UNITED STATES DEPARTMENT OF AGRICULTURE

INVENTORY No. 100

Washington, D. C. ▼ Issued April, 1931

PLANT MATERIAL INTRODUCED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, JULY 1 TO SEPTEMBER 30, 1929 (Nos. 80811–81619)

CONTENTS

INTRODUCTORY STATEMENT

This inventory (Nos. 80811 to 81619), for the period from July 1 to September 30, 1929, is conspicuous for the fact that it records the arrival of seeds rather than plants. This is particularly important for the reader to remember, as the acquisition of seeds in no way guarantees their germination or the production of plants. In many cases definite knowledge exists that no plants will result from the seeds recorded.

The continued activities of the agricultural explorers in the Orient, P. H. Dorsett and W. J. Morse, are attested by their long lists of soybean varieties, as well as many other forage crops and miscellaneous plants.

Particular attention may be called to the many seeds presented by S. W. McLeod Braggins, superintendent, La Mortola, Ventimiglia, Italy (81074–81208), including many species of aloe, agave, and sempervivum, for use in localities with similar climates. This material was brought in for particular experimental work and will not be available for other experimenters for several years, as some studies will have to be made in order to determine variations from seed due to cross-pollination and the breaking up resulting from hybrid seeds.

This inventory also records additions to the collection of ericas already brought in for Government testing and study. Of particular note is the gift of seeds of rare Cape heaths, presented by R. H. Compton, Director of the National Botanic Gardens, Kirstenbosch, Newlands, Union of South Africa (*Erica* spp., 81230–81247). Not all of these have produced plants, but from those that have germinated will come several new heaths for general experiment.

Several importations of sugarcanes are included from the Java Sugar-Producers Association's experiment station, Pasuruan, Java (81356–81381); from the Colonial Sugar Refining Co., Sydney, Australia (80952–80995 and 81448–81472); a collection of melons (*Cucumis melo*, 81382–81405) presented by the Deputy Director of Gardens at Saharanpur, through the Director of the Agricultural Research Institute, Imperial Department of Agriculture in India, at Pusa, and Robert Frazer, American consul general, Calcutta, India, and many palms (81581–81594) presented by R. O. Williams, Superintendent and Assistant Botanist of the Department of Agriculture, Port of Spain, Trinidad, British West Indies, for the collection at Chapman Field, Coconut Grove, Fla.

The botanical determinations of these introductions 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., November 11, 1930.

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INVENTORY[1]

80811 to 80820.

From Japan. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry, United States Department of Agriculture. Received July 8, 1929.

80811. ASTRAGALUS SINICUS L. Fabaceae.

No. 311. Near Gifu, May 31, 1929. A red-flowered Japanese clover used extensively in this region.

80812. CAPNOIDES sp. Papaveraceae.

No. 192. Growing at an altitude of about 1,500 feet, in shady places near Daikoda, an old temple on the east side of Mount Hiei, not far from Kyoto, May 26, 1929. A plant 10 to 18 inches high, with brick-red flowers resembling in shape those of the snapdragon.

80813. HORDEUM VULGARE PALLIDUM Seringe. Poaceae. **Four-rowed barley.**

No. 453. Barley heads from a field near Urawa, June 14, 1929.

80814. LONICERA CAERULEA EDULIS (Turcz.) Regel. Caprifoliaceae. **Honeysuckle.**

No. 308. Collected from wild plants on the side of a hill at Kamo Machu, May 28, 1929. A honeysuckle with large bright-red edible oblong fruits of very good quality.

80815. OSTERDAMIA JAPONICA (Steud.) Hitchc. Poaceae. **Japanese lawngrass.**

No. 153. Collected from a small park in the center of Tokyo, June 14, 1929. A short grass with very tough, persistent rhizomes which root at practically every joint.

80816. PHLEUM sp. Poaceae. **Grass.**

No. 310. Kyoto, May 23, 1929. *Kemuto so.* A grass used in small dishes with water scenes. The seed is sown on cotton, makes a fine sodlike mat of green, and is quite effective.

80817. TRIFOLIUM sp. Fabaceae. **Clover.**

No. 344. Collected from plants on rice paddy ridges in the vicinity of Atsuki, June 25, 1929. A species closely resembling ordinary white clover, but the seeds do not appear to be so plump nor so large.

80811 to 80820—Continued.

80818 and 80819. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. **Common wheat.**

80818. No. 577. Collected on a mountain top at an altitude of about 3,500 feet, on the trail between Shoji and Kofu, June 28, 1929.

80819. No. 600. Shioza Ki, June 30, 1929.

80820. RUBUS TRIFIDUS Thunb. Rosaceae.

No. 102. Collected in Hibiya Park, Tokyo, June 7, 1929. Vigorous plants sometimes 10 feet or more high, having green canes without thorns, white flowers, and rather dull yellow fruits which are three-fourths of an inch or more in diameter and half an inch long when fully ripe, becoming bright yellow.

For previous introduction see No. 58652.

80821 to 80847. SOJA MAX (L.) Piper (*Glycine hispida* (Maxim.). Fabaceae. **Soybean.**

From Japan. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received July 8, 1929.

Obtained from Dr. Keiji Adachi, Chief Director of the Akita Ken Agricultural Experiment Station, Akita, June 13, 1929.

80821. No. 426. Originally from the Rikuu Agricultural Experiment Station of the Imperial Japanese Department of Agriculture and Forestry. *Rikuu nijin rokugou.* Seeds straw yellow, nearly round, but apparently mixed as the color of the hilum varies from pale yellow to brown.

80822. No. 427. Originally from the South Manchurian Railway Agricultural Experiment Station, Koshurei. *Shiheigai shirobana.* Seeds straw yellow, but apparently a mixed lot, varying in size and color of hilum.

80823. No. 428. Originally from the Niigata Ken Agricultural Experiment Station. *Kiushirou.* Seeds straw yellow, nearly round, medium sized, with distinctive brown hilum.

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[1] It should be understood that the names of 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 identification, 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.

80821 to 80847—Continued.

80824. No. 429. A variety developed by the Akita Ken Agricultural Experiment Station. *Kuro saya shichigou.* Seeds straw yellow, nearly round, medium sized, glossy seed coat, with distinctive brown hilum.

80825. No. 430. Originally from the Rikuu Agricultural Experiment Station of the Imperial Japanese Department of Agriculture and Forestry. *Nagazuki.* Seeds straw yellow, medium large, with pale-brown hilum.

80826. No. 431. Developed by the Akita Ken Agricultural Experiment Station. *Ogon.* Seeds straw yellow, nearly round, glossy seed coat, with distinctive brown hilum.

80827. No. 432. Originally from the South Manchurian Railway Agricultural Experiment Station, Koshurei. *Shiriukou.* Seeds straw yellow, medium sized, with pale hilum.

80828. No. 433. Originally from the Fukushima Ken Agricultural Experiment Station. *Asahi rokojugo.* Seeds straw yellow, medium large, with brown hilum.

80829. No. 434. Originally from the Iwate Ken Agricultural Experiment Station. *Nooki.* Seeds straw yellow, nearly round, glossy seed coat, with distinctive brown hilum.

80830. No. 435. Originally from the Rikuu Agricultural Experiment Station of the Imperial Department of Agriculture and Forestry. *Rikuu nijin gogou.* Seeds straw yellow, nearly round, glossy seed coat, with distinctive brown hilum.

80831. No. 436. Originally from the South Manchurian Railway Agricultural Experiment Station, Koshurei. *Kaigen shirobana.* Seeds straw yellow, but apparently a mixed lot, varying in size and color of hilum.

80832. No. 437. Developed by the Akita Ken Agricultural Experiment Station. *Rikuu nijin shichigou.* Seeds straw yellow, medium sized, nearly round, with distinctive dark-brown hilum.

80833. No. 438. Originally from the Miyagi Ken Agricultural Experiment Station. *You getsu.* Seeds straw yellow, medium large, with brown hilum.

80834. No. 439. Originally from the Fukushima Ken Agricultural Experiment Station. *Daruma niju.* Seeds straw yellow, medium large, with light-brown hilum.

80835. No. 440. Originally from the Fukushima Ken Agricultural Experiment Station. *Shiro kachi koku niju.* Seeds straw yellow, large, with pale hilum.

80836. No. 441. Originally from the Niigata Ken Agricultural Experiment Station. *Kariba takiya.* Seeds straw yellow, medium sized, with a light brown to brown hilum.

80837. No. 442. Originally from the Rikuu branch station of the Imperial Japanese Department of Agriculture and Forestry. *Mejiro.* Seeds straw yellow, of medium size, with pale hilum.

80821 to 80847—Continued.

80838. No. 443. Developed by the Akita Ken Agricultural Experiment Station. *Ani.* Seeds straw yellow, medium sized, nearly round, with hilum varying from russet brown to very dark brown. The seeds are quite similar to No. 444 [No. 80839].

80839. No. 444. Originally from the Miyagi Ken Agricultural Experiment Station. *Kairyo azuma nishiki.* Seeds straw yellow, nearly round, medium sized, and with distinct brown hilum.

80840. No. 445. Originally from the Iwate Ken Agricultural Experimental Station. *Tokichi.* Seeds straw yellow, nearly round, medium sized, with distinct brown hilum.

80841. No. 446. Originally from the Iwate Ken Agricultural Experiment Station. *Niuchan.* Seeds straw yellow, medium large, with pale hilum.

80842. No. 447. Originally from the Miyagi Ken Agricultural Experiment Station. *Satou daizu.* Seeds straw yellow, nearly round, medium sized, with distinct brown hilum.

80843. No. 448. Originally from the Miyagi Ken Agricultural Experiment Station. *Tama tsukuri.* Seeds straw yellow, medium large, with pale hilum.

80844. No. 449. Originally from the South Manchurian Railway Experiment Station, Koshurei. *Ho ten shirokubi daizu.* Seeds straw yellow, medium large, with pale hilum.

80845. No. 450. Originally from the Rikuu Agricultural Experiment Station of the Japanese Department of Agriculture and Forestry. *Rikuu niju sango.* Seeds straw yellow, medium large, with light-brown hilum.

80846. No. 451. Developed by the Akita Ken Agricultural Experiment Station. *Akita.* Seeds straw yellow, glossy, nearly round, with pale-yellow hilum.

80847. No. 452. Developed by the Akita Ken Agricultural Experiment Station. *Shiro saya.* Seeds very pale straw yellow, medium large, with pale hilum.

80848. MOMORDICA COCHINCHINENSIS (Lour.) Spreng. Cucurbitaceae.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received July 15, 1929.

Tabolo. A very vigorous, tall climber, native to the Philippine Islands, producing large, round, greenish yellow, attractive fruits which should make it popular as an ornamental vine in southern Florida, Porto Rico, and Panama. The immature fruits are boiled and eaten with meat by the natives, and the tender leaves also are boiled and eaten. The numerous large, round, flat seeds appear to be very rich in oil.

For previous introduction see No. 58583.

80849. ORNITHOPUS sp. Fabaceae.

From Rabat, Morocco. Seeds presented by Dr. E. Miége, Station de Sélection et d'Essais de Semences. Received July 15, 1929.

80850. CANAVALIA sp. Fabaceae.

From Honolulu, Hawaii. Seeds presented by F. G. Krauss, Director of Extension Service, University of Hawaii. Received July 15, 1929.

A hybrid Canavalia with seeds having highly diverse markings. These stocks are the F_8 generation and are consequently still segregating freely. One of the parents, *Canavalia ensiformis*, has been grown extensively as a green-manure crop in Hawaii, and this hybrid may thrive in the southern part of the United States.

80851 to 80858.

From Manila, Philippine Islands. Plants presented by S. Youngberg, Director, Bureau of Agriculture, Manila. Received July 2, 1929.

80851. ANACOLOSA LUZONENSIS Merr. Olacaceae.

Galo. A tree about 50 feet high, with alternate simple leaves in the axils of which are borne nuts about the size of a filbert and of good quality and flavor. Native to the Philippine Islands.

For previous introduction see No. 38395.

80852. ARTOCARPUS ODORATISSIMA Blanco. Moraceae. **Marang.**

A medium-sized tropical tree which resembles the jackfruit and the seeded breadfruit in appearance, but is superior in quality to either. It is native to the southern Philippine Islands and the Sulu Archipelago. The roundish oblong fruits, about 6 inches long, have a thick, fleshy rind and white, sweet flesh which is juicy and aromatic, with a pleasant flavor.

For previous introduction see No. 58025.

80853. CUBILIA BLANCOI Blume. Sapindaceae.

Kubili. A medium-sized tree up to 25 feet high, with compound leaves and bright-green spiny oblong fruits, 2 to 3 inches long, containing a nut about an inch long, which is of excellent quality either roasted or boiled. Native to the Philippine Islands.

80854. GARCINIA MOOREANA Wester. Clusiaceae.

Bunag. A handsome tree of pyramidal habit attaining a height of 20 feet or more, native to Jolo and Palawan. The leaves are elliptic to elliptic-ovate, coriaceous, and 6 to 8 inches long. The fruit is similar to a mangosteen, except that it is somewhat smaller, is red in color, and has a thinner but fibrous, crustaceous pericarp; the flesh is white and sharply acid, of agreeable flavor, but too sour to be eaten out of hand. It would probably make a good preserve. It ripens in the latter part of July and August. The mangosteen has been successfully grafted on the bunag.

80855. LITCHI PHILIPPINENSIS Radlk. Sapindaceae.

Kamingi. A Philippine relative of the lychee (*Litchi chinensis*). The tree is about 50 feet high, with dark-green, pinnate leaves, similar to those of the lychee, and roundish oblong fruits, about an inch long, borne in loose terminal clusters. The tough leather "shell" of the fruit, which is covered with short spiny projections, incloses a scant edible pulp, in which is embedded a relatively large seed, that is roasted and eaten. The tree may have value as a stock for the lychee.

For previous introduction see No. 68957.

80856. MANGIFERA INDICA L. Anacardiaceae. **Mango.**

Carabao. Grafted plants.

80857. PANGIUM EDULE Reinw. Flacourtiaceae.

Pangi. A large tree, native to the Philippine Islands, up to 75 feet high, with very large entire or lobed bright-green leaves, yellowish green flowers, and oval brown fruits, 6 inches long, with edible flesh inclosing numerous seeds. The seeds are poisonous when fresh, but are edible after steeping in water.

For previous introduction see No. 73250.

80858. PISONIA ALBA Span. Nyctaginaceae.

Maluko. A small tree up to 35 feet high, with thin pale-green, oblong-ovate leaves, 4 to 8 inches long, which make good greens resembling spinach. Native to the Malay Peninsula.

For previous introduction see No. 54500.

80859. PISTACIA VERA L. Anacardiaceae. **Pistache.**

From Turkestan. Seeds obtained from N. I. Vavilov, Bureau of Applied Botany and New Cultures, Leningrad, Russia, Union of Socialistic Soviet Republics, through W. T. Swingle, Bureau of Plant Industry. Received July 15, 1929.

The wild form of the pistache is a xerophilous plant, able to stand great dryness of soil and air. It grows at altitudes of 2,000 to 5,000 feet in the southern parts of central Asia.

80860. FICUS sp. Moraceae. **Fig.**

Plants grown at Chapman Field, Coconut Grove, Fla., from seeds presented by G. W. Edwards, director, Agricultural Experiment Station, Guam. Originally received as *Ficus tinctoria*, these plants do not agree with the others grown from the same lot of seeds, and have therefore been segregated.

80861. SYZYGIUM CUMINI (L.) Skeels (*Eugenia jambolana* Lam.). Myrtaceae. **Jambolan.**

From Manila, Philippine Islands. Seeds presented by S. Youngberg, Director, Bureau of Agriculture, Manila. Received July 18, 1929.

Duhat. A tree, native to tropical Asia, 24 to 45 feet high, with ovate, coriaceous, shining leaves, numerous yellow flowers crowded in terminal or axillary panicles, followed by loose clusters of two to seven dark-purple or black, smooth, shining, ovoid fruits with rather large clingstone seeds. The thin skin adheres to the sweet, juicy, pleasant subacid pulp, which is white tinged with purple, and the texture somewhat resembles that of the cherry. The fruits may be eaten out of hand with relish, and they make an excellent jelly. In India it is sometimes made into wine. This variety is probably of prehistoric introduction into the Philippines and is common throughout the archipelago.

80862. LILIUM sp. Liliaceae. **Lily.**

From Japan. Bulblets collected by R. K. Beattie, Bureau of Plant Industry. Received July 22, 1929.

No. 850. Natsu Kusa, Kampara Mura, Watarai Gun, Miye Ken, June 27, 1929. A very fine wild species bearing pink flowers.

80863. CURCUMA sp. Zinziberaceae.

From Java. Rootstocks collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour Expedition. Received June 28, 1926. Numbered in July, 1929.

No. 789. Obtained in the native market at Soerabaya, May 17, 1926. A gingerlike plant up to 3 feet high, with large leaves and spikes, a foot long, of purplish yellow flowers with reddish yellow bracts.

80864. TERMINALIA CHEBULA Retz. Combretaceae.

From Darjiling, India. Seeds presented by J. E. Leslie, Curator, Lloyd Botanic Garden. Received July 13, 1929.

A large deciduous tree, native to northern India, Burma, and Ceylon, with oval-elliptic leaves about 5 inches long and terminal racemes of white flowers. The ovoid, leathery fruits are the black myrobalan of commerce, which is one of the most valuable tanning materials of India.

For previous introduction see No. 66157.

80865 and 80866.

From Lamao, Bataan, Philippine Islands. Seeds presented by S. Youngberg, Director, Bureau of Agriculture, Manila. Received July 18, 1929.

80865. EUGENIA CURRANII C. B. Robinson. Myrtaceae. **Lipoti.**

From the Lamao Experiment Station. A handsome vigorous tree, native to the Philippine Islands, about 30 feet high, with a gnarled trunk and tortuous branches and dark-green, shining leaves. The fruits are in clusters of 20 to 50 on the bare boughs or between the leaves on the larger twigs; the individual fruit is about the size of a grape with thin, smooth, dark-red skin and white, dry, crisp flesh, with a flavor like that of the crab apple. The seed is comparatively large. The fruit is probably best suited for making preserves and jelly.

For previous introduction see No. 60974.

80866. EUPHORIA DIDYMA Blanco. Sapindaceae.

Alpay. From the Lamao Experiment Station. A small attractive tree, up to 50 feet high, with compound leaves made up of prominently veined leathery lanceolate leaflets and compact terminal clusters of small flowers followed by greenish warty fruits an inch in diameter, having a shell-like rind and juicy sweet translucent pulp inclosing a large seed. Native to the Philippine Islands.

80867 to 80869.

From Jerusalem, Palestine. Seeds presented by the director of the Department of Agriculture, Forests and Fisheries. Received July 18, 1929.

80867 to 80869—Continued.

80867. COLCHICUM DECAISNEI Boiss. Melanthiaceae.

A variety, native to Syria, with rosy lilac flowers which appear without the leaves in late October. It differs very little from *Colchicum laetum*, which, in turn, is much like *C. autumnale*.

For previous introduction see No. 77476.

80868. IRIS ATROPURPUREA Baker. Iridaceae. **Blackpurple iris.**

An oncocyclus iris with linear leaves about 6 inches long and a stem 6 to 8 inches high, bearing a single flower. The oblong outer segments, 2 inches long, are purplish black with a yellow patch in the throat and a yellow, black-tipped beard. The inner segments are larger, of the same color, and are veined. It is native to Syria.

80869. IRIS PALAESTINA (Baker) Boiss. Iridaceae.

Bulbs of a winter-flowering iris, closely related to *Iris caucasica*, with falcate leaves 3 to 9 inches long and a very short stem, bearing one to three flowers. These are pale yellow tinged with lilac; the outer segments are oblong with auriculate claws, and the narrowly lanceolate inner segments are very minute. Native to Palestine.

80870. LITCHI PHILIPPINENSIS Radlk. Sapindaceae.

From Bataan, Philippine Islands. Seeds presented by S. Youngberg, Director, Bureau of Agriculture, Manila. Received July 19, 1929.

From the Lamao Experiment Station.

For previous introduction and description see No. 80855.

80871. LITCHI PHILIPPINENSIS Radlk. Sapindaceae.

From Botolan, Subic, Zambales, Philippine Islands. Seeds presented by the Bureau of Forestry, Manila, through W. T. Swingle, Bureau of Plant Industry. Received July 22, 1929.

Alupag amo.

For previous introduction and description see No. 80855.

80872 to 80875.

From China. Offshoots obtained from F. A. McClure, Curator, Herbarium of the Lingnan University, Canton. Received April 10, 1929. Numbered in July, 1929.

80872. BAMBUSA sp. Poaceae. **Bamboo.**

No. 1098. Originally from Heunglokeuk, Kwangtung, March, 1925. *Wong chuk.* A sympodial type of bamboo cultivated for its thin-walled culms which are used in weaving, rope making, and somewhat in the manufacture of a cheap grade of paper for ceremonial purposes. The variety is widely distributed in the Province and is most extensively cultivated in the Kwongning district of western Kwangtung. The mature culms reach a height of 24 feet and a circumference of 5 inches. The nodes are not prominent and the culms are very upright in habit

80872 to 80875—Continued.

with drooping tips. The clump habit is compact, not rapidly spreading. The branches are in fascicles, nearly all of a size, slender, and up to about 3 feet long. The lower nodes are always free of branches except when a culm is injured, and usually even free of buds. The leaves are 4 to 6 inches long.

80873. BAMBUSA sp. Poaceae. **Bamboo.**

No. 1099. Obtained at the Lingnan University, where it has been established for several years. *Fan taan chuk.* A bamboo known to occur somewhat on the upper reaches of the Sui River, western Kwangtung, and also in northern Kwangtung. It is a medium-large, thin-walled sympodial type, used chiefly for making steaming trays for Chinese restaurants. It is too brittle for most weaving purposes or for making rope, but is extremely ornamental on account of the compact clump habit. The tall, straight culms are gray with siliceous powder and naked of branches for 12 to 15 feet in mature specimens.

80874. BAMBUSA sp. Poaceae. **Bamboo.**

No. 1100. Obtained originally at Heunglokeuk, Kwangtung, April, 1925. *Ngau kan chuk.* A small to medium-sized wild bamboo of the sympodial type. The culms of the largest specimens are said to be highly esteemed for opium pipes because of their hard, smooth texture. Otherwise they are not known to be of economic importance. It is a pretty ornamental, however, and although it does not spread it produces new culms, even in very poor soil, at a prodigious rate. The bases of some of the more mature culms are inconspicuously marked with pale-yellow, longitudinal stripes.

