UNITED STATES DEPARTMENT OF AGRICULTURE

INVENTORY No. 79

Washington, D. C. ▼ Issued March, 1927

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM APRIL 1 TO JUNE 30, 1924 (S. P. I. NOS. 58931 TO 60956)

CONTENTS

INTRODUCTORY STATEMENT

During the period covered by this, the seventy-ninth, Inventory of Seeds and Plants Imported, the actual number of introductions was much greater than for any similar period in the past. This was due largely to the fact that there were four agricultural exploring expeditions in the field in the latter part of 1923 and early in 1924, and the combined efforts of these in obtaining plant material were unusually successful.

Working as a collaborator of this office, under the direction of the National Geographic Society of Washington, D. C., Joseph L. Rock continued to carry on botanical explorations in the Province of Yunnan, southwestern China, from which region he has sent so much of interest during the preceding few years. The collections made by Mr. Rock, which arrived in Washington in the spring of 1924, were generally similar to those made previously in the same region, except that a remarkable series of rhododendrons, numbering nearly 500 different species, many as yet unidentified, was included. Many of these rhododendrons, as well as the primroses, delphiniums, gentians, and barberries obtained by Mr. Rock, promise to be valuable ornamentals for parts of the United States with climatic conditions generally similar to those of Yunnan.

While continuing his search for promising types of barley for the use of plant breeders in the United States, H. V. Harlan, of the Office of Cereal Crops and Diseases, journeyed through Abyssinia and Egypt. As a result of his visit to these countries a number of barley strains were collected (*Hordeum* spp., Nos. 60525 to 60551, 60675 to 60701), an interesting series of sorghums (*Holcus sorghum*, Nos. 60492 to 60524), and also local strains of oats, wheat, cotton, flax, peas, beans, and a number of forage grasses.

H. L. Shantz, of the Office of Plant Geography and Physiology, traveled through East Africa in 1924 for the African Educational Commission, under the auspices of the Phelps-Stokes Fund. In French Somaliland, Uganda, and Kenya, Doctor Shantz collected seeds of a large number of miscellaneous plants of economic interest, such as native grasses, cereals, cotton, and leguminous forage plants.

Fred D. Richey, of the Office of Cereal Crops and Diseases, and Prof. R. A. Emerson, of Cornell University, spent over three months in southern and western South America searching for varieties of corn likely to succeed in regions of low

summer temperature. A large series of promising types was obtained from the cool highlands of Argentina, Chile, Bolivia, and Peru (*Zea mays*, Nos. 59934 to 60167).

As in the past, many valuable introductions have been made through the courtesy of the numerous foreign correspondents of the office. Dr. N. I. Vavilov, director of the Bureau of Applied Botany and Plant Breeding, Leningrad, Russia, has sent in a large collection of seeds (Nos. 60744 to 60956) of native grasses and other forage plants and local strains of cereals, vegetables, and fiber plants. Since these come from regions where extreme conditions of cold and drought prevail, the collection should be of special value for the Great Plains area of the United States.

The shipment of seeds (Nos. 60335 to 60352) presented by Professor Murashinsky, of the Siberian Agricultural Academy, Omsk, Siberia, also promises to be of special interest for trial in the Great Plains area.

The 150 soy-bean samples from China and Japan will be of special interest to soy-bean specialists and others interested in this crop. When it is considered that the soy bean is a comparatively new crop in the United States, that new and better varieties have been displacing older varieties in rapid succession, and that this is due directly to new introductions or indirectly to selections from former introductions, the possibilities of the present collection are readily realized. Of the 34 leading commercial varieties of the United States, 27 are either direct introductions or selections from introductions. In 35 out of 38 States growing soy beans, introduced varieties lead all others in acreage and production.

Included in this inventory are several introductions of Meibomia, Sesban, and Crotalaria; these will be particularly interesting for testing in the Southern States for soil improvement and forage purposes. The recent favorable results in Florida with *Crotalaria striata* and the general satisfactory adaptation of species of Meibomia to the Southern States make these genera worthy of further attention.

New grasses of special interest are *Axonopus scoparius* (No. 58966), collected at Guayaquil, Ecuador, which is cultivated not only in that region but also in other parts of the high Andes; *Danthonia semiannularis* (No. 59361), the wallaby grass of Tasmania, where it provides good pasturage; and *Brachypodium mexicanum* (No. 59295), an annual Mexican grass with succulent leaves, which may prove of value in the southern United States.

The botanical determinations of introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND MCKEE,
Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., June 9, 1926.

INVENTORY[1]

58931 and 58932. CASTANOPSIS spp. Fagaceæ.

From Buitenzorg, Java. Seeds presented by the Director of the Botanic Gardens. Received April 25, 1924.

58931. CASTANOPSIS ARGENTEA (Blume) A. DC.

This East Indian relative of the chestnut is an evergreen tree 50 to 60 feet in height, with narrow papery leaves and very dense clusters of spiny burs; each bur contains normally a single edible nut about an inch in diameter.

For previous introduction, see S. P. I. No. 57732.

58932. CASTANOPSIS TUNGURRUT (Blume) A. DC.

In Java, where this species is native, it is called "tungurrut" by the natives, who eat the small greenish nuts. The tree is very tall, becoming over a hundred feet in height, and the leathery greenish gray leaves are 5 to 8 inches in length. The burs, an inch and a half in diameter, are densely covered with tufts of curved spines and inclose one to three nuts.

58933. SOLANUM TUBEROSUM L. Solanaceæ. **Potato.**

From Bogota, Colombia. Tubers presented by Hermano Apolinar Maria, Instituto de la Salle. Received June 6, 1924.

The yellow-fleshed potato is one of the most interesting varieties found in the Andean region, home of many remarkable potatoes. The tubers are rather small and have deep eyes, so that they are not as easily prepared for the table as those of some other varieties, but in point of quality they yield to none that I have tasted. The flesh is the color of American butter and has a rich, nutty flavor, suggesting that of the chestnut. It seems to me the variety might be improved so as to do away with the objectionable eyes and that it would then be worthy of extensive cultivation. (*Wilson Popenoe, Bureau of Plant Industry.*)

For previous introduction, see S. P. I. No. 56803.

58934 to 58944. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

From Nanking, China. Seeds presented by T. S. Kuo, associate dean, College of Agriculture, National Southeastern University. Received June 9, 1924.

Introduced for soy-bean specialists.

58934. *I-ow* (green coat).

58934 to 58944—Continued.

58935. *I-ow* (white coat).

58936. *Nanking* (black).

58937. *Nanking* (green).

58938. *Nanking* (green coat).

58939. *Nanking* (large green).

58940. *Nanking* (small yellow).

58941. *Nanking* (tiger coat).

58942. A small bean used especially for sprouting and for curd.

58943. *Nanking Tea* (yellow).

58944. *Ver-nen* (green coat).

58945 to 58953. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

From Sapporo, Japan. Seeds presented by T. Abiko, agronomist, Hokkaido Agricultural Experiment Station. Received June 12, 1924.

Introduced for soy-bean specialists.

58945. *Chusei-Kuro-Daidzu.*

58946. *Gin-Daidzu.*

58947. *Kan-ro.*

58948. *Kuro-Saya.*

58949. *Kuro-Shoryu.*

58950. *Midzu-Kuguri.*

58951. *Nagaha-Saidzu.*

58952. *Ran-Koshi.*

58953. *Ishikari-Shiro.*

58954 to 58956. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

From Weihsien, Shantung, China. Seeds presented by Arthur L. Carson, Point Breeze Academy. Received June 11, 1924. Notes by Mr. Carson.

Introduced for soy-bean specialists.

58954. *Black beans.* A tall variety, used largely for animal feed.

58955. *Common yellow variety;* one of the most popular in Weihsien.

58956. *Green swamp beans.* A very tall variety adapted to swampy places.

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

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

58957. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ.
Soy bean.

From Sapporo, Japan. Seeds presented by T. Abiko, agronomist, Hokkaido Agricultural Experiment Station. Received June 12, 1924.

Introduced for soy-bean specialists.

Hadaka-Daidzu.

58958. GARCINIA BINUCAO (Blanco) Choisy. Clusiaceæ. **Binukao.**

From Manila, Philippine Islands. Seeds presented by the Director of the Bureau of Agriculture. Received June 2, 1924.

The binukao, a relative of the mangosteen, is a handsome tree which is very common in certain parts of the Philippine Islands, notably in Luzon and the Visayan Islands. W. H. Brown, in "Wild Food Plants of the Philippines," states that the yellowish, rounded fruits, nearly 2 inches in diameter, with a very acid pulp and numerous seeds, are eaten with fish by the Filipinos. The small, red flowers are borne in dense clusters. The binukao will probably not endure low temperatures, since it comes from a tropical region.

58959 and 58960. HIBISCUS SABDARIFFA L. Malvaceæ.

From Kuala Lumpur, Federated Malay States. Seeds presented by the agriculturist, Department of Agriculture. Received June 9, 1924.

Variety *altissima.* A tall variety, first recognized in the Philippine Islands where it was grown from seed received from Senegal, West Africa. It is an annual plant with slender stalks 2 to 3 meters high. It differs from the more common roselle in being taller and in having calyx lobes less fleshy and is of little value for making jellies, jams, etc.

Tall roselle is cultivated to a limited extent in Senegal for fiber production, and during the past two or three years a syndicate has been trying to establish its cultivation in the Federated Malay States.

The fiber belongs to the jute group and is suitable for bags, burlaps, and twines. It is coarser and harsher than Indian jute. No efficient machinery has been devised for preparing bast fibers such as jute and roselle, and it would be impossible to produce these fibers profitably by hand labor in this country.

Tall roselle may be grown in the warmer parts of the Gulf States and in southern California. (*L. H. Dewey, Bureau of Plant Industry.*)

58959. Green form. **58960.** Red form.

58961. CASTANOPSIS ARGENTEA (Blume) A. DC. Fagaceæ.

From Buitenzorg, Java. Seeds presented by Dr. J. J. Smith, 's Lands Plantentuin. Received June 12, 1924.

In the endeavor to establish in the United States blight-resistant chestnuts or related trees, Asiatic species of Castanea and Castanopsis are being introduced for trial. This species, from Java, is a large evergreen tree 50 to 60 feet tall, with dense clusters of spiny burs which inclose edible nuts about an inch in diameter.

For previous introduction, see S. P. I. No. 58931.

58962. MEIBOMIA OLDHAMI (Oliver) Kuntze (*Desmodium oldhami* Oliver). Fabaceæ.

From Leningrad, Russia. Seeds presented by Wl. Kousnetzoff, in charge of forage plants, Bureau of Applied Botany. Received June 12, 1924.

A slender, unbranched Japanese species, 2 to 4 feet high, with leaves 5 to 10 inches long.

58963. FUNTUMIA ELASTICA (Preuss) Stapf. Apocynaceæ.
Lagos rubber tree.

From Akkra, Gold Coast Colony, Africa. Seeds presented by W. S. D. Tudhope, Director, Agricultural Department. Received April 2, 1924.

A large forest tree which is very widely distributed throughout central Africa and is the source of Lagos rubber, the quality of which is but little inferior to that of Para rubber.

Though of doubtful value for growing commercially even in the most favorable parts of the United States, this plant is being introduced with a view of including it in the collection of rubber plants now being brought together in southern Florida for investigational purposes.

For previous introduction, see S. P. I. No. 42367.

58964. LILIUM PHILIPPINENSE Baker. Liliaceæ. **Benguet lily.**

From Taihoku, Formosa, Japan. Bulbs presented by R. Kanehira, director, Experimental Station of Forestry. Received April 2, 1924.

A semihardy Philippine lily with a slender green stem, sometimes purple dotted, 1 to 2 feet high, 30 to 40 narrow horizontal, recurved leaves 3 to 5 inches long, and delicately fragrant, pure waxy white flowers, 8 inches long, tinged green near the base, with yellow anthers. This species is best suited for pot culture in cold regions.

For previous introduction, see S. P. I. No. 50311.

58965. NICOTIANA SUAVEOLENS Lehm. Solanaceæ.

From Sydney, New South Wales. Seeds presented by J. H. Maiden, director, Botanic Gardens. Received April 2, 1924.

This Australian relative of the common tobacco-producing species is a herbaceous annual or biennial, native to sandy, hilly regions throughout most of Australia. It is said that in former times the leaves were chewed by the natives. The plant is readily eaten by stock. It is now introduced for the use of specialists who are studying the narcotic properties of the Solanaceæ.

58966. AXONOPUS SCOPARIUS (Fluegge) Hitchc. (*Paspalum scoparium* Fluegge). Poaceæ.

From Guayaquil, Ecuador. Seeds collected by A. S. Hitchcock, Bureau of Plant Industry. Received April 2, 1924.

This South American grass is used at low altitudes for forage, being cut green and fed as is done with guinea grass. I saw it first on the estate of J. A. Cleveland, of Guayaquil, in the rain belt at the foot of the mountains near Bucay. The grass is set out from plants obtained by division of the roots. It is called there "gramalote." I suspect this name is the same as gamalote, which is used for a different species in some other countries. The grass appears to be looked upon with favor, as it is large and succulent and produces abundant forage. It is preferred to guinea grass, which grows under about the same conditions. I found the same grass again in the Perene Valley of central Peru at an altitude of about 2,000 feet. There it is called maicillo and is used in competition with guinea grass. It appeared again in the Yungas region of Bolivia. It is there called cachi. In the intermediate altitude from 5,000 to 8,000 feet it was the only forage obtained for our mules while traveling. Throughout the region the grass is native and has been transferred to cultivation. (*Hitchcock.*)

58967 and 58968. RUBUS spp. Rosaceæ.

From Chester, England. Plants purchased from Dicksons' Nurseries. Received April 2, 1924.

Introduced for horticulturists experimenting with small fruits.

58967. RUBUS BIFLORUS Buch.-Ham.

A rambling shrub, with large leaves, woolly beneath and subacid yellow berries about the size of a thimble.

58968. RUBUS FRUTICOSUS L. **Blackberry.**

Var. *rubra plena*. A blackberry with double red flowers.

58969 and 58970.

From Cairo, Egypt. Seeds purchased from the director, Egyptian Seed Co. Received April 3, 1924.

Introduced for forage-crop specialists.

58969. MEDICAGO SATIVA L. Fabaceæ.

Hegazi. A local strain grown in Egypt.

58970. TRIFOLIUM ALEXANDRINUM L. Fabaceæ.

Miskawi. One of the principal types of berseem grown in Egypt.

58971 and 58972. DIOSPYROS KAKI L. f. Diospyraceæ. **Kaki.**

From Weihsien, Shantung, China. Scions presented by Ralph C. Wells, Point Breeze Academy. Received April 4, 1924. Notes by Mr. Wells.

These two varieties are from Tsingchowfu and were sent in by A. L. Carson, of Weihsien, Shantung.

58971. *Tishihtzu* (iron persimmon). A relatively nonastringent variety.

58972. *Toashihtzu* (palm-of-the-hand persimmon).

58973. DIOSCOREA sp. Dioscoraceæ. **Yam.**

From Barbados, British West Indies. Tubers presented by John R. Bovell, Director of Agriculture. Received April 23, 1924.

Antigua white. This variety, which I believe is a sport, I consider one of the best of the white yams. Its history is as follows: A planter in the island of Antigua bought a yam for cooking purposes and, as it was rather large, only a portion of it was used for cooking. It proved to be of such good flavor that the remainder was planted and subsequently propagated for distribution. These tubers which I am sending are of this variety. (*Bovell.*)

58974. LUCUMA MULTIFLORA DC. Sapotaceæ.

From San Jose, Costa Rica. Seeds presented by Carlos Werckle. Received April 3, 1924.

This West Indian tree is a close relative of the lucuma (*Lucuma obovata*) whose bright-yellow, mealy-fleshed fruits are popular in the Andean regions of South America. The leaves of the West Indian species are leathery and oblong and the edible fruit is nearly an inch in diameter. It may prove to be adapted to the southern part of Florida.

58975 and 58976.

From Tripoli, Libia, North Africa. Bud wood presented by Dr. E. O. Fenzi. Received April 1, 1924. Notes by Doctor Fenzi.

58975. MALUS sp. Malaceæ. **Apple.**

Garras. an extra early native variety. This is of good size and very juicy, and it ripens at the same time as the earliest apricots.

58975 and 58976—Continued.

58976. PRUNUS ARMENIACA L. Amygdalaceæ. **Apricot.**

Ain thor (bull's eye); also *bergsam*. A very large tree, taller and more vigorous than any other kind; leaves thin, irregularly toothed; fruit globular, with hardly any groove, weight about 40 grams, diameter 40 mm.; skin scarcely tomentose, reddish yellow, adhering closely to the flesh; flesh more juicy than that of any other kind, with flavor more like that of a plum than an apricot, adhering closely to the smooth stone. Not common.

58977. DAVIDIA INVOLUCRATA Baill. Cornaceæ.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 29, 1924.

Nos. 11234 (fruit), 9067 (flowers). October, 1923. A handsome tree 30 to 40 feet high which grows on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 10,000 feet. The flowers are between two very large, cream-colored bracts the size of one's hand. The fruits are deep-blue drupes. (*Rock.*)

58978 and 58979. SESBAN spp. Fabaceæ.

From Pretoria, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. Received April 5, 1924.

58978. SESBAN ACULEATUM (Schreb.) Poir.

A tall-growing, annual, leguminous plant from tropical and subtropical Asia, which is used there as green manure and also for fodder. It is a vigorous grower and is said to thrive in semiarid regions. Introduced for forage-crop specialists.

58979. SESBAN AEGYPTIACUM Poir.

In Porto Rico and also in western Java the leaves and young branches of this yellow-flowered shrub are used for fodder, and it is now introduced for the use of forage-crop specialists.

For previous introduction, see S. P. I. No. 54894.

58980 to 58985. RUBUS spp. Rosaceæ. **Raspberry.**

From Orleans, France. Plants purchased from E. Turbat & Co. Received April 2, 1924. Quotations from catalogue of Millet & Fils.

Introduced for testing by horticulturists engaged in raspberry breeding.

58980. RUBUS sp.

"*All Summer*. An everbearing variety with large red fruits of good quality."

58981. RUBUS sp.

"*Améliorée de Congy*. A vigorous variety with red fruits of excellent quality."

58982. RUBUS sp.

"*Belle de Fontenay*. An everbearing variety, with sweet, red, round fruits of very good quality."

58983. RUBUS sp.

"*Perpétuelle de Ballard*. An everbearing variety which bears a large crop of very fine red fruits."

58984. RUBUS sp.

"*Superlative Perpétuelle*. Fruits red, very large, with an aromatic sweet flavor."

58985. RUBUS sp.

"*Surpasse merreille*. An everbearing variety with medium-sized white fruits."

58986. SPARTINA TOWNSENDI Groves. Poaceæ. **Grass.**

From London, England. Seeds presented by Prof. F. W. Oliver, University College, London, through A. S. Hitchcock, Bureau of Plant Industry. Received April 4, 1924.

Professor Oliver regards *Spartina townsendi* as a probable hybrid between *Spartina stricta* and *S. alterniflora*. It appeared at Hythe, Southampton, England, about 1879, and has spread rapidly on the mud flats, reclaiming the land. Professor Oliver says that it is eaten eagerly by cattle and pigs and is also promising as a paper-making material, but the cost of harvesting is large at present. We consider this species to be the same as *S. alterniflora* Loisel., which is found on the shores of Nova Scotia and New Brunswick, south to Maine. (*Hitchcock.*)

58987. TRIFOLIUM AFRICANUM GLABELLUM Harv. Fabaceæ. **Clover.**

From Cedara, Natal, Union of South Africa. Seeds presented by W. S. Hall, assistant experimentalist, School of Agriculture. Received April 5, 1924.

An indigenous Natal perennial clover which is a very vigorous grower, forming a thick sward which smothers adjacent plots of other clovers unless cut back. After three years the plot begins to deteriorate. In its native country this variety thrives in moist places. Introduced for agronomists engaged in breeding new types of clover.

58988. CEREUS VALIDUS Haw. Cactaceæ.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received April 7, 1924.

A tall, picturesque plant, which produces fruit the size of a goose egg and of a beautiful magenta color. These fruits are absolutely without spicules and of very good taste. Doctor Proschowsky remarks that he knows of no other fruit which is so "melting," and it resembles much the "snows" sold in Latin-American countries, consisting of real snow mixed with fruit juice or sugar. (*David Fairchild, Bureau of Plant Industry.*)

58989 and 58990. CITRUS SINENSIS (L.) Osbeck. Rutaceæ. **Sweet orange.**

From Soledad, Cienfuegos, Cuba. Bud wood presented by R. M. Grey, superintendent, Cuban Gardens. Received April 8, 1924. Notes by Mr. Grey.

58989. *Harvard No. 1.* This is one of the best seedlings we have ever raised here and has been in cultivation for many years. The tree forms a compact head, with deep rich-green foliage; it is drought resistant, and has borne splendid crops here every year. The fruit is medium to large, starts to ripen early in November, and remains firm and juicy until May. The skin is a rich orange color, of medium thickness; the flesh is of fine texture and quality, sweet in flavor and few seeded.

58990. *Harvard No. 2.* A late bud sport of Valencia. The tree is of spreading habit and a prolific bearer. The fruit is of good size, few seeded, does not ripen until February, but retains its firmness and juice until late October. The skin is pale yellow, quite thin and smooth; the flesh is of excellent quality and of pleasant, mild, sweet flavor.

58991 to 58996. SACCHARUM OFFICINARUM L. Poaceæ. **Sugar cane.**

From Coimbatore, Madras Presidency, India. Cuttings presented by T. S. Venkatraman, Government sugar-cane expert, Agricultural College. Received April 3, 1924.

These varieties have been found eminently suited for cultivation in northern India. (*Venkataraman.*)

58991 to 58996—Continued.

58991. *Co. 205.*

58992. *Co. 210.*

58993. *Co. 213.*

58994. *Co. 214.*

58995. *Co. 252.*

58996. *Co. 281.*

58997 to 58999. RUBUS spp. Rosaceæ. **Blackberry.**

From Concepcion, Province of Chirique, Panama. Plants presented by J. R. Genuit. Received April 15, 1924.

These are wild species, likely to prove of interest in the warmest portions of the United States.

58997. RUBUS sp.

Black fruits.

58998. RUBUS sp.

Pink fruits.

58999. RUBUS sp.

Salmon-colored fruits.

59000 to 59268.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 4, 1924. Notes by Mr. Rock.

59000. ACONITUM sp. Ranunculaceæ.

No. 11428. November, 1923. A plant 3 feet tall found growing in alpine meadows between 12,000 and 13,000 feet altitude in the Likiang Snow Range. The leaves are finely palmatisect, and the pale purplish, silky blue flowers are in dense spikes.

59001. ACONITUM sp. Ranunculaceæ.

No. 11457. November, 1923. A plant 3 to 4 feet tall from alpine meadows in the fir forest at an altitude of 11,000 feet, Sungkwe Mountains. It has large leaves and long spikes of large, pale-blue flowers.

59002. ANDROSACE SPINULIFERA (Franch.) Knuth. Primulaceæ.

No. 11411. November, 1923. Likiang Snow Range. A plant 1 to 2 feet high found growing in dry rocky limestone regions at about 11,000 feet altitude. The rosette of spatulate leaves and umbels of rich pink flowers make it very attractive.

For previous introduction, see S. P. I. No. 55253.

59003. BERBERIS DICTYOPHYLLA Franch. Berberidaceæ.

No. 11462. Mahoangpatze. November, 1923. A spiny shrub 5 to 6 feet high, found in alpine meadows, Likiang Snow Range. The leaves are glaucous, the flowers yellow, and the fruits red.

For previous introduction, see S. P. I. No. 56293.

59004. BUDDLEIA FORRESTII Diels. Loganiaceæ.

No. 11432. November, 1923. A very attractive shrub found only in limestone soil on the Likiang Snow Range at from 9,000 to 10,000 feet altitude. It has white woolly leaves and spikes of lavender-blue flowers.

For previous introduction, see S. P. I. No. 56294.

59005. CAMPANULA sp. Campanulaceæ.

No. 11405. October, 1923. A plant 2 to 3 feet tall found growing in pine forests at Saba and also in meadows at about 12,000 feet altitude on the Likiang Snow Range. The leaves are lanceolate, and the drooping flowers are deep indigo blue.

59006. CARAGANA sp. Fabaceæ.

Nos. 11330 (fruit), 9243 (flowers). November, 1923. A shrub 1 to 2 feet high which forms spiny cushions on rocky slopes at 15,500 to 16,000 feet altitude on the Yangtze-Mekong Divide. The branches are covered with gray pubescence, and the flowers are a rich pinkish purple.

59000 to 59268—Continued.

59007. CORYLOPSIS sp. Hamamelidaceæ.

No. 11226. October, 1923. A very handsome tree 20 feet high found at 10,000 feet altitude on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide. The leaves are fan-shaped with prominent veins which radiate like segments of a fan.

59008. CORYLUS TIBETICA Batal. Betulaceæ. **Hazel.**

No. 11136. November, 1923. A small tree 30 to 40 feet high found at 10,000 feet altitude in the forests of Sila Pass on the Mekong-Salwin Divide. The thin green leaves are large and ovate serrate; the echinate fruits are in threes, and the nuts are small.

For previous introduction, see S. P. I. No. 46406.

59009. CREMANTHODIUM sp. Asteraceæ.

No. 11440. November, 1923. A plant about 1 foot high, found in alpine meadows on the Likiang Snow Range at an altitude of 12,000 feet. The oval leaves are in basal rosettes, and the large flower heads have drooping golden ray florets.

59010. DELPHINIUM sp. Ranunculaceæ.

No. 11407. November, 1923. A plant 2 to 3 feet high found in crevices of limestone bowlders, Likiang Snow Range, at an altitude of 11,000 feet. The leaves are broadly palmatisect, and the flowers are purplish blue. The plant spreads from the base.

59011. DELPHINIUM sp. Ranunculaceæ.

No. 11458. November, 1923. A plant 1 foot high found on alpine slopes of the Likiang Snow Range at 14,000 feet altitude. The leaves form a basal rosette, and the large hairy blue-lavender flowers grow in dense globose spikes.

59012. GENTIANA sp. Gentianaceæ.

No. 11399. November, 1923. A handsome moisture-loving herb a foot tall found in alpine meadows at 11,000 feet altitude on the Likiang Snow Range. The very large flowers have long, tubular, salver-shaped corollas of deep indigo blue.

59013. GENTIANA sp. Gentianaceæ.

No. 11400. November, 1923. A very attractive species found covering acres of alpine meadows at Harakin in the Likiang Snow Range. The plant is prostrate and only 5 or 6 inches high; the urn-shaped flowers are Prussian blue with white stripes.

59014. GENTIANA sp. Gentianaceæ.

Nos. 11400 (fruit), 8907 (flowers). November, 1923. Plants found growing in limestone soil in meadows of Saba, Likiang Snow Range, at 11,000 feet altitude. The leaves are in linear rosettes, and the large flowers are deep indigo blue with paler stripes.

59015. GENTIANA sp. Gentianaceæ.

No. 11448. November, 1923. A small plant a foot high found in alpine meadows of the Likiang Snow Range at 12,000 feet altitude. The leaves are linear-lanceolate, and the bluish purple flowers grow in globose heads on long stems.

59016. GENTIANA sp. Gentianaceæ.

No. 11450. November, 1923. A prostrate plant 1 to 2 feet long found in alpine meadows of the Likiang Snow Range at 12,000 feet altitude. The flowers are yellow.

59017. GENTIANA sp. Gentianaceæ.

No. 11466. November, 1923. A small plant 10 inches high found in alpine meadows of the Likiang Snow Range at 13,000 feet altitude. The small, elliptic leaves clasp the stem; the flowers are blue with a purple tinge.

59000 to 59268—Continued.

59018. GENTIANA sp. Gentianaceæ.

No. 11474. November, 1923. A plant 2 inches high with deep-blue flowers found at 13,000 feet altitude in alpine meadows of the Likiang Snow Range.

59019. GENTIANA sp. Gentianaceæ.

No. 11477. November, 1923. A small herbaceous plant 8 to 10 inches high found in pine forests and meadows on the Likiang Snow Range at 10,000 feet altitude. The leaves are small and linear and the flowers tubular and blue.

59020. GENTIANA sp. Gentianaceæ.

No. 11478. November, 1923. A prostrate plant found in moist meadows of the Likiang Snow Range. The large erect flowers are dark blue striped with yellow, and the fleshy leaves are needle shaped.

59021. IRIS sp. Iridaceæ.

Nos. 11486 (fruit), 10209 (flowers). November, 1923. A plant 1 to 2 feet tall found growing in clumps in moist meadows on the Likiang Snow Range at 11,000 feet altitude. The flowers are dark blue.

59022. PIERIS sp. Ericaceæ.

No. 11414. November, 1923. A handsome shrub 3 to 4 feet high which forms dense bushes; found growing in pine forest outskirts on the Likiang Snow Range at 10,000 feet altitude. The elliptical leaves are shining dark green, and the bell-shaped white flowers are in erect spikes.

59023. POTENTILLA sp. Rosaceæ.

No. 11464. November, 1923. A plant found in alpine meadows of the Likiang Snow Range at 9,000 to 10,000 feet altitude. The leaves are trifoliate, and the yellow flowers are in large racemes.

59024 to 59028. PRIMULA spp. Primulaceæ. **Primrose.**

59024. PRIMULA sp.

Nos. 10895 (fruit), 8904 (flowers). November, 1923. A very handsome species found in moist alpine meadows of Londjre, southeastern Tibet, at 12,000 to 13,000 feet altitude. The large flowers are deep indigo blue.

59025. PRIMULA CALLIANTHA Franch.

Nos. 10962 (fruit), 9079 (flowers). November, 1923. Plants collected in the alpine meadows of the Mekong Valley at 12,000 feet altitude. The linear-lanceolate leaves are glabrous, and the large drooping flowers are rich purplish blue with large calyxes striped with white.

59026. PRIMULA CALLIANTHA Franch.

Nos. 11137 (fruit), 9967 (flowers). November, 1923. A plant found in the alpine meadows of the Peima Mountains at 14,000 feet altitude. The linear-lanceolate leaves are thin and green; the large flowers are rich purple.

59027. PRIMULA INGENS W. W. Smith and Forrest.

Nos. 11327 (fruit), 9291 (flowers). November, 1923. A plant about 2½ feet high found in the alpine meadows of the Peima Mountains at 13,000 feet altitude. The linear leaves are glabrous, and the bluish purple flowers are in globose heads.

59028. PRIMULA sp.

No. 11350. November, 1923. A plant 2 feet high found on mossy forest banks along the trail near the summit of Shundsangtu at 13,000 feet altitude. The leaves are lanceolate and the flowers are purple.

59000 to 59268—Continued.

59029. RHODODENDRON CEPHALANTHUM Franch. Ericaceæ.

Nos. 11323 (fruit), 9074 (flowers). November, 1923. A shrub 2 feet high found among rocks in the alpine region of Yetche, on the Mekong River. The leaves are small and elliptical with brownish wool beneath; the tubular flowers are white.

59030 to 59263. RHODODENDRON spp. Ericaceæ.

59030. RHODODENDRON sp.

No. 10895. November, 1923. A spreading shrub, 3 feet tall, found growing in masses in the moist open places in fir forests on the Tibetan border, northwestern Yunnan, at 13,000 feet altitude. The elliptical-oblong leaves are covered with fawn-colored tomentum beneath, and the flowers are a deep blackish carmine.

59031. RHODODENDRON sp.

Nos. 10894 (fruit), 8911 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing on moist alpine slopes on the Londjre Mountains in southeastern Tibet. The elliptical leaves are fawn-colored beneath, and the large rich crimson flowers are on long pubescent pedicels.

59032. RHODODENDRON sp.

Nos. 10896 (fruit), 8880 (flowers). November, 1923. A large shrub 7 to 8 feet high found on the slopes of the Londjre Mountains, southeastern Tibet. The leaves are large, oblong, glabrous, and a yellowish brown. The deep rich pink flowers are in umbels.

59033. RHODODENDRON sp.

No. 10897. November, 1923. A small shrub from 2 to 3 feet high found on the alpine meadows of the Londjre Mountains, southeastern Tibet, at from 12,000 to 13,000 feet altitude. The small elliptic leaves are white beneath, and the flowers vary from rich crimson to carmine.

59034. RHODODENDRON sp.

Nos. 10899 (fruit), 10306 (flowers). November, 1923. A small shrub found growing on the alpine slopes of the Londjre Mountains, southeastern Tibet, The elliptical leaves are gray beneath, and the large purple flowers are yellowish at the base.

59035. RHODODENDRON sp.

Nos. 10906 (fruit), 10218 (flowers). November, 1923. A small shrub 1 to 2 feet high found growing on the alpine slopes of the Londjre Mountains, southeastern Tibet. The small elliptical leaves are brown beneath, and the large pink flowers grow in racemes.

59036. RHODODENDRON sp.

Nos. 10901 (fruit), 10272 (flowers). November, 1923. A small shrub 1 to 2 feet high found on the alpine slopes of the Londjre Mountains, southeastern Tibet. The small oblong leaves are brown beneath, and the deep reddish black flowers have carmine calyxes.

59037. RHODODENDRON sp.

Nos. 10902 (fruit), 8915 (flowers). November, 1923. A small shrub 2 to 3 feet high found on the alpine slopes of the Londjre Mountains, southeastern Tibet, Yunnan. The elliptical leaves are grayish green beneath, and the flowers are a rich yellow.

59038. RHODODENDRON sp.

Nos. 10903 (fruit), 10265 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing on the alpine meadows of the Londjre Mountains, southeastern Tibet, Yunnan. The small elliptical leaves are white beneath, and the large flowers are yellowish red.

59000 to 59268—Continued.

59039. RHODODENDRON. sp.

Nos. 10904 (fruit), 10277 (flowers). November, 1923. A small shrub 1 to 2 feet high found growing in masses on the alpine slopes of the Londjre Mountains in southeastern Tibet and northwestern Yunnan. The small, elliptical, glaucous leaves are gray beneath, and the deep-crimson flowers are on short hairy pedicels.

59040. RHODODENDRON sp.

Nos. 10905 (fruit), 8912 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing in masses in moist places on the Londjre Mountains at from 12,000 to 13,000 feet altitude. The small, elliptical leaves are deep chocolate color beneath, and the blackish crimson flowers are on short pedicels.

59041. RHODODENDRON sp.

Nos. 10906 (fruit), 8914 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing in masses in the Londjre Mountains, southeastern Tibet and northwestern Yunnan, at 13,000 feet altitude. The elliptical leaves are white tomentose beneath, and the flowers are a rich yellow.

59042. RHODODENDRON sp.

Nos. 10907 (fruit), 10285 (flowers). November, 1923. A low shrub from 1 to 2 feet high found growing in moist places on the Londjre Mountains in southeastern Tibet and northwestern Yunnan at altitudes between 12,000 and 13,000 feet. The small leaves are glabrous, and the flowers are pink.

59043. RHODODENDRON sp.

Nos. 10908 (fruit), 8879 (flowers). November, 1923. A tree 8 to 10 feet high found growing in a fir forest on the Londjre Mountains in southeastern Tibet and northwestern Yunnan at 12,000 feet altitude. The large leaves are subglabrous beneath and pale brown; the rich pink flowers are in large umbels.

59044. RHODODENDRON sp.

Nos. 10909 (fruit), 10268 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing in masses on the alpine slopes of the Londjre Mountains in southeastern Tibet and northwestern Yunnan at 13,000 feet altitude. The elliptical-oblong leaves are brownish beneath, and the flowers are deep red.

59045. RHODODENDRON sp.

Nos. 10910 (fruit), 8886 (flowers). November, 1923. A shrub 4 feet high found growing in fir forests on the Londjre Mountains in southeastern Tibet and northwestern Yunnan at 12,000 feet altitude. The large glabrous green leaves are golden yellow beneath, and the large pink flowers, which grow in large umbels, have a purplish tinge.

59046. RHODODENDRON sp.

Nos. 10911 (fruit), 10276 (flowers). November, 1923. A small shrub 1 to 1½ feet high found growing in masses on the Londjre Mountains in southeastern Tibet and northwestern Yunnan at 12,000 feet altitude. The linear-lanceolate leaves are drab colored beneath, and the flowers are very dark crimson.

59047. RHODODENDRON sp.

Nos. 10912 (fruit), 8782 (flowers). November, 1923. A shrub 3 to 4 feet high found growing on the middle slopes of the Tsehchung Mountains, Mekong, northwestern Yunnan, at 10,000 feet altitude. The small ovate-elliptical leaves are drab colored beneath, and the branches are slender. The flowers are a beautiful pink.

59000 to 59268—Continued.

59048. RHODODENDRON sp.

Nos. 10913 (fruit), 8827 (flowers). November, 1923. A tree 8 to 10 feet high collected in a fir forest on the Tsehchung Mountains at the Mekong watershed, 14,000 feet altitude. The large oblong leaves are drab colored beneath, and the very large pink flowers grow in dense umbels.

59049. RHODODENDRON sp.

Nos. 10914 (fruit), 10081 (flowers). November, 1923. A small shrub 1 to 2 feet high found growing on rocky alpine slopes of the Tsehchung Mountains at 14,000 feet altitude. The very small oval leaves are one-half inch long, and the rich golden-yellow flowers are in dense clusters.

59050. RHODODENDRON sp.

Nos. 10915 (fruit), 8778 (flowers). November, 1923. A shrub 5 feet high found growing on the middle slopes of the Tsehchung Mountains, Mekong Valley, at 10,000 feet altitude. The leaves are small, elliptical, and glabrous, and the medium-sized flowers are pale pink.

59051. RHODODENDRON sp.

Nos. 10916 (fruit), 9125 (flowers). November, 1923. A shrub 3 to 4 feet high found growing in rocky alpine regions of the Tsehchung Mountains at 11,000 feet altitude. The oblong leaves are deep brown beneath, and the rich pink flowers are mottled with purple.

59052. RHODODENDRON sp.

Nos. 10917 (fruit), 8831 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing in the alpine meadows of Tsehchung at 12,000 feet altitude. The oblong leaves are small, and the small yellow flowers grow on long pedicels.

59053. RHODODENDRON sp.

Nos. 10919 (fruit), 9083 (flowers). November, 1923. A low shrub 2 feet high found on the slopes of the Tsehchung Mountains at 10,000 feet altitude. The small elliptical leaves are glaucous greenish beneath, and the little yellow flowers are on long pedicels. This plant is very rare.

59054. RHODODENDRON sp.

Nos. 10925 (fruit), 10093 (flowers). November, 1923. A shrub 5 feet high found in the alpine regions of Tsehchung at 11,000 to 12,000 feet altitude. The leaves are large, obovate, glabrous, and green on both sides, and the rich golden-yellow flowers are in large umbels.

59055. RHODODENDRON sp.

Nos. 10926 (fruit), 9131 (flowers). November, 1923. A low-growing shrub 1 to 2 feet high found in alpine regions of Tsehchung at 12,000 feet altitude. The elliptic leaves are drab to white beneath, and the medium-sized flowers are a deep purple-carmine.

59056. RHODODENDRON sp.

Nos. 10927 (fruit), 8924 (flowers). November, 1923. A shrub 2 feet high found in alpine regions of Tsehchung at 12,000 feet altitude. The elliptical leaves are white beneath with yellow veins, and the large flowers are a rich crimson.

59057. RHODODENDRON sp.

Nos. 10959 (fruit), 8769 (flowers). A shrub 3 to 4 feet high found in the alpine regions of Tsehchung at 14,000 feet altitude. The linear-

59000 to 59268—Continued.

lanceolate leaves are covered beneath with a brown, deciduous wool, and the flowers are a rich crimson with a purple tinge.

59058. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10960 (fruit), 9106 (flowers). November, 1923. A large shrub 6 feet high found in a spruce forest on the slopes of the Tsehchung Mountains at 10,000 feet altitude. The large, leathery leaves are oblong, acuminate, and nearly brown beneath, while the big flowers are cream colored.

59059. RHODODENDRON sp.

Nos. 10961 (fruit), 9152 (flowers). November, 1923. A shrub 4 to 5 feet high found growing in rocky alpine regions of the Tsehchung Mountains. Its leaves are ovate acute and glabrous, and the pure pale-pink flowers grow in open umbels on slender pedicels.

59060. RHODODENDRON sp.

Nos. 10963 (fruit), 8834 (flowers). November, 1923. A shrub 3 to 4 feet high found in alpine meadows of the Tsehchung Mountains at 12,000 feet altitude. The oval leaves are glabrous and the flowers a deep reddish purple.

59061. RHODODENDRON REPENS Balf. f. and Forrest.

Nos. 10964 (fruit), 9133 (flowers). November, 1923. A prostrate plant only a few inches tall which forms mats in the alpine regions of the Tsehchung Mountains at 13,000 feet altitude. It has small elliptical leaves and rich carmine flowers.

59062. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10977 (fruit), 9144 (flowers). October, 1923. A shrub 5 feet high found on the slopes of the Tsehchung Mountains at 10,000 feet altitude. The oblong-acuminate leaves are covered with a brown tomentum beneath, and the flowers are pink spotted with purple.

59063. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10978 (fruit), 9117 (flowers). October, 1923. A shrub 7 to 8 feet high found on the slopes of the Tsehchung Mountains overlooking the Mekong Valley at 10,000 feet altitude. The oblong leaves are brownish tomentose beneath, and the flowers are pink.

59064. RHODODENDRON sp.

No. 10979. October, 1923. A shrub 5 feet high found in the alpine regions of the Tsehchung Mountains at 11,000 feet altitude. The linear-oblong leaves are rufous beneath, and the flowers are pink.

59065. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10980 (fruit), 9136 (flowers). October, 1923. A shrub only 4 feet high found in the alpine region of Tsehchung, Mekong Valley. The small leaves are ovate elliptical and covered with brown tomentum beneath; the flowers are white.

59066. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10981 (fruit), 9115 (flowers). October, 1923. A shrub 8 feet high found on the slopes of the Tsehchung Mountains, Mekong Valley, at 10,000 feet altitude. The oblong leaves are a rich green and covered with yellow tomentum beneath; the white flowers are spotted with purple.

59000 to 59268—Continued.

59067. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10982 (fruit), 9135 (flowers). October, 1923. A shrub 6 feet high found on the slopes of the Tsehchung Mountains, Mekong Valley, at 10,000 feet altitude. The leaves are linear-lanceolate and covered with yellow tomentum beneath; the large flowers are white.

59068. RHODODENDRON IXEUTICUM Balf. f. and Smith.

No. 10983. October, 1923. A shrub 5 feet high found in spruce forests on the slopes of the Tsehchung Mountains, Mekong Valley, at 10,000 feet altitude. The oblong-acuminate leaves are rufous brown beneath, and the large white flowers are borne in large umbels.

59069. RHODODENDRON sp.

No. 10984. October, 1923. A shrub 3 feet high found on the alpine slopes of the Tsehchung Mountains at 12,000 feet altitude. The obovate leaves are densely matted beneath with chocolate-colored tomentum; the flowers are deep blackish crimson.

59070. RHODODENDRON sp.

Nos. 10985 (fruit), 9140 (flowers). October, 1923. A shrub 3 feet high found in the alpine regions of the Tsehchung Mountains at 12,000 feet altitude. The large obovate leaves are dull green above and chocolate colored beneath; the flowers are deep crimson.

59071. RHODODENDRON sp.

Nos. 10986 (fruit), 8789 (flowers). October, 1923. A small shrub 3 to 4 feet high found in the alpine regions of the Tsehchung Mountains at 14,000 feet altitude. The oval leaves are glabrous and the flowers a rich lavender.

59072. RHODODENDRON sp.

Nos. 10987 (fruit), 8785 (flowers). October, 1923. A large shrub 5 feet high found in fir forests in the alpine regions of the Tsehchung Mountains at 13,000 feet altitude. The leaves are large, oblong, acute, and glabrous, but brown beneath; the flowers are a rich reddish purple.

59073. RHODODENDRON sp.

Nos. 10989 (fruit), 9102 (flowers). October, 1923. A tall shrub 8 feet high found in the forests of Tsehchung at 10,000 feet altitude. The leaves are large, oblong, acute, glabrous, and pale beneath; the white flowers have a slight pinkish tinge.

59074. RHODODENDRON sp.

Nos. 10989 (fruit), 9122 (flowers). October, 1923. A low shrub 3 feet high found in the alpine regions of Tsehchung at 12,000 feet altitude. The leaves are obovate-acute at the base and chocolate colored tomentose beneath; the flowers are almost black.

59075. RHODODENDRON sp.

Nos. 10990 (fruit), 9127 (flowers). October, 1923. A shrub 5 to 8 feet high which grows on the forested slopes of the alpine regions of Tsehchung at 11,000 feet altitude. The lanceolate leaves are dull green and glabrous; the flowers are purple-pink.

59076. RHODODENDRON sp.

No. 10991. October, 1923. A low-growing plant 2 feet high found on the slopes of the Tsehchung Mountains at 10,000 feet altitude. The leaves are small, oval, glabrous, and glaucous, and the flowers are small and yellow.

59077. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10992 (fruit), 8767 (flowers). October, 1923. A shrub 5 to 6 feet high found in the alpine regions of Tsehchung. The oblong, acute leaves are brown woolly beneath, and the white flowers grow in large umbels.

59078. RHODODENDRON REPENS Balf. f. and Forrest.

No. 10994. October, 1923. A small plant 1 foot high found growing in the rocky alpine slopes of the Tsehchung Mountains at 13,000 feet altitude. It has small oval leaves and rich crimson flowers.

59079. RHODODENDRON SEMNUM Balf. f. and Forrest.

Nos. 10995 (fruit), 10060 (flowers). October, 1923. A tree 15 to 20 feet high found growing on the slopes of the Tsehchung Mountains. The very large leaves, 1½ feet long, are obovate-oblong and silvery gray beneath; the flowers are large and white.

59080. RHODODENDRON REPENS Balf. f. and Forrest.

Nos. 10997 (fruit), 9078 (flowers). October, 1923. A prostrate shrub found in the alpine regions of Tsehchung. The small oval leaves are green on both sides, and the large flowers are dark red.

59081. RHODODENDRON sp.

Nos. 10999 (fruit), 9139 (flowers). October, 1923. A shrub 4 feet high found on the rocky slopes of the Tsehchung Mountains at 11,000 feet altitude. The linear-elliptical leaves are brown beneath, and the large flowers are a rich crimson.

59082. RHODODENDRON SALUENENSE Franch.

No. 11001. October, 1923. A small shrub 2 feet high found on the rocky alpine slopes of the Tsehchung Mountains. The leaves are very small and oval, and the deep purplish blue flowers have carmine calyxes.

59083. RHODODENDRON sp.

Nos. 11002 (fruit), 9118 (flowers). October, 1923. A low shrub 2 feet high found in the alpine regions of Tsehchung at 13,000 feet altitude. It has elliptical-oval leaves, which are white beneath, and large carmine flowers.

59084. RHODODENDRON sp.

Nos. 11003 (fruit), 9278 (flowers). October, 1923. A low shrub 1 to 2 feet high found in the alpine regions of Tsehchung. Its small oval leaves are glabrous on both sides, but paler and dull green beneath; the flowers are a rich carmine.

59085. RHODODENDRON PRAESTANS Balf. f. and Smith.

Nos. 11013 (fruit), 19095 (flowers). October, 1923. A tree 12 to 15 feet high found on alpine slopes at 13,000 feet altitude. This striking species has large leaves 1 to 2 feet long, subsessile and brownish gray beneath; the large flowers are purplish pink.

59086. RHODODENDRON sp.

Nos. 11014 (fruit), 9158 (flowers). October, 1923. A shrub 4 feet high found on the alpine slopes of Tsehchung at 13,000 feet altitude. The leaves are small, oval, papery, glabrous, and the flowers pale lavender.

59087. RHODODENDRON sp.

Nos. 11015 (fruit), 8777 (flowers). October, 1923. A shrub or small tree 8 to 10 feet high found in forests on the slopes of the Tsehchung Mountains at 10,000 feet altitude. This handsome species has leaves which are oblong, dull green, and glabrous; its pinkish purple flowers are in large umbels.

59000 to 59268—Continued.

59088. RHODODENDRON FULVOIDES Balf. f. and Forrest.

Nos. 11016 (fruit), 8790 (flowers). October, 1923. A small tree 8 to 10 feet high found on the slopes of Tsehchung at 10,000 feet altitude. Its obovate-acute, oblong leaves are covered with brown tomentum beneath, and its large flowers are reddish purple.

59089. RHODODENDRON sp.

Nos. 11017 (fruit), 9108 (flowers). October, 1923. A shrub 8 feet high found on the alpine slopes of Tsehchung at 12,000 feet altitude. The oblong leaves are dark green above and smooth and brown beneath; the flowers are pink.

59090. RHODODENDRON sp.

Nos. 11018 (fruit), 9209 (flowers). October, 1923. A low-growing shrub 2 feet tall found in the alpine regions of Tsehchung at 12,000 feet altitude. This striking species has small oval leaves, which are white beneath, and very rich carmine flowers.

59091. RHODODENDRON FULVOIDES Balf. f. and Forrest.

Nos. 11023 (fruit), 8738 (flowers). October, 1923. A shrub 5 to 6 feet high found at the Sila Pass of the Mekong-Salwin Divide at 14,000 feet altitude. The lanceolate leaves are brown tuberculate beneath, and the flowers are a handsome rich pink.

59092. RHODODENDRON sp.

Nos. 11024 (fruit), 9220 (flowers). October, 1923. A small shrub 2 to 3 feet high found at the Sila Pass on the Mekong-Salwin Divide at an altitude of 14,000 feet. The leaves are elliptical-oblong, mucronate, and drab to white beneath; the flowers are medium sized and a deep blackish crimson.

59093. RHODODENDRON sp.

Nos. 11026 (fruit), 9216 (flowers). October, 1923. A small shrub 4 feet high found at the Sila Pass on the Mekong-Salwin Divide at an altitude of 13,000 feet. The oval subcordate leaves are glabrous and pale beneath; the flowers are a pale yellowish pink.

