruits 4 inches in diameter, which are nonastringent. This is one of the very best varieties.

78489. Nos. 504 and 505. *Nara gosho*. This variety came originally from

78487 to 78503—Continued.

Nara Ken. It is a late variety producing small to medium-sized red fruits which are nonastringent. There is a little tannin just under the skin at the outer surface of the pulp, but after the first bite the fruit is very sweet.

78490. Nos. 506 and 507. *Jiro*. A strong-growing tree producing a good crop of nonastringent yellowish-red fruits, the 4-lobing evident, with dark-red marks in the flesh. They ripen during the latter part of the early season.

78491. Nos. 508 and 509. *Fuyu*. A strong-growing tree producing a good crop of large yellowish-red fruits which are nonastringent and sweet. In a warm climate the fruits lose their astringency earlier.

78492. Nos. 510 and 511. *Tenjin gosho*. A variety producing a good crop of nonastringent fruits during the early part of the late season. They are glossy red, smaller, and not so flat as those of *Fuyu*, but are sweet. In some places the tannin remains in the fruits until late.

78493. Nos. 512 and 513. *Sho gwatsu*. A strong growing tree producing a good crop of reddish-yellow fruits, three-fourths of an inch in diameter, which are nonastringent and very sweet. In warm regions the fruits can be kept on the tree till February.

78494. No. 514. *Aizu mishirazu*. A variety producing reddish-yellow astringent fruits, 4 inches in diameter, during the middle of the season. It is a very strong tree, but carries such an extra heavy crop that the branches droop. The fruits are famous for eating after the tannin has been removed, and they are especially liked in Tokyo.

78495. No. 515. *Dojo hachuja*. A late variety producing a good crop of astringent fruits, yellow with a slight redness, which are 3½ inches in diameter and not flat. They are used to a great extent for drying in Gifu.

78496. No. 516. *Fuji*. A variety producing yellowish-red astringent fruits, usually seedless, which are 4 inches in diameter and not flat. There are three ways to remove the tannin from this variety. They may be dried, or allowed to stand in a cool place, or treated with alcohol fumes.

78497. No. 517. *Yokono*. A late variety producing a good crop of red astringent fruits which are slightly umbilicate. The tannin is hard to remove, but the fruits are used for drying.

78498 to 78503. Cultivated varieties from the Okitsu Agricultural Experiment Station, February, 1928.

78487 to 78503—Continued.

78498. No. 646. *Fuyu*. Nonastringent fruits produced the fifth year after grafting, during the middle of November.

78499. No. 647. *Ban gosho*. Nonastringent fruits produced the fifth year after grafting, during the first part of November.

78500. No. 649. *Tenjimaru*. Nonastringent, flat fruits, slightly indented at the apex, produced the sixth year after grafting, between the first and the middle of October.

78501. No. 650. *Shogatsu*. Nonastringent fruits produced the seventh year after grafting, during the middle of December. This variety is not a good yielder.

78502. No. 651. *Gosho*. Nonastringent fruits produced the sixth year after grafting, early in October.

78503. No. 652. *Jiro*. Nonastringent fruits produced the sixth year after grafting, during the early part of October.

78504 and 78505. *CASTANEA HENRYI* (Skan) Rehd. and Wils. Fagaceae. Chestnut.

Plants growing at the United States Plant Field Station, Glenn Dale, Md. Numbered in December, 1928.

Plants obtained from the Horticultural Field Station, Bell, Md., and grafted on *Castanea crenata*.

78504. P. I. G. No. 8649.

78505. P. I. G. No. 7824.

78506 to 78508.

From Little River, Fla. Seeds presented by Charles F. Simpson. Received December 15, 1928.

78506. *SABAL* sp. Phoenicaceae. Palm.

The palm from which these seeds came stands just south of Mr. Simpson's house at the north side of the road which runs around the place. It has a stout trunk about 12 feet high and is one of the most rapid growers known to Mr. Simpson.

78507. *THRINAX MICROCARPA* Sarg. Phoenicaceae. Brittle thatch palm.

A Florida palm up to 30 feet high, with fan-shaped leaves 4 feet broad, pale green above and silvery beneath, and small fruits.

For previous introduction see No. 39392.

78508. *THRINAX MORRISII* Wendl. Phoenicaceae. Morris thatch palm.

A dwarf palm, native to the West Indies, 2 to 3 feet high, with fan-shaped leaves, glaucous beneath and with the segments free for about three-fourths of their length.

For previous introduction see No. 24617.

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