80875. BAMBUSA sp. Poaceae. **Bamboo.**

No. 1101. From the Lingnan University Garden, Canton. *Chaang ko chuk.* A thick-walled, stiff, straight bamboo of the sympodial type, cultivated for its culms which are put to many uses such as punting poles, the weaving of heavy pig crates and chicken crates, and in making the framework of temporary buildings. The largest culms in well-established clumps are 24 feet high and about 5 inches in circumference. This bamboo occurs in many parts of this Province, especially in the North River region. It is one of the most important economic bamboos in this part of China.

80876. CASTILLA ELASTICA Cerv. Moraceae. **Mexican rubbertree.**

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received July 23, 1929.

A large deciduous tropical forest tree from which rubber is obtained. It is native to Central America.

For previous introduction see No. 77387.

80877 to 80880.

From Elstree, Herts, England. Plants presented by Vicary Gibbs, Aldenham House Gardens. Received May 4, 1929.

80877. CLERODENDRUM TRICHOTOMUM Thunb. Verbenaceae. **Harlequin glorybower.**

80877 to 80880—Continued.

Variety *montanum.* A form of this upright shrub or small tree, native to China and Japan, with ovate leaves 4 to 8 inches long, loose terminal panicles of fragrant white flowers, and blue fruits with red calyxes.

80878. CRYPTOMERIA JAPONICA (L. f.) D. Don. Pinaceae. **Common cryptomeria.**

Variety *elegans nana.* A dense, dwarf, spreading form with short stiff leaves.

80879. CUPRESSUS NANA GLAUCA Hort. Pinaceae. **Cypress.**

A dwarf form with glaucous foliage.

80880. GENISTA SYLVESTRIS PUNGENS Vis. (*G. dalmatica* Bartl.). Fabaceae. **Broom.**

A shrub about 2 feet high with spiny flowering branchlets, simple linear leaves less than an inch long, and racemes 4 to 5 inches long of small yellowish flowers. Native to the Balkan Peninsula.

80881. CHAMAEDOREA TEPEJILOTE Liebm. Phoenicaceae. **Palm.**

From Zacuapam, Huatusco, Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received August 27, 1929.

A palm, native to southern Mexico, 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. 77621.

80882. ANANAS SATIVUS Schult. f. Bromeliaceae. **Pineapple.**

From Summit, Canal Zone. Plants presented by J. E. Higgins, Director, Plant Introduction Gardens. Received June 17, 1929.

Monte Lirio.

80883 to 80896.

From India. Seeds presented by the Department of Agriculture, Madras Presidency, through Edmund B. Montgomery, American consul, Madras. Received July 19, 1929.

80883 to 80887. CITRULLUS VULGARIS Schrad. Cucurbitaceae. **Watermelon.**

80883. No. 6. From Cuddapah. *Kalingar.* A variety producing dark greenish striped fruits about 1½ feet long and 1½ feet in diameter, which are reddish inside and contain black seeds when ripe.

80884. No. 11. From Coimbatore. A black-seeded variety bearing red fruits.

80885. No. 12. From Coimbatore. A red-seeded variety bearing reddish white fruits.

80886. No. 13. From Coimbatore. A white-seeded variety bearing white fruits.

80887. No. 14. From Nandyal. *Kharbuj Kaya.* A prolific variety bearing round, black-seeded fruits about two months after sowing.

80888 to 80896. CUCUMIS MELO L. Cucurbitaceae. **Melon.**

80883 to 80896—Continued.

80888 to 80892. From Cuddapah.

80888. No. 1. *Khirvi, Kharbuja.* A variety producing sweet fruits 8 inches long and up to a foot in diameter. The outside is reddish and striped, and the marrow is white.

80889. No. 2. *Khanda.* A sweet variety about the same size as No. 80888. The striped fruits are white outside, and the pulp is also white.

80890. No. 3. *Bathusa.* A variety producing smooth, round, sweet fruits about the size of a big mango, which are white both inside and out.

80891. No. 4. *Sherbet amer.* A variety with round, sweet fruits about the same size as No. 80890. The outer coat is dark green or reddish, and the marrow is greenish or yellowish white. It is highly valued.

80892. No. 5. *Papaya.* A variety with smooth, white, sweet fruits about a foot long and 9 inches broad, which are white inside.

80893 to 80896. From Prodattar.

80893 and 80894. Nos. 7 and 8. *Khurbuse.* The fruits are either round or oval, and the skin is pale brown and slightly wrinkled. A mixture of two numbers.

80893. [No data.]

80894. [No data.]

80895. No. 9. *Budam khurbuse.* A variety said to be the best in Prodattar. The small, oval fruits have greenish to pale-brown skin.

80896. No. 10. *Ghanna khurbuse.* A variety producing large fruits, sometimes very sweet, which have pale brown to pale red skin.

80897 and 80898.

From Zacuapam, Huatusco, Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received July 22, 1929.

80897. CARICA CAULIFLORA Jacq. Papayaceae.

This relative of the papaya is a tree 9 to 12 feet high, which is cultivated and probably native in Central America and Mexico. The trunk is crowned with large leaves that are cordate at the base and have the tip lobed about half way down into acuminate segments. The inconspicuous sessile inodorous flowers borne along the trunk are followed by ovoid yellow fruits 3 to 4 inches long.

For previous introduction see No. 80048.

80898. PRUNUS CAPULI Cav. Amygdalaceae. **Capulin.**

A tree, native to tropical America, up to 40 feet high, with lanceolate long-pointed coriaceous leaves 6 to 8 inches long, stout racemes, 4 to 6 inches long, of small white flowers which are followed by nearly black globose edible fruits half an inch in diameter.

For previous introduction see No. 80632.

80899 to 80904.

From Orleans, France. Plants purchased from La France Gauguin. Received April 19, 1929. Numbered in July, 1929.

80899 to 80901. CHRYSANTHEMUM MAXIMUM Ramond. Asteraceae. **Pyrenees chrysanthemum.**

80899. *Galathee.*

80900. *Mlle. Marcelle Gauguin.*

80901. *Perfection.*

80902 to 80904. HELENIUM AUTUMNALE L. Asteraceae.

80902. *Grandicephalum (nudiflorum) aurantium.*

80903. *Grandicephalum compactum bicolor.*

80904. *Grandicephalum gauffreanum.*

80905 to 80908.

From Sibolangit, Medan, Sumatra. Plants obtained by J. A. Lörzing. Received July 16, 1929.

80905. CITRUS sp. Rutaceae.

A wild lemonlike species, possibly the ancestor of the pummelo and other cultivated citrus fruits.

80906. DAEMONOROPS sp. Phoenicaceae. **Palm.**

A rattan used for plaiting.

80907. HOYA IMPERIALIS Lindl. Asclepiadaceae. **Wax plant.**

A shrubby climber with thick fleshy elliptical leaves 6 to 9 inches long and umbels of about 10 flowers which are brown-purple, whitish outside, and 3 inches across. Native to mangrove swamps in Borneo.

80908. PHOLIDOCARPUS SUMATRANA Beccari. Phoenicaceae. **Palm.**

A lofty fan-leaved palm native to the East Indies. It is 50 feet or more high, with a large strong trunk and stout, thorny leaf petioles.

80909. MEDICAGO SATIVA L. Fabaceae. **Alfalfa.**

From Rostof on the Don, Russia. Seeds obtained from the North Caucasus Border Seed Cooperative Association, through J. W. Pincus, Amtorg Trading Corporation, New York, N. Y., and H. N. Vinall, Bureau of Plant Industry. Received July 24, 1929.

A French variety.

80910. KOKIA ROCKII Lewton. Malvaceae. **Kokio.**

From Hawaii. Seeds presented by Harold L. Lyon, in charge of the department of botany and forestry, Experiment Station of the Hawaiian Sugar Planters' Association. Received July 25, 1929.

Obtained at Kona, June, 1929. A handsome tropical tree, about 20 feet high, with somewhat fleshy, deep-green, orbicular leaves which are in whorls at the ends of the branches, and an abundance of bright-scarlet flowers about 6 inches in diameter.

For previous introduction see No. 69110.

80911 to 80931.

From Twyford, Berks, England. Plants purchased from John Waterer Sons & Crisp. Received April 9, 1929.

80911. CHRYSANTHEMUM MAXIMUM Ramond. Asteraceae.
Pyrenees chrysanthemum.

Phyllis Smith. A very fine Shasta daisy, 2½ feet high, bearing an abundance of beautiful lustrous white flowers on long wiry stems. The ray flowers are deeply cut, which gives the flower heads a ruffled appearance.

80912. DAPHNE HYBRIDA Lindl. Thymelaeaceae.

An evergreen garden hybrid closely resembling *Daphne odora,* with elliptic-oblong leaves 2 to 4 inches long and very fragrant violet or reddish purple flowers.

80913 to 80931. ERICA spp. Ericaceae.

80913 to 80921. ERICA CARNEA L.
Spring heath.

80913. A shrub a foot high, with soft green foliage, and bearing rosy white sweet-scented flowers between December and May.

80914. *Alba.* A white-flowered form.

80915. *Gracilis.* A variety with rich pink flowers borne during midwinter.

80916. *King George V.* An early variety bearing dark-red flowers.

80917. *Mrs. S. Doncaster.* A variety bearing light-pink flowers during midwinter.

80918. *Queen Mary.* A variety bearing beautiful rich pink flowers during midwinter.

80919. *Queen of Spain.* A variety bearing light-pink flowers during the early spring.

80920. *Thomas Kingscote.* A variety bearing pale-pink flowers during the early spring.

80921. *Winter Beauty.* A variety bearing rosy-pink flowers during midwinter.

80922. ERICA CILIARIS L. **Fringed heath.**

An evergreen shrub about a foot high, bearing large rosy-purple bells between June and September. Native to southern England.

For previous introduction see No. 79155.

80923. ERICA MEDITERRANEA L.
Biscay heath.

A large evergreen shrub 3 to 4 feet high, bearing pale-pink flowers between March and May. Native to the Mediterranean countries.

80924. ERICA SCOPARIA L. **Heath.**

Nana. A very decorative Mediterranean shrub about 2 feet high, with light-green evergreen foliage and long cylindrical spikes of greenish white flowers. It is excellent for edging beds.

80925. ERICA STRICTA Donn.
Corsican heath.

An evergreen shrub of compact upright habit, about 2 feet high, with whorled leaves and rosy-pink flowers which are borne during the summer. Native to southern Europe.

For previous introduction see No. 79061.

80926 to 80928. ERICA TETRALIX L.
Crossleaf heath.

80926. An evergreen shrub about a foot high, bearing rose-purple bells during the early autumn, generally August and September or later. Native to England.

For previous introduction see No. 79157.

80927. *Alba.* A white-flowered form.

80928. *Mollis.* A form with grayish white foliage.

80929 to 80931. ERICA VAGANS L.
Cornish heath.

80929. An evergreen shrub 12 to 18 inches high, bearing mauve-pink bells between August and October. Native to southern England.

For previous introduction see No. 79991.

80930. *Alba.* A variety about 18 inches high, bearing pure white flowers between August and October.

80931. *Rosea.* A pale rose-flowered variety which begins bearing in July and continues throughout the season.

80932. CRACCA TOXICARIA (Pers.) Kuntze (*Tephrosia toxicaria* Pers.). Fabaceae.

From Paramaribo, Dutch Guiana. Seeds presented by S. Sahal, Director, Agricultural Experiment Station. Received July 25, 1929.

A shrub up to 7 feet high, with nine or more oblong leaflets and racemes of white and pink flowers. Parts of the plant are crushed and thrown in the water to poison fish. Native to Peru.

80933. GEONOMA sp. Phoenicaceae.
Palm.

From Cali, Colombia. Seeds presented by M. J. Rivero, through O. F. Cook, Bureau of Plant Industry. Received July 24, 1929.

The Geonomas are native to tropical America. They have reedlike ringed stems, entire or pinnately lobed leaves, and globose black fruits.

80934 to 80950.

From Japan. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received July 25, 1929.

80934. BRASSICA RAPA L. Brassicaceae.
Turnip.

No. 704. From the specially selected and grown stock of the Agricultural College, Department of Agriculture, Kyoto Imperial University, July 2, 1929. *Suigukina makino.* A variety used for pickling.

80934 to 80950—Continued.

80935. CORIARIA JAPONICA A. Gray. Coriariaceae. **Japanese coriaria.**

No. 702. Collected along a water run in a big valley at Shioza Ki, June 30, 1929. *Ushi koroshi* (killing the cow). A shrub with bright-green leaves and an abundance of bright-red fruits about the size of small cherries. When fully ripe the fruits are very dark red or purple. The flowers are said to be yellow. The plant is said to be poisonous; hence the local name.

For previous introduction see No. 66546.

80936. FRAGARIA sp. Rosaceae. **Strawberry.**

No. 354. From the northern side of Mount Fuji, at altitudes between 2,000 and 3,000 feet, June 26, 1929. The berries are round and oblong, red when ripe, and of good flavor and quality.

80937 and 80938. HORDEUM VULGARE PALLIDUM Seringe. Poaceae. **Six-rowed barley.**

80937. No. 576. Collected in a valley between two mountain ridges on a trail between Shoji and Kofu, June 28, 1929.

80938. No. 599. Collected in a good-sized valley region at Shioza Ki, June 30, 1929.

80939. LONICERA sp. Caprifoliaceae. **Honeysuckle.**

No. 332. Tokoji Temple, Ishido, Kitaadachi Gun, Saitama Ken, June 20, 1929. A species with bright-red fruits, three-eighths of an inch in diameter and five-eighths of an inch long, which are very juicy, sweet, and of good quality.

80940. LONICERA TENUIPES Nakai. Caprifoliaceae. **Honeysuckle.**

No. 357. From the northern side of Mount Fuji, at an altitude of about 2,500 feet, June 26, 1929. A shrub 3 to 6 feet high, with elliptical to oblong leaves densely pilose beneath, axillary reddish flowers nearly an inch long, and red fruits. Native to Japan.

80941. OSTERDAMIA JAPONICA (Steud.) Hitchc. (*Zoysia japonica* Steud.) Poaceae. **Japanese lawngrass.**

No. 579. From plants along river-bottom land at Anayama, June 29, 1929. A grass which makes a very tight sod and only a short growth.

80942 to 80946. RUBUS spp. Rosaceae.

80942. RUBUS sp.

No. 345. Collected near Otsuki, June 25, 1929.

80943. RUBUS PALMATUS Thunb. **Bank raspberry.**

No. 507. Growing in lava formation along a mountain trail at altitudes between 2,000 and 2,500 feet, near Shojiko, in the Mount Fuji region, June 27, 1929. A raspberry 3 to 4 feet high bearing an abundance of large, orange-yellow fruits of fairly good flavor.

80944. RUBUS sp.

No. 525. Collected from large plants along a stream in a valley between mountain ridges along the trail between Shoji and Kofu, June 28, 1929.

80934 to 80950—Continued.

A raspberry bearing bright-red fruits of good size; very sweet and of good quality when fully ripe.

80945. RUBUS sp.

No. 574. From bushes on a mountain top at an altitude of about 3,000 feet, on the trail between Shoji and Kofu, June 28, 1929. A species with bright-red glossy fruits.

80946. RUBUS PARVIFOLIUS L.

No. 701. Collected from plants growing along an irrigating ditch in the valley at Shioza Ki, June 30, 1929. A raspberry bearing red fruits which are somewhat acid but of very good flavor.

80947. SALIX sp. Salicaceae. **Willow.**

No. 353. Growing on the northern side of Mount Fuji, at an altitude of about 4,000 feet, June 26, 1929. This species appeared to be small; at least, the seeds were collected from a plant not more than 3 feet high.

80948. (Undetermined.)

No. 578. Collected on a mountain trail in the woods between Shoji and Kofu, June 28, 1929. A vine with clusters of small, oblong, bright-red fruits which turn black when ripe.

80949. VICIA HIRSUTA (L.) S. F. Gray. Fabaceae. **Vetch.**

No. 343. Collected near Otsuki, June 25, 1929. The plants, leaves, and seed pods of this variety are small. The black seed pods contain one or two small seeds mottled gray and black.

80950. VICIA TETRASPERMA (L.) Moench. Fabaceae. **Vetch.**

No. 342. Collected along the highway on a river bank, Katsuura River, well above the stream in a rather dry situation, near Otsuki, June 25, 1929. A vetch with small leaves, flowers, and pods. The flowers are white tinged with blue, and the pods contain up to four or five small black seeds.

80951. PYRENOGLYPHIS MAJOR (Jacq.) Karst. (*Bactris major* Jacq.). Phoenicaceae. **Beach palm.**

From Guatemala. Seeds presented by Wilson Popenoe, research department, United Fruit Co., Tela, Honduras. Received June 20, 1929. Numbered in August, 1929.

Biscoyol. A spiny palm, native to tropical America, with a trunk 9 to 15 feet high and 1 to 2 inches in diameter, armed with rows of black spines 2 inches long. The leaves, with spiny petioles, are 4 to 6 feet long and pinnately divided into densely setose linear segments with black hairs along the margin. The flowers are yellowish green and are followed by green edible fruits about the size of an apricot.

80952 to 80995. SACCHARUM OFFICINARUM L. Poaceae. **Sugarcane.**

From Sydney, New South Wales, Australia. Cuttings presented by P. H. Goldfinch, general manager of the Colonial Sugar Refining Co. Received July 31, 1929.

80952. No. 10. **80954.** No. 18.

80953. No. 16. **80955.** No. 20.

80952 to 80995—Continued.

80956. No. 35.	**80978.** No. 97.
80957. No. 36.	**80979.** No. 98.
80958. No. 38.	**80980.** No. 106.
80959. No. 39.	**80981.** No. 109.
80960. No. 40.	**80982.** No. 110.
80961. No. 42.	**80983.** No. 201.
80962. No. 44.	**80984.** No. 202.
80963. No. 45.	**80985.** No. 206.
80964. No. 46.	**80986.** No. 207.
80965. No. 50.	**80987.** No. 208.
80966. No. 54.	**80988.** No. 211.
80967. No. 56.	**80989.** No. 220.
80968. No. 59.	**80990.** No. 251.
80969. No. 65.	**80991.** No. 260.
80970. No. 68.	**80992.** No. 261.
80971. No. 72.	**80993.** No. 262.
80972. No. 80.	**80994.** No. 263.
80973. No. 82.	**80995.** No. 286.
80976. No. 90.	**80974.** No. 87.
80977. No. 96.	**80975.** No. 89.

80996. AMORPHOPHALLUS CAMPANULATUS (Roxb.) Blume. Araceae.

From India. Roots presented by Richard B. Gregg. Received December 15, 1928. Numbered in August, 1929.

Suran. As a food root this is highly esteemed in most Provinces of India, having a high starch content and a gently laxative effect, and is also said to improve digestive power. It is propagated by planting the large nodules which, for planting purposes, are treated like parts of a potato. The root and nodules may be dried indefinitely, and, in fact, it is considered desirable to expose the roots to strong sunshine for several days after peeling. The roots grow to a large size, as big as a large cabbage or even larger, and the meat is dull yellow. They may be cooked, baked, or fried, but if not thoroughly cooked they are a little bitter.

80997. DRACAENA sp. Liliaceae. **Dracena.**

From Cebu, Philippine Islands. Seeds presented by P. J. Webster, Bureau of Agriculture, Manila. Received November 7, 1928. Numbered in August, 1929.

The dracenas are tropical, woody, evergreen plants with sword-shaped to ovate, mottled leaves, clustered at the top of the stem. The greenish yellow campanulate or salverform flowers are followed by red or yellow berries.

80998. LANSIUM DOMESTICUM Jack. Meliaceae. **Langsat.**

From Laguna, Philippine Islands. Seeds presented by José S. Camus, Acting Director, Bureau of Agriculture, Manila. Received December 6, 1928. Numbered in August, 1929.

A tree 40 feet high, with pinnate leaves composed of five to seven elliptic leaflets each 4 to 8 inches long. The fruit varies in form and character, but is generally oval

80998—Continued.

or round, 1 to 2 inches in diameter, velvety and straw colored, with a thick leathery skin inclosing five segments of white, translucent, juicy, aromatic flesh, and one to three large seeds.

80999. LYCOPERSICON ESCULENTUM Mill. Solanaceae. **Tomato.**

From Carabayllo Valley, north of Lima, Peru. Seeds presented by Ralph T. Gray, Estación Experimental Agrícola, Lima. Received August 5, 1929.

Variety *cerasiforme.* A wild form of the tomato, native to Peru.

For previous introduction see No. 79532.

81000. GUNDELIA TOURNEFORTII L. Asteraceae.

From southwestern Kurdistan. Seeds presented by George E. Lamsa, Mission House, New York, N. Y. Received July 1, 1929.

A perennial herb much resembling a thistle with milky juice, spiny many-lobed leaves, and flower heads which produce seeds somewhat like those of the sunflower, *Helianthus annuus.* It is native to Kurdistan and Persia, where the young shoots are eaten as a vegetable. The seeds are also eaten.

For previous introduction see Nos. 80672 and 80673.

81001 to 81004.

From Japan. Collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry, United States Department of Agriculture. Received July 2, 1929.

81001 to 81003. LILIUM spp. Liliaceae. **Lily.**

81001. LILIUM sp.

No. 287. Bulbs obtained in Sapporo, Hokushu, May 29, 1929. *Taisho yuri.* An edible variety used extensively in Hokushu.

81002. LILIUM sp.

No. 288. Bulbs obtained in Sapporo, Hokushu, May 29, 1929. *Wada yuri.* An edible variety.

81003. LILIUM sp.

No. 403. Bulbs obtained in Hakodate, Hokushu, May 30, 1929. *Shoyokuyo yuri.* An edible variety.

81004. ZINZIBER OFFICINALE Roscoe. Zinziberaceae. **Ginger.**

No. 286. Obtained in Sapporo, Hokushu, May 27, 1929. *Imoshoga.* Used as a garnish when plants are young.

For previous introduction see No. 72730.

81005. CANARIUM sp. Balsameaceae.

From the Santa Cruz Islands. Nuts presented by Dr. Alfred Rehder, Arnold Arboretum, Jamaica Plain, Mass. Received July 2, 1929.

Anai. A species said to constitute one of the principal foods of the New Hebrides and the Solomon Islands.

81006 to 81051.