59094. RHODODENDRON sp.

Nos. 11027 (fruit), 9231 (flowers). October, 1923. A shrub 6 feet high found at the Sila Pass of the Mekong-Salwin Divide at between 10,000 and 11,000 feet altitude. The obovate leaves are glabrous and paler beneath, and the flowers are pinkish purple.

59095. RHODODENDRON sp.

Nos. 11028 (fruit), 9203 (flowers). October, 1923. A small shrub 5 feet high found along a stream in the Sila Pass of the Mekong-Salwin Divide at 11,000 feet altitude. The oblong leaves are glabrous and paler beneath, and the large flowers are a rich pink spotted with purple.

59096. RHODODENDRON sp.

Nos. 11029 (fruit), 9214 (flowers). October, 1923. A low shrub 2 feet high found at the Sila Pass on the Mekong-Salwin Divide at 13,000 feet altitude. The elongate-elliptical leaves are dark green above and white beneath; the large flowers are a very dark carmine.

59097. RHODODENDRON sp.

Nos. 11030 (fruit), 8743 (flowers). October, 1923. A shrub or small tree 5 or 6 feet high found along the alpine brooks in the Sila Pass on the Mekong-Salwin Divide at 13,000 feet altitude. The obovate-glabrous leaves are golden yellow beneath, and the flowers are large and white.

59000 to 59268—Continued.

59098. RHODODENDRON sp.

Nos. 11031 (fruit), 9198 (flowers). October, 1923. A shrub 5 feet high found on the Sila Pass on the Mekong-Salwin Divide at between 12,000 and 13,000 feet altitude. The oval to obovate leaves are glabrous and golden yellow beneath; the flowers are a yellowish pink.

59099. RHODODENDRON sp.

Nos. 11032 (fruit), 8748 (flowers). October, 1923. A low shrub 4 to 5 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The oblong to obovate leaves are golden yellow and glabrous beneath. The flowers are pale pink.

59100. RHODODENDRON FULVOIDES Balf. f. and Forrest.

Nos. 11034 (fruit), 9223 (flowers). October, 1923. A shrub or small tree 14 to 15 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The obovate leaves are dark green above and covered with brown tomentum beneath; the small rich-pink flowers are on slender pedicels.

59101. RHODODENDRON sp.

Nos. 11038 (fruit), 9207 (flowers). October, 1923. A shrub 7 to 8 feet tall found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The large obovate leaves are golden yellow beneath, and the very large flowers are a showy yellowish pink.

59102. RHODODENDRON sp.

Nos. 11041 (fruit), 8742 (flowers). October, 1923. A low shrub 3 to 4 feet high found on the Sila Pass on the Mekong-Salwin Divide. The obovate leaves are golden yellow beneath, and the flowers are a rich pink with a purplish tinge.

59103. RHODODENDRON SERPENS Balf. f. and Forrest.

Nos. 11042 (fruit), 9233 (flowers). October, 1923. A low shrub 1 to 2 feet high found on the Sila Pass on the Mekong-Salwin Divide. The obovate rounded leaves are glabrous and grayish green beneath; the flowers are carmine with a purplish tinge.

59104. RHODODENDRON sp.

Nos. 11043 (fruit), 8763 (flowers). October, 1923. A tree 18 feet high found on the Sila Pass on the Mekong-Salwin Divide at 13,000 feet altitude. The large oblong leaves are dark green above and deep brown tomentose beneath; the very striking large white flowers are on long pedicels.

59105. RHODODENDRON sp.

Nos. 11045 (fruit), 8746 (flowers). October, 1923. A small tree 8 to 10 feet high found growing on the Sila Pass on the Mekong-Salwin Divide at 11,000 feet altitude. The linear-elongate leaves are dark blackish gray beneath and dark green above, and the large flowers are a beautiful rose pink.

59106. RHODODENDRON sp.

Nos. 11047 (fruit), 9212 (flowers). October, 1923. A low shrub 2 feet high found growing in masses on the Sila Pass on the Mekong-Salwin Divide at 13,000 feet altitude. The elliptical leaves are grayish brown on top and chocolate color beneath; the flowers are dark crimson.

59107. RHODODENDRON sp.

Nos. 11050 (fruit), 9237 (flowers). October, 1923. A shrub or small tree 8 to 10 feet high found on the Sila Pass on the Mekong-Salwin Divide at about 11,000 feet altitude. The obovate leaves are golden yellow beneath, and the very large flowers are pinkish purple.

59000 to 59268—Continued.

59108. RHODODENDRON sp.

Nos. 11054 (fruit), 8741 (flowers). October, 1923. A small shrub 4 feet high found on the Sila Pass on the Mekong-Salwin Divide. The ovate-oblong leaves are glabrous and pale beneath, and the small flowers are a rich purple.

59109. RHODODENDRON sp.

Nos. 11055 (fruit), 9238 (flowers). October, 1923. A tall shrub 7 to 8 feet high found on the Sila Pass at 12,000 feet altitude. The oblong leaves are golden yellow beneath and glabrous, and the flowers are medium yellow.

59110. RHODODENDRON sp.

Nos. 11056 (fruit), 9205 (flowers). October, 1923. A shrub 6 to 8 feet high found on the Sila Pass at 12,000 feet altitude. The oval leaves are glabrous and pale yellow beneath, and the large flowers are rich yellow.

59111. RHODODENDRON sp.

Nos. 11057 (fruit), 9200 (flowers). October, 1923. A shrub 6 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The oblong leaves are a rich green, pale golden green beneath, and the flowers are pale pink.

59112. RHODODENDRON sp.

Nos. 11059 (fruit), 9204 (flowers). October, 1923. A shrub 6 to 8 feet high found on the Sila Pass on the Mekong-Salwin Divide at 13,000 feet altitude. The broad obovate-oblong leaves are glabrous and green on both sides; the flowers are a dark reddish purple.

59113. RHODODENDRON sp.

Nos. 11061 (fruit), 8744 (flowers). October, 1923. A low shrub only 3 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The obovate leaves are yellowish green beneath and glabrous; the flowers are deep purple carmine.

59114. RHODODENDRON sp.

Nos. 11063 (fruit), 9219 (flowers). October, 1923. A shrub 5 to 6 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The leaves are oval, pale green, and glabrous beneath; the large flowers are purple pink.

59115. RHODODENDRON sp.

Nos. 11064 (fruit), 9199 (flowers). October, 1923. A shrub 5 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The leaves are ovate-subcordate, green on both sides, and glabrous; the flowers are pale pink.

59116. RHODODENDRON sp.

Nos. 11065 (fruit), 9240 (flowers). October, 1923. A shrub 5 feet high found on the Sila Pass, Mekong-Salwin Divide. The elliptical leaves are glaucous green beneath, and the flowers are pale cream color.

59117. RHODODENDRON sp.

Nos. 11066 (fruit), 9213 (flowers). October, 1923. A shrub 5 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The oval leaves are green on both sides and glabrous; the flowers are orange-pink.

59118. RHODODENDRON sp.

Nos. 11068 (fruit), 8761 (flowers). October, 1923. A small tree 8 feet high found growing on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The large oblong leaves are covered beneath with a fine brown tomentum and the medium-sized flowers are rose-red.

59000 to 59268—Continued.

59119. RHODODENDRON sp.

No. 11069. October, 1923. A small tree 10 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The large obovate leaves are covered with a chocolate-brown tomentum; the flowers are said to be white.

59120. RHODODENDRON sp.

Nos. 11072 (fruit), 10052 (flowers). October, 1923. A very aromatic shrub 7 feet high found in the mountains of Tseku between 10,000 and 12,000 feet altitude. The pink flowers have a purple tinge.

59121. RHODODENDRON sp.

Nos. 11073 (fruit), 8773 (flowers). October, 1923. A low shrub 4 feet high found on the mountains of Tseku and Tsehchung, Mekong. The oblong-acute leaves are covered with a dense brown wool on the under side. The flowers are dark crimson.

59122. RHODODENDRON FORRESTII Balf. f.

Nos. 11074 (fruit), 8717 (flowers). October, 1923. A prostrate shrub collected on the alpine slopes of the Tseku Mountains at about 13,000 feet altitude. The small oval dark-green leaves are deep purple beneath, and the flowers are rich crimson.

59123. RHODODENDRON sp.

Nos. 11076 (fruit), 10053 (flowers). October, 1923. A low shrub only 1 foot high found on the alpine slopes of the Tseku Mountains at 13,000 feet altitude. The linear-coriaceous leaves have revolute margins and are covered with a dense rufous wool on the under side; the flowers are cream colored with purple spots.

59124. RHODODENDRON sp.

Nos. 11077 (fruit), 8719 (flowers). October, 1923. A low shrub 3 to 4 feet high found on the slopes of the Tseku Mountains, Mekong, at 10,000 feet altitude. The small oval leaves are green on both sides, but paler beneath, and the flowers are purplish pink.

59125. RHODODENDRON sp.

Nos. 11078 (fruit), 8715 (flowers). October, 1923. A shrub 4 feet high found on the Tseku Mountains at 10,000 feet altitude. The oval green leaves are glabrous on both sides, and the flowers are deep purplish red.

59126. RHODODENDRON sp.

Nos. 11080 (fruit), 8720 (flowers). October, 1923. A shrub 5 to 6 feet high collected in the Tseku Mountains at 12,000 feet altitude. The oblong-ovate leaves are pale green beneath and glabrous; the large flowers are pink red.

59127. RHODODENDRON sp.

Nos. 11081 (fruit), 8923 (flowers). October, 1923. A low shrub 3 feet high found in the alpine regions of the Tseku Mountains, Mekong. The under side of the obovate-oblong leaves is covered with chocolate-colored tomentum; the flowers are deep rich carmine.

59128. RHODODENDRON sp.

Nos. 11082 (fruit), 8725 (flowers). October, 1923. A small shrub 2 feet high found in the alpine regions of the Tseku Mountains at 13,000 feet altitude. The linear-oblong leaves are dark green above and silvery white beneath; the flowers are very dark carmine.

59129. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11083 (fruit), 8921 (flowers). October, 1923. A shrub 5 feet high found in the mountains of Tseku-Lauchaitung, Mekong Valley, at 10,000 feet altitude. The obovate leaves are rich brown tomentose beneath, and the flowers are snow white.

59000 to 59268—Continued.

59130. RHODODENDRON sp.

Nos. 11084 (fruit), 8922 (flowers). October, 1923. A low shrub 2½ feet high found in the mountains of Lauchaitung, Mekong Valley, at an altitude of 12,000 feet. The narrow linear leaves have revolute margins and are covered with dense rufous wool beneath.

59131. RHODODENDRON sp.

November, 1923. A shrub 5 to 6 feet high found on the slopes of Alolaka, Salwin Valley, at 11,000 feet altitude. The oblong-acute leaves are dark green above, paler and glabrous beneath; the buds are very dark carmine and the petioles deep red.

59132. RHODODENDRON sp.

Nos. 11085 (fruit), 9263 (flowers). November, 1923. A tall shrub 8 feet high found in the Peima Mountains at 14,000 feet altitude. The oval leaves, acute at both ends, are covered with brown flaky tomentum, and the pink flowers are spotted with purple.

59133. RHODODENDRON sp.

Nos. 11089 (fruit), 8869 (flowers). November, 1923. A low-growing shrub 2 to 3 feet high found in the high alpine meadows of the Peima Mountains, Mekong-Yangtze Divide, at 15,600 feet altitude. The small oval leaves are brown tomentose beneath; the small flowers are white.

59134. RHODODENDRON sp.

Nos. 11092 (fruit), 8847 (flowers). November, 1923. A low shrub 1 to 2 feet high found in the high alpine regions of the Peima Mountains at from 15,000 to 16,000 feet altitude. The very small leaves are grayish above and brown beneath; the small flowers are blue.

59135. RHODODENDRON sp.

Nos. 11106 (fruit), 8855 (flowers). November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at 14,000 feet altitude. The leaves are linear lanceolate and covered with a brown tomentum beneath; the cream-colored flowers are spotted with purple.

59136. RHODODENDRON sp.

Nos. 11109 (fruit), 8849 (flowers). November, 1923. A low shrub 2 to 3 feet high found at 14,000 feet altitude in the Peima Mountains. The very small leaves are elliptical and brown beneath, and the small flowers are deep blue.

59137. RHODODENDRON sp.

Nos. 11110 (fruit), 8867 (flowers). November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at 13,000 feet altitude. The leaves are linear lanceolate, acute, and glabrous; the flowers are white and the bracts large.

59138. RHODODENDRON sp.

Nos. 11111 (fruit), 8846 (flowers). November, 1923. A low-growing shrub 4 feet high collected in the Peima Mountains at 13,000 feet altitude. The ovate-oblong leaves are glabrous and green on both sides; the flowers are pale pinkish purple.

59139. RHODODENDRON sp.

Nos. 11112 (fruit), 9946 (flowers). November, 1923. A tall shrub, 6 to 8 feet, found growing in the Peima Mountains at 14,000 feet altitude. The lanceolate leaves are glabrous and the flowers pink, spotted with purple.

59140. RHODODENDRON sp.

Nos. 11116 (fruit), 9272 (flowers). November, 1923. A tall shrub 10 feet high found in the Peima Mountains at 14,000 feet altitude. The oblong leaves are deeply copper colored beneath, and the flowers are white.

59000 to 59268—Continued.

59141. RHODODENDRON sp.

Nos. 11119 (fruit), 8851 (flowers). November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at 14,000 feet altitude. The leaves are oval acute at both ends and brown or yellowish tomentose beneath; the flowers are white with small purple spots.

59142. RHODODENDRON sp.

Nos. 11120 (fruit), 8860 (flowers). November, 1923. A small tree 6 to 8 feet high found on the Peima Mountains at 14,000 feet altitude. The oblong-acute leaves are covered with brown tomentum beneath, and the flowers are pale pink with deep-purple spots.

59143. RHODODENDRON sp.

Nos. 11121 (fruit), 8857 (flowers). November, 1923. A shrub 5 to 6 feet high collected at 14,000 feet altitude in the Peima Mountains. The leaves are ovate-oblong, brown to carmine tomentose beneath; the flowers are white and reddish purple.

59144. RHODODENDRON sp.

Nos. 11122 (fruit), 10358 (flowers). November, 1923. A shrub 7 to 8 feet high found at 14,000 feet altitude in the Peima Mountains. The oblong-acute leaves are deep brown tomentose beneath, and the flowers are pink.

59145. RHODODENDRON sp.

Nos. 11123 (fruit), 8926 (flowers). November, 1923. A shrub 5 feet high found at 14,000 feet altitude in the Peima Mountains. The linear-lanceolate leaves are covered on the under side with rust-brown flaky tomentum. The flowers are pink spotted with purple.

59146. RHODODENDRON sp.

Nos. 11124 (fruit), 9955 (flowers). November, 1923. A shrub 4 to 5 feet high collected at 14,000 feet altitude on the Peima Mountains. The oblong-acute leaves are dark-brown tomentose beneath, and the flowers are purple.

59147. RHODODENDRON sp.

Nos. 11125 (fruit), 9264 (flowers). November, 1923. A tall shrub 6 to 8 feet high collected at 14,000 feet altitude on the Peima Mountains. The oblong leaves are covered with pale-brown matted tomentum, and the white flowers are spotted with purple.

59148. RHODODENDRON sp.

Nos. 11126 (fruit), 9958 (flowers). November, 1923. A plant 5 inches high found on the high alpine meadows of the Peima Mountains at 15,000 feet altitude. The minute leaves are elliptical to ovoid and glabrous on both sides; the flowers are yellow.

59149. RHODODENDRON sp.

Nos. 11127 (fruit), 8848 (flowers). November, 1923. A low shrub 3 to 4 feet high found at 14,000 feet altitude on the Peima Mountains. The ovate-oblong leaves are glabrous, and the flowers are pinkish purple.

59150. RHODODENDRON sp.

Nos. 11128 (fruit), 9250 (flowers). November, 1923. A shrub 5 feet high found at 13,000 feet altitude in the Peima Mountains. The leaves are oval acute, subcordate base, and glabrous; the flowers are a rich lavender.

59151. RHODODENDRON sp.

There is no definite data available regarding these seeds, as they were received under a number belonging to a primrose.

59000 to 59268—Continued.

59152. RHODODENDRON sp.

Nos. 11130 (fruit), 9952 (flowers). November, 1923. A tiny shrub only 1 foot high found in the alpine meadows of the Peima Mountains at 15,000 feet altitude. The small oval leaves are brown and silky beneath, and the flowers are bluish purple.

59153. RHODODENDRON sp.

Nos. 11132 (fruit), 8866 (flowers). November, 1923. A small shrub 4 to 5 feet high found in the Peima Mountains at 13,000 feet altitude. The ovoid leaves are glabrous and paler beneath; the medium-sized flowers are lavender blue.

59154. RHODODENDRON sp.

Nos. 11133 (fruit), 9960 (flowers). November, 1923. A shrub 6 feet high found on the alpine slopes of the Peima Mountains at 14,000 feet altitude. The leaves are oblong, dark green with pale whitish yellow matted tomentum; the very large, rich purple flowers are spotted with dark purple.

59155. RHODODENDRON sp.

Nos. 11134 (fruit), 9947 (flowers). November, 1923. A shrub 5 feet high found at 14,000 feet altitude in the Peima Mountains. The ovate-acute leaves are dark green with revolute margins and are densely matted beneath with brown tomentum; the flowers are white.

59156. RHODODENDRON sp.

Nos. 11137 (fruit), 8947 (flowers). November, 1923. A low shrub 2 to 3 feet high found at 12,000 feet altitude in the alpine meadows of Litiping, Mekong-Yangtze Divide. The oval leaves are glabrous, and the bright-yellow flowers are in large umbels.

59157. RHODODENDRON sp.

Nos. 11139 (fruit), 9161 (flowers), November, 1923. A tree 12 to 15 feet high found at 12,000 feet altitude in the alpine forests of Litiping. The oblong glabrous leaves are green, and the deep-purple flowers are spotted with darker purple.

59158. RHODODENDRON sp.

Nos. 11140 (fruit), 9167 (flowers). November, 1923. A tall shrub 10 to 12 feet high found in the alpine forests of Litiping at 11,000 feet altitude. The oblong glabrous leaves are green, and the purple flowers are not spotted.

59159. RHODODENDRON sp.

Nos. 11141 (fruit), 9068 (flowers). November, 1923. A small shrub 4 to 5 feet high collected at 11,000 feet altitude on the slopes of the Yetche Mountains. The leaves are small, oval, green, and glabrous, and the flowers are lavender.

59160. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11142 (fruit), 9075 (flowers). November, 1923. A shrub 6 feet high found in the Yetche Mountains, Mekong Valley, at 10,000 feet altitude. The leaves are oblong, lanceolate, acute with brown tomentum beneath; the flowers are pink.

59161. RHODODENDRON sp.

Nos. 11143 (fruit), 8950 (flowers) November, 1923. A small shrub 3 feet high found at 12,000 feet altitude in the mountains of Anwa-Yetche. The leaves are oval, acute with pale-yellow matted wool; the flowers are pinkish red.

59162. RHODODENDRON sp.

Nos. 11144 (fruit), 8941 (flowers). November, 1923. A small shrub 3 feet high found at 14,000 feet altitude in the alpine regions of Anwa.

59000 to 59268—Continued.

The leaves are linear lanceolate, coriaceous, densely rufous woolly beneath; the handsome flowers are pure white.

59163. RHODODENDRON sp.

Nos. 11146 (fruit), 8957 (flowers). November, 1923. A shrub 4 feet high found in the alpine regions of Anwa, Mekong Valley. The leaves are linear-oblong, deeply rufous beneath; the large flowers are white.

59164. RHODODENDRON sp.

Nos. 11147 (fruit), 8930 (flowers). November, 1923. A shrub 4 feet high found in the alpine regions of Anwa at 13,000 feet altitude. The broadly obovate leaves are suborbicular, green, and glabrous; the large flowers are bright yellow.

59165. RHODODENDRON sp.

Nos. 11148 (fruit), 9391 (flowers). November, 1923. A little plant 1 foot high found on the alpine slopes of the Moting Mountains, northeast of Atuntze, at 14,000 feet altitude. The leaves are very small, oval, brown, and tuberculate beneath; the small flowers are yellow.

59166. RHODODENDRON sp.

Nos. 11154 (fruit), 10219 (flowers). A rare shrub only 1 foot high found in the Champutong Mountains, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The leaves are obovate elliptical with brownish black matted wool beneath; the flowers are yellowish red.

59167. RHODODENDRON sp.

Nos. 11157 (fruit), 10107 (flowers). October, 1923. A low shrub 1 to 3 feet high found at 13,000 feet altitude on the Champutong Mountains, Salwin-Irrawaddy Divide. The spatulate leaves are dark green and purplish black tomentose beneath; the rare flowers are yellowish red.

59168. RHODODENDRON sp.

Nos. 11158 (fruit), 10218 (flowers). October, 1923. A low shrub 1 to 2 feet high found at 13,000 feet altitude on the Champutong Mountains, Salwin-Irrawaddy Divide. The leaves are elliptical with drab tomentum beneath; the flowers are reddish purple.

59169. RHODODENDRON sp.

Nos. 11161 (fruit), 10109 (flowers) October, 1923. A small shrub 1 to 2 feet high found in the Champutong Mountains, Salwin-Irrawaddy Divide, at 14,000 feet altitude. The branches are stiff and erect, the elliptical leaves brownish beneath, and the flowers are yellow.

59170. RHODODENDRON sp.

Nos. 11163 (fruit), 10150 (flowers). October, 1923. A tree 8 to 10 feet high found at Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The leaves are obovate-oblong mucronate and densely matted with red-brown tomentum; the flowers are red.

59171. RHODODENDRON sp.

Nos. 11164 (fruit), 10162 (flowers). November, 1923. A small shrub 4 feet high found at 13,000 feet altitude on Mount Kenichunpu on the Salwin-Irrawaddy Divide. The leaves are obovate elliptical and covered with dark brownish black tomentum beneath; the flowers are pink.

59172. RHODODENDRON sp.

Nos. 11165 (fruit), 10120 (flowers). November, 1923. A tree 18 to 20 feet high found on Mount Kenichunpu on the Salwin-Irrawaddy Divide at 13,000 feet altitude. The very large leaves are obovate oblong, deep rich brown, and evenly tomentose beneath; the flowers are a rich yellow.

59000 to 59268—Continued.

59173. RHODODENDRON sp.

Nos. 11167 (fruit), 10223 (flowers). October, 1923. A small shrub 4 feet high found growing on Mount Kenichunpu, Champutong, at 12,000 feet altitude. The elliptic leaves are brownish glaucous and glabrous beneath; and the yellow flowers are on long pedicels.

59174. RHODODENDRON sp.

No. 11169. October, 1923. A very low shrub 1 to 2 feet high found growing in Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The obovate, spatulate leaves are glabrous, dark rich green above, and paler beneath. The flowers were not seen.

59175. RHODODENDRON sp.

Nos. 11175 (fruit), 10129 (flowers). October, 1923. A shrub 5 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The oval-obovate leaves are rich green above and chocolate colored beneath; the flowers are a rich red.

59176. RHODODENDRON sp.

Nos. 11176 (fruit), 10105 (flowers). October, 1923. A small shrub 1 to 2 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The leaves are small, elliptical, acute at both ends, and yellowish white tomentose beneath; the flowers are deep crimson.

59177. RHODODENDRON sp.

Nos. 11177 (fruit), 10098 (flowers). October, 1923. A shrub 2 to 3 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The leaves are elliptical, acute, and covered with white tomentum beneath; the flowers are very dark crimson.

59178. RHODODENDRON sp.

Nos. 11179 (fruit), 10145 (flowers). October, 1923. A tall shrub 7 to 8 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The oblong-acute leaves are long tapering at the base and densely squamately tomentose beneath; the flowers are red.

59179. RHODODENDRON sp.

Nos. 11180 (fruit), 10172 (flowers). October, 1923. A shrub 5 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The obovate-elliptical leaves are glabrous and golden yellowish green beneath; the flowers are red.

59180. RHODODENDRON sp.

Nos. 11181 (fruit), 10140 (flowers). October, 1923. A low shrub 3 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The elliptical leaves are brownish tomentose beneath, and the flowers are red.

59181. RHODODENDRON sp.

Nos. 11182 (fruit), 10133 (flowers). October, 1923. A shrub 6 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The obovate-oblong leaves are covered with squamose brown tomentum beneath, and the flowers are red.

59182. RHODODENDRON RADICANS Balf. f. and Forrest.

Nos. 11188 (fruit), 10122 (flowers). October, 1923. A prostrate plant only a few inches tall found between 14,000 and 15,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The very small leaves are elliptical and covered with pale-brown tomentum beneath, and the large bright-red flowers are on long pedicels.

59000 to 59268—Continued.

59183. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11189 (fruit), 10125 (flowers). October, 1923. A tree 10 feet high found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The linear-lanceolate leaves are a rich green above and dark brown woolly beneath; the flowers are pink.

59184. RHODODENDRON sp.

Nos. 11190 (fruit), 10195 (flowers). October, 1923. A shrub 6 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The leaves are oval, acute, subcordate, and have thin brownish tomentum beneath; the flowers are pink.

59185. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11192 (fruit), 10198 (flowers). A shrub or small tree 10 feet high found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The linear-oblong leaves are dull green above with the veins deeply impressed and reddish brown tomentose beneath; the flowers are pink.

59186. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11193 (fruit), 10117 (flowers). October, 1923. A shrub or tree 7 to 10 feet high found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The leaves are linear lanceolate, acuminate, and dark rufous woolly beneath; the flowers are pink.

59187. RHODODENDRON sp.

Nos. 11195 (fruit), 10113 (flowers). October, 1923. A shrub or small tree 8 to 10 feet high found at from 12,000 to 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The oblong-acute leaves are greenish flaky and tomentose beneath; the flowers are pink.

59188. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11196 (fruit), 10196 (flowers). October, 1923. A tree 8 to 10 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The oblong-acuminate leaves are covered with yellowish tomentum beneath, and both petioles and pedicels are hirsute; the flowers are pink.

59189. RHODODENDRON sp.

Nos. 11198 (fruit), 10126 (flowers). October, 1923. A very small shrub only 2 feet high found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The very small ovate leaves are tuberculate beneath, and the flowers are yellow.

59190. RHODODENDRON sp.

Nos. 11201 (fruit), 10199 (flowers). October, 1923. A shrub 6 feet high found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The large leaves are obovate-oblong with dense brown matted wool beneath; the flowers are scarlet.

59191. RHODODENDRON sp.

Nos. 11202 (fruit), 10149 (flowers). October, 1923. A shrub 7 to 8 feet high found at 12,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The linear-elliptical leaves are white and glaucous, glabrous beneath; the red flowers are on long pedicels.

59192. RHODODENDRON sp.

Nos. 11205 (fruit), 10170 (flowers). October, 1923. A small shrub 3 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide. The oval-elliptical leaves are pale yellow and glabrous beneath; the flowers are red.

59000 to 59268—Continued.

59193. RHODODENDRON sp.

No. 11211. October, 1923. A tree 15 to 18 feet tall found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The large oblong leaves are densely matted brown tomentose beneath; flowers not seen.

59194. RHODODENDRON AMAUROPHYLLUM Balf. f. and Forrest.

No. 11238. October, 1923. A small shrub 1½ to 2 feet high found on the rocky slopes of Mount Kenichunpu at 13,000 feet altitude on the Salwin-Irrawaddy Divide. The small oval leaves are brown tomentose beneath, and the flowers are red.

59195. RHODODENDRON sp.

No. 11252. October, 1923. A shrub 8 feet high found at from 12,000 to 13,000 feet altitude on Mount Lautchun. The narrow elliptical leaves are deeply rufous woolly beneath, and the flowers are pink.

59196. RHODODENDRON sp.

No. 11260. October, 1923. A low shrub 2 feet high found at 10,000 feet altitude on the slopes of Mount Lautchun. The small linear leaves are revolute and pale brown beneath; the flowers are pale pink.

59197. RHODODENDRON sp.

Nos. 11269 (fruit), 8395 (flowers). October, 1923. A shrub 5 feet high collected on Mount Lautchun at 8,500 feet altitude. The oblong leaves are dark green, glabrous, paler underneath, and the deep purplish red flowers are on slender pedicels.

59198. RHODODENDRON sp.

Nos. 11270 (fruit), 8393 (flowers). October, 1923. A very tall shrub 12 feet high found at 8,500 feet altitude on Mount Lautchun. The leaves are oblong-oval and glabrous on hirsute petioles, and the flowers are a rich pink.

59199. RHODODENDRON sp.

Nos. 11271 (fruit), 8419 (flowers). October, 1923. A shrub 6 to 10 feet high found at 8,500 feet altitude on Mount Lautchun. The small oval leaves are deep brown beneath, and the large flowers shade from lavender to deep purple.

59200. RHODODENDRON sp.

No. 11272. October, 1923. A shrub or small tree 15 to 18 feet tall found on the slopes of Mount Shenzi. The large dark-green leaves are glabrous on both sides, and the large flowers are red.

59201. RHODODENDRON sp.

Nos. 11275 (fruit), 9607 (flowers). October, 1923. A shrub 6 feet high found on Mount Shenzi at 10,000 feet altitude. The large oblong, acute leaves are dark green and glabrous on both sides; the flowers are red.

59202. RHODODENDRON sp.

Nos. 11278 (fruit), 9503 (flowers). A low shrub 2 to 3 feet high found among rocks on Mount Shenzi at 13,000 feet altitude. The thick coriaceous leaves are densely covered with a rough brown cottony tomentum on the under side; flowers pink.

59203. RHODODENDRON sp.

Nos. 11280 (fruit), 8429 (flowers). October, 1923. A tree 12 to 15 feet high found at Labako at about 9,000 feet altitude. The oval-acute leaves are glabrous green on both sides, and the white flowers have a pinkish tinge.

59000 to 59268—Continued.

59204. RHODODENDRON sp.

No. 11283. October, 1923. A shrub 5 feet high found in forests at Labako at 10,000 feet altitude. The acute-elliptical leaves are rich green and glabrous on both sides; the flowers are pink.

59205. RHODODENDRON sp.

No. 11285. October, 1923. A small tree 10 feet high found on the alpine plains of Labako at 12,000 feet altitude. The linear leaves are almost needle shaped with long revolute margins; they are dark green above and rufous brown woolly beneath. The white flowers are in dense umbels.

59206. RHODODENDRON sp.

No. 11287. October, 1923. A shrub only 2 feet high found among rocks on the mountains of Labako at 12,000 feet altitude. The small oval leaves are brown and dotted beneath, and the flowers are red.

59207. RHODODENDRON sp.

No. 11288. October, 1923. A low shrub 3 feet high found in forests in the Labako Mountains at about 1,000 feet altitude. The roundish, oval leaves are glaucous-green beneath; the flowers are white.

59208. RHODODENDRON sp.

Nos. 11290 (fruit), 9533 (flowers). October, 1923. A shrub 6 feet high found in a fir forest on the Labako Mountains at 11,000 feet altitude. The ovate-oblong acute leaves are green and glabrous on both sides with hairy stems. The flowers are red.

59209. RHODODENDRON sp.

No. 11294. October, 1923. A low shrub 2 feet high found among rocks on the alpine regions of the Labako Mountains at 13,000 feet altitude. The small oval leaves are pale golden brown beneath and spotted; the flowers are a purple blue.

59210. RHODODENDRON sp.

Nos. 11295 (fruit), 9527 (flowers). October, 1923. A small shrub 2 feet high found on rocky slopes of the alpine regions in the Labako Mountains at 13,000 feet altitude. Leaves oval, densely brown dotted beneath; the flowers are deep indigo with a purplish tinge.

59211. RHODODENDRON sp.

Nos. 11296 (fruit), 9554 (flowers). October, 1923. A shrub 3 feet high found growing at about 13,800 feet altitude in the alpine meadows of the Labako Mountains. The leaves are small, oval, and densely dotted with brown beneath. The flowers are deep purplish blue.

59212. RHODODENDRON sp.

Nos. 11297 (fruit), 8444 (flowers). October, 1923. A handsome species 3 feet high found among rocks on the Labako Mountains at 11,000 feet altitude. The leaves are elliptical, acute at both ends, with revolute undulate margins and pale green beneath; the flowers are large and white.

59213. RHODODENDRON sp.

No. 11301. October, 1923. A shrub 5 feet high found on the summit of Mount Kintze, at 13,000 feet altitude. The margins of the needle-shaped leaves are so strongly revolute that they meet below; the flowers are white.

59000 to 59268—Continued.

59214. RHODODENDRON sp.

Nos. 11303 (fruit), 9494 (flowers). October, 1923. A very small shrub 1 foot high found in rocky regions of Mount Kintze, at about 13,000 feet altitude. The minute elliptical leaves are brown tomentose beneath, and the small flowers are pale blue.

59215. RHODODENDRON sp.

Nos. 11304 (fruit), 9492 (flowers). October, 1923. A very small plant 6 to 8 inches high found in the rocky alpine regions of Mount Kintze, at about 13,000 feet altitude. The minute elliptical leaves are brown beneath, and the flowers vary from purplish pink to red.

59216. RHODODENDRON sp.

Nos. 11305 (fruit), 9482 (flowers). October, 1923. A plant a few inches high found on the alpine slopes of Mount Kintze, at about 13,000 feet altitude. The small oval, acute leaves are glabrous beneath, and the crimson flowers are on long erect peduncles.

59217. RHODODENDRON sp.

Nos. 11306 (fruit), 9490 (flowers). October, 1923. A scaly prostrate shrub growing on the summit of Mount Kintze, at 13,000 feet altitude. The spatulate leaves are densely covered with cottony brown tomentum, and the flowers are white.

59218. RHODODENDRON sp.

No. 11307. October, 1923. A shrub 8 feet high found near the summit of Mount Kintze, at 13,000 feet altitude. The elliptical leaves are densely woolly beneath, and the flowers are white.

59219. RHODODENDRON sp.

No. 11308. October, 1923. A shrub 5 feet high found at 12,000 feet altitude on Mount Kintze. The leaves are elliptical, oblong, glabrous, and the flowers are yellow.

59220. RHODODENDRON sp.

Nos. 11310 (fruit), 8455 (flowers). October, 1923. A small plant 1 foot high found on the mountains in Luruako Labako, at 12,000 feet altitude. The oblong-acute leaves are elliptical and pale green on both sides; the flowers are pale pink.

59221. RHODODENDRON sp.

Nos. 11311 (fruit), 8461 (flowers). October, 1923. A shrub 5 to 6 feet high found on the mountains of Luruako at 12,000 feet altitude. The linear needle-shaped leaves have revolute margins and are densely rufous beneath; the white flowers grow in dense umbels.

59222. RHODODENDRON sp.

Nos. 11312 (fruit), 8465 (flowers). October, 1923. A low shrub 3 to 4 feet high found on the rocky slopes of the mountains of Luruako, at 12,000 feet altitude. The long linear-lanceolate leaves are a glossy dark green above and red rufous woolly beneath; the flowers are white.

59223. RHODODENDRON sp.

Nos. 11313 (fruit), 8462 (flowers). October, 1923. A small shrub 4 feet high found in the high mountains of Luruako at 12,000 feet altitude. The leaves are oval, acute, subcordate, and pale yellow to brown tomentose beneath. The flowers are pink.

59224. RHODODENDRON sp.

Nos. 11314 (fruit), 8464 (flowers). October, 1923. A shrub 4 to 5 feet high found in the high mountains of Luruako, at 13,000 feet altitude. The oblong-acute leaves are dark green and reticulate above and from pale yellow to brown tomentose beneath. The flowers are pink.

59225. RHODODENDRON sp.

No. 11315. October, 1923. A plant 2 feet high found in swampy situations or on slopes along streams on the mountains of Luruako at 10,000 feet altitude. The small, linear-elliptical leaves are pale brown dotted beneath, and the flowers are blue.

59226. RHODODENDRON sp.

Nos. 11316 (fruit), 9168 (flowers). October, 1923. A shrub 5 feet high found at the foot of the mountains of Litiping. It is a beautiful species with pale-green elliptical leaves and very fragrant large yellow flowers.

59227. RHODODENDRON sp.

Nos. 11321 (fruit), 9070 (flowers). October, 1923. A shrub 7 to 8 feet high found in alpine meadows on the slopes of the Litiping Mountains at 12,000 feet altitude. The oval-acute leaves are subcordate at the base and pale green glabrous beneath; the yellow flowers have a pinkish tinge.

59228. RHODODENDRON sp.

No. 11322. October, 1923. A shrub 6 to 8 feet high found in the mountains of Yetche at 12,000 feet altitude. The leaves are oblong, acute at both ends, and covered with soft brown tomentum beneath. Flowers unknown.

59229. RHODODENDRON sp.

No. 11325. November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at 14,000 feet altitude. The broadly oval leaves are coriaceous with deciduous tomentum.

59230. RHODODENDRON sp.

No. 11335. November, 1923. A shrub 6 feet high found on the Moting Mountains at about 14,000 feet altitude. The leaves are oval, oblong, acute, subcordate, and brown tomentose beneath. Flowers not seen.

59231. RHODODENDRON sp.

No. 11341. November, 1923. A shrub 5 to 6 feet high found on the high alpine slopes of the Peima Mountains between 14,000 and 15,000 feet altitude. The acute, obovate-oblong leaves are covered beneath with a faintly appressed brown silky tomentum. Flowers not seen.

59232. RHODODENDRON sp.

No. 11342. November, 1923. A shrub from 5 to 8 feet high, found on the alpine slopes of the Moting Mountains between 14,000 and 15,000 feet altitude. The oblong-acute leaves are covered with rufous-brown tomentum beneath.

59233. RHODODENDRON sp.

No. 11344. November, 1923. A shrub 6 to 8 feet high found on the alpine slopes of the Moting Mountains at from 14,000 to 15,000 feet altitude. The leaves are elliptical, oblong, acute, and rich brown tomentose beneath.

59234. RHODODENDRON SINO-GRANDE Balf. f. and Smith.

No. 11348. A tree from 20 to 25 feet high, with spreading branches, found below Shundsungla, Mekong-Salwin Divide, at 11,500 feet altitude. The very large oblong leaves are broadest at the tip and are 2 feet long, dark green above, and silvery beneath. The large flowers are cream colored.

59000 to 59268—Continued.

59235. RHODODENDRON FULVOIDES Balf. f. and Forrest.

No. 11351. November, 1923. A tree 18 to 20 feet high with branches more or less slender, found at 11,500 feet altitude below Shundsungla, Mekong-Salwin Divide. The leaves are obovate oblong, acute, and brown tomentose beneath.

59236. RHODODENDRON sp.

No. 11354. November, 1923. A tree 18 feet high found in a mixed forest on the slopes of the Dokerla Mountains at 11,000 feet altitude. The leaves are linear oblong, acute at both ends, evenly green, and glabrous on both sides; the flowers are red and the fruits numerous.

59237. RHODODENDRON sp.

No. 11355. November, 1923. A shrub 4 to 5 feet high found on the outskirts of the pine forest on the eastern slopes of the Karila-Yangtze Divide at 12,000 feet altitude. The broadly ovate-orbicular leaves are glaucous, glabrous beneath, and the flowers are said to be yellow.

59238. RHODODENDRON sp.

November, 1923. A large shrub 10 to 12 feet high found along the streams in forests on the Dokerla Mountains at 12,000 feet altitude. The dark-green oblong leaves are glabrous on both sides.

59239. RHODODENDRON sp.

No. 11358. December, 1923. A tree 12 to 15 feet high found along the streams in the forests of Pongela at 11,000 feet altitude. The linear-lanceolate leaves are dull green above, paler and glabrous beneath; the flowers are said to be purplish red.

59240. RHODODENDRON sp.

No. 11362. November, 1923. A low shrub 1 to 2 feet high found in swampy places near Haraku, Likiang Snow Range, at about 11,000 feet altitude. The small linear leaves are pale brown beneath, and the flowers are said to be whitish pink.

59241. RHODODENDRON sp.

Nos. 11364 (fruit), 8494 (flowers). November, 1923. A shrub 3 to 4 feet high found at 12,000 feet altitude on the Likiang Snow Range. The elliptical leaves are glabrous green on both sides, and the flowers are pale blue.

59242. RHODODENDRON sp.

Nos. 11366 (fruit), 8214 (flowers). November, 1923. A tree 12 feet high found between 10,000 and 11,000 feet altitude on the western slopes of the Likiang Snow Range. The linear-oblong leaves are glabrous and pale green beneath; the flowers are purple.

59243. RHODODENDRON sp.

Nos. 11368 (fruit), 8562 (flowers). November, 1923. A shrub 6 to 8 feet high found at 11,000 feet altitude on the Likiang Snow Range. The small, oval, acute leaves are pale yellow beneath, and the flowers are lavender.

59244. RHODODENDRON sp.

Nos. 11369 (fruit), 8212 (flowers). November, 1923. A shrub or small tree 8 feet high found on the western slopes of the Likiang Snow Range at 10,000 feet altitude. The linear-oblong leaves are pale green and glabrous beneath; the flowers are purplish red and spotted with darker red.

59245. RHODODENDRON NIPHARGUM Balf. f. and Ward.

Nos. 11370 (fruit), 8218 (flowers). November, 1923. A tree 25 feet high found on the western slopes of the Likiang Snow Range at 10,000 feet altitude. The obovate-oblong leaves are covered with ash-gray tomentum beneath, and the pale-pink flowers are on long pedicels in large umbels.

59000 to 59268—Continued.

59246. RHODODENDRON NIPHARGUM Balf. f. and Ward.

Nos. 11374 (fruit), 8216 (flowers). November, 1923. A tree 25 to 30 feet high with a trunk 1 foot in diameter found in forests on the western slopes of the Likiang Snow Range at 10,000 feet altitude. The large leaves are silvery white beneath; the flowers, rose pink (not spotted), grow in large umbels.

59247. RHODODENDRON sp.

Nos. 11375 (fruit), 8215 (flowers). November, 1923. A tree 12 to 18 feet high found at Zinako on the western slopes of the Likiang Snow Range at 10,000 feet altitude. The leaves are linear-oblong, glabrous, and dull green; the large flowers are a delicate pink with a few purple spots.

59248. RHODODENDRON sp.

Nos. 11376 (fruit), 8217 (flowers). Zinako. November, 1923. A tree 15 to 18 feet high found at 10,000 feet altitude on the western slopes of the Likiang Snow Range. The oval-oblong, acute leaves are pale yellowish gray beneath, and the large flowers are uniformly pinkish purple and not spotted.

59249. RHODODENDRON sp.

Nos. 11377 (fruit), 8210 (flowers). November, 1923. A shrub 12 to 18 feet high found at 10,000 feet altitude in the forests above Ashi on the western slopes of the Likiang Snow Range. The oblong, bluntly acute leaves are pale green beneath, and the large dark-purple flowers are not spotted.

59250. RHODODENDRON sp.

Nos. 11378 (fruit), 8272 (flowers). November 1923. A small tree 15 feet high found at 11,000 feet altitude in the mountains of Sungkwe south of Likiang. The large oblong leaves are densely rufous brown beneath, and the flowers are white.

59251. RHODODENDRON sp.

Nos. 11380 (fruit), 8262 (flowers). November, 1923. A shrub 7 to 8 feet high found at 10,000 feet altitude in the Sungkwe Mountains south of Likiang. The elliptical-oblong leaves are pale green and paler beneath; the flowers are deep reddish purple.

59252. RHODODENDRON sp.

No. 11390. November, 1923. A shrub 6 to 8 feet high found in the fir forests of Litiping on the Mekong-Yangtze Divide. The linear-oblong, narrow leaves are dark green, paler beneath, and the flowers are purple.

59253. RHODODENDRON sp.

Nos. 11392 (fruit), 8362 (flowers). October, 1923. A small shrub 3 to 4 feet high found growing on dry rocky limestone slopes at the edge of pine forests beyond Heshwe, east of the Likiang Snow Range, at 11,000 feet altitude. The obovate-acute leaves are a pale golden brown beneath, and the flowers are a rich bluish lavender.

59254. RHODODENDRON sp.

Nos. 11393 (fruit), 8331 (flowers). October, 1923. A shrub 4 feet high found among limestone bowlders in a larch forest on the road to Baynva, east of the Likiang Snow Range, at 11,000 feet altitude. The elliptical-oval leaves are silky brown beneath, and the flowers are deep lavender.

59255. RHODODENDRON sp.

No. 11395. November, 1923. A small tree 25 feet high found in a fir forest on the western slopes of the Likiang Snow Range at 12,000 feet altitude. The large oblong leaves are dark green and densely rufous brown woolly beneath; the flowers are pink.

59000 to 59268—Continued.

59256. RHODODENDRON sp.

No. 11396. November, 1923. A shrub 8 feet high found at about 13,000 feet altitude on the western slope of the Likiang Snow Range. The oblong, acute leaves are yellowish brown tomentose beneath, and the flowers are white.

59257. RHODODENDRON sp.

No. 11401. November, 1923. A low shrub 2 feet high found among rocks at Haraku on the eastern slopes of the Likiang Snow Range. The small, narrow, linear leaves are brownish beneath, and the fragrant flowers are white.

59258. RHODODENDRON RACEMOSUM Franch.

No. 11415. November, 1923. A low shrub 2 feet high found in a drier region on the rocky slopes of the Likiang Snow Range at from 9,500 to 11,000 feet altitude. The leaves are small, oval, and white beneath; the flowers are pale pink.

59259. RHODODENDRON sp.

No. 11434. November, 1923. A shrub 2 feet high found among rocks on the alpine slopes of the Likiang Snow Range between 14,000 and 15,000 feet altitude. The small elliptical-spatulate leaves are bronze colored, and the flowers are deep red.

59260. RHODODENDRON sp.

No. 11459. November, 1923. A shrub 6 feet high found on the alpine slopes of the Likiang Snow Range at 14,000 feet altitude. The oblong, acute leaves are pale yellow beneath, and the large flowers are pure white.

59261. RHODODENDRON sp.

No. 11463. Nadchua. November, 1923. A tree 15 to 18 feet high found among rocks at 14,000 feet altitude on the Likiang Snow Range. The leaves are large, oblong, acute, silky, faintly brown tomentose beneath; the very large flowers are pink.

59262. RHODODENDRON sp.

No. 11465. Nadchua. November, 1923. A plant 1 foot high found on the rocky slopes of the Likiang Snow Range at 14,500 feet altitude. The very small leaves are elliptical, oval, and brown beneath; the flowers are indigo blue.

59263. RHODODENDRON sp.

No. 11460. November, 1923. A plant a foot high found in alpine meadows on the Likiang Snow Range at 15,000 feet altitude. The very small oval leaves are brown beneath, and the small flowers are deep purplish blue.

59264. ROSA OMEIENSIS Rolfe. Rosaceæ. **Rose.**

No. 11361. December, 1923. A shrub 12 to 15 feet high found on the Kari Pass, Yangtze Divide, at 13,000 feet altitude. The bush branches from the base, and the young branches, broadly winged, are carmine. The flowers are white over red.

For previous introduction, see S. P. I. No. 53737.

59265. SAUSSUREA GOSSIPIPHORA D. Don. Asteraceæ.

No. 11472. November, 1923. A curious plant 1½ feet high found among limestone rocks, at 15,500 feet altitude on the Likiang Snow Range. The basal leaves are linear lanceolate and the head oblong and densely cottony; the flower heads are buried in cottony scales.

59266. SORBUS sp. Malaceæ.

No. 11070. October, 1923. A tree 10 feet high found on the mountains of Tsehchung, at 10,000 feet altitude. The small pinnate leaves are pale beneath, and the flowers are a deep red. The fruits are also red.

59000 to 59268—Continued.

59267. SWERTIA sp. Gentianaceæ.

No. 11447. November, 1923. A plant 1 foot high found in alpine meadows, at 13,000 feet altitude on the Likiang Snow Range. The leaves are stem clasping, and the large handsome flowers are rich lavender blue.

59268. VACCINIUM sp. Vacciniaceæ.

No. 11490. November, 1923. A shrub 3 feet high found on the rocky slopes of the Lautchun Mountains, at 10,000 feet altitude. The small leaves are obovate, spatulate, and green on both sides; the globose, bluish black fruits are edible.

59269 to 59273. FICUS CARICA L. Moraceæ. **Fig.**

From Tiziuzu, Algeria. Cuttings presented by E. Rolland. Received April 18, 1924. Notes by Mr. Rolland.

59269. *Tharanimth Amelal Embgais;* a white fig from Bougie.

59270. *Tharanimth Sultane;* same as the Spanish variety "Cou de Dames."

59271. *Tharanimth Sadfar;* a rock fig from Sidi Belloua.

59272. *Tharanimth Baquor Gberkanen,* a black flowering fig from Delhys.

59273. *Tharanimth Sultane Amrabob.*

59274 and 59275.

From Manila, Philippine Islands. Seeds presented by Adriano Hernandez, Director, Bureau of Agriculture. Received April 15, 1924.

59274. DILLENIA PHILIPPINENSIS Rolfe. Dilleniaceæ.

Katmon. As described by W. H. Brown (Wild Food Plants of the Philippines, p. 116) this is a large, handsome tree about 60 feet in height, with oval, leathery, shining leaves and very attractive single white flowers about 6 inches wide. The roundish fruits, 2 inches in diameter, contain an edible, soft, green, juicy pulp with acid flavor. Although not particularly good when fresh, the fruits make an excellent jam. This species is very common throughout the Philippines.

For previous introduction, see S. P. I. No. 38383.

59275. MUSA PARADISIACA L. Musaceæ. **Plantain.**

Butuan. An edible, seed-bearing variety from the Philippines; introduced for use in banana-breeding experiments.

59276 to 59278. RUBUS spp. Rosaceæ.

From Orleans, France. Plants purchased from the Grandes Roseraies du Val de la Loire. Received April 18, 1924.