From Japan. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received July 2, 1929.

81006. BECKMANNIA SYZIGACHNE (Steud.) Fern. Poaceae. **Grass.**

No. 305. Collected along an irrigation ditch near the electric railway station of Kashwara Junction, May 28, 1929.

81007. DAUCUS CAROTA L. Apiaceae. **Carrot.**

No. 254. From the Yamato Seed Co., Sapporo, May 25, 1929. *Sapporo onaga ninjin.* A large long carrot.

81008. ELAEAGNUS MULTIFLORA Thunb. Elaeagnaceae.

No. 307. From the Shizuoka Agricultural Experiment Station, Shizuoka, June 3, 1929. A shrub producing bright-red fruits, about three-fourths of an inch long and half an inch wide, which may make good jelly or marmalade.

81009. MEDICAGO SATIVA L. Fabaceae. **Alfalfa.**

No. 265. From the Yamato Seed Co., Sapporo, May 25, 1929. *Taikausei ruzan.* A hardy alfalfa used for forage purposes in the Hokushu district.

81010 to 81016. PHASEOLUS spp. Fabaceae.

81010. PHASEOLUS COCCINEUS L. **Scarlet runner.**

No. 268. From the Yamato Seed Co., Sapporo, May 25, 1929. *Benibana ingen.* A variety used as a string bean.

81011. PHASEOLUS LUNATUS L. **Lima bean.**

No. 271. From the Yamato Seed Co., Sapporo, May 25, 1929. *Waisei raima.* A Yamato bush Lima bean.

81012 to 81016. PHASEOLUS VULGARIS L. **Common bean.**

81012. No. 255. From the Sapporo Noyen Seed Co., Sapporo, May 25, 1929. *Otsubu uzura mame.* A large-seeded bean used as a green vegetable.

81013. No. 267. From the Yamato Seed Co., Sapporo, May 25, 1929. *Yatsubusa ingen;* Indian Chief string bean. A variety used as a green vegetable.

81014. No. 269. From the Yamato Seed Co., Sapporo, May 25, 1929. *Manshu ingen.* A variety used as a green vegetable.

81015. No. 270. From the Yamato Seed Co., Sapporo, May 25, 1929. *Shiromaru kintoki ingen.* A round white bean used as a green vegetable.

81016. No. 295. From the Sapporo Engei & Co., Sapporo, May 28, 1929. *Kurouzura mame.* A black variety used as a string bean.

81017. PISUM SATIVUM L. Fabaceae. **Pea.**

No. 298. Obtained in Hakodate, Hokushu, May 30, 1929. *Akaendo.* A red variety used in the dried form.

81006 to 81051—Continued.

81018 to 81020. PRUNUS spp. Amygdalaceae. **Flowering cherry.**

81018. PRUNUS sp.

No. 187. Obtained near the Miyako Hotel, Kyoto, May 24, 1929.

81019. PRUNUS sp.

No. 196. Near the Todai-ji Temple, Nara, May 27, 1929. An early-flowering cherry with rather small, single, pinkish white flowers.

81020. PRUNUS sp.

No. 199. A wild cherry growing at the first stop in the large natural park or mountain drive, near Nara, May 27, 1929. The tree is 8 inches in diameter and 40 feet or so high.

81021 to 81045. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. **Soybean.**

81021 to 81042. Obtained in Sapporo, Hokushu, May, 1929.

81021. No. 252. From the Sapporo Gobankan. *Aoshiro eda mame.* A greenish white variety used as a green vegetable.

81022. No. 253. From the Sapporo Gobankan. *Kuro mame.* A black variety used as a green vegetable and in making confections.

81023. No. 256. From the Sapporo Noyen Seed Co. *Honen daizu.* A variety used as a green vegetable.

81024. No. 257. From the Sapporo Noyen Seed Co. *Daiyachi ichi go.* No. 1, Daiyachi selection. Used for soy sauce, miso, tofu, roasted beans, and natto.

81025. No. 258. From the Sapporo Noyen Seed Co. *Gokuwase toka eda mame* (earliest 10-day vegetable soybean). Used as a green vegetable.

81026. No. 259. From the Sapporo Noyen Seed Co. *Ishikari shiro daizu.* A variety used for grain, soy sauce, tofu, natto, and miso.

81027. No. 260. From the Sapporo Noyen Co. *Akasaya daizu.* A red-podded soybean used as a green vegetable.

81028. No. 261. From the Sapporo Noyen Seed Co. *Rankoshi daizu.* Used for soy sauce, miso, tofu, roasted beans, and natto.

81029. No. 272. From the Yamato Seed Co. *Chuseikurome daizu.* A middle-season, black-eyed soybean used as a green vegetable.

81030. No. 273. From the Yamato Seed Co. *Sousei kuro daizu.* An early black soybean used as a green vegetable.

81031. No. 274. From the Yamato Seed Co. *Banseiosayada mame.* A large-podded, late variety used as a green vegetable.

81032. No. 275. *Ao mame.* A green soybean used as a green vegetable.

81033. No. 276. *Aoshiro daizu.* A greenish white soybean used as a green vegetable.

81034. No. 278. *Kuro daizu.* A black soybean used as a green vegetable.

81006 to 81051—Continued.

81035. No. 279. From the Ghoyu Game Co. A mixture of varieties used in the manufacture of soy sauce.

81036. No. 289. *Aoii, Aoiiro daizu.* A greenish white variety used as a green vegetable.

81037. No. 290. *Kurakake daizu* (saddle soybean). Used as a green vegetable.

81038. No. 291. From the Taishoen Seed Co. *Sousei eda mame.* An early soybean used as a green vegetable.

81039. No. 293. From the Aizawa Seed Co. *Aoshiro daizu.* A greenish white soybean used as a green vegetable.

81040. No. 294. From the Aizawa Seed Co. *Cha mame* (tea soybean). Used as a green vegetable bean.

81041. No. 297. From the Aizawa Seed Co. *Kuro daizu.* A black soybean used as a green vegetable and also in making sweet bean paste and candied beans.

81042. No. 299. From the Sapporo Engei & Co. *Kurakake daizu* (saddle soybean). Used as a green vegetable.

81043 to 81045. Obtained in Hakodate, Hokushu, May 30, 1929.

81043. No. 300. *Ao daizu.* A green soybean used as a green vegetable.

81044. No. 401. *Akita daizu.* A selected yellow soybean used in making bean curd, soy sauce, natto, and roasted beans.

81045. No. 402. *Kurotsuya otsub daizu.* A black glossy soybean used as a green vegetable and in making bean confections.

81046. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. **Common wheat.**

No. 277. From the Shoyu Co., Sapporo, May 27, 1929. A mixture of wheat varieties grown in Hokushu; especially suitable in the manufacture of soy sauce.

81047 to 81049. VICIA FABA L. Fabaceae. **Broadbean.**

Obtained at the Sapporo Noyen Seed Co., Sapporo, May 25, 1929.

81047. No. 262. *Nisum Sora mame.* The 2-inch horse bean. Used for food in the green and dried forms.

81048. No. 263. *Sousei Sora mame.* An early broad bean used as a green vegetable and when mature for confections.

81049. No. 264. *Otafuku mame.* A broad bean used as a green vegetable, and the dried beans are roasted and sugared.

81050. VICIA HIRSUTA (L.) S. F. Gray. Fabaceae. **Vetch.**

No. 197. From Nara, May 27, 1929. A small vetch.

81051. VICIA ANGUSTIFOLIA Grufberg. **Vetch.**

No. 306. Collected on park grounds near Unebi, May 28, 1929. A small vetch.

81052. GARCINIA BENTHAMI Pierre. Clusiaceae.

From Manila, Philippine Islands. Seeds presented by S. Youngberg, Director, Bureau of Agriculture, Manila. Received July 9, 1929.

A small, evergreen, rapidly growing tropical tree, closely related to the mangosteen (*Garcinia mangostana*), native to low altitudes in the Philippine Islands. The edible fruits are very similar to those of the mangosteen except that they are slightly smaller, bright red, and have very acid flesh. They are probably suited for making preserves.

For previous introduction see No. 68179.

81053. TERMINALIA EDULIS Blanco. Combretaceae.

From San José, Mindoro, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received July 8, 1929.

Dalinsi. A large and rather ornamental tropical evergreen tree up to 75 feet high, widely distributed throughout the Philippines. The smooth, dark red fruits, about an inch in diameter and resembling small plums, have a pleasant mildly acid flavor and should make good jelly.

81054. PHASEOLUS COCCINEUS L. Fabaceae. **Scarlet runner.**

From Sapporo, Hokushu, Japan. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received July 2, 1929.

No. 266. From the Yamato Seed Co., May 25, 1929. *Sakiwake ingen* (separate blooming string bean). Used as a green vegetable.

81055. CAJANUS INDICUS Spreng. Fabaceae. **Pigeon pea.**

From Khartum, Anglo-Egyptian Sudan, Africa. Seeds presented by H. B. Gephardt, American Mission, Deleib Hill, Nalakei. Received July 9, 1929.

An erect shrublike plant, 4 to 6 feet high, which may prove useful in improving the soil and also as a fodder plant. The natives use it for food, but it seems to be inferior to the Egyptian kind.

81056. CRACCA TOXICARIA (Pers.) Kuntze (*Tephrosia toxicaria* Pers.). Fabaceae.

From Peru. Seeds presented by W. J. Dennis, Iowa City, Iowa. Received July 8, 1929.

For previous introduction and description see No. 80932.

81057 to 81071.

From Kwangsi, China. Seeds collected by R. C. Ching and presented by Dr. Alfred Rehder, Arnold Arboretum, Jamaica Plain, Mass. Received July 10, 1929.

81057. ACER sp. Aceraceae. **Maple.**

No. 8458.

81058. CORNUS sp. Cornaceae. **Dogwood.**

81059. ILLICIUM sp. Magnoliaceae.

81060. LITHOCARPUS sp. Fagaceae.

No. 8111.

81057 to 81071—Continued.

81061. LITHOCARPUS sp. Fagaceae.

No. 8345.

81062. MAGNOLIA sp. Magnoliaceae.

81063. RAPHIOLEPIS sp. Malaceae.

81064. STYRAX sp. Styracaceae.

No. 8415.

81065. (Undetermined.)

No. 8480.

81066. (Undetermined.)

No. 7682.

81067. (Undetermined.)

No. 8090.

81068. (Undetermined.)

81069. (Undetermined.)

81070. (Undetermined.)

81071. (Undetermined.)

81072. PISTACIA CHINENSIS Bunge (*P. philippinensis* Merr. and Rolfe). Anacardiaceae. **Chinese pistache.**

From Mountain Province, Philippine Islands. Seeds presented by S. Youngberg, Director, Bureau of Agriculture, Manila. Received July 12, 1929.

A large deciduous tree, sometimes reaching a height of 80 feet, native to central and western China. The pinnate leaves, about 9 inches long, consist of 10 to 12 narrow, oval leaflets. Because of its glossy green foliage which becomes brilliant crimson in autumn and its rather rapid growth this is a valuable shade tree for mild-wintered regions.

For previous introduction see No. 74678.

81073. BORASSUS FLABELLIFER L. Phoenicaceae. **Palmyra palm.**

From Gambia, British West Africa. Seeds presented by A. J. Brooks, Director, Department of Agriculture. Received July 13, 1929.

An African form of the famous Palmyra palm of India. Though a slow grower, it is a very handsome palm when old. In as much as it grows in the dry coastal regions of Ceylon, is apparently able to withstand any amount of lime, and is said to have been used successfully as a binder for sand dunes, it may prove of real value in the calcareous soils of southern Florida. In the number of uses to which it is put in Ceylon it rivals the coconut. A delicate sugar is made from the sap, which flows in abundance from its inflorescence when cut. The seeds are germinated and the young subterranean hypocotyl is used as a vegetable. The leaves are used in many different ways. The fruit, half the size of a coconut, is very attractive in appearance, and when ripe exhales a delicate fragrance. The hull is eaten by the Tamils of Ceylon.

For previous introduction see No. 78616.

81074 to 81208.

From Ventimiglia, Italy. Seeds presented by S. W. McLeod Braggins, Superintendent, La Mortola. Received April 25, 1929. Numbered in August, 1929.

81074 to 81208—Continued.

81074 to 81099. AGAVE spp. Amaryllidaceae.

81074. AGAVE ALBICANS Jacobi.

No. 50. A trunkless, cespitose agave, native to Mexico, with spreading, glaucous thin oblanceolate leaves about a foot long with close-set minute brown marginal prickles and a terminal needlelike small spine. The reddish green paired flowers are a little over an inch long and are on a spike 3 feet high.

For previous introduction see No. 79462.

81075. AGAVE AUREA Brandegee.

No. 51. A stemless plant with a rosette of about 50 gray-green, narrow-lanceolate leaves about 3 feet long, armed with unequally triangular often upcurved prickles and ending in a chestnut-colored spine an inch long. The numerous golden-yellow flowers are borne on a scape about 5 feet high. Native to Lower California.

81076. AGAVE BRACHYSTACHYS Cav.

No. 52. A trunkless agave with a thick rhizome and a rosette of linear-lanceolate green or grayish leaves a foot or more long, with margins scarcely prickly. The scape, 3 feet or more high, bears a small dense cluster of greenish flowers. Native from southern Mexico to Guatemala.

81077. AGAVE BRACTEOSA S. Wats.

No. 53. A trunkless agave with 3-sided, gray, sigmoidally spreading spineless leaves about 20 inches long, and rather small flowers on a scape 3 to 5 feet high. Native to New Mexico.

81078. AGAVE CANTALA (Haw.) Roxb.

No. 54. A variety with a short, thick stem bearing an aloelike cluster of large fleshy leaves and a tall flower stalk on which grow a large number of small bulbils. The spiny edged leaves are grouped compactly around the stem and terminate in a hard, sharp spine.

For previous introduction see No. 51206.

81079. AGAVE CHIAPENSIS Jacobi.

No. 55. A trunkless agave, probably native to southern Mexico, with upcurving lanceolate green leaves 2 or even 3 feet long, with rather small brown prickles and a narrow-grooved stout spine. The scape is 4 or 5 feet high.

81080. AGAVE CHLORACANTHA Salm-Dyck.

No. 56. An agave which develops with age into a densely cespitose mass 3 or 4 feet wide. The bright-green, fleshy, narrow leaves, reflexed at the middle point, are 2 feet or less in length, with a small fine terminal spine. The greenish flowers are on a scape about 6 feet high. Probably a native of Mexico.

81081. AGAVE FILIFERA Salm-Dyck.

No. 57. The oblong-lanceolate leaves of this Mexican agave are upcurved-spreading and 1 to 2 feet long, termi-

81074 to 81208—Continued.

nating in an openly grooved spine. The maroon flowers, over an inch long, are in a stout dense cluster on a scape 10 to 15 feet high.

81082. AGAVE FRANZOSINI Baker.

No. 58. An agave with roughish white recurved ascending lanceolate leaves up to 8 feet long, armed with dark-gray marginal prickles and a large terminal spine. The tall green flower stem, 30 or 40 feet high, bears flowers over 3 inches long. It is probably native to Mexico.

For previous introduction see No. 79464.

81083. AGAVE GHIESBRECHTII Koch.

No. 59. A short-trunked agave with lanceolate, spreading, upcurved leaves a foot long, with moderately large prickles and an inrolled spine. Probably native to southern Mexico.

81084. AGAVE HOOKERI Koch.

No. 61. The rosette of leaves formed by this agave is 5 feet in diameter and 4 feet high. The narrow stout leaves are over 3 feet long, with a stout horny terminal spine 1¼ inches long and irregularly triangular prickles of variable size and shape. Probably native to Mexico.

81085. AGAVE LOPHANTHA Scheide.
Crested agave.

No. 63. An agave, native to eastern Mexico, with spreading, glossy, green lanceolate leaves a foot or more long, with small hooked marginal prickles, and terminating in a grooved brown spine. The flowers, 1½ inches long, are borne on a spike 9 to 15 feet high.

For previous introduction see No. 79465.

81086. AGAVE LURIDA Ait.

No. 64. A short-stemmed or stemless plant with a large dense rosette of lanceolate, leathery, fleshy, gray-green leaves 3 feet long, with a slender spine and small prickles. The greenish flowers are borne on a scape 15 to 20 feet high. Probably native to Mexico.

81087. AGAVE OBLONGATA Jacobi.

No. 65. A trunkless agave with fleshy bright-green oblong-lanceolate leaves 2 feet long, terminating in a conical horny spine and with small, chestnut-brown triangular prickles. The inflorescence is 4 feet high. Probably native to Mexico.

81088. AGAVE OUSSELGHEMIANA Jacobi.

No. 66. A trunkless cespitose plant, related to *Agave albicans*, with spreading glaucous thin oblanceolate leaves about a foot long, with a small needlelike spine and close-set brown prickles. The reddish green paired flowers are on a scape scarcely 3 feet high. Probably native to Mexico.

81089. AGAVE PICTA Salm-Dyck.

No. 62. A large Mexican agave, of the section Americanae, which develops a rosette up to 10 feet across and 7 feet high, composed of 30 to 40 leaves. These are dark gray-green, often reflexed at the middle, 5 to 7 feet long, with a yellow margin set with numerous straight prickles and an awl-shaped terminal spine about 2 inches long. The bright yellow-green flowers are borne in a large open panicle on a scape 25 to 30 feet high.

81090. AGAVE POLYACANTHA Haw.

No. 67. A cespitose plant, native to southern Mexico, with lanceolate, upcurving leaves sometimes 3 feet long, terminating in a stout spine and margined with close-set brown prickles. The flowers, 2 inches long, are in a spikelike inflorescence 4 to 5 feet high.

For previous introduction see No. 79466.

81091. AGAVE ROEZLIANA GILBEYI Trelease.

No. 60. A fleshy stemless agave, related to *Agave horrida*, with a simple rosette of 25 to 35 upright thick, hard-fleshed, gray, lanceolate-oblong leaves 8 inches to a foot long. The rather distant slender marginal prickles are often nearly 2 inches long, and the terminal spine is 1½ inches long. Native to Mexico.

81092. AGAVE RUPICOLA Regel.

No. 68. A cespitose plant with fleshy, spreading, grayish green, broadly lanceolate leaves up to 2 feet long, armed with small close-set dark prickles and a slender weak spine. The brownish green flowers 1½ inches long are on a scape about 10 feet high. Native to eastern Mexico.

81093. AGAVE SALMIANA Otto.

No. 69. An agave with gray-green, very thick leaves about 3 feet long, with an elongated gray terminal spine and triangular marginal teeth. The scape is covered with long, somewhat spreading bracts. Native to Mexico.

For previous introduction see No. 79467.

81094. AGAVE SARTORI Koch.

No. 70. The stem of this Mexican agave becomes a foot high with age. The deep-green spreading upright leaves, up to 2 feet long, are narrow lanceolate with a small horny terminal spine and small, close-set triangular prickles. The yellowish flowers, over an inch long, are on a scape 3 to 4 feet high.

81095. AGAVE SCHOTTII Engelm.

No. 71. A cespitose agave, native to southern Arizona, with linear-triangular leaves 6 inches to a foot in length and curved yellow flowers an inch or more long, scented like tuberoses, on a slender scape 4 feet high.

81096. AGAVE TERRACCIANOI Pax.

No. 72. A stemless agave with numerous narrowly lanceolate green leaves, spotted pale red and margined with small horny teeth. The greenish yellow flowers are borne in a dense spike on a scape 5 feet high. Probably native to Mexico.

81097. AGAVE VARIEGATA Jacobi.

No. 73. A stemless cespitose plant with a rosette of 20 to 25 upcurved, linear-lanceolate, rather fleshy leaves 1½ feet long. The greenish flowers are on a scape 3 to 5 feet high. Native to northeastern Mexico.

81074 to 81208—Continued.

81098. AGAVE VERSCHAFFELTII Lem.

No. 74. A variety with leaves 3 inches wide by 6 to 8 inches long, glaucous, tipped with red-brown spines and armed with long, rusty teeth on large, fleshy prominences.

For previous introduction see No. 47583.

81099. AGAVE WERCKLEI Weber.

No. 75. A stemless plant with fleshy, glaucous, bluish or white leaves abruptly upcurved above the base, about 6 feet long and 6 inches wide, armed with triangular straight brown teeth and terminating in a brown spine over an inch long. The chrome-yellow flowers are borne on a scape 25 feet tall. Native to Costa Rica.

81100. ALLIUM NEAPOLITANUM Cirillo. Liliaceae. **Onion.**

No. 83. A bulbous plant about a foot and a half high, with flat linear leaves about as long as the stem and ornamental white flowers with a scent like that of the English hawthorn. Native to southern Europe.

For previous introduction see No. 78985.

81101. ALLIUM ROSEUM L. Liliaceae. **Onion.**

No. 84. A plant about a foot high, with strap-shaped leaves rolled inward at the top and pale lilac-rose flowers produced in umbels. Native to southern Europe.

For previous introduction see No. 58881.

81102 to 81142. ALOE spp. Liliaceae.

81102. ALOE ABYSSINICA × STRIATA.

No. 85.

81103. ALOE AFFINIS Berger.

No. 86. A stemless aloe with fleshy ensiform leaves 8 to 10 inches long, with sinuate-dentate margins set with horny triangular teeth. The cylindrical racemes of red flowers are on a stout-branched inflorescence. Native to the Transvaal.

81104. ALOE ARBORESCENS FRUTESCENS Link.

No. 87. A shrubby variety with the habit of *Aloe arborescens natalensis*, but lower. The thick glaucous leaves are about 18 inches long, and the inflorescence is unbranched.

81105. ALOE ARBORESCENS MILLERI Berger.

No. 88. A tree 12 feet or more high, with a stout unbranched trunk. The sword-shaped, reflexed, dark-green fleshy leaves, mostly clustered at the summit of the trunk, are 2 feet or more long. The bright-red flowers, 1½ inches long, are borne in a dense raceme. Native to South Africa.

81106. ALOE ARBORESCENS NATALENSIS (Wood and Evans) Berger.

No. 89. A shrubby variety, branching from the base. Each branch ends in a dense rosette of leaves; these are linear-lanceolate, falcate, with curved marginal prickles, and are 18 to 30 inches long. The bright-red cylindrical flowers are in dense racemes. Native to South Africa.

81107. ALOE ARBORESCENS PACHYTHYRSA Berger.

No. 90. A shrubby variety, stouter than *Aloe arborescens natalensis*, with denser gray-green foliage. The flowers are about 2 inches long, borne on curved ascending scapes 2 feet or less high.

81108. ALOE ARBORESCENS UCRIAE (Terr.) Berger.

No. 91. A shrubby variety about 3 feet high, with numerous spreading falcate, green leaves, 2 feet long, armed with curved triangular marginal teeth.

81109. ALOE ARBORESCENS VIRIDIFOLIA Berger.

No. 92. A shrubby variety with rather flat green leaves nearly 2 feet long and a branched inflorescence.

81110. ALOE BREVIFOLIA Mill.

No. 93. A stemless succulent with a dense rosette of triangular-lanceolate glaucous leaves 3 to 4 inches long, with small white marginal prickles and pale-red flowers in a simple dense raceme. Native to South Africa.

81111. ALOE BREVIFOLIA DEPRESSA (Haw.) Baker.

No. 94. A more robust form of the preceding, with leaves 6 inches long which are less glaucous.

81112. ALOE BREVIFOLIA SERRA (DC.) Berger.

No. 95. An aloe, native to South Africa, with a rosette of 30 to 40 lanceolate-deltoid leaves, 4 to 5 inches long, armed with white, horny, triangular prickles one-tenth of an inch high. The bright-red flowers are in a simple dense raceme.

81113. ALOE BRUNNTHALERI Hort.

No. 96. A horticultural name for which a place of publication or a description has not been found.

81114. ALOE CAESIA Salm-Dyck.

No. 97. An aloe with a stem 10 to 12 feet high, bearing at the summit a dense rosette of very glaucous, lanceolate leaves a foot long, margined with red when young. The raceme of bright-red flowers is borne on a simple peduncle a foot long. Native to South Africa.

81115. ALOE COMOSA Marl. and Berger.

No. 98. A stout subtropical tree 5 or 6 feet high, with an unbranched trunk crowned by a dense rosette of spreading glaucous, narrow, sword-shaped leaves a foot or more long. Native to Cape of Good Hope.

81116 and 81117. ALOE ERU Berger.

81116. No. 99. A large plant, native to tropical Africa, with a branched stem scarcely 2 feet high and very fleshy, recurved, pale glossy green, sword-shaped leaves about 2 feet long. The orange or yellow flowers, three-fourths of an inch long, are borne on a branched inflorescence 3 to 6 feet high.

81074 to 81208—Continued.

81117. No. 100. Variety *erecta*. A form with narrower leaves, spotted when young and red margined.

81118. ALOE FEROX Mill.

No. 101. A perennial native to South Africa. It has a thick stem 10 to 15 feet high and a rosette of curved glaucous, lanceolate leaves 2 feet long by 5 inches wide and half an inch thick. The upper and lower surfaces are prickly, and the purple margins are armed with large red-brown teeth. The flowering stem is 4 feet high, and the greenish yellow flowers with smoky tipped segments are 1 to 2 inches long.

For previous introduction see No. 77217.

81119. ALOE GRANDIDENTATA Salm-Dyck.

No. 102. A short-stemmed fleshy plant with a dense rosette of 12 to 20 bright-green lanceolate leaves a foot or more long, with crowded brown-tipped marginal teeth. The pale-red or reddish yellow flowers are in three to seven racemes on a stout peduncle 1½ to 2 feet long. Native to South Africa.

81120. ALOE GREATHEADII Schoenland.

No. 103. A fleshy plant from the Kalahari region of South Africa. The stem is about a foot high, with a terminal dense rosette of lanceolate, dark shining-green leaves up to 9 inches long. The whitish flowers are in dense racemes in a branching inflorescence 2 to 4 feet high.

81121. ALOE HETERACANTHA Baker.

No. 105. A succulent plant with a stem a foot high and 15 to 30 lanceolate green or red tinted leaves 6 to 12 inches long, in a dense rosette. The short-tubular bright-red flowers are in a dense raceme on a peduncle 1 to 3 feet long. Native to South Africa.

81122. ALOE JOHNSTONII Baker.

No. 106. A stemless succulent plant with a globose rootstock and 8 to 12 erect linear thin leaves 1 to 1½ feet long, channelled along the upper surface. The dense capitate raceme of pale-pink flowers is on a simple, stiffly erect peduncle 1½ feet high. Native to British East Africa.

81123. ALOE LATERITIA Engler.

No. 107. A short-stemmed aloe with very thick, lanceolate, white-spotted leaves about 10 inches long with rather large horny-tipped deltoid marginal teeth. The brick-red flowers are in clusters at the ends of the branches of the peduncle. Native to Mozambique.

81124. ALOE LATIFOLIA Haw.

No. 108. The glossy green oblong-lanceolate leaves of this aloe are a foot or less long, with brown horny marginal prickles. The bright reddish yellow flowers, an inch long, are on a stout, simple or forked peduncle 1 or 2 feet long. Native to South Africa.

81125. ALOE MACROCARPA Tod.

No. 109. A short-stemmed aloe with a dense rosette of lanceolate, thin, green leaves 1½ feet long; the margins are reddish white and set with

81074 to 81208—Continued.

rather large deltoid teeth. The red flowers are in oblong racemes on a peduncle 3 feet high. Native to northeastern Africa.

81126. ALOE PERCRASSA Tod.

No. 110. An aloe native to northeastern Africa. It develops a round cluster of narrow, sword-shaped, fleshy, deep-green, sometimes spotted leaves, up to 2½ feet long, with small brown marginal teeth. The red flowers are in racemes about a foot long on a branched peduncle 3 feet high.

81127. ALOE PERRYI Baker.

No. 111. A nearly stemless plant with a stem scarcely an inch high and a rosette of lanceolate, pale glaucous-green leaves 7 to 8 inches long. These are furnished with very small brown horny marginal teeth. The flowering stalk is a foot and a half high. Native to the island of Socotra.

81128. ALOE PSEUDOPICTA Berger.

No. 113. A stemless aloe with spreading, narrow, triangular, thick, fleshy, pale-green leaves up to a foot long, with reddish triangular marginal teeth. The light-red flowers are in a rather lax cylindrical raceme on a scape 2 feet high. A hybrid grown at La Mortola, Ventimiglia, Italy.

81129. ALOE PURPURASCENS (Ait.) Haw.

No. 112. The stem of this plant is 2 to 3 feet long below the dense rosette of 40 to 60 sword-shaped leaves. These are 1½ feet long, very glaucous, turning purple when old, and armed with deltoid white horny marginal prickles. The reddish flowers are in a simple dense receme a foot long. Native to South Africa.

81130. ALOE RUBROLUTEA Schinz.

No. 114. A tropical succulent native to southwestern Africa, with a stout simple trunk 7 to 12 feet or more high, bearing a dense rosette of narrow-ensiform leaves up to 2 feet long and light-red flowers in a branched inflorescence a foot high.

81131. ALOE RUBROVIOLACEA Schweinf.

No. 115. An unbranched aloe, hardly 3 feet high, with a thick, curved stem terminated by a dense rosette of triangular, purplish, fleshy leaves about 2 feet long and light-red flowers 1½ inches long in dense racemes on a forked inflorescence 2 feet high. Native to Arabia.

81132. ALOE RUNCINATA Berger.

No. 116. A dense cespitose aloe with lanceolate green or purplish leaves 16 inches long, armed with stout triangular horny marginal teeth. The stout branched scape, about 3 feet high, bears racemes of light-red flowers. Probably a native to South Africa.

81133. ALOE SALMDYCKIANA Schult. f.

No. 117. A succulent, native to South Africa, with a stem 10 to 12 feet high bearing at the summit a dense rosette of 30 to 40 dull-green, sword-shaped leaves 1½ to 2 feet long. The bright-red cylindrical flowers are in a dense raceme a foot long, on a scape about the same length.

81074 to 81208—Continued.

81134. ALOE SAPONARIA (Ait.) Haw.

No. 118. An aloe, native to the Cape of Good Hope, which grows in cespitose clusters, with ascending, oblong-lanceolate acuminate leaves about 7 inches long, often reddish with pale blotches and with large confluent brown marginal teeth. The red flowers are in a branched inflorescence 1 or 2 feet high.

For previous introduction see No. 79471.

81135. ALOE SCHIMPERI Tod.

No. 119. A fleshy aloe with oval-lanceolate glaucous-green lineate leaves a foot long, furnished with a thin reddish horny border and crowded minute marginal teeth. The stout-branched peduncle, 2 to 3 feet high, bears short crowded racemes of bright-red flowers. Native to Egypt.

81136. ALOE SPECIOSA Berger.

No. 120. A hybrid aloe, of unknown parentage, cultivated at La Mortola, Ventimiglia, Italy. It is short-stemmed, branching from the base, having triangular-acute dark-green leaves about 8 inches long, with small incurved marginal prickles. The light-red flowers, nearly 2 inches long, are on a stout 3-branched peduncle 20 inches high.

81137. ALOE SPINOSISSIMA Berger.

No. 121. A handsome hybrid aloe, nearly stemless, with a dense rosette of erect, long-acuminate leaves armed with white marginal teeth and about a foot long. The light-purplish flowers are in an elongated cylindrical raceme nearly a foot in length.

81138. ALOE STRAUSSII Berger.

No. 122. A stemless plant, native to Tanganyika, with a rosette of fleshy, lanceolate-deltoid, dark-green spotted leaves 8 inches long and pale-red flowers on a simple scape 18 inches high.

81139. ALOE STRIATA Haw.

No. 104. Variety *Hanburiana*. A fleshy plant with a short stem, 1 to 2 feet in old plants, and a rosette of 12 to 20 oblong-lanceolate, glaucous leaves 1½ to 2 feet long, with a cartilaginous reddish margin. The bright-red flowers are in capitate racemes on a stout much-branched inflorescence. Native to the coast of South Africa.

81140. ALOE STRIATULA Haw.

No. 123. An erect shrubby plant 3 to 7 feet high, with fleshy, linear-lanceolate leaves 8 inches long, in small rosettes terminating the branches. The light-yellow flowers are in dense racemes a foot high. Native to southeastern Cape of Good Hope.

81141. ALOE SUPRALAEVIS Haw.

No. 124. An aloe with a stem 5 or 6 feet high, crowned by a dense rosette of sword-shaped fleshy leaves which are 1 to 2 feet long and armed with triangular horny marginal prickles one-seventh of an inch long. The reddish flowers are in a dense raceme 6 inches to a foot long. Native to South Africa.

81074 to 81208—Continued.

81142. ALOE WINTERI Berger.

No. 125. A hybrid between *Aloe salmdyckiana* and *A. arborescens frutescens*, developed in the garden of L. Winter, Bordighera, Italy. It is an almost cespitose woody plant with numerous upright-spreading, sword-shaped leaves 2 feet long, with horny margins armed with triangular teeth. The light-yellow flowers are in a dense raceme 10 inches long.

81143. BAUHINIA GRANDIFLORA Juss. Caesalpiniaceae.

No. 203. A small tree up to 20 feet high, with subcordate leaves slightly lobed at the apex and tomentose beneath. The large, pure-white flowers, opening at night, are borne in clusters of one to three on axillary peduncles. Native to Peru.

81144 to 81147. BERBERIS spp. Berberidaceae. **Barberry.**

81144. BERBERIS ACTINACANTHA Mart.

No. 209. An evergreen shrub, native to Chile, 3 to 4 feet high, with 3-parted to 5-parted often leaflike spines, broadly ovate, spiny margined leaves, fascicles of three to six fragrant deep-yellow flowers, and dark fruits.

For previous introduction see No. 76554.

81145. BERBERIS CHITRIA D. Don.

No. 211. A spiny half-evergreen shrub, 6 feet or less high, with oblong leaves 1 to 3 inches long, deep-yellow or reddish flowers in long-stemmed panicles, and ovoid, purple berries. Native to the Himalayas.

For previous introduction see No. 73530.

81146. BERBERIS GLOBOSA Benth.

No. 213. A spiny evergreen shrub, 6 to 8 feet high, with rigid, mucronate leaves a little more than an inch long and one-fourth of an inch wide, yellow flowers a little larger than those of the common barberry, and globular fruits about the size of a small pea. Native to the Andes of Colombia.

For previous introduction see No. 44524.

81147. BERBERIS LYCIUM Royle.

No. 216. A half-evergreen shrub, 10 feet high, with narrow bright-green leaves and pale-yellow flowers followed by ovoid violet berries. Native to northern India.

For previous introduction see No. 79004.

81148. CESTRUM PARQUI L'Her. Solanaceae. **Chilean cestrum.**

No. 344. A semihardy, nearly glabrous shrub native to Chile. The leaves are lanceolate to oblong, and the long, tubular flowers are sessile, in open panicles, greenish yellow, and very fragrant at night. It is much grown in warm countries where it blooms continuously.

For previous introduction see No. 47401.

81149. CESTRUM SUBEROSUM Jacq.

No. 345. An erect glabrous shrub 5 feet high, with ill-smelling flat oblong-oval leaves up to 4 inches long, and

81074 to 81208—Continued.

sulphur-yellow flowers in axillary and terminal racemes. Native country unknown.

81150 to 81152. CYTISUS spp. Fabaceae. **Broom.**

81150. CYTISUS FILIPES Webb and Berth.

No. 614. An upright nearly leafless shrub with very slender stems and branches, native to the island of Teneriffe, Canary Islands. The few trifoliolate leaves are made up of linear-lanceolate, nearly glabrous leaflets, and the rather large, fragrant, pure-white flowers are in axillary clusters.

For previous introduction see No. 65008.

81151. CYTISUS HILLEBRANDTII (Christ) Briq.

No. 615. A suffruticose plant with long slender hairy stems and trifoliolate hairy leaves. Native to the Canary Islands.

81152. CYTISUS RACEMOSUS EVERESTIANUS (Carr.) Rehd.

No. 613. This very free-flowering form of the Easter broom, *Cytisus racemosus,* is a pubescent shrub up to 6 feet high, with grooved branches, persistent trifoliolate leaves of obovate leaflets, and deep-yellow flowers in long loose terminal and lateral racemes. A garden hybrid.

81153. DIMORPHOTHECA ECKLONIS DC. Asteraceae. **Cape-marigold.**

No. 651. A robust and erect subshrub 2 feet or more high, with crowded linear-lanceolate leaves, and terminal flower heads having rays 1½ inches long, which are white above and purplish below. Native to South Africa.

81154. ECHEVERIA AMOENA De Smet. Crassulaceae.

No. 671. A nearly stemless succulent with small dense rosettes of thick leaves and slender scapes 4 to 8 inches high, bearing 1-flowered to 8-flowered racemes of red flowers. Native to Mexico.

81155. ECHIUM CALLITHYRSUM Webb. Boraginaceae.

No. 685. A robust woody or treelike perennial with strongly nerved leaves and thyrsoid spikes of pale red flowers. Native to the Canary Islands.

81156. ENCEPHALARTOS LEHMANNI Lehm. Cycadaceae.

No. 700. A cycad with a smooth cylindrical trunk and a crown of pinnate leaves having glaucous lanceolate opposite leaflets 5 to 7 inches long, each tipped with a brown spine. Native to South Africa.

81157 to 81166. GASTERIA spp. Liliaceae.

81157. GASTERIA ACINACIFOLIA (Jacq.) Haw.

No. 776. A nearly stemless succulent plant with a 2-ranked rosette, 2 to 14 inches across, of 3-edged acute dark glossy green leaves having scattered paler dots. The reddish flowers, 1 to 2 inches long, are borne on a stalk about 4 feet high. Native to South Africa.

81158. GASTERIA ANGULATA (Willd.) Haw.

No. 777. A succulent plant with a rosette of leaves 8 to 10 inches long and 2 inches wide, slightly concave on each face and one or both edges angularly doubled; dark green with small confluent white spots. The flower stem is about 3 feet high, bearing curved tubular red flowers scarcely an inch long. Native to South Africa.

81159. GASTERIA BREVIFOLIA Haw.

No. 778. 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.

For previous introduction see No. 78204.

81160. GASTERIA CARINATA (Mill.) Haw.

No. 779. A nearly stemless succulent plant with thick, spreading, triangular leaves 2 inches wide at the base and 6 inches long, grooved above, dull green with coarse whitish warts. The flower stalk is 2 to 3 feet high and is often branched. Native to South Africa.

81161. GASTERIA CHEILOPHYLLA Baker.

No. 780. A succulent with a stem about 2 inches long and 14 to 18 leaves in a spirally twisted rosette. The nearly erect, sword-shaped leaves are 9 to 12 inches long, sometimes doubled on one edge, and are dark green with copious, confluent, slightly raised white spots. Native to South Africa.

81162. GASTERIA LINGUA (Thunb.) Berger.

No. 781. A succulent, nearly stemless plant with concave oblong 2-edged leaves 2 inches wide at the base and 8 to 10 inches long, green or grayish with more or less banded pale-greenish spots. The simple flower stalk is about 3 feet high. Native to South Africa.

81163. GASTERIA MACULATA (Thunb.) Haw.

No. 782. A succulent with an evident stem on which the tongue-shaped leaves are crowded in twisted ranks. The leaves, 2 inches wide and 6 to 8 inches long, are abruptly sharp pointed, 2-edged or with one margin doubled, and are glossy dark green with oblong white spots. The branched flower stalk is 3 to 4 feet high. Native to South Africa.

81164. GASTERIA MOLLIS Haw.

No. 783. A succulent with a leafy stem 1 to 2 feet high, crowded, spreading, tongue-shaped leaves 3 to 4 inches long, dull green with small immersed spots and tubercles on the edges. The reddish flowers are in a raceme on a simple stem about a foot high. Native to South Africa.

81165. GASTERIA NITIDA (Salm-Dyck) Haw.

No. 784. A succulent with nearly radical triangular-lanceolate leaves 2 inches wide at the base and 6 to 9

81074 to 81208—Continued.

inches long, light glossy green with white-banded spots. The simple flower stalk is about 3 feet high. Native to South Africa.

For previous introduction see No. 78206.

81166. GASTERIA SUBNIGRICANS (Spreng.) Haw.

No. 785. A succulent with the radical leaves in two nearly straight ranks and a simple flower stalk about 3 feet high. The leaves are scarcely an inch wide at the base, 5 to 8 inches long, and green with small separate transversely arranged pale spots.

81167. HAKEA SUAVEOLENS R. Br. Proteaceae.

No. 815. A rounded shrub 8 to 15 feet high, with leaves 2 to 4 inches long, cylindrical, with rigid spinelike tip, occasionally entire, but usually branched into rigid cylindrical lobes and fragrant white flowers. It is an easily grown, drought-resistant, self-protective shrub, and makes a suitable covering for dry hillsides, although it is not deep-rooted and sometimes is inclined to become top-heavy. It is native to Australia.

For previous introduction see No. 42603.

81168. HAWORTHIA ATTENUATA Haw. Liliaceae.

No. 819. A cespitose succulent plant with the leaves in a spiral rosette and a flower stalk about 2 feet high, bearing tubular rosy flowers. The thick sword-shaped leaves, half an inch wide by 3 inches long, are green with the upper face roughened by minute green points and the lower surface with large white tubercles in bands or ridges. Native to South Africa.

81169. HAWORTHIA TORTUOSA PSEUDORIGIDA (Salm-Dyck) Berger (*H. subrigida* Baker). Liliaceae.

No. 822. A succulent with clustered stems up to 6 inches long, bearing small 3-ranked leaves and a flower stalk a foot high with rosy-lined tubular flowers. The dull-green fleshy leaves are 2 inches long and are roughened on both surfaces. Native to South Africa.

81170. HYMENOSPORUM FLAVUM (Hook.) F. Muell. Pittosporaceae.

No. 862. An ornamental evergreen shrub or tree, sometimes becoming 50 feet high, native to Australia. The leaves are up to 9 inches long, and the fragrant flowers, yellow marked with red at the throat, are over an inch across. Its symmetrical pyramidal habit and rapid growth make it promising as a street tree for the Gulf States and California.

For previous introduction see No. 61058.

81171. KALANCHOE CRENATA Haw. Crassulaceae.

No. 917. A succulent perennial, native to tropical Africa, 2 to 6 feet high, with a thick fibrous root, oblong or roundish oval crenate leaves about 2 inches long, and bright-yellow flowers, half an inch long, in terminal and axillary cymes.

For previous introduction see No. 79166.

81074 to 81208—Continued.

81172. KALANCHOE DYERI N. E. Brown. Crassulaceae.

No. 918. One of the most attractive plants of this genus, producing large pure-white flowers, 1½ inches long, in corymbose cymes. The entire plant is 2½ feet high, with large, opposite, green or purplish leaves speckled with white and irregularly and coarsely toothed.

81173. LAVANDULA ABROTANOIDES Lam. Menthaceae. **Lavender.**

No. 947. A herbaceous perennial about 2 feet high, native to the Canary Islands. It has green bipinnate leaves and a branched spike of bluish flowers.

81174. MELALEUCA ACUMINATA F. Muell. Myrtaceae.

No. 1042. A glabrous bushy shrub with slender branches, mostly opposite lanceolate leaves a quarter of an inch long, and lateral clusters of small whitish flowers. Native to Australia.

81175. MELALEUCA CUTICULARIS Labill. Myrtaceae.

No. 1044. A tall shrub or small tree with twisted branches and bark in paperlike layers. The thick, flat, linear-oblong leaves are half an inch long, and the small flowers are grouped in a scaly head. Native to Australia.

81176. MESEMBRYANTHEMUM ACINACIFORME L. Aizoaceae. **Figmarigold.**

No. 1061. A fleshy plant with a jointed stem 2 to 3 feet high, opposite, scimitar-shaped leaves 2 to 3 inches long, with the keel dilated, and purple flowers about 4 inches across, said to be the largest of the genus. The edible fruits, about the size of a gooseberry, are eaten by the natives of South Africa.

For previous introduction see No. 79480.

81177 to 81183. NEOMAMMILLARIA spp. Cactaceae.

81177. NEOMAMMILLARIA DONATII (Berge) Britt. and Rose.

No. 1019. A spherical or somewhat compressed cactus, native to Mexico, which is simple or with few branches in old plants. The summit, somewhat concave, is filled with white hairs through which project dark-brown spines. The tubercles are conical and about one-third of an inch high. The small carmine-red flowers, half an inch across, are mostly near the summit.

81178. NEOMAMMILLARIA ELONGATA (DC.) Britt. and Rose.

No. 1020. An erect cactus 6 to 7 inches high and 1 to 2 inches in diameter, with short tubercles having 16 to 18 yellow radial spines. The flowers are white or yellowish. Native to central Mexico.