59276. RUBUS FLAGELLIFLORUS Focke.

An evergreen or partly deciduous, shrubby, climbing species about 8 feet high, with simple, heart-shaped leaves, white flowers, and medium-sized, glossy black fruits. Native to central and western China at altitudes of 4,000 to 6,000 feet.

59277. RUBUS HENRYI Hemsl. and Kuntze.

A handsome evergreen species, of graceful habit, with trailing shoots 10 to 15 feet long. The leaves, 4 to 6 inches long, are covered beneath with a white felt; the pink flowers are about three-fourths of an inch across; the fruits are shining black. Native to central and western China.

59278. RUBUS POLYTRICHUS Progel.

A thornless, very ornamental species, covered with red hairs and having entire, light-green leaves.

59279. SOCRATEA EXORRHIZA (Mart.) Wendl. Phœnicaceæ. **Palm.**

From Rio de Janeiro, Brazil. Seeds presented by Dr. L. H. Bailey, Ithaca, N.Y. Received April 17, 1924.

This tall, handsome, spineless palm from tropical South America has a swollen cylindrical trunk elevated on a pyramid of exposed roots, which gives it a remarkable appearance. The trunk, 35 feet or more in height, bears at its summit a crown of large, irregularly pinnate leaves; the flowers are small and yellow and the fruits olive green.

59280 to 59284.

From Addis Ababa, Abyssinia. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received April 18, 1924. Notes by Doctor Shantz.

59280 and 59281. CICER ARIETINUM L. Fabaceæ. **Chick-pea.**

59280. (No. 61. February 4, 1924.) Black form from market. This is one of the important crops in grain rotation. Black plants do not produce brown seeds; these seem to be on separate plants.

59281. (No. 62. February 4, 1924.) Mostly brown seeds.

59282. HOLCUS SORGHUM L. (*Sorghum vulgare* Pers.). Poaceæ. **Sorghum.**

(No. 66. February 4, 1924.) Type of sorghum sold in market.

59283. PISUM SATIVUM L. Fabaceæ. **Pea.**

(No. 64. February 4, 1924.) From market.

59284. TRITICUM DURUM Desf. Poaceæ. **Durum wheat.**

(No. 56. February 4, 1924.) A wheat with a dark perianth; may be of value for breeding purposes.

59285 to 59288.

From Angol, Chile. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received April 19, 1924.

Introduced for testing by cerealists.

59285. AVENA STERILIS L. Poaceæ. **Oats.**

Avena rubia.

59286 and 59287. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceæ. **Common wheat.**

59286. *Chufkin.* 59287. *Florencio.*

59288. ZEA MAYS L. Poaceæ. **Corn.**

A local 12-rowed flint variety with ears 8 inches long. (*Richey and Emerson.*)

59289. COLOCASIA ESCULENTA (L.) Schott. Araceæ.

From Dominica, British West Indies. Rootstocks presented by Joseph Jones, curator, Botanic Gardens. Received April 22, 1924.

The "sulphur dasheen," as this is known here, has handsome red leafstalks and is worth growing as an ornamental. The tubers are sometimes used as food, but are inferior to those of the common dasheen. The name "sulphur" probably refers to the color of the interior of the tubers. (*Jones.*)

59290 and 59291. TRIFOLIUM PRATENSE L. Fabaceæ. **Red clover.**

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received April 23, 1924.

Locally grown seeds introduced for clover specialists.

59290. From Cotes du Nord.

59291. From Aisne.

59292. TALINUM TRIANGULARE (Jacq.) Willd. Portulacaceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received April 22, 1924.

An erect, branching, herbaceous plant, about 3 feet high, native to the West Indies, and recently introduced from Java into the Philippine Islands. The flowers are pink and produced in great profusion. In the Philippines the fleshy, tender leaves are boiled like spinach and served with meat, for which purpose they are excellent. The plant is easily propagated by cuttings. (*Wester.*)

For previous introduction, see S. P. I. No. 57819.

59293. KHAYA NYASICA Stapf. Meliaceæ.

From Mount Silinda, Southern Rhodesia. Seeds presented by Dr. W. L. Thompson. Received April 19, 1924.

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

59294 to 59298.

From Amsterdam, Netherlands. Seeds presented by the director, Botanic Garden. Received April 22, 1924.

A collection of leguminous plants and grasses introduced for forage-crop specialists.

59294. AESCHYNOMENE INDICA L. Fabaceæ.

A bushy leguminous annual 1 to 3 feet high, native to the Tropics, with pale-green, feathery leaves. Procured for trial as fodder and as green manure.

59295. BRACHYPODIUM MEXICANUM (Roem. and Schult.) Link. Poaceæ. **Grass.**

An erect annual Mexican grass with rather narrow rough but succulent leaves. Its ultimate height is about 3 feet.

59296. MELICA ALTISSIMA L. Poaceæ. **Grass.**

A rather tall perennial European grass, 3 to 4 feet in height, with creeping rhizomes which form a loose turf. The leaf sheaths and the backs of the leaves are very rough.

59297. SUTHERLANDIA FRUTESCENS (L.) R. Br. Fabaceæ.

A leguminous shrub about 3 feet in height, with finely pinnate leaves and showy scarlet flowers produced in short axillary racemes. Native to the Mediterranean countries.

59298. SYNTHERISMA SANGUINALIS (L.) Dulac. Poaceæ. **Crab grass.**

Introduced for varietal studies.

59299 and 59300. TRIFOLIUM PRATENSE L. Fabaceæ. **Red clover.**

From Budapest, Hungary. Seeds purchased from the Royal Hungarian Seed-Control Station. Received April 23, 1924.

Locally grown seeds introduced for clover specialists.

59299. From the central part of the great Hungarian plain between the Danube and the Theiss Rivers.

59300. From the western part of Hungary, near the Styrian border.

59301 to 59304.

From Soledad, Cienfuegos, Cuba. Seeds collected by David Fairchild, Bureau of Plant Industry. Received April 17, 1924.

59301. ALEURITES MOLUCCANA (L.) Willd. (*A. triloba* Forst.). Euphorbiaceæ. **Lumbang.**

No. 14. This appears to be different from the tree as it is now growing in Florida. Since the lumbang is a very promising tree for nut culture in southern Florida, we ought to get all possible strains for our collection.

For previous introduction, see S. P. I. No. 52755.

59302. CEDRELA ODORATA L. Meliaceæ.

No. 15. This is the tree which produces the cigar-box wood of Cuba. It deserves to be tried in Florida as a possible timber tree.

A tree, sometimes 100 feet tall, with handsome bright-green compound leaves 10 to 20 inches long. Native to the West Indies.

59303. SERJANIA PANICULATA H. B. K. Sapindaceæ.

No. 16. An ornamental vine with white flowers and handsome clusters of fruits; these have white arils and red bracts. This vine would be useful for pergolas.

59304. TRICHOSTIGMA OCTANDRA (L.) H. Walter (*Villamilla octandra* Hook. f.). Phytolaccaceæ.

No. 17. *Juaniqui* (Cuban name). The larger twigs of this tree are used like osier willow twigs, for the manufacture of baskets, and an extensive trade is carried on here in Cuba.

59305 to 59317.

From Soledad, Cienfuegos, Cuba. Seeds collected by David Fairchild, Bureau of Plant Industry. Received April 21, 1924.

59305. ASSONIA MASTERSII (Hook.) Kuntze (*Dombeya mastersii* Hook.). Sterculiaceæ.

No. 25. An ornamental shrub closely related to *Assonia wallichii*, with rosy white flowers.

A shrub 4 or 5 feet high, native to tropical Africa. The leaves are velvety, heart shaped, and serrate, and the flowers are fragrant.

59306. CAJAN INDICUM Spreng. Fabaceæ. **Pigeon pea.**

No. 29. A strain, brought by R. M. Grey into Cuba from Haiti, which may be more resistant to weevils than the common form.

59307. CANAVALI RUSIOSPERMUM Urban. Fabaceæ.

No. 30. An ornamental climber with brilliant red beans; it would be excellent for dooryard gardens in Florida.

59308 to 59310. CARICA PAPAYA × POSOPOSA. Papayaceæ.

These appear to be hybrids between a very large-fruited papaya and a species with very small round fruits which Mr. Grey thinks may be *Carica posoposa*. There are several types of these hybrids which differ not only in the shape of the fruits but also in seed characters.

59308. A hybrid papaya.

59309. A good melon papaya type.

59310. A top-shaped papaya type; the fruit weighed 12 pounds.

59311. CARICA POSOPOSA L. Papayaceæ.

No. 21. The small round fruits are produced in crowded racemes at the summit of the stem. This species may be of use for breeding purposes.

59305 to 59317—Continued.

59312. CASSIA FISTULA L. Cæsalpiniaceæ.

No. 23. The *golden shower* is a handsome yellow-flowered tree introduced into the West Indies from India. The large pinnate leaves have four to eight pairs of leaflets, and the black, cylindrical pods, 1 or 2 feet long, are the "cassia pods" of commerce.

59313. EUGENIA UNIFLORA L. Myrtaceæ. **Pitanga.**

No. 32. This is like the ordinary pitanga except that it has smaller seeds than any I have observed in Florida. An improved variety should come from these seeds.

59314. GARCINIA TINCTORIA (DC.) W. F. Wight (*G. xanthochymus* Hook. f.). Clusiaceæ.

No. 33. These seeds are from a large tree growing at the Cuban Gardens, Cienfuegos, sent by the Office of Foreign Seed and Plant Introduction to Mr. Grey in 1907. Its deep-green foliage and handsome crown make it a very attractive ornamental. The tree was loaded with its brilliant yellow fruits, which are delicious when eaten with plenty of sugar; the sharp acid flavor is quite different from that of the citrus fruits. The yellow fruits are worthy of a place on the American table, either for direct use with sugar or for sherbet and ice cream. The tree ripens its fruits in southern Florida in April or even earlier and deserves to be popularized as a fruit tree for small places.

For previous introduction, see S. P. I. No. 55454.

59315. LAGERSTROEMIA SPECIOSA (Muenchh.) Pers. (*L. flos-reginae* Retz.). Lythraceæ. **Crape myrtle.**

No. 24. A tree crape myrtle from the Malay Archipelago which deserves to be better known in southern Florida.

A tree 50 to 60 feet tall, with leaves resembling somewhat those of the guava, and pink or purplish flowers about 2 inches wide, produced in immense panicles.

For previous introduction, see S. P. I. No. 49538.

59316. LATANIA LODDIGESII Mart. Phœnicaceæ. **Palm.**

No. 30. A magnificent palm from Mauritius, which grows close to the seashore, producing a most tropical effect. It is peculiarly suited to conditions in southern Florida, although rare in that region.

For previous introduction, see S. P. I. No. 51721.

59317. TINNEA AETHIOPICA Kotschy and Peyr. Menthaceæ.

No. 26. An ornamental flowering shrub from tropical Africa.

A much-branched shrub about 4 feet high, with oblong, short-stemmed leaves. The dark, purplish brown flowers are produced in axillary whorls.

59318 to 59323.

From Giza, Egypt. Seeds presented by the director of the horticultural section, Ministry of Agriculture. Received April 16, 1924.

A collection of leguminous plants obtained for the use of specialists experimenting with green-manure and cover-crop plants.

59318 to 59321. CROTALARIA spp. Fabaceæ.

59318. CROTALARIA CANDICANS Wight and Arn.

A stiffly erect, much-branched, shrubby species, with hairy and somewhat leathery, broadly rounded leaves, and panicles of small, silky, yellow flowers. Native to southwestern India.

59318 to 59323—Continued.

59319. CROTALARIA CAPENSIS Jacq.

A stout, much-branched, South African shrub about 4 feet in height, with broadly oval leaves and pure yellow flowers in many-flowered racemes.

59320. CROTALARIA LEIOLOBA Bartling.

A species from the mountainous districts of northeastern India, and also distributed through the East Indies. It is one of the more robust of the herbaceous species, with finely silky branches and leaves, the latter being oblong and about 2 inches in length.

59321. CROTALARIA TETRAGONA Roxb.

An erect, stiff shrub, often 6 feet in height, which grows wild in the Himalayas of northeastern India, ascending to an altitude of 3,500 feet. The thinly silky, membranous, narrow leaves are sometimes a foot long, and the lemon-yellow flowers are produced in lax racemes 6 inches or more in length.

59322. SESBAN SERICEUM (Willd.) DC. Fabaceæ.

An unarmed shrubby annual, often several feet in height, native to the plains of Ceylon. The silky, pinnate leaves are about a foot in length, and the flowers, pale yellow dotted with red, are in lax racemes.

59323. SESBAN sp. Fabaceæ.

Received as *Sesban aculeatum*, but the seeds do not appear to be that species.

59324 to 59327.

From Athens, Greece. Scions presented by P. O. Anagnostopoulos, director, horticultural station. Received April 25, 1924. Notes by Mr. Anagnostopoulos.

A collection of apple and pear varieties introduced from Greece for testing by pomologists.

59324. MALUS sp. Malaceæ. **Apple.**

Feriki. Trees of good size and thrifty, bearing regularly and heavily. Fruit conical, mostly one sided; color yellow with cheeks streaked with red; quality good; time of harvesting September; good keeper.

59325 to 59327. PYRUS spp. Malaceæ. **Pear.**

59325. PYRUS sp.

Kontoula. One of the popular summer varieties. Fruits juicy, of good flavor: shape pyriform; length about 2 inches; color light yellow. Ripens in July.

59326. PYRUS sp.

Skopelitico. Tree of medium size; fruit pyriform, 2½ to 3½ inches long; color yellow with red cheek; flesh somewhat coarse. Season, middle to end of July. Ships well when gathered slightly green.

59327. PYRUS sp.

Traconico. The winter pear of Greece. Shape pyriform; size 2 to 3 inches long. Flesh juicy and of good quality. When gathered in the fall it keeps all winter.

59328 and 59329.

From Loanda, Angola. Seeds presented by Reed Paige Clark, American consul, Loanda, through C. V. Piper, Bureau of Plant Industry. Received April 23, 1924.

The two forage grasses in this shipment were grown in the Loanda consular district, Angola, and are intended for the use of department forage-crop specialists. The native names given are those used in connection with the export statistics of these seeds at Loanda.

59328 and 59329—Continued.

59328. CHAETOCHLOA ITALICA (L.) Scribn. (*Setaria italica* Beauv.). Poaceæ. **Millet.**

Painco or *milho painco.*

59329. HOLCUS SORGHUM L. (*Sorghum vulgare* Pers.). Poaceæ. **Sorghum.**

Massambala.

59330. ALLIUM CEPA L. Liliaceæ. Onion.

From Valencia, Spain. Seeds purchased through Clement S. Edwards, American consul. Received April 25, 1924.

In order to assist horticulturists carrying on onion-selection experiments, this shipment of authentic Denia onion seeds has been obtained from Spain. In the United States this variety is carried under the name Prizetaker.

59331. PACOURIA CAPENSIS (Oliver) S. Moore. Apocynaceæ.

From Pretoria, Transvaal, South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. Received April 26, 1924.

A low, scrambling shrub which is common on the kopjes (hillocks) north of Pretoria, producing an abundance of white flowers in the spring and numerous large reddish yellow fruits in late summer. These fruits, known locally as "wild peaches" or "wild apricots," have an agreeable flavor and are used raw or as preserves. This shrub, allied to Landolphia, belongs to a family which includes rubber-yielding species, and has been secured for specialists who are seeking new sources of rubber.

59332. SIDEROXYLON AUSTRALE (R. Br.) Benth. and Hook. Sapotaceæ.

From Brisbane, Queensland, Australia. Seeds purchased from C. T. White, Government botanist. Received April 26, 1924.

The rich milky sap of this Australian tree, which resembles cream in taste, is said to yield gutta-percha, and seeds have been secured for the use of department rubber specialists. The round, purplish fruits, about 2 inches in diameter, are edible, although of coarse texture and insipid flavor. The dark-colored, prettily veined timber is used in Australia for cabinetwork and carving.

For previous introduction, see S. P. I. No. 44072.

59333. CHENOPODIUM QUINOA Willd. Chenopodiaceæ. Quinoa.

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

Collected for cultural tests.

59334 to 59339. NICOTIANA TABACUM L. Solanaceæ. Tobacco.

From Montevideo, Uruguay. Seeds presented by R. Salgueiro Silveira, Sección de Economía Rural. Received April 28, 1924.

Introduced for testing by tobacco specialists.

59334. *Amarello* or *Cheiroso.*

59335. *Amarello Rio Grande do Sul No. 1.*

59336. *Bahia.*

59337. *Espadin.*

59338. *Fumo Bahiano No. 4.*

59339. *Repollo.*

59340 and 59341. ALLIUM spp. Liliaceæ.

From Paris, France. Seeds presented by Prof. D. Bois, Museum of Natural History. Received April 26, 1924.

Introduced for horticulturists investigating the food possibilities of the genus Allium.

59340. ALLIUM OBLIQUUM L.

A species cultivated in Siberia as a substitute for garlic. It has a narrowly egg-shaped bulb and a stem up to 3 feet in height.

For previous introduction, see S. P. I. No. 58684.

59341. ALLIUM SUBHIRSUTUM L.

A white-flowered species from the warmer sections of the Mediterranean countries. It becomes about a foot high, with narrow, hairy margined leaves.

59342 to 59345. DIOSPYROS KAKI L. f. Diospyraceæ. Kaki.

From Okitsu, Japan. Scions presented by Prof. T. Onda, director, Government Horticultural Experiment Station. Received May 2, 1924. Notes by C. C. Thomas, Bureau of Plant Industry.

These are said to be unusually hardy varieties.

59342. A large oblate persimmon, equatorial diameter 3 inches, longitudinal diameter 1½ inches, prominently quadrangular with four furrows extending upward from the blossom end. Flesh yellow, almost seedless; skin orange.

59343. An oblong conical persimmon, resembling Hachiya in shape, with a longitudinal diameter of about 3 inches and an equatorial diameter of 2½ to 3 inches. Flesh and skin lemon yellow; seeds present.

59344. The fruit of this variety is oblate and noticeably quadrangular with four prominent furrows extending from the blossom end upward toward the angles. The equatorial diameters are about equal, 3 by 3 inches; the longitudinal diameter is 1½ to 2 inches. Seeds are present. The flesh is yellow and the skin orange.

59345. A large, oblate persimmon somewhat angular. The equatorial diameter is 4 inches and the longitudinal 2 inches. The flesh is seedless and yellow; the skin is orange.

59346 to 59351. ALLIUM spp. Liliaceæ.

From Dorpat, Estonia. Seeds presented by the director, Botanical Garden, University of Dorpat. Received April 30, 1924.

A collection of Alliums secured for horticulturists investigating the food possibilities of the genus.

59346. ALLIUM ALBIDUM Fisch.

A species with clustered oblong bulbs, very narrow semiterete leaves, and white or yellowish white flowers. Native to southern Russia.

59347. ALLIUM ANGULOSUM L.

A rather variable species, distributed from eastern Europe through Siberia in dry rocky places. It is usually a low plant with narrow leaves and a hemispherical head of lilac-purple flowers.

For previous introduction, see S. P. I. No. 58675.

59348. ALLIUM LIBANI Boiss.

A species with very narrow, wavy leaves and a dense umbel of straw-colored flowers. It is about 4 inches in height and grows wild in the mountains of southern Palestine.

59349. ALLIUM LINEARE L.

A Siberian species with very narrow flat leaves and yellowish white flowers.

59346 to 59351—Continued.

59350. ALLIUM SACCULIFERUM Maxim.

An erect, red-flowered species, 2 feet or more in height, with triangular, sharp-pointed leaves. Native to the southern Amur region, Siberia.

59351. ALLIUM VICTORIALIS L.

One of the most distinct species of European Alliums, with stems about a foot and a half high and leaves resembling those of the lily-of-the-valley. The white or greenish white flowers are produced in May.

For previous introduction, see S. P. I. No. 58691.

59352 to 59355.

From Cambridge, England. Seeds presented by the director of the Botanical Garden, University of Cambridge. Received April 26, 1924.

Introduced for the use of forage-crop specialists.

59352. ASTRAGALUS CHINENSIS L. f. Fabaceæ.

An erect, herbaceous plant, native to China, with smooth slender stems, elliptic-obtuse leaflets, and pendulous, few-flowered racemes.

59353. BRACHYPODIUM JAPONICUM Miquel. Poaceæ. Grass.

A tall coarse grass with rough leaves and large flower spikes about 6 inches long. Native to sandy places in Japan.

59354. PANICUM BULBOSUM H. B. K. Poaceæ. Grass.

A bulbous-rooted, cespitose Mexican grass with erect stems 3 or 4 feet in height and narrow long-pointed leaves.

59355. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

59356. SPONDOGONA SALICIFOLIA (L.) House (*Dipholis salicifolia* A. DC.). Sapotaceæ.

From San Manuel, Oriente, Cuba. Seeds presented by Dr. Mario Calvino, Estación Experimental y Escuela Agrícola. Received April 26, 1924.

Cuya, or *Jocuma blanca*. This is a beautiful, showy, evergreen, native tree; it is drought resistant, thrives in calcareous soils, and is a rapid grower. I consider it an excellent ornamental and shade tree for tropical regions. (*Calvino.*)

59357. VICIA MICHAUXII Spreng. Fabaceæ. Vetch.

From Ariana near Tunis, Tunisia, Africa. Seeds presented by F. Boeuf, chief, Botanical Service. Received April 30, 1924.

A creeping or climbing annual vetch, native to Syria, with very narrow leaflets, light-yellow flowers, and hairy pods about an inch long. Secured for department agronomists for trial as a green-manure and forage plant.

For previous introduction, see S. P. I. No. 55547.

59358 to 59360.

From Groningen, Netherlands. Seeds presented by the director, Botanical Gardens. Received April 26, 1924. Introduced for trial by forage-crop specialists.

59358. ARRHENATHERUM ERIANTHUM Boiss. and Reut. Poaceæ. Grass.

A tall, perennial grass, native to Spain, with flat leaf blades and dense erect panicles.

59359. CALAMAGROSTIS LANCEOLATA Roth. Poaceæ. Grass.

A perennial, moisture-loving grass, 2 to 4 feet high, with limp, very narrow leaves, drooping panicles, and creeping rhizomes with long stolons. Native to western Europe.

59358 to 59360—Continued.

59360. CORONILLA GLAUCA Jusl. Fabaceæ.

A small, yellow-flowered European shrub with handsome glaucous foliage.

59361 and 59362.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received April 26, 1924.

59361. DANTHONIA SEMIANNULARIS (Labill.) R. Br. Poaceæ.

A perennial tufted grass, producing a fair amount of soft succulent fodder suitable for either sheep or cattle. The leaves are narrow, usually hairy, and light green. The flower stems grow about 2 feet high and the seed, which sheds easily, is produced in clusters that have a white woolly appearance when ripe. *Wallaby grass* provides good pasturage during the spring and summer and remains green in the winter months.

For previous introduction, see S. P. I. No. 56566.

59362. THEMEDA QUADRIVALVIS (L.) Kuntze (*Anthistiria ciliata* L. f.). Poaceæ.

A coarse, rather tough annual grass which grows in tufts from 1 to 3 feet in height. It is closely related to the kangaroo grass of Australia and Tasmania. (*C. V. Piper, Bureau of Plant Industry.*)

For previous introduction, see S. P. I. No. 50334.

59363 to 59371.

From Copenhagen, Denmark. Seeds presented by Dr. Axel Lange, director, Botanical Garden. Received April 30, 1924.

The following collection of plants, chiefly grasses, has been secured for forage-crop specialists.

59363. AVENA MONTANA Vill. Poaceæ. **Grass.**

A perennial, cespitose grass, native to alpine and subalpine sections of southern Europe, with laxly ascending stems and loosely folded leaves. The loose panicle is about 6 inches long.

59364. AVENA PLANICULMIS Schrad. Poaceæ. **Grass.**

A Siberian species with leaves about half an inch in width, found in dry, open situations.

59365. CROTALARIA SEMPERFLORENS Vent. Fabaceæ.

A shrubby species from the tropical section of India, with oblong green leaves about 4 inches long and bright-yellow flowers.

59366. ELYMUS EUROPAEUS L. Poaceæ. **Lyme grass.**

A loosely cespitose, perennial, European grass, with erect flowering stems and broadly linear leaves which taper to a long, slender point.

For previous introduction, see S. P. I. No. 53048.

59367. MEDICAGO MARINA L. Fabaceæ.

A perennial, very hairy, yellow-flowered species from the sandy coastal regions in Asia Minor. The stems are either prostrate or ascending.

59368. MUHLENBERGIA MEXICANA (L.) Trin. Poaceæ. **Grass.**

A good perennial fodder grass, native to Mexico, said to be particularly suited for low, humid lands. It has a creeping rootstock and a much-branched stem.

59369. PISUM SATIVUM L. Fabaceæ. **Pea.**

Introduced for varietal studies.

59370. TRIFOLIUM MARITIMUM Huds. Fabaceæ. **Clover.**

An annual, erect or decumbent, branching clover from Asia Minor, where it grows in fields and along the seacoasts. The flowers are white or pale flesh colored.

59363 to 59371—Continued.

59371. VIGNA CYLINDRICA (Stickm.) Skeels. Fabaceæ. **Catjang.**

The catjang is closely allied to the cowpea, and these seeds have been secured as of possible value in obtaining an improved strain of cowpea for cultivation in the United States.

59372 and 59373. MAGNOLIA CAMPBELLII Hook. f. and Thoms. Magnoliaceæ.

From Orleans, Loiret, France. Plants presented by Léon Chenault. Received May 14, 1924.

The enormous flowers of this magnolia, 10 to 14 inches across and varying in color from white to nearly purple, make it one of the finest ornamentals of the genus. It is a native of the Himalayas, where it ascends to an altitude of 8,000 feet. The tree becomes 80 feet in height and is deciduous, with very dark bark and large, elliptical, dark-green leaves. It is most likely to find congenial conditions in mild-wintered sections of the Southern States where there is abundant rainfall.

59372. A red-flowered form.

59373. A white-flowered form.

59374. ERYTHRINA BOGOTENSIS Hort. Fabaceæ.

From Havana, Cuba. Cuttings presented by F. E. Betheuser. Received May 10, 1924.

The erythrinas are handsome leguminous trees or shrubs, rather generally distributed throughout the Tropics of both hemispheres. This species, in common with many of the rest, has terminal racemes of beautiful scarlet flowers and deserves a trial in southern Florida.

59375. CICER ARIETINUM L. Fabaceæ. **Chick-pea.**

From Los Mochis, Sinaloa, Mexico. Seeds presented by Albert H. Amis, Los Mochis Agricultural Experiment Station. Received May 2, 1924.

A small-seeded chick-pea introduced for testing by agronomists.

59376. GARCINIA BINUCAO (Blanco) Choisy. Clusiaceæ. **Binukao.**

From Manila, Philippine Islands. Seeds presented by the Director, Bureau of Agriculture. Received May 21, 1924.

For previous introduction and description, see S. P. I. No. 58958.

59377. MUSA PARADISIACA SAPIENTUM (L.) Kuntze. Musaceæ. **Banana.**

From Santa Marta, Colombia. Stumps presented by V. M. Cutter, United Fruit Co., Boston, Mass. Received May 6, 1924.

Gros Michel. More than nine-tenths of the bananas imported into the United States are of this variety. It is cultivated in the West Indies and in many places on the mainland of tropical America. Commercially it has been found the most satisfactory of all varieties, and now that our markets have become so accustomed to it, attempts to popularize other sorts have not been successful.

In quality, Gros Michel is surpassed by many other bananas. It has another defect also—susceptibility to the Panama disease, *Fusarium cubense*, which has played havoc in the banana plantations of several countries. In spite of these handicaps, it still reigns supreme.

During the last few years, considerable attention has been devoted to banana culture in Florida. The Cavendish or Chinese variety has been planted commercially in a few sections, and good returns have been reported. Several other varieties also

have been cultivated for many years, but a recent canvass of the State failed to bring to light a single plant of Gros Michel. In view of the prominence which this variety attained in the banana trade years ago, it seems nothing short of astonishing that it should not have become established in Florida.

Florida growers, therefore, requested the department to introduce this variety for trial in their State. Because of the danger of bringing with it the Panama disease, strict precautions must be taken. The plants which Mr. Cutter has presented, in response to our request, were sent from Santa Marta, Colombia, a region where the disease has never been found. Before they are planted in Florida they will be held in quarantine at Washington until all danger of their carrying the disease with them is past. (*Wilson Popenoe.*)

59378 to 59382.

From Echo, Kirin Province, Manchuria. Seeds presented by A. D. Wocikoff, director, Experimental Farm. Received April 28, 1924.

59378 and 59379. Two bush clovers secured for forage-crop specialists.

59378. LESPEDEZA JUNCEA SERICEA (Miquel) Forbes and Hemsl. Fabaceæ.

A Japanese bush clover which develops into a shrubby plant about 3 feet in height, with dense foliage and white flowers.

For previous introduction, see S. P. I. No. 56526.

59379. LESPEDEZA STIPULACEA Maxim. Fabaceæ.

This Korean bush clover appears to be especially promising in that portion of the eastern United States included between latitudes corresponding to those of northern Ohio and southern Virginia.

For previous introduction, see S. P. I. No. 49027.

59380 and 59381. LILIUM CONCOLOR Salisb. Liliaceæ. **Lily.**

A very attractive little Japanese lily, 1 to 3 feet in height, which produces three to six bright-scarlet flowers; these are erect, star shaped, and spotted with black. This species succeeds best in a half-shady place.

59380. Collected in 1922.

59381. Collected in 1923.

59382. VICIA JAPONICA A. Gray. Fabaceæ. **Vetch.**

This has proved to be one of the most promising of the perennial vetches introduced into the United States. Obtained for cultural comparison tests.

59383. AVENA STERILIS L. Poaceæ. Oats.

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

Collected for cereal-breeding experiments.

59384 and 59385. PHASEOLUS spp. Fabaceæ.

From Italian Somaliland. Seeds presented by Dr. G. Scassellati Sforzolini, Director of Agriculture and Zootechnics. Received May 6, 1924. Notes by Doctor Sforzolini.

Introduced for horticulturists experimenting with varieties of beans.

59384. PHASEOLUS AUREUS Roxb. **Mung bean.**

Grows subspontaneously in the village of Duca Abruzzi.

59384 and 59385—Continued.

59385. PHASEOLUS RADIATUS L.

A black-seeded variety from the central Scebeli region.

59386 to 59397.

From Cambridge, England. Seeds presented by the director, Botanical Garden, University of Cambridge. Received May 3, 1924.

59386 to 59389. ALLIUM spp. Liliaceæ.

Introduced for horticulturists studying the food possibilities of the genus Allium.

59386. ALLIUM ODORUM L.

In Japan this onion is cultivated for its leaves, which are eaten as greens; in the spring the leaves are borne luxuriantly by the old bulbs, becoming about a foot in length. (Adapted from *Useful Plants of Japan, Agricultural Society of Tokyo, p. 17,*)

For previous introduction, see S. P. I. No. 55442.

59387. ALLIUM SCORODOPRASUM L.

The sand-leek, or rocambole of Europe and Asia Minor, resembles garlic, but has smaller bulbs of milder flavor which are produced at the tip of the stem as well as at its base.

59388. ALLIUM SCORODOPRASUM BABINGTONII (Borrer) Richter.

This is a much larger plant than the typical species, the scape being 4 to 6 feet high, and the more numerous leaves are broader, sometimes 2 inches wide at the base. The flowers are pale reddish purple. The bulbous base of the plant is globose, with solid white bulbs attached to the hard white crown of the root. Native to England and probably to Ireland.

59389. ALLIUM STELLERIANUM Willd.

A perennial Siberian species which does not form a true bulb. It is characterized by semi-cylindrical leaves and dense flower heads.

59390. BENINCASA HISPIDA (Thunb.) Cogn. Cucurbitaceæ. **Wax gourd.**

Obtained for horticulturists experimenting with cucurbitaceous vegetables.

59391. ILEX LATIFOLIA Thunb. Aquifoliaceæ.

A Japanese holly, one of the most attractive of the genus, which sometimes develops into a tree 60 feet tall. The glossy green leaves, 3 to 7 inches long, are oval or narrowly oblong, and the red berries, about one-third of an inch in diameter, are produced in dense clusters.

59392. LYCOPERSICON ESCULENTUM Mill. Solanaceæ.

Var. *racemigerum*. A South American form with currantlike fruits; secured for horticulturists engaged in tomato-breeding experiments.

59393. PICEA sp. Pinaceæ. **Spruce.**

Received as *P. purgans*, for which a place of publication has not been found.

59394 to 59396. PISUM spp. Fabaceæ.

Obtained for testing by horticulturists experimenting with pea varieties.

59394. PISUM SATIVUM L. **Pea.**

59395. PISUM SATIVUM L. **Pea.**

59396. PISUM SATIVUM UMBELLATUM L. **Pea.**

A variety of garden pea with umbellate flowers.

59397. THLADIANTHA DUBIA Bunge. Cucurbitaceæ.

A tall climbing herbaceous vine with light-green oval leaves and yellow, bell-shaped flowers. The oblong, succulent fruit, about 3 inches long, is eaten by the natives of northeastern India.

59398 to 59401.

From Edinburgh, Scotland. Presented by William Wright Smith, regius keeper, Royal Botanic Garden. Received May 14, 1924. Introduced for horticulturists experimenting with small fruits.

59398 to 59401. Cuttings.

59398. RIBES BETHMONTII Jancz. Grossulariaceæ.

A hybrid between *Ribes malvaceum* and probably *R. sanguineum*. It is an upright shrub, about 7 feet in height, with 3-lobed, deep-green leaves, light-pink flowers, and reddish fruits.

59399. RUBUS BIFLORUS QUINQUEFLORUS Focke. Rosaceæ.

Because of the waxy bloom which covers the long spiny stems this is a very striking shrub. The large pinnate leaves, a foot or more in length, are white beneath, and the large white flowers are produced in terminal and axillary clusters. The edible, golden-yellow fruits of this western Chinese species are about the size of the common raspberry.

59400. RUBUS CRATAEGIFOLIUS MORIFOLIUS (Sieb.) Focke. Rosaceæ.

A stout, erect or spreading wild raspberry, native to Japan. Because of its numerous, strong prickles and small, orange-red fruits it is of value chiefly to plant breeders.

59401. VIBURNUM HUPEHENSE Rehder. Caprifoliaceæ.

A fairly hardy, deciduous shrubby species, allied to *Viburnum wrightii*, with coarsely toothed, long-pointed dark-green leaves and ovoid, dark-red fruits. Native to central China.

59402. CHENOPODIUM QUINOA Willd. Chenopodiaceæ. Quinoa.

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

Obtained from Hector Cusicanqui, of La Paz, Bolivia; crop of 1924. Said to be the best variety grown at La Paz. (*Richey and Emerson.*)

59403 to 59642.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 29 and 30. Quoted notes by Mr. Rock.

59403. ACONITUM FORRESTII Stapf. Ranunculaceæ.

No. 11446. November, 1923. A plant 3 to 4 feet high collected in alpine meadows at the foot of limestone rocks at an altitude of 11,000 feet, Likiang Snow Range. The leaves are pubescent and dark green, and the spikes, 2 feet or more long, are covered the entire length with the pale-blue to purple flowers.

59404. ALLIUM sp. Liliaceæ.

No. 11467. November, 1923. A plant 1 to 2 feet high from alpine meadows of the Likiang Snow Range, at an altitude of 14,000 feet. The rich-blue flowers are produced in drooping globose umbels.

59405. ASTER STATICEFOLIUS Franch. Asteraceæ.

No. 11423. November, 1923. A shrub 2 to 3 feet high found among rocks (limestone crevices), Likiang Snow Range, at an altitude of 11,000 feet. The leaves are spatulate, the flowers large, and the ray flowers deep blue-purple.

59403 to 59642—Continued.

59406. ASTER sp. Asteraceæ.

No. 11426. November, 1923. A plant 2 feet high from alpine meadows, Likiang Snow Range, at an altitude of 12,000 to 13,000 feet. The leaves are lanceolate, the flower heads large, 2 inches in diameter, and the ray flowers long and deep blue-purple.

59407. COTONEASTER sp. Malaceæ.

No. 11220. Champutong, Salwin Valley. October, 1923. A very ornamental shrub 6 inches high found at an altitude of 9,000 feet, with small, orbicular leaves and small red fruits.

59408. PYRACANTHA ANGUSTIFOLIA (Franch.) C. Schneid. Malaceæ.

No. 11482. November, 1923. A much-branched, spiny shrub 4 to 5 feet high found in dry stream beds and meadows around the Likiang Snow Range, at an altitude of 9,000 feet. The leaves are small and linear, and the fruits are a rich orange-red.

59409. CREMANTHODIUM sp. Asteraceæ.

No. 11456. Sungkwe. November, 1923. Found in the alpine meadows, at an altitude of 11,000 feet. The large, oval leaves of this plant form a basal rosette, and the drooping flower heads have deep-yellow ray flowers.

59410. DELPHINIUM sp. Ranunculaceæ.

No. 11245. Mount Lautchun. October, 1923. A plant 3 to 4 feet high found in alpine meadows at an altitude of 12,000 feet, with large, deeply divided leaves and deep-blue flowers on long spikes.

59411. DELPHINIUM sp. Ranunculaceæ.

No. 11413. November, 1923. A plant 2 feet or more high found at the head of a limestone gorge at Sabaloko, Likiang Snow Range. The deep-green leaves form globose rosettes, and the flowers, in ample spikes, are rich deep blue.

59412. DELPHINIUM sp. Ranunculaceæ.

No. 11483. November, 1923. A plant 2 to 3 feet high growing in the wet meadows of Heshwe, Likiang Snow Range, at an altitude of 10,000 feet. The leaves are palmatisect and basal, and the dark blue-purple flowers are produced in long spikes.

59413. DELPHINIUM sp. Ranunculaceæ.

No. 11485. Ngulukeu. November, 1923. A plant 1 to 2 feet high found in meadows among rocks at an altitude of 9,000 feet. The leaves are finely palmatisect, and the rich steel-blue flowers are in large racemes.

59414. ENKIANTHUS sp. Ericaceæ.

No. 10949 (fruit), 8907 (flowers). November, 1923. A very handsome species 8 to 15 feet high found in the forests of Landjoeala, southeastern Tibet, at an altitude of 9,000 feet. The evenly green leaves are oval, and the campanulate flowers are yellow with red stripes and arranged in large clusters.

59415. EUPTELEA PLEIOSPERMA Hook. f. and Thoms. Trochodendraceæ.

No. 11224. October, 1923. A tree 30 to 40 feet high found along meadows of Champutong, Salwin Valley, at an altitude of 7,000 feet. The oval, crenate, caudately acuminate leaves are pale beneath, and the flowers are red.

59416. GENTIANA sp. Gentianaceæ.

No. 11437. November, 1923. A branching plant 1 foot high found in alpine meadows at Ladsakodjo, Likiang Snow Range, at an altitude of 12,500 feet. The large, tubular flowers are indigo blue and have salver-shaped corollas.

59403 to 59642—Continued.

59417. GENTIANA sp. Gentianaceæ.

No. 11484. Saba. November, 1923. A branching corymbose plant 1 foot high found in moist meadows near Likiang at an altitude of 11,000 feet. The deep-blue flowers, 2 to 3 inches long, have salver-shaped corollas.

59418. INCARVILLEA LUTEA Bur. and Franch. Bignoniaceæ.

No. 11412. Likiang Snow Range. November, 1923. A bush 2 to 3 feet high found among limestone rock in scrub forests at an altitude of 9,600 to 11,000 feet. The large leaves are pinnatisect, and the large, yellow flowers are produced in long, terminal spikes.

59419. INDIGOFERA PENDULA Franch. Fabaceæ.

No. 11441. November, 1923. An exceedingly ornamental shrub 10 to 15 feet high collected on the Likiang Snow Range at an altitude of 10,000 feet. The handsome flowers are in large pendulous racemes.

For previous introduction, see S. P. I. No. 56315.

59420. LILIUM sp. Liliaceæ.

No. 10190. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A plant 1 or 2 feet high found in alpine meadows. The leaves are elliptical, and the flowers are yellow to white.

59421. MAGNOLIA sp. Magnoliaceæ.

No. 11231. October, 1923. A tree 8 to 10 feet high growing on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 10,000 feet. The oval leaves are thinly rufous pubescent beneath, and the flowers are large and white.

59422. MALUS YUNNANENSIS (Franch.) C. Schneid. (*Pyrus yunnanensis* Franch.). Malaceæ. **Apple.**

No. 11489. November, 1923. A tree 30 to 40 feet high found in the Lashipa Forest near Sembi, west of Likiang, at an altitude of 9,000 to 10,000 feet. The large, oval, rich-green leaves are greenish pubescent beneath, and the red fruits are 1 inch in diameter.

59423. MALUS sp. Malaceæ.

No. 11356. December, 1923. A shrub or tree 30 feet high found in the forests on the eastern slope of Karila, at an altitude of 12,000 feet. The lianalike branches are long and rambling, and the fruits are red and obovate.

59424. MEIBOMIA sp. (*Desmodium* sp.). Fabaceæ.

No. 11440. November, 1923. A shrub 8 to 10 feet high found along streams on the Likiang Snow Range, at an altitude of 9,000 to 10,000 feet. The rich-pink flowers, produced in large racemes, make this a very handsome shrub.

59425. PAEONIA LUTEA Delavay. Ranunculaceæ.

No. 11488. November, 1923. A shrub 1 to 2 feet high found on the dry slopes of Mount Lautchun, west of Likiang, at an altitude of 8,000 feet. The large leaves are white beneath, and the flowers are large and yellow.

59426. PHILADELPHUS sp. Hydrangeaceæ.

No. 11416. Likiang Snow Range. November, 1923. A very handsome species 8 to 10 feet high found on the outskirts of forests at an altitude of 10,000 to 11,500 feet. The large white flowers, produced in large racemes, are fragrant.

59427. PINUS SINENSIS YUNNANENSIS (Franch.) Shaw. Pinaceæ. **Pine.**

No. 11699. December, 1923. One of the most common trees in Yunnan, varying in height from 30 to 80 feet and with a very straight or crooked trunk, depending on the location and exposure. On the Likiang Snow Range, where these seeds were collected, this pine is associated with *Quercus*

59403 to 59642—Continued.

delavayi, *Q. semecarpifolia*, and *Rhododendron fortunei*. It prefers well-drained soils. It grows at altitudes ranging from 9,000 to 11,000 feet, with only scattered individual trees at the higher levels. In the more moist region its place is taken by *Pinus armandi* and in the higher altitudes by Picea and Tsuga.

59428 to 59434. PRIMULA spp. Primulaceæ. **Primrose.**

59428. PRIMULA LITTONIANA Forrest.

No. 9859. September, 1923. A very handsome plant 2 to 3 feet tall growing in swampy meadows west of the Likiang Snow Range at Ganhaitze and also east of Lahgwubo, at an altitude of 10,000 to 11,000 feet. The deep indigo-blue flowers are borne in long, densely packed spikes and the calyxes, a rich carmine, are very striking.

59429. PRIMULA SECUNDIFLORA Franch.

No. 11425. Likiang Snow Range. November, 1923. Collected at an altitude of 13,000 feet.

For previous introduction and description, see S. P. I. No. 58375.

59430. PRIMULA sp.

No. 10182. October, 1923. A plant several inches high found in the alpine meadows of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 13,000 feet. The leaves are green and elliptical, and the flowers are a rich deep purple.

59431. PRIMULA VALENTINIANA Hand.-Mzt.

No. 11171. October, 1923. A plant 4 to 5 inches high found growing in the alpine meadows of Champutong, Salwin-Irrawaddy Divide, at an altitude of 13,000 feet. The leaves are small, and the flowers are large and blue.

59432. PRIMULA AGLENIANA Balf. f. and Forrest.

No. 11197. October, 1923. Found growing in the alpine meadows of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 13,000 feet. The leaves are lanceolate and crenate, and the flowers are large and white with a pinkish tinge, drooping in large umbels.

59433. PRIMULA INGENS W. W. Smith and Forrest.

No. 11332. November, 1923. Collected in the alpine meadows of Mount Peima, at an altitude of 14,000 feet. The leaves are linear-lanceolate and glabrous, and the flowers are pale blue.

59434. PRIMULA POISSONI Franch.

No. 11487. November, 1923. From 3 to 4 feet high found in moist meadows near Labako, west of Likiang, at altitudes of 8,000 to 9,000 feet. The leaves are basal, linear-lanceolate, and the flowers are produced in long spikes (candelabra).

59435. RHODODENDRON ARALIAEFORME Balf. f. and Forrest. Ericaceæ.

No. 11404. November, 1923. Collected in pine forests of the Likiang Snow Range between 9,000 and 10,000 feet altitude. The large, fragrant flowers are white, pink, or purplish, but usually pink. This species is found all over Yunnan.

59436 to 59638. RHODODENDRON spp. Ericaceæ.

59436. RHODODENDRON sp.

Nos. 1372 (fruit), 8500 (flowers). November, 1923. A shrub 4 feet high growing on alpine slopes among limestone rocks on the Likiang Snow Range at altitudes of 13,000 to 14,000 feet. The pale, thin leaves are obovate oblong and covered beneath with yellow tomentum. The flowers are rich pink.

59403 to 59642—Continued.

59437. RHODODENDRON sp.

Nos. 10898 (fruit), 10274 (flowers). November, 1923. A shrub 3 feet high found growing in moist regions on the alpine slopes of Londjre between 12,000 and 13,000 feet altitude. The leaves are elliptical, glabrous, and evenly green, and the flowers are a rich purplish red.

59438. RHODODENDRON sp.

Nos. 10918 (fruit), 9129 (flowers). November, 1923. A shrub 3 feet high found in the alpine region of Tsehchung at an altitude of 11,000 feet. The elliptical-obovate leaves are green above and covered beneath with deep, chocolate-colored tomentum. The flowers are dark crimson.

59439. RHODODENDRON sp.

Nos. 10920 (fruit), 9104 (flowers). November, 1923. A shrub 6 feet high found in the alpine region of Tsehchung. The narrow leathery linear leaves, 5 inches long, have revolute margins and are covered beneath with rufous wool. The flowers are white.

59440. RHODODENDRON sp.

Nos. 10921 (fruit), 9107 (flowers). November, 1923. A tree 13 to 14 feet high found in fir forests in the alpine region of Tsehchung at an altitude of 11,000 feet. The large, oblong leaves are dark green above and covered with a deep-brown wool beneath. The flowers are large and white and are on long pubescent pedicels.

59441. RHODODENDRON sp.

Nos. 10922 (fruit), 9237 (flowers). November, 1923. A shrub 1 to 2 feet high found growing in masses in the alpine region of Tsehchung. The oval-elliptical leaves are silvery white beneath, and the flowers are large and orange to red.

59442. RHODODENDRON sp.

Nos. 10923 (fruit), 9101 (flowers). November, 1923. A shrub 7 feet high from the alpine region of Tsehchung at an altitude of 11,000 feet. The elliptic-oblong, acute leaves are dark green above and a deep red to golden yellow beneath. The flowers are large and a rich pink.

59443. RHODODENDRON sp.

Nos. 10924 (fruit), 9124 (flowers). November, 1923. A shrub 1 to 2 feet high found growing in the rocky alpine meadows of Tsehchung at an altitude of 12,000 feet. The small, ovate leaves are yellow to red-brown beneath, and the small, deep rose-pink flowers are produced in clusters.

59444. RHODODENDRON sp.

Nos. 10928 (fruit), 10064 (flowers). November, 1923. A shrub 1 to 2 feet high growing in masses in the moist alpine region of Tsehchung at an altitude of 12,000 feet. The leaves are elliptic and white beneath, and the flowers are medium and bright red.

59445. RHODODENDRON sp.

Nos. 10929 (fruit), 9098 (flowers). November, 1923. A shrub 6 feet high from the slopes of the Tsehchung Mountains at an altitude of 10,000 feet. The evenly green leaves are obovate and glabrous, and the large, pink flowers are borne on slender pedicels.

59446. RHODODENDRON sp.

Nos. 10930 (fruit), 8835 (flowers). November, 1923. A shrub 3 to 4 feet high growing in fir forests on the alpine slopes of Tsehchung. The oval leaves are glabrous on both sides, and the flowers are a handsome pink.

59403 to 59642—Continued.

59447. RHODODENDRON FULVOIDES Balf. f. and Forrest.

Nos. 10931 (fruit), 8883 (flowers). November, 1923. A tree 15 to 16 feet high found along streams on the Londjre Mountains, southeastern Tibet, at an altitude of 11,000 feet. The large, oblong, acute leaves are brown tomentose beneath, and the flowers are rose-pink.

59448. RHODODENDRON sp.

Nos. 10932 (fruit), 10301 (flowers). November, 1923. A shrub 4 feet high found growing in the alpine region of Londjre, southeastern Tibet. The ovate-elliptical leaves are dark green above and fawn-colored beneath, and the large, crimson flowers are borne on short pedicels.

59449. RHODODENDRON sp.

Nos. 10933 (fruit), 10292 (flowers). November, 1923. A shrub or small tree 7 feet high found in fir forests of Londjre, southeastern Tibet, at an altitude of 12,000 feet. The large, oblong, acute leaves are brown tomentose beneath, and the flowers are large and white and are borne on slender pedicels.

59450. RHODODENDRON sp.

Nos. 10934 (fruit), 10307 (flowers). November, 1923. A shrub 2 feet high, growing in masses on open slopes in the alpine region of Londjre, southeastern Tibet, at altitudes between 12,000 and 13,000 feet. The linear-elliptical leaves are white to drab beneath, and the flowers are a yellowish red.

59451. RHODODENDRON sp.

Nos. 10936 (fruit), 8888 (flowers). November, 1923. A shrub 3 to 4 feet high found in the forests of Londjre, southeastern Tibet, at altitudes between 10,000 and 11,000 feet. The large leaves are oblong, acuminate, and brown beneath. The flowers are rose-pink.