81179. NEOMAMMILLARIA MACRACANTHA (DC.) Britt. and Rose.

No. 1016. A depressed-globular cactus, 2 to 6 inches in diameter, with ovoid tubercles crowned by one or two reddish elongated spines up to 2 inches long, and dark-pink flowers about three-fourths of an inch across, borne near the top of the plant. Native to San Luis Potosi, Mexico.

81074 to 81208—Continued.

81180 to 81183. NEOMAMMILLARIA MAGNIMAMMA (Haw.) Britt. and Rose.

A globular cactus 4 inches in diameter, often in a colony of 25 or more, with very milky juice. The conical tubercles, two-fifths of an inch high, are crowned by three to five unequal, stout, horn-colored spines, and the cream-colored flowers are borne in the axils of the tubercles near the top of the plant. Native to central Mexico.

The following are now referred to this species:

81180. No. 1014. *Mammillaria centricirrha.*

81181. No. 1015. *Mammillaria centricirrha krameri.*

81182. No. 1017. *Mammillaria centricirrha.*

81183. No. 1022. *Mammillaria schmidtii.*

81184. NEOMAMMILLARIA RHODANTHA (Link and Otto) Britt. and Rose. Cactaceae.

No. 1018. A cylindrical cactus a foot or less high, dull green, with terete tubercles one-fifth of an inch high, crowned by 15 to 20 white radial spines and 4 to 6 reddish brown central spines. The numerous rose-colored flowers are half an inch across, and the cylindrical red fruits are an inch long. Native to central Mexico.

81185. OLEA CHRYSOPHYLLA Lam. Oleaceae.

No. 1146. A small evergreen tree, closely related to the cultivated olive. Its chief ornamental value lies in the golden color of the undersurfaces of the leaves. Native to East Africa.

For previous introduction see No. 61777.

81186. PANDOREA RICASOLIANA (Tanf.) Baill. Bignoniaceae.

Ricasol pandorea.

No. 1292. An evergreen climbing shrub with pinnate leaves of 7 to 11 ovate, serrate leaflets an inch long, dark green above, pale beneath, and loose terminal panicles of large campanulate flowers 2 inches long, light pink striped with red. Native to South Africa.

For previous introduction see No. 48624.

81187 to 81201. SEMPERVIVUM spp. Crassulaceae. **Houseleek.**

81187. SEMPERVIVUM ARBOREUM L.

No. 1462. Variety *atropurpureum.* Rosettes tinged with dark purple; flowers red.

81188. SEMPERVIVUM AUREUM C. Smith.

No. 1463. A perennial succulent about a foot high, native to the Canary Islands. It has obovate-spatulate leaves and cymes of yellow flowers.

81189. SEMPERVIVUM BERTHELOTIANUM (Bolle) Christ.

No. 1464. A nearly stemless fleshy plant with a dense rosette of yellowish green, narrowly spatulate, white ciliate leaves, and 6 to 10 pale-yellow flowers on a scape a foot or more high. Native to the Canary Islands.

81074 to 81208—Continued.

81190. SEMPERVIVUM CANARIENSE L.

No. 1465. A variety forming immense rosettes of leaves, sometimes 14 inches across, which lie perfectly flat against perpendicular walls of lava rock. When there are many they give the appearance of a lot of large, green dinner plates stuck to the cliffs. From the center of these "plates" arise the flowering racemes and when the "dinner plates" are about to form these racemes they swell out in the middle and become like mammae. The flower clusters are striking but not particularly beautiful since the flowers themselves are greenish in color.

For previous introduction see No. 64593.

81191. SEMPERVIVUM CHLOROCHRYSUM Hort.

No. 1466. A horticultural variety for which a place of publication or description has not been found.

81192. SEMPERVIVUM CILIATUM Willd.

No. 1467. A woody perennial with obovate, acute leaves with the margin cartilaginous-ciliate and white flowers in dense cymes. Native to the Canary Islands.

81193. SEMPERVIVUM CUNEATUM (Webb and Berth.) Christ.

No. 1468. A fleshy evergreen plant 1 to 1½ feet high, with wedge-shaped leaves and terminal cymes of yellow flowers.

81194. SEMPERVIVUM DECORUM (Webb) Christ.

No. 1469. A much-branched shrubby succulent with a wrinkled ashy gray stem and papillose-wrinkled branches. The sessile lanceolate leaves are light greenish pink, paler beneath, and the rose-colored flowers are in a many-flowered corymb. Native to the Canary Islands.

81195. SEMPERVIVUM GLUTINOSUM Ait.

No. 1470. A viscous perennial, 1½ feet high, with large spatulate fleshy leaves and yellow flowers in terminal cymes. Native to Madeira.

81196. SEMPERVIVUM HAWORTHII Salm-Dyck.

No. 1471. A succulent evergreen perennial with a woody stem and yellow flowers. Native to the Canary Islands.

For previous introduction see No. 79184.

81197. SEMPERVIVUM HOLOCHRYSUM Webb and Berth.

No. 1472. A winter-blooming species native to the Canary Islands. It produces great masses of yellow flowers on a flower panicle 2 feet tall. It is a striking landscape plant and is worthy of being grown in southern California and Florida.

81198. SEMPERVIVUM HYBRIDUM Bruegg.

No. 1473. A natural hybrid between *Sempervivum montanum* and *S. doellianum,* closely resembling the latter. Native to Switzerland.

81074 to 81208—Continued.

81199. SEMPERVIVUM POCULIFORME Berg. and Wildem.

No. 1475. A succulent with the oblong-lanceolate basal leaves in a rosette and the stem leaves obovate-spatulate. The simple erect stem bears a glabrous panicle of yellow flowers. Probably native to the Canary Islands.

81200. SEMPERVIVUM URBICUM C. Smith.

No. 1476. A shrubby succulent with a simple stout erect stem about 3 feet high and covered with leaf-scars. The thick pale-green narrowly spatulate leaves are borne in a rosette at the top of the stem. The large pyramidal panicle of pale-yellow flowers is 3 feet high and nearly as broad. Native to the Canary Islands.

81201. SEMPERVIVUM VELUTINUM N. E. Brown.

No. 1477. A succulent plant about 2 feet high, with rosettes 6 to 9 inches broad of crowded spatulate velvety leaves 3 to 4 inches long, grayish green above and with darker green lines beneath. The bright-yellow flowers are in a compact cyme. Known only in cultivation.

81202. SOLANUM PYRACANTHUM Jacq. Solanaceae.

No. 1507. An erect shrubby plant about 3 feet high, with oblong, deeply lobed leaves 6 inches long and spiny along the midrib. The numerous blue flowers are borne in lateral racemes sometimes 6 inches long. Said to be native to tropical Africa.

81203. STAPELIA HANBURYANA Berger and Ruest. Asclepiadaceae.

No. 1528. A freely branching cactus-like plant with obtusely 4-angled stems 2 to 6 inches long. The flowers are 2 to 3 inches broad, rugose inside, greenish yellow evenly marked with small transverse purplish brown spots and lines and edged with the same color. Considered to be a hybrid of some form of *Stapelia variegata*.

81204. STYRAX OFFICINALIS L. Styracaceae. **Snowbell.**

No. 1549. A handsome shrub or low tree, 20 feet high, with hairy broadly oval leaves and numerous white bell-shaped flowers about three-fourths of an inch long, in small clusters. It is native to Europe and Asia Minor.

For previous introduction see No. 77620.

81205. TOONA CILIATA Roemer (*Cedrela toona* Roxb.). Meliaceae. **Toon tree.**

No. 1574. A large tropical tree 50 to 80 feet high, with nearly evergreen foliage and white, honey-scented flowers. The wood, which is used for furniture, carvings, and for making cigar boxes, is very durable and is not attacked by termites. Native to India.

For previous introduction see No. 61766.

81206. WIGANDIA CARACASANA H. B. K. Hydrophyllaceae.

No. 1632. A robust subshrub 9 feet high, with soft golden pubescence, long petioled, broadly ovate, crenate leaves,

81074 to 81208—Continued.

white tomentose beneath, 18 inches long by 10 inches broad. The broadly campanulate violet flowers are borne in a 1-sided terminal raceme. Native to Venezuela.

For previous introduction see No. 51152.

81207. WIGANDIA URENS (Ruiz and Pav.) H. B. K. Hydrophyllaceae.

No. 1633. A stout erect subshrub covered with dense whitish hairs. The short-petioled, ovate, serrate leaves are 12 inches long by 7 inches broad, and the violet flowers are in a broad terminal raceme. Native to Peru.

For previous introduction see No. 44126.

81208. SEMPERVIVUM YOUNGIANUM (Webb and Berth.) Christ. Crassulaceae. **Houseleek.**

No. 1478. A fleshy plant with a thick woody stem and thick shining dark-green obcordate-spatulate leaves with short hairs along the margins. Native to the Canary Islands.

81209 to 81217.

From Yemen, Arabia. Seeds presented by Prince Mohamed Saiffal-Islam, Hodeida, through K. S. Twitchell, Aden. Received July 22, 1929.

81209 and 81210. PENNISETUM GLAUCUM (L.) R. Br. (*P. typhoideum* Rich.). Poaceae. **Pearl millet.**

81209. *Balade.*

81210. *Mikawi.*

81211. PHASEOLUS AUREUS Roxb. Fabaceae. **Mung bean.**

Kishrey.

81212. SESAMUM ORIENTALE L. Pedaliaceae. **Sesame.**

81213 to 81216. SORGHUM VULGARE Pers. Poaceae. **Sorghum.**

81213. *Bainey.*

81214. *Gharb.*

81215. *Hombre.*

81216. *Migna.*

81217. ZEA MAYS L. Poaceae. **Corn.**

Hind.

81218. (Undetermined.)

From Peradeniya, Ceylon. Seeds collected by David Fairchild and P. H. Dorsett, agricultural explorers of the Bureau of Plant Industry, with the Allison V. Armour expedition. Received February 26, 1926. Numbered in September, 1929.

No. 256. Royal Botanic Gardens, January 1, 1926. A beautiful slender-stemmed tall palm with graceful pinnate leaves. Native to Singapore.

81219 to 81229.

From Ariana, Tunis, Africa. Cuttings presented by F. Bœuf, Chef du Service Botanique. Received August 2, 1929.

81219 to 81224. AMYGDALUS COMMUNIS L. (*Prunus amygdalus* Stokes). Amygdalaceae. **Almond.**

81219. *Abiod.*

81219 to 81229—Continued.

81220. *Constantini.*

81221. *Grosse Verte.*

81222. *A la Dame.*

81223. *Ronde Fine.*

81224. *Zaaf.*

81225 to 81229. PRUNUS ARMENIACA L. Amygdalaceae. **Apricot.**

81225. *Chechi.*

81226. *Hatif Musque.*

81227. *Précoce de Boulbon.*

81228. *Senadqui.*

81229. *Luizet.*

81230 to 81265.

From Kirstenbosch, Newlands, near Cape Town, Union of South Africa. Seeds presented by R. H. Compton, Director. National Botanic Gardens. Received July 8, 1929.

Native to South Africa.

81230 to 81247. ERICA spp. Ericaceae. **Heath.**

81230. ERICA ABIETINA L.

An erect glabrous shrub usually about 2 feet high, with virgate branches, densely imbricated incurved linear leaves in fours, and racemose clusters of tubular flowers, yellow with an orange limb.

81231. ERICA BOWIEANA Lodd.

A low shrub with virgate branches a foot long, small thick sulcate leaves crowded in fours, and racemose clusters of tubular flowers below the ends of the branches.

81232. ERICA CURVIFLORA L.

A shrub up to 5 feet high, with stout virgate branches, small linear-lanceolate keeled leaves, and solitary red, orange, or yellow trumpet-shaped curved flowers an inch or more long.

81233. ERICA DIOSMAEFOLIA Salisb.

A low shrub 4 to 8 inches high, with many rigid branches, small sulcate linear-trigonous leaves, and white cyathiform flowers scattered at the ends of the branches.

81234. ERICA GILVA Wendl.

An erect glabrous shrub 2 to 3 feet high, with stout ascending leafy branches, erect or spreading lanceolate leaves, and greenish white tubular flowers about an inch long gathered into lateral clusters.

81235. ERICA GLANDULOSA Thunb.

An erect shrub 2 feet or more high, with all parts covered with gland-tipped hairs. The spreading linear sulcate leaves are in fours, the bracts are foliaceous, and the club-shaped flowers are in clusters of three to five.

81236. ERICA GLAUCA ELEGANS (Andrews) Bolus.

A stout erect entirely glabrous shrub up to 3 feet high, with rigid ascending branches, linear-semiterete curved

81230 to 81265—Continued.

spreading leaves in threes, half an inch long, and small umbels of dull-red or purple urn-shaped flowers more than half an inch long.

81237. ERICA GLOBOSA Andrews.

An erect shrub 1 to 2 feet high, with long glandular-setose branches, spreading lanceolate leaves with recurved margins, and broadly urn-shaped rosy red flowers in terminal clusters and axillary near the ends of the branches.

81238. ERICA HEBECALYX Benth.

An erect virgately branched shrub with incurved linear sulcate leaves in threes, and club-shaped incurved flowers more than an inch long. The broad softly gray tomentose sepals and bracts give this plant a distinct appearance.

81239. ERICA LAETA Bartl.

A glabrous erect shrub about a foot high, with erect linear sulcate leaves and umbellate clusters of urn-shaped bright-red flowers.

81240. ERICA MAMMOSA L.

An erect shrub up to 4 feet high, with ascending branches which are leafy above and naked below. The scattered linear-lanceolate leaves are in fours, and the purple, red, scarlet, or white tubular flowers are in a loose raceme.

81241. ERICA PINEA Thunb.

An erect shrub a foot high, with stout rigid flexuous branches, scattered incurved linear leaves, and white or yellow club-shaped flowers crowded at the ends of the branches.

81242. ERICA QUADRANGULARIS Salisb.

An erect shrub 12 to 18 inches high, with spreading branches, spreading linear leaves, and an abundance of cyathiform 4-sided rosy or white flowers.

81243. ERICA QUADRISULCATA Hort.

A name for which a place of publication or description has not been found.

81244. ERICA SITIENS Klotzsch.

An erect shrub 1 to 2 feet high, with stout ascending branches, linear usually erect leaves, and urceolate to tubular white or red flowers mostly in fours.

81245. ERICA TAXIFOLIA Bauer.

An erect rigid shrub less than a foot high, with numerous short, straight, pallid branches, erect or spreading linear-trigonous sulcate leaves in threes, and umbellate clusters of broadly urceolate brownish flowers.

81246. ERICA UNICOLOR Wendl.

An erect shrub 3 to 4 feet high, with ascending branches, laxly spreading linear leaves with long hairs, and viscid tubular green flowers.

81247. ERICA VESTITA Thunb.

An erect virgately branched shrub 1 to 3 feet high, crowded erect linear-subtrigonous leaves in sixes, and very small club-shaped white, yellow, rosy, or crimson flowers.

81230 to 81265—Continued.

81248. FAUCARIA TIGRINA (Haw.) Schwantes. (*Mesembryanthemum tigrinum* Haw.). Aizoaceae. **Figmarigold.**

An almost stemless perennial with ovate cordate white-marbled glaucous green leaves having upturning edges with long soft ciliated teeth. The large yellow flowers are nearly sessile.

For previous introduction see No. 78226.

81249. GLADIOLUS TRISTIS L. Iridaceae.

A bulbous perennial with three to five strongly ribbed terete leaves a foot long and a lax spike, 2 feet high, of yellowish white, purplish pencilled flowers. This species is said to exhale a delightful lemon perfume at night.

For previous introduction see No. 77224.

81250 to 81265. MESEMBRYANTHEMUM spp. Aizoaceae. **Figmarigold.**

81250. MESEMBRYANTHEMUM AURANTIACUM Haw.

A low fleshy plant about a foot high, with smooth leaves an inch or less long, and orange flowers about 1½ inches wide.

For previous introduction see No. 66813.

81251. MESEMBRYANTHEMUM BLANDUM Haw.

An erect perennial succulent, 2 feet high, with numerous branches, compressed-triangular leaves 2 inches or less long, with minute dots and pale-rose or white flowers 2 inches across.

For previous introduction see No. 79481.

81252. MESEMBRYANTHEMUM BOULUSII Hook. f.

A dwarf stemless succulent plant consisting at maturity of two fully formed dull-gray leaves at right angles to a pair of small withered ones, with one or two sessile yellow and dull-red flowers between them. The hemispherical-trigonal leaves are 2 inches in diameter, and the flowers are 2 to 3 inches across.

81253. MESEMBRYANTHEMUM CALAMIFORME L.

A succulent plant 1 to 2 inches high, with glaucescent-dotted nearly terete subulate leaves about 2 inches long, and dirty white flowers on peduncles an inch long.

81254. MESEMBRYANTHEMUM CONSPICUUM Haw.

A shrubby succulent 1 to 2 feet high, with rigid ascending tortuous branches, crowded incurved triquetrous green leaves, and red flowers on peduncles about 3 inches long.

81255. MESEMBRYANTHEMUM EMARGINATUM L.

A shrubby succulent about 2 feet high, with spreading flexuose branches, scattered semiterete linear leaves, and long-stemmed reddish flowers, in threes, having bidentate petals.

81230 to 81265—Continued.

81256. MESEMBRYANTHEMUM FILAMENTOSUM L.

A semishrubby succulent with angled reddish stems and decumbent branches, crowded dotted scimitar-shaped leaves 1 to 2 inches long, and purplish flowers.

81257. MESEMBRYANTHEMUM GRANULATUM N. E. Brown.

A low fleshy plant, stemless or nearly so, branching at the base and forming a clump half an inch high. The six to eight dull-green leaves are cruciately opposite, crowded, connate, thick at the base, flat above, with obtuse side angles, and acute points. The light-yellow flowers are about an inch across on a terminal peduncle.

81258. MESEMBRYANTHEMUM HETEROPETALUM Haw.

A low succulent with erect-spreading stem and branches and glaucous subfalcate leaves. The pale-red or whitish flowers are solitary.

For previous introduction see No. 79487.

81259. MESEMBRYANTHEMUM INTEGRUM Hort.

A name for which a place of publication or description has not been found.

81260. MESEMBRYANTHEMUM NOBILE Haw.

A nearly stemless succulent with four to six triquetrously clavate leaves 2 to 3 inches long, marked by large elevated tubercles, and nearly sessile yellow flowers 2 inches in diameter.

81261. MESEMBRYANTHEMUM PILLANSII Kensit.

A shrubby plant about 2 feet high, with reddish flattened branches, triangular-compressed leaves up to an inch long, and terminal whitish flowers about 1½ inches across.

81262. MESEMBRYANTHEMUM PRODUCTUM Haw.

A dwarf succulent with erect stems 1 to 2 inches high, with crowded incurved semicylindrical leaves 1 to 2 inches long, and pale rose-colored flowers in twos or threes on peduncles about an inch long.

81263. MESEMBRYANTHEMUM RIGIDICAULE Haw.

A shrubby succulent with angular stems, opposite triquetrous dotted leaves 2 to 3 inches long, and white or rosy flowers about an inch across.

81264. MESEMBRYANTHEMUM RUBRICAULE Haw.

A perennial with erect reddish stems and branches, flat triangular incurved leaves 1 to 2 inches long, and purplish flowers with lanceolate petals.

For previous introduction see No. 77236.

81265. MESEMBRYANTHEMUM SIMPSONII Hort.

A name for which a place of publication or description has not been found.

81266 to 81269.

From Guatemala. Seeds presented by Wilson Popenoe, research department, United Fruit Co., Tela, Honduras. Received August 6, 1929.

81266. COMBRETUM FARINOSUM H. B. K. Combretaceae.

Peineta. A climbing plant bearing red flowers in March. The flowers are arranged in long stiff racemes, giving the common name *peineta* (comb flower).

For previous introduction see No. 49754.

81267. GUAIACUM GUATEMALENSE Planch. Zygophyllaceae.

Guayacan. A small tree, sometimes 30 feet high, with a gnarled and twisted trunk, slender branches, and small, delicate leaves. It thrives in a warm climate with little rain. During February or March the tree comes into flower and is then a mass of lavender-purple, remaining in bloom several weeks. The wood is exceedingly hard and is of value for cabinet purposes. The heartwood is a rich brown, while the sapwood is light yellow; both take a fine polish.

For previous introduction see No. 51407.

81268. MAXIMILIANEA VITIFOLIA (Willd.) Krug and Urb. (*Cochlospermum hibiscoides* Kunth). Cochlospermaceae.

Tecomasuche. A deciduous tree, native to Central America, 35 feet in height, but flowering when only 6 feet high. The alternate leaves have five to seven serrate lobes, and the handsome bright-yellow flowers, 4 inches across, are in terminal clusters.

For previous introduction see No. 80631.

81269. PHYLLOCARPUS SEPTENTRIONALIS Donn. Smith. Caesalpiniaceae.

Flor de Mico. A handsome flowering tree native to eastern Guatemala at altitudes between 1,500 and 2,000 feet. It is of broad spreading habit, 40 to 50 feet high, with small, light-green compound leaves and clusters of small crimson-scarlet flowers borne in great profusion during January and February.

For previous introduction see No. 80696.

81270 and 81271.

From Herradura, Cuba. Seeds presented by Mrs. F. S. Earle. Received August 12, 1929.

81270. ARECASTRUM sp. Phoenicaceae. **Palm.**

A pinnate-leaved palm closely related to the coconut palm.

81271. MANGIFERA INDICA L. Anacardiaceae. **Mango.**

Philippino.

81272. MEDICAGO SATIVA L. Fabaceae. **Alfalfa.**

From Sydney, New South Wales, Australia. Seeds presented by H. Wenholz, Director of Plant Breeding, Department of Agriculture. Received August 14, 1929.

Hunter River lucern. This strain does exceptionally well in Sydney, and should

81272—Continued.

be adapted to conditions in the southern United States where Peruvian alfalfa is grown.

81273. ANEMONE ALPINA L. Ranunculaceae.

From France. Seeds presented by D. C. Peattie. Received August 19, 1929.

Collected at the Col du Lautheret, Hautes Alpes, at an altitude of 6,000 feet, August 4, 1929. An alpine herbaceous perennial, native to Europe, with a thickened root, stems 9 to 18 inches high, and smooth or hairy, finely divided leaves. The attractive flowers, borne in small umbellike clusters, are 2 to 3 inches across, usually creamy white inside and purple outside with yellow stamens.