59452. RHODODENDRON sp.

Nos. 10937 (fruit), 8887 (flowers). November, 1923. A very handsome species 6 to 8 feet high growing on the slopes of the Londjre Mountains, southeastern Tibet. The elliptical, deep-green leaves are glabrous on both sides, and the very large, fragrant flowers, in large umbels are a rich blue-lavender.

59453. RHODODENDRON sp.

Nos. 10938 (fruit), 8909 (flowers). November, 1923. A shrub 2 to 3 feet high found growing in masses on the alpine slopes of Londjre, southeastern Tibet. The leaves are elliptical and drab beneath, and the flowers are a very dark red.

59454. RHODODENDRON sp.

Nos. 10939 (fruit), 8884 (flowers). November, 1923. A shrub 3 to 4 feet high found in the alpine forests of Londjre, southeastern Tibet. The oblong-ovate leaves are golden yellow and glabrous beneath; the flowers are large and a deep purplish red.

59455. RHODODENDRON sp.

Nos. 10940 (fruit), 8910 (flowers). November, 1923. A shrub 2 to 3 feet high growing in the alpine region of Londjre, southeastern Tibet, at an altitude of 12,000 feet. The elliptical leaves are white beneath; the flowers are yellow at the base, and the lobes are red.

59456. RHODODENDRON sp.

Nos. 10947 (fruit), 10313 (flowers). November, 1923. A handsome species 3 feet high growing in masses in the alpine region of Londjre, southeastern Tibet. The leaves are oblong linear and drab beneath; the flowers are large and a deep carmine.

59403 to 59642—Continued.

59457. RHODODENDRON sp.

Nos. 10948 (fruit), 10300 (flowers). November, 1923. A shrub 3 feet high found in the alpine region of Londjre, southeastern Tibet. The oblong leaves have brown wool beneath, and the carmine-purple flowers are produced in large clusters.

59458. RHODODENDRON sp.

Nos. 10950 (fruit), 10267 (flowers). November, 1923. A shrub 2 feet high growing on the alpine slopes of Londjre, southeastern Tibet. The small, oval, green leaves are mealy beneath, and the medium-sized flowers are rich pink.

59459. RHODODENDRON sp.

Nos. 10951 (fruit), 10304 (flowers). November, 1923. A shrub 2 feet high growing in the open moist region on the alpine slopes of Londjre, southeastern Tibet, at an altitude of 12,000 feet. The leaves are oval, small, and glabrous, and the flowers are pale yellow.

59460. RHODODENDRON sp.

Nos. 10952 (fruit), 8881 (flowers). November, 1923. A fine species 2 to 3 feet high growing in masses on the alpine slopes of Londjre, southeastern Tibet, at an altitude of 12,000 feet. The elliptical, glabrous leaves are green on both sides, and the flowers are large and a rich carmine.

59461. RHODODENDRON sp.

Nos. 10965 (fruit), 9155 (flowers). November, 1923. A shrub 4 feet high found on rocky alpine slopes of the Tsehchung Mountains, Mekong Valley. The elliptical, glabrous leaves are pale beneath, and the flowers are pink.

59462. RHODODENDRON sp.

Nos. 10966 (fruit), 10061 (flowers). November, 1923. A tree 15 to 18 feet high growing in alpine forests on the Tsehchung Mountains at an altitude of 13,000 feet. The very large, obovate-oblong leaves are glossy glabrous and silvery beneath. The large flowers are a purplish red.

59463. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10967 (fruit), 8784 (flowers). November, 1923. A shrub 5 to 6 feet high growing in alpine regions on the Tsehchung Mountains, Mekong Valley, at an altitude of 12,000 feet. The coriaceous leaves are wrinkled above and covered beneath with ocher-yellow meal. The flowers are white with a pinkish tinge.

59464. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10968 (fruit), 9112 (flowers). November, 1923. A tree 8 to 10 feet high found on the slopes of the Tsehchung Mountains, Mekong Valley, at an altitude of 10,000 feet. The oblong leaves are dark green above and brown beneath with prominent ribs. The flowers are pinkish white.

59465. RHODODENDRON sp.

Nos. 10969 (fruit), 9150 (flowers). November, 1923. A rare plant 3 feet high, found in the alpine region of Tsehchung, Mekong Valley, at an altitude of 13,000 feet. The leaves are small and elliptical, and the flowers are deep yellow.

59466. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10970 (fruit), 9111 (flowers). November, 1923. A shrub 5 feet high growing on the slopes of the Tsehchung Mountains, Mekong Valley, at an altitude of 10,000 feet. The oblong-acute, articulate leaves are covered beneath with brown wool. The flowers are white with a tinge of pink.

59403 to 59642—Continued.

59467. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10971 (fruit), 8780 (flowers). November, 1923. A shrub or small tree 8 feet high growing in the alpine region of Tsehchung, Mekong Valley, at an altitude of 12,000 feet. The elliptical-oblong, acute leaves are brown woolly beneath, and the flowers are pinkish purple.

59468. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10972 (fruit), 8779 (flowers). November, 1923. A tree 8 to 10 feet high found at the foot of the Tsehchung Mountains, Mekong Valley, at an altitude of about 8,000 feet. The oblong-lanceolate, acuminate leaves are covered with a brown meal beneath, and the large flowers are white with a pinkish tinge.

59469. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10973 (fruit), 8770 (flowers). November, 1923. A shrub 5 to 6 feet high growing in fir forests in the alpine region of the Tsehchung Mountains, Mekong Valley, at an altitude of 12,500 feet. The oblong, acuminate leaves are dark green above and brownish yellow beneath. The flowers are large and white.

59470. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10974 (fruit), 8772 (flowers). November, 1923. A shrub 5 to 6 feet high found in the alpine region of Tsehchung, Mekong Valley, at an altitude of 12,000 feet. The elliptical-ovate, acute, reticulate leaves are leathery and covered beneath with a brown tomentum. The flowers are purple with a pinkish tinge.

59471. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10975 (fruit), 8767 (flowers). November, 1923. A shrub 8 to 10 feet high found in the alpine region of Tsehchung, Mekong Valley. The oblong-acute leaves are dark green above and yellow beneath. The flowers are white with a pinkish purple tinge.

59472. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10976 (fruit), 9113 (flowers). October, 1923. A shrub 5 feet high found growing in the alpine region of Tsehchung, Mekong Valley, at an altitude of 11,000 feet. The leaves are coriaceous, reticulate, and pale yellow beneath. The flowers are white.

59473. RHODODENDRON REPENS Balf. f. and Forrest.

Nos. 10993 (fruit), 8788 (flowers). October, 1923. A very handsome, spreading, prostrate plant 1 foot high growing in the alpine meadows of Tsehchung at an altitude of 14,000 feet. The obovate leaves are small and glabrous, and the flowers are large and bright scarlet.

59474. RHODODENDRON sp.

Nos. 10996 (fruit), 91321 (flowers). October, 1923. A shrub 4 feet high found in the alpine region of Tsehchung, Mekong Valley. The linear-elliptical leaves are rich green covered beneath with brown, deciduous wool. The flowers are red with a purplish tinge.

59475. RHODODENDRON sp.

Nos. 10998 (fruit), 9134 (flowers). October, 1923. A shrub 4 feet high growing in the rocky alpine region of Tsehchung at an altitude of 13,000 feet. The thick, linear, rich-green leaves, with revolute margins, have a deep-red wool beneath. The flowers are pink.

59403 to 59642—Continued.

59476. RHODODENDRON sp.

Nos. 11000 (fruit), 9114 (flowers). October, 1923. A shrub 6 feet high found on the slopes of the Tsehchung Mountains at an altitude of 10,000 feet. The leaves are oval and glabrous, and the flowers are shaded from lavender to a bluish purple.

59477. RHODODENDRON sp.

Nos. 11004 (fruit), 9109 (flowers). October, 1923. A handsome species 14 to 15 feet high growing in the alpine forests of Tsehchung at an altitude of 11,000 feet. The linear-oblong, acute leaves are brown beneath, and the very large, rich-peach flowers are produced in large umbels.

59478. RHODODENDRON COSMETUM Balf. f. and Forrest.

Nos. 11005 (fruit), 8822 (flowers). October, 1923. A very attractive species 1 to 3 feet high growing in the alpine region of Tsehchung at an altitude of 13,000 feet. The leaves, with ciliate margins, are small, oval, and green. The flowers are large and shaded from deep, rich purple to lavender. The calyxes are carmine.

59479. RHODODENDRON sp.

Nos. 11006 (fruit), 9116 (flowers). October, 1923. A shrub 1 to 2 feet high found in the alpine region of Tsehchung at an altitude of 13,000 feet. The oval, rich-green leaves are bluish beneath, and the flowers are a rich yellow.

59480. RHODODENDRON SEMNUM Balf. f. and Forrest.

Nos. 11007 (fruit), 9097 (flowers). October, 1923. A very handsome tree 15 to 18 feet high growing on the alpine slopes of Tsehchung. The very large, glossy, obovate-oblong leaves are silvery gray beneath, and the flowers are shaded from white to pink.

59481. RHODODENDRON sp.

Nos. 11008 (fruit), 8830 (flowers). October, 1923. A shrub or small tree 8 to 10 feet high found in the alpine region of Tsehchung at an altitude of 13,000 feet. The leaves, large and obovate-oblong, are subsessile and silver colored beneath. The purple flowers, tinged with pink, are produced in large umbels.

59482. RHODODENDRON SALUENENSE Franch.

Nos. 11010 (fruit), 9151 (flowers). October, 1923. A shrub 2 to 3 feet high found in the rocky alpine region of Tsehchung at an altitude of 13,000 feet. The oval, dark-green leaves are pale brown beneath; the flowers are a rich purple and the calyx green.

59483. RHODODENDRON sp.

Nos. 11011 (fruit), 9092 (flowers). October, 1923. A shrub 1½ feet high found growing in masses in the alpine region of Tsehchung at an altitude of 13,000 feet. The elliptical leaves are drab colored beneath, and the flowers are rich red.

59484. RHODODENDRON SALUENENSE Franch.

Nos. 11012 (fruit), 9282 (flowers). October, 1923. A shrub 1 to 2 feet high growing on the alpine slopes of Tsehchung at an altitude of 13,000 feet. The oval leaves are green above and paler beneath, and the petioles are covered with brown hairs. The flowers are large, salver shaped, and deep purplish blue, with large, carmine calyxes.

59485. RHODODENDRON sp.

Nos. 11019 (fruit), 9141 (flowers). October, 1923. A shrub 1 to 2 feet high found on rocky alpine slopes of the Tsehchung Mountains at an altitude of 13,000 feet. The leaves are small, oval, and dark brown beneath; the handsome, delicate-pink flowers are tubular.

59403 to 59642—Continued.

59486. RHODODENDRON sp.

Nos. 11020 (fruit), 9142 (flowers). October, 1923. A shrub 5 feet high growing in the alpine region of Tsehchung at an altitude of 13,000 feet. The linear-lanceolate leaves are rufous red and woolly beneath. The white flowers are spotted with dark purple.

59487. RHODODENDRON sp.

Nos. 11022 (fruit), 9211 (flowers). October, 1923. A striking species 2 feet high growing in the alpine region of the Sila Pass, Mekong-Salwin Divide, at an altitude of 14,000 feet. The oval leaves are chalky white beneath, and the very large flowers are deep crimson.

59488. RHODODENDRON sp.

Nos. 11025 (fruit), 8739 (flowers). October, 1923. A shrub 4 to 5 feet high found in the Sila Pass, Mekong-Salwin Divide, at an altitude of 13,000 feet. The green, obovate leaves are golden yellow beneath, and the rich golden-yellow flowers are very large.

59489. RHODODENDRON FORRESTII Balf. f.

Nos. 11033 (fruit), 9234 (flowers). October, 1923. A prostrate plant, a few inches high, growing in the Sila Pass at an altitude of 13,000 feet. The small, oval, glabrous leaves are dark green above and deep purple beneath. The large flowers are rich carmine.

59490. RHODODENDRON sp.

Nos. 11035 (fruit), 8750 (flowers). October, 1923. A shrub 3 to 4 feet high found in the Sila Pass at an altitude of 12,000 feet. The obovate leaves are golden yellow to pale green beneath, and the very large, showy, yellow flowers have red lobes.

59491. RHODODENDRON sp.

Nos. 11036 (fruit), 9228 (flowers). October, 1923. A shrub 1 to 2 feet high found in the Sila Pass at an altitude of 12,000 feet. The oval leaves, prominently ribbed, are green on both sides, and the flowers are a deep purplish red.

59492. RHODODENDRON sp.

Nos. 11037 (fruit), 8751 (flowers). October, 1923. A shrub 3 to 4 feet high found in the Sila Pass at an altitude of 13,000 feet. The leaves are oblong, glabrous on both sides, and pale beneath; the flowers are pink and very large.

59493. RHODODENDRON sp.

Nos. 11039 (fruit), 9215 (flowers). October, 1923. A shrub 2 feet high found in the Sila Pass at an altitude of 13,000 feet. The small, elliptical leaves are drab colored beneath, and the broadly campanulate flowers are deep carmine.

59494. RHODODENDRON sp.

Nos. 11040 (fruit), 9201 (flowers). October, 1923. A shrub 5 feet high growing in the Sila Pass at an altitude of 12,000 feet. The obovate leaves are golden yellow beneath, and the large flowers are pinkish purple.

59495. RHODODENDRON FULVOIDES Balf. f. and Forrest.

Nos. 11044 (fruit), 9222 (flowers). October, 1923. A tree 15 feet high found on the slopes of the Sila Pass at an altitude of 11,000 feet. The oblong, acute leaves are brown tomentose beneath, and the flowers are small and pink.

59496. RHODODENDRON sp.

Nos. 11046 (fruit), 9221 (flowers). October, 1923. A shrub 2 to 3 feet high growing in masses in the Sila Pass at an altitude of 13,000 feet. The linear-ellliptical leaves are drab-gray beneath, and the flowers are a very rich carmine.

59403 to 59642—Continued.

59497. RHODODENDRON FULVOIDES Balf. f. and Forrest.

Nos. 11048 (fruit), 8760 (flowers). October, 1923. A shrub 5 to 6 feet high found in the Sila Pass at an altitude of 13,000 feet. The oblong-obovate leaves are dark green above and dark to golden brown beneath. The flowers are a rich reddish purple.

59498. RHODODENDRON sp.

Nos. 11049 (fruit), 9210 (flowers). October, 1923. A shrub 2 feet high growing in masses in the Sila Pass at an altitude of 13,000 feet. The elliptical-obovate leaves are grayish brown beneath, and the flowers are deep carmine.

59499. RHODODENDRON sp.

Nos. 11051 (fruit), 9208 (flowers). October, 1923. A shrub 5 feet high found in the Sila Pass at an altitude of 12,000 feet. The leaves are small and obovate, and the flowers are yellow with a pinkish tinge.

59500. RHODODENDRON sp.

Nos. 11052 (fruit), 9206 (flowers). October, 1923. A shrub 2 feet high, growing in masses in the Sila Pass at an altitude of 13,000 feet. The elongated elliptical leaves are pale brown beneath, and the flowers are large and reddish purple.

59501. RHODODENDRON sp.

Nos. 11053 (fruit), 9229 (flowers). October, 1923. A shrub 5 feet high found in the Sila Pass at an altitude of 12,000 feet. The small, obovate leaves are golden yellow beneath, and the flowers are large and purplish red.

59502. RHODODENDRON sp.

Nos. 11058 (fruit), 9218 (flowers). October, 1923. A shrub 6 feet high growing in the Sila Pass at an altitude of 13,000 feet. The glabrous, oval leaves are green on both sides, and the flowers are cream colored with a pinkish tinge.

59503. RHODODENDRON sp.

Nos. 11060 (fruit), 9202 (flowers). October, 1923. A shrub 6 feet high found in the Sila Pass at an altitude of 12,000 feet. The obovate-oblong leaves are golden yellow to pale green beneath, and the flowers are small purplish pink.

59504. RHODODENDRON sp.

Nos. 11062 (fruit), 9239 (flowers). October, 1923. A shrub 6 feet high found in the Sila Pass. The glabrous oval leaves are pale green beneath, and the flowers are very large and pale pink.

59505. RHODODENDRON sp.

Nos. 11067 (fruit), 9236 (flowers). October, 1923. A shrub 5 feet high growing in the Sila Pass at an altitude of 12,000 feet. The glabrous, oval leaves are green on both sides; the flowers are yellow.

59506. RHODODENDRON sp.

Nos. 11071 (fruit), 8716 (flowers). October, 1923. A tree 12 to 20 feet high found on the lower slopes of the Tseku Mountains at an altitude of 11,000 feet. The oblong, acute leaves are dark brown tuberculate beneath, and the flowers are lavender, spotted with purple.

59507. RHODODENDRON sp.

Nos. 11075 (fruit), 8714 (flowers). October, 1923. A small tree 8 to 10 feet high found on the slopes of the Tseku Mountains at an altitude of 10,000 feet. The long, lanceolate leaves are dark, ashy gray beneath, and the flowers are deep pink.

59403 to 59642—Continued.

59508. RHODODENDRON sp.

Nos. 11079 (fruit), 8723 (flowers). October, 1923. A shrub 3 feet high found in the alpine region of Tseku at an altitude of 12,000 feet. The leaves are small, oval, and glabrous, and the small, yellow flowers are produced on long pedicels.

59509. RHODODENDRON sp.

Nos. 11086 (fruit), 9248 (flowers). November, 1923. A shrub 1 to 2 feet high found in alpine meadows of the Peima Mountains, Mekong-Yangtze Divide, at an altitude of 14,000 to 15,000 feet. The very small, oval leaves are brown tomentose beneath, and the flowers are bluish purple.

59510. RHODODENDRON sp.

Nos. 11087 (fruit), 9942 (flowers). November, 1923. A shrub 5 feet high found in the alpine region of the Peima Mountains, Mekong-Yangtze Divide, at an altitude of 15,000 feet. The oval, acute leaves are brown beneath.

59511. RHODODENDRON sp.

Nos. 11090 (fruit), 9242 (flowers). November, 1923. A shrub 6 feet high found in the alpine region of the Peima Mountains, Mekong-Yangtze Divide. The oval, acute leaves are brown tomentose beneath, and the flowers are pink with a purple tinge and spotted dark purple.

59512. RHODODENDRON sp.

Nos. 11095 (fruit), 8853 (flowers). November, 1923. A shrub 4 feet high found in the alpine region of the Peima Mountains at an altitude of 14,000 feet. The oval leaves are green on both sides, and the flowers are purple.

59513. RHODODENDRON sp.

Nos. 11098 (fruit), 9268 (flowers). November, 1923. A shrub 1 foot high found in the high alpine region of the Peima Mountains at an altitude of 14,000 feet. The acute elliptical leaves, half an inch long, are a silky brown beneath. The flowers are deep indigo shading to lighter blue.

59514. RHODODENDRON sp.

Nos. 11100 (fruit), 8858 (flowers). November, 1923. A shrub 4 to 5 feet high found in the Peima Mountains at an altitude of 13,000 feet. The oval, acute leaves are brown tomentose beneath, and the flowers are purple but paler toward the base.

59515. RHODODENDRON sp.

Nos. 11101 (fruit), 9973 (flowers). November, 1923. A tree 8 to 10 feet high found in the Peima Mountains, Mekong-Yangtze Divide, at an altitude of 14,000 feet. The leaves are elliptical, acute at both ends, and brown tomentose beneath. The flowers are white.

59516. RHODODENDRON sp.

Nos. 11102 (fruit), 8856 (flowers). November, 1923. A shrub 4 to 5 feet high, similar to No. 11101 [S. P. I. No. 59515], but having pink flowers; found in the Peima Mountains at an altitude of 14,000 feet.

59517. RHODODENDRON sp.

Nos. 11103 (fruit), 8852 (flowers). November, 1923. A shrub 3 feet high found in the Peima Mountains at an altitude of 13,000 to 14,000 feet. The ovate-elliptical, acute leaves are brown tomentose beneath, and the flowers shade from white to purple.

59518. RHODODENDRON sp.

Nos. 11104 (fruit), 8862 (flowers). November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at an altitude of 13,000 feet. The elliptical-oblong leaves are fawn-colored tomentose beneath, and the flowers are white with a pinkish tinge.

59403 to 59642—Continued.

59519. RHODODENDRON sp.

Nos. 11105 (fruit), 9273 (flowers). November, 1923. A shrub 10 feet high found in the alpine regions of the Peima Mountains, Mekong-Yangtze Divide, at an altitude of 14,000 feet. The linear-oblong, rich-green leaves are pale brown tomentose beneath, and the flowers are white.

59520. RHODODENDRON sp.

Nos. 11107 (fruit), 8854 (flowers). November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at an altitude of 14,000 feet. Leaves the same as No. 11106 [S. P. I. No. 59135], and the flowers are pink.

59521. RHODODENDRON sp.

Nos. 11108 (fruit), 9267 (flowers). November, 1923. A shrub 10 feet high found in the Peima Mountains at an altitude of 13,000 feet. The oval-elliptical leaves are brown tomentose beneath, and the flowers are white spotted with purple.

59522. RHODODENDRON sp.

Nos. 11113 (fruit), 8925 (flowers). November, 1923. A shrub 5 feet high found in the Peima Mountains, Mekong-Yangtze Divide, at an altitude of 13,000 feet. The linear-lanceolate, leathery leaves are deep rufous tomentose beneath. The flowers are large and white.

59523. RHODODENDRON sp.

Nos. 11114 (fruit), 9252 (flowers). November, 1923. A shrub 5 to 10 feet high found on the slopes of the Peima Mountains at an altitude of 13,000 feet. The ovate leaves on long petioles are subcordate at the base, and the large bright-yellow flowers are produced in large umbels.

59524. RHODODENDRON sp.

Nos. 11115 (fruit), 9939 (flowers). November, 1923. A shrub 3 to 4 feet high found in the Peima Mountains at an altitude of 14,000 feet. The long, linear-lanceolate, leathery leaves are deep green above and densely covered beneath with rufous wool. The flowers are white.

59525. RHODODENDRON sp.

Nos. 11138 (fruit), 8703 (flowers). November, 1923. A shrub 6 to 8 feet high found in the alpine meadows of Litiping at an altitude of 12,000 feet. The oblong, acute leaves are green on both sides, and the flowers are deep red.

59526. RHODODENDRON sp.

Nos. 11145 (fruit), 8956 (flowers). November, 1923. A small tree 8 to 10 feet high found in the mountains of Anwa (Mekong Valley). The leaves are large, obovate, and cordate, and the flowers are rich white.

59527. RHODODENDRON sp.

Nos. 11149 (fruit), 9326 (flowers). November, 1923. A shrub 6 feet high found in the Moting Mountains northeast of Atuntze at an altitude of 14,000 feet. The oblong-lanceolate leaves are brown tomentose beneath, and the flowers are pale pink spotted with purple.

59528. RHODODENDRON sp.

Nos. 11150 (fruit), 9317 (flowers). November, 1923. A shrub 5 feet high found in the Moting Mountains northeast of Atuntze. The ovate-oblong leaves are densely matted beneath and pale yellow tomentose; the flowers are rich purplish red, spotted with dark purple.

59529. RHODODENDRON sp.

No. 11151. Moting Mountains, Mekong-Yangtze Divide. November, 1923. A small tree 8 feet high growing at an altitude of 14,000 feet. The oblong leaves are densely matted beneath with pale tomentum; the flowers are pinkish white.

59403 to 59642—Continued.

59530. RHODODENDRON sp.

Nos. 11152 (fruit), 9320 (flowers). Moting Mountains, Mekong-Yangtze Divide. November, 1923. A shrub 5 feet high found at an altitude of 13,000 feet. The leaves are ovate, green, and glabrous, and the large rich-yellow flowers are borne in large umbels.

59531. RHODODENDRON sp.

Nos. 11153 (fruit), 9313 (flowers). Moting Mountains, Mekong-Yangtze Divide. November, 1923. A tree 13 to 15 feet high with large, oblong leaves, densely matted beneath with pale-yellow, glossy tomentum; the flowers are pink.

59532. RHODODENDRON sp.

Nos. 11155 (fruit), 10104 (flowers). Champutong, Salwin-Irrawaddy Divide. November, 1923. A shrub 5 feet high growing at an altitude of 12,000 feet. The obovate-oblong leaves have a peculiar brown, flaky tomentum. The flowers are red.

59533. RHODODENDRON sp.

Nos. 11156 (fruit), 10211 (flowers). Champutong, Salwin-Irrawaddy Divide. October, 1923. The obovate-oblong, dark-green leaves are chocolate-brown tomentose beneath. The very large flowers are rich carmine.

59534. RHODODENDRON sp.

Nos. 11159 (fruit), 10128 (flowers). Champutong, Mount Kenichunpu. October, 1923. A tree 12 to 15 feet high growing at an altitude of 12,000 feet. The large, obovate-oblong rounded leaves are covered beneath with tomentum shaded from fawn to red. The flowers are yellowish red.

59535. RHODODENDRON sp.

Nos. 11160 (fruit), 10176 (flowers). October, 1923. A shrub 6 inches high found in the alpine regions of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 14,000 feet. The small, elliptical, glabrous leaves are glaucous beneath, and the flowers, drooping on long erect pedicels, are red with a glaucous tinge.

59536. RHODODENDRON sp.

Nos. 11162 (fruit), 10142 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. November, 1923. A shrub 5 to 6 feet high found at an altitude of 13,000 feet. The obovate-oblong, green leaves are dark rough squamous tomentose beneath. The flowers are red.

59537. RHODODENDRON CRASSUM Franch.

Nos. 11166 (fruit), 10168 (flowers). October, 1923. A small tree 6 to 8 feet high found on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 11,000 feet. The large, oblong-elliptical leaves are brownish, glabrous, and punctate beneath. The flowers are white.

59538. RHODODENDRON FULVOIDES Balf. f. and Forrest.

Nos. 11168 (fruit), 10214 (flowers). Champutong, Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A tree 15 feet high found at an altitude of 12,000 feet. The large, oblong, pale-brown leaves are thinly tomentose beneath. The flowers are red.

59539. RHODODENDRON sp.

Nos. 11170 (fruit), 10257 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 3 to 4 feet high found at an altitude of 13,000 feet. The small, spatulate leaves, greenish beneath, have squamously brown tomentose veins.

59403 to 59642—Continued.

59540. RHODODENDRON sp.

Nos. 11172 (fruit), 10194 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 2 to 3 feet high found at an altitude of 13,000 feet. The elliptical leaves, glaucous beneath, are tuberculate, and the flowers are small and yellow.

59541. RHODODENDRON sp.

Nos. 11174 (fruit), 10127 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A tree 18 feet high with oblong, glabrous leaves, acute at both ends, and silvery to golden yellow beneath. The flowers are white and fragrant.

59542. RHODODENDRON sp.

Nos. 11184 (fruit), 10131 (flowers). October, 1923. A shrub 5 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide. The obovate-elliptical leaves have hirsute bases and petioles and are chocolate-colored tomentose beneath. The flowers are red.

59543. RHODODENDRON sp.

Nos. 11185 (fruit), 10155 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A very robust plant 10 feet high with obovate-oval, oblong, large leaves which are rich-brown tomentose beneath and dark green above. The flowers are red.

59544. RHODODENDRON sp.

Nos. 11187 (fruit), 10221 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A tree 16 to 20 feet high found at an altitude of 13,000 feet. The large, obovate-oblong, dark-green leaves are deep reddish brown tomentose beneath, and the flowers are red.

59545. RHODODENDRON sp.

Nos. 11194 (fruit), 10146 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A small tree 8 feet high found at an altitude of 13,000 feet. The oval-oblong, acute leaves are yellowish brown to olive-green pubescent beneath and have yellow hirsute petioles. The flowers are pink.

59546. RHODODENDRON sp.

Nos. 11199 (fruit), 10099 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 2 feet high growing at an altitude of 13,000 feet. The spatulate leaves are drab colored beneath, and the flowers are yellowish red.

59547. RHODODENDRON sp.

Nos. 11200 (fruit), 10138 (flowers). October, 1923. A tree 18 to 20 feet high found in the forests of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 11,000 feet. The leaves are oblong acute, green, and glabrous, and the red flowers are produced on long pedicels.

59548. RHODODENDRON sp.

Nos. 11204 (fruit), 10121 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 4 to 5 feet high found at an altitude of 13,000 feet. The ovate-obovate leaves are dark-brown, densely squamately tomentose beneath. The flowers are red.

59549. RHODODENDRON sp.

Nos. 11206 (fruit), 10173 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 2 feet high, growing at an altitude of 13,000 feet. The oval-elliptical leaves are chocolate brown tomentose beneath, and the flowers are orange-red.

59403 to 59642—Continued.

59550. RHODODENDRON sp.

Nos. 11207 (fruit), 10119 (flowers). October, 1923. A tree 16 to 18 feet high growing on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 12,000 to 13,000 feet. The large, obovate-oblong leaves are deep brown to carmine tomentose beneath, and the flowers are red.

59551. RHODODENDRON sp.

No. 11209. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 7 feet high found at an altitude of 13,000 feet. The ovate leaves, subcordate at the base, are glaucous and green beneath.

59552. RHODODENDRON sp.

No. 11210. Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 3½ feet high growing at an altitude of 13,000 feet. The oval leaves are densely matted and brown beneath, and the flowers are yellow.

59553. RHODODENDRON sp.

No. 11212. Kenichunpu, Salwin-Irrawaddy Divide, October, 1923. A shrub 2 feet high found at an altitude of 13,000 feet. The leaves are dark purplish gray tomentose beneath.

59554. RHODODENDRON sp.

No. 11213. October, 1923. A shrub 3 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide. The oval-oblong leaves are faintly brown tomentose and subglabrous beneath, and the petioles are hirsute.

59555. RHODODENDRON sp.

No. 11216. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 3 feet high found at an altitude of 13,000 feet. The elliptical-ovate leaves are pale glaucous and brown beneath, and the flowers are red.

59556. RHODODENDRON sp.

No. 11217. October, 1923. A shrub or small tree 15 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide. The oblong, acute, glabrous leaves are green on both sides.

59557. RHODODENDRON MEGACALYX Balf. f. and Ward.

No. 11222. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 6 feet high found on rocky slopes at an altitude of 13,000 feet. The large, oblong leaves are greenish gray and glabrous beneath, and the veins are rufous tomentose. The flowers are white.

59558. RHODODENDRON sp.

No. 11223. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub or small tree 15 feet high found at an altitude of 13,000 feet. The large leaves are covered with a brown wool underneath.

59559. RHODODENDRON FULVOIDES Balf. f. and Forrest.

No. 11225. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A tree or shrub 6 to 8 feet high found at an altitude of 13,000 feet. The oblong leaves are yellowish brown floccose beneath.

59560. RHODODENDRON sp.

No. 11227. October, 1923. A shrub 4 feet high growing on Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 13,000 feet. The large, obovate leaves are chocolate-colored tomentose beneath, and the flowers are red.

59403 to 59642—Continued.

59561. RHODODENDRON SINONUTTALLII Balf. f. and Forrest.

Nos. 11233 (fruit), 10130 (flowers). October, 1923. A tree 8 to 10 feet high growing on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 11,000 feet. The large, leathery leaves, prominently veined, are deeply impressed above and brownish gray and punctate beneath. The very large flowers, 3 inches in diameter, are yellow to cream colored. The fruits are enormous.

59562. RHODODENDRON sp.

No. 11240. October, 1923. A shrub or small tree 6 feet high growing in Sila among firs at an altitude of 13,000 feet. The oblong-acute leaves are grayish brown tomentose beneath.

59563. RHODODENDRON sp.

No. 11242. October, 1923. A tree 20 feet high found on Mount Lautchun west of Likiang at an altitude of 11,000 feet. The large, oblong leaves are densely covered with brown wool beneath. The large flowers are white.

59564. RHODODENDRON sp.

No. 11243. Mount Lautchun. October, 1923. A shrub 1½ feet high found at an altitude of 12,000 feet. The small, elliptical leaves are punctate beneath, and the flowers are small and a deep indigo blue.

59565. RHODODENDRON sp.

Nos. 11244 (fruit), 8394 (flowers). Mount Lautchun. October, 1923. A tree 24 feet high found in fir forests at an altitude of 11,000 feet. The oblong leaves are covered with a brown wool beneath, and the flowers are large and white.

59566. RHODODENDRON sp.

No. 11246. Mount Lautchun. October, 1923. A tree 10 feet high found in fir forests at an altitude of 12,000 feet. The elliptical, acute leaves are yellow brown tomentose beneath. The flowers are white.

59567. RHODODENDRON sp.

Nos. 11247 (fruit), 9585 (flowers). Mount Lautchun. October, 1923. A shrub 5 to 6 feet high found at an altitude of 12,000 feet. The leaves are obovate, subcordate, and glabrous, and the flowers are cream colored to yellow with a pinkish tinge.

59568. RHODODENDRON sp.

No. 11248. Mount Lautchun. October, 1923. A shrub 5 feet high found in fir forests at an altitude of 12,000 feet. The oblong, acute leaves are green and glabrous on both sides and the flowers are pink.

59569. RHODODENDRON sp.

No. 11249. Mount Lautchun. October, 1923. A shrub 1 to 2 feet high found at an altitude of 13,000 feet and having very small, elliptical leaves, brown tomentose beneath, and small, deep blue-purple flowers.

59570. RHODODENDRON sp.

Nos. 11250 (fruit), 8422 (flowers). October, 1923. A shrub 5 feet high found in fir forests on Mount Lautchun at an altitude of 12,000 feet. The linear-lanceolate leaves are deep rufous woolly beneath, and the flowers are pink spotted with purple, making them very handsome.

59571. RHODODENDRON sp.

Nos. 11251 (fruit), 8400 (flowers). October, 1923. A shrub 4 feet high found in the alpine regions of Mount Lautchun, at an altitude of 12,000 feet. The elliptical, dark-green leaves are reticulate above and rufous woolly beneath. The flowers are pink.

59403 to 59642—Continued.

59572. RHODODENDRON sp.

No. 11253. October, 1923. A shrub 8 feet high growing on Mount Lautchun, at an altitude of 13,000 feet. The small, linear-elliptical leaves are deeply rufous beneath, and the flowers are white.

59573. RHODODENDRON sp.

Nos. 11255 (fruit), 8381 (flowers). Mount Lautchun. October, 1923. A shrub or tree 18 feet high growing at an altitude of 12,000 feet. The large, oval, subcordate leaves are densely matted with brown wool, and the flowers are white to pink.

59574. RHODODENDRON sp.

No. 11257. October, 1923. A tree 15 to 18 feet high found in mixed forests on the slopes of Mount Lautchun at an altitude of 10,000 feet. The large, oblong, glabrous leaves are pale grayish green beneath. The flowers are red to purple.

59575. RHODODENDRON sp.

No. 11261. October, 1923. A shrub 5 feet high growing on the slopes of Mount Lautchun at an altitude of 10,000 feet. The leaves are linear-oblong and are covered beneath with a deep rufous wool. The flowers are pink.

59576. RHODODENDRON sp.

No. 11262. October, 1923. A shrub 3 feet high growing at an altitude of 10,000 feet in fir forests on Mount Lautchun. The leaves are small, oval, glabrous, and grayish purple beneath. The flowers are pink.

59577. RHODODENDRON RACEMOSUM Franch.

No. 11264. October, 1923. A handsome species 3 feet high growing at the foot of Mount Lautchun at an altitude of 8,000 to 9,000 feet. The small, elliptical-oval leaves are pale pink to white beneath, and the flowers are pink.

59578. RHODODENDRON RACEMOSUM Franch.

Nos. 11265 (fruit), 8404 (flowers). October, 1923. A shrub 2 to 3 feet high growing at the foot of Mount Lautchun at an altitude of 8,000 to 9,000 feet. The oval leaves, white beneath, are black punctate. The large white flowers are very striking.

59579. RHODODENDRON sp.

Nos. 11266 (fruit), 8392 (flowers). October, 1923. A shrub 6 feet high growing on the slopes of Mount Lautchun at an altitude of 9,000 feet. The leaves are oval, acute, coriaceous, pale green, and glabrous on both sides; the flowers are large and pure white spotted with purple.

59580. RHODODENDRON sp.

Nos. 11268 (fruit), 9596 (flowers). October, 1923. A shrub 4 feet high growing at the foot of Mount Lautchun at an altitude of 8,000 feet. The small, oval, acute leaves are glaucous and glabrous beneath, and the flowers are white.

59581. RHODODENDRON sp.

Nos. 11273 (fruit), 8430 (flowers). October, 1923. A tree 25 feet high found among rocks in the alpine regions of Mount Shenzi at an altitude of 10,000 feet. The oblong-acute leaves are glaucous and glabrous on both sides, and the flowers are white.

59582. RHODODENDRON sp.

Nos. 11274 (fruit), 9505 (flowers). October, 1923. A tree 15 to 18 feet high growing in mixed forests on Mount Shenzi at an altitude of 10,000 feet. The oblong, acute leaves are coriaceous, glaucous, and glabrous, and have undulate margins. The flowers are white.

59403 to 59642—Continued.

59583. RHODODENDRON sp.

Nos. 11277 (fruit), 8426 (flowers). October, 1923. An exceedingly handsome species 2 to 3 feet high found among limestone bowlders on Mount Shenzi at an altitude of 13,000 feet. The oval, acute leaves have impressed veins above and are densely matted beneath with rough cottony tomentum. The flowers are very large and pink.

59584. RHODODENDRON sp.

No. 11279. October, 1923. A tree 10 feet high growing on the slopes of Mount Shenzi at an altitude of 10,000 feet. The oblong, acute leaves are glabrous and pale brown beneath, and the flowers are red.

59585. RHODODENDRON sp.

Nos. 11281 (fruit), 8437 (flowers). October, 1923. A shrub 4 feet high growing among rocks in Labako, at an altitude of 9,000 feet. The leaves, lanceolate-oval and acute at both ends, are glabrous and glaucous beneath. The flowers are large and white spotted with purple.

59586. RHODODENDRON sp.

No. 11282. October, 1923. A shrub 8 feet high growing among rocks in the forests of Labako at an altitude of 9,000 feet. The oblong, acute, dull-green leaves, pale brownish green beneath, are strongly veined.

59587. RHODODENDRON sp.

Nos. 11284 (fruit), 9523 (flowers). October, 1923. A shrub 3 feet high found in the alpine meadows of Labako at an altitude of 14,000 feet. The small, elliptical leaves are dotted with brown beneath, and the flowers are lavender-blue.

59588. RHODODENDRON sp.

No. 11286. October, 1923. A tree 15 feet high found in fir forests on the mountains of Labako at an altitude of 12,000 feet. The obovate-oblong leaves are densely covered beneath with rough brown tomentum, and the flowers are large and pink.

59589. RHODODENDRON sp.

Nos. 11292 (fruit), 8446 (flowers). October, 1923. An exceedingly handsome species growing 6 to 8 feet high among rocks in the alpine region of Labako at an altitude of 13,000 feet. The narrow, linear, needle-shaped leaves are covered beneath with deep-red wool. The flowers are pink, spotted with purple.

59590. RHODODENDRON sp.

No. 11293. Labako. October, 1923. A shrub 6 feet high found in the alpine region at an altitude of 13,000 feet. The leaves are linear lanceolate and needle shaped and are covered beneath with a rufous wool. The flowers are white.

59591. RHODODENDRON sp.

No. 11298. October, 1923. A shrub 5 feet high found in the alpine region of Labako at an altitude of 9,000 feet. The orbicular-oval cordate leaves are glaucous purple beneath, and the flowers are red.

59592. RHODODENDRON sp.

Nos. 11299 (fruit), 8474 (flowers). Labako. October, 1923. A shrub 4 to 5 feet high found along stream beds in mixed forests at an altitude of 10,000 feet. The narrow, elliptical leaves are pale green above and pale gray-green beneath. The flowers are handsome yellow.

59403 to 59642—Continued.

59593. RHODODENDRON sp.

Nos. 11300 (fruit), 9511 (flowers). October, 1923. A shrub 7 to 8 feet high found in forests on the slopes of Mount Kintze at an altitude of 10,000 feet. The elliptical, acute leaves are brownish green and glabrous beneath. The flowers are purple.

59594. RHODODENDRON sp.

Nos. 11302 (fruit), 9499 (flowers). October, 1923. A shrub 7 to 8 feet high found on the alpine slopes of Mount Kintze at an altitude of 13,000 feet. The narrow, linear leaves are rufous woolly beneath, and the flowers are white.

59595. RHODODENDRON sp.

Nos. 11309 (fruit), 9478 (flowers). October, 1923. A shrub 6 feet high growing on the rocky alpine slopes of Mount Kintze at an altitude of 13,000 feet. The elliptical, acute leaves are densely covered with rufous wool beneath, and the flowers are white.

59596. RHODODENDRON sp.

Nos. 11317 (fruit), 8702 (flowers). October, 1923. A shrub 6 to 8 feet high found in the alpine meadows of Litiping, Mekong-Yangtze Divide. The rich-green leaves are oval-elliptical and acute at both ends. The flowers are lavender.

59597. RHODODENDRON sp.

Nos. 11318 (fruit), 9194 (flowers). October, 1923. A shrub 3 feet high growing in the swampy, alpine meadows of Litiping at an altitude of 12,000 feet. The elliptical leaves are covered beneath with a bronze-colored pubescence. The flowers are deep bluish purple.

59598. RHODODENDRON sp.

No. 11319. October, 1923. A shrub 1 to 2 feet high growing in the swampy alpine meadows of Litiping at an altitude of 12,000 feet. The very small, oval-elliptical leaves are bronze-colored tomentose beneath, and the flowers are rich blue.

59599. RHODODENDRON sp.

Nos. 11328 (fruit), 9749 (flowers). Peima Mountains. November, 1923. A shrub 3 to 4 feet high found at an altitude of 13,000 feet. The oval, glabrous leaves, rounded at both ends, are pale green beneath, and the flowers are pinkish white with deep-purple markings.

59600. RHODODENDRON sp.

No. 11329. November, 1923. A shrub 7 to 8 feet high found on the alpine slopes of the Peima Mountains at an altitude of 13,000 feet. The oval-elliptical leaves are pale, or dark brown, soft tomentose beneath.

59601. RHODODENDRON ARALIAEFORME Balf. f. and Forrest.

Nos. 11331 (fruit), 10359 (flowers). Atuntze Mountains. November, 1923. A shrub 5 to 6 feet high found at an altitude of 11,500 feet. The oval, glabrous leaves are pale yellow beneath.

59602. RHODODENDRON sp.

No. 11333. November, 1923. A shrub 8 to 10 feet high growing on the alpine slopes of Mount Peima at an altitude of 15,000 feet. The large, ovate-oblong leaves are a rich golden brown, soft tomentose beneath.

59403 to 59642—Continued.

59603. RHODODENDRON sp.

No. 11334. November, 1923. A tree 10 to 15 feet high found on the high passes east of Atuntze, Mount Moting, at an altitude of 13,000 feet. The very large, oblong-acute leaves are pale silvery to pale brown beneath.

59604. RHODODENDRON sp.

No. 11336. Mount Moting. November, 1923. A shrub 4 feet high growing at an altitude of 14,000 feet. The oblong leaves, with the margins folded inward, are pale brown, farinaceous tomentose beneath.

59605. RHODODENDRON sp.

No. 11337. November, 1923. A shrub 6 to 10 feet high found in the passes of Mount Moting at an altitude of 14,000 feet. The large, oblong leaves, acute at both ends, have deciduous, rich-brown tomentum beneath.

59606. RHODODENDRON sp.

No. 11338. November, 1923. A shrub 5 to 6 feet high growing on the alpine slopes of Mount Peima at an altitude of 14,000 to 15,000 feet. The oval, acute leaves are covered beneath with a brown, flaky tomentum.

59607. RHODODENDRON sp.

No. 11339. Mount Peima. November, 1923. A shrub 4 feet high growing on alpine slopes at an altitude of 14,000 to 15,000 feet. The elliptical-oblong leaves, with infolded margins, are pale-yellow tomentose beneath.

59608. RHODODENDRON sp.

No. 11340. A shrub growing on Mount Peima at an altitude of 14,000 to 15,000 feet.

For description, see S. P. I. No. 59607.

59609. RHODODENDRON sp.

No. 11343. Mount Moting. November, 1923. A shrub 5 to 8 feet high growing at an altitude of 14,000 to 15,000 feet. The leaves are oblong, acute, with deciduous tomentum beneath.

59610. RHODODENDRON sp.

Nos. 11345 (fruit), 9334 (flowers). November, 1923. A shrub 6 feet high growing on the alpine slopes of Mount Moting at an altitude of 14,000 to 15,000 feet. The broadly obovate-oblong, blunt leaves are covered beneath with deciduous flaky tomentum. The flowers are pink.

59611. RHODODENDRON sp.

Nos. 11346 (fruit), 1975 (flowers). Litiping, Mekong-Yangtze Divide. November, 1923. A shrub 12 feet high growing at an altitude of 12,000 feet. The long, linear-oblong, acute leaves are pale green and glabrous beneath. The flowers are pink.

59612. RHODODENDRON sp.

No. 11349. November, 1923. A shrub 5 to 6 feet high growing on the summit of Shundsangtu, Mekong-Salwin Divide, at an altitude of 13,000 feet. The obovate-oblong, acute leaves are dull green above and brownish beneath.

59613. RHODODENDRON sp.

No. 11352. November, 1923. A shrub or tree up to 20 feet high growing in masses on the slopes of Mount Peima, Mekong-Yangtze Divide, at an altitude of 15,000 feet. The large, oval, acute leaves are covered beneath with a silky, bronze-colored tomentum.

59614. RHODODENDRON sp.

No. 11357. December, 1923. A tree 15 to 20 feet high found in mixed forests on the slopes of Pongela, Yangtze Divide, at an altitude of 11,000 feet. The leaves are oblong, acute, both sides being glossy green and glabrous. The flowers and fruits are red.

59403 to 59642—Continued.

59615. RHODODENDRON sp.

Nos. 11363 (fruit), 8527 (flowers). Haraku, Likiang Snow Range. November, 1923. A shrub 3 feet high found in swampy meadows at an altitude of 11,000 feet. The small, elliptical-elongate leaves are pale yellow beneath, and the flowers are rich blue.

59616. RHODODENDRON sp.

No. 11365 (fruit), 8495 (flowers). Haraku, Likiang Snow Range. November, 1923. A shrub 2 to 3 feet high found at an altitude of 11,000 feet. The small, narrow, elliptical leaves are pale beneath, and the flowers are dark purplish blue.

59617. RHODODENDRON sp.

Nos. 11367 (fruit), 8510 (flowers). Likiang Snow Range. November, 1923. A stiff-branched shrub 5 to 6 feet high found at an altitude of 11,000 feet. The leaves are oblong and leathery and are matted beneath with a pale wool. The flowers are large and white dotted with red.

59618. RHODODENDRON sp.

Nos. 11371 (fruit), 8499 (flowers). November, 1923. A shrub 5 to 8 feet high found on the slopes of the Likiang Snow Range at an altitude of 13,000 feet. The large, oblong leaves are dark green above and pale-yellow tomentose beneath. The flowers are white with a pinkish tinge.

59619. RHODODENDRON sp.

Nos. 11373 (fruit), 8496 (flowers). November, 1923. A shrub 6 to 8 feet high growing on the alpine slopes of the Likiang Snow Range at an altitude of 14,000 feet. The oval-oblong leaves are white to cream-colored tomentose beneath. The flowers are large and white.

59620. RHODODENDRON sp.

Nos. 11381 (fruit), 8283 (flowers). November, 1923. A shrub 12 to 15 feet high found on the Sungkwe Pass at an altitude of 10,000 feet. The large, elliptical-oblong glabrous leaves, uniformly green, are strongly veined beneath. The flowers are pinkish white.

59621. RHODODENDRON sp.

Nos. 11383 (fruit), 8259 (flowers). November, 1923. A tree 20 feet high found on the Sungkwe Pass south of Likiang, at an altitude of 11,000 feet. The broadly oval to obovate leaves are covered beneath with a faintly brown tomentum. The flowers are large and rich pink.

59622. RHODODENDRON sp.

Nos. 11389 (fruit), 8965 (flowers). November, 1923. A shrub 6 feet high found in the alpine meadows of Litiping, Mekong-Yangtze Divide, at an altitude of 12,000 feet. The leaves are ovate and pale yellow and glaucous beneath. The flowers are rich yellow.

59623. RHODODENDRON NIPHARGUM Balf. f. and Ward.

Nos. 11391 (fruit), 8360 (flowers). Heshwe Road. October, 1923. A small tree 12 to 15 feet high found along stream beds in mixed forests (Tsuga predominant) on the western slopes of the Likiang Snow Range at an altitude of 10,000 to 11,000 feet. The large, oblong-obovate leaves, with prominent veins, are silvery gray underneath. The flowers are pink.

59624. RHODODENDRON sp.

No. 11397. November, 1923. A tree 25 feet high growing in Ganhaitze on the western slopes of the Likiang Snow Range at an altitude of 12,000 feet. The large, oblong leaves are dark green and glossy above and densely rufous brown beneath. The flowers are white.

59403 to 59642—Continued.

59625. RHODODENDRON sp.

No. 11408 (fruit), 8223 (flowers). Saba, Likiang Snow Range. November, 1923. One of the finest species, 15 to 20 feet high, found in larch forests at an altitude of 11,000 to 11,500 feet. The oval, acute, subcordate leaves are glabrous on both sides and pale beneath. The large, pink flowers, produced in large corymbs, are faintly fragrant.

59626. RHODODENDRON sp.

No. 11418. November, 1923. A shrub 3 feet high growing in pine forests of the Likiang Snow Range at an altitude of 10,000 to 11,000 feet. The elliptical-oval, green leaves are glabrous on both sides, and the large, purple-lavender flowers are produced on slender pedicels.

59627. RHODODENDRON sp.

No. 11429. November, 1923. A handsome species 6 feet high growing on the alpine slopes among rocks on the Likiang Snow Range at an altitude of 14,000 feet. The oval, glabrous leaves are dotted beneath, and the petioles and stems are carmine purple. The flowers are large and red.

59628. RHODODENDRON sp.

No. 11452. November, 1923. A tree 8 to 10 feet high found in the Sungkwe Mountains, south of Likiang, at an altitude of 11,000 feet. The oblong-ovate leaves are densely covered beneath with cinnamon-brown tomentum. The flowers are large and white.

59629. RHODODENDRON sp.

No. 11453. November, 1923. A shrub 8 feet high found on the Sungkwe Mountains south of Likiang at an altitude of 11,000 feet. The oblong, acute, aromatic leaves are green on both sides but dotted with brown beneath. The flowers are pale pink.

59630. RHODODENDRON sp.

No. 11454. Sungkwe Mountains. November, 1923. A shrub 8 feet high found at an altitude of 11,000 feet. The leaves are coriaceous and pale yellow beneath. The flowers are large and white.

59631. RHODODENDRON sp.

No. 11455. Sungkwe Mountains, south of Likiang. November, 1923. An aromatic shrub 1 to 3 feet high found among rocks at an altitude of 11,000 feet. The small, elliptical leaves are covered with pale-brown pubescence beneath, and the flowers are white.

59632. RHODODENDRON sp.

No. 11460. November, 1923. A shrub 10 feet high growing on the alpine slopes of the Likiang Snow Range at an altitude of 13,000 feet. The very large, oblong leaves are glossy green above and cinnamon brown beneath. The flowers are large and produced in large corymbs.

59633. RHODODENDRON sp.

No. 11461. November, 1923. A shrub 5 feet high found on the alpine slopes of the Likiang Snow Range at an altitude of 14,000 feet. The oval, acute, white to cream-colored leaves are faintly pubescent. The flowers are large and white.

59634. RHODODENDRON sp.

No. 11468. November, 1923. A shrub 2 feet high growing on the alpine, rocky slopes of the Likiang Snow Range at an altitude of 14,000 feet. The oval leaves are brown beneath; the flowers are white, tubular, and fragrant.

59403 to 59642—Continued.

59635. RHODODENDRON sp.

No. 11470. November, 1923. A tree 15 feet high found in fir forests on the alpine slopes of the Likiang Snow Range at an altitude of 14,500 feet. The oblong, acute leaves are pale tomentose beneath, and the flowers are white.

59636. RHODODENDRON sp.

No. 11471. November, 1923. A shrub 3 to 4 feet high found in fir forests on the alpine slopes of the Likiang Snow Range at an altitude of 14,500 feet. The leaves are oblong acute and are covered beneath with pale-brown tomentum. The flowers are large and pink.

59637. RHODODENDRON sp.

No. 11473. November, 1923. A shrub 4 feet high found on the alpine slopes of the Likiang Snow Range at an altitude of 14,000 feet. The oblong-ovate leaves are pale brown silky beneath. The flowers are white.

59638. RHODODENDRON RACEMOSUM Franch.

No. 11476. November, 1923. A shrub 1½ feet high growing with pines on the dry, rocky limestone range opposite the Likiang Snow Range. The leaves are oval and dotted with gray beneath. The flowers are small and red.

59639. ROSA sp. Rosaceæ. **Rose.**

No. 11218. October, 1923. A climber growing in the Salwin Valley, Champutong, at an altitude of 7,000 feet. The flowers, 2 inches in diameter, are rich red.

59640. SCABIOSA sp. Dipsacaceæ.

No. 11406. November, 1923. A herb, found in alpine meadows at Saba, Likiang Snow Range, at an altitude of 11,000 feet, with a rosette of lanceolate leaves and small flowers produced in drooping, white, globose heads on long peduncles.

59641. SOPHORA DAVIDII (Franch.) Komorov (*S. viciifolia* Hance). Fabaceæ.

December, 1923. A spiny shrub, which is a prolific fruiter, 6 to 10 feet high, most common in the arid region of the Mekong, north of Yangtze, and in the Atuntze Valley, at an altitude of 8,000 to 10,000 feet. The leaves are small. This shrub forms the sole food for goats and sheep of this region.

59642. (Undetermined.)

No. 11009. October, 1923. A plant 2 to 3 feet high found in the alpine meadows of Tsehchung. The flowers are yellow and have greenish veins.

59643 to 59648.

From Soledad, Cienfuegos, Cuba. Cuttings collected by David Fairchild, Bureau of Plant Industry. Received April 7, 1924. Quoted notes by Doctor Fairchild.

This collection was made at the Cuban Gardens, maintained by Harvard University.

59643. ANTIGONON GUATIMALENSE Meisn. Polygonaceæ.

"The globular heads of this plant appear to be a deeper red than those of the ordinary type. Since the typical form is one of the most desirable climbers in Florida, this should be grown there for comparison with the common type."

59644. HIBISCUS ROSA-SINENSIS L. Malvaceæ.

"Var. *Hedda*. An attractive single, pure-white variety."

59645 and 59646. MANGIFERA INDICA L. Anacardiaceæ. **Mango.**

59643 to 59648—Continued.

59645. "*Mulgo-fil.* Originated by H. A. Van Hermann, at Finca Mulgoba, Rancho Boyeros, Cuba, about 1917, by crossing the Mulgoba and the 'Philippine' mango. The fruit is pink, yellow, and red, resembling the Mulgoba, but with the long, flat shape of the Philippine variety, with a depression on one side. The fruits are borne in clusters. The seed is flat, and the quality of the flesh good. The name, applied by Mr. Van Hermann, indicates the hybrid origin of the variety."

59646. *Van Hermann.* An improved Chinese mango discovered by Mr. Van Hermann. Unlike most other varieties it does not harbor the black fly, because of its open habit of growth and comparatively scanty foliage. Furthermore, the fruits do not spot with Colletotrichum as do ordinary mangos. The flesh is free from fiber and of good quality, and the tree is a regular bearer at Finca Mulgoba. It is named in honor of its discoverer, Mr. Van Hermann.

59647. PLUMERIA RUBRA L. Apocynaceæ.

This strain of *Plumeria rubra* blooms in April in Cuba and may flower earlier in Florida than the white-flowered species, *P. alba*. Its flowers are superb.

59648. PUNICA GRANATUM L. Punicaceæ. **Pomegranate.**

An attractive double-flowered white variety, which might be useful as a pot plant.

For previous introduction, see S. P. I. No. 55923.

59649. LITCHI CHINENSIS Sonner. Sapindaceæ. Lychee.

From Santiago de las Vegas, Cuba. Fruits presented by H. A. Van Hermann, Finca Mulgoba. Received May 19, 1924.

In the hope of establishing the lychee in Florida, the Office of Foreign Plant Introduction has from time to time distributed young plants to experimenters in that State. Many of these plants have succumbed to cold winters, and at Miami the soil does not seem altogether satisfactory. On the western coast conditions are better in this last-named respect; when planted far enough south to be out of danger from severe frosts, the tree should have a good chance of success. Judging from the conditions under which the lychee is cultivated in southern China, we would expect the banks of the Caloosahatchee, below Fort Myers, to prove better suited to it than most other sections of Florida.

At Santa Barbara, Calif., the behavior of a single specimen planted 20 years ago or more has shown that the lychee can be grown there with a fair degree of success, provided a location practically free from danger of frost is selected. Most attempts to cultivate it in California, however, have resulted in failure. It does not seem likely that it will ever be feasible to grow it commercially in that State.

The excellent quality of the lychee as a fresh fruit and its ability to stand shipment suggest the desirability of establishing lychee orchards somewhere in the Western Hemisphere, so as to supply the North American markets. It may be practicable to develop these in southern Florida. Certainly they would succeed in Cuba, Porto Rico, and tropical America generally. (*Wilson Popenoe, Bureau of Plant Industry.*)

59650. ALLIUM CEPA L. Liliaceæ. Onion.

From Ankober, Abyssinia. Bulbs collected by H. V. Harlan, Bureau of Plant Industry. Received June 3, 1924.

Introduced for onion-breeding tests.

No. 430. December 11, 1923. Purchased in Allu Amba. (*Harlan.*)

59651 to 59671.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received May 2, 1924.

59651. ACACIA SEYAL Delile. Mimosaceæ.

A small and rather slender acacia with reddish brown bark, ivory-white spines about 2 inches long, and heads of very fragrant flowers. The tree is common in tropical Africa north of the Equator, and is one of the principal gum-yielding acacias of the Nile region. This gum becomes white and brittle when dry, and has a relatively high viscosity and strong adhesive power.

For previous introduction, see S. P. I. No. 44923.

59652. ACACIA SUMA (Roxb.) Kurz. Mimosaceæ.

A medium-sized tree, native to the East Indies, with light-colored bark and branchlets armed with pairs of short, hooked spines. The heartwood is said to yield gum catechu, and the bark is used for tanning.

For previous introduction, see S. P. I. No. 52281.

59653. ASTRAGALUS sp. Fabaceæ.

59654. BETULA sp. Betulaceæ. **Birch.**

59655. CENTAUREA CANARIENSIS Willd. Asteraceæ.

A rather large bush which is very drought resistant. When covered with its large purple flowers, it is very ornamental. (*Proschowsky.*)

For previous introduction, see S. P. I. No. 53919.

59656. CUPRESSUS sp. Pinaceæ.

A very handsome species with drooping, glaucous branches. (*Proschowsky.*)

59657. DIOSPYROS sp. Diospyraceæ.

59658. ENTELEA PALMATA Lindl. Tiliaceæ.

The native home of this greenhouse shrub appears to be unknown. It grows about 4 feet high with heart-shaped, palmate leaves and umbels of rather small white flowers.

59659. GAULTHERIA FRAGRANTISSIMA Wall. Ericaceæ.

An Asiatic relative of the wintergreen which grows wild in the mountains of eastern India. It is a fragrant evergreen shrub or small tree which is loaded in summer with white or pinkish flowers; these are succeeded by racemes of handsome bluish purple berries.

For previous introduction, see S. P. I. No. 48309.

59660. HYDRANGEA HETEROMALLA D. Don. Hydrangeaceæ.

A Himalayan hydrangea, about 10 feet high, with red stems, oval, sharp-pointed leaves, white hairy beneath, and white flowers borne in clusters about 6 inches wide.

59661. LEUCOSCEPTRUM CANUM J. E. Smith. Menthaceæ.

A stout-branched, densely hairy tree, commonly about 30 feet in height, with large, narrowly ovate leaves, silvery hairy beneath and at times a foot long. The small white or pinkish flowers are in spikes.

For previous introduction, see S. P. I. No. 57888.

59662. PASSIFLORA ALBA Link and Otto. Passifloraceæ.

A tropical American passiflora with broadly oval, somewhat heart shaped, shallowly 3-lobed leaves, clear-white flowers over 2 inches across, and yellowish fruits about the size and shape of a hen's egg.

59651 to 59671—Continued.

59663. PITTOSPORUM MACROPHYLLUM Schum. and Lauterb. Pittosporaceæ.

The plant has existed in my garden for more than 20 years. It is the most beautiful of the dozen or so Pittosporum species which I cultivate. The leaves occasionally attain nearly the size of those of *Magnolia grandiflora*, and the flowers are perhaps not surpassed in fragrance by any other flower; indeed the fragrance is most exquisite. (*Proschowsky.*)

59664. PRUNUS sp. Amygdalaceæ.

From Indo China.

59665. PRUNUS sp. Amygdalaceæ.

From Tran Ninh, Tonkin.

59666. RHODODENDRON sp. Ericaceæ.

A hybrid.

59667. RUBUS LINEATUS Reinw. Rosaceæ.

An attractive suberect woody plant which is found wild at altitudes of 6,000 to 9,000 feet in the Sikkim Himalayas, according to Hooker (Flora of British India). The white flowers are produced in short axillary heads and terminal silvery panicles, and the berries are small and red.

For previous introduction, see S. P. I. No. 48409.

59668. SAMBUCUS ADNATA Wall. Caprifoliaceæ.

A Himalayan relative of the elderberry which has clusters of fragrant, white flowers about 10 inches in diameter, followed by red fruits.

For previous introduction, see S. P. I. No. 46100.

59669. TIPUANA TIPU (Benth.) Lillo (*T. speciosa* Benth.). Fabaceæ. **Tipu.**

Tipu. Sr. Salvador Izquierdo describes this plant as follows: A handsome, ornamental tree from the Argentine Republic. It has compact, delicate foliage and is excellent for parks and roadways. In its native country it is said to grow nearly as rapidly as *Eucalyptus globulus*. In the Botanic Gardens at Buenos Aires it has reached a height of 4½ meters (15 feet) in 31½ months. Plants imported from Argentina have shown much vigor at Santa Ines, Chile, and have grown even during the winter months. The wood is useful for furniture and rough purposes. Its horizontal branches make it an excellent shade tree.

For trial on the Pacific coast and in our Southwestern States.

For previous introduction, see S. P. I. No. 54643.

59670. (Undetermined.)

A climbing plant from Indo China which is said to yield rubber.

59671. VACCINIUM GLAUCO-ALBUM Hook. f. Vacciniaceæ.

An evergreen Himalayan shrub, about 4 feet high, with stiff, oval leaves, green above and bluish white beneath. The pinkish white flowers are in axillary racemes which are conspicuous because of their large, persistent, blue-white bracts, edged with bristles. The blue-black berries are about one-third of an inch in diameter.

59672 to 59687.

From Lucknow, United Provinces, India. Seeds presented by F. H. Johnson, superintendent, Government Horticultural Gardens. Received May 5, 1924.

59672. ACACIA AURICULAEFORMIS A. Cunn. Mimosaceæ.

One of the many species of Acacia found native in Australia. It is described by Bentham (Flora Australiensis) as a small tree with sickle-shaped

59672 to 59687—Continued.

phyllodia and pods which are irregularly and very much twisted. Of possible value as an ornamental for the most tropical parts of the United States.

59673. ADANSONIA DIGITATA L. Bombacaceæ. **Baobab.**

The baobab, originally from central Africa, is now cultivated in many tropical countries and is famous for the great age which it is said to attain. The short, thick trunk sometimes becomes 30 feet in diameter. The pulp of the gourdlike fruit is edible, and the juice is used to make a beverage.

For previous introduction, see S. P. I. No. 42827.

59674. ANOGEISSUS sp. Combretaceæ.

Received as *Antidemsa ghesaembilla* but does not agree with that species.

The members of this genus are trees or shrubs, native to India; some of the species are valued for timber and for the gum, used in printing calico, which exudes from the bark.

59675. CASSIA DIDYMOBOTRYA Fres. Cæsalpiniaceæ.

An African shrub or small tree, 7 to 10 feet high, with finely divided leaves about a foot long, and numerous yellow flowers in erect racemes up to a foot in length.

For previous introduction, see S. P. I. No. 51632.

59676. COLVILLEA RACE MOSA Boj. Cæsalpiniaceæ.

This handsome tropical tree, believed to be native to East Africa, should be tested in southern Florida along with the poinciana, to which it is related. It is said to reach 40 or 50 feet in height. The pinnate leaves are 3 feet in length, and the brilliant scarlet, curiously shaped flowers are borne in drooping racemes more than a foot long. The tree was named for Sir Charles Colville, Governor of Mauritius; it was discovered in 1824 on the west coast of Madagascar, where it flowers in April or May.

In all probability it will stand no more frost than the poinciana. Like most other leguminous trees, it is readily propagated from seeds. Since it is not yet commonly cultivated in tropical America, it is recommended for trial in Porto Rico, Cuba, the Canal Zone, and elsewhere.

59677. FICUS LACOR Buch.-Ham. Moraceæ.

A tropical Asian fig which attains a height of 60 feet and appears to be of promise as a shade tree for the warmest parts of the United States. The small whitish fruits, a quarter of an inch thick, are in axillary pairs.

59678. FIRMIANA COLORATA (Roxb.) R. Br. (*Sterculia colorata* Roxb.). Sterculiaceæ.

The brilliant orange flowers of this Indian tree appearing before the leaves, make it desirable as an ornamental tree for regions having very little frost.

59679. HETEROPHRAGMA ADENOPHYLLUM (DC. Seem. Bignoniaceæ.

An ornamental African tree related to catalpa but adapted for cultivation in subtropical regions only. It reaches a height of 30 to 50 feet, with large opposite, pinnate leaves and brownish yellow, woolly flowers in terminal panicles.

For previous introduction, see S. P. I. No. 52291.

59680. HOLOPTELEA INTEGRIFOLIA (Roxb. Planch. Ulmaceæ.

A large, spreading tree, closely related to the elms, which grows in dry, sandy soils at low altitudes in northern and central India. Its chief use appears to be as a timber tree; the wood is yellowish gray and moderately hard and is used for general construction.

59672 to 59687—Continued.

59681. MIMUSOPS ELENGI L. Sapotaceæ.

A tall East Indian tree, 50 feet or less in height, with thick, shining leaves and edible, ovoid fruits an inch or less in length. The chief value of this tree is likely to be as an ornamental for southern Florida.

For previous introduction, see S. P. I. No. 51819.

59682. PITHECOLOBIUM BIGEMINUM (L.) Mart. Mimosaceæ.

The chief uses of this large Indian tree appear to be as timber and for native medicine, a decoction of the leaves being employed externally as a stimulant. The wood is dark colored and heavy.

59683. PUTRANJIVA ROXBURGHII Wall. Euphorbiaceæ.

A moderate-sized, evergreen, tropical Indian tree, with small, obtuse leaves and white, hairy fruits the size of a cherry. From the seeds is obtained an olive-brown oil used by the natives of India for burning. The hard, gray wood is used for making tools.

For previous introduction, see S. P. I. No. 52296.

59684. SAPINDUS EMARGINATA Vahl. Sapindaceæ.

A handsome tree from southern India, which is valued in its native country chiefly for the supposed medicinal virtues of the pulp of the small fleshy fruit.

59685. SOYMIDA FEBRIFUGA (Roxb.) Juss. Meliaceæ.

A tall, tropical tree, closely related to the mahogany, found throughout northwestern and southern India, where it is used for many purposes. The deep-red bark, according to Watt (Dictionary of the Economic Products of India), contains a valuable adhesive gum, is used for tanning, yields a strong fiber, and has been used medicinally as a substitute for Peruvian bark. The wood is heavier and stronger than the better known American mahogany and has many uses.

59686. TERMINALIA BELLERICA (Gaertn.) Roxb. Combretaceæ.

The small, round fruits of this handsome tropical Indian tree have been exported from India for tanning purposes under the name of myrobalans. The yellowish gray wood is used for general construction. The tree also has merit as a shade tree for avenues, with its huge, buttressed trunk and long horizontal branches.

59687. TERMINALIA MUELLERI Benth. Combretaceæ.

Some of the Terminalias have proved to be very attractive shade trees for subtropical regions. According to Bentham (Flora Australiensis) this Australian species is a large tree, when grown under favorable conditions, with leathery leaves up to 8 inches long, loose spikes of small white flowers, and small, ovoid, blue fruits.

59688. SACCHARUM OFFICINARUM L. Poaceæ. Sugar cane.

From Taru Jabba, near Peshwar, India. Cuttings presented by Robertson Brown, Agricultural Officer, Northwest Frontier Province. Received May 23, 1924.

Assam Red. A variety which appears especially promising because of its vigor, earliness, and freedom from disease and the sugar-cane borer.

Introduced for sugar-cane specialists.

59689. AVENA BARBATA WIESTII (Steud.) Hausskn. Poaceæ. Oats.

From Giza, Egypt. Seeds presented by the director, horticultural section, Ministry of Agriculture. Received May 8, 1924.

An erect, cespitose, somewhat hairy annual grass about 3 feet in height, with very narrow leaves about 6 inches long. Native to Egypt and Arabia. Introduced for forage-crop specialists.

For previous introduction, see S. P. I. No. 53626.

59690. COLOCASIA sp. Araceæ.

From Buitenzorg, Java. Tubers presented by the director of the Botanic Garden. Received May 10, 1924.

The central corm of this relative of the dasheen is of excellent quality for eating.

Received as *C. monorrhiza*, for which a place of publication has not been found.

59691 to 59700.

From Lwow (Lemberg), Poland. Seeds presented by Walery Swederski, director, Station Expérimentale Botanique et Agricole. Received May 3, 1924.

59691. ALLIUM SCHOENOPRASUM L. Liliaceæ.

For previous introduction and description, see S. P. I. No. 59387.

Introduced for horticulturists investigating the food possibilities of the genus Allium.

59692. ATROPA BELLADONNA L. Solanaceæ.

Belladonna seeds introduced for the use of drug-plant specialists.

59693 to 59700.

A collection of native European plants introduced chiefly for forage-crop specialists for breeding and selection experiments.

59693. AVENA PLANICULMIS Schrad. Poaceæ. **Grass.**

A perennial Siberian grass which thrives in dry, open places, forming a thick turf. The numerous branches are about 4 inches long, and the coarse leaves are up to an inch in width.

59694. AVENA VERSICOLOR Vill. Poaceæ. **Grass.**

A perennial grass which forms a thick turf. The rhizome is short and creeping, with short runners. The stems are sometimes 2 feet in height. Native to rocky places in the Mediterranean countries.

59695. FESTUCA ELATIOR APENNINA (DeNot.) Hack. Poaceæ. **Grass.**

A perennial European grass which forms a loose turf, with stems 2 to 3 feet high, and bluish green leaves about a foot long.

59696. FESTUCA RUBRA PICTA (Kit.) Hack. Poaceæ. **Grass.**

A perennial Hungarian grass which occasionally forms a loose turf. The stems are about a foot high, with bristly leaves.

59697. PINUS MONTANA PUMILIO (Haenke) Willk. Pinaceæ. **Pine.**

A handsome, hardy, low, shrubby pine with ascending branches densely clothed with bright-green foliage. Before maturity the cone is usually violet-purple, becoming yellowish or dark brown when fully ripe. This form is native to the mountains of central Europe.

59691 to 59700—Continued.

59698. POA VIOLACEA Bell. Poaceæ. **Grass.**

An alpine perennial grass, found native only in the European Alps, with rhizomes forming a thick turf. The roughish stems are a foot or two in height, and the blue-green leaves terminate in long bristly points.

59699. TRIFOLIUM PRATENSE FRIGIDUM Aschers. and Graebn. Fabaceæ. **Red clover.**

A Hungarian variety of red clover which differs from the type chiefly in having smaller flower heads and obcordate leaflets in the lower leaves.

59700. TRISETUM CARPATICUM (Host.) Roem. and Schult. Poaceæ. **Grass.**

A perennial grass, about a foot high, from the alpine and subalpine regions of central Europe. It is very similar to *Trisetum alpestre*, but has a wider creeping rhizome. The leaf-sheaths are often very bristly, and the leaves are about a quarter of an inch wide.

59701 to 59764.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 29, 1924. Notes by Mr. Rock.

59701. ALLIUM sp. Liliaceæ.

No. 11427. November, 1923. A plant from 2 to 3 feet tall found on the alpine meadows of the Likiang Snow Range between 12,000 and 13,000 feet altitude. The leaves are long-linear and the deep wine-colored flowers are in large umbels.

59702. DELPHINIUM sp. Ranunculaceæ.

No. 11435. November, 1923. A beautiful species which resembles very much *Delphinium likiangense*, but the plant is smaller. The large, blue flowers are bell-shaped. It was found growing in an alpine meadow of the Likiang Snow Range at an altitude of 14,000 feet.

59703. DELPHINIUM sp. Ranunculaceæ.

No. 11436. November, 1923. A large, handsome species 1 to 2 feet high found growing on limestone bowlders at 12,500 feet altitude on the Ladsakodjo-Likiang Range. The steel-blue flowers are large and pubescent.

59704. DELPHINIUM sp. Ranunculaceæ.

No. 11438. November, 1923. A plant 2 to 3 feet high found along streams on the Likiang Snow Range at from 9,000 to 10,000 feet altitude. The leaves are broadly palmatisect, and the deep purple flowers are on long spikes.

59705. DEUTZIA sp. Hydrangeaceæ.

No. 11417. November, 1923. A small bush 5 to 8 feet high found on the Likiang Snow Range. The small leaves are oval elliptical and pubescent; the flowers are deep lavender purple and grow in small racemes.

59706. PEDICULARIS sp. Scrophulariaceæ.

No. 11442. November, 1923. A small plant 1 foot high found on alpine meadows of the Likiang Snow Range at 13,000 feet altitude. The leaves are of millefolium type, and the rich reddish purple flowers grow in spikes.

59707. PHILADELPHUS sp. Hydrangeaceæ.

No. 11445. November, 1923. A shrub 5 to 8 feet high found growing on the slopes of the Likiang Snow Range along the streams at from 9,000 to 10,000 feet altitude. This fine species has small leaves and fragrant white flowers.

59701 to 59764—Continued.

59708. PIERIS sp. Ericaceæ.

No. 11420. November, 1923. A handsome shrub from 5 to 6 feet high found growing in scrub forests of the Likiang Snow Range from 10,000 to 11,000 feet altitude. The small, oval-elliptical leaves are on red branchlets, and the white bell-shaped flowers are in short racemes.

59709. PIERIS sp. Ericaceæ.

No. 11431. November, 1923. A shrub 5 feet high found in scrub forests on the Likiang Snow Range at 10,000 feet altitude. The oval leaves are glabrous and rich green; the white flowers grow in spikes which protrude beyond the leaves.

59710. PRIMULA FORRESTII Balf. f. Primulaceæ. **Primrose.**

No. 11410. November, 1923. A perennial (50 to 100 years old) found in limestone crevices in the drier regions of the Likiang Snow Range at from 10,000 to 11,000 feet altitude. The deep-green crenate leaves have the fragrance of apples, and the flowers are deep golden yellow.

59711. PRIMULA PINNATIFIDA Franch. Primulaceæ. **Primrose.**

November, 1923. A plant 3 to 10 inches tall found in swampy alpine meadows on the Likiang Snow Range at from 14,000 to 15,000 feet altitude in company with *P. pseudosikkimensis* and *P. secundiflora*. The thin leaves are pinnatified, and the bright-blue flowers are in spikes.

59712. PRIMULA SEPTEMLOBA Franch. Primulaceæ. **Primrose.**

No. 11439. November, 1923. A plant found in shady places on mossy banks in fir forests at Saba, Likiang Snow Range, at 11,000 feet altitude. The large flaccid leaves are irregularly lobed, and the large deep-red wine-colored flowers grow in small umbels.

59713 to 59762. RHODODENDRON spp. Ericaceæ.

59713. RHODODENDRON CHARTOPHYLLUM Franch.

No. 11422. November, 1923. One of the finest species, found in a fir forest on the Likiang Snow Range at from 9,800 feet to 12,000 feet altitude. It is deciduous at flowering, and the large flowers are all shades from white to mauve, deep pink, and even blue smoke colored.

59714. RHODODENDRON HELIOLEPIS Franch.

Nos. 10943 (fruit), 8889 (flowers). November, 1923. A shrub or small tree from 5 to 15 feet high found in forests of fir and spruce on the Londjre Mountains at from 11,000 to 12,000 feet altitude. The oval leaves are brown beneath and punctate; the flowers are deep lavender purple.

59715. RHODODENDRON HELIOLEPSIS Franch.

Nos. 11263 (fruit), 8419 (flowers). October, 1923. A shrub 6 to 10 feet high found in spruce forests on Mount Lautchun at from 11,000 to 12,000 feet altitude. The oval, acute leaves are brown punctate beneath, and the flowers are rich lavender purple.

59716. RHODODENDRON LEPIDOTUM Wall.

No. 11430. November, 1923. A shrub only a foot high found among rocks on the outskirts of pine forests on the Likiang Snow Range at from 9,000 to 10,000 feet altitude. The very small leaves are oval, and the flowers, on slender pedicels, are deep-red wine colored

59701 to 59764—Continued.

59717. RHODODENDRON RACEMOSUM Franch.

Nos. 11403 (fruit), 8512 (flowers). November, 1923. A small shrub 2 to 3 feet high found on the alpine meadows of Saba, Likiang Snow Range, at 11,000 feet altitude. The small, elliptical-ovate leaves are pale beneath, and the deep-pink flowers smell like mint when crushed.

59718. RHODODENDRON RACEMOSUM Franch.

No. 11424. November, 1923. A small shrub 2 feet high found in pine forests on the Likiang Snow Range at from 10,000 to 11,000 feet altitude. The small oval leaves are pale beneath, and the pink flowers are fragrant.

59719. RHODODENDRON sp.

Nos. 10935 (fruit), 8878 (flowers). November, 1923. A shrub 2 feet high found on the alpine regions of Mount Londjre at from 12,000 to 13,000 feet altitude. The small elliptical leaves are brown beneath, and the flowers are small, tubular, and pink.

59720. RHODODENDRON sp.

Nos. 10941 (fruit), 10288 (flowers). November, 1923. A small shrub 2 feet high growing in masses on the alpine slopes of Mount Londjre. The leaves are elliptical and glabrous; the large flowers are bright crimson.

59721. RHODODENDRON sp.

Nos. 10942 (fruit), 8882 (flowers). November, 1923. A shrub or small tree 7 to 8 feet high found on the alpine slopes of Mount Londjre. The long, linear-lanceolate leaves are glabrous and the large flowers are deep lavender purple.

59722. RHODODENDRON sp.

Nos. 10944 (fruit), 8885 (flowers). November, 1923. A shrub 4 feet high found in forests on Mount Londjre at from 10,000 to 12,000 feet altitude. The oval-oblong leaves are golden yellow beneath, and the large flowers are deep purplish crimson.

59723. RHODODENDRON sp.

Nos. 10945 (fruit), 10287 (flowers). November, 1923. A small shrub 1 to 2 feet high found in the alpine regions of Mount Londjre at 12,000 feet altitude. The elliptic-lanceolate leaves are brown tomentose beneath. The large flowers are rich reddish purple.

59724. RHODODENDRON sp.

Nos. 10946 (fruit), 10264 (flowers). November, 1923. A shrub 3 feet high found on the alpine slopes of Mount Londjre at 12,000 feet altitude. The linear-elliptical leaves are deep chocolate brown beneath, and the large flowers are rich golden yellow.

59725. RHODODENDRON sp.

Nos. 10953 (fruit), 10283 (flowers). November, 1923. A small shrub 2 feet high found on the alpine slopes of Mount Londjre at 12,000 feet altitude. The elliptical leaves are glabrous and vary from green to brown; the deeply lobed flowers are yellow with a reddish tinge.

59726. RHODODENDRON sp.

Nos. 10954 (fruit), 9154 (flowers). November, 1923. A shrub 5 feet high found on the slopes of the Tsehchung Mountains at 10,000 feet altitude. The oval leaves are glabrous, and the flowers are lavender purple.

59701 to 59764—Continued.

59727. RHODODENDRON sp.

Nos. 10955 (fruit), 9284 (flowers). November, 1923. A tree 18 to 20 feet high found on the slopes of the Tsehchung Mountains, Mekong Valley, at 10,000 feet altitude. The very large leaves are oblong and grayish brown beneath; the large flowers are pale pink.

59728. RHODODENDRON sp.

Nos. 10956 (fruit), 9126 (flowers). November, 1923. A shrub 5 feet high found in the alpine regions of the Tsehchung Mountains, Mekong Valley, at 13,000 feet altitude. The narrow leathery leaves have revolute margins and are covered with deep rufous wool beneath; the flowers are pink or whitish purple.

59729. RHODODENDRON SEMNUM Balf. f. and Forrest.

Nos. 10957 (fruit), 9138 (flowers). November, 1923. A small tree 8 to 10 feet high found in the alpine regions of the Tsehchung Mountains, Mekong Valley, in fir forests at 13,000 feet altitude. The large, broadly oblong leaves are silvery brown beneath, and the large flowers are cream colored.

59730. RHODODENDRON sp.

Nos. 10958 (fruit), 8824 (flowers). November, 1923. A shrub or small tree 7 to 8 feet high found in the alpine regions of the Tsehchung Mountains, Mekong Valley, at 13,000 feet altitude. The oval glabrous leaves are brownish beneath, and the flowers are pink, spotted with dark purple.

59731. RHODODENDRON sp.

Nos. 11021 (fruit), 8752 (flowers). October, 1923. A small tree 8 to 10 feet high found on the Sila Pass, Mekong-Salwin Divide, at 14,000 feet altitude. The linear-oblong leaves are dark green above and glabrous brown beneath; the flowers are rose red.

59732. RHODODENDRON sp.

Nos. 11088 (fruit), 9957 (flowers). November, 1923. A low bush only a few inches high found in alpine meadows on the Peima Mountains, Mekong-Yangtze Divide, at from 15,000 to 16,000 feet altitude. The minute leaves are one-fourth of an inch or less in length, and the flowers are blue.

59733. RHODODENDRON sp.

Nos. 11091 (fruit), 9266 (flowers). November, 1923. A woody plant only a few inches high found on the alpine slopes of the Peima Mountains, Mekong-Yangtze Divide, at from 15,000 to 16,000 feet altitude. The leaves are minute and covered beneath with a silky brown tomentum; the flowers are deep blue.

59734. RHODODENDRON sp.

Nos. 11093 (fruit), 9249 (flowers). November, 1923. A small shrub 12 inches high found in the alpine regions of the Peima Mountains, Mekong-Yangtze Divide, at 15,000 feet altitude. The very small leaves are oval and a silky brown beneath; the small flowers are rich yellow.

59735. RHODODENDRON sp.

Nos. 11094 (fruit), 9954 (flowers). November, 1923. A shrub 4 to 5 feet high found on the Peima Mountains, Mekong-Yangtze Divide, at 15,000 feet altitude. The ovate glabrous leaves are acute, and the flowers are white to pinkish, spotted purple.

59701 to 59764—Continued.

59736. RHODODENDRON sp.

Nos. 11096 (fruit), 9271 (flowers). November, 1923. A small tree 12 to 15 feet high found on the Peima Mountains at 14,000 feet altitude. The rich green leaves are covered with fawn tomentum beneath, and the large flowers of white spotted with purple are in large umbels.

59737. RHODODENDRON sp.

Nos. 11097 (fruit), 9241 (flowers). November, 1923. A shrub or small tree 10 feet high, found on the high alpine slopes on the Peima Mountains. The oval, acute leaves are densely matted beneath with yellowish white tomentum, and the flowers are pinkish spotted with purple.

59738. RHODODENDRON sp.

Nos. 11099 (fruit), 8864 (flowers). November, 1923. A small tree 8 to 10 feet high found on the alpine slopes of the Peima Mountains at from 14,000 to 15,000 feet altitude. The large obovate-oblong, acute leaves are brown beneath, and the large flowers are pale pink.

59739. RHODODENDRON sp.

Nos. 11117 (fruit), 9963 (flowers). November, 1923. A shrub 5 feet high found in the Peima Mountains, Mekong-Yangtze Divide, at 14,000 feet altitude. The linear-lanceolate leaves are covered with brown tomentum beneath, and the flowers are pink.

59740. RHODODENDRON sp.

Nos. 11118 (fruit), 9265 (flowers). November, 1923. A shrub 6 to 7 feet high found in the Peima Mountains at 14,000 feet altitude. The ovate, cordate leaves are covered with pale yellowish white matted tomentum; the flowers are white with the lobes of the petals purple.

59741. RHODODENDRON sp.

Nos. 11135 (fruit), 9262 (flowers). November, 1923. A small tree 12 to 15 feet high found in the Peima Mountains at from 14,000 to 15,000 feet altitude. The oblong, acute leaves are dark green with revolute margins and are densely matted beneath with brown tomentum; the flowers are white, spotted with purple.

59742. RHODODENDRON sp.

Nos. 11178 (fruit), 10167 (flowers). October, 1923. A low shrub 2 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at the Tibetan border. The oblong-elliptical leaves are tomentose beneath and the flowers are deep rich red.

59743. RHODODENDRON sp.

Nos. 11183 (fruit), 10258 (flowers). October, 1923. A low shrub 1 to 2 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at about 13,000 feet altitude. The small elliptical leaves are rich green above and golden-yellow tomentose beneath; the flowers are very dark carmine.

59744. RHODODENDRON sp.

Nos. 11186 (fruit), 10174 (flowers). October, 1923. A low shrub 2 feet high found on the Kenichunpu Mountains, Salwin-Irrawaddy Divide, Tibet. The small, elliptical, sessile leaves are acute at both ends, dark green above and covered with purplish black tomentum beneath; the flowers are rich yellowish red.

59745. RHODODENDRON sp.

Nos. 11191 (fruit), 10210 (flowers). October, 1923. A shrub 6 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, on the Tibetan border at 13,000 feet altitude. The ovate leaves are covered with a thin brown tomentum beneath, and the flowers are red.

59701 to 59764—Continued.

59746. RHODODENDRON sp.

Nos. 11203 (fruit), 10101 (flowers). October, 1923. A small shrub 1 foot high found on Mount Kenichunpu, Salwin-Irrawaddy Divide. The small, ovate-elliptical leaves are gray beneath, and the flowers are dark crimson.

59747. RHODODENDRON sp.

Nos. 11208 (fruit), 10171 (flowers). October, 1923. A shrub 1 to 2 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, Tibetan border, at 13,000 feet altitude. The small elliptical leaves are dark gray tomentose beneath, and the flowers are dark red.

59748. RHODODENDRON sp.

No. 11214. October, 1923. A shrub 2 to 3 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The small elliptical leaves are glaucous beneath, and the flowers, which were not seen, may be red.

59749. RHODODENDRON sp.

Nos. 11254 (fruit), 8580 (flowers). October, 1923. A shrub 6 to 8 feet high found on rocky alpine regions on Mount Lautchun at 13,500 feet altitude. The large, oval-oblong leaves are covered with white matted tomentum beneath, and the large flowers are snow white.

59750. RHODODENDRON sp.

Nos. 11256 (fruit), 8403 (flowers). October, 1923. A small tree found on the slopes of Mount Lautchun at 10,000 feet altitude. The linear-oblong, green leaves are glabrous beneath, and the large flowers are purplish red.

59751. RHODODENDRON sp.

Nos. 11267 (fruit), 8407 (flowers). October, 1923. A small shrub 3 to 4 feet high found on Mount Lautchun at 8,000 feet altitude. The oval, glaucous leaves are glabrous beneath, and the rich pink flowers are on long pedicels.

59752. RHODODENDRON CRASSUM Franch.

Nos. 11276 (fruit), 9502 (flowers). October, 1923. A shrub 8 feet high found on Mount Shenzi at from 10,000 to 12,000 feet altitude. This is an extraordinary plant with dark green, oval-oblong acute leaves which are greenish brown punctate beneath; the fleshy tubular flowers are very large.

59753. RHODODENDRON sp.

Nos. 11290 (fruit), 8449 (flowers). October, 1923. A tree 25 to 30 feet high found on the Labako Mountains at 12,000 feet altitude. This remarkable tree has leaves which are very large, dark green and glossy above and deep brown woolly beneath; the flowers are white.

59754. RHODODENDRON sp.

Nos. 11379 (fruit), 8260 (flowers). November, 1923. A tree 20 feet high found on the mountains of Sungkwe, south of Likiang, at 11,000 feet altitude. The broad, oblong leaves are faintly tomentose and greenish brown beneath; the flowers are white.

59755. RHODODENDRON sp.

Nos. 11382 (fruit), 8263 (flowers). November, 1923. A tree 20 feet high found on the Sungkwe Mountains south of Likiang at 10,500 feet altitude. The ovate-acute leaves are a glossy dark green above and deep rufous woolly beneath. The flowers are pinkish white.

59701 to 59764—Continued.

59756. RHODODENDRON sp.

Nos. 11385 (fruit), 9185 (flowers). November, 1923. A shrub 7 to 8 feet high found on the alpine meadows of Litiping, Mekong-Yangtze Divide, at 12,000 feet altitude. The oval glabrous leaves are subcordate, and the pale pink flowers are slightly spotted.

59757. RHODODENDRON NIPHARGUM Balf. f. and Ward.

Nos. 11386 (fruit), 9174 (flowers). November, 1923. A shrub 10 feet high found in fir forests of Litiping, Mekong-Yangtze Divide, at 12,000 feet altitude. The oblong leaves are silvery beneath, and the flowers are deep rich pink.

59758. RHODODENDRON sp.

Nos. 11387 (fruit), 9186 (flowers). November, 1923. A shrub 7 to 8 feet high found in the mountains of Litiping, Mekong-Yangtze Divide, at 12,000 feet altitude. The oval leaves are glossy green and paler beneath; the flowers are bluish purple.

59759. RHODODENDRON GLISCHRUM Balf. f. and Smith.

Nos. 11388 (fruit), 9178 (flowers). November, 1923. A tree 15 to 18 feet high found in fir forests on the Litiping Mountains, Mekong-Yangtze Divide, at 12,000 feet altitude. The large leaves are rich green above; beneath they are brown hirsute as are also the petioles, inflorescence, and capsules; the flowers are rich pinkish purple.

59760. RHODODENDRON sp.

No. 11410. November, 1923. A small shrub 2 feet high found on the Sanhaitze Road on the rocky slopes of the Likiang Snow Range at an altitude of 11,000 feet. The small oval-elliptical leaves are whitish and punctate beneath; the flowers are pink.

59761. RHODODENDRON sp.

No. 11421. November, 1923. A shrub 8 feet high found on the alpine slopes of the Likiang Snow Range at from 13,000 to 14,000 feet altitude. The oval-oblong leaves are covered with fine brownish tomentum beneath, and the large flowers are pink.

59762. RHODODENDRON sp.

Seeds unaccompanied by notes.

59763. ROSCOEA sp. Zinziberaceæ.

No. 11443. November, 1923. A plant 1 to 2 feet high found in meadows and scrub forest on the drier slopes of the Likiang Snow Range at from 10,000 to 11,000 feet altitude. This handsome species has linear leaves and large yellow flowers.

59764. SAUSSUREA sp. Asteraceæ.

No. 11433. November, 1923. A curious plant found at 17,000 feet altitude among limestone rocks on the Likiang Snow Range. It has palmatisect leaves, and the oblong flower heads are covered and hidden with a cottony substance.

59765. CUCUMIS SATIVUS L. Cucurbitaceæ. Cucumber.

From Basingstoke, Hants, England. Seeds presented by G. W. Schroeder, Cedar Nurseries. Received May 24, 1924.

Butcher's "Disease Resister." Introduced for trial in comparison with the commonly cultivated American cucumbers.

59766. ASCLEPIAS SUBULATA Decaisne. Asclepiadaceæ.

From Bard, Calif. Seeds presented by Harry A. Gunning, Bureau of Plant Industry. Received June 5, 1924.

The milky juice of many milkweeds contains a small percentage of rubber, and this species has been secured for testing by rubber specialists. It is an erect perennial, native to northwestern Mexico, with very narrow, subulate leaves.

59767. UROCHLOA BRACHYURA Stapf. Poaceæ.

From Pretoria, Transvaal, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. Received June 5, 1924.

Introduced for forage-crop specialists.

An annual tufted grass, 4 feet or more in height, native to the eastern and western parts of South Africa. It is said to be the one grass most sought after by wild game and domestic animals of the regions where it grows.

59768. PHYLLOCARPUS SEPTENTRIONALIS Donn.-Smith. Cæsalpiniaceæ.

From the city of Guatemala, Guatemala. Seeds purchased through the American consul. Received May 26, 1924.

A handsome flowering tree of eastern Guatemala, where it occurs in the Motagua Valley at elevations of 1,000 to 2,000 feet. It is usually of spreading habit, up to 40 feet in height, with small, light-green, compound leaves, and small crimson-scarlet flowers, which are borne in great profusion during the latter part of the dry season, at which time the tree is deciduous. It is a striking thing when it is in full bloom and is worthy of trial throughout the Tropics. It is probably no more frost resistant than the royal poinciana. At Naples, Fla., plants several years old give promise of being successful.

For previous introduction, see S. P. I. No. 56906.

59769. ERYTHRINA MONOSPERMA Gaud. Fabaceæ.

From Honolulu, Hawaii. Seeds presented by Dr. H. L. Lyon, in charge, department of botany and forestry, experiment station of the Hawaiian Sugar-Planters' Association. Received May 24, 1924.

The *wiliwili* is a handsome tree of spreading habit which inhabits the dry regions of all of the islands of the Hawaiian Archipelago. According to J. F. Rock, in "The Leguminous Plants of Hawaii," it becomes 30 feet high, with a short trunk and thin, yellowish bark. A few prickles are scattered along the trunk and branches. The rounded heart-shaped leaflets are about 2 inches long, and the brick-red, orange, or pale-yellow flowers are in terminal clusters.

For previous introduction, see S. P. I. No. 54897.

59770 to 59774.

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

59770 and 59771. HELIANTHUS ANNUUS L. Asteraceæ. Sunflower.

To be tested for seed production.

59770. From Gorbea, Chile.

59771. Light sulphur.

59770 to 59774—Continued.

59772 and 59773. HORDEUM VULGARE PALLIDUM Seringe. Poaceæ. **Six-rowed barley.**

Collected for cereal-breeding experiments.

59774. MEDICAGO SATIVA L. Fabaceæ. **Alfalfa.**

Collected for testing as forage.

59775. LANDOLPHIA SENEGALENSIS Kotschy and Peyr. Apocynaceæ.

From Jamaica, British West Indies. Cuttings presented by F. E. Betheuser. Received May 23, 1924.

A woody climber from the forests of Senegal, French West Africa, introduced for testing by rubber specialists.

59776. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceæ. **Common wheat.**

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

Collected for cereal-bre eding experiments.

59777 to 59840.

From Seine, France. Plants purchased from Millet & Fils, Bourg-la-Reine. Received April 18, 1924.

Introduced for strawberry breeders.

59777 to 59829. FRAGARIA spp. Rosaceæ. **Strawberry.**

59777. *Abondance.* Fruit large, intense red; flesh red, juicy, fragrant. A vigorous, very early variety. (*Rivoire Père & Fils catalogue.*)

59778. *Africa.* Fruit large, dark red. (*Millet & Fils catalogue.*)

59779. *Alphonse XIII.* Vigorous, drought resistant, and productive. Fruits large to very large, uniformly heart-shaped, scarlet; flesh firm, pink, juicy, of excellent flavor. Recommended for cultivation on a large scale. (*Vilmorin-Andrieux & Co. catalogue.*)

59780. *Ananas de Guémené.* Seedling of a Chilean strawberry; a magnificient berry, rosy white, juicy, perfumed, late. (*J. M. Merrick, jr., The Strawberry, 1870, p. 65.*)

59781. *Avant-Toutes.* The earliest variety known to us; of unknown origin. Fruit small, dark red, and acid. (*Millet & Fils catalogue.*)

59782. *Aviateur Guynemer.* A noneverbearing variety with aromatic sugary flesh. Quality very good. (*La Pomologie Française, p. 154, 1924.*)

59783. *Barnes's Large White.* Plant moderately vigorous, thickset; fruits round or conical, blunt, white tinged with pink; flesh white, juicy, sugary, with musky flavor. Very productive. (*Robinson, Vegetable Garden, p. 681.*)

59784. *Belle Bordelaise.* A thickset, compact plant with rather long, often conical, fruits which ripen about the middle of June. (*Robinson, Vegetable Garden, p. 677.*)

59785. *Belle de Cours.* A vigorous, late-ripening variety; fruits numerous, dark red; flesh rosy white, firm, and sweet. (*Robinson, Vegetable Garden, p. 681.*)

59786. *Black Hautbois.* A seedling of the conical Hautbois, raised in 1815. Fruit conical, dark dingy purple; seeds little sunken; flesh buttery and high flavored. A great bearer, early. (*J. M. Merrick, jr., The Strawberry, 1870, p. 67–68.*)

59777 to 59840—Continued.

59787. *Centenaire.* Fruits very large, oblong, blunt, well colored, of good quality. Plant vigorous, thriving without special care. (*Vilmorin-Andrieux & Co. catalogue.*)

59788. *Cérès.* Fruit large, or very large, elongated conical, truncated; color deep red; flesh red, firm, sugary, and juicy. Plant vigorous and productive. A seedling of Haquin, which it surpasses. (*J. M. Merrick, jr., The Strawberry, 1870, p. 72.*)

59789. *Châtelaine de Grentheville.* Related to *Louis Gauthier;* almost as large and whiter. Flesh very sweet, fragrant. (*Millet & Fils catalogue.*)

59790. *Commandant Marchand.* Fruit elongated, with pinkish white, sweet flesh. (*Millet & Fils catalogue.*)

59791. *Délicatesse.* A very early variety with fruit of excellent quality. (*Millet & Fils catalogue.*)

59792. *Docteur Morère.* A very vigorous variety with very large, broad fruits which are deep red when ripe, with pink, sugary flesh resembling that of the Chilean strawberry in flavor. (*Robinson, Vegetable Garden, p. 683.*)

59793. *Duc de Maiakoff.* Berries enormous, sometimes weighing 1½ ounces; variable, cockscombed, dull red; seeds prominent; flesh very juicy, and with a sort of mulberry flavor. Vigorous, moderately productive, and as hardy as any foreign kind. Said to be a cross of a Chilean variety and the British Queen. (*J. M. Merrick, jr., The Strawberry, 1870, p. 78.*)

59794. *Edouard Lefort.* A distinct, very early variety, very productive. Fruit large, shaped like the Hautbois strawberry, scarlet; flesh red, sweet, and juicy. (*Vilmorin-Andrieux & Co. catalogue.*)

59795. *Eléonore.* A late variety; fruit oblong, very dark red; flesh pale scarlet, not very juicy, but sugary and fragrant. (*Robinson, Vegetable Garden, p. 698.*)

59796. *France-Russie.* Fruit large, similar to that of Sharpless. (*Millet & Fils catalogue.*)

59797. *Général Chanzy.* Very vigorous; fruit usually very large and long, very dark red; flesh blood red, juicy, sugary. (*Robinson, Vegetable Garden, p. 685.*)

59798. *Général de Castelnau.* An everbearing, very productive variety. Fruit larger than that of La Perle, dark red, very juicy, sweet, and firm. (*Grandes Roseraies du Val de Loire catalogue.*)

59799. *Gloire du Mans.* Fruit very large, elongated, humpbacked. (*Millet & Fils catalogue.*)

59800. *Helvetia.* Fruit long; flesh white and melting, of good quality. (*Millet & Fils catalogue.*)

59801. *Jarles.* Fruit very large, of good quality. An improved Docteur Morère. (*Baetet Freres, 1919–20 catalogue.*)

59802. *Jeanne d'Arc.* An everbearing variety resembling St. Joseph, but more vigorous and with larger fruits. (*Robinson, Vegetable Garden, p. 702.*)

59803. *Jubilé.* Fruit large; flesh firm, sweet. A vigorous early variety. (*Rivoire Père & Fils catalogue.*)

59804. *L'Aurore.* Very early, with large round pink fruits of good quality. (*Millet & Fils catalogue.*)

59777 to 59840—Continued.