81274. ACROCOMIA SCLEROCARPA Mart. Phoenicaceae. **Macauba palm.**

From Port of Spain, Trinidad, British West Indies. Seeds presented by R. O. Williams, Superintendent and Assistant Botanist, Department of Agriculture. Received August 15, 1929.

A graceful spiny palm, 30 to 45 feet high, with a terminal cluster of narrow, pinnate leaves. It is native to tropical America. When matured the inside of the trunk furnishes excellent starch equal in quality to that of the cassava plant. The leaves yield strong fiber, utilized by the natives of Paraguay for making hammocks. From the yellowish fruits, about an inch in diameter, an excellent edible oil is expressed.

For previous introduction see No. 61385.

81275. HEMEROCALLIS FULVA L. Liliaceae. **Tawny daylily.**

From Japan. Bulbs collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received August 20, 1929.

No. 696. A double-flowered form growing along a hillside on the road between Shimizu and Yamakita, July 27, 1929.

81276 to 81283. GOSSYPIUM spp. Malvaceae. **Cotton.**

From Galápagos Islands. Seeds obtained by A. K. Fisher, Bureau of Biological Survey. Received August 2, 1929.

81276. GOSSYPIUM sp.

From Hood Island, July 5, 1929.

81277. GOSSYPIUM sp.

From a bird's nest on Charles Island, June 28, 1929.

81278. GOSSYPIUM sp.

From Charles Island, July 5, 1929.

81279. GOSSYPIUM sp.

From Indefatigable Island, June 18, 1929.

81280. GOSSYPIUM sp.

From Indefatigable Island, June 18, 1929.

81281. GOSSYPIUM sp.

From Chatham Island, July 3, 1929.

81282. GOSSYPIUM sp.

From Charles Island.

81276 to 81283—Continued.

81283. GOSSYPIUM sp.

From Charles Island, June 28, 1929. Flowers bright yellow, becoming dark pink with age.

81284. LILIUM sp. Liliaceae. **Lily.**

From Japan. Bulbs collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received August 1, 1929.

No. 910. Growing on the mountain side, Takaoyama Forest, near Takao, July 8, 1929.

81285. MEDICAGO SATIVA L. Fabaceae. **Alfalfa.**

From Landsberg am Warthe, Germany. Seeds obtained from the Deutsche Saatveredelung, through the Bureau of Agricultural Economics. Received August 7, 1929.

Old Frankish lucern, produced in the vicinity of Landsberg.

81286 to 81289. FRAGARIA spp. Rosaceae. **Strawberry.**

From Sydney, New South Wales, Australia. Plants presented by C. G. Savage, Director of Fruit Culture of the New South Wales Department of Agriculture. Received August 9, 1929.

81286. FRAGARIA sp.

Creswell.

81287. FRAGARIA sp.

Fandelcino.

81288. FRAGARIA sp.

Malakoff.

81289. FRAGARIA sp.

Phenomenal.

81290 to 81296.

From Cape Town, Union of South Africa. Presented by W. S. Duke & Co. Received August 7, 1929.

81290. ANTHOLYZA REVOLUTA Burm. f. Iridaceae.

Seeds of a slender-stemmed plant, closely allied to gladiolus, bearing bright-red flowers in a few-flowered, very lax spike. Native to southwestern South Africa.

For previous introduction see No. 62799.

81291 to 81293. GLADIOLUS spp. Iridaceae.

81291 and 81292. GLADIOLUS ALATUS L.

A very interesting plant with flowers of a delightful fragrance not unlike that of the sweetbrier. The three upper petals are bright orange-scarlet, and the three lower ones are yellowish tipped with orange scarlet. The bulbs are not larger than ordinary peas and can not remain long out of the ground. Native to South Africa.

For previous introduction see No. 54304.

81291. Bulbs.

81292. Seeds.

81290 to 81296—Continued.

81293. GLADIOLUS sp.

Painted Ladies. Bulbs.

81294. IXIA sp. Iridaceae.

Seeds.

81295. SPARAXIS TRICOLOR (Curtis) Ker. Iridaceae. **Wandflower.**

Seeds of spring-flowering bulbous plant, native to South Africa, with flat sword-shaped leaves and stems a foot high, bearing clusters of funnel-shaped flowers 1 to 2 inches across which vary in color from nearly white through rose, carmine, crimson, to dark purple excluding blue and yellow, but always having a yellow blotch at the base of each segment.

81296. VELTHEIMIA VIRIDIFOLIA Jacq. Liliaceae.

Seeds of a bulbous perennial, native to South Africa, with oblong wavy-margined radicle leaves a foot long and a leafless scape 1 to 2 feet high, mottled with purple. The reddish yellow tubular flowers, with greenish tips, are over an inch long and are borne in a dense raceme 3 to 6 inches long.

81297. LILIUM sp. Liliaceae. **Lily.**

From Hanabata, Japan. Bulbs collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received August 12, 1929.

No. 959. Obtained from an agricultural fair in the public-school building, July 19, 1929. A species with edible bulbs of relatively uniform size and shape.

81298 to 81307.

From Japan. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received August 7, 1929.

81298. OSTERDAMIA JAPONICA (Steud.) Hitchc. Poaceae. **Japanese lawngrass.**

No. 925. Collected on Miharadai Mountain peak, July 9, 1929. A grass which makes a very tight sod, but only a short growth.

For previous introduction see No. 80941.

81299. PHYTOLACCA ACINOSA Roxb. Phytolaccaceae. **Pokeberry.**

No. 956. Collected in Tokujima Temple grounds, near Umeshimamura. July 15, 1929. A stout, almost woody, pokeberry closely resembling the native American pokeberry and used as greens in the same manner. Native to China and Japan.

81300 to 81304. RUBUS spp. Rosaceae.

81300. RUBUS sp.

No. 913. Collected on a mountain top, at an altitude of 1,300 feet, near Takao, July 8, 1929. A species with very large canes, nearly 2 inches in diameter, and bright-red fruits.

81301. RUBUS sp.

No. 914. Collected on a mountain top near Takao, July 8, 1929. A bright golden-yellow raspberry.

81302. RUBUS sp.

No. 915. From a trail near the mountain top in Takaoyama Forest, near Takao, July 8, 1929. A species with orange-yellow fruits.

81298 to 81307—Continued.

81303. RUBUS sp.

No. 916. From plants along a mountain trail near the top of Takaoyama, July 9, 1929. A fairly prolific species with quite large canes and bright-red fruits.

81304. RUBUS sp.

No. 918. From plants along a trail near the top of Takaoyama, Takao, July 9, 1929. A species with orange fruits.

81305 and 81306. SAMBUCUS RACEMOSA L. Caprifoliaceae. **European red elder.**

For previous introduction see No. 77614.

81305. No. 552. Between Shoji and Kofu, June 28, 1929. A small red-berried variety with quite large, showy clusters.

81306. No. 917. From plants along a mountain trail on Takaoyama, Takao, July 9, 1929. Bright-red seeds.

81307. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. **Soybean.**

No. 487. Near Matsushima Mura, July 6, 1929. Mixed varieties of green-seeded and yellow-seeded varieties used in making miso.

81308 to 81342. SACCHARUM OFFICINARUM L. Poaceae. **Sugarcane.**

From Sydney, Australia. Cuttings presented by P. H. Goldfinch, general manager of the Colonial Sugar Refining Co. Received August 10, 1929.

81308. No. 3.
81309. No. 5.
81310. No. 6.
81311. No. 12.
81312. No. 14.
81313. No. 15.
81314. No. 17.
81315. No. 21.
81316. No. 23.
81317. No. 25.
81318. No. 26.
81319. No. 27.
81320. No. 30.
81321. No. 31.
81322. No. 32.
81323. No. 33.
81324. No. 34.
81325. No. 43.
81326. No. 47.
81327. No. 49.
81328. No. 51.
81329. No. 212.
81330. No. 215.
81331. No. 256.
81332. No. 257.
81333. No. 259.
81334. No. 265.
81335. No. 266.
81336. No. 267.
81337. No. 268.
81338. No. 283.
81339. No. 284.
81340. No. 285.
81341. No. 287.
81342. No. 288.

81343. EUGENIA PUNGENS Berg. Myrtaceae. **Guabiyu.**

From El Saff, Egypt. Seeds presented by Alfred Bircher, Middle Egypt Botanic Station. Received August 12, 1929.

A bushy species native to South America, with pungent leaves and myrtlelike flowers. The black fruits, generally in pairs, are about an inch across with sweet, yellow flesh inclosing one or two large green seeds.

For previous introduction see No. 47987.

81344 to 81355.

From Tiflis, Georgia, Union of Socialistic Soviet Republics. Seeds presented by the director of the botanic garden. Received August 12, 1929.

81344. BELLEVALIA ALBANA Hort. Liliaceae.

A horticultural name for which a place of publication or a description has not been found.

81345. HEDERA COLCHICA Koch. Araliaceae. **Colchis ivy.**

A high-climbing vine with the young growth covered by golden-yellow scales, broadly cordate almost entire bright-green leaves of firm texture, and small umbels of greenish yellow flowers in paniculate clusters, followed by black fruits. It is native to the Caucasus region.

81346 to 81349. IRIS spp. Iridaceae.

81346. IRIS CAUCASICA Hoffm.

A dwarf iris belonging to the Juno section, with a stem 3 to 15 inches high, mostly hidden by the crowded clasping leaves, which have white horny margins. The pale or bright-yellow flowers, one to four on each stem, have ovate outer segments with a broad rhomboidal claw, small auricles, and a toothed or ciliated crest; the inner segments are oblanceolate. Native to the Caucasus region.

For previous introduction see No. 79909.

81347. IRIS IBERICA Hoffm. **Iberian iris.**

A dwarf iris of the oncocyclus section, with falcate leaves 3 to 6 inches long and a large flower on a stem 3 to 4 inches high. The reflexing spoon-shaped falls are obovate, 2 inches broad, and pale brown, closely veined and blotched with purple brown with a dark velvety signal patch. The standards are overarching, varying from pure white to nearly the color of the outer segments. Native to the Caucasus region.

For previous introduction see No. 79910.

81348. IRIS TASCHIA Hort.

A name for which a place of publication or description has not been found.

For previous introduction see No. 79918.

81349. IRIS sp.

Received as *Iris sulfurea,* which is usually a synonym of *I. pumila;* but the seeds received do not agree with the material of that species.

81350. MUSCARI SZOVITSIANUM Baker. Liliaceae. **Grape-hyacinth.**

A perennial with a large bulb which sends up several linear leaves 5 to 6 inches long and several scapes 4 to 5 inches high, with racemes of faintly odorous bright-blue urn-shaped flowers one-sixth of an inch across. Native to the Caucasus region.

81344 to 81355—Continued.

81351. MUSCARI TENUIFLORUM Tausch. Liliaceae. **Grape-hyacinth.**

A grape-hyacinth from south-central Europe, similar to *Muscari comosum*, but generally smaller, with upright narrow-linear leaves as long as the stem, which is about a foot high. The lower fertile flowers, in a cylindrical raceme, are apple green with deep-brown, slightly recurved segments, while the numerous sterile flowers form a rather dense long raceme above.

81352. PAEONIA MLOKOSEWITSCHI Lomakin. Ranunculaceae.

A herbaceous perennial peony with dark bluish green biternate leaves with red nerves and margins and yellow flowers 4 to 5 inches in diameter, which have numerous stamens and purple stigmas. This peony, considered the handsomest of the yellow-flowered forms, is native to the central Caucasus.

For previous introduction see No. 79924.

81353. PAEONIA TRITERNATA Pall. Ranunculaceae. **Peony.**

A herbaceous peony, native to Siberia, usually about 3 feet high, with triternate leaves and purple flowers.

For previous introduction see No. 79926.

81354. PARROTIA PERSICA (DC.) Meyer. Hamamelidaceae. **Persian parrotia.**

A shrub or small tree, up to 15 feet high, with spreading branches and ovate-oblong coarsely crenate leaves, 3 to 4 inches long, which turn scarlet, yellow, and orange in the autumn and remain on the branches a long time. The flower heads, which appear before the leaves, are rather inconspicuous except for the pendent purple stamens; the ovoid fruits are half an inch long with two recurved lobes. Native to Persia.

For previous introduction see No. 49136.

81355. PISTACIA MUTICA Fisch. and Mey. Anacardiaceae. **Terebinth.**

A deciduous tree up to 35 feet high, with pinnate foliage. It is sometimes used as a stock for pistache (*Pistacia vera*). Native to the eastern Mediterranean region.

For previous introduction see No. 73984.

81356 to 81381. SACCHARUM OFFICINARUM L. Poaceae. **Sugarcane.**

From Pasuruan, Java. Cuttings obtained through the Java Sugar-Producers' Association's experiment station, by R. D. Rands and George Arceneaux, Bureau of Plant Industry. Received August 13, 1929.

81356. *EK.*

81357. *21–C 3 Soerabnjamploeng.*

81358. *32–C 73.*

81359. *90–F.*

81360. *P. O. J. 2722.*

81361. *2753.*

81362. *2775.*

81356 to 81381—Continued.

81363. *2802.*

81364. *2806.*

81365. *2822.*

81366. *2875.*

81367. *2887.*

81368. *2940.*

81369. *F. 1081.*

81370. *F. 1087.*

81371. *G. 107.*

81372. *H. 581* (No. 1).

81373. *H. 581* (No. 2).

81374. *SW III.*

81375. *SW 499.*

81376. *Glog Djatiroto.*

81377. *Glog Kloet.*

81378. *Glog hepandjen.*

81379. *Glog Kletak I.*

81380. *Glog pasoeroean.*

81381. *Glog Tabongo.*

81382 to 81405. CUCUMIS MELO L. Cucurbitaceae. **Melon.**

From India. Seeds presented by the deputy director of gardens at Saharanpur, through the Director of the Agricultural Research Institute, Imperial Department of Agriculture in India, at Pusa, and Robert Frazer, consul general, Calcutta. Received August 12, 1929.

81382 to 81390. From Agra District.

81382. No. 1. *Mau.* A round greenish yellow melon with dark-green bands heavily overlain with white nettings. Flesh green and of fairly good flavor.

81383. No. 2. *Mau.* Similar to No. 1, but flesh orange.

81384. No. 3. *Bangar.* An oval round dull-red melon heavily overlaid with white netting; flesh orange, not sweet, and having very little flavor.

81385. No. 4. *Reti.* Dull-red and yellow melon with straw-colored bands; flesh pale lemon, slightly sweet, with very little flavor. Apparently two or three mixed varieties.

81386. No. 5. *Burhana* (*1*). Round yellow melon slightly overlaid with dull-red bands and a little white netting. Flesh greenish white and of fairly good flavor.

81387. No. 6. *Burhana* (*2*). A round, somewhat flat melon which is rich yellow splashed dull red and overlaid with white netting; flesh pale orange and of fairly good flavor.

81388. No. 7. *Burhana* (*3*). A round yellow and dull-red melon with dark-green bands overlaid with white netting; flesh orange and of fairly good flavor.

81389. No. 8. *Burhana* (*4*). A round yellow melon with green and orange bands overlaid with white netting; flesh orange and of fairly good flavor.

81390. No. 9. *Burhana* (*5*). A round dull-orange melon with green bands

81382 to 81405—Continued.

and heavily overlaid with white netting; flesh green shading to orange near the seed and of fairly good flavor.

81391. No. 10. From Ambala. An early variety producing bright-yellow fruits with very dark-green bands; flesh pale cream and of fairly good flavor. Many of the fruits are distinctly triangular in shape.

81392. No. 11. From Lucknow. *Chitla.* A round, flat melon which is light green with yellow spots and green splashes; flesh white and of fairly good flavor.

81393. No. 12. From Lucknow. *Khurra.* A round, rough-skinned melon which is yellow and slightly splashed dull red overlaid with white netting; flesh pale orange and of good flavor.

81394. No. 13. From Lucknow. *Sarda.* A round and somewhat flat, yellow melon with very narrow depressed bands of pale green; flesh pale orange and of good flavor.

81395. No. 14. From Lucknow. *Sufaida (1).* A round, flat, yellow melon with white flesh of good flavor. It is one of the best and most popular varieties.

81396. No. 15. From Lucknow. *Sufaida (2).* A round, flat, pale-cream melon slightly spotted and splashed with pale yellow; flesh white and of good flavor. It is probably a variety of *Sufaida (1).*

81397. No. 16. From Rampur State. *Chitla Jaldar.* A round, pale-yellow melon splashed with dull red irregularly overlaid with white netting; flesh pale yellow tinged with orange, very little flavor and not very sweet.

81398. No. 17. From Piranpur, Rampur State. *Geeala.* A long oval, bright-yellow melon heavily overlaid with white netting; flesh pale orange, rather juicy, but with little flavor.

81399. No. 18. From Tomri, Rampur State. *Jaldar Red.* A roundish oval, dull-red melon with dark-green bands heavily overlaid with white netting; flesh pale yellow tinted orange, not sweet and with no flavor.

81400. No. 19. From Rampur State. *Dhai Seera.* Long oval, pale yellow melon with orange bands; flesh pale orange, slightly sweet, and with very little flavor.

81401. No. 20. From Sitaria, Rampur State. *Red Jaldar.* Oval, dull orange-red melon overlaid with white netting; flesh pale yellow tinged with orange, not sweet, and with a very insipid flavor.

81402. No. 21. From Ghatampur, Rampur State. *Surkha Jaldar.* A round melon which is dark orange-red to yellow and dull orange with orange and green bands, overlaid with white netting; flesh pale yellow tinged with orange, fairly sweet, and of fairly good flavor.

81403. No. 22. From Saharanpur district. *Jalalabad.* A round flat melon which is rich golden yellow with juicy, sweet, white flesh of good flavor. Probably a variety of the Lucknow *Sufaida.*

81404. No. 23. From Saharanpur district. *Patair (1).* A round, somewhat flat, bright-yellow melon with dark-green bands; flesh green, fairly sweet, and of fairly good flavor.

81405. No. 24. From Saharanpur district. *Patair (2).* A handsome dark-red melon with yellow bands; flesh pale orange, fairly sweet, and of fairly good flavor.

81406 to 81417.

From Java. Seeds collected by R. D. Rands and George Arceneaux, Bureau of Plant Industry. Received August 13, 1929.

81406. ALBIZZIA FALCATA (L.) Backer (*A. moluccana* Miquel). Mimosaceae.

A rapid-growing tropical Asiatic tree with large feathery leaves and small globular flower heads. It is used for shade in coffee plantations.

For previous introduction see No. 75973.

81407 and 81408. BRADBURYA PLUMIERI (Turp.) Kuntze (*Centrosema plumieri* Turp.). Fabaceae.

A tropical ornamental vine, native to Brazil, with white and red flowers. It is of value as a green manure.

For previous introduction see No. 77622.

81407. No. 1.

81408. No. 2.

81409 and 81410. BRADBURYA PUBESCENS (Benth.) Kuntze (*Centrosema pubescens* Benth.). Fabaceae.

A leguminous vine, native to tropical America, with trifoliolate leaves and small yellowish flowers. It is used as a cover crop.

81411. CASSIA HIRSUTA L. Caesalpiniaceae.

An erect, annual herb covered with long hairs. The compound leaves are made up of three to five pairs of ovate leaflets 2 to 3 inches long, and the yellow flowers are borne in axillary racemes. It is native to Brazil.

For previous introduction see No. 47353.

81412. CASSIA LESCHENAULTIANA DC. Caesalpiniaceae.

A low diffuse perennial native to the tropical Himalayas, with slender branches and finely divided leaves.

For previous introduction see No. 72591.

81413. CRACCA CANDIDA (DC.) Kuntze (*Tephrosia candida* DC.). Fabaceae.

A low shrub with slender branches and large clusters of reddish or white flowers. Native to the Himalayas.

For previous introduction see No. 76096.

81414. CRACCA VOGELII (Hook. f.) Kuntze (*Tephrosia vogelii* Hook. f.). Fabaceae.

A shrubby legume native to tropical Africa. The leaves are macerated and thrown into the water to kill fish.

For previous introduction see No. 76098.

81406 to 81417—Continued.

81415. CROTALARIA ANAGYROIDES H. B. K. Fabaceae.

A shrubby leguminous plant, up to 6 feet high, used as a cover crop in the East Indies. Native to tropical America.

For previous introduction see No. 76099.

81416. CROTALARIA USARAMOENSIS Baker f. Fabaceae.

A crotalaria, native to East Africa, which has proved very successful as a green manure when grown in alternation with corn, producing large quantities of vegetation rich in nitrogen. In the cinchona plantations it endures partial shade and forms a low dense growth, binding the edges of the terraces. It is a very strong grower 8 feet or more high, with long spikes of yellow flowers.

For previous introduction see No. 76101.

81417. MIMOSA INVISA Mart. Mimosaceae.

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

For previous introduction see No. 77623.

81418 to 81426. CROTALARIA spp. Fabaceae.

From Honolulu, Hawaii. Seeds presented by F. G. Krauss, assistant director of agricultural extension, University of Hawaii. Received August 14, 1929.

81418 and 81419. CROTALARIA ANAGYROIDES H. B. K.

For previous introduction and description see No. 81415.

81418. No. 158. Originally from the experiment plantation, Serdang, Federated Malay States.

81419. No. 167. Originally from the College of Agriculture, University of the Philippine Islands.

81420. CROTALARIA INCANA L.

No. 15528. Originally sent to Hawaii from Savannah, Ga. A somewhat shrubby plant covered with soft gray pubescence and bearing elongated racemes of yellow flowers. It is native to tropical America.

For previous introduction see No. 76089.

81421. CROTALARIA JUNCEA L. **Sunn hemp.**

No. 166. Originally from the College of Agriculture, University of the Philippine Islands.

For previous introduction see No. 76100.

81422. CROTALARIA MAXILLARIS Klotzsch.

Originally sent to Hawaii from Savannah, Ga., under F. P. I. No. 60302. A plant 1½ to 2½ feet high, branching along the entire main stem, with broad leaflets and bright-yellow flowers. It matures in four months.

81418 to 81426—Continued.

81423. CROTALARIA RETUSA L.

Originally sent to Hawaii from Savannah, Ga., under F. P. I. No. 36969. A tropical, annual legume with yellow flowers.

For previous introduction see No. 73932.

81424. CROTALARIA USARAMOENSIS Baker f.

No. 165. Originally from the College of Agriculture of the University of the Philippine Islands.