59805. *La Parisienne.* Fruits glossy red, very large, round, flattened, with ribs; flesh melting, sweet. (*Barbier & Co. catalogue.*)

59806. *La Brune.* Fruit very large, dark red, elongated, of delicious flavor; easily detached from the calyx. (*Millet & Fils catalogue.*)

59807. *Londres.* Fruits red, conical, the size of a small egg; flesh rosy, juicy, melting, acid-sweet. A very vigorous, late variety. (*Millet & Fils catalogue.*)

59808. *Madame Eugène Delannay.*

59809. *Madame Meslé.* A very vigorous giant variety with enormous brilliant vermilion-red fruits with pink flesh; a good commercial variety of large yield. Season medium. (*Millet & Fils catalogue.*)

59810. *Madame Moutot.* A giant variety, with enormous, spherical red fruits; flesh light salmon. Quality excellent. (*Millet & Fils catalogue.*)

59811. *Marguerite Lebreton.* A very early variety, with abundant elongated fruits. One of the best forcing varieties. (*Millet & Fils catalogue.*)

59812. *Marguerite Chabert.* Fruit conical, very large, dark red; flesh pink. (*Rivoire Père & Fils catalogue.*)

59813. *Merveille de Bon-Secours.* A cross between Saint-Antoine de Padoue and La Perle. Plants very vigorous, productive and hardy. Fruits large, conical, red; flesh juicy, perfumed, of excellent flavor. (*Vilmorin-Andrieux & Co. catalogue.*)

59814. *Merveille de Caen.* A highly recommended variety; everbearing, with excellent fruits. (*Millet & Fils catalogue.*)

59815. *Monsieur Scalarandis.* Fruits very large, round, with vinous, sweet, very juicy flesh. (*Millet & Fils catalogue.*)

59816. *Monstrueuse Caennaise.* A very vigorous, large-fruited variety, with highly colored fruit. (*Millet & Fils catalogue.*)

59817. *Monstrueuse Hautbois.* A variety with exceedingly large fruits, resembling the raspberry in flavor. Very productive. (*Millet & Fils catalogue.*)

59818. *Pain de Sucre.* Medium-sized plant, very productive. Fruit medium to large, elongated, becoming an inch and a half long, brilliant red; flesh firm, rosy, juicy, and sweet. (*Vilmorin-Andrieux & Co. catalogue.*)

59819. *Passe-Edouard.* An excellent variety, superior to *Edouard Lefort.* (*Millet & Fils catalogue.*)

59820. *Perle Rouge.* Fruits medium size, ovoid; flesh clear red, of first quality. (*La Vie Agricole et Rurale, vol. 22, no. 17, April 28, 1923, p. 288.*)

59821. *Potager de Versailles.* Fruits bright red, fan-shaped, of good quality. (*Millet & Fils catalogue.*)

59822. *Président Poincaré.* Fruit orange-red; flesh white. Everbearing. (*Millet & Fils catalogue.*)

59823. *Princesse Marie-Clotilde.* Plant vigorous. Fruit round, with firm flesh. (*Millet & Fils catalogue.*)

59824. *Reine Louise.* Fruit dark red, elongated. (*Millet & Fils catalogue.*)

59825. *Rêve d'Été.* An interesting, everbearing variety, with fruits of good quality. (*Millet & Fils catalogue.*)

59826. *Suavis.* A vigorous variety, fruits pinkish white, large. (*Millet & Fils catalogue.*)

59777 to 59840—Continued.

59827. *Sulpice Barbe.* An especially fine variety, with round, flattened fruits. (*Millet & Fils catalogue.*)

59828. *Sybel.* Vigorous; fruits elongated, red; flesh firm, vinous, of good quality. (*Millet & Fils catalogue.*)

59829. *Tardive de Léopold.* Fruits very large, spherical, wine red. Season very late. (*Millet & Fils catalogue.*)

59830 to 59840. RUBUS spp. Rosaceæ.
Raspberry.

59830. *All Summer.* Large crimson fruits of excellent quality, maturing in autumn. (*Barbier & Co. catalogue.*)

59831. *Colonel Wilder.* A variety with large, white, sweet, slightly acidulous fruits. (*Millet & Fils catalogue.*)

59832. *Congy.* Vigorous, with fine red fruits of excellent quality. (*Millet & Fils catalogue.*)

59833. *Couleur de Chair.* Fruits yellow, very large, with pinkish flesh. A good cropper. (*Barbier & Co. catalogue.*)

59834. *De Romainville.* A large red variety especially adapted for market purposes. (*Millet & Fils catalogue.*)

59835. *Feldbrunnen.* Fruit of enormous size, brilliant red, of exceptional quality. (*Millet & Fils catalogue.*)

59836. *Goliath.* A very vigorous grower, but of rather straggling habit; canes about 4 to 5 feet high; good cropper; berries fairly large, deep red, globular, having very large drupels, rather soft, of good flavor. Very great quantities of young vigorous canes are produced each season. (*Journal of the Royal Horticultural Society, vol. 47, p. 47.*)

59837. *Perpétuelle de Billard.* Fruits rather large, round, deep red; clusters long. Plants multiply rapidly.

59838. *Pilate.* Fruit red, large, elongated, moderately sweet. Quality good. (*Millet & Fils catalogue.*)

59839. *Souvenir de Désiré Bruneau.* A vigorous grower, rather straggling, canes about 4 feet high, a heavy cropper, berries large in large clusters, bluntly conical, firm, deep carmine, of good flavor. (*Journal of the Royal Horticultural Society, vol. 47, p. 49.*)

59840. *Sucrée de Metz.* Fruits clear yellow, large, of good quality. (*Barbier & Co. catalogue.*)

59841 to 59857. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ.
Soy bean.

From Omagari, Akita Ken, Japan. Seeds presented by Isaburo Nagai, director, Riku-U substation, Agricultural Experiment Station. Received May 15, 1924.

Introduced for soy-bean specialists.

59841. No. 1. *Nezumisaya.*

59842. No. 2. *Gizuka.*

59843. No. 3. *Sennari.*

59844. No. 4. *Tamazukuri.*

59845. No. 5. *Sohgetsu.*

59846. No. 6. *Fukui-shiro.*

59847. No. 7. *Shirohachikoku.*

59848. No. 8. *Akagara.*

59849. No. 9. *Enoki.*

59841 to 59857—Continued.

59850. No. 10. *Gowari.*

59851. No. 11. *Sennari.*

59852. No. 12. *Hadaka.*

59853. No. 13. *Akasaya* (7).

59854. No. 14. *Yagi* (3).

59855. No. 15. *Takiya* (5).

59856. No. 16. *Onihadaka.*

59857. No. 17. *Dozan.*

59858 to 59933. IPOMOEA BATATAS (L.) Poir. Convolvulaceæ.

Sweet potato.

From St. Croix, Virgin Islands. Seeds presented by J. B. Thompson, Agronomist in Charge, Agricultural Experiment Station. Received March 4, 1924.

Introduced for testing by horticulturists experimenting with sweet-potato varieties.

Numbers 7 to 429 refer to seedlings grown at the station.

59858. No. 7.
59859. No. 14.
59860. No. 15.
59861. No. 18.
59862. No. 24.
59863. No. 26.
59864. No. 27.
59865. No. 29.
59866. No. 30.
59867. No. 31.
59868. No. 34.
59869. No. 36.
59870. No. 40.
59871. No. 41.
59872. No. 44.
59873. No. 52.
59874. No. 54.
59875. No. 55.
59876. No. 60.
59877. No. 76.
59878. No. 81.
59879. No. 82.
59880. No. 85.
59881. No. 92.
59882. No. 95.
59883. No. 110.
59884. No. 111.
59885. No. 112.
59886. No. 117.
59887. No. 141.
59888. No. 153.
59889. No. 159.
59890. No. 169.
59891. No. 171.
59892. No. 179.
59893. No. 194.
59894. No. 203.
59895. No. 213.
59896. No. 217.
59897. No. 223.
59898. No. 226.
59899. No. 230.
59900. No. 238.
59901. No. 251.
59902. No. 253.
59903. No. 255.
59904. No. 263.
59905. No. 300.
59906. No. 316.
59907. No. 319.
59908. No. 360.
59909. No. 361.
59910. No. 372.
59911. No. 375.
59912. No. 377.
59913. No. 386.
59914. No. 389.
59915. No. 379.
59916. No. 410.
59917. No. 429.

59918 to 59933. Pumpkin yam.

59918. Hill No. 1.
59919. Hill No. 2.
59920. Hill No. 3.
59921. Hill No. 4.
59922. Hill No. 5.
59923. Hill No. 6.
59924. Hill No. 7.
59925. Hill No. 8.
59926. Hill No. 9.
59927. Hill No. 10.

59858 to 59933—Continued.

59928. Hill No. 11.
59929. Hill No. 12.
59930. Hill No. 13.
59931. Hill No. 14.
59932. Hill No. 15.
59933. Mixed hills.

59934 to 60167. ZEA MAYS L. Poaceæ. **Corn.**

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 26, 1924. Notes by Messrs. Richey and Emerson.

59934 to 59936. El Verjel, Angol, Chile. March 17, 1924. Two ears, dark yellow flint, much mixed in type; from field. Ears 8 and 9 inches long; 12 rows of kernels each; nearly mature. Plants 5½ to 6½ feet high.

59934. No. 5. Mixed.
59935. No. 5a.
59936. No. 5b.

59937 to 59939. Towards "Los Alpes," near El Verjel, Angol, Chile. March 7, 1924. Two ears, light yellow flint; from field. Ears 8 inches long; 12 rows of kernels each. Possibly of Indian origin.

59937. No. 6. Mixed.
59938. No. 6a.
59939. No. 6b.

59940 to 59944. Northwest from Gorbea, Chile. March 12, 1924. Five ears of small-eared flint, yellow and white with occasional purple seeds. Bought from an Indian on the edge of town, plants not seen. Ears 5 to 7 inches long, mostly eight rows of kernels, but strongly inclined to be irregular.

59940. No. 7a.
59941. No. 7b.
59942. No. 7c.
59943. No. 7d.
59944. No. 7e.

59945 and 59946. South of Gorbea, from the farm of Francisco Huichalaf. March 13, 1924. Two ears of early Indian flint, yellow and white mixed, with a few blue seeds and some with pericarp pattern. Plants 4½ to 5½ feet tall, mature, and nearly dry 130 days after planting.

59945. No. 8a.
59946. No. 8b.

59947 to 59949. South of Gorbea, from the farm of Francisco Huichalaf. March 13, 1924. Two ears of yellow flint, probably not of Indian origin; from a different field from No. 8 [S. P. I. No. 59945]. Ears 6 to 8 inches long, 10 to 14 rows of kernels. Plants 6 to 7 feet high, mature but not dry.

59947. No. 9. Mixed.
59948. No. 9a.
59949. No. 9b.

59950 to 59952. Quitrantue, Chile. March 13, 1924. From the farm of Firmin Velasquez. Three ears taken from a braid. Probably the same as No. 8 [S. P. I. No. 59945].

59950. No. 10a.
59951. No. 10b.
59952. No. 10c.

59953 to 59957. From Juan Huenuhueque, near Curacautin, Chile. March 14, 1924. Five ears of flint maize. Corn already harvested. Plants about 4 feet high.

59953. No. 11a.
59954. No. 11b.
59955. No. 11c.
59956. No. 11d.
59957. No. 11e.

59958 to 59961. East of Curacautin, Chile. March 14, 1924. Four ears of yellow and white flint, some blue kernels. Ears 4 to 5 inches long. Frost in January killed a neighbor's corn, but this escaped. Corn already harvested.

59934 to 60167—Continued.

59958. No. 12a. 59960. No. 12c.

59959. No. 12b. 59961. No. 12d.

59962 to 59969. Curacautin, Chile. March 14, 1924. Seven ears of yellow and white flint with some blue seeds; from a farm. Ears 4 to 6 inches long, one ear with a variegated pericarp. Already harvested.

59962. No. 13. Mixed. 59967. No. 13e.

59963. No. 13a. 59968. No. 13f.

59964. No. 13b. 59969. No. 13g.

59965. No. 13c.

59966. No. 13d. Variegated pericarp.

59970. No. 14. La Paz, Bolivia. March 14, 1924. Bulk seed bought in the market.

59971. No. 15. La Paz, Bolivia. March 24, 1924. Bulk seed bought in the market. The various colored kernels are smaller than No. 14 [S. P. I. No. 59970].

59972. No. 16. La Paz, Bolivia. March 24, 1924. Bulk seed bought in the market; looks like Peruvian.

59973. No. 17. La Paz, Bolivia. March 24, 1924. Bulk seed bought in the market. Yellow flour with some speckling.

59974. No. 18. La Paz, Bolivia. March 24, 1924. Bulk seed bought in the market. Small-kerneled yellow dent, said to have been imported from Conception, Chile.

59975. No. 19. La Paz, Bolivia. March 24, 1924. Bulk seed bought in market. Yellow flour with some kernels having other colors; looks like Peruvian corn.

59976. No. 20. La Paz, Bolivia. March 24, 1924. Bulk seed bought in market. White flour; looks like Peruvian corn.

59977. No. 21. La Paz Valley. March 24, 1924. "*Maiz Negro Obscuro.*" From Julie C. Patino, "Los Manzanos," Hacienda Calacota, about 4 miles below Obrajes; altitude about 11,000 feet. Crop of 1922-23. Dark purple, nearly black. Purple cob. Ear 3½ inches long with 12 rows of pointed kernels. Ear conical. Plants said to be 2½ to 3 meters high, probably require about six months to mature.

59978. No. 22. La Paz Valley. March 24, 1924. From Julie C. Patino, "Los Manzanos," Hacienda Calacota, about 4 miles below Obrajes; altitude about 11,000 feet. Crop of 1922-23. One ear yellow flint 2½ inches long with irregular rows; seeds small; cob red. Plants said to be small and to require about four months to mature.

59979. No. 23. La Paz Valley. March 24, 1924. From Julie C. Patino, "Los Manzanos," Hacienda Calacota, about 4 miles below Obrajes; altitude about 11,000 feet. Crop of 1922-23. One ear of white corn 3¾ inches long, with six to eight rows of large kernels. Said to require about six months to mature.

59980 and 59981. La Paz Valley. March 29, 1924. From Julie C. Patino, "Los Manzanos," Hacienda Calacota, about 4 miles below Obrajes; altitude about 11,000 feet. Crop of 1922-23. Two ears of white-rice pop corn about 4 inches long, said to have come originally from Copocabana.

59980. No. 24a. 59981. No. 24b.

59982. No. 25. La Paz, Bolivia. March 27, 1924. *Maiz Amarilla.* Altitude about 11,700 feet. Bulk seed presented by Luis Crespe. Contains some sweet-corn kernels. Plants said to be 7 to 9 feet tall and to require six months or more to mature.

59934 to 60167—Continued.

59983. No. 26. La Paz, Bolivia. March 27, 1924. *Maiz Morado.* Altitude 11,700 feet. Bulk seed presented by Luis Crespe. Crop of 1922-23. Plants said to be 7 to 9 feet tall and to require about six months or more to mature.

59984. No. 27. La Paz, Bolivia. March 27, 1924. *Maiz Gris.* Altitude 11,700 feet. Bulk seed presented by Luis Crespe. Of various colors and patterns. Crop of 1922-23. Plants said to be 7 to 9 feet tall and to require six months or over to mature.

59985 to 59987. March 29, 1924. From a farm about 7 miles below Obrajes, Bolivia; altitude about 11,000 feet. Three ears of small-seeded yellow flint. Ears about 3 inches long with red cobs. Crop of 1922-23. Said to be a short-season maize maturing in about four months.

59985. No. 28a. 59987. No. 28c.

59986. No. 28b.

59988 and 59989. March 29, 1924. From a farm about 7 miles below Obrajes, Bolivia; altitude about 11,000 feet. *Maiz Griz.* Two ears of various colors and patterns. Ears about 4 inches long with large seeds.

59988. No. 29a. 59989. No. 29b.

59990 and 59991. March 29, 1924. *Maiz Blanco.* From a farm about 7 miles below Obrajes, Bolivia; altitude 11,000 feet. This seed is from the same field as No. 29 [S. P. I. No. 59988-89].

59990. No. 30a. 59991. No. 30b.

59992 and 59993. March 29, 1924. *Maiz Rojo.* From a farm about 7 miles below Obrajes, Bolivia; altitude about 11,000 feet. From the same field as No. 29 [S. P. I. No. 59988-89].

59992. No. 31a. 59993. No. 31b.

59994. No. 32. La Paz, Bolivia. March 29, 1924. One ear 2½ inches long with 12 rows of kernels which are white and yellow with a pink blush. The plants are of the purple type and grow 3 or 4 feet high, making a very thick stand on the poor soil of the American Institute.

59995. No. 33. March 29, 1924. One ear with very large seeds from an Indian field down the La Paz Valley about 5½ miles below Obrajes, Bolivia. Altitude about 11,000 feet and soil very poor and stony.

59996 and 59997. La Paz, Bolivia. March 27, 1924. Two ears 4 inches long with 12 rows of large white kernels, grown on the grounds of the American Institute. Altitude 12,200 feet. Plants 4 to 5 feet tall; sun-red type.

59996. No. 34a. 59997. No. 34b.

59998 to 60000. La Paz, Bolivia. March 27, 1924. Three ears 2½ inches long with 12 to 14 rows of white kernels. Grown in the garden of an Aimará Indian in poor soil on the north slope of a hillside; altitude 12,200 feet.

59998. No. 35a. 60000. No. 35c.

59999. No. 35b.

60001 to 60012. La Paz, Bolivia. March 27, 1924. Twelve ears 2 to 4 inches long with medium-sized kernels of various colors. The field belonged to an Aimará Indian; it was planted September 4, 1923, and just harvested.

60001. No. 36a. 60007. No. 36g.

60002. No. 36b. 60008. No. 36h.

60003. No. 36c. 60009. No. 36i.

60004. No. 36d. 60010. No. 36k.

60005. No. 36e. 60011. No. 36l.

60006. No. 36f. 60012. No. 36m.

59934 to 60167—Continued.

60013. No. 37. La Paz, Bolivia. March 31, 1924. One ear about 3 inches long with 12 rows of pink kernels and a purple cob. Grown in an Indian garden at 12,600 feet altitude.

60014 to 60018. La Paz, Bolivia. March 27, 1924. Five ears of red, yellow, and variegated flint. Ears about 2 inches long with 12 to 16 rows of small kernels. Grown in an Indian garden on a hillside, at about 12,600 feet altitude and said to mature in about four months.

60014. No. 38a.
60015. No. 38b.
60016. No. 38c.
60017. No. 38d.
60018. No. 38e.

60019. No. 40. Urco Mission, Calca, Peru. Bulk seed of native white corn. Large seeded, Cuzco type.

60020. No. 41. Urco Mission, Calca, Peru. Bulk seed of native yellow corn. Large seeded, Cuzco type.

60021. No. 42. Urco Mission, Calca, Peru. Bulk seed of native red corn. Large seeded, Cuzco type.

60022. No. 43. Urco Mission, Calca, Peru. Native variegated corn. Bulk seed, large seeded of the Cuzco type.

60023. No. 44. Urco Mission, Calca, Peru. Corn from the United States grown at the mission for six generations. Said to have been a yellow flint originally, and Mr. Payne thinks the chances of crossing with local corn are negligible.

60024. No. 45. Urco Mission, Calca, Peru. Seed obtained by crossing the native yellow corn of the Cuzco type and Reid Yellow Dent. This corn represents the fifth and sixth generation of the cross grown at Calca.

60025. No. 46. Urco Mission, Calca, Peru. Seed obtained by crossing the native yellow corn of the Cuzco type and Leaming. This corn represents the fifth or sixth generation of the cross grown at Calca.

60026. No. 47. Urco Mission, Calca, Peru. Seed obtained by crossing the native yellow corn of the Cuzco type and some unknown sort of yellow dent from the United States. This corn represents the fifth or sixth generation of the cross grown at Calca.

60027. No. 48. Urco Mission, Calca, Peru. Seed obtained by crossing a native yellow corn of the Cuzco type and a yellow flint from the Dakotas, possibly Gehu. This corn represents the fifth or sixth generation of the cross grown at Calca.

60028 and 60029. Urco Mission, Calca, Peru. Two ears of large-seeded speckled corn of the Cuzco type. Said to be quite early.

60028. No. 52a.
60029. No. 52b.

60030. No. 54. Urco Mission, Calca, Peru. Ear of large-seeded black corn. Stalks said to be very sweet. Pericarp deep red, aleurone colorless.

60031. No. 55. Urco Mission, Calca, Peru. Ear of large-seeded white (Ivory) corn.

60032 to 60075. Urco Mission, Calca, Peru. Forty-three ears of higher altitude maize, grown at from 12,000 to 12,500 feet. These represent the earliest types in the vicinity. Ears of various colors.

60032. No. 56. Mixed.
60033. No. 56a.
60034. No. 56b.
60035. No. 56c.
60036. No. 56d.
60037. No. 56e.
60038. No. 56f.
60039. No. 56g.

59934 to 60167—Continued.

60040. No. 56h.
60041. No. 56i.
60042. No. 56k.
60043. No. 56l.
60044. No. 56m.
60045. No. 56n.
60046. No. 56o.
60047. No. 56p.
60048. No. 56q.
60049. No. 56r.
60050. No. 56s.
60051. No. 56t.
60052. No. 56u.
60053. No. 56v.
60054. No. 56w.
60055. No. 56x.
60056. No. 56y.
60057. No. 56z.
60058. No. 56aa.
60059. No. 56ab.
60060. No. 56ac.
60061. No. 56ad.
60062. No. 56ae.
60063. No. 56af.
60064. No. 56ag.
60065. No. 56ah.
60066. No. 56ai.
60067. No. 56ak.
60068. No. 56al.
60069. No. 56am.
60070. No. 56an.
60071. No. 56ao.
60072. No. 56ap.
60073. No. 56aq.
60074. No. 56ar.
60075. No. 56as.

60076 and 60077. Ollantaytambo, Peru. April 10, 1924. Two ears of corn, one yellow with the pericarp reddish toward the tips of the seeds and the other with cherry pericarp. Plants about 4 to 5 feet high; collected at an altitude of 7,000 feet.

60076. No. 57a. Yellow.
60077. No. 57b. Cherry.

60078. No. 58. Sicuani, Peru. April 12, 1924. Bulk seeds from an Indian market. Various colors, mostly red and purple. Crop of 1922–23. Said to have been grown at Arequipa, Peru, at 7,500 feet altitude.

60079. No. 59. Sicuani, Peru. April 12, 1924. Bulk seeds from the Indian market. Various colors, mostly yellow. Crop of 1922–23. Said to be locally grown at 11,659 feet altitude.

60080. No. 60. Sicuani, Peru. April 12, 1924. Bulk seeds from store, mostly yellow. Crop of 1922–23. Said to have been grown at Paucartambo, near Cuzco, Peru.

60081 to 60085. Sicuani, Peru. April 12, 1924. Five ears of red and yellow flint corn grown on a farm south of Sicuani at 11,650 feet altitude.

60081. No. 61a.
60082. No. 61b.
60083. No. 61c.
60084. No. 61d.
60085. No. 61e.

60086 to 60095. Sicuani, Peru. April 12, 1924. Ten ears of various colors grown on a farm north of Sicuani at 11,650 feet altitude.

60086. No. 62a.
60087. No. 62b.
60088. No. 62c.
60089. No. 62d.
60090. No. 62e.
60091. No. 62f.
60092. No. 62g.
60093. No. 62h.
60094. No. 62i.
60095. No. 62k.

60096 to 60099. Sicuani, Peru. April 12, 1924. Four ears of various colors and mixed type grown on the farm of a Quechua Indian northeast of Sicuani. The seeds from which this crop was grown came from Cuzco.

60096. No. 63a.
60097. No. 63b.
60098. No. 63c.
60099. No. 63d.

59934 to 60167—Continued.

60100 to 60103. Sicuani, Peru. April 12, 1924. Four ears of corn bought in an Indian market and said to have come from Cusipata, Peru.

60100. No. 64a. **60102.** No. 64c.

60101. No. 64b. **60103.** No. 64d.

60104 to 60106. Sicuani, Peru. April 12, 1924. Three ears, red and yellow, bought in an Indian market; said to have been grown locally.

60104. No. 65a. **60106.** No. 65c.

60105. No. 65b.

60107 to 60115. Sicuani, Peru. April 12, 1924. Nine ears bought in an Indian market, said to have been grown near San Pabla.

60107. No. 66a. **60112.** No. 66f.

60108. No. 66b. **60113.** No. 66g.

60109. No. 66c. **60114.** No. 66h.

60110. No. 66d. **60115.** No. 66i.

60111. No. 66e.

60116 to 60120. Sicuani, Peru. April 12, 1924. Five ears from an Indian market, said to have come from Asomayo, Peru, 4 leagues west of Chuquicahuana.

60116. No. 67a. **60119.** No. 67d.

60117. No. 67b. **60120.** No. 67e.

60118. No. 67c.

60121 to 60123. Cuzco, Peru. April, 1924. Two ears of sweet corn and one ear of mixed sweet and flour corn from Sr. Ochoa.

60121. No. 68a. **60123.** No. 68c.

60122. No. 68b.

60124 to 60127. Cuzco, Peru. April, 1924. Four ears of white and colored corn from Sr. Ochoa.

60124. No. 69a. **60126.** No. 69c.

60125. No. 69b. **60127.** No. 69d.

60128. No. 70. Near Arequipa, Peru. April, 1924. *Chicha maize.* From Elias C. Bedregal. Seeds very large, red and purple. Matures in about six months. Altitude 7,000 feet.

60129. No. 71. Arequipa, Peru. April, 1924. *Chulpe maize.* From Elias C. Bedregal. This type is boiled and then dried. Seeds medium size, yellow, some are wrinkled (sugar type). Requires about seven months to mature.

60130. No. 72. Arequipa, Peru. April, 1924. *Amarillo maize.* From Elias C. Bedregal. Seeds intermediate in size between those of No. 70 (S. P. I. No. 60128) and No. 71 (S. P. I. No. 60129). The mixture of nonyellow seeds in this sample is said to be artificial.

60131. No. 73. Calca, Peru. April, 1924. Cuzco type, yellow-dent cross F-51, from T. E. Payne.

60132 to 60136. Huancayo, Peru. April 27, 1924. Five ears of red variegated maize, purchased in the Indian market and said to have come from within a few miles of town; altitude 10,700 feet.

60132. No. 74a. **60135.** No. 74d.

60133. No. 74b. **60136.** No. 74e.

60134. No. 74c.

60137. No. 75. Huancayo, Peru. April 27, 1924. Six ears of yellow, rice-pointed pop corn, bought in an Indian market. Said to have come from within a few miles of town; altitude 10,700 feet.

60138. No. 76. Huancayo, Peru. April 27, 1924. White maize. Bulk seeds from the Indian market, said to have been grown within a few miles of town; altitude 10,700 feet.

59934 to 60167—Continued.

60139 to 60143. Huancayo, Peru. April 27, 1924. Five ears of brown maize (one with red cob) bought in the Indian market.

60139. No. 77a. **60142.** No. 77d.

60140. No. 77b. **60143.** No. 77e.

60141. No. 77c.

60144 to 60151. Huancayo, Peru. April 27, 1924. Eight ears of red, purple, and rose-colored maize. From the Indian market.

60144. No. 78a. **60148.** No. 78e.

60145. No. 78b. **60149.** No. 78f.

60146. No. 78c. **60150.** No. 78g.

60147. No. 78d. **60151.** No. 78h.

60152. No. 79. Huancayo, Peru. April 27, 1924. Bulk seed of purple maize from the Indian market. Said to have been grown a few miles from town; altitude 10,700 feet.

60153 to 60156. Huancayo, Peru. April 27, 1924. Four ears, white, splashed with purple. One with rose-colored bands around kernels. Bought in the Indian market and said to have come from within a few miles of town; altitude 10,700 feet.

60153. No. 80a. **60155.** No. 80c.

60154. No. 80b. **60156.** No. 80d.

60157 and 60158. Lima, Peru. April, 1924. Two ears of yellow maize from Escuela Nacional de Agricultura. Grown locally.

60157. No. 81a. **60158.** No. 81b.

60159 and 60160. Lima, Peru. April, 1924. Yellow maize. Two ears, one with purple cob from Escuela Nacional de Agricultura. Grown locally.

60159. No. 82a. **60160.** No. 82b.

60161 and 60162. Lima, Peru. April, 1924. Purple maize. Two ears bought in a store. Said to have come from Arequipa, Peru.

60161. No. 83a. **60162.** No. 83b.

60163 and 60164. Atucha, Province of Buenos Aires, Argentina, April, 1924. *Pinmontes* flint, two ears.

60163. No. 84a. **60164.** No. 84b.

60165 and 60166. Casilda, Argentina. April, 1924. *Colorado Casilda* from Escuela Nacional de Agricultura.

60165. No. 85a. **60166.** No. 85b.

60167. No. 86. Pontant, Province of Buenos Aires, Argentina. April, 1924. *Quaranton* maize from the experimental farm. Bulk sample.

60168 and 60169. ORNITHOGALUM THYRSOIDES Jacq. Liliaceæ.

From Pretoria, Transvaal, Union of South Africa. Bulbs presented by I. B. Pole Evans, chief, Division of Botany. Received May 26, 1924.

In South Africa, where this bulbous ornamental is native, it is known as one of the "chinkerichees." The globose bulb is about 2 inches thick, and the five or six very narrow leaves are 6 inches to a foot in length. The flowers, sometimes an inch long under cultivation, are borne in rather dense racemes on a scape about a foot high. In a dried condition these make excellent "everlasting flowers."

60168. A pure-white variety.

60169. A black-eye variety.

60170. CRACCA CANDIDA (DC.) Kuntze (*Tephrosia candida* DC.). Fabaceæ.

From Dominica, British West Indies. Seeds presented by the Botanic Gardens, Dominica, through Alfred Keys, Bureau of Plant Industry. Received May 21, 1924.

The large terminal and lateral clusters of reddish or white flowers of this low Himalayan shrub make it worthy of trial as an ornamental in the warmer parts of the United States. The branches are slender and covered with a velvety pubescence, while the smooth green leaves, 6 to 8 inches long, have gray-silky lower surfaces.

For previous introduction, see S. P. I. No. 55678.

60171. NEPHELIUM MUTABILE Blume. Sapindaceæ. **Pulasan.**

From Buitenzorg, Java. Seeds presented by P. J. S. Cramer, director, General Experiment Station, Department of Agriculture. Received June 5, 1924.

The pulasan is closely related to the lychee and is native to the Malayan region. It is tropical in its requirements and will probably not succeed in the United States; it merits cultivation, however, in Porto Rico, the Canal Zone, and elsewhere.

The tree attains a height of about 30 feet; the leaves are compound, with two to four pairs of oblong to elliptic, acuminate leaflets 5 to 10 inches long. The red fruit, commonly borne in small clusters, is about the size of a walnut; the pericarp is thick and covered with short, blunt, stout fleshy spines. The flesh (properly the aril) is translucent, whitish, juicy, and of sweet, slightly acidulous flavor; it contains a single oblong seed of large size.

For previous introduction, see S. P. I. No. 56781.

60172 to 60174.

From Stavanger, Norway. Plants presented by Thoralf Bryne, Brynes Rosen-Og Planteskole. Received June 3, 1924.

Introduced for horticulturists engaged in small-fruit breeding.

60172. RIBES sp. Grossulariaceæ.

Studenken au Lorgus. This is my new hybrid red currant; it is a very late variety with long trusses and is chiefly adapted for preserves. (*Bryne.*)

60173. RUBUS sp. Rosaceæ. **Raspberry.**

Paradise berry. A large red raspberry, almost as large as the largest variety known in cultivation, which is the English variety "The Royal." (*Bryne.*)

For previous introduction, see S. P. I. No. 56145.

60174. RUBUS sp. Rosaceæ. **Raspberry.**

An unnamed Norwegian raspberry.

60175 to 60184. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

From Pyengyang, Chosen. Seeds presented by D. N. Lutz. Received May 26, 1924. Notes by Mr. Lutz.

Introduced for soy-bean specialists.

60175. No. 1. *Small Yellow.* Used for bean sprouts; yield small.

60176. No. 2. May be the same as No. 1 [S. P. I. No. 60175]. Used for bean sprouts; yield small.

60177. No. 3. *Small Black* ("Rat Eye"). Used for bean sprouts and said to be used as medicine; yield small.

60178. No. 4. *Green.* Used for bean sprouts; yield fairly good.

60175 to 60184—Continued.

60179. No. 5. *Small Black* ("Rat Eye"). May be the same as No. 3 [S. P. I. No. 60177]. Used for bean sprouts and said to be used as medicine. Yield and plants small.

60180. No. 6. *Medium Yellow.* Most widely grown type in Chosen. High yield. Used for stock feed and for making bean sauce "soy." Cheaper than other varieties.

60181. No. 7. *Black Medium.* Not widely grown and of rather low yield. Used roasted as human food.

60182. No. 8. *Large Yellow.* A widely-grown variety of high yield. Used for human food; also fed to stock.

60183. No. 9. *Brown.* A rather rare variety. The sample as purchased was mixed with black beans.

60184. No. 9a. Mixed.

60185 to 60187. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

From Sapporo, Japan. Seeds presented by K. Abiko, agronomist, Hokkaido Agricultural Experiment Station. Received May 31, 1924. Notes by Mr. Abiko.

Introduced for soy-bean specialists.

60185. *Aotairu.* Used as meal and for green manure.

60186. *Ohyachi.* Used in industry and as food.

60187. *Tsurunoko.* Used in industry and as food.

60188. ANEMONE JAPONICA (Thunb.) Sieb. and Zucc. Ranunculaceæ. **Japanese anemone.**

From Stuttgart, Germany. Plants purchased from Wilhelm Pfitzer. Received May 31, 1924.

Var. *Schneekönigin.* This new anemone variety, originated by Mr. Pfitzer, may be described in general as an improved Luise Uhink, according to Möllers Deutsche Gärtner-Zeitung for November 1, 1923. The snow-white flowers, about 4 inches across, are produced more freely and on more upright stems than those of Luise Uhink and are made intensely striking by the dark-green background of the handsome foliage.

60189. INCARVILLEA DELAVAYI Bur. and Franch. Bignoniaceæ.

From Glasnevin, Dublin, Ireland. Seeds presented by the director, Royal Botanic Gardens. Received November 8, 1923. Numbered June, 1924.

Var. *Przewalskii.* A handsome hardy Chinese perennial plant with attractive pinnate foliage and showy yellow flowers. It is said to thrive best in a light, sandy loam, with plenty of sunshine.

60190 to 60200. HIBISCUS CANNABINUS L. Malvaceæ. **Ambari hemp.**

From New York City. Seeds presented by Charles O. Tappan. Received May 24, 1924. Notes by Mr. Tappan.

A collection of varieties grown in India and Brazil for cordage, introduced for specialists experimenting with fiber plants.

60190 to 60197. From the Imperial Economic Botanist, Pusa.

60190. No. 1.
60191. No. 2.
60192. No. 3.
60193. No. 4.
60194. No. 5.
60195. No. 6.

60190 to 60200—Continued.

60196. No. 7. **60197.** No. 8.

60198 and 60199. From Gogu, Circars, Coimbatore Experimental Farm, India.

60198. No. 1. **60199.** No. 2.

60200. From Brazil.

60201. ESENBECKIA LEIOCARPA Engl. Rutaceæ.

From Brazil. Seeds presented by F. L. Rhodes, American Telephone & Telegraph Co., New York City. Received May 7, 1924.

An erect, medium-sized tree from the forests of southeastern Brazil. The straight trunk is often branchless for a considerable height from the ground, a characteristic which suggests its use as pole timber. In Brazil the clear yellow wood is used for railway ties and for general construction. Coming from the cooler parts of Brazil, this tree might succeed in the southern portion of the United States.

60202 and 60203. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

From Fukuoka, Japan. Seeds presented by Dr. Mitsunaga Fujioka, Kyushu Imperial University. Received May 15, 1924.

Locally developed varieties introduced for soy-bean specialists.

60202. *Hakkoku.* **60203.** *Toppa.*

60204 to 60207.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received May 15, 1924. Notes by Mr. Rock.

60204 and 60205. HORDEUM spp. Poaceæ. **Six-rowed barley.**

Garthok, eastern Tibet, February, 1924. The two best grades of barley from the high plateau of eastern Tibet, where they grow at an altitude of 10,000 feet or more.

60204. HORDEUM VULGARE COELESTE L.

Grade 1. This barley sheds its hull with the awn; the latter does not break off, leaving the hull attached, as is the case with American barley. The grain is large and pure white. This grade is probably adapted to the uplands of the central western part of the United States.

60205. HORDEUM VULGARE COELESTE L.

Grade 2. A black barley from the same region as grade 1 [S. P. I. No. 60204].

60206. RHODODENDRON sp. Ericaceæ.

No. 11324. November, 1923. A shrub 6 feet high found on the slopes of Mount Peima, Mekong-Yangtze Divide, at 14,000 feet altitude. The elliptical-oblong leaves are covered with soft pale-brown tomentum; the flowers were not seen.

60207. RHODODENDRON ARALIAEFORME Balf. f. and Forrest. Ericaceæ.

Nos. 11326 (fruit), 9269 (flowers). November, 1923. A shrub 8 feet high found on the alpine slopes of Mount Peima at 13,000 feet altitude. The oval leaves are rounded at both ends, golden yellow beneath, and glabrous; the flowers are rich purplish pink.

60208 to 60217. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

From Tottori, Japan. Seeds presented by Prof. Akio Kikuchi, College of Agriculture. Received May 16, 1924.

Introduced for soy-bean specialists.

60208. No. 1. *Shakkinnashi.*

60209. No. 2. *Ichireu.*

60210. No. 3. *Mejiro.*

60211. No. 4. *Tamazukuri.*

60212. No. 5. *Omokage.*

60213. No. 6. *Tamanishiki.*

60214. No. 7. *Kuromame.*

60215. No. 8. *Uzura-daizu.*

60216. No. 9. *Natsu-daizu.*

60217. No. 10. *Natsu-cha-caizu.*

60218 to 60224.

From Minchow, Kansu, China. Seeds presented by W. N. Ruhl. Received May 17, 1924. Notes by Mr. Ruhl.

60218. BRASSICA sp. Brassicaceæ.

No. 2. Oil from seeds used for cooking and illuminating.

60219. BRASSICA sp. Brassicaceæ.

No. 3. Grown extensively in southwestern Kansu. Oil is extracted from the seeds.

60220. GLEDITSIA SINENSIS Lam. Cæsalpiniaceæ.

No. 8. The pods are used as a soap substitute.

60221. LACTUCA SATIVA L. Cichoriaceæ. **Lettuce.**

No. 1. This variety grows to a height of 12 to 20 inches. The stalks and not the leaves are eaten. When creamed they are very palatable.

60222. PEUCEDANUM DECURSIVUM (Miquel) Maxim. Apiaceæ.

No. 6. *Tan Kwei* (Dan Gwey). An aromatic plant extensively cultivated in this section. The roots, the part used, are dug in late October.

60223. RHEUM OFFICINALE Baill. Polygonaceæ.

No. 7. This is the medicinal rhubarb, found all over Kansu. The roots are used medicinally, and sometimes the stalks are eaten.

60224. RHUS VERNICIFLUA Stokes (*R. vernicifera* DC.). Anacardiaceæ.

No. 4. The sap of this tree, when properly prepared, makes a very good varnish with a hard, lacquerlike finish.

60225. AGAVE sp. Amaryllidaceæ.

From Algiers, Algeria. Seeds presented by Dr. A. Trabut, Algiers, through L. H. Dewey, Bureau of Plant Industry. Received May 17, 1924.

These are seeds of an agave hybrid sent to me by Doctor Trabut. I believe that Doctor Trabut made this cross about 1908. The staminate parent was the sisal, *Agave sisalina*, and the pistillate plant was an undetermined species which he had received from San Luis Potosi, Mexico. His object in making the cross was to obtain a plant more resistant to cold than the sisal and yet having the thin straight leaves producing fiber similar to that of sisal. He has developed some varieties by selection from the numerous variations resulting from the cross, but thus far none are cultivated commercially for fiber production in Algeria. (*Dewey.*)

60226 to 60230. ALLIUM spp. Liliaceæ.

From Stockholm, Sweden. Seeds presented by Dr. Robert E. Fries, director, Botanical Garden. Received May 17, 1924.

Introduced for horticulturists studying the food value of wild species of Allium.

60226. ALLIUM FISTULOSUM L. **Welsh onion.**

A Siberian species which differs from the common onion in having no distinct bulb, but only an enlarged base or crown; the leaves are usually more clustered.

For previous introduction, see S. P. I. No. 58679.

60227. ALLIUM HYMENORRHIZUM Ledeb.

A perennial moisture-loving Russian species with linear leaves and purplish violet flowers.

60228. ALLIUM KARATAVIENSE Regel.

An herbaceous plant with very broad, ovate-oblong, flat leaves and pink flowers borne in dense, convex umbels. The scapes are about 6 inches high. Native to Turkestan.

For previous introduction, see S. P. I. No. 58874.

60229. ALLIUM ODORUM L.

This onion, which grows wild in Europe, is cultivated in Japan for its leaves, which are eaten as greens; in the spring the leaves are borne luxuriantly by the old bulbs, becoming about a foot in length.

For previous introduction, see S. P. I. No. 58879.

60230. ALLIUM POLYPHYLLUM Kar. and Kir.

A Siberian species, 1 to 2 feet high, with flat, linear leaves and rose-colored flowers.

60231. PHORMIUM TENAX Forst. Liliaceæ. **New Zealand flax.**

From Palmerston North, New Zealand. Seeds presented by G. Smerle, Palmerston North, through L. H. Dewey, Bureau of Plant Industry. Received May 17, 1924.

According to Mr. Smerle these seeds were collected from tall varieties cultivated near Palmerston North, and he recommends that an attempt be made to grow this tall form in the southern part of the United States. (*Dewey.*)

60232 to 60241. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

From Meguro, near Tokyo, Japan. Seeds presented by Dr. H. Shirasawa, director, Forest Experiment Station. Received May 19, 1924.

A collection of locally developed varieties introduced from Japan for department soy-bean specialists.

60232. *Ao-Daizzu.*
60233. *Ao-Gozen.*
60234. *Goha.*
60235. *Hokkado.*
60236. *Kimusume.*
60237. *Kurakake.*
60238. *Kuro-Daizu.*
60239. *Oilan.*
60240. *Shiro-Gozen.*
60241. *Soden.*

60242. RUBUS TURQUINENSIS Rydb. Rosaceæ.

From Santiago de las Vegas, Cuba. Seeds presented by Gonzalo M. Fortun, director, Estación Experimental Agronómica. Received May 21, 1924.

A Cuban species which grows to a height of about 5 feet; the entire plant is densely hairy and armed with curved prickles about a quarter of an inch long. The leaves are dark green, and the small berries are about half an inch in length. Introduced primarily for use in small-fruit breeding experiments.

60243 to 60251.

From Yihsien, Shantung, China. Seeds presented by K. M. Gordon, South Shantung Industrial School. Received May 21, 1924. Notes by Mr. Gordon.

Introduced for soy-bean specialists.

60243 to 60250. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

60243. *Big Green bean.* Pods large, green; ripens in 90 to 100 days; grows 3 feet or more tall; oil content small. Used largely as a vegetable, both green and dried; can be roasted like peanuts. Vines coarse, not good for hay.

60244. *Big White pod.* Habit upright; pods white; ripens in 75 to 80 days; good bearer. Produces good oil and bean curd; used extensively for human and animal food; can be ground wet or dry.

60245. *Black bean.* Habit upright; pods black; ripens in 80 days; good bearer. Used extensively for stock feed, not used for oil because of dark color; ground wet, dry, or cooked.

60246. *Black-Haired Yellow bean.* Habit upright; pods dark, covered with black hairs; ripens in 80 days, good bearer, three to four beans to each pod; produces good oil and bean curd; can be ground wet, dry, or cooked. One of the best varieties in this district.

60247. *Ch'a Tou.* Habit upright; pods black, beans dark green; ripens in 80 days. Not used for oil, makes a stiff bean curd; ground with water and fed to animals.

60248. *Hua Ch'a tou.* Habit upright; pods dark colored, seeds varicolored; ripens in 80 days, good bearer. Used extensively for stock feed and somewhat as human food.

60249. *Pai Chia K'e tzu.* Habit upright; pods small, white; ripens in 70 to 80 days; oil content high, makes good bean curd. Used extensively for human food and as stock feed. This is considered the best soy bean of this district.

60250. *Ping Niu Huang.* Habit upright; pods black; ripens in 90 days; oil content high, makes good bean curd. Used extensively for animal and human food.

60251. VIGNA SINENSIS (Torner) Savi. Fabaceæ. **Cowpea.**

Chiang tou. Habit spreading; pods long, round; ripens in 70 days; can be ground dry into meal for human consumption. Used to make a refreshing hot-weather beverage.

60252. POLYGONUM CAMPANULATUM Hook. f. Polygonaceæ.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received May 21, 1924.

During the late summer and autumn this hardy perennial, native to the Himalayas, produces dense racemes of charming, bell-shaped, fragrant, rosy white flowers. The plant is of compact, bushy habit, with handsome foliage, and is useful for growing in moderately shaded, moist situations.

60253. VIGNA LUTEA (Swartz) A. Gray (*V. retusa* Walp.). Fabaceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received May 21, 1924.

Silani. A native perennial creeper or climbing vine found along the seashore in the Philippines.

I first saw this vine at Mindanao in 1919 and considered it promising as a cover crop, for which purpose it has since proved very satisfactory. It has also made a good green forage for cattle. Although it does not seed freely, cuttings root very readily, and the plant would appear to have possibilities for tropical regions like Porto Rico and Hawaii. (*Wester.*)

60254. SAPIUM JENMANNI Hemsl. Euphorbiaceæ.

From Georgetown, British Guiana. Seeds presented by R. Ward, superintendent, Botanic Gardens. Received May 21, 1924.

A tall forest tree which grows in low, humid situations in British Guiana and is said to be the principal, if not the only, source of rubber from that colony. The product has excellent elasticity and has brought good prices in the English markets. Seeds have been secured for department rubber specialists.

60255. COTULA CINEREA Delile. Asteraceæ.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received May 21, 1924.

A densely hairy, pale-green herbaceous plant about 5 inches high, which, according to Doctor Trabut, makes a very agreeable tealike infusion.

60256. CUCUMIS SATIVUS L. Cucurbitaceæ. **Cucumber.**

From Perthshire, Scotland. Seeds presented by J. B. Roberts. Received May 21, 1924.

An Indian variety, from Malwa, Central India, 18 to 20 inches long and quite thick. It should be picked when partly ripe; a few should be left to ripen fully for seed purposes. The flavor is very pronounced. (*Roberts.*)

60257. HYOSCYAMUS FALEZLEZ Cos. Solanaceæ.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received May 21, 1924.

This is known to the Touarregs as "Afahlehlé." It is common in the southern part of the Sahara, where its toxic properties are well known to the natives. It can be eaten by camels, goats, and sheep, but is very poisonous to horses and donkeys. It is believed that Afahlehlé fattens ruminants and also women, corpulency among the latter being considered a mark of beauty. (*Trabut.*)

60258. CITRULLUS VULGARIS Schrad. Cucurbitaceæ. **Watermelon.**

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received May 21, 1924.

This is said to be a small watermelon with a hard thin rind and flesh of exceptionally fine quality. (*Wester.*)

60259 to 60266. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

From Seoul, Chosen, Japan. Seeds presented by Dr. Y. Nishimura, chief, Industrial Bureau, Government-General of Chosen. Received June 2, 1924.

Introduced for soy-bean specialists.

60259. *Anpen.*
60260. *Chotan.*
60261. *Crusan.*
60262. *Heijo.*
60263. *Kongo.*
60264. *Koshu.*
60265. *Oiyarucon.*
60266. *Tansen.*

60267 to 60271. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

From Kwangju, Chosen, Japan. Seeds presented by Miriam de Haas, Southern Presbyterian Mission. Received June 2, 1924.

Introduced for soy-bean specialists.

60267. No. 1. Large, green bean.
60268. No. 2. *Tai-chi* bean.
60269. No. 3. *Black* bean.
60270. No. 4. *White* bean.
60271. No. 5. *Brown* bean.

60272 to 60278. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

From Shaoking, Chekiang, China. Seeds presented by Rev. A. F. Ufford, American Baptist Foreign Mission Society. Received June 2, 1924.

Introduced for soy-bean specialists.

60272. *Fifth Moon.*
60273. *Sixth Moon.*
60274. *Eighth Moon.*
60275. *Ninth Moon.*
60276. *Tenth Moon.*
60277. *Black.*
60278. *Large Green.*

60279 to 60282. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

From Peking, China. Seeds presented by N. S. Huang, chief, Bureau of Agriculture and Forestry. Received June 2, 1924.

Introduced for the use of soy-bean specialists.

60279 to 60281. These are the three best varieties grown in this part of China. (*Huang.*)

60279. From Mukden.
60280. From Peking.
60281. From Shansi.

60282. A mixture of Peking and Shansi varieties.

60283 and 60284. LILIUM spp. Liliaceæ. **Lily.**

From Tunbridge Wells, England. Seeds purchased from R. Wallace & Co. Received May 21, 1924.