For previous introduction and description see No. 81416.

81425. CROTALARIA sp.

Originally from Kona, Hawaii.

81426. CROTALARIA sp.

A wild species growing at the University of Hawaii farm B–2, of possible value as a cover crop.

81427 to 81429.

From Zacuapam, Huatusco, Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received August 19, 1929.

81427. EUGENIA CAPULI (Schlecht. and Cham.) Berg. Myrtaceae.

A shrub or small tree, native to Mexico, with slender branches, dark-green lanceolate leaves 1 to 2 inches long, racemose clusters of small white flowers, and small subglobose edible fruits which are red at first but turn black in ripening.

81428. PINUS OOCARPA Schiede. Pinaceae. **Pine.**

A white pine 36 to 45 feet high, with a round compact head and stout branches, bright-green leaves 7 to 11 inches long, and cones 2 to 4 inches long, persistent, pendent or spreading, ocher-yellow, often tinged with gray or green. Native to western and central Mexico.

For previous introduction see No. 50651.

81429. TABEBUIA PENTAPHYLLA (L.) Hemsl. Bignoniaceae.

A handsome tropical deciduous tree, about 35 feet high, native to Central America. During its flowering period, from January to March, the numerous large clusters of pink flowers make the tree very attractive.

For previous introduction see No. 73286.

81430 to 81435. LINUM USITATISSIMUM L. Linaceae. **Flax.**

From Ariana, near Tunis, Tunisia, Africa. Seeds presented by F. Bœuf, Chief, Botanical Service. Received August 15, 1929.

81430. ***Lin Denaiff*** **(Nord de La France).**

81431. ***Lin de Tunisie No. 15.***

81432. ***Lin de Tunisie No. 16.***

81433. ***Lin Lino Grande*** **(Italie).**

81434. ***Lin de Saft*** **(Maroc).**

81435. ***Lin Malabrigo*** **(Italie).**

81436. CASTANEA CRENATA Sieb. and Zucc. Fagaceae. **Japanese chestnut.**

From Japan. Scions collected by R. K. Beattie, Bureau of Plant Industry. Received August 19, 1929.

No. 840. Ayabe Machi Agricultural Experiment Station, Kyoto, January 13, 1929. *Goku wase.*

81437. PONGAMIA PINNATA (L.) W. F. Wight (*P. glabra* Vent.). Fabaceae.

From the West Indies. Seeds collected by Allison V. Armour. Received August 19, 1929.

A tall erect shade tree or sometimes a climbing shrub, native to tropical Asia, with compound leaves composed of four to seven pairs of oblong leaflets and simple racemes of white flowers. The woody pods are about one-fourth of an inch thick and 1½ inches long. Because of its bright, handsome foliage this tree has been recommended as an ornamental for subtropical regions. It is said to withstand hurricanes.

For previous introduction see No. 79543.

81438. MEDICAGO SATIVA L. Fabaceae. **Alfalfa.**

From Landsberg am Warthe, Germany. Seeds obtained through the Bureau of Agricultural Economics. Received August 19, 1929.

Hungarian.

81439 to 81447.

From Japan. Collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry, United States Department of Agriculture. Received August 20, 1929.

81439. AQUILEGIA sp. Ranunculaceae. **Columbine.**

No. 618. Seeds obtained from plants with lavender and yellow flowers, in the woods and open field near Lake Yamanaka, July 23, 1929.

81440. CUCUMIS SATIVUS L. Cucurbitaceae. **Cucumber.**

No. 958. Seeds obtained at an agricultural fair held in the public-school building in Hanabata, July 19, 1929.

Yatsubusa. A beautiful brownish yellow cucumber about 10 inches long and 3 inches in diameter, which received second prize at the fair.

81441. FESTUCA sp. Poaceae. **Fescue grass.**

No. 615. Seeds obtained from plants along the trail near Lake Yamanaka, July 23, 1929.

81442. LILIUM CORDIFOLIUM Thunb. Liliaceae. **Lily.**

No. 681. Bulbs collected between Gotemba and Fujima, July 25, 1929.

For previous introduction see No. 75677.

81443 to 81446. RUBUS spp. Rosaceae.

81443. RUBUS sp.

No. 663. From plants on a hillside between Gotemba and Fujima, July 25, 1929. A low-spreading vine bearing bright-red fruits which separate very easily from the receptacle.

81444. RUBUS sp.

No. 695. Obtained from plants along the trail near Subashiri, July 26, 1929.

81445. RUBUS sp.

No. 697. From plants along the road on a hillside between Shimizu and Yamakita, July 27, 1929. Fruits bright red and very sweet.

81446. RUBUS sp.

No. 698. From plants along the road between Shimizu and Yamakita, July 27, 1929. Fruits are a deep purple when mature.

81447. VACCINIUM sp. Vacciniaceae.

No. 638. Seeds from plants growing in lava soil in the woods along a mountain trail near Subashiri, in the Mount Fuji region, at an altitude of 2,600 feet, July 24, 1929. A shrub up to 12 feet high.

81448 to 81472. SACCHARUM OFFICINARUM L. Poaceae. **Sugarcane.**

From Sydney, New South Wales, Australia. Cuttings presented by P. H. Goldfinch, general manager of the Colonial Sugar Refining Co. Received August 24, 1929.

81448. No. 1.	**81461.** No. 213.
81449. No. 22.	**81462.** No. 214.
81450. No. 37.	**81463.** No. 217.
81451. No. 55.	**81464.** No. 218.
81452. No. 62.	**81465.** No. 221.
81453. No. 99.	**81466.** No. 222.
81454. No. 101.	**81467.** No. 223.
81455. No. 104.	**81468.** No. 262.
81456. No. 105.	**81469.** No. 263.
81457. No. 203.	**81470.** No. 269.
81458. No. 204.	**81471.** No. 273.
81459. No. 209.	**81472.** No. 282.
81460. No. 210.	

81473. FICUS CASSIDYANA Elm. Moraceae. **Fig.**

From Manila, Philippine Islands. Fruits presented by William H. Brown, Director, Bureau of Science. Received July 22, 1929.

A small, erect, tropical tree, 25 feet high, with spreading branches and grayish white bark. It is native to the Philippine Islands. The dark-green membranous, broadly heart-shaped scabrous leaves are about 8 inches long and are mostly at the ends of the twigs. The brown-hairy flat-obovoid fruits are 3 inches across.

81474. EUGENIA PUNGENS Berg. Myrtaceae. **Guabiyu.**

From El Saff, Egypt. Seeds presented by Alfred Bircher, Middle Egypt Botanic Station. Received August 24, 1929.

For previous introduction and description see No. 81343.

81475 and 81476. PETREA spp. Verbenaceae.

From Port of Spain, Trinidad, British West Indies. Seeds presented by R. O. Williams, Superintendent, St. Clair Experiment Station. Received August 24, 1929.

81475. PETREA ARBOREA H. B. K.

A vigorous tropical climber with oblong leaves about 4 inches long and harsh to the touch, and trusses of blue star-shaped flowers. It blooms more or less throughout the year, but is covered with flowers during the early spring. Native to Colombia.

For previous introduction see No. 50665.

81476. PETREA VOLUBILIS L.

A woody climber native to tropical South America and the West Indies. The beautiful white flowers are borne in loose pendent sprays which hang gracefully from the slender arching branches. These combined with the rigid green leaves produce a striking effect.

For previous introduction see No. 54325.

81477 to 81482. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. **Common wheat.**

From Magyarovar, Hungary. Seeds presented by Emil Grabner, Director, Royal Hungarian Plant-Breeding Institute. Received August 28, 1929.

White-bearded winter varieties.

81477 and 81478. Originated in the wheat-breeding experiments under the direction of the Royal Hungarian Plant-Breeding Institute. The selection of pure line and saving of good seeds for sowing was carried out at the home of Count Dr. Paul Eszterházy in Esterhazy, Comitat Sopron. They are long-stemmed, prolific varieties which are useful for intensive cultivation.

81477. *Eszterházai No. 11.*

81478. *Eszterházai No. 18.*

81479 and 81480. Hybrids of Hungarian and foreign winter wheat varieties originated by Dr. Endre Pap, Mindszentpuszta, Post Sarszentmiklos. Suited for extensive cultivation.

81479. *Mindszentpusztai No. 403.*

81480. *Mindszentpusztai No. 609.*

81481 and 81482. Developed from Hungarian Theiss wheats through individual selection by Head Agriculturist Elmer Székács, Budapest.

81481. *Székács No. 1055.*

81482. *Székács No. 1242.*

81483. ATTALEA GOMPHOCOCCA Mart. Phoenicaceae. **Palm.**

From Zacuapam, Huatusco, Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received August 27, 1929.

An ornamental palm, 20 to 30 feet high, crowned by a magnificent cluster of large leaves, with very numerous linear or linear-lanceolate leaflets, bright green above and pale beneath. The fruit is fibrous coated. Native to Central America.

For previous introduction see No. 47440.

81484 to 81487. GOSSYPIUM BARBADENSE L. Malvaceae. **Cotton.**

From Ariana, near Tunis, Tunisia, Africa. Seeds presented by F. Bœuf, Chief, Botanical Service. Received August 15, 1929.

81484. No. 21 (2).

81485. No. 48.

81486. No. 60.

81487. No. 75.

81488 and 81489. MEDICAGO SATIVA L. Fabaceae. **Alfalfa.**

From France. Seeds obtained from Tezier Frères, Paris. Received August 30, 1929.

81488. *Luzerne de Provence.* From the valley of the Rhone.

81489. *Luzerne de Provence.* From the Alps.

81490. LIBERTIA IXIOIDES (Forst. f.) Spreng. Iridaceae.

From Nelson, Auckland, New Zealand. Seeds presented by A. Wilkinson, New Zealand Alpine and Rock Garden Society. Received August 22, 1929.

A herbaceous perennial, native to New Zealand, with a short creeping rhizome which forms a compact clump like a beardless iris. It has rigid coriaceous linear leaves a foot long, and large panicles of small white flowers on a stem 2 feet high.

For previous introduction see No. 77564.

81491 to 81493. FICUS spp. Moraceae. **Fig.**

From Summit, Canal Zone. Cuttings presented by J. E. Higgins, Plant Introduction Garden. Received August 27, 1929.

81491. 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.

For previous introduction see No. 80047.

81492. FICUS INVOLUTA (Liebm.) Miquel.

A spreading tree with thick triangular branches and leathery elongate-obovate leaves 7 or 8 inches long. It is native to tropical America.

81493. FICUS MITROPHORA Warb.

A West Indian tree 15 to 60 feet high, with thick branches and dense foliage. The oblong obtuse sessile leaves are about 4 inches long, and the globose fruits are scarcely half an inch in diameter.

81494. GNETUM INDICUM (Lour.) Merr. (*G. funiculare* Blume). Gnetaceae.

From Manila, Philippine Islands. Seeds presented by S. Youngberg, Director, Bureau of Agriculture, Manila, at the request of P. J. Wester, Bureau of Agriculture. Received August 19, 1929.

Bulso. A tropical woody vine with brick-red fruits in bunches like grapes, each containing a nut which, when roasted, has

81494—Continued.

the flavor of a chestnut. The nuts should not be eaten raw. Native to the Philippines.

For previous introduction see No. 72597.

81495. BAMBUSA LONGISPICULATA Gamble. Poaceae. **Bamboo.**

From the Chittagong Hill Tracts, Bengal, India. Seeds presented by R. N. Parker, Forest Botanist, Forest Research Institute and College, Dehra Dun, United Provinces. Received August 22, 1929.

This species appears to differ from *Bambusa tulda* only in the larger spikelets.

81496 and 81497. ZEPHYRANTHES spp. Amaryllidaceae. **Zephyrlily.**

From Paget East, Bermuda. Seeds presented by J. C. Nauen, Horticulturist, Agricultural Station, Department of Agriculture. Received August 31 and September 3, 1929.

81496. ZEPHYRANTHES CARINATA Herbert.

A bulbous perennial with linear leaves and a scape about a foot high, bearing a single rosy flower 3 to 5 inches across and 3 inches long. Native to the West Indies. It is said to be the largest and choicest of the rosy-flowered zephyrlilies and blooms in the summer. The seeds were mixed with *Zephyranthes eggersiana* when received.

For previous introduction see No. 62796.

81497. ZEPHYRANTHES EGGERSIANA Urban.

A bulbous perennial related to *Zephyranthes citrina,* with very narrow leaves about 6 inches long and small yellow flowers an inch or so across. Native to the West Indies.

81498. ARTOCARPUS COMMUNIS Forst. Moraceae. **Breadfruit.**

From Summit, Canal Zone. Seeds presented by J. E. Higgins, Plant Introduction Gardens. Received September 5, 1929.

A tropical tree 30 to 40 feet high, with viscid milky juice and leathery ovate leaves 3 feet long, entire at the base but divided above into three to nine lobes. The seeds, which are much the size, shape, and flavor of chestnuts, are roasted and eaten. Native to the Malay Archipelago.

For previous introduction see No. 80555.

81499. SACCHARUM SPONTANEUM L. Poaceae.

From Sumatra. Cuttings obtained from Harold L. Lyon, Department of Botany and Forestry, Experiment Station, Hawaiian Sugar Planters' Association, through Sidney F. Sherwood, Bureau of Plant Industry. Received September 4, 1929.

Variety *gigas.* Collected near Prapat by Messrs. Agee and Mangelsdorf, Hawaiian Sugar Planters' Association.

81500. GOSSYPIUM sp. Malvaceae. **Cotton.**

From Barrington Island, Galápagos Islands. Seeds obtained by A. K. Fisher, Bureau of Biological Survey, United States Department of Agriculture. Received August 22, 1929.

81501. SACCHARUM OFFICINARUM L. Poaceae. **Sugarcane.**

From Mayaguez, Porto Rico. Cuttings presented by Robert L. Davis, agronomist, Porto Rico Agricultural Experiment Station. Received September 4, 1929.

B 6835.

81502. MEDICAGO SATIVA L. **Fabaceae. Alfalfa.**

From Berlin, Germany. Seeds obtained from the Deutsche Landwirtschafts-Gesellschaft, through H. L. Westover, Bureau of Plant Industry. Received September 5, 1929.

Old Frankish lucern.

81503. ARTOCARPUS COMMUNIS Forst. Moraceae. **Breadfruit.**

From Summit, Canal Zone. Plants presented by J. E. Higgins, Plant Introduction Gardens. Received September 13, 1929.

A seedless form of breadfruit.

For previous introduction see No. 81498.

81504. CORDIA GREGGII Torr. Boraginaceae.

From Culiacan, Sinaloa, Mexico. Seeds presented by C. J. Stafford. Received September 9, 1929.

Vara Prieta. A drought-resistant shrub 3 to 9 feet high, with mostly ovate or obovate, coarsely dentate leaves, which are very scabrous, and white flowers borne in few-flowered headlike cymes. A decoction of the leaves is said to be used as a stimulant. Native to central and northwestern Mexico.

81505. AGONIS FLEXUOSA (Willd.) DC. Myrtaceae.

From Melbourne, Victoria, Australia. Seeds presented by F. J. Rae, Director, Melbourne Botanic Gardens. Received September 10, 1929.

A tall evergreen shrub or tree up to 40 feet high, native to Western Australia. The young shoots are silky, and the linear-lanceolate leaves, 2 to 6 inches long, have in their axils small heads of flowers with persistent white petals.

For previous introduction see No. 75542.

81506. CEIBA PENTANDRA (L.) Gaertn. Bombacaceae. **Kapok.**

From Talisay, Cebu, Philippine Islands. Seeds presented by S. Youngberg, Director, Bureau of Agriculture, Manila. Received September 9, 1929.

A large deciduous tree with pods which contain silky white floss (kapok) used for stuffing mattresses, etc. Although native to tropical America, it is grown extensively throughout tropical Asia.

For previous introduction see No. 74414.

81507. PYCNOSPORA HEDYSAROIDES R. Br. Fabaceae.

From Peradeniya, Ceylon. Seeds presented by F. A. Stockdale, Director, Department of Agriculture. Received September 10, 1929.

An undershrub native to southeastern Asia, with the habit of the meibomias, hav-

81507—Continued.

ing decumbent or ascending branched stems 1 to 2 feet long. The leaves are pinnately trifoliolate with obovate leaflets about an inch long, and the small purplish flowers are in terminal racemes or panicles. It is of value as a cover crop.

81508 to 81510.

From Maragha, Persia. Scions presented by Jalil K. Hashimzade, Teheran, Persia. Received July 18, 1929.

81508. PRUNUS sp. Amygdalaceae. **Plum.**

Kodja Sultan. An early variety of plum.

81509. PRUNUS sp. Amygdalaceae. **Cherry.**

A black cherry.

81510. PYRUS sp. Malaceae. **Pear.**

Norass. An early variety.

81511 and 81512.

From Little River, Fla. Seeds presented by Charles T. Simpson. Received September 16, 1929.

81511. CHRYSALIDOCARPUS MADAGASCARIENSIS Beccari. Phoenicaceae. **Palm.**

A graceful palm, native to Madagascar, about 15 feet high, with pinnate leaves 10 feet long, having the segments arranged in fascicles and appearing to be in threes, giving a triangular effect.

For previous introduction see No. 77158.

81512. LINOMA ALBA (Bory) O. F. Cook (*Dictyosperma rubra* Wendl. and Drude). Phoenicaceae. **Palm.**

A slender, spineless, pinnate-leaved palm, 30 feet or more high, resembling Areca in habit. The mature leaves are 8 to 12 feet long. When young this makes a very desirable house palm. Native to tropical Asia.

For previous introduction see No. 61495.

81513. PSIDIUM GUAJAVA L. Myrtaceae. **Guava.**

From New Smyrna, Fla. Cuttings presented by John Y. Detwiler. Received October 9, 1928. Numbered in September, 1929.

The Detwiler guava is large, very thick fleshed, and otherwise of high merit. The flesh is white, smooth in texture, and sweet, with a fair amount of acid. The seeds are small and are restricted to the rather small cavity. In a small specimen of the fruit, examined late in November, which measured 3⅛ by 2¾ inches and weighed 4 ounces, the flesh was nearly three-fourths of an inch thick. The single fruits are said by Mr. Detwiler to attain occasionally a weight of 1 pound.

81514. ELAEOPHORBIA DRUPIFERA (Thonn.) Stapf. Euphorbiaceae.

From Victoriaborg, Akkra, Gold Coast, Africa. Seeds presented by L. A. King-Church, Conservator of Forests. Received September 13, 1929.

A deciduous tree 40 to 50 feet high, with milky juice that may be a source of rubber.

81514—Continued.

The young branches are fleshy and angled, becoming round and woody with age. The thick fleshy obovate leaves are 3 to 8 inches long, with stipular spines; the flowers are similar to those of the euphorbias, and the fleshy fruits vary in size from that of a cherry to a walnut. Native to tropical Africa.

For previous introduction see No. 73010.

81515 to 81527.

From Burma. Seeds collected by Capt. F. Kingdon Ward and presented through S. C. Simms, Director, Field Museum of Natural History, Chicago, Ill. Received September 18, 1929.

81515. ADENIA sp. Passifloraceae.

No. 8473. A climber.

81516. ARISTOLOCHIA sp. Aristolochiaceae.

No. 8756. Obtained at Taungui at altitudes between 4,500 and 5,000 feet. Climbing by means of petioles and twining stems. The seeds are flat, thin, and small.

81517. CITRUS sp. Rutaceae.

No. 9060.

81518. CROTALARIA sp. Fabaceae.

No. 8874. Valley of the Nam Lwe, near Mong Wa.

An undershrub cultivated for its small seeds crowded in fat pods which open explosively. The flowers are dark blue-violet with the standard and wings prettily veined.

81519. CROTALARIA sp. Fabaceae.

No. 9050. From a plateau east of Savanakket, at altitudes between 1,000 and 1,500 feet. An erect undershrub, bearing bright sulphur flowers, which grows on an open savanna.

81520. CROTALARIA sp. Fabaceae.

No. 9059. Coast of Anam. An erect dune species about a foot high.

81521. FICUS sp. Moraceae. **Fig.**

No. 9021. Mekong River, below Luang Prabana, at an altitude of 1,000 feet. A small tree with white flowers and red fruits.

81522. LAGERSTROEMIA sp. Lythraceae.

No. 8870. Valley of the Nam Lwe, near Mong Wa. A small tree, common in thickets, which flowers as a modest-sized bush. The flowers are fragrant, almost white or beautifully flushed with lilac or pink, about an inch across, and are borne in showy heads.

81523. LEUCAENA GLAUCA L. Mimosaceae.

No. 9063. Coast of Anam. An ornamental tropical dune tree with numerous white flowers borne in globular heads.

For previous introduction see No. 43637.

81524. NICOTIANA TABACUM L. Solanaceae. **Tobacco.**

No. 8762. Salwin Valley, at an altitude of 800 feet. A large-leaved, small-flowered pink variety, 3 to 5 feet high, growing in the sandy river bed below summer flood level. The flowering stem

81515 to 81527—Continued.

is usually broken off low down, leaving the large basal leaves. At this time (March 21, 1929) the leaves are being harvested.

81525. (Undetermined.)

No. 8800. Lormive, at altitudes between 5,000 and 6,000 feet. A climber covering a garden trellis with a mass of intertwining stems supported by leaf petioles. The flowers are violet or occasionally purple. It is not yet (April 8, 1929) in full bloom, the long straggling shoots bearing numerous buds.

81526. (Undetermined.)

No. 8924–A. Mong Hsing, Haut Laos, at an altitude of 2,000 feet. A large shrub very common and conspicuous in thickets; it is 6 to 8 feet high and is used for hedges. The 3-seeded berries are at first bright orange, turning scarlet, and are slightly aromatic when crushed.

81527. (Undetermined.)

No. 9056. A small tree bearing fruits the size of a gooseberry, with smooth, purple skin, purple pulp, and containing many small seeds.

81528. FICUS CARICA L. Moraceae.
Fig.

From the valley of the Roja, Alpes Maritimes, France. Cuttings presented by Dr. Mario Calvino, San Remo, Italy. Received March 2, 1928. Numbered in September, 1929.

A wild variety resistant to frost.

81529 to 81568.

From Japan. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received September 3, 1929.

81529 to 81532. ASTRAGALUS SINICUS L. Fabaceae.

Genge clover obtained from the Gifu Agricultural Experiment Station, Gifu, August 12, 1929.

81529. No. 1104. Station No. 4. An early variety used for green-manure purposes.

81530. No. 1105. Station No. 5. A middle or medium-seasoned variety.

81531. No. 1106. Station No. 6. A late variety used for green manure.

81532. No. 1107. *Sogaya.* Station No. 7. A very late variety used as a green manure.

81533. CITRULLUS VULGARIS Schrad. Cucurbitaceae. **Watermelon.**

No. 1103. Tokyo, August 11, 1929. A light-green watermelon, 8 to 10 inches or more in diameter, with small seeds, a thin rind, and attractive red flesh which is sweet and juicy.

81534 to 81536. CUCUMIS MELO L. Cucurbitaceae. **Melon.**

Tokyo, August 3, 1929.

81534. No. 975. A green-fleshed melon about 4 inches in diameter and 8 to 10 inches long, which is whitish green with darker lines of green from the stem to the blossom.

81535. No. 976. A melon 3 to 4 inches in diameter and 7 to 9 inches long, with greenish flesh, and the outside green overlaid with yellow.

81536. No. 977. A small bright-yellow Japanese or Chinese melon with snow-white flesh.

81537. FESTUCA sp. Poaceae. **Grass.**

No. 493. Obtained from a small bunch of grass growing near undergrowth along the road near Yamanaka Lake, July 23, 1929.

81538. HELWINGIA JAPONICA (Thunb.) Dietr. Cornaceae.

No. 662. Obtained from a plant along the trail to Mount Fuji, near Subashiri, July 24, 1929. A bushy deciduous shrub 3 to 5 feet high, with slender green branchlets, ovate serrulate leaves 2 to 3 inches long, and small umbels of greenish white flowers followed by black subglobose fruits one-fourth of an inch in diameter. It is interesting because the flowers and fruits are borne on the upper surface of the leaves. Native to Japan and China.

81539. IMPATIENS sp. Impatientaceae.

No. 661. Growing in lava soil in the woods near Lake Yamanaka, at an altitude of 3,200 feet, July 23, 1929. Flowers orange yellow.

81540 to 81542. LONICERA spp. Caprifoliaceae. **Honeysuckle.**

81540. LONICERA sp.

No. 840. From a bush growing along the roadside near Karuizawa, August 5, 1929. Fruits bright red.

81541. LONICERA sp.

No. 884. From a tree in a yard near the railway station at Kurihira, August 7, 1929. Tree about 15 feet high and 11 or 12 inches in circumference.

81542. LONICERA sp.

No. 979. Botanic Garden, Tokyo. July 31, 1929.

81543. LOTUS sp. Fabaceae.

No. 642. From plants growing at an altitude of 2,600 feet along the mountain trail near Subashiri, Mount Fuji region, July 24, 1929.

81544. LOTUS sp. Fabaceae.

No. 997. From plants along the mountain trail near Usuitoge, at an altitude of 4,200 feet, August 8, 1929.

81545. LUPINUS LUTEUS L. Fabaceae. **European yellow lupine.**

No. 1108. Obtained from the Gifu Agricultural Experiment Station, Gifu, August 12, 1929. A variety with gray-mottled seeds which have bluish black markings. It is said to be used for green manure.

81546. ORNITHOPUS SATIVUS Brot. Fabaceae. **Serradella.**

No. 1110. Obtained from the Gifu Agricultural Experiment Station, August 12, 1929. Used as a green manure.

81529 to 81568—Continued.

81547 and 81548. OSTERDAMIA JAPONICA (Steud.) Hitchc. Poaceae. **Japanese lawngrass.**

81547. No. 853. Obtained from plants growing near the station of Kitakaruizawa, at an altitude of about 4,200 feet, August 7, 1929.

81548. No. 899. From plants on a mountain top known as Sunset View, near Usuitoge, at an altitude of 4,200 feet, August 8, 1929. A grass which makes a short growth, but seeds heavily.

81549. POA sp. Poaceae. **Grass.**

No. 604. A grass, about 3 feet high, growing along the roadside near Lake Yamanaka, July 23, 1929.

81550. PRUNUS BUERGERIANA Miquel. Amygdalaceae. **Cherry.**

No. 966. Botanic Garden, Tokyo, July 31, 1929. A hardy, much-branched deciduous tree becoming 30 feet or more high, with elliptic or oblong, acuminate leaves about 4 inches long, light green beneath. The small white flowers, one-third of an inch across, in slender racemes 3 inches long, are succeeded by small, round, black fruits. Native to northern Japan and Chosen.

81551 to 81557. RUBUS spp. Rosaceae.

81551. RUBUS sp.

No. 694. Obtained from a dwarf species growing near Lake Yamanaka, July 24, 1929. Flowers large and white.

81552. RUBUS sp.

No. 860. Obtained from plants growing along a roadside between Kitakaruizawa and Kose, at altitudes between 3,800 and 4,200 feet, August 7, 1929. The vines are tall and thorny, the leaves deeply lobed, and the fruits bright red and of excellent quality.

81553. RUBUS sp.

No. 872. From vines growing along the roadside between Kitakaruizawa and Kose, at an altitude of 3,800 feet, August 7, 1929. A species with trifoliolate leaves, which are white underneath, and small steel-blue fruits.

81554. RUBUS sp.

No. 885. From tall thorny plants near Kose, August 7, 1929. Fruits bright red.

81555. RUBUS sp.

No. 887. Plants growing along a road near Kose, at an altitude of 3,800 feet, August 7, 1929. Fruits bright red.

81556. RUBUS sp.

No. 892. Growing along a road near Kose, August 7, 1929. Vines of dwarf runner type with bright-red fruits of good quality.

81557. RUBUS sp.

No. 896. From plants along the road between Kitakaruizawa and Kose, August 7, 1929.

81558 to 81560. TRIFOLIUM PRATENSE L. Fabaceae. **Red clover.**

81558. No. 666. From plants along the road between Gotemba and Fujima, July 25, 1929. A clover which makes an excellent growth.

81559. No. 847. From plants along the roadside near Karuizawa, at an altitude of 2,800 feet, August 7, 1929.

81560. No. 994. From plants on a mountain top known as Sunset View, at Usuitoge, at an altitude of 4,200 feet, August 8, 1929.

81561 and 81562. TRIFOLIUM REPENS L. Fabaceae. **White clover.**

81561. No. 660. Growing in lava soil along the Mount Fuji trail, Subashiri, at an altitude of 2,600 feet, July 24, 1929.

81562. No. 996. From plants on a mountain top known as Sunset View, near Usuitoge, August 8, 1929.

81563. VACCINIUM sp. Vacciniaceae.

No. 846. From a mountain near Karuizawa, August 7, 1929. A species producing almost round, tart fruits of very good quality, which are very large and fine for a wild species.

81564. VIBURNUM sp. Caprifoliaceae.

No. 679. From plants along the trail between Gotemba and Fujima, July 26, 1929. Fruits bright red, turning to a very deep purple, almost black when mature.

81565. VIBURNUM sp. Caprifoliaceae.

No. 1101. Hibiya Park, Toyko, August 11, 1929. A tree 20 feet or more high and about 8 inches in diameter, with broad dark-green leaves and oblong berries, which are black when fully ripe.

81566. VICIA SATIVA L. Fabaceae. **Common vetch.**

No. 1109. Obtained from the Gifu Agricultural Experiment Station, Gifu, August 12, 1929. Used as a green manure.

81567. VICIA TETRASPERMA (L.) Moench. Fabaceae. **Vetch.**

No. 667. From plants along a hillside on the road between Gotemba and Fujima, July 25, 1929. A very early-maturing variety.

81568. ZANTHOXYLUM SCHINIFOLIUM Sieb. and Zucc. Rutaceae.

No. 974. Botanic Garden, Tokyo, August 31, 1929. A graceful Japanese shrub or small tree with attractive compound leaves and rather conspicuous clusters of greenish or brownish fruits in autumn.

For previous introduction see No. 77870.

81569. ANNONA PURPUREA Moc. and Sesse. Annonaceae. **Soncoya.**

From Mazatenango, Guatemala. Seeds presented by Wilson Popenoe, United Fruit Co., Tela, Honduras. Received September 19, 1929.

A variety producing very attractive fruits 5 or 6 inches in diameter, but with fibrous flesh of little character. The gorgeous orange-yellow color of the flesh, however, may make this variety of value for breeding purposes.

For previous introduction see No. 54528.

81570 and 81571.

From Mount Silinda, Melsetter District, Southern Rhodesia, Africa. Seeds presented by Dr. W. L. Thompson. Received September 19, 1929.

81570. BAUHINIA sp. Caesalpiniaceae.

Chianzga. A remarkably durable timber tree especially valued for fence posts; the wood is said to last for 50 years. The tree grows over a wide range of country and conditions at altitudes between 1,000 and 4,000 feet.

81571. CITRUS sp. Rutaceae.

A wild orange.

81572. NYMPHAEA LOTUS L. Nymphaeaceae. **White Egyptian lotus.**

From Dar es Salaam, Tanganyika Territory, Africa. Seeds presented by T. H. Marshall, Department of Agriculture. Received August 19, 1929.

A water lily indigenous to Tanganyika Territory. The outer petals of the flowers are white and the inner stamens yellow.

81573 to 81576. ANANAS SATIVUS Schult. f. Bromeliaceae. **Pineapple.**

From Grenada, British West Indies. Suckers presented by W. O. O'Brien Donovan, Agricultural Officer in Charge, Grenada Department of Agriculture. Received September 18, 1929.

81573. *Chincona.* **81575.** *Red Spanish.*

81574. *Green.* **81576.** *Santa Clara.*

81577. CARYOCAR TUBERCULOSUM (Aubl.) Baill. (*C. tomentosum* Willd.). Caryocaraceae.

From Paramaribo, Dutch Guiana. Seeds presented by S. Sahal, Director, Agricultural Experiment Station. Received September 16, 1929.

A tree, native to tropical America, up to 100 feet high, with digitately three to five foliolate leathery leaves and large white flowers in terminal racemes, followed by large drupaceous fruits having a hard stone and an edible seed. One of the souari nuts.

81578. ASTRAGALUS ARENARIUS L. Fabaceae.

From Stockholm, Sweden. Seeds presented by Dr. Robert E. Fries, Director of the Botanic Garden. Received September 30, 1929.

A herbaceous gray-hairy perennial with a branched, often widespreading rhizome, and a slender prostrate or ascending stem a foot or less high. The leaves are imparipinnate. The small bright purple flowers are in long-stemmed loose clusters. Native to sandy places in eastern Europe.

81579 and 81580.

From Burma. Seeds collected by Capt. F. Kingdon Ward and presented through S. C. Simms, Director, Field Museum of Natural History, Chicago, Ill. Received September 18, 1929.

81579. MUCUNA sp. Fabaceae.

Obtained in the jungle, near Vientrave Laes, in the region of the Mekong River, at an altitude of 1,000 feet, July, 1929.

81579 to 81580—Continued.

81580. ZEA MAYS L. Poaceae. **Corn.**

Maize of Anam.

81581 to 81594.

From Port of Spain, Trinidad, British West Indies. Seeds presented by R. O. Williams, Superintendent and Assistant Botanist, Department of Agriculture. Received September 24, 1929.

81581. ACROCOMIA SCLEROCARPA Mart. Phoenicaceae. **Macauba palm.**

For previous introduction and description see No. 81274.

81582. ARCHONTOPHOENIX ALEXANDRAE (F. Muell.) Wendl. and Drude. Phoenicaceae. **Palm.**

A pinnate-leaved palm 70 to 80 feet high, with leaves several feet long, of lanceolate usually entire leaflets 1 to 2 feet long and whitish beneath. The greenish yellow flowers are borne in a cluster about a foot in length and are followed by small round fruits. Native to Queensland, Australia.

For previous introduction see No. 80171.

81583. ARECA CATECHU L. Phoenicaceae. **Betel palm.**

The betel palm is considered one of the most graceful, bearing at the top of its trunk, 40 to 100 feet high, a large crown of pinnately divided leaves 4 to 6 feet long, the lowest usually pendulous. The ovoid smooth fruits, 1 to 2 inches in diameter, are orange-yellow or scarlet, and furnish the well-known betel nut. It is native to southeastern Asia.

For previous introduction see No. 80172.

81584. CARYOTA MITIS Lour. Phoenicaceae. **Palm.**

A palm, native to the Malay Peninsula, about 20 feet high, with a straight cylindrical spineless ringed trunk 4 inches or more in diameter and bipinnate leaves 4 to 9 feet in length. The purple fruits are about the size of cherries.

For previous introduction see No. 80179.

81585. CHRYSALIDOCARPUS LUTESCENS (Bory) Wendl. Phoenicaceae. **Yellow palm.**

A spineless, stoloniferous palm up to 30 feet high, native to Madagascar. The pinnate leaves are about 5 feet long, and the fruits are violet or almost black.

For previous introduction see No. 78417.

81586. COCCOTHRINAX ARGENTEA (Roem. and Schult.) Sarg. Phoenicaceae. **Silver palm.**

A dwarf palm with fan-shaped leaves which are silvery gray underneath. Native to the West Indies.

81587. GUILIELMA SPECIOSA Mart. Phoenicaceae. **Pupunha.**

The *peach palm* of the Amazon River, which ascends to the warm temperate regions of the Andes. The clustered stems attain a height of 40 feet. The fruit grows in large bunches, has a firm, thick,

81581 to 81594—Continued.

and mealy pericarp, and when cooked has a flavor between that of the potato and the chestnut, but superior to either.

For previous introduction see No. 60367.

81588. HYOPHORBE VERSCHAFFELTI Wendl. Phoenicaceae. **Spindle palm.**

An unarmed palm, native to the island of Mauritius, with a spindle-shaped trunk 25 to 30 feet high, pinnate leaves having a yellow band along the midrib, and orange-colored flowers.

For previous introduction see No. 80182.

81589. LICUALA GRANDIS (Bull) Wendl. Phoenicaceae. **Palm.**

A dwarf palm with the stem clothed with the dead leaf sheaths, erect-spreading fan-shaped leaves having closely plicate segments which are two lobed at the end. Native to the island of New Pommern, Bismarck Archipelago.

81590. LICUALA SPINOSA Thunb. Phoenicaceae. **Palm.**

A dwarf fan-leaved palm, native to the West Indies, 10 to 12 feet high, with roundish leaves 3 feet or more in diameter and 3-angled petioles armed with brownish, hooked spines. It requires abundant heat and moisture.

For previous introduction see No. 66226.

81591. LIVISTONA ALTISSIMA Zoll. Phoenicaceae. **Palm.**

A graceful palm, up to 80 feet high, with fan-shaped leaves. The hardwood is valued by the natives for construction work. It is native to the East Indies.

For previous introduction see No. 72598.

81592. MARTINEZIA CORALLINA Mart. Phoenicaceae. **Palm.**

A spiny palm with pinnate leaves about 9 feet long and clusters, 2 to 3 feet long, of small white flowers followed by bright-red fruits nearly an inch in diameter. The pale-brown seeds are used for necklaces. Native to the island of Martinique.

For previous introduction see No. 80188.

81593. PTYCHORAPHIS AUGUSTA (Kurz) Beccari. Phoenicaceae. **Palm.**

A pinnate-leaved palm growing to a height of 100 feet, with a smooth slender trunk and bright-green leaves 6 to 10 feet long, made up of linear segments 1 to 2 feet long. The red, elliptical-oblong fruits are borne in clusters 2 to 3 feet long. Native to the Nicobar Islands.

81594. RHYTICOCOS AMARA (Jacq.) Beccari (*Cocos amara* Jacq.) Phoenicaceae. **Palm.**

A tall, feather-leaved palm, 50 to 100 feet high, with a ringed trunk and bearing a crown of large pinnate leaves resembling those of the coconut. It is native to the island of Martinique.

For previous introduction see No. 80191.

81595. PANDANUS FURCATUS Roxb. Pandanaceae. **Screwpine.**

From Darjiling, India. Seeds presented by C. C. Calder, Lloyd Botanic Garden. Received September 26, 1929.

One of the most ornamental of the screwpines, which attains a height of about 15 feet, with dark-green spiny leaves 9 or more feet long, gracefully arching and somewhat spirally arranged. The flowers are sweetly scented. Native to the East Indies.

For previous introduction see No. 73249.

81596. SICANA sp. Cucurbitaceae.

From Moca, Dominican Republic. Seeds presented by Dr. R. Ciferri, Director de la Estación Nacional Agronómica y Colegio de Agricultura. Received September 20, 1929.

A woody vine producing edible cylindrical fruits which are remarkable for their strong and persistent applelike flavor.

81597. SCHINOPSIS LORENTZII (Griseb.) Engl. Anacardiaceae. **Quebracho.**

From Tucuman, Argentina. Seeds presented by Dr. William E. Gross, Director, Estación Experimental Agrícola. Received September 26, 1929.

A deciduous timber tree, with leathery, compound sumachlike leaves and branched clusters of small flowers. The deep-red wood is very hard and durable and yields quebracho, an important tannin of commerce. Native to the drier western plains of Argentina.

For previous introduction see No. 68980.

81598 to 81601.

From Oran, Algeria, Africa. Seeds presented by Prof. A. Faure. Received September 23, 1929.

81598. CELSIA BATTANDIERI Murbeck. Scrophulariaceae.

Collected on rocky slopes at Santa Cruz, at an altitude of about 1,200 feet, January 9, 1929. A mulleinlike biennial or annual, 1 or 2 feet high, native to western Algeria. The stem is stiffly erect, and the oblong-lanceolate or ovate dentate lobed leaves are petiolate on the lower part of the stem but sessile above. The attractive orange-yellow flowers, 1 to 2 inches across, are in an elongated raceme.

81599. CELSIA FAUREI Murbeck. Scrophulariaceae.

Collected on railway embankments at Oued Imbert, at an altitude of about 1,500 feet, April 8, 1929. An erect biennial up to 6 feet high, native to Algeria. The ovate-lanceolate leaves are coarsely dentate or lobed, sessile above and petiolate below. The showy yellow flowers, about 2 inches across, are in a many-flowered lax raceme.

81600. HEDYSARUM PALLIDUM Desf. Fabaceae.

Collected in gravelly meadows in Santa Cruz, at an altitude of about 900 feet, May 26, 1929. A decumbent perennial legume, native to northern Africa, with compound pubescent leaves, clusters of purple-streaked white flowers, and spiny articulated pods. It has been recommended for green manure in olive orchards.

For previous introduction see No. 77453.

81598 to 81601—Continued.

81601. PSORALEA BITUMINOSA L. Fabaceae. **Scurf-pea.**

Collected on the edges of fields in Oued Imbert, at an altitude of about 1,500 feet, April 8, 1929. A herbaceous perennial, native to the Mediterranean region, with trifoliolate leaves and small bluish flowers in loose heads. Of value for green manure.

For previous introduction see No. 77627.

81602 to 81604. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. **Common wheat.**

From Merredin, Western Australia. Seeds presented by the Merredin Experiment Farm, through J. A. Clark, Bureau of Plant Industry. Received September 27, 1929.

81602. P. 1437. *Carrabin.*

81603. P. 1440. *Merredin.*

81604. P. 1769. *Noongaar.*

81605 to 81613. PRUNUS ARMENIACA L. Amygdalaceae. **Apricot.**

From Palestine. Seeds presented by A. Grasovsky, Subinspector of Agriculture and Forests, Southern Circle, Jerusalem. Received September 26, 1929.

81605. No. 15. *Franji.* From Artas.

81606. No. 3. *Mawi.* From Jaffa.

81607. No. 1. *Klabi Abayd.* From Acre.

81608. No. 4. *Late Klabi.* From Motza.

81609. No. 6. *Lozi.* From Jerusalem.

81610. No. 8. *Marawi.* From Nazareth.

81611. No. 2. *Wardi.* From Artas.

81612. No. 7–A. *Mustekawi.* From Artas.

81613. No. 7–B. *Mustekawi.* From Artas.

81614. DRACONTOMELON EDULE (Blanco) Skeels. Anacardiaceae.

From Sorsogon, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received July 31, 1929.

Alauihau. A fruit resembling a greenish brown-yellow flat plum with scant but pleasantly subacid pulp, recalling the flavor of *Spondias cytherea.* It is common in the market at Sorsogon and is gathered from wild trees in the forest, in a region with abundant rainfall equally distributed throughout the year. The tree is 50 feet

81614—Continued.

or less high, with a rounded crown. The handsome dark-green pinnate leaves consist of 8 to 12 pairs of hairy pointed leaflets.

For previous introduction see No. 32293.

81615. JUGLANS JAMAICENSIS C. DC. Juglandaceae. **Walnut.**

From Moca, Dominican Republic. Seeds presented by Dr. R. Ciferri, Director de la Estación Nacional Agronómica y Colegio de Agricultura. Received September 7, 1929.

A walnut, native to Jamaica, with alternate compound leaves made up of nine pairs of lanceolate, serrate, shining green leaflets, paler beneath. The thick-shelled nuts are globose and attenuate.

81616 and 81617. CITRUS GRANDIS (L.) Osbeck (*C. decumana* Murr.). Rutaceae. **Grapefruit.**

From Pasar Minggoe, Java. Budded plants presented by the Tuinbouwkundig Ambtenaar. Received September 5, 1929.

81616. No. 1. *Djeroek pandanwangi.* The fruits have dark-red, very sweet flesh.

81617. No. 2. *Djeroek delima.* The fruits have red flesh which is very juicy but a little sour.

81618. VACCINIUM CANADENSE Kalm. Vacciniaceae. **Canada blueberry.**

From Hudson Bay Junction, Saskatchewan, Canada. Seeds collected by Knowles A. Ryerson, Bureau of Plant Industry. Received September 30, 1929.

No. 147. A variety growing on a sandy pine ridge 30 to 40 feet above the river and at least a mile away from it. The plants had had no rain for quite a while and yet they were producing very good-sized fruits; in fact, better than any found at any place farther north.

81619. CITRUS SINENSIS (L.) Osbeck. Rutaceae. **Orange.**

From the Loyalty Islands. Seeds presented by Prof. I. Franc, Noumea, New Caledonia, through Alfred Rehder, Curator of the Herbarium of the Arnold Arboretum, Jamaica Plain, Mass., and W. T. Swingle, Bureau of Plant Industry. Received September 11, 1929.

The inhabitants of the Loyalty Islands have raised trees since time immemorial and have no knowledge of grafting. Chance seedlings always produce, with some care, succulent fruits 3 to 4 inches in diameter. The variety is believed to be absolutely fixed, and comes true from seed.

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