Obtained for horticulturists engaged in breeding new types of lilies.

Hybrids raised by the late Mrs. R. O. Backhouse.

60283. LILIUM MARTAGON × HANSONI.

60284. LILIUM SULPHUREUM × REGALE.

Sulphur-Gale.

60285 and 60286.

From Holguin, Cuba. Seeds presented by Thomas R. Towns. Received May 15, 1924. Notes by Mr. Towns.

60285. CUCUMIS MELO L. Cucurbitaceæ. **Melon.**

A Cuban variety which bears well and has a delicious flavor.

60286. CUCURBITA PEPO L. Cucurbitaceæ. **Pumpkin.**

Small solid pumpkins which are excellent for pie.

60287. PRUNUS sp. Amygdalaceæ.

From Germany. Plants sent at the request of Omar E. Mueller, Clifton Park, Lakewood, Ohio. Received May 19, 1924.

Weichsel. This hardy flowering cherry is exceedingly fragrant, with aromatic bark. (*Mueller.*)

60288. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

From Fukuoka, Japan. Seeds presented by Tyôzaburo Tanaka, Kyushu Imperial University, through Dr. Mitsunaga Fujioka, Division of Forestry, Kyushu Imperial University. Received May 20, 1924.

Shimabara Wasa. From the Kumamoto Agricultural Experiment Station. (*Tanaka.*)

Introduced for cultural and comparison tests.

60289 and 60290.

From Burringbar, New South Wales, Australia. Seeds presented by B. Harrison. Received May 21, 1924. Notes by Mr. Harrison.

60289. CUCUMIS MELO L. Cucurbitaceæ. **Melon.**

Thorne's Monster muskmelon. A variety of delicious flavor which attains a weight of 24 pounds and a diameter of about 3 feet. Grown on reclaimed swamp land. From L. G. Thorne, Murwillumbah, New South Wales.

60290. ELICHRYSUM sp. Asteraceæ.

A very rare native double white "aster." It is a shrub about 3 feet high; the flowers are borne in large clusters.

60291. RUBUS sp. Rosaceæ. **Raspberry.**

From Bolivia. Seeds collected by A. S. Hitchcock, Bureau of Plant Industry. Received May 21, 1924.

An enormous pale-rose raspberry, an inch long, from Yungas, Bolivia. I saw only one or two fruits. (*Hitchcock.*)

60292 and 60293. CINCHONA spp. Rubiaceæ.

From Tjinjiroean, Dutch East Indies. Seeds presented by the director of the Government Cinchona Plantations. Received May 22, 1924. Notes by G. A. Russell, Bureau of Plant Industry.

Introduced for specialists experimenting with drug plants.

60292. CINCHONA LEDGERIANA Moens.

Yields a bark remarkably rich in quinine which crystallizes readily as quinine sulphate. The percentage of cinchonine and other alkaloids present is relatively small. The bark of this species matures in the fifth or sixth year and does not increase in quinine after that. Suitable for cultivation only on hillsides in frost-free regions.

60293. CINCHONA SUCCIRUBRA Pavon.

Yields a bark containing a large amount of alkaloids, of which a relatively large percentage is cinchonidine which retards the separation of the quinine as sulphate. The bark of this species matures in the fourth or fifth year and does not increase in quinine thereafter. Suitable for cultivation only on hillsides in frost-free regions.

60294 to 60300.

From Shaoking, Chekiang China. Seeds presented by Rev. A. F. Ufford, American Baptist Foreign Mission Society. Received June 9, 1924. Notes by Mr. Ufford.

Introduced for forage-crop specialists.

60294 to 60299. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

60294. A mixture of *Wu Mao deo* (Black Hairy bean) and *Do Kying deo* (Big Green bean). The black beans are not used for bean curd, but are used as a tonic food.

60295. *Fifth Month White.* Planted in April and matures in two months. Grows well in dry places with no fertilizer.

60296. *Loh Yuih bah* (Sixth Month White). Planted in April; matures in about 80 days.

60297. *Eighth Month White.* Planted in May; matures in about 90 days.

60298. *Ninth Month White.* Planted early in June; matures in about 100 days.

60299. *Tenth Month White.* Planted early in June; matures in 120 days.

60300. VIGNA SESQUIPEDALIS (L.) Fruwirth. Fabaceæ. **Yard Long bean.**

Planted in April; matures in about 80 days. The culture is the same as that for soy beans. The pods, a foot or more long, are eaten green, like string beans.

60301 to 60306. CROTALARIA spp. Fabaceæ.

From Salisbury, Rhodesia, Africa. Seeds presented by H. G. Mundy, chief agriculturist, Department of Agriculture. Received May 26, 1924. Notes by Mr. Mundy.

These crotalarias appear promising to us as green manure and may be of interest for trial for a similar purpose in the United States.

60301. CROTALARIA INTERMEDIA Kotschy.

Plant 2 to 3 feet high, branching less than 6 inches above ground; leaflets long and narrow. Flowers creamy yellow with purple veins. Matures in four months.

60302. CROTALARIA MAXILLARIS Klotzsch.

Plant 1½ to 2½ feet high; branching along entire main stem; leaflets broad. Flowers bright yellow. Matures in four months.

60303. CROTALARIA SPHAEROCARPA Perr.

Plant 1 to 1½ feet high, of bushy habit. Flowers yellow. Matures in three and one-half months.

60304. CROTALARIA sp.

Plant 3 to 5 feet high, branching on upper part of stem. Flowers small, yellow. Matures in five months.

60305. CROTALARIA sp.

Plant 2 to 2½ feet high. Similar to *Crotalaria intermedia* [S. P. I. No. 60301], but has smaller flowers.

60306. CROTALARIA sp.

Similar to *Crotalaria maxillaris* [S. P. I. No. 60302], but takes two or three weeks longer to mature, and does not seed as freely.

60307 and 60308. MANGIFERA spp. Anacardiaceæ.

From Manila, Philippine Islands. Plants presented by Don D. Strong, acting director, Bureau of Agriculture. Received June 12, 1924.

These two Philippine relatives of the mango bear edible fruits, which are sold in the markets of their native country. Although tropical in their requirements, it is possible that they will do as well in southern Florida as some of the varieties of the mango, and it is for the purpose of testing them in that section of the United States that plants have been obtained. The fruits of both are similar to those of the mango.

60307. MANGIFERA ODORATA Griffith.

According to P. J. Wester, in "Food Plants of the Philippines," the *Huani* is a handsome tree very similar to the mango in habit, foliage, and flowers. The fruits, about the size of a carabao mango, but more rounded, are green, thick skinned, sweet, and juicy, very aromatic, with yellow flesh containing numerous coarse fibers. Its occurrence as a wild plant is confined to low altitudes in the Philippines where the rainfall is equally distributed throughout the year. It is recommended for trial in regions where the mango does not thrive because of excessive moisture.

60308. MANGIFERA VERTICILLATA C. B. Robinson. Anacardiaceæ. **Bauno.**

Like the preceding [S. P. I. No. 60307] the bauno resembles the mango, although it is more upright in habit, with sparser foliage. The smooth, leathery, narrow leaves are 5 to 7 inches long, and the small, blue flowers are produced in terminal panicles like those of the mango. According to P. J. Wester (Food Plants of the Philippines), there is considerable variation in the size and quality of the Philippine fruit on different trees; the best being somewhat larger than the Carabao mango, about 5 inches long and 3 inches in diameter, yellowish green, with very thin skin, and very juicy white flesh, which is subacid, aromatic, and of excellent flavor, resembling that of the apricot and soursop combined. The best strains of the bauno are found in Zamboanga.

60309 to 60313.

From Edinburgh, Scotland. Seeds presented by W. Wright Smith, regius keeper, Royal Botanic Gardens. Received May 22, 1924.

60309. ECHEVERIA NODULOSA Otto (*Cotyledon nodulosa* Baker). Crassulaceæ.

According to Saunders (Refugium Botanicum, vol. 1) this Mexican plant, about 8 inches high, is excellent for greenhouse culture. It produces an abundance of small, straw-colored flowers tinged with red. The fleshy, oval, sharp-pointed leaves, dull green tinged with red, are in a rosette at the apex of the stem.

60310. LOPEZIA RACEMOSA Cav. Onagraceæ.

A graceful annual, native to Mexico, described by Cavanilles (Icones Plantarum, vol. 1) as a plant 3 to 4 feet high, with narrowly oval, toothed leaves and terminal racemes of crimson flowers.

60311 and 60312. PASSIFLORA SUBEROSA L. Passifloraceæ.

Several of the small-fruited passifloras are valued as ornamental plants, and this woody climber from the West Indies is one of the little-known species which properly comes under that class. The flowers are greenish yellow, and the fruit is a small, ovoid berry. Coming from the Tropics, this vine will probably endure little or no frost.

For previous introduction, see S. P. I. No. 46629.

60309 to 60313—Continued.

60313. SCHIZOCENTRON ELEGANS (Schlecht.) Meisner. Melastomaceæ.

A very charming little creeper native to eastern Mexico, which roots at the joints and forms a dense carpet. The leaves are small, opposite, and short stemmed, and the comparatively large, purplish flowers appear at the ends of short branches. The plant deserves to be more widely cultivated and would probably grow in the open in the southern part of the United States. (*J. N. Rose, United States National Museum.*)

For previous introduction, see S. P. I. No. 58366.

60314 and 60315. HIBISCUS spp. Malvaceæ.

From Dacca, Eastern Bengal, India. Seeds presented by R. S. Finlow, Department of Agriculture. Received June 23, 1924.

Introduced for testing as a possible source of fiber.

60314. HIBISCUS CANNABINUS L. **Ambari hemp.**

Ambari is an annual plant with slender herbaceous stems, 1 to 3 meters tall, usually dark purple, the earlier lower leaves nearly round, and the later upper ones deeply lobed. The flowers are large, 4 to 7 cm. across, creamy white, with purple at the base of the petals.

It is cultivated for fiber in southern India, and its fiber, shipped from the port of Bimlipitam, is known in the London markets as "Bimlipitam jute" and is quoted at prices 20 to 30 per cent less than quotations for Indian jute. In Senegal and other parts of French West Africa the plant and its fiber are called "da." In Angola it is called "gambo" or "gombo" and in Brazil it was given the fanciful name "Canhamo Brazilicnsis Perini."

The fiber is cleaned by hand after retting the stalks in water. It belongs to the jute group and is suitable for making bags, burlaps, and twines.

Ambari will grow in this country from the Potomac and Ohio valleys southward, but the fiber could not be produced profitably without efficient fiber-cleaning machines. It is a hardy plant, resistant to drought and attractive in appearance, and is worthy of cultivation as an ornamental. (*L. H. Dewey, Bureau of Plant Industry.*)

For previous introduction, see S. P. I. No. 55481.

60315. HIBISCUS SABDARIFFA L. **Roselle.**

Variety *alba*. A form with calyces which are smaller than those of the typical roselle and whitish or pale yellow in color. The plant is of upright habit and not as vigorous as the typical form.

For previous introduction, see S. P. I. No. 51268.

60316 and 60317. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

From Hakozaki, Fukuoka, Japan. Seeds presented by Dr. Tyozaburo Tanaka, Kyushu Imperial University. Received June 24, 1924. Notes by Doctor Tanaka.

Introduced for specialists interested in soy beans.

60316. A, *Meguro Daizu* (black-eye soy bean; black-eye may be a local name). From Tara village, Fujitsu County.

60317. B, From Nanaura village, Fujitsu County.

60318. TRITICUM TURGIDUM L. Poaceæ. Poulard wheat.

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

No. 49. Calca, Peru. *Yana barba* (black bearded). Obtained from T. E. Payne; grown locally for a long time. (*Richey and Emerson.*)

60319. AMPELODESMA BICOLOR (Poir.) Kunth. Poaceæ. **Grass.**

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received June 27, 1924.

A cespitose grass, with long tough leaves, which appears to do well in Algeria on poor soil. It will be tested as a forage grass, and it may also be of possible use for paper making.

60320 to 60322. CUCUMIS MELO L. Cucurbitaceæ. **Melon.**

From Teheran, Persia. Seeds presented by Joseph S. Kornfeld, American Minister. Received June 9, 1924.

Sent in response to a request for the best varieties of melons cultivated in Persia, for the use of horticulturists engaged in melon-breeding experiments.

60320. *Gorgabe d'Ispahan.*

60321. *Kharabose Samsour id'Ispahan.*

60322. *Kharbose Sine d'Ispahan.*

60323. TRACHYLOBIUM VERRUCOSUM (Gaertn.) Oliver. Cæsalpiniaceæ.

From Soledad, Cienfuegos, Cuba. Seeds presented by Robert M. Grey, superintendent, Cuban Gardens. Received June 11, 1924.

Although this leguminous tree, native to Madagascar, produces a resin used to some extent in the manufacture of varnish, its chief value will probably be as an ornamental. It attains a height of 20 feet, is spineless, and bears dense clusters of white flowers. According to Mr. Grey, who sends seeds from Cuba, the "Copal tree," as he calls it, does well in that country on shallow, clay uplands, either partially shaded or fully exposed to the sun.

60324. MORUS KAGAYAMAE Koidz. Moraceæ.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received June 12, 1924.

A handsome Japanese mulberry which thrives in Algeria. The leaves are eaten readily by silkworms.

60325 to 60334. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

From Nishigahara, Tokyo, Japan. Seeds presented by H. Ando, director, Imperial Agricultural Experiment Station. Received June 12, 1924. Notes by Mr. Ando.

Introduced for agronomists experimenting with soy beans.

60325. *Akasaya.* Medium growing season. From the Ibaraki Prefectural Agricultural Experiment Station.

60326. *Bakamame.* Medium growing season. From the Saitama Prefectural Agricultural Experiment Station.

60327. *Kimusume.* Medium growing season. From the Ibaraki Prefectural Agricultural Experiment Station.

60328. *Okuechigo.* Long growing season. From the Gumma Prefectural Agricultural Experiment Station.

60329. *Onihadaka.* Long growing season. From the Gumma Prefectural Agricultural Experiment Station.

60330. *Sennari-Kimusume.* Short growing season. From the Saitama Prefectural Agricultural Experiment Station.

60331. *Shakkinnashi.* Long growing season. From the Gumma Prefectural Agricultural Experiment Station.

60325 to 60334— Continued.

60332. *Shirobana.* Short growing season. From the Saitama Prefectural Agricultural Experiment Station.

60333. *Shizika.* Medium growing season. From the Ibaraki Prefectural Agricultural Experiment Station.

60334. *Suzumame.* Short growing season. From the Saitama Prefectural Agricultural Experiment Station.

60335 to 60352.

From Amsk, Siberia, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received May 25, 1924.

60335. ASTRAGALUS PHYSODES L. Fabaceæ.

A nearly stemless species from the desert regions of southwestern Russia.

60336. ASTRAGALUS VIMINEUS Pall. Fabaceæ.

An erect, shrubby species from southern Russia and the Caucasus.

60337 to 60339. CHAETOCHLOA ITALICA (L.) Scribn. (*Setaria italica* Beauv.). Poaceæ. **Millet.**

From the Province of Akmolinsk.

60337. *Mogar.*

60338. *Mogar* (black).

60339. *Mogar* (white).

60340. CITRULLUS VULGARIS Schrad. Cucurbitaceæ. **Watermelon.**

From the Province of Kustanai.

60341. HALIMODENDRON HALODENDRON (Pall.) Voss. Fabaceæ. **Salt tree.**

From the Province of Omsk. The *chinguil* is an ornamental shrub characteristic of the Kirgtuz steppes and Turkestan deserts. It is very drought resistant and not particular as to soil. (*Murashinsky.*)

For previous introduction, see S. P. I. No. 42283.

60342. HEDYSARUM POLYMORPHUM Ledeb. Fabaceæ.

A Siberian species with an ascending stem

60343. IRIS HALOPHILA Pall. Iridaceæ. **Iris.**

From the Province of Kustanai. A low-growing Siberian iris, 1 or 2 feet high, with pale-green leaves and spicate clusters of yellow flowers.

60344. LIMONIUM GMELINI (Willd.) Kuntze (*Statice gmelini* Willd.). Plumbaginaceæ.

From the Province of Akmolinsk. A hardy, pink-flowered shrub which grows in salt marshes; it is sometimes used for tanning.

60345. OXYTROPIS FLORIBUNDA (Pall.) DC. Fabaceæ.

A low herbaceous perennial with purplish red flowers, which grows in sandy places in Siberia.

60346. SOPHORA ALOPECUROIDES L. Fabaceæ.

A semihardy, grayish pubescent undershrub with upright branches and dense, terminal racemes of yellow flowers. Native to western Asia.

60347 to 60350. STIPA spp. Poaceæ. **Grass.**

60347. STIPA CAPILLATA L.

A cespitose grass, with erect rigid stems, from rocky places in Europe and western Asia.

60348 to 60350. Native Siberian species, valuable as fodder grasses, introduced for testing in this country.

60335 to 60352—Continued.

60348. STIPA PENNATA L.

60349. STIPA PENNATA LESSINGIANA (Tr. and Rupr.) Richter.

No. 1.

60350. STIPA PENNATA LESSINGIANA (Tr. and Rupr.) Richter.

No. 2.

60351. TRIFOLIUM FRAGIFERUM L. Fabaceæ.

From the shores of the Tobol River, Province of Kustanai.

Strawberry clover has proved, in Australia, to be suitable as a pasture plant for wet, marshy ground.

For previous introduction, see S. P. I. No. 58854.

60352. ZEA MAYS L. Poaceæ. **Corn.**

From the Province of Akmolinsk, District of Atbasar.

60353. ASCLEPIAS STELLIFERA Schlechter. Asclepiadaceæ.

From Pretoria, Transvaal, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. Received May 24, 1924.

A low, narrow-leaved, purple-flowered milkweed introduced from South Africa for the use of specialists seeking new sources of rubber.

60354. PASSIFLORA sp. Passifloraceæ.

From Para, Brazil. Seeds presented by Godfrey Davidson. Received June 13, 1924.

This is a very choice hybrid *granadilla* and is the best of two hundred varieties which I am growing here. I believe the seeds will come nearly true to type. The fruit is large, yellow, and sweet, and the plant bears throughout the year. (*Davidson.*)

60355 and 60356.

From Gatun, Canal Zone. Seeds presented by Joseph A. Close. Received June 11, 1924.

60355. CARICA PAPAYA L. Papayaceæ. **Papaya.**

A large papaya of very good flavor. (*Close.*)

60356. PASSIFLORA VITIFOLIA H. B. K. Passifloraceæ.

A tropical climber, native to Panama, where it is known as *sandia del monte*, or wild watermelon. The plant is a vigorous grower, with handsome red flowers which give it ornamental value. The fruit, though edible, is not of good quality. For trial in southern Florida and tropical regions.

60357 to 60359.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received June 12, 1924.

60357. EUONYMUS FIMBRIATUS Wall. Celastraceæ.

The chief value of the various species of Euonymus lies in the beauty of the fruits and the autumnal coloring of the foliage. This particular species, native to the more temperate portions of the Himalayas at altitudes of 8,000 to 12,000 feet, is apparently unknown horticulturally. It is a shrub or small tree, with deeply cut, dark-green leaves, small white flowers, and fruits about the size of cherries.

60358. HELLEBORUS FOETIDUS L. Ranunculaceæ.

A hardy herbaceous perennial from western Europe which is valued chiefly for the ornamental character of its handsome leathery foliage. The inconspicuous flowers are greenish or bordered with purple.

For previous introduction, see S. P. I. No. 53146.

60357 to 60359—Continued.

60359. RUSCUS HYPOGLOSSUM L. Convallariaceæ.

A handsome evergreen shrub 1 to 2 feet high, which is very attractive in the fruiting condition, when the large orange-scarlet berries contrast pleasingly with the long dark-green leaves. It is native in southern Europe, and thrives best in shady, moist situations.

60360 and 60361.

From Kirstenbosch, Newlands, Cape Province, South Africa. Seeds presented by the director of the National Botanic Gardens. Received June 9, 1924.

60360. CALLITRIS CUPRESSOIDES (L.) Kuntze. Pinaceæ.

An evergreen South African shrub about 10 feet high, with opposite linear leaves closely pressed against the branchlets like scales. It is probably best suited for growing in the Gulf States and California.

60361. GLADIOLUS CALLISTUS Bolus f. Iridaceæ.

As an ornamental for the Southern States and for breeding purposes this South African gladiolus may be of value. It is described in the July, 1917, number of the Annals of the Bolus Herbarium as a tall plant, 30 to 40 inches high, with four to seven narrow, sword-shaped basal leaves 1 to 2 feet long and two stem leaves. The flowers, white suffused with pink and 9 to 12 in number, are produced on 1 to 3 branches.

60362. BERBERIS KOEHNEANA C. Schneid. Berberidaceæ. **Barberry.**

From Dehra Dun, India. Seeds presented by the botanist, Department of Agriculture. Received May 21, 1924.

A shrubby barberry from northern India, which is described by C. K. Schneider (*Bulletin l'Herbier Boissier, ser. 2, vol. 5, p. 814*) as having purplish branches, brownish spines in clusters of one to three, and oblong-acute leaves, light green above and ashy beneath.

60363 to 60366.

From Ventimiglia, Italy. Seeds presented by S. W. McLeod Braggins, superintendent, La Mortola Botanic Garden. Received June 16, 1924.

These three grasses and the unnamed tomato variety have been obtained for specialists who are testing all available strains of these crop plants in the effort to discover superior types for growing in the United States.

60363. BRACHYPODIUM DISTACHYUM (L.) Roem. and Schult. Poaceæ. **Grass.**

A very stiff, densely branched annual grass 4 to 12 inches high, upright or ascending in habit, found in cultivated fields and along roadsides, often in chalky soil, in the Mediterranean countries.

60364. BRACHYPODIUM RAMOSUM (L.) Roem. and Schult. Poaceæ. **Grass.**

A blue-green, perennial, creeping grass, much branched at the base, found in the warmer portions of the Mediterranean countries, especially on chalky soil and in dry, rocky places.

60365. LYCOPERSICON ESCULENTUM Mill. Solanaceæ. **Tomato.**

An unnamed variety.

60366. PHALARIS NODOSA L. Poaceæ. **Grass.**

A perennial grass with ascending stems, found in sunny, grassy places along roadsides and on the edges of fields in the Mediterranean countries. It is often propagated by means of the swollen rootstocks which are situated just below the surface of the ground.

60367. GUILIELMA SPECIOSA Mart. Phœnicaceæ. **Pupunha.**

From Para, Brazil. Seeds presented by P. H. Anet, Caixa 270. Received June 16, 1924.

The pupunha is an Amazonian palm, becoming ultimately about 60 feet high, and is closely allied to the pejibaye (*Guilielma utilis*). Like the latter, it furnishes food for great numbers of people in regions where it is indigenous, and appears to be of promise for cultivation as a food plant throughout the Tropics in congenial situations.

60368. CUCUMIS METULIFERUS E. Mey. Cucurbitaceæ.

From Pretoria, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. Received June 23, 1924.

This South African "wild cucumber" is native to the Kalahari Desert and the Belgian Congo, where, according to Pole Evans, the fruit is considered excellent for eating. The plant is an annual creeper, much branched, and covered with bristly hairs. The dark-green leaves are similar to those of the ordinary cucumber, and the flowers are yellow. The gourdlike fruit, oblong in shape, varies from greenish yellow to red in color when ripe, is about 5 inches long, and is covered with short, hard spines. It is eaten in the same way as the ordinary cucumber, according to the Journal of the South African Department of Agriculture for August, 1923.

60369 to 60377.

From French Somaliland. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received May 16, 1924. Notes by Doctor Shantz.

60369. ACACIA sp. Mimosaceæ.

No. 48. Aicha, French Somaliland. February 8, 1924. An acacialike tree with seeds edible just before they are ripe.

60370. CAPPARIS sp. Capparidaceæ.

No. 55. En route from Jibuti to Addis Ababa, Abyssinia. January 31, 1924. A prominent plant in Lower Abyssinia. The fruits are eaten by birds.

60371. CICER ARIETINUM L. Fabaceæ. **Chick-pea.**

No. 22. Doukham, Abyssinia. February 1, 1924. Grown as the most common legume in Abyssinia. This black form is quite abundant.

60372. CROTALARIA sp. Fabaceæ.

No. 14. Afdem, Abyssinia. January 30, 1924. A small spreading plant.

60373 and 60374. ERAGROSTIS ABYSSINICA (Jacq.) Schrad. Poaceæ. **Teff.**

60373. No. 65. Addis Ababa, Abyssinia. February 4, 1924. A white teff grown here on black cotton soil. After heavy rains when the soil is thoroughly trampled by animals until a soft mud, teff is sown over the mud and yields a good crop.

60374. No. 68. Addis Ababa, Abyssinia. February 4, 1924. Brown teff.

60375. GOSSYPIUM sp. Malvaceæ. **Kidney cotton.**

No. 8. Errar, French Somaliland. January 29, 1924. Grown by the natives.

60376. GOSSYPIUM sp. Malvaceæ. **Kidney cotton.**

No. 9.

60377. GOSSYPIUM sp. Malvaceæ. **Cotton.**

No. 60.

60378. BERBERIS ARISTATA DC. Berberidaceae. **Barberry.**

From Kew, England. Seeds presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received November 10, 1923. Numbered June, 1924.

A handsome shrub of elegant, spreading habit, becoming at times as much as 10 feet high. The spine-tipped leaves are often whitish beneath, and the numerous flowers are bright golden yellow. The spindle-shaped berries, about half an inch in length, are red, covered with a blue-white bloom. This is said to be one of the most vigorous of the Himalayan barberries; it has proved hardy at the Arnold Arboretum, Jamaica Plain, Mass.

For previous introduction, see S. P. I. No. 53628.

60379 to 60387.

From French Somaliland. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received May 16, 1924. Notes by Doctor Shantz.

60379. HOLCUS SORGHUM L. (*Sorghum vulgare* Pers.). Poaceæ. **Sorghum.**

No. 67. Type of sorghum sold in the market.

60380. INDIGOFERA sp. Fabaceæ.

No. 5. Above Jibuti. January 29, 1924. A small perennial legume 2 to 5 feet high with a pleasant odor. Abundant in French Somaliland.

60381. LENTILLA LENS (L.) W. F. Wight (*Lens esculenta* Moench). Fabaceæ. **Lentil.**

No. 63. Addis Ababa, Abyssinia. February 4, 1924.

60382. PENNISETUM sp. Poaceæ. **Grass.**

No. 54a. Addis Ababa, Abyssinia. February 5, 1924. Mixed.

60383. THEMEDA sp. Poaceæ. **Grass.**

No. 54b. Addis Ababa, Abyssinia. February 5, 1924. Mixed.

60384. ROSA sp. Rosaceæ. **Rose.**

No. 26. Addis Ababa, Abyssinia. February 4, 1924. A very attractive single white rose which grows wild on the highlands. It is much used as a hedge.

60385. RUBUS sp. Rosaceæ.

No. 33. Addis Ababa, Abyssinia. February 4, 1924. A very large, ornamental bush having reddish purple flowers and large orange or darker berries similar to blackberries, prized as a fruit in Abyssinia. May prove to be of value for breeding experiments.

60386. TRITICUM DURUM L. Poaceæ. **Durum wheat.**

No. 57. Addis Ababa, Abyssinia. February 4, 1924. Wheat having a dark pericarp. Quite common in the market; may be very valuable for breeding experiments.

60387. TRITICUM DURUM L. Poaceæ. **Durum wheat.**

No. 58. Addis Ababa, Abyssinia. February 4, 1924. Lighter in color than Nos. 56 and 57 [S. P. I. Nos. 59284 and 60386]. Found to be common in the market.

60388 to 60394.

From Uganda, British East Africa. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received May 20, 1924. Notes by Doctor Shantz.

60388. ACACIA sp. Mimosaceæ.

No. 124. Karmosa, Kenya. March 8, 1924. An attractive flat-topped tree whose occurrence characterizes the best type of soil.

60388 to 60394—Continued.

60389. ALBIZZIA sp. Mimosaceæ.

No. 127. Karmosa, Kenya. March 8, 1924. A large, handsome flat-topped tree, with bright-green foilage, which is especially ornamental when covered with its mantle of flowers.

60390. ARISTOLOCHIA sp. Aristolochiaceæ.

No. 144. Kampala, Uganda. March 16, 1924. A very attractive ornamental vine with large mottled flowers.

60391. FICUS sp. Moraceæ.

No. 143. Kampala, Uganda. March 16, 1924. An ornamental tree grown extensively in East Africa. It is considered one of the best shade trees in Kampala. Probably this is the same as that used for making bark cloth.

60392. VOANDZEIA SUBTERRANEA (L.) Thouars. Fabaceæ.

No. 129. Karmosa, Kenya. March 8, 1924. This nut is hard when ripe and can not be used as is our peanut. The plant should be pulled while the beans are still soft, boiled, and then shelled. In this form it would make a very desirable side vegetable.

60393. (Undetermined.)

No. 125. Karmosa, Kenya. March 8, 1924. A large tree with a straight white trunk and good ivory-colored wood. The edible fruit is very popular in the market.

60394. (Undetermined.)

No. 126. Karmosa, Kenya. March 8, 1924. Fruit like that of Landolphia, but appears to come from a tree; it is full of latex; about 2 inches in diameter, with seeds inclosed in yellow pulp. May be of value for rubber.

60395 to 60405.

From Uganda, British East Africa. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received May 26, 1924. Notes by Doctor Shantz.

60395. BAUHINIA sp. Cæsalpiniaceæ.

No. 149. Iganga, Uganda. March 19, 1924. A small ornamental tree with handsome foliage and attractive pink flowers. Grown extensively in East Africa as an ornamental.

60396. CERBERA THEVETIA L. (*Thevetia nereifolia* Juss.). Apocynaceæ.

No. 152. Iganga, Uganda. March 19, 1924. An excellent ornamental, willow-leaved, yellow-flowered tree.

60397. COLOCASIA sp. Araceæ.

No. 181. Nairobi, Kenya. March 23, 1924.

60398. JATROPHA MULTIFIDA L. Euphorbiaceæ.

No. 150. Kimule, Uganda. March 19, 1924. Leaves finely cut, like those of Manihot; flower heads red. Widely grown as an ornamental.

60399. GOSSYPIUM sp. Malvaceæ. **Cotton.**

No. 176.

60400. HIBISCUS sp. Malvaceæ.

No. 183. Tororo, Uganda. March 23, 1924. A small species which may be useful as an ornamental.

60401. MELOTHRIA sp. Cucurbitaceæ.

No. 178. Tororo, Uganda. March 23, 1924. Fruits small, red, eaten by birds. Plant would make a good ornamental.

60402. PHASEOLUS LUNATUS L. Fabaceæ. **Lima bean.**

No. 151. Kampala, Uganda. March 18, 1924. A large, climbing form, growing over many of the fences in Kampala.

60395 to 60405—Continued.

60403. TELFAIRIA PEDATA (J. E. Smith) Hook. Cucurbitaceæ.

No. 179. This cucurbit is sold in the Nairobi market. One seed house now has orders for 25,000 pounds.

60404. (Undetermined.)

No. 146. Iganga, Uganda. March 19, 1924. The best timber tree of the Bargand country; trunk straight, wood walnutlike but hard and resistant to termites. Used universally for cabinetwork.

60405. (Undetermined.)

No. 184. Nairobi, Kenya. March 27, 1924. An attractive ornamental vine with capsules like that of the morning-glory, but with tubular flowers varying from yellow to red.

60406 to 60410. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

From Yenping, Fukien, China. Seeds presented by L. C. Lin. Received June 25, 1924. Notes by Mr. Lin.

Introduced for agronomists experimenting with soy beans.

60406. *Cung Yien.* Used for making bean curd.

60407. *Heh Yien.* Used for making bean curd and soy-bean cheese.

60408. *Kuan Huang.* May be a mixture of Mammoth Yellow, A. K., and Haberlandt. Good for making bean curd.

60409. *Sao Heh.* Good for making soy-bean sauce.

60410. *Tai Yien.* Good for making bean curd.

60411 and 60412. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

From Ichang, China. Seeds purchased from Rev. A. S. Cooper, American Church Mission. Received June 25, 1924. Notes by Mr. Cooper.

These are the two varieties grown in this locality. They are used for making bean curd, a staple article of diet in this region.

60411. Common variety.

60412. The black variety.

60413 to 60416. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

From Foochow, China. Seeds presented by Dr. Franklin P. Metcalf, Fukien Christian University. Received June 25, 1924. Notes by Doctor Metcalf.

Introduced for agronomists experimenting with the soy bean.

60413. No. 1. *Uong dau* (yellow bean). Obtained in Foochow, but reported to come from Manchuria. Used for bean curd and used in Hankow as well as here for the oil. This variety is also raised here for oil, for which purpose it ranks second among these four varieties.

60414. No. 2. *Chang dau* (green bean). Not grown in Foochow, but used for oil and bean curd.

60415. No. 3. *Uong dau* (yellow bean). Grown principally in the vicinity of Kutien, not around Foochow. Used for bean curd and for oil; considered the best of all the soy beans around here for oil.

60416. No. 4. *Ou dau* (black bean). Like the preceding, this is grown only in the vicinity of Kutien. Used mostly for human food; makes excellent bean curd.

60417. AGROSTIS CAPILLARIS L. Poaceæ. **Grass.**

From Wellington, New Zealand. Seeds presented by E. Bruce Levy, Department of Agriculture. Received June 28, 1924.

Rhode Island bentgrass, introduced for cultural and comparison tests.

60418 to 60420.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received November 10, 1923. Numbered June, 1924.

60418. BERBERIS SINENSIS Desf. Berberidaceæ. **Barberry.**

A slender-branched shrub 4 to 6 feet high, with ovoid, purplish berries. Native to the Caucasus. (*Alfred Rehder, Arnold Arboretum, Jamaica Plain, Mass.*)

For previous introduction, see S. P. I. No. 58118.

60419. BERBERIS WILSONAE Hemsl. Berberidaceæ. **Barberry.**

A handsome, sometimes partially evergreen shrub, 2 to 4 feet high, with abundant, roundish, coral-red berries, somewhat translucent. The leaves assume brilliant tints in autumn.

For previous introduction, see S. P. I. No. 53647.

60420. CLEMATIS MONTANA RUBENS Wilson. Ranunculaceæ.

A vigorous, hardy climber, native to the Himalayas; it often reaches a height of 15 to 20 feet; the foliage is reddish, particularly when the young leaflets are unfolding, and the sweet-scented, pink flowers, about 2 inches across, are produced several in each axil, opening in succession one at a time.

For previous introduction, see S. P. I. No. 52934.

60421 to 60424. MUSA TEXTILIS Nee. Musaceæ. **Abaca.**

From the south end of the island of Luzon, Philippine Islands. Plants presented by James Zetek, Ancon, Canal Zone. Received June 25, 1924.

A collection of abaca varieties introduced for testing by fiber specialists.

60421. *Camalig.* **60423.** *Pula.*

60422. *Itom.* **60424.** *Puti.*

60425. COTONEASTER FRIGIDA Wall. Malaceæ.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received November 10, 1923. Numbered June, 1924.

Var. *vicarii.* This is an improved form with deep-green leaves, grayish beneath, and large clusters of rich-red berries which are larger and brighter than those of the typical form.

For previous introduction, see S. P. I. No. 58609.

60426 and 60427. VITEX spp. Verbenaceæ.

From Mount Silinda, Southern Rhodesia. Seeds presented by Dr. W. L. Thompson, American Board Mission. Received June 30, 1924.

The fruits of both of these species are eaten with relish by the natives; we also enjoy them occasionally. (*Thompson.*)

60426. VITEX CIENKOWSKII Kotschy and Peyr.

According to Thiselton-Dyer (Flora of Tropical Africa) this species becomes a tree 50 feet high, with leathery leaflets, dense axillary clusters of yellowish brown flowers, and edible fruits the size of cherries.

60426 and 60427—Continued.

60427. VITEX EYLESII S. Moore.

A large South African shrub with dense cymes of small heliotrope flowers.

60428 to 60437. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**

From Fukuoka, Japan. Seeds presented by Tyôzaburô Tanaka, Kyushu Imperial University, through Dr. Mitsunaga Fujioka, Division of Forestry, Kyushu Imperial University. Received June 17, 1924.

Introduced for testing by soy-bean specialists.

From the Oita Prefectural Agricultural Experiment Station. (*Tanaka.*)

60428. *Bungo No. 1.* **60431.** *Bungo No. 5.*

60429. *Bungo No. 2.* **60432.** *Bungo No. 6.*

60430. *Bungo No. 3.*

From the Miyazaki Prefectural Agricultural Experiment Station. (*Tanaka.*)

60433. *Ameiro.* **60436.** *Kindaizu.*

60434. *Aochi.* **60437.** *Sanryûiri.*

60435. *Ishiwara Daizu.*

60438 to 60440.

From Kingston, Jamaica, British West Indies. Plants presented by F. E. Betheuser. Received June 9, 1924.

60438. DILLENIA BURBIDGEI (Hook. f.) Gilg. Dilleniaceæ.

A handsome yellow-flowered shrub from northern Borneo which may prove sufficiently hardy for growing in southern Florida. The deep-green leaves are 8 to 10 inches long, and the pale golden-yellow flowers are about 3 inches in diameter. (Adapted from *Curtis's Botanical Magazine, pl. 6531.*)

60439. NAPOLEONA IMPERIALIS Beauv. Lecythidaceæ.

An interesting ornamental tree from West Africa with oblong leaves sometimes a foot and a half long, and solitary, saucer-shaped, axillary flowers which are dominantly reddish and bluish and about 2 inches across. Probably tropical in its requirements.

60440. THUNBERGIA MYSORENSIS (Wight) T. Anders. Acanthaceæ.

There are already a number of Thunbergias which have earned popularity as ornamentals in southern Florida, and this species, which is native to southern India, will be of great interest for that section if it proves hardy. It is a climber with long slender stems, opposite, very narrow leaves, and irregular racemes of handsome flowers, yellow with deep-red borders.

60441 and 60442. CRYPTOSTEGIA spp. Asclepiadaceæ.

From Kew, England. Cuttings presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received June 25, 1924.

Introduced for testing by rubber specialists.

60441. CRYPTOSTEGIA GRANDIFLORA R. Br. **Palay rubber.**

An erect, woody climber, of unknown nativity, but now cultivated in many places in the Tropics of both hemispheres as an ornamental, and occasionally growing as an escape from cultivation. The flowers, reddish purple becoming pale pink, are about 2 inches across and are produced in short spreading cymes. In India the plant is called palay and is cultivated for the rubber obtained from the juice.

60441 and 60442—Continued.

For previous introduction, see S. P. I. No. 58851.

60442. CRYPTOSTEGIA MADAGASCARIENSIS Bojer.

A climbing shrubby vine, native to Madagascar, which is grown as an ornamental in South America and elsewhere. The leaves are short and leathery, and the whitish or pink flowers are 2 to 3 inches wide.

60443 to 60447. IPOMOEA BATATAS (L.) Poir. Convolvulaceæ.

Sweet potato.

From St. Croix, Virgin Islands. Seeds presented by J. B. Thompson, agronomist in charge, Agricultural Experiment Station. Received June 26, 1924.

From the eight American varieties sent us in 1922 only one, the Pumpkin "yam," has seeded at all. I am sending you some of this variety. (*Thompson.*)

60443. Pumpkin "yam" No. 1.

60444. Pumpkin "yam" No. 6.

60445. Pumpkin "yam" No. 12.

60446. Pumpkin "yam."

60447. Pumpkin "yam" (mixed).

60448. MEIBOMIA JAPONICA (Miquel) Kuntze (*Desmodium podocarpum* DC.). Fabaceæ.

From Leningrad, Russia. Seeds presented by Wl. Kousnetzoff, in charge of forage plants of the Bureau of Applied Botany. Received June 12, 1924.

Introduced for testing by forage-plant specialists.

An herbaceous species 2 to 3 feet high, with membranous leaflets, native to temperate and tropical regions of the Himalayas of northeastern India at altitudes ranging from 2,000 to 7,000 feet.

60449 to 60460.

From East Africa. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received May 7, 1924. Notes by Doctor Shantz.

60449. ALOE sp. Liliaceæ.

No. 99. Voi Wusi. February 20, 1924. A very handsome ornamental plant.

60450. BAUHINIA sp. Cæsalpiniaceæ.

No. 81. Wusi, Kenya. February 28, 1924. A small, ornamental shrub with large, orchidlike flowers, valuable as an ornamental.

60451. CARICA PAPAYA L. Papayaceæ. **Papaya.**

No. 10. Afdem, Lower Abyssinia. January 30, 1924. Grows here at a high altitude and in a very dry country.

60452. CITRUS MEDICA L. Rutaceæ. **Citron.**

No. 11. Afdem, Lower Abyssinia. January 30, 1924. A very coarse, large lemonlike variety, 8 to 10 inches long, of very good flavor, eaten fresh by the Ethiopians. Seeds numerous. Known as "Treng" to the Arabs.

60453. CROTON MEGALOCARPUS Hutchinson (*C. elliotianus* Pax and Engl., not Baill.). Euphorbiaceæ.

No. 95. Nairobi. February 23, 1924. A timber tree the seeds of which are used medicinally.

60454. ERAGROSTIS SUPERBA Peyr. Poaceæ. **Grass.**

No. 87. Wusi. February 20, 1924. An excellent native pasture grass, about 3 feet tall, with broad compressed spikelets.

60449 to 60460—Continued.

60455. SOLANUM sp. Solanaceæ.

No. 94. Nairobi, Kenya. February 23, 1924. An ornamental producing snow-white berries about three-fourths of an inch in diameter.

60456. SPOROBOLUS sp. Poaceæ. **Grass.**

No. 80. Wusi. February 20, 1924.

60457. TRICHOLAENA ROSEA Nees. Poaceæ. **Natal grass.**

No. 84. Wusi. February 20, 1924.

60458. ZIZIPHUS MAURITIANA Lam. Rhamnaceæ.

No. 92. French Somaliland. February 10, 1924. A small fruit of good flavor sold in the market at Djibuti.

60459. (Undetermined.)

No. 93. Djibuti, French Somaliland. February 10, 1924. A rather large, ornamental tree with edible pods. The pulp around the seed is white, starchy, and of very good flavor. The seeds are not eaten.

60460. (Undetermined.)

No. 100. Voi Wusi, Kenya. February 20, 1924. A large bulb with many flowers on one stem, which grows in semidesert brushland. The bulbs are eaten by animals.

60461 to 60636.

From Abyssinia. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received June 3, 1924. Notes by Doctor Harlan.

60461. ABUTILON sp. Malvaceæ.

No. 535. January 10, 1924. Seeds of a flowering plant not previously seen, collected a 3-days' journey west of Lalibela at an altitude of 9,600 feet.

60462. ALOE sp. Liliaceæ.

No. 512. Lalibela. January 7, 1924. Collected at an altitude of 8,800 feet.

60463. AVENA ABYSSINICA Hochst. Poaceæ. **Oats.**

No. 399a. December 8, 1924. From a threshing field on the road to Ankober at an altitude of 9,600 feet.

60464. BRACHIARIA OBTUSIFLORA (Hochst.) Stapf. Poaceæ. **Grass.**

No. 577. February 1, 1924. A belated specimen in black cotton soil near Koqui.

60465. BROMUS sp. Poaceæ. **Grass.**

No. 530. January 12, 1924. Collected a 3-days' journey east of Debra Tabor, on the mountain side at an altitude of 9,700 feet.

60466 and 60467. CARUM COPTICUM (L.) Benth. and Hook. Apiaceæ.

60466. No. 450. December 15, 1923. Purchased in the market at Makfud.

60467. No. 519. January 7, 1924. *Nach Azmot.* A flavoring spice obtained in the Lalibela market.

60468. CASSIA OCCIDENTALIS L. Cæsalpiniaceæ.

No. 483. December 27, 1923. Collected a 2-days' journey north of Dessie, Mille Valley, at an altitude of 6,000 feet.

60469. CASSIA TORA L. Cæsalpiniaceæ.

No. 566. January 26, 1924. Collected a day's journey east of Wahini.

60470 and 60471. CICER ARIETINUM L. Fabaceæ. **Chick-pea.**

60470. No. 423. December 11, 1923. Purchased in Allu Amba, Ankober.

60461 to 60636—Continued.

60471. No. 520. January 7, 1924. Lalibela market.

60472. CROTALARIA sp. Fabaceæ.

No. 446. December 2, 1923. Collected on the roadside 10 miles west of Addis Ababa at an altitude of 8,000 feet.

60473 to 60476. CYMBOPOGON spp. Poaceæ. **Grass.**

60473. CYMBOPOGON SCHOENANTHUS (L.) Spreng. (*Andropogon schoenanthus* L.).

No. 581. February 4, 1924. Collected near Gadaref, Sudan.

60474. CYMBOPOGON sp.

No. 528. January 12, 1924. Collected on the mountain side a 3-days' journey east of Debra Tabor at an altitude of 9,700 feet.

60475. CYMBOPOGON sp.

No. 531. January 12, 1924. Collected on the mountain side at an altitude of 9,700 feet, a 3-days' journey east of Debra Tabor.

60476. CYMBOPOGON sp.

No. 562. Wahini. January 27, 1924. Collected in bottom land.

60477. CYNODON PLECTOSTACHYS (Schum.) Pilg. Poaceæ. **Grass.**

No. 467. December 18, 1923. Collected in a river bottom, a day's journey south of Majetie, at an altitude of 5,500 feet.

60478 to 60480. ELEUSINE CORACANA (L.) Gaertn. Poaceæ. **Ragi.**

60478. No. 401. December 5, 1923. Presented by H. H. Ras Tafari, Addis Ababa. Of possible value for forage and seed.

60479. No. 538. January 19, 1924. A prolific-seeded grass collected a 2-days' journey south of Gondar. Used for bread. At this elevation it would be a fine forage crop.

60480. No. 546. January 19, 1924. Found on the border of Lake Tsana a 2-days' journey south of Gondar.

60481 to 60486. ERAGROSTIS spp. Poaceæ.

60481 to 60485. ERAGROSTIS ABYSSINICA (Jacq.) Schrad. **Teff.**

60481. No. 418. December 11, 1923. Red téff. Purchased in Allu Amba, Ankober.

60482. No. 419. December 11, 1923. White teff. Purchased in Allu Amba, Ankober.

60483. No. 515. January 7, 1924. Lalibela market.

60484. No. 517. January 7, 1924. Lalibela market.

60485. No. 542. January 19, 1924. Found on the border or Lake Tsana a 2-days' journey south of Gondar.

60486. ERAGROSTIS sp. **Grass.**

No. 583. Found on the plateau probably between Lalibela and Debra Tabor.

60487 to 60489. GOSSYPIUM spp. Malvaceæ. **Cotton.**

60487. GOSSYPIUM sp.

No. 457. December 15, 1923. Makfud market.

60488. GOSSYPIUM sp.

No. 472. December 24, 1923. Purchased in the Dessie market.

60461 to 60636—Continued.

60489. GOSSYPIUM sp.

No. 487. Dessie. December 28, 1923. Collected in a river valley at an altitude of 6,000 feet.

60490. HELMINTHOCARPUM ABYSSINICUM A. Rich. Fabaceæ.

No. 523. Lalibela. January 7, 1924. Found on the canyon side at an altitude of 8,800 feet.

60491. HIBISCUS sp. Malvaceæ.

No. 556. January 20, 1924. Found on the edge of Lake Tsana, a day's journey south of Gondar.

60492 to 60524. HOLCUS SORGHUM L. (*Sorghum vulgare* Pers.). Poaceæ. **Sorghum.**

60492. No. 412. Ankober. December 11, 1923. Purchased in a village.

60493. No. 417. December 11, 1923. Purchased in Ankober.

60494. No. 422. Ankober. December 11, 1923. Purchased in Allu Amba.

60495. No. 448. Makfud. December 15, 1923. A dry-stemmed grain sorghum found growing at an altitude of 8,000 feet.

60496. No. 456. Makfud. December 15, 1923. Found in the Robi River Valley at an altitude of 5,300 feet.

60497. No. 460. December 17, 1923. A yellow sorghum growing 15 to 18 feet in height, a 2-days' journey south of Majetie.

60498. No. 461. December 17, 1923. Panicle 2 feet in length. Found a 2-days' journey south of Majetie.

60499. No. 462. December 18, 1923. A tall sorghum, 12 to 15 feet in height, found a day's journey south of Majetie.

60500. No. 465. December 18, 1923. Found a day's journey south of Majetie.

60501. No. 468. December 23, 1923. Collected a 2-days' journey south of Dessie.

60502. No. 478. Dessie. December 24, 1923. Purchased in the market.

60503. No. 481. December 27, 1923. Found in the Mille Valley, a 2-days' journey north of Dessie at an altitude of 6,500 feet.

60504. No. 482. December 28, 1923. Collected a 3-days' journey north of Dessie in a valley at an altitude of 6,100 feet.

60505. No. 485. December 29, 1923. Collected in a valley a day's journey south of Waldia at an altitude of 6,300 feet.

60506. No. 488. Waldia. December 30, 1923. Found at an altitude of 6,400 feet.

60507. No. 492. January 2, 1924. Growing near the Ala River, a 2-days' journey west of Waldia at an altitude of 8,000 feet.

60508. No. 495. December 31, 1923. Collected a day's journey west of Waldia.

60509. No. 508. Lalibela. January 5, 1924. Found at an altitude of 8,800 feet. Not more than 3½ feet high as compared with 15 to 18 feet in the grain-sorghum valleys east of the escarpment.

60510. No. 547. January 19, 1924. Collected on the border of Lake Tsana a 2-days' journey south of Gondar.

60511 to 60518. January 21, 1924. Types of grain sorghum found in fields about Tsana. No. 549 [S. P. I. No. 60512] apparently does not hybridize, as it is pure on the margin of fields. All other types were picked from the interior of two adjoining fields.

60461 to 60636—Continued.

60511. No. 548. **60515.** No. 552.

60512. No. 549. **60516.** No. 553.

60513. No. 550. **60517.** No. 554.

60514. No. 551. **60518.** No. 555.

60519. No. 560. January 23, 1924. Found north of Lake Tsana, a day's journey west of Gondar at an altitude 7,400 feet.

60520. No. 563. Wahini. January 28, 1924.

60521. No. 564. Wahini. January 27, 1924.

60522. No. 567. January 20, 1924. Found at the head of Lake Tsana, a day's journey south of Gondar.

60523. No. 573. Koqui. January 31, 1924.

60524. No. 579. February 4, 1924. Growing in grass, but probably from an old cultivated field near Doka, Sudan.

60525 to 60551. HORDEUM spp. Poaceæ.

60525. HORDEUM VULGARE PALLIDUM Seringe. **Six-rowed barley.**

No. 443. December 12, 1923. Collected north of Ankober at an altitude of 10,400 feet.

60526 and 60527. HORDEUM VULGARE NIGRUM (Willd.) Beaven. **Six-rowed barley.**

December 14, 1923. Collected a 2½-days' journey north of Ankober at an altitude of 10,000 feet.

60526. No. 444. **60527.** No. 445.

60528 and 60529. HORDEUM VULGARE PALLIDUM Seringe. **Six-rowed barley.**

60528. No. 507. January 2, 1924. Collected a 3-days' journey east of Lalibela at an altitude of 11,100 feet.

60529. No. 515. January 7, 1924. Lalibela market.

60530. HORDEUM VULGARE COELESTE L. **Six-rowed barley.**

Subvariety *Himalayense*. No. 440. December 13, 1923. From a high valley, a 2-days' journey north of Ankober, at an altitude of 10,000 feet.

60531. HORDEUM VULGARE DUPLINIGRUM Koern. **Six-rowed barley.**

No. 500. January 3, 1924. Collected a 2-days' journey east of Lalibela at an altitude of 10,000 feet.

60532 to 60535. HORDEUM VULGARE NIGRUM (Willd.) Beaven. **Six-rowed barley.**

60532. No. 397. December 7, 1923. Obtained on the road to Ankober, Addis Ababa, at an altitude of 8,500 feet.

60533. No. 398. December 7, 1923. Obtained on the road to Ankober, Addis Ababa, at an altitude of 8,500 feet.

60534. No. 406. December 10, 1923. Obtained a half-day's journey from Ankober at an altitude of 9,600 feet.

60535. No. 434. December 12, 1923. Collected on a ridge above Ankober at an altitude of 10,000 feet.

60536 to 60538. HORDEUM VULGARE PALLIDUM Seringe. **Six-rowed barley.**

60536. No. 407. Ankober, December 11, 1923. Purchased in a village.

60537. No. 414. Ankober, December 11, 1923. Purchased in a village.

60538. No. 424. Ankober. December 11, 1923. Purchased in Allu Amba.

60461 to 60636—Continued.

60539. HORDEUM VULGARE COELESTE L. **Six-rowed barley.**

No. 395. Addis Ababa. December 7, 1923. Collected on the road to Ankober at an altitude of 8,400 feet.

60540 to 60546. HORDEUM VULGARE PALLIDUM Seringe. **Six-rowed barley.**

60540. No. 399b. December 8, 1923. From a threshing field on the road to Ankober at an altitude of 9,600 feet.

60541. No. 405. December 9, 1923. Collected a day's journey west of Ankober at an altitude of 9,600 feet.

60542. No. 435. December 12, 1923. Collected on a high ridge above Ankober at an altitude of 11,000 feet.

60543. No. 453. December 15, 1923. Makfud market.

60544. No. 473. Dessie. December 24, 1923. Purchased in the market.

60545. No. 474. Dessie. December 24, 1923. Purchased in the market.

60546. No. 477. Dessie. December 24, 1923. Purchased in the market.

60547. HORDEUM VULGARE NIGRUM (Willd.) Beaven. **Six-rowed barley.**

No. 494a. January 2, 1924. Collected on the Ala River a 2-days' journey west of Waldia at an altitude of 10,000 feet.

60548. HORDEUM VULGARE PALLIDUM Seringe. **Six-rowed barley.**

No. 532. January 13, 1924. From a threshing floor a 2-days' journey east of Debra Tabor at an altitude of 10,600 feet.

60549 and 60550. HORDEUM DEFICIENS Steud. **Deficient barley.**

60549. No. 540. January 18, 1924. A sample of barley given to me as horse feed a 3-days' journey south of Gondar.

60550. No. 545. January 19, 1924. Collected on the border of Lake Tsana, a 2-days' journey south of Gondar.

60551. HORDEUM VULGARE PALLIDUM Seringe. **Six-rowed barley.**

No. 584. February 9, 1924. From the experiment station, Khartum. Native (Beldi) barley.

60552. IPOMOEA CAIRICA (L.) Sweet (*I. palmata* Forsk.). Convolvulaceæ.

No. 479. Dessie. December 23, 1923. Collected in a river bottom at an altitude of 6,500 feet.

60553. JUNIPERUS PROCERA Hochst. Pinaceæ. **East African cedar.**

No. 498. January 2, 1924. Found on the Ala River at an altitude of 9,000 feet.

60554. KOSTELETZKYA ADOENSIS Hochst. Malvaceæ.

No. 533. January 17, 1924. A flowering herbaceous plant found in the Tsana district a day's journey west of Debra Tabor at an altitude of 7,700 feet.

60555 and 60556. LATHYRUS SATIVUS L. Fabaceæ. **Bitter vetch.**

60555. No. 489. Waldia. December 30, 1923. Collected at an altitude of 6,600 feet. Not previously seen.

60556. No. 509. January 4, 1924. Found in small quantity a day's journey east of Lalibela at an altitude of 9,000 feet or over.

60461 to 60636—Continued.

60557. LENTILLA LENS (L.) W. F. Wight (*Lens esculenta* Moench). Fabaceæ. **Lentil.**

No. 421. Ankober. December 11, 1923. Purchased in Allu Amba.

60558 to 60561. LINUM USITATISSIMUM L. Linaceæ. **Flax.**

60558. No. 432. Ankober. December 11, 1923. Purchased in Allu Amba.

60559. No. 455. Makfud. December 15, 1923. From the market.

60560. No. 514. Lalibela. January 7, 1924. From the market.

60561. No. 543. January 19, 1924. Collected on the border of Lake Tsana a 2-days' journey south of Gondar.

60562. MEDICAGO HISPIDA DENTICULATA (Willd.) Urban. Fabaceæ. **Bur clover.**

No. 503. January 3, 1924. Collected a 2-days' journey east of Lalibela at an altitude of 10,000 feet.

60563. MEDICAGO SATIVA L. Fabaceæ. **Alfalfa.**

No. 585. February 9, 1924. From the experiment station, Khartum, Egypt. Has proved much better than Peruvian or other hot-weather types at Khartum.

60564. MEIBOMIA sp. (*Desmodium* sp.). Fabaceæ.

No. 575. January 27, 1924. Seed of a small, broad-leaved legume found in a burned-over area near Wahini. Only one plant seen.

60565. NIGELLA SATIVA L. Ranunculaceæ.

No. 449. December 15, 1923. Purchased in the market at Makfud. This market is a large one on a mountain top where there is no town. Grain of the plateau is exchanged for cotton of the valleys and bananas of the lower levels.

60566. OCIMUM BASILICUM L. Menthaceæ.

No. 476. Dessie. December 24, 1923. Purchased in the market.

60567. PANICUM sp. Poaceæ. **Grass.**

No. 529. January 12, 1924. Collected on a mountain side a 3-days' journey east of Debra Tabor at an altitude of 9,700 feet.

60568 to 60572. PENNISETUM spp. Poaceæ.

60568. PENNISETUM GLAUCUM (L.) R. Br. (*P. typhoideum* Rich.). **Pearl millet.**

No. 580. February 4, 1924. Growing in grass, but probably from an old cultivated field near Doka, Sudan.

60569 and 60570. PENNISETUM UNISETUM (Nees) Benth. **Grass.**

60569. No. 458. December 17, 1923. Collected a 2-days' journey south of Majetie at an altitude of 5,200 to 6,000 feet.

60570. No. 582. February 4, 1924. Collected near Gadaref, Sudan.

60571. PENNISETUM sp.

No. 527. January 12, 1924. Collected on the side of a mountain a 3-days' journey east of Debra Tabor at an altitude of 9,700 feet.

60572. PENNISETUM HORDEIFORME (L.) Spreng. **Grass.**

No. 541. January 18, 1924. A branching grass collected a 3-days' journey south of Gondar; stands heavy pasturing in the Tsana Flats.

60573 to 60579. PHASEOLUS spp. Fabaceæ.

60461 to 60636—Continued.

60573 and 60574. PHASEOLUS AUREUS Roxb. **Mung bean.**

60573. No. 415. Ankober. December 11, 1923. Presented by Desta Heile. Seed said to swell when cooked and to become soft like butter.

60574. No. 416e. Ankober. December 11, 1923. Presented by Desta Heile.

60575 to 60579. PHASEOLUS VULGARIS L. Fabaceæ. **Common bean.**

60575. No. 413. Ankober. December 11, 1923. Purchased in a village.

60576 to 60578. Ankober. December 11, 1923. Presented by Desta Heile.

60576. No. 416b. Chocolate with black markings.

60577. No. 416c. Dark gray.

60578. No. 416a. White.

60579. No. 428. Ankober. December 11, 1923. Purchased in Allu Amba.

60580. PHRAGMITES VULGARIS (Lam.) B. S. P. Poaceæ. **Grass.**

No. 463. December 18, 1923. Collected in swamp land a day's journey south of Majetie.

60581 to 60584. PISUM SATIVUM L. Fabaceæ. **Pea.**

60581. No. 427. Ankober. December 11, 1923. Purchased in Allu Amba.

60582. No. 475. Dessie. December 24, 1923. Purchased in the market.

60583. No. 522. Lalibela. January 7, 1924. From the market.

60584. No. 439. December 13, 1923. Collected a 2-days' journey from Ankober at an altitude of 10,200 feet.

60585. ROSA sp. Rosaceæ. **Rose.**

No. 404. December 9, 1923. A lavender-flowered plant from a canyon side, near Ankober, at an altitude of 9,500 feet.

60586. RUBUS sp. Rosaceæ.

Seeds of unknown origin, accompanying Doctor Harlan's shipment.

60587. SACCHARUM sp. Poaceæ. **Grass.**

No. 464. December 18, 1923. From swamp land a day's journey south of Majetie.

60588 and 60589. SESAMUM ORIENTALE L. Pedaliaceæ. **Sesame.**

60588. No. 429. Ankober. December 11, 1923. Purchased in Allu Amba.

60589. No. 572. Koqui. January 31, 1924.

60590. TRICHOLAENA ROSEA Nees. Poaceæ. **Natal grass.**

No. 459. December 17, 1923. Collected a 2-days' journey south from Majetie at an altitude of 5,200 to 6,000 feet.

60591. TRICHOPTERYX sp. Poaceæ. **Grass.**

No. 565. January 25, 1924. Collected a day's journey west of Chelga.

60592. TRIFOLIUM PROCUMBENS L. Fabaceæ.

No. 524. Lalibela, January 7, 1924. Collected on the side of a canyon at an altitude of 8,800 feet.

60593. TRIFOLIUM sp. Fabaceæ. **Clover.**

No. 502. January 3, 1924. Collected a 2-days' journey east of Lalibela at an altitude of 10,000 feet.

60461 to 60636—Continued.

60594. TRIFOLIUM sp. Fabaceæ. **Clover.**

No. 504. January 3, 1924. Collected a 2-days' journey east of Lalibela at an altitude of 10,000 feet.

60595. TRIGONELLA FOENUM-GRAECUM L. Fabaceæ. **Fenugreek.**

No. 518. January 7, 1924. A cultivated legume obtained in the Lalibela market.

60596 to 60625. TRITICUM spp. Poaceæ.

60596 to 60613. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). **Common wheat.**

60596. No. 12. From Pusa, India.

60597. No. 396. Addis Ababa. December 7, 1923. Secured on the road to Ankober at an altitude of 9,600 feet.

60598. No. 400. December 8, 1923. Collected on the road to Ankober at an altitude of 9,400 feet.

60599. No. 408. Ankober. December 11, 1923. Purple wheat, purchased in a village.

60600. No. 410. Ankober. December 11, 1923. Purchased in a village.

60601. No. 420. Ankober. December 11, 1923. Purchased in Allu Amba.

60602. No. 436. Ankober. December 13, 1923. Wheat found growing at an altitude of 10,400 feet; all seeds above that altitude were barley.

60603. No. 437. Ankober. Collected at an altitude of 10,000 feet. This was the second lot of wheat found.

60604. No. 441. December 14, 1923. Found growing a 3-days' journey north of Ankober at an altitude of 9,000 feet. Stacked with field peas and broad beans.

60605. No. 442. December 14, 1923. Collected a 2-days' journey north of Ankober at an altitude of 10,300 feet.

60606. No. 451. Makfud. December 15, 1923. Obtained in the market.

60607. No. 452. Makfud. December 15, 1923. Obtained in the market.

60608. No. 454. Makfud. December 15, 1923. Obtained in the market.

60609. No. 493. January 2, 1924. Collected on the Ala River a 2-days' journey west of Waldia at an altitude of 9,000 feet.

60610. No. 505. January 3, 1924. Collected a 2-days' journey east of Lalibela at an altitude of 9,500 feet.

60611. No. 511. January 5, 1924. From a threshing floor in Ashatan Mariam, Lalibela, at an altitude of 8,000 feet.

60612. No. 559. January 23, 1924. Collected north of Lake Tsana a day's journey west of Gondar at an altitude of 7,500 feet.

60613. No. 568. January 20, 1924. Found growing at the head of Lake Tsana a day's journey south of Gondar.

60614 to 60616. TRITICUM DICOCCUM Schrank. **Emmer.**

60614. No. 471. December 26, 1923. Collected near Dessie at an altitude of 7,200 feet.

60615. No. 491. January 2, 1924. Collected on the Ala River, a 2-days' journey west of Waldia, at an altitude of 9,000 feet.

60616. No. 576. Record lost, but obviously from the plateau.

60617 and 60618. TRITICUM TURGIDUM L. **Poulard wheat.**

60617. No. 525. January 12, 1924. Found growing a 3-days' journey east of Debra Tabor at an altitude of 9,800 feet.

60618. No. 558. January 23, 1924. Collected north of Lake Tsana a day's journey west of Gondar, at an altitude of 7,500 feet.

60619. TRITICUM spp. **Wheat.**

No. 469. December 23, 1923. Mixed seed found growing a 2-days' journey south of Dessie—the first small grain found above the sorghum belt.

60620. TRITICUM TURGIDUM L. **Poulard wheat.**

No. 470. December 23, 1923. Found growing a 2-days' journey south of Dessie—the first small grain found above the sorghum belt.

60621. TRITICUM spp. **Wheat.**

No. 480. Dessie. December 24, 1923. Mixed seed purchased in the market.

60622. TRITICUM spp. **Wheat.**

No. 490. January 2, 1924. Mixed seed found on the Ala River a 2-days' journey west of Waldia at an altitude of 10,000 feet.

60623. TRITICUM spp. **Wheat.**

No. 494b. January 2, 1924. Mixed seed found on the Ala River a 2-days' journey west of Waldia at an altitude of 10,000 feet.

60624. TRITICUM spp. **Wheat.**

No. 499. January 3, 1924. Mixed seed collected a 2-days' journey east of Lalibela at an altitude of 10,000 feet. Ice, which probably forms every night, was seen one hour after sunrise beside emmer fields that were in the best of condition.

60625. TRITICUM spp. **Wheat.**

No. 526. January 11, 1924. Mixed seed found a 4-days' journey east of Debra Tabor at an altitude of 9,800 feet.

60626 to 60630. VICIA FABA L. Fabaceæ. **Broad bean.**

60626. No. 409. Ankober. December 11, 1923. Purchased in a village.

60627. No. 411. Ankober. December 11, 1923. Purchased in a village.

60628. No. 425. Ankober. December 11, 1923. Purchased in Allu Amba.

60629. No. 516. Lalibela. January 7, 1924. Obtained in the market.

60630. No. 569. January 20, 1924. Collected at the head of Lake Tsana a day's journey south of Gondar.

60631. VICIA sp. Fabaceæ. **Vetch.**

No. 447. Makfud. December 15, 1923. Found in a rocky waste place at an altitude of 9,000 feet.

60632. VIGNA CYLINDRICA (Stickm.) Skeels. Fabaceæ. **Catjang.**

No. 416d. Ankober. December 11, 1923. Presented by Desta Heile.

60633. VIGNA SINENSIS (Torner) Savi. Fabaceæ. **Cowpea.**

No. 571. Kowui. January 31, 1924.

60634 and 60635. ZEA MAYS L. Poaceæ. **Corn.**

60634. No. 433. Ankober. December 11, 1923. Purchased in Allu Amba.

60635. No. 480. Dessie. December 24, 1923. Purchased in the market.

60636. (Undetermined.)

No. 574. Record lost, but probably seed of sweet-scented flowering tree in the Tsana region.

60637 to 60648.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received May 6, 1924.

60637 to 60639. BERBERIS spp. Berberidaceæ. **Barberry.**

60637. BERBERIS INSIGNIS Hook. f. and Thoms.

A beautiful hollylike bush of erect habit, with very few spines and large, shining, evergreen leaves 3 to 7 inches in length. The golden-yellow flowers are borne in clusters of about 15 and are followed by ovoid, black berries. Native to the eastern Himalayas.

For previous introduction, see S. P. I. No. 55671.

60638. BERBERIS NAPAULENSIS (DC.) Spreng.

An evergreen shrubby Himalayan barberry which is probably too tender for any but the southern sections of the United States. In its native home it becomes 20 feet in height, and the dark, glossy green compound leaves consist of 15 to 20 spine-toothed, leathery leaflets. The yellow flowers are in slender racemes up to a foot in length, and the roundish berries are covered with a bluish white bloom.

For previous introduction, see S. P. I. No. 57884.

60639. BERBERIS WALLICHIANA DC.

A narrow-leaved, evergreen barberry from temperate regions in the Himalayas, where it ascends to about 10,000 feet. The shining black-purple berries are produced in dense clusters.

For previous introduction, see S. P. I. No. 55673.

60640. BETULA CYLINDROSTACHYA Wall. Betulaceæ.

A Himalayan birch which grows as a tall, deciduous tree at an altitude of 6,000 feet along the northeastern border of India. The wood is red, hard, and heavy and seasons well. The tree might be sufficiently hardy to grow in parts of Florida and California.

For previous introduction, see S. P. I. No. 39002.

60641. BUCKLANDIA POPULNEA R. Br. Hamamelidaceæ.

A large evergreen tree, 80 feet or less in height, native to the eastern Himalayas at altitudes of 3,000 to 8,000 feet. The wood is grayish brown, close grained, and durable, and is commonly used in Darjiling for planking and for doors and window frames.

For previous introduction, see S. P. I. No. 55674.

60642. CRACCA CANDIDA (DC.) Kuntze (*Tephrosia candida* DC.). Fabaceæ.

A low shrub with slender velvety branches, smooth green leaves 6 to 9 inches long, with gray silky lower surfaces, and copious terminal and lateral clusters of reddish or white flowers. It is native to the more tropical of the Himalayas, ascending to 5,000 feet altitude.

For previous introduction, see S. P. I. No. 55678.

60643. ENGELHARDTIA SPICATA Leschen. Juglandaceæ.

This large, handsome tree, which belongs to the walnut family, grows wild on the foothills of the eastern Himalayas, and is probably adapted for growing only in the Gulf States. The thick, brown bark contains much tannin, and the wood, which is said not to check, shows a beautiful grain.

For previous introduction, see S. P. I. No. 47842.

60637 to 60648—Continued.

60644. GAULTHERIA FRAGRANTISSIMA Wall. Ericaceæ.

A very fragrant evergreen shrub or small tree found in the mountains of India from Nepal eastward to Bhutan. In summer it is loaded with white or pinkish flowers which are followed by beautiful racemes of blue-purple fruits.

For previous introduction, see S. P. I. No. 48309.

60645. HYDRANGEA ROBUSTA Hook. f. and Thoms. Hydrangeaceæ.

A vigorous, spreading, shrubby hydrangea which is native to the mountainous regions of northeastern India, and therefore probably best adapted to the southern part of the United States. The short-stemmed, oval leaves are coarsely toothed, and the flowers, with white sepals, blue petals, and stamens, are produced in loose, spreading corymbs with red pedicels.

For previous introduction, see S. P. I. No. 55681.

60646. ILEX INSIGNIS Hook. f. Aquifoliaceæ.

An attractive holly from the Sikkim Himalayas where it grows at an altitude of 7,000 feet. It forms a small tree or shrub with thick grooved branches which are purplish when young. The dark-green leathery leaves are pinnately lobed, with lobes spine tipped and alternately raised and depressed, so that there appears to be a double row of spiny lobes on each side. This holly has proved hardy in Ireland and may be suited for growing in the Gulf States and southern California.

For previous introduction, see S. P. I. No. 55682.

60647. INDIGOFERA DOSUA TOMENTOSA Baker. Fabaceæ.

A low, shrubby, hairy indigo from the temperate parts of the Himalayas, where it grows at altitudes of 1,000 to 5,000 feet. The dull-green compound leaves, 9 inches in length, and the long racemes of bright-red flowers make this a decidedly ornamental species.

For previous introduction, see S. P. I. No. 55748.

60648. LAGERSTROEMIA PARVIFLORA Roxb. Lythraceæ.

This Himalayan relative of the crape myrtle (*Lagerstroemia indica*) is a tree 50 to 70 feet high, with green, leathery leaves and fragrant white flowers, half an inch wide, in axillary or terminal panicles. The wood is very tough and durable.

For previous introduction, see S. P. I. No. 53582.

60649. COTONEASTER SALICIFOLIA FLOCCOSA Rehd. and Wils. Malaceæ.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received November 10, 1923. Numbered June, 1924.

A graceful shrub, up to 13 feet high, which bears dense corymbs of white flowers and light-red roundish fruits. Native to western China at altitudes of 7,500 to 9,800 feet.

For previous introduction, see S. P. I. No. 53693.

60650 to 60659.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received May 6, 1924.

60650. LEUCOSCEPTRUM CANUM J. E. Smith. Menthaceæ.

According to Hooker (Flora of British India) this tree, which belongs to the mint family, is stout branched and densely hairy, and the narrowly oval leaves are silvery beneath and at times a foot in length. The small white or pinkish flowers are in spikes.

For previous introduction, see S. P. I. No. 57888.

60650 to 60659—Continued.

60651. LIGUSTRUM CONFUSUM Decaisne. Oleaceæ.

A small tree, up to 40 feet in height, one of the tropical relatives of the California privet (*Ligustrum ovalifolium*). The leathery, obtuse leaves are about 3 inches long, and the small white flowers are in panicles 1 to 5 inches long.

60652. MEIBOMIA SEQUAX (Wall.) Kuntze (*Desmodium sequax* Wall.). Fabaceæ.

The brownish or grayish hairs which cover the branches of this low Himalayan shrub and the large racemes of red flowers make it of possible value as an ornamental for the warmer parts of the United States.

For previous introduction, see S. P. I. No. 47725.

60653. PIERIS OVALIFOLIA (Wall.) D. Don (*Andromeda ovalifolia* Wall.). Ericaceæ.

Although this shrub or small tree may prove of value as a semihardy ornamental because of its racemes of bluish or white flowers, it is used as an insecticide in its native country, India, because of the presence of a poisonous principle in the young leaves and buds. The oblong, leathery leaves are 3 to 6 inches long.

For previous introduction, see S. P. I. No. 47755.

60654. PRUNUS CERASOIDES D. Don (*P. puddum* Roxb.). Amygdalaceæ.

A handsome, ornamental cherry with pendulous rose-red or white solitary flowers which appear before the bright, glossy green leaves. The tree is native to the highlands of Burma and is said to endure light frosts in its native country.

For previous introduction, see S. P. I. No. 57680.

60655. RHODODENDRON ARBOREUM J. E. Smith. Ericaceæ.

This Himalayan rhododendron is variable both in its foliage and in the color of its flowers. In one form the leaves are silvery on the lower surface, while in another they are covered with a brownish red down. The bell-shaped flowers, borne in dense trusses, vary from deep crimson to pure white. The tree sometimes reaches a height of 35 feet, with a trunk 4 feet in circumference.

For previous introduction, see S. P. I. No. 55697.

60656. STYRAX HOOKERI C. B. Clarke. Styracaceæ.

The storaxes in general are handsome shrubs of graceful, spreading habit, and this Himalayan representative of the genus is no exception to the rule. Its white flowers, in small racemes, are sometimes an inch wide, and the fruits are white-hairy drupes half an inch long. According to Hooker (Flora of British India) this is perhaps only a form of *Styrax serrulatum*.

60657. VACCINIUM DUNALIANUM Wight. Vacciniaceæ.

Many of the wild species of Vaccinium are being tested by department horticulturists for the purpose of determining the food value of the fruits. This species is a large erect shrub from the mountainous regions of northeastern India, and it will probably not withstand much frost.

For previous introduction, see S. P. I. No. 47821.

60658. ZANTHOXYLUM ACANTHOPODIUM DC. Rutaceæ.

A shrub or small tree with vertically flattened prickles on the trunk and branches and dense foliage with a pungent, aromatic odor. The small, pale-red fruits are in loose panicles. Native to warm valleys in the subtropical Himalayas at altitudes of 4,000 to 7,000 feet.

60650 to 60659—Continued.

60659. ZANTHOXYLUM OXYPHYLLUM Edgeworth. Rutaceæ.

A Himalayan shrub with the branches and leaves covered with hooked prickles; the leaves are shining green and exceedingly variable in size. This species is native to temperate regions in northeastern India at altitudes of 4,000 to 8,000 feet.

60660 to 60674. HORDEUM spp. Poaceæ.

From Ariana, near Tunis, Tunisia, Africa. Seeds presented by Dr. F. Boeuf, chief, Botanical Service, Tunis, through H. V. Harlan, Bureau of Plant Industry. Received June 16, 1924. Notes by Doctor Boeuf.

Introduced for cereal specialists.

60660 to 60673. HORDEUM VULGARE PALLIDUM Seringe. **Six-rowed barley.**

60660. 1921–0.9. Tripoli.

60661. 1921–0.10. Tripoli. For forage.

60662. No. 20. Egypt.

60663. 1921–0.7. Tripoli.

60664. 1921–0.4. Tripoli.

60665. *Revil No. 1.* For forage.

60666. No. 4a.

60667. No. 14j.

60668. No. 88. Smyrna.

60669. No. 147–0.13. Besert.

60670. No. 147–0.14. Besert.

60671. No. 167. Biskra.

60672. No. 175. Morocco.

60673. No. 186.

60674. HORDEUM INTERMEDIUM HAXTONI Koern. **Barley.**

No. 149. *Arlington Awnless.*

60675 to 60743.

From Giza, Egypt. Seeds presented by the Ministry of Agriculture, Giza, through H. V. Harlan, Bureau of Plant Industry. Received June 16, 1924.

60675 to 60701. HORDEUM spp. Poaceæ.

60675 to 60682. HORDEUM VULGARE PALLIDUM Seringe. **Six-rowed barley.**

60675. *Beladi.* (Egyptian.)

60676. *Herrawi.* (Egyptian.)

60677. *Herrawi.* (Egyptian.) Received from the provinces.

60678. *Qennari.* (Egyptian.) Received from Beheira Province.

60679. *Indian.* Four rowed.

60680. *Indian.* Six rowed.

60681. *Mariout.* (Egyptian.) Received from Beheira Province.

60682. *Mnari.* (Egyptian.) Received from Giza Province. Probably the same as Qennari [S. P. I. No. 60678.]

60683 to 60692. HORDEUM spp.

Abyssinia.

60683. HORDEUM VULGARE PALLIDUM Seringe. **Six-rowed barley.**

No. 1.

60684. HORDEUM VULGARE PALLIDUM Seringe. **Six-rowed barley.**

No. 2.

60675 to 60743—Continued.

60685. HORDEUM VULGARE NIGRUM (Willd.) Beaven. **Six-rowed barley.**

No. 3.

60686. HORDEUM VULGARE PALLIDUM Seringe. **Six-rowed barley.**

No. 5.

60687. HORDEUM VULGARE PALLIDUM Seringe. **Six-rowed barley**

No. 6.

60688. HORDEUM VULGARE PALLIDUM Seringe. **Six-rowed barley.**

No. 7.

60689. HORDEUM VULGARE DUPLINIGRUM Koern. **Six-rowed barley.**

No. 8.

60690. HORDEUM VULGARE COELESTE L. **Six-rowed barley.**

No. 8a.

60691. HORDEUM VULGARE COELESTE L. **Six-rowed barley.**

No. 9.

60692. HORDEUM DEFICIENS Steud. **Deficient barley.**

No. 11.

60693. HORDEUM DISTICHON NUDUM L. **Naked barley.**

No. 12.

60694 to 60699. HORDEUM spp.

Abyssinia.

60694. HORDEUM DEFICIENS Steud. **Deficient barley.**

No. 13.

60695. HORDEUM DEFICIENS STEUDELII (Koern.) Harlan. **Deficient barley.**

No. 14.

60696. HORDEUM DEFICIENS Steud. **Deficient barley.**

60697. HORDEUM DEFICIENS STEUDELII (Koern.) Harlan. **Deficient barley.**

No. 16.

60698. HORDEUM VULGARE PALLIDUM Seringe. **Six-rowed barley.**

No. 18.

60699. HORDEUM VULGARE NIGRUM (Willd.) Beaven. **Six-rowed barley.**

No. 19.

60700. HORDEUM VULGARE COELESTE L. **Six-rowed barley.**

Nebawi. (Egyptian.)

60701. HORDEUM DISTICHON PALMELLA Harlan. **Two-rowed barley.**

Sinai.

60702 to 60743. TRITICUM spp. Poaceæ.

60702 and 60703. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). **Common wheat.**

60702. *Sinai* No. 4.

60703. *Sinai* No. 5.

60704 to 60706. TRITICUM DICOCCUM Schrank. **Emmer.**

Abyssinia.

60704. No. 16. **60706** No. 18.

60705. No. 17.

60707 to 60712. TRITICUM DURUM Desf. **Durum wheat.**

60675 to 60743—Continued.

60707 to 60711. *Abyssinia.*

60707. No. 6. **60710.** No. 29.

60708. No. 25. **60711.** No. 30.

60709. No. 27.

60712. *Gawi*, which is also "Beladi" or native Egyptian wheat.

60713 to 60715. TRITICUM TURGIDUM L. **Poulard wheat.**

60713. *Beladi* No. 42.

60714. *Sinai* No. 1.

60715. *Sinai* No. 2.

60716 to 60723. TRITICUM DURUM Desf. **Durum wheat.**

Abyssinia.

60716. No. 2. **60720.** No. 11.

60717. No. 3. **60721.** No. 12.

60718. No. 9. **60722.** No. 15.

60719. No. 10a. **60723.** No. 20.

60724. TRITICUM TURGIDUM L. **Poulard wheat.**

No. 21.

60725. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). **Common wheat.**

No. 26a.

60726 and 60727. TRITICUM DURUM Desf. **Durum wheat.**

60726. No. 28. **60727.** No. 31.

60728. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). **Common wheat.**

No. 43.

60729. TRITICUM TURGIDUM L. **Poulard wheat.**

No. 44.

60730 to 60739. TRITICUM DURUM Desf. **Durum wheat.**

Beladi.

60730. No. 9. **60735.** No. 31.

60731. No. 24b. **60736.** No. 33.

60732. No. 25. **60737.** No. 33a.

60733. No. 25a. **60738.** No. 45.

60734. No. 26.

60739. Fayum A, which is also called "Beladi" or native Egyptian wheat.

60740. TRITICUM sp. **Wheat.**

Sinai. No. 3.

60741 to 60743. TRITICUM DURUM Desf. **Durum wheat.**

60741. No. 5. **60743.** No. 9.

60742. No. 8.

60744 to 60956.

From Leningrad, Russia. Seeds presented by Dr. N. I. Vavilov, director of the Bureau of Applied Botany and Plant Breeding. Received June 19, 1924. Notes by Doctor Vavilov.

60744 and 60745. AGROPYRON CRISTATUM (L.) Gaertn. Poaceæ. **Wheat grass.**

60744. No. 1733. Province of Moscow. A broadly spicate variety from the experiment station of Krasny Kut.

60745. No. 1732. Province of Samara. A narrowly spicate variety from the experiment station of Krasny Kut.

60746 and 60747. AGROSTIS PALUSTRIS Huds. Poaceæ. **Redtop.**

60744 to 60956—Continued.

60746. No. 1762. Province of Tambov. From the grassland station of Marusino.

60747. No. 1875. Province of Moscow. From the State Institution for Grassland Investigations.

60748 and 60749. ALOPECURUS PRATENSIS L. Poaceæ. **Meadow foxtail.**

60748. No. 1463. Province of Moscow. From the Bekasovskaia Experiment Station.

60749. No. 1468. Province of Moscow. From the Bekasovskaia Experiment Station.

60750. ANTHOXANTHUM ODORATUM L. Poaceæ. **Sweet vernal grass.**

No. 57. Estate "Castle Zagnitz," Livland.

60751 to 60770. AVENA SATIVA L. Poaceæ. **Oats.**

60751. No. 1181. Province of Samara.

60752. No. 1249. Semiretsh, Turkestan.

60753. No. 1250. Syr Daria, Turkestan.

60754. No. 1253. Province of Samara. A very early variety.

60755. No. 1256. Province of Saratov.

60756. No. 1254. Province of Saratov.

60757. No. 1286. Province of Samara.

60758. No. 1311. Province of Kherson. *Rychlik.*

60759. No. 1425. Province of Don. *Armavirsky.*

60760. No. 1433. Province of Yeniseisk, Siberia.

60761. No. 1435. Province of Yeniseisk, Siberia.

60762. No. 1445. Province of Vologda.

60763. No. 1506. Province of Astrakhan.

60764. No. 1526. Semipalatinsk, Turkestan.

60765. No. 1547. Province of Tobolsk, Siberia.

60766. No. 1550. Province of Tobolsk, Siberia.

60767. No. 1581. Semiretsh, Turkestan. An irrigated variety.

60768. No. 2306. Province of Tula. An improved variety.

60769. No. 2896. Province of Viatka. *Tshervonny.* A selection taken from *Triticum dicoccum.*

60770. No. 2149. Province of Simbirsk.

60771 and 60772. BECKMANNIA ERUCAEFORMIS (L.) Host. Poaceæ. **Slough grass.**

60771. No. 458. Estate "Castle Zagnitz," Livland.

60772. No. 2025. Province of Poltava. From the Berezototshskaia Experiment Station.

60773 to 60793. BRASSICA spp. Brassicaceæ.

60773 and 60774. BRASSICA ALBA (L.) Boiss. **White mustard.**

60773. No. 68. Province of Saratov.

60774. No. 321. Province of Orel.

60775 and 60776. BRASSICA JUNCEA (L.) Coss. **Mustard.**

60775. No. 28. Province of Astrakhan. *Sarepta.*

60776. No. 33. Province of Saratov. *Sarepta.*

60777 to 60789. BRASSICA OLERACEA CAPITATA L. **Cabbage.**

Province of Moscow.

60777. No. 242. Dubrovskaia.

60778. No. 243. Valvatievka.

60744 to 60956—Continued.

60779. No. 244. Rogatshevka.

60780. No. 245. Kubyshka.

60781. No. 246. Bunkovskaia.

60782. No. 247. Maklakovskaia.

60783. No. 248. Elginskaia.

60784. No. 249. Slava (=Glorija).

60785. No. 250. Zaborievskaia.

60786. No. 251. Saburovka.

60787. No. 252. Savinskaia.

60788. No. 253. A local variety; head on shortened stump.

60789. No. 254. A local variety; head on long stump.

60790 to 60793. BRASSICA RAPA L. **Turnip.**

Province of Moscow.

60790. No. 30. *Kostenevskaia.* Experiment Station of Gribovo.

60791. No. 115. *Petrovskaia.* Flat yellow. A very early variety.

60792. No. 117. *Petrovskaia.* Flat yellow. An early variety.

60793. No. 118. *Petrovskaia.* Flat yellow. An early variety.

60794 and 60795. BROMUS INERMIS Leyss. Poaceæ. **Brome grass.**

60794. No. 1911. Province of Saratov.

60795. No. 2029. Province of Poltava. From the Berezototshskaia Experiment Station. A local wild variety.

60796 to 60817. CANNABIS SATIVA L. Moraceæ. **Hemp.**

60796. No. 251. Province of North Dvinsk (Archangel).

60797. No. 278. Province of Saratov. A variety of wild hemp.

60798. No. 345. Province of Saratov.

60799. No. 349. Province of Moscow.

60800. No. 360. Province of Irkutsk.

60801. No. 368. Province of Kaluga.

60802. No. 369. Province of Voronezh.

60803. No. 388. Province of Orel.

60804. No. 400. Province of Kostroma. A local variety.

60805. No. 402. Province of Viatka.

60806. No. 403. Province of Yakutsk.

60807. No. 406. Province of Pensa.

60808. No. 420. Caucasus.

60809. No. 426. Province of Vologda.

60810. No. 427. Province of Perm.

60811. No. 428. Province of Altai, Siberia.

60812. No. 431. Tyumen, Siberia.

60813. No. 440. Province of Yakutsk, eastern Siberia.

60814. No. 444. Primorskaia Province.

60815. No. 455. Province of Tambov.

60816. No. 459. Province of Poltava.

60817. No. 464. Province of Gomel.

60818 to 60821. CICER ARIETINUM L. Fabaceæ. **Chick-pea.**

60744 to 60956—Continued.

60818. No. 1. Province of Samara. From the experiment station of Krasny Kut.

60819. No. 3. From Persia. Var. *Feizabab.*

60820. No. 6. Pamir, Shid Roshan.

60821. No. 7. Bokhara, Vantch.

60822 to 60828. CITRULLUS VULGARIS Schrad. Cucurbitaceæ. **Watermelon.**

60822. No. 287. Province of Ekaterinoslav. Black-whisker variety.

60823. No. 288. Province of Ekaterinoslav. *Azhinovski.*

60824. No. 289. Province of Ekaterinoslav. *Crimean Conqueror.*

60825. No. 291. Province of Saratov. *Murashka.* An early, extremely sweet variety.

60826. No. 295. Province of Kherson. *Chersonski.*

60827. No. 296. Province of Ekaterinoslav. *Favorite of Pjatigorsk.*

60828. No. 307. Province of Don. A spotted variety.

60829 to 60835. CUCUMIS MELO L. Cucurbitaceæ. **Melon.**

60829. No. 338. Province of Ekaterinoslav. A Crimean variety.

60830. No. 348. Kubani.

60831. No. 355. Kubani.

60832. No. 356. Province of Astrakhan. *Ananas.*

60833. No. 358. Province of Astrakhan. *Bucharka.*

60834. No. 360. Province of Saratov. An early variety.

60835. No. 361. Province of Saratov. *Pink honey.*

60836 to 60841. CUCURBITA MAXIMA Duchesne. Cucurbitaceæ. **Squash.**

60836. No. 443. Province of Saratov. *Volzhaska.*

60837. No. 444. Province of Samara. *Volzhanka.*

60838. No. 447. Province of Astrakhan.

60839. No. 450. Turkestan.

60840. No. 465. Province of Saratov. Turban variety.

60841. No. 466. Province of Moscow. Giant marble variety.

60842 and 60843. CUCURBITA PEPO L. Cucurbitaceæ. **Pumpkin.**

60842. No. 410. Province of Kharkof. A naked-seeded variety.

60843. No. 462. Province of Saratov.

60844 and 60845. DACTYLIS GLOMERATA L. Poaceæ. **Orchard grass.**

60844. No. 1633. Province of Kostroma, District of Nerechta. Seed nursery of Shachmatovo.

60845. No. 1678. Province of Tver. Seed nursery of Shokorovskig.

60846 to 60849. FESTUCA ELATIOR L. Poaceæ. **Meadow fescue.**

60846. No. 1076. Province of Petrograd. Seed nursery of Sivoritzkig.

60847. No. 1621. Province of Vologda. Sannikovo seed husbandry.

60744 to 60956—Continued.

60848. No. 1677. Province of Tver. Seed nursery of Shokorovskig.

60849. No. 2034. Province of Poltava. Berezototshskaia Experiment Station.

60850. FESTUCA OVINA L. Poaceæ. **Sheep's fescue.**

No. 1345. Province of Vologda.

60851. FESTUCA RUBRA L. Poaceæ. **Red fescue.**

No. 1170. Province of Irkutsk. Experiment station of Tulun.

60852. GOSSYPIUM HERBACEUM L. Malvaceæ. **Cotton.**

No. 109. *Guza.* A local Turkestan variety.

60853. HELIANTHUS ANNUUS L. Asteraceæ. **Sunflower.**

No. 187. A selected type by the experiment station of Saratov.

No. 188. A variety from the experiment station of Saratov.

No. 189. From the experiment station of Saratov.

No. 278. Province of Yeniseisk, Siberia.

No. 279. Province of Semipalatinsk, Turkestan.

Nos. 280, 281, 282. Province of Primorskaia.

No. 283. Manchuria.

No. 284. Turkestan.

No. 285. Province of Yeniseisk, District of Minusinsk, Siberia.

Nos. 289 and 290. Province of Tambov.

Nos. 293 and 294. Province of Voronezh.

60854. LATHYRUS SATIVUS L. Fabaceæ. **Bitter vetch.**

No. 2092. Mountain Buchara. Var. *azureus.*

60855 to 60861. LENTILLA LENS (L.) W. F. Wight (*Lens esculenta* Moench). Fabaceæ. **Lentil.**

60855. No. 8. Persia.

60856. No. 15. Daghestan.

60857. No. 19. Bokhara.

60858. No. 181. Mongolia.

60859. No. 244. Province of Kief.

60860. No. 263. Province of Pensa.

60861. No. 303. Province of Saratov.

60862 to 60871. LINUM USITATISSIMUM L. Linaceæ. **Flax.**

60862. No. 4. Vitebsk. Fiber flax.

60863. No. 5. Ribinsk. Fiber flax.

60864. No. 132. Tver. Fiber flax.

60865. No. 250. Pskov. Fiber flax.

60866. No. 253. Saratov. Oil flax.

60867. No. 460. Dvinsk. Fiber flax.

60868. No. 512. Vologda. Fiber flax.

60869. No. 523. Pskov. Fiber flax.

60870. No. 524. Pskov. Fiber flax.

60871. No. 633. Stavropol, Caucasus. Oil flax.

60872. LOLIUM MULTIFLORUM Lam. Poaceæ. **Italian rye grass.**

No. 1516. Province of Moscow. Bekasovskaia Experiment Station.

60873 and 60874. LOLIUM PERENNE L. Poaceæ. **Perennial rye grass.**

60744 to 60956—Continued.

60873. No. 819. Province of Tambov. Grassland station of Marusino.

60874. No. 1863. Province of Moscow. State Institution for Grassland Investigations.

60875. LOTUS CORNICULATUS L. Fabaceæ.

No. 1861. Province of Moscow. State Institution for Grassland Investigations.

60876. MEDICAGO FALCATA L. Fabaceæ.

No. 1741. Province of Samara. Experiment station of Krasny Kut.

60877 and 60878. MEDICAGO SATIVA L. Fabaceæ. **Alfalfa.**

60877. No. 1769. Kuban, District of Armavir.

60878. No. 1771. Chiva.

60879. ONOBRYCHIS VULGARIS Hill (*O. viciaefolia* Scop.). Fabaceæ.

No. 1916. Province of Poltava.

60880. ORNITHOPUS SATIVUS Brot. Fabaceæ. **Serradella.**

No. 1866. Province of Tshernigov.

60881. PHALARIS ARUNDINACEA L. Poaceæ. **Reed canary grass.**

No. 2030. Province of Poltava.

60882 to 60887. PHLEUM PRATENSE L. Poaceæ. **Timothy.**

60882. No. 1655. Province of Ekaterinburg.

60883. No. 1676. Province of Tver.

60884. No. 1715. Province of Tambov.

60885. No. 1930. Province of Vologda.

60886. No. 1946. Province of Yaroslav.

60887. No. 2059. Province of Tambov.

60888 to 60935. PISUM SATIVUM L. Fabaceæ. **Pea.**

60888. No. 209. Omsk, western Siberia.

60889. No. 240. Daghestan. A local, unimproved gray variety.

60890. No. 241. Province of Riazan. A local unimproved white variety.

60891. No. 280. Province of Saratov. A local unimproved variety.

60892. No. 943. Archangel, North Dvinsk. A local unimproved variety.

60893. No. 966. East Mongolia. A local unimproved variety collected on the Mongolian expedition.

60894. No. 972. Collected on the Mongolian expedition.

60895. No. 1097. Province of Vladimir. A local unimproved mixed variety.

60896. No. 1098. Province of Tsheliabinsk. A local unimproved mixed variety.

60897. No. 1099. Province of Ekaterinburg. A local unimproved mixed variety.

60898. No. 1101. Province of Kaluga. A local unimproved mixed variety.

60899. No. 1105. Province of Pskov. A local unimproved variety.

60900. No. 1108. Province of Perm. A local unimproved variety.

60901. No. 1118. Province of Tyumen. A local unimproved variety.

60902. No. 1119. Province of Vitebsk. A local unimproved variety.

60744 to 60956—Continued.

60903. No. 1121. Province of Yaroslav. A local unimproved variety.

60904. No. 1131. Province of Smolensk. A local unimproved variety.

60905. No. 1435. Province of Kostroma. A local unimproved variety.

60906. No. 1529. Province of Archangel. A local unimproved variety.

60907. No. 1591. Archangel, North Dvinsk.

60908. No. 1625. The Tartarian Republic, Kazan. A local unimproved mixed variety.

60909. No. 1643. Province of Pskov. A local unimproved variety.

60910. No. 1651. Province of Smolensk. *Peljushka.* Engelgardt Experiment Station.

60911. No. 1767. Voronezh. *Asparagus.* Experiment station of the Bureau of Applied Botany and Plant Breeding. A spotted variety selected by Dr. A. I. Malzev.

60912 to 60935. PISUM SATIVUM L. Fabaceæ. **Pea.**

60912. No. 19. Omsk, western Siberia.

60913. No. 316. Province of Irkutsk. *The hybrid of Tulun.* A selection by Dr. V. E. Pissarev, of the Eastern Siberian Experiment Station.

60914. No. 1106. Gorskaia (Mountain) Republic, Caucasus. A local unimproved variety.

60915. No. 1115. Volhynia.

60916. No. 1537. Manchuria.

60917. No. 1538. Manchuria.

60918. No. 1549. Altai, Siberia. A local unimproved variety.

60919. No. 1541. Far East, Siberia. A green variety.

60920. No. 1563. Province of Yakutsk, eastern Siberia. A local unimproved variety.

60921. No. 1564. Province of Tyumen. A local unimproved mixed variety.

60922. No. 1624. Province of Samara. *Victoria.*

60923. No. 1629. Turkestan. A local unimproved variety.

60924. No. 1634. Semipalatinsk. A local unimproved variety.

60925. No. 1649. Province of Gomel.

60926 to 60935. Voronezh. Experiment station of the Bureau of Applied Botany and Plant Breeding. Selections by Dr. A. I. Malzev.

60926. No. 1751.

60927. No. 1752. *Victoria.* A green variety.

60928. No. 1755. A yellow variety.

60929. No. 1756. An early variety from Rostov.

60930. No. 1758. A pink-seeded variety.

60931. No. 1762. A grainlike variety.

60932. No. 1764. A sugar variety.

60933. No. 1765. A waxen variety.

60934. No. 1768. An umbelliferous variety.

60935. No. 1772. *Victoria.* An angular variety.

60744 to 60956—Continued.

60936. POA PALUSTRIS L. Poaceæ. **Fowl meadow grass.**

No. 353. Estate "Castle Zagnitz," Livland.

60937. POA PRATENSIS L. Poaceæ. **Bluegrass.**

No. 1070. Province of Petrograd.

60938. RICINUS COMMUNIS L. Euphorbiaceæ. **Castor bean.**

Nos. 83, 89, 90, 95, 96, 97, 98, 101, 106, 108, 109. Collection of different strains of the castor bean of Turkestan origin.

60939. SESAMUM ORIENTALE L. Pedaliaceæ. **Sesame.**

Nos. 1–13, 16–40. Collection of different varieties of sesame originating in Turkestan.

60940 and 60941. TRIFOLIUM HYBRIDUM L. Fabaceæ. **Alsike clover.**

60940. No. 1484. Province of Moscow. Bekasovskaia Experiment Station.

60941. No. 1758. Province of Tambov.

60942 to 60952. TRIFOLIUM PRATENSE L. Fabaceæ. **Red clover.**

60942. No. 1624. Province of Vologda.

60744 to 60956—Continued.

60943. No. 1639. Province of Viatka.

60944. No. 1650a. Province of Perm, Kungur.

60945. No. 1659. Province of Krasnoufimsk.

60946. No. 1664. Province of Ivanovo Vosnesensk.

60947. No. 1684. Province of Tula.

60948. No. 1685. Province of Orel.

60949. No. 1686. Province of Orel.

60950. No. 1719. Province of Minsk.

60951. No. 2000. Province of Ekaterinburg. A variety from Perm.

60952. No. 2007. Province of Vladimir.

60953. TRIFOLIUM SUAVEOLENS Willd. Fabaceæ. **Fragrant clover.**

No. 1841. Turkestan.

60954 to 60956. VICIA SATIVA L. Fabaceæ. **Bitter vetch.**

60954. No. 112. Saratov.

60955. No. 315. Saratov.

60956. No. 505. Kharkof. From the experiment station.